CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

ORDER NO. R1-2015-0030
NPDES NO. CA0025054

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1: Co-Permittee Information

Co-Permittees	County of Sonoma, City of Cloverdale, City of Cotati, City of Healdsburg, City of Rohnert Park, City of Santa Rosa, City of Sebastopol, Sonoma County Water Agency, City of Ukiah, Town of Windsor
Name of Facility	**Municipal Separate Storm Sewer Systems within the jurisdictional boundary of each municipality**
Facility Address	**Various (see Table 4)**
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, North Coast Region (Regional Water Board) have classified the above Co-Permittees as a medium municipal separate storm sewer system (MS4) pursuant to 40 CFR section 122.26(b)(7).	

The discharge by the Co-Permittee from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2: Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
All MS4 discharge points within the jurisdictional boundary of each Co-Permittee	Storm Water and Non-Storm Water	Various	Numerous	Russian River and its tributaries

Table 3: Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**October 8, 2015**
This Order shall become effective on:	**January 6, 2016**
This Order shall expire on:	**January 5, 2021**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**July 9, 2020**

I, Matthias St. John, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on **October 8, 2015.**

Matthias St.John 2015.10.22 13:29:28 -07'00'

Water Boards

Matthias St. John, Executive Officer

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I. CO-PERMITTEE INFORMATION

The following Co-Permittees are subject to waste discharge requirements (WDRs) as set forth in this Order:

Table 4: Co-Permittee Information

Permittee (WDID)	Legally Responsible Party
City of Cloverdale(1B15125SSON)	City Engineer 124 North Cloverdale Blvd., Cloverdale, CA 95425
City of Cotati (1B03048SSON)	City Engineer 201 West Sierra Avenue, Cotati, CA 94931 707-665-3637
City of Healdsburg (1B03046SSON)	City Engineer, 401 Grove Street, Healdsburg, CA 95448, 707-431-3346
City of Rohnert Park (1B03049SSON)	Director of Public Works 130 Avram Avenue, Rohnert Park, CA 94928 707-588-3301
City of Santa Rosa (1B96074SSON)	Mayor 100 Santa Rosa Avenue, Santa Rosa, CA 95401 707-543-4530
City of Sebastopol (1B03045SSON)	City Manager/Attorney 7210 Bodega Avenue, Sebastopol, CA 95472 707-823-1153
City of Ukiah (1B03187SMEN)	Director of Public Works 300 Seminary Avenue, Ukiah, CA 95482 707-463-6280
City of Windsor(1B03047SSON)	Town Engineer 8400 Windsor Road, Bldg. 100, Windsor, CA 95492 707-838-5978
County of Sonoma (1B0215SSON)	Chief Building Official 2550 Ventura Avenue, Santa Rosa, CA 95403 707-565-2502
Sonoma County Water Agency (1B02149SSON)	Chief Engineer 404 Aviation Blvd., Santa Rosa, CA 95403 707-521-1835

II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds:

A. Nature of Discharge

Discharges of storm water and non-storm water from an MS4, particularly in an urbanized area, have a high potential to convey pollutants to receiving waters. The higher percentage of impervious area in urbanized areas correlates to a greater pollutant loading, resulting in turbid water discharges, nutrient enrichment, bacterial contamination, and toxic compounds. Pollutants of concern in these discharges in the Russian River Watershed include: heavy metals, indicator bacteria, nutrients (e.g., phosphorus and nitrogen), pesticides, petroleum hydrocarbons, and trash.

B. Permit History

The City of Santa Rosa, County of Sonoma and the Sonoma County Water Agency (SCWA) are defined as medium MS4s and designated as Phase I Co-Permittees. Prior to issuance of this Order, Regional Water Board Order No. R1-2009-0050 served as the National Pollutant Discharge Elimination System (NPDES) MS4 permit for storm water and non-storm water discharges within the jurisdictional boundaries of the City of Santa, County of Sonoma and the SCWA. Order No. R1-2009-0050 was adopted by the Regional Water Board on October 1, 2009, and became effective on January 1, 2010.

The City of Cotati, the City of Rohnert Park, the City of Healdsburg, the City of Sebastopol, the City of Ukiah, and the Town of Windsor were previously designated as Small Phase II MS4s in 2003. State Water Board Order No. 2003-0005-DWQ (2003 Order) served as the NPDES MS4 permit for storm water and non-storm water discharges within the jurisdictional boundaries of each municipality. The 2003 Order was adopted on April 30, 2003.

The City of Cloverdale and portions of unincorporated County of Sonoma were newly designated as MS4s in 2013.

In early 2013, Phase II municipalities within the Russian River Watershed were provided an option to align with the Phase I program in an effort for watershed wide consistency and collaboration among the Phase I and Phase II Co-Permittees. The City of Cloverdale, the City of Cotati, the City of Rohnert Park, the City of Healdsburg, the City of Sebastopol, the City of Ukiah, the Town of Windsor, and the Phase II designated portions of the County of Sonoma elected to participate in the Phase I program.

Each Phase II MS4 electing to participate in the Phase I MS4 program was required to develop and submit an implementation plan for Regional Water Board approval. The implementation plan outlined all of the requirements in Order No. R1-2009-0050 with a proposed time frame for compliance. Additionally, each Phase II MS4 was required to continue implementing the individual Storm Water Management Plan (SWMP approved under the 2003 Order. The SWMP and implementation plan served as NPDES Permit coverage for those Phase II MS4s electing to participate in the Phase I MS4 program.

The City of Cotati, the City of Cloverdale, the City of Healdsburg, the City of Rohnert Park, the City of Sebastopol, the Town of Windsor, and the City of Ukiah are now hereby designated as Phase I MS4 Permittees. These Phase I Permittees, along with the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency, are hereinafter collectively referred to as Co-Permittees.

C. Permit Application

On July 3, 2014, the City of Santa Rosa, the County of Sonoma, and the SCWA each submitted an individual Report of Waste Discharge (ROWD) and Form 200 as an application for renewal of waste discharge requirements that serve as an NPDES permit to discharge storm water and non-storm water through their MS4 to surface waters. The ROWD applications were submitted prior to the expiration of Order No. R1-2009-0050.

The remaining Co-Permittees were also required to apply for waste discharge requirements prior to the expiration of Order No. R1-2009-0050. A determination was made that the implementation plans submitted in 2013 served as an equivalent to a ROWD and it was not necessary to re-submit the implementation plan. However, each municipality was responsible for submitting a Form 200 to initiate an application for coverage under this Order. Table 5 documents the date the Regional Water Board received each application.

Table 5: Form 200 Submittal Date

Municipality	Date Application Received
City of Cloverdale	September 8, 2014
City of Cotati	July 21, 2014
City of Healdsburg	June 25, 2014
City of Rohnert Park	June 30, 2014
City of Sebastopol	June 25, 2014
City of Ukiah	July 1, 2014
Town of Windsor	June 30, 2014

D. Jurisdictional Boundary

Each Co-Permittee was required to submit a boundary map delineating their permit jurisdiction. For cities, the jurisdictional boundary is the city boundary. For the County of Sonoma, the jurisdictional boundary is defined as the unincorporated portion of the County of Sonoma within the Laguna de Santa Rosa watershed boundary, County Islands[1] within city boundaries of all other Co-Permittees, and portions of unincorporated Healdsburg, Graton, Occidental, Monte Rio, Forestville, and Guerneville. Jurisdictional boundaries are presented in Attachment C and are hereby the effective coverage area under which the terms and conditions of this Order apply.

E. Geographical Coverage

Municipal storm water and non-storm water discharges that discharge to receiving waters of the Russian River Watershed and its tributaries.

F. Legal Authorities

This Order is issued pursuant to the Clean Water Act section 402 and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). This Order serves as an NPDES permit for point

[1] County island is defined as unincorporated urban pockets that are either completely or substantially surrounded by incorporated cities or city.

source discharges from the Co-Permittees' MS4 to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).

G. Background and Rationale for Requirements

The Regional Water Board developed the requirements in this Order based on information submitted as part of the Co-Permittees' applications, through monitoring and reporting programs, and other available information. In accordance with 40 Code of Federal Regulation (CFR) section 124.8, a Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.

H. California Environmental Quality Act (CEQA)

This action to adopt an NPDES Permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code, section 21100, et seq.) pursuant to California Water Code section 13389.

I. Monitoring and Reporting Program

Title 40 CFR section 122.48 requires that all NPDES permit specify requirements for recording and reporting monitoring results. California Water Code section 13267 authorizes the Regional Water Board to require technical and monitoring reports and section 13383 authorizes the Regional Water Board to establish monitoring, reporting and recordkeeping requirements. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

J. Standard and Special Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Co-Permittees.

K. Notification of Interested Parties

The Regional Water Board has notified the Co-Permittees and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharges and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

L. Consideration of Public Comment

The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharges authorized by this Order and the requirements contained herein. The Regional Water Board has prepared written responses to all timely comments, which are incorporated by reference as part of this Order. Details of the Public Hearing are provided in the Fact Sheet of this Order.

M. Review by the State Water Board

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the Regional Water Board action, except that if the thirtieth day following the action falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day.

This Order serves as an NPDES permit pursuant to the Clean Water Act section 402 or amendments thereto, and becomes effective 90 days after the date of adoption, provided that the Regional Administrator, U.S. EPA, Region IX, does not express objections.

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order No.R1-2009-0050, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder, the Co-Permittees shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Discharges of storm water or non-storm water from the MS4 in a manner causing or contributing to a condition of pollution, contamination, or nuisance (as defined in the California Water Code section 13050), in waters of the state are prohibited.

B. Discharges from the MS4 shall be in compliance with the applicable discharge prohibitions contained in the Basin Plan, unless the Action Plan for Storm Water Discharges is implemented.

C. The Co-Permittees shall prohibit non-storm water discharges from entering into the MS4 unless such discharges are either authorized by an NPDES permit, or otherwise approved by the Regional Water Board Executive Officer in accordance with a non-storm water Best Management Practice (BMP) plan (BMP Plan). The non-storm water BMP Plans shall be developed to eliminate or minimize the discharge of pollutants to the MS4 to the maximum extent practicable.

1. The following categories of non-storm water discharges are not prohibited provided they meet all required conditions of this Order, comply with all conditions in the Executive Officer's approval, are not a significant source of pollutants, and are conducted as specified in the Co-Permittee's approved BMP Plan.

a. Stream diversions permitted by the State or Regional Water Board where such flows are intentionally diverted into the MS4.

b. Natural springs and rising groundwater that are intentionally diverted into the MS4.

c. Uncontaminated groundwater infiltration into structures [as defined by 40 CFR 35.2005(20)] where flows are diverted into the MS4.

d. Overflows from riparian habitats or wetlands where such flows are intentionally diverted into the MS4.

e. Flows from firefighting training and equipment repair activities.

f. Flows from firefighting.

g. Fire hydrant testing.

h. Discharge from potable water sources.

i. Utility vault dewatering.

j. Gravity flow from foundation, footing, and crawl drains.

k. Air conditioning condensate.

l. Water from crawl space pumps.

m. Recycled water runoff.

n. Potable water runoff.

o. Dechlorinated/debrominated swimming pool discharges[2].

p. Non-commercial car washing by residents or non-profit organizations.

q. Pooled storm water from treatment BMPs that are intentionally discharged to the MS4 as part of maintenance activities.

2. Some categories of discharges listed in III.C.1. may require a separate NPDES permit depending on the nature of the discharge. Co-Permittees are responsible for ensuring that appropriate permits have been obtained prior to authorizing a non-storm water discharge.

3. The BMP Plan shall include categories of non-storm water discharges listed in III.C.1. and appropriate BMPs for each type of allowable discharge. The Plan must include evaluating infiltration to groundwater as a possible BMP for each type of discharge.

4. The BMP Plan shall address discharges or flows from firefighting only where such discharges or flows are identified as significant sources of pollution to receiving waters. At a minimum, the BMP Plan shall address BMPs to employ during firefighting activities, when possible.

5. By the effective date of the permit, all Co-Permittees, with the exception of the City of Cloverdale, shall implement an approved BMP Plan. Absent an approved BMP Plan, the Co-Permittees must prohibit the discharge of non-storm water from entering the MS4.

6. The City of Cloverdale must submit a BMP Plan by the effective date of this Order for the Executive Officer's approval. Until such a plan is approved, the City of Cloverdale must either prohibit non-storm water discharges or implement BMPs on an interim basis.

[2] Chlorine residual in discharge shall not exceed 0.019 mg/L.

7. Upon request by a Co-Permittee, the Executive Officer may consider adding other categories of non-storm water discharges in addition to those listed in III.C.1.

8. If any of the discharges listed in III.C.1 are demonstrated to be a source of pollution that causes or contributes to an exceedance of applicable receiving water limitations, the Co-Permittee shall report those findings to the Regional Water Board within 72 hours of the occurrence. Based upon this determination the Co-Permittee shall either:

a. Effectively prohibit the non-storm water discharge to the MS4; or

b. Impose additional BMPs, subject to approval by the Executive Officer, on the non-storm water discharge such that it will not be a source of pollutants; or

c. Require or obtain coverage under a separate NPDES permit for discharge into the MS4; or

d. Require diversion of the discharge of non-storm water discharge to the sanitary sewer; or

e. Require treatment of the non-storm water discharge to levels found acceptable

IV. RECEIVING WATER LIMITATIONS

A. Discharges of storm water or non-storm water from an MS4 shall not cause or contribute to a violation of water quality standards in receiving water. Water quality standards includes water quality objectives in the Basin Plan and statewide water quality control plans and policies.

B. Discharges of storm water and non-storm water from an MS4 shall not cause an alteration of natural temperature of receiving waters unless it can be demonstrated to the satisfaction of the Executive Officer that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall discharges cause temperature to increase more than 5^0 Fahrenheit above natural receiving water temperature.

C. The Co-Permittees shall comply with Discharge Prohibitions and Receiving Water Limitations through timely implementation of control measures and other actions to reduce pollutants in storm water and non-storm water discharges in accordance with this Order. If an exceedance of water quality standards persist, notwithstanding implementation of this Order, the Co-Permittee causing or contributing to the exceedance shall assure compliance with water quality standards by complying with the following procedure:

1. Upon a determination by either a Co-Permittee or the Regional Water Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Co-Permittee shall notify the Regional Water Board within 14 days of any such determination. The determination of an exceedance can be made from the results of the Monitoring and Reporting Program R1-2015-0030 or by other information obtained by a Co-Permittee.

2. Thereafter, the Co-Permittee responsible for the exceedance shall submit a Receiving Water Limitations Compliance Report to the Regional Water Board for Executive Officer approval. The Receiving Water Limitations Compliance Report

shall be submitted within 45 days of the Co-Permittee becoming aware of the exceedance.

3. The Receiving Water Limitations Compliance Report shall describe BMPs currently being implemented and the additional BMPs that will be implemented to prevent or reduce the discharge of any pollutants that are causing or contributing to exceedances of the water quality standard.

4. The Receiving Water Limitations Compliance Report shall include a BMP implementation schedule.

5. Within 30 days following the approval of the Receiving Water Limitations Compliance Report, the approved or modified suite of BMPs, the implementation schedule, monitoring, and program effectiveness evaluation shall be implemented.

6. Modifications to the Receiving Water Limitations Compliance Report required by the Regional Water Board Executive Officer shall be submitted within 30 days of notification unless otherwise directed.

D. Co-Permittees will have to implement alternative BMPs or combinations of BMPs and will report the procedure set forth above for continuing or recurring exceedances of the same water quality standard unless otherwise directed. The Co-Permittee shall not be expected to continue using the same specific BMPs repetitively if they have been shown to be ineffective.

V. STANDARD PROVISIONS

A. Federal Standards Provisions.

Each Co-Permittee shall comply with all Standard Provisions included in Attachment D of this Order, in accordance with 40 CFR sections 122.41 and 122.42(c).

B. General Provisions

1. Each Co-Permittee shall, at a minimum, adopt and implement applicable terms of this Order within the jurisdictional boundary of each Co-Permittee. The Co-Permittees shall be responsible for program coordination as described in this Order as well as compliance with applicable portions of this Order within each Co-Permittee's jurisdictional boundary. This Order shall be implemented no later than 90 days after the adoption date, unless a later date has been specified for a particular provision in this Order and provided the U.S.EPA has no objections.

2. Each Co-Permittee shall comply with the requirements of 40 CFR 122.26 and implement programs and control measures to reduce the discharges of pollutants in storm water to the maximum extent practicable and to meet water quality standards.

3. Each Co-Permittee is required to comply with all applicable compliance time frames specified in this Order. Co-Permittees can request an extension on compliance time frames with a valid justification for additional time acceptable to the Executive Officer.

4. The Sonoma County Water Agency does not have land use authority and therefore can only control activities conducted by Sonoma County Water Agency staff or

conducted on its own property. Therefore, not all requirements in this Order are applicable to the Sonoma County Water Agency.

C. Legal Authority

1. Each Co-Permittee shall establish and maintain adequate legal authority, within its respective jurisdictional boundary, to control discharges to the MS4 through ordinance, statue, permit, contract, or similar means. This legal authority must, at a minimum, authorize or enable each Co-Permittee to:

a. Control the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial and construction activity and the quality of storm water discharged from site of industrial and construction activity;

b. Prohibit through ordinance, order or similar means, illicit discharges to the MS4 including non-storm water discharges, except as allowed in an approved non-storm water BMP plan;

c. Control through ordinance or similar means, the discharge to an MS4 of spills, dumping and disposal of materials other than storm water;

d. Control through interagency agreements among Co-Permittees the contribution of pollutants from one portion of the MS4 to another portion of the MS4;

e. Require compliance with conditions in ordinances, permits, contracts or orders;

f. Require the implementation and enforcement of the Low Impact Development Manual, as described in the Planning and Land Development Program section of this Order;

g. Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the MS4;

h. Require the use of control measures to prevent or reduce the discharge of pollutants to the MS4 to the maximum extent practicable;

i. Require that treatment control BMPs be properly operated and maintained; and

j. Utilize progressive and consistent enforcement measures authorized by ordinances, permits, contracts, orders, administrative authority and civil and criminal prosecution.

2. Where a Co-Permittee has no direct authority, the Co-Permittee is required to enter into an agreement with other Co-Permittee agencies or departments that have the enforcement authority.

3. No later than one year after the effective date of this Order, each Co-Permittee shall submit a statement by its legal counsel that the municipality possesses all necessary legal authority to comply with this Order through the adoption of ordinances, municipal code modifications, and/or other regulatory mechanisms.

D. Fiscal Resources

1. For each fiscal year covered by this Order, each Co-Permittee shall submit in the Annual Report a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to comply with the Order. The annual budget summary shall include the following:

a. Description of the source of funds used in the past year;

b. Description of the source of funds proposed for the coming year;

c. Legal restriction on the use of funds, if any;

d. The storm water budget for the prior reporting period and actual expenditures for implementation of the storm water program; and

e. The storm water budget for the upcoming year, using estimated expenditures for the implementation of the storm water program.

2. Reports shall include expenditures for the overall implementation of the storm water program and the following sub-categories, at a minimum:

a. Street Sweeping;

b. Monitoring;

c. Annual Reporting; and

d. Trash Management.

E. Responsibilities of the Co-Permittee

Each Co-Permittee is required to comply with the requirements of this Order applicable to the MS4 discharge within its jurisdictional boundary. Each Co-Permittee shall:

1. Comply with the requirements of this Order and any modifications thereto;

2. Participate in intra-agency coordination with departments and agencies, as necessary, to facilitate implementation of the requirements of this Order;

3. Report, in addition to the annual budget summary, any supplemental dedicated budgets for the same categories; and

4. Provide technical and administrative support for committees that will be organized to implement this Order and its requirements.

F. Public Review

All documents submitted to the Regional Water Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. section 552 (as amended)) and the Public Records Action (California Government code section 6250 et seq.).

VI. SPECIAL PROVISIONS

A. General Requirements

1. General

This Order and the provisions herein are intended to assist the Co-Permittees in developing, implementing and achieving a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the maximum extent practicable and to meet water quality standards.

2. Best Management Practice Substitution

The Regional Water Board Executive Officer may approve any specific BMP substitution upon request by a Co-Permittee(s), if the Co-Permittee can document:

a. The proposed alternative BMP program will meet or exceed the objective of the original BMP program in the reduction of storm water pollutants;

b. The fiscal burden of the original BMP program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and

c. The proposed alternative BMP program will be implemented within a similar period of time.

Or

a. The fiscal burden of the original BMP program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and

b. The proposed alternative BMP program will be implemented within a similar period of time.

3. Storm Water Program Management

a. Each Co-Permittee is required to have a designated storm water program manager. The program representative will serve as the main point of contact for Regional Water Board staff. The program manager must be employed by the municipality.

b. The storm water program manager or designated representative is required to participate in storm water program management development opportunities including, but not limited to: Co-Permittee meetings, Regional Water Board staff meetings, trainings, project development, and peer review.

4. Collaborative Opportunity

This Order allows Co-Permittees to work collaboratively to implement the requirements of this Order, where ever such opportunities exist. Working collaboratively is voluntary (except in the Monitoring and Reporting Program) and is not a condition of compliance. However, Co-Permittees are encouraged to seek out collaborative opportunities to reduce the cost of implementing their storm water

management programs, maximize resources, and leverage existing resources when available.

5. Progressive Enforcement

a. General

Each Co-Permittee shall develop and implement a Progressive Enforcement Policy to ensure that (1) regulated industrial/commercial facilities, (2) construction sites, (3) development and redevelopment sites with post-construction BMP requirements, and (4) illicit discharges/illicit connections are brought into compliance with all storm water and non-storm water requirements within a reasonable time period as specified below.

b. Follow-Up Inspection

In the event that a Co-Permittee determines that a facility or site operator has failed to adequately implement all necessary BMPs, that Co-Permittee shall take progressive enforcement actions which, at a minimum, shall include a followup inspection and/or investigation.

c. Enforcement Action

In the event that a Co-Permittee determines that a facility or site operator has failed to adequately implement BMPs after a follow-up inspection, the Co-Permittee shall take enforcement action as established through authority in the municipal code and ordinances, through the judicial system to bring the facility or site into compliance, or refer the case to the Regional Water Board, per the Interagency Coordination provisions below.

d. Records Retention

Each Co-Permittee shall maintain records, per their existing records retention policies, and make them available on request to the Regional Water Board, including inspection reports, warning letters, notices of violations, and other enforcement actions, demonstrating Co-Permittee's effort to bring facilities into compliance.

e. Referral of Violations of Municipal Ordinances and California Water Code Section 13267

A Co-Permittee may refer a violation(s) of the municipal storm water ordinances and/or California Water Code section 13260 by Industrial and Commercial facilities and construction site operators to the Regional Water Board, provided that the Co-Permittee has taken actions to implement the Progressive Enforcement Policy to achieve compliance with relevant ordinances. At a minimum, a Co-Permittee's actions must be documented with:

i. Two follow up inspections, and

ii. Two written enforcement actions, or

iii. A Co-Permittee may confer with the Regional Water Board at any point in this process to discuss violations and enforcement. Sections VI.A.5.e.i and

ii may be bypassed in the event the violation(s) is serious in nature and the Co-Permittee determines the case needs joint authority enforcement.

f. Referral of Violations of the Industrial and Construction General Permits

For these facilities or site operators in violation of municipal storm water ordinances and subject to the Industrial and/or Commercial General Permits, Co-Permittees may escalate referral of such violations to the Regional Water Board after one inspection and one notice of violation or directly after inspection if circumstances warrant joint authority enforcement. In making such referrals, Co-Permittees shall include, at a minimum, the following documentation:

i. Name of the facility or site;

ii. Operator of the facility or site;

iii. Owner of the facility or site;

iv. WDID Number;

v. Records of communication with the facility/site operator regarding the violation(s), which shall include at least one inspection report; and

vi. One written notice of violation.

g. Investigation of Complaints Transmitted by the Regional Water Board Staff

Each Co-Permittee shall initiate, by the end of the Co-Permittee's next business day, investigation of complaints transmitted by Regional Water Board staff for facilities within its jurisdictional boundary. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm validity of the complaint and to determine if the facility is in compliance with municipal storm water ordinances and, if necessary, take enforcement action.

h. Assistance with Regional Water Board Enforcement Actions

As requested by the Regional Water Board Executive Officer, Co-Permittees shall assist Regional Water Board enforcement actions by:

i. Assisting in identification of current owners, operators, and lessees of properties and sites;

ii. Providing staff, when available, for joint inspection with Regional Water Board inspectors;

iii. Testifying as witnesses, as needed in Regional Water Board enforcement hearings; and

iv. Providing copies of inspection reports and documentation demonstrating application of the Progressive Enforcement Policy.

B. Public Information and Participation Program (PIPP)

1. General

Each Co-Permittee shall develop and implement a Public Information and Participation Program (PIPP) that includes the requirements listed in this sections VI.B.2-VI.B.4 of the Order. The objectives of the PIPP are as follows:

a. To increase the knowledge of the target audience about the MS4, the adverse impacts of storm water pollution on receiving waters and potential solutions to mitigate the impacts;

b. To change the waste disposal and storm water pollution generating behavior of target audiences by developing and encouraging the implementation of appropriate alternatives; and

c. To involve and engage communities within the Russian River watershed to participate in mitigating the impacts to storm water pollution.

2. Residential Outreach Program

a. Working in conjunction with a collaborative approach or individually, each Co-Permittee shall implement the following activities:

i. Develop and distribute an "only rain down the drain" or similar themed campaigned with the goal of providing general storm water pollution prevention education. The campaign shall focus on educating the general population that water entering the gutters and storm drain is not treated and goes directly to creeks and rivers.

ii. Develop and distribute residential educational materials on the proper handling and disposal of the following types of wastes:

(a) Vehicle waste fluids;

(b) Household waste materials, including pharmaceuticals, hazardous waste, trash, cleaning paint brushes, etc;

(c) Construction waste materials, including proper cleanup of equipment;

(d) Pesticides and fertilizers wastes;

(e) Green waste;

(f) Trash; and

(g) Animal waste.

iii. Develop and implement an outreach program to residents on proper lawn care and water conservation practices. This outreach shall include proper pesticide/fertilizer application and the prevention of discharge pollutants to the storm drain through proper irrigation.

iv. Develop and distribute educational material on proper methods of residential car washing to prevent pollutants from entering the MS4.

v. Conduct storm water pollution prevention public service announcements and advertising campaigns.

vi. Work with local watershed groups or committees to educate the public about storm water pollution prevention.

vii. Organize or participate in events targeted to residents to educate and involve the community in storm water and non-storm water pollution prevention and cleanup.

b. Maintain storm water websites or provide links to storm water websites via the Co-Permittee's website, which shall include educational materials and opportunities for the public to participate in storm water pollution prevention and cleanup activities.

c. When developing the PIPP, Co-Permittees shall use effective strategies to educate and involve ethnic communities in storm water pollution prevention through culturally effective methods. The target ethnic community shall be identified by the Co-Permittees based on best available data. The methods selected shall be based on current research and professional experience. Rationale used to make these determinations shall be documented and reported.

d. Each Co-Permittee shall determine the most appropriate and effective method of distributing residential outreach materials to the community within their jurisdictional boundary.

e. Each Co-Permittee shall develop their Residential Outreach Program during the first year of this Order and implement the program at the start of the second year.

3. Children Outreach Program

a. Working in conjunction with a collaborative approach or individually, each Co-Permittee shall develop a Children Outreach Program Plan to provide school aged children (grades K-12) with educational information on storm water pollution. The plan must include the following elements:

i. Educational Materials: Develop age appropriate educational materials to distribute to children for the purpose of promoting healthy watershed concepts, including but not limited to: general watershed education, local aquatic species, "only rain down the drain" storm water pollution prevention concept, an anti-littering campaign, and the importance of pet waste management;

ii. Locations and Special Events: Identify locations and frequencies at which materials will be distributed. The plan should consider a variety of locations and special events in which educational materials can be distributed. Locations and special events must be included to target children within in each Co-Permittee's jurisdictional boundary;

iii. Interactive Opportunities: Identify interactive educational opportunities for children to learn about storm water pollution; and

iv. Partnerships: Identify opportunities to partner with other community groups with an objective of maximizing the ability to provide educational opportunities to children.

b. Each Co-Permittee shall develop their Children Outreach Program Plan during the first two years of this Order and implement the program at the start of the third year.

4. Effectiveness Assessment

Working in conjunction with a collaborative approach or individually, each Co-Permittee shall conduct a public survey to assess whether the PIPP is effective in increasing the understanding of storm water, storm water pollution, and storm water pollution prevention. The results of the survey shall be reported no later than four years after the effective date of this Order.

C. Industrial/Commercial Facilities

1. Business Assistance Program

Each Co-Permittee shall implement a Business Assistance Program within their jurisdictional boundary to provide information on proper BMP implementation on targeted industrial/commercial facilities to facilitate their efforts to reduce the discharge of pollutants in storm water runoff. The Business Assistance Program shall include:

a. A website with telephone and e-mail contact information to provide information regarding the responsibilities of businesses to reduce the discharge of pollutants, pollution prevention methods and BMPs, and available guidance material; and

b. At least once during the five year permit term, each Co-Permittee shall distribute resources for storm water pollution prevention educational materials for employee training to operators of:

i. Automotive parts retail facilities;

ii. Commercial car washing operations;

iii. Mobile carpet cleaning services;

iv. Power washers;

v. Portable sanitary service providers; and

vi. Commercial pesticide applicator services.

2. Industrial/Commercial Critical Sources

a. General

Using local ordinances, each Co-Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities with the objective of reducing pollutants in storm water runoff.

Except where specified otherwise in this Order, pollutant reduction and control measures may include structural treatment control, source control BMPs, and operation and maintenance procedures, which may be applied before, during, and/or after pollutant generating activities. At a minimum, the Industrial/Commercial Facilities Program shall include requirements to:

i. Identify applicable facilities;

ii. Track facilities;

iii. Conduct inspections;

iv. Educate; and

v. Assess compliance with municipal ordinances at industrial and commercial facilities that are critical sources of pollutants in storm water runoff.

b. Inventory of Critical Source Facilities

i. Each Co-Permittee shall maintain an inventory of facilities within its jurisdictional boundary that are identified as critical sources of storm water pollution. Critical sources to be tracked include:

(a) Restaurants;

(b) Automotive service facilities including those in dealerships;

(c) Auto-dismantlers;

(d) Retail gasoline stations;

(e) Nurseries and landscape material retailers; and

(f) Other facilities specifically identified by the Co-Permittee or Regional Water Board staff found to be discharging pollutants to the MS4 in levels that may result in a water quality standard exceedance.

ii. Each Co-Permittee shall include the following minimum fields of information for each critical source industrial and commercial facility:

(a) Name of facility;

(b) Name of owner/operator and contact information;

(c) Address of the facility;

(d) A narrative description of the activities performed and/or principal products produced;

(e) North American Industry Classification System (NAICS) code;

(f) Standards Industrial Classification (SIC) code; and

(g) Sources of exposure to storm water.

iii. Each Co-Permittee shall have a complete inventory no later than one year after the effective date of this Order. Each Co-Permittee shall update its inventory of critical sources at least annually thereafter. The update shall be accomplished through collection of new information obtained through field

activities or through other readily inter- and intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer connection permits, and similar information).

c. Educate Industrial/Commercial Facilities

At least once during the five-year period of this Order, each Co-Permittee shall notify the owner/operator of all inventoried critical sources of the BMP requirements applicable to the site/facility. The minimum BMP requirements are described as follows:

i. Each Co-Permittee shall require each inventoried critical source facility within their jurisdictional boundary to implement and maintain source control BMPs listed in Table 7, unless the pollutant generating activity does not occur. Table 7 references BMPs as described in Appendix D, California Storm Water Industrial and Commercial BMP Handbook (2014). Equivalent BMPs may be substituted for those listed in Table 7.

ii. Each Co-Permittee shall distribute storm water pollution prevention educational materials to operators of all critical source facilities.

iii. For critical sources that discharge to a Clean Water Act section 303(d) listed impaired water body, each Co-Permittee shall require operators of facilities identified by a Co-Permittee or Regional Water Board staff to implement additional controls as needed to reduce pollutants in storm water runoff that may be causing or contributing to exceedances in water quality standards.

d. Inspect Industrial/Commercial Critical Sources

i. Frequency of Mandatory Industrial/Commercial Critical Source Inspections

ii. Each Co-Permittee shall inspect all critical source facilities twice during the five-year term of this Order. The first inspection shall occur no later than two years after the effective date of this Order. A minimum interval of six months between the first and the second inspection is required.

iii. Scope of Mandatory Industrial/Commercial Critical Source Facility Inspection

(a) Each Co-Permittee shall inspect all critical source facilities to confirm that the operator is implementing source control BMPs in compliance with municipal ordinances and this Order, equivalent to those listed in Table 6, unless such activity is not conducted. This list of BMPs may not be applicable in its entirety at all projects and judgment is necessary to implement site-appropriate BMPs. The Co-Permittee shall require implementation of additional BMPs and controls as needed to reduce pollutants in storm water runoff that may be causing or contributing to an exceedance of water quality standards. Likewise, for those BMPs that are not adequate to achieve water quality standards, the Co-Permittee may require additional site-specific controls. Each Co-Permittee must document each inspection, including inspection findings and any necessary follow up.

(b) Each Co-Permittee shall document in the 2015/2016 Annual Report the agency or department that will be implementing the critical source inspection requirements.

(c) Each Co-Permittee shall meet at least annually with inspection staff to review the critical source inspection requirements and to discuss the status of the inspections. Documentation of these meetings shall be provided in each Annual Report.

Table 6: Industrial/Commercial BMPs

Pollutant-Generating Activity	BMP Narrative Description
Hazardous Materials/Waste Storage, Handling and Disposal	Distribution of educational materials on storm water pollution prevention practices to employees.
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures
Vehicle/Equipment Fueling	Implementation of effective fueling source control devices and practices
Vehicle/Equipment Cleaning	Implementation of effective equipment/vehicle cleaning practices and appropriate wash water management practices
Vehicle/Equipment Repair	Implementation of effective vehicle/equipment repair practices and source control devices
Outdoor Loading/Unloading	Implementation of effective outdoor loading/unloading practices
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices
Outdoor Equipment Operations	Implementation of effective outdoor equipment source control devices and practices
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures
Building and Grounds Maintenance	Implementation of effective facility maintenance practices
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices
Storm Water Conveyance System Maintenance	Implementation of proper conveyance system operation and maintenance protocols

e. Progressive Enforcement

Each of the Co-Permittees shall implement their Progressive Enforcement Policy to ensure that industrial/commercial facilities are brought into compliance with all storm water requirements within a reasonable time period. See VI.A.5 for requirements for the development and implementation of a Progressive Enforcement Policy.

D. Planning and Land Development

1. General

Each Co-Permittee shall implement planning and land development requirements for private and public new development and redevelopment projects subject to this Order. The program shall incorporate the following goals:

a. Minimize the adverse impacts from storm water runoff on water quality, the biological integrity of receiving waters, and the beneficial uses of water bodies in accordance with requirements under CEQA (California Public Resources Code section 21100), and local government ordinances.

b. Minimize the percentage of impervious surfaces on development and redevelopment projects.

c. Implement mitigation measures to mimic the pre-development water balance through infiltration, evapotranspiration, and capture and reuse of storm water. Pre-development water balance determinations shall include assessments of runoff stored on the surface in natural depressions, runoff captured by topsoil and debris layers and runoff evapotranspiration by vegetation.

d. Control pollutant loadings from impervious surfaces such as roof-tops, parking lots, and roadways through the use of properly designed, technically appropriate BMPs (including source control BMPs such as trash enclosures, good housekeeping practices), Low Impact Development (LID) strategies, and treatment control BMPs.

e. Properly select, design, inspect and maintain treatment control BMPs and hydromodification control BMPs to control pollutants that are likely to be generated by land development, control post-development surface flows and velocities, assure long-term functionality of the BMPs, and avoid the breeding of vectors.[3]

f. Prioritize the selection of post-development BMPs to remove storm water pollutants specific to the proposed development, control storm water runoff volume and velocity, and beneficially use storm water to support an integrated approach to protecting water quality and managing water resources.

[3] Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for breeding of vectors.

2. Storm Water Post-Construction Best Management Practice Applicability

a. Ministerial and discretionary projects are subject to storm water post-construction BMPs. New development and redevelopment projects subject to post-construction BMP implementation requirements include:

i. All new development and redevelopment projects creating or replacing 10,000 square feet or more of impervious surface;

ii. Streets, roads, highways, and freeway construction or reconstruction projects creating or replacing a combined total of 10,000 square feet or more of impervious surface; and

iii. High priority street and road reconstruction project that require post-construction LID BMPs and undertaken by a public agency, within the original footprint, and less than 48 feet wide. Such projects shall undertake the following:

1) Starting two years after the effective date of this Order, each Co-Permittee shall develop criteria to determine high priority road reconstruction projects. Criteria shall be based on factors such as traffic volume and flow, or other water quality based criteria.

2) In implementation of post-construction LID BMPs is not feasible at a high priority road reconstruction project, the Co-Permittees shall propose an alternate method of compliance and implementation schedule no later than two years from the effective date of this Order. The alternate method of compliance and implementation schedule is subject to Executive Officer approval and must include on or more of the following options:

(a) An offset program that provides equivalent protection of water quality;

(b) Physical structured units that do not achieve volume capture and are not landscape based, but are effective in removing pollutants commonly found in road runoff, such as metals, sediment, hydrocarbons, and trash; or

(c) Development of a watershed-wide green infrastructure plan that may include green street pilot projects, enhanced non-structural and structural BMPs to effectively control pollutants found in road runoff[4]. The plan would be intended to serve as an implementation guide to reduce, over the long term, the adverse water quality impacts of urbanization and urban runoff on receiving waters, provide an implementation schedule for selected tasks in the plan,

[4] If this plan is developed by Co-Permittee(s), this Order may be reopened and amended to require implementation of the plan.

and provide a planning document to assist in securing grant funds to construct green infrastructure retrofit projects.

3) If a Co-Permittee proposes option 2.a.iii.2).(a) or (b) as an alternate method of compliance, it shall commence the implementation schedule within 60 days of Executive Officer approval.

b. Development and redevelopment projects not subject to post-construction BMP implementation requirements include:

i. Routine maintenance activities[5] that are conducted to maintain original line and grade, hydraulic capacity, and original purpose of facility (example resurfacing existing roads and parking lots);

ii. Emergency activities required to protect public health and safety[6];

iii. Projects undertaken solely to install or reinstall public utilities (ex. sewer or water lines) and do not include any additional street or road development or redevelopment activities beyond paving activities needed as a result of construction impacts on the existing roadway;

iv. Municipal activities involving pothole repairs and square cut patching; and

v. Stand-alone pedestrian pathways, trails, and off-street bicycle lanes.

c. These triggers and exemptions must be applied to the final complete project, including all phases of work.

3. Post-Construction BMP Selection and Sizing

a. Post Construction Pollutants of Concern

Post-Construction BMPs shall be selected and designed to treat the following pollutants of concern: dissolved and particulate metals, pathogens, nutrients, sediment, hydrocarbons, and trash, fine sediment, and other debris sized 100 microns and larger. This requirement may be met by directing flow and debris into a landscaped based infiltration feature that adequately captures these pollutants. All other pollutants shall be treated to the maximum extent practicable. It may be necessary to select and install multiple BMPs in order to treat all pollutants of concern.

b. Sizing

Each Co-Permittee shall require all new development and redevelopment projects subject to post-construction BMP requirements to select and size post-construction BMPs according to the following criteria:

i. Volume Capture and Treatment Requirements

[5] Impervious surface replacement, such as the reconstruction of parking lots or excavation to roadway subgrades, is not a routine maintenance activity. Reconstruction is defined as work that replaces surfaces down to the subgrade. Overlays, resurfacing, trenching and patching are defined as maintenance activities.

[6] The Regional Water Board must agree that the activities are an emergency and are needed to protect public health and safety to qualify for this exception.

Post-construction BMPs shall be sized to treat all of the runoff generated using the modified Rational Method with an intensity of 0.2 inches per hour and capture (infiltrate, evapotranspirate, and/or reuse) the increase in volume generated by the site due to the increase in impervious surface for a one inch rain event over a 24 hour period using the Curve Number Method.

ii. Treatment Only: If treatment is the only requirement, BMPs must be sized and designed to:

(a) Filter or treat:

(1) 1.5 times the design flow rate;

(2) Flow rate of runoff produced by the 24 hour 85th percentile rain event, as determined from the local historical rainfall record, multiplied by a factor of two.

iii. A reduction in volume capture and/or treatment requirements may be provided with the selection of LID pollution prevention measure BMPs. All projects may consider the use of these LID BMPs, which include:

(a) Living Roof,

(b) Rainwater Harvesting,

(c) Interceptor Trees,

(d) Vegetated Buffer Strips,

(e) Bovine Terrace,

(f) Pervious Pavement,

(g) Impervious Area Disconnect, and

(h) Stream Setbacks and Buffers.

c. Selection

The Co-Permittees shall approve post-construction BMP selection for required projects based on the following criteria:

i. Low Impact Development BMPs

(a) LID BMPs shall be deemed the highest priority BMP and are required to be implemented to the maximum extent practicable at all required development and redevelopment projects. These BMPs achieve both treatment and volume capture requirements. Infiltration must be provided by the underlying native soils or other suitable material. BMPs shall be installed without perforated pipes or impermeable liners. Example BMPs include:

(1) Rain Garden,

(2) Roadside Bioretention,

(3) Vegetated Swale with Bioretention,

(4) Constructed Wetlands, and

(5) Infiltration Trench.

(b) If it is deemed inappropriate or infeasible to infiltrate into native soil due to low soil infiltration rates, the infiltration based BMPs may be designed with a perforated pipe raised to allow infiltration below, as opposed to the bottom of the feature. This is to ensure that volume capture occurs in the area below the perforated pipe.

ii. Treatment Based BMPs

(a) Treatment based BMPs are intentionally designed not to infiltrate and shall only be selected where infiltration is not required or not feasible due to the following reasons[7]:

(1) The project's proximity to geotechnical hazards,

(2) The proposed BMPs proximity to a contaminated groundwater site where infiltration poses a risk of causing pollutant mobilization,

(3) Site constraints that prohibit the ability to infiltrate storm water due to shallow groundwater and/or depth to hardpan, or

(4) Other criteria proposed by a Co-Permittee and approved by the Regional Water Board Executive Officer, in which compliance with volume capture is not feasible, such as high density development or sensitive biological areas.

(b) For projects approved for treatment only BMPs, selection shall be given in the following order of priority:

(1) Biofiltration BMPs installed with subdrains and/or impermeable liner. BMPs in this category infiltrate, treat, and then direct treated storm water to the storm drain.

(2) Landscaped based BMPs that must be used in a treatment train in sequence with other BMPs in order to achieve treatment of all pollutants of concern. Example BMPs include tree filter units and modular wetlands.

(3) Physical structured units that do not achieve volume capture and are not landscape based. Example BMPs include chambered separator units, physical filters, and trash excluders. These BMPs may also be used in a treatment train with other higher priority BMPs, to achieve treatment of all pollutants of concern.

(4) Detention facilities which are integrated for hydraulic system design may be used to provide volume capture and/or treatment if the design meets the design criteria specified for LID in this Order.

d. This selection and sizing criteria shall be applied to new development and redevelopment projects or project phases that have not received tentative tract

[7] Projects unable to meet volume capture requirements under this criteria are subject to section 9. Offset Mitigation Program.

map approval prior to the effective date of this Order[8]. For projects that are not required to receive tentative tract maps, use permits, or other similar permits, the selection and sizing criteria shall be applied to all projects which have not received certification of a final CEQA document by the effective date of this Order.

4. Low Impact Development Manual

a. No later than six months from the effective date of this Order, the City of Santa Rosa shall submit to the Regional Water Board for the Executive Officer approval, an updated version of the Storm Water Low Impact Development Technical Design Manual (LID Manual) to be consistent with the requirements set forth in this Order. The City of Santa Rosa shall provide each Co-Permittee and the Regional Water Board with the opportunity to review proposed changes prior to submitting to the Executive Officer. Any subsequent changes to the LID Manual are subject to Regional Water Board Executive Officer approval.

b. The Planning and Land Development Program shall be implemented within 60 days of the Executive Officer's approval of the updated LID Manual. Co-Permittees are required to continue implementation of the LID Manual developed as required under Order No. R1-2009-0050 until the updated LID Manual is effective.

5. Post Construction BMP Requirements Approval Process

Each Co-Permittee shall incorporate into their entitlement process standard procedures that require consideration of potential storm water quality impacts early in the planning process of any project that meets the criteria of this Order for new development and redevelopment projects. Each Co-Permittee shall clearly demonstrate the developer and Co-Permittee considered storm water quality site issues before the facilities/projects reached final design. The Co-Permittees must demonstrate review in the conceptual design of storm water quality protection at either of two different points in the project planning and permitting process:

a. During the discretionary approval process of a proposed project, when the Co-Permittee must exercise judgment or deliberation in order to approve or disapprove a development or significant redevelopment project; or

b. During the ministerial approval process of issuing a grading, building, demolition, or similar "construction" permits in which only fixed standards or objective measures are applied.

6. Project Approval

Each Co-Permittee shall facilitate an effective process for approval of post-construction BMPs. The process shall include:

[8] All projects required to enroll in the State's Construction General Permit (CGP), subject to a 401 water quality certification, or waste discharge requirements may be required to comply with post-construction requirements regardless of tentative tract map approval date. While it is not the Co-Permittee's responsibility to determine compliance with post-construction requirements from other Regional Water Board permits, projects may need additional local review to incorporate appropriate requirements.

a. Detailed review of the project-specific Standard Urban Storm Water Mitigation Plan (SUSMP) submitted for all applicable projects, both public and private, per section D.2. of this Order. Requirements of the SUSMP submittal shall be stipulated in the LID Manual and include BMP sizing calculations and BMP pollutant removal calculations; and

b. An established organizational structure for communication, coordination and delineated authority between and among municipal departments that have jurisdiction over project review, plan approval, and project construction.

7. Post-Construction BMP Training

Each Co-Permittee, either collaboratively or individually, shall provide training to key stakeholders on the LID Manual following any revisions and annually thereafter. The primary focus of the training shall be on changes to the LID Manual, as specified by this Order.

8. Hydromodification (Flow/Volume/Duration) Control Criteria

a. Each Co-Permittee, either collaboratively or individually, shall develop and implement a Hydromodification Control Plan which requires all new development and redevelopment projects creating or replacing one acre or more of impervious surface and not exempt consistent with section VI.D.2.b of this Order, to address potential hydromodification impacts to receiving water. Hydrologic control measures shall be implemented to prevent accelerated downstream erosion, minimize flooding and public nuisance conditions, maximize groundwater recharge, and protect stream habitat in receiving waters, and riparian areas.

i. Post-development hydrologic storm water runoff discharge rates, velocities, and duration. Pre-development hydrology shall be based on an analysis of natural infiltration, soils storage and evapotranspiration rates. The Hydromodification Control Plan shall also ensure that total storm water runoff volumes remain the same or lower as the pre-development volumes unless the project meets iv(h) below.

ii. The Hydromodification Control Plan may include one, or a combination of on-site regional or subregional hydromodification control BMPs, LID strategies, or stream restoration measures, with preference given to LID and on-site hydromodification control BMPs.

iii. The Hydromodification Control plan shall be consistent with the one or more of the following:

(a) A simplified method using LID BMPs with accepted sizing criteria to provide hydromodification control;

(b) A numerical model to predict the hydrological changes resulting from new development and provide mitigation; or

(c) A numerical model to identify effective end of pipe or flow duration control mitigation strategies.

iv. The Hydromodification Control Plan shall:

(a) Maintain infiltration based on natural site conditions;

(b) Specify authorized hydromodification management control BMPs;

(c) Specify hydromodification management control BMP design criteria;

(d) Specify the range of flows controllable with flow duration control methods;

(e) Describe the approved hydromodification method or model;

(f) Describe any alternate hydromodification management model and design;

(g) Specify stream restoration measures design criteria; and

(h) Allow a developer an exception to the hydromodification requirements if it can be adequately demonstrated to the Regional Water Board Executive Officer that the project runoff flows will have a positive impact on receiving waters.

b. By the effective date of this Order, each Co-Permittee shall have an approved Hydromodification Control Plan which incorporates the requirements of this Order. The Hydromodification Control Plan shall be implemented in applicable projects by the effective date of this Order.

9. Offset Mitigation Program

a. Each Co-Permittee, using a collaborative approach or individually, shall develop and implement an offset mitigation program to substitute all or part of a project's requirements for volume capture, where on-site compliance is deemed to be technically infeasible. The offset mitigation program shall include the following components:

i. The offset mitigation program shall describe the criteria in which a project is deemed eligible for offset mitigation. Technical infeasibility criteria must be consistent with section VI.D.3.c.ii.a)1-4.

ii. Full treatment of the design storm is required at all applicable projects and is not eligible for the offset mitigation program.

iii. When a Co-Permittee determines a project applicant has demonstrated that it is technically infeasible to capture all or part of the volume required to be retained on-site, the Co-Permittee shall require the project applicant to mitigate the portion of the volume capture not achieved by participating in the offset mitigation program.

iv. The offset mitigation program shall determine criteria to which offset projects must meet to qualify for the program. Consideration shall be given to allowing the project applicant to fund projects with equivalent water quality benefits to the project being offset.

v. Offset mitigation projects must be prioritized and approved by the Regional Water Board Executive Officer, after a 21 day public comment period. Co-Permittees shall seek approval of projects that provide an equivalent and measureable water quality benefit. High priority projects will be selected based on benefits to water quality, projects that address impairments of the Russian River Watershed, LID retrofit, and stream restoration.

b. No later than four years after the effective date of this Order, the Co-Permittees, either collaboratively or individually, shall submit a proposed offset mitigation program for Executive Officer approval.

c. Absent of an approved offset mitigation program, projects unable to meet volume capture requirements shall be referred to the Regional Water Board Executive Officer for approval.

10. Retrofit Areas of Existing Public Development

a. Each Co-Permittee shall develop a program to retrofit areas of existing public development. The program shall be developed based on the following criteria:

i. Each Co-Permittee shall identify existing public development opportunities as candidate projects for retrofitting with green infrastructure.

ii. Candidate projects are defined as any existing public development that does not currently have storm water volume capture and/or treatment at the facility and contributes to pollutant loading of storm water runoff and/or hydromodification. This may also include street, road, or sidewalk projects that don't otherwise trigger post-construction BMPs, such as replacement of public utilities.

iii. Candidate projects shall have identifiable opportunities to incorporate LID BMPs which promote groundwater infiltration, storm water reuse, and/or evapotranspiration using the following types of green infrastructure BMPs:

(a) Downspout Disconnection;

(b) Rainwater Harvesting;

(c) Rain Gardens;

(d) Planter Boxes;

(e) Bio retention basins;

(f) Permeable Pavements;

(g) Green Roofs;

(h) Green Streets;

(i) Street Washing;

(j) Diversion of First Flush from MS4 to a POTW for treatment; or

(k) Other BMPs that promote groundwater recharge, storm water reuse, and/or evapotranspiration.

b. The Co-Permittees shall develop a preliminary list of candidate projects no later than one year after the effective date of this Order.

c. During the duration of this Order, Co-Permittees shall seek out opportunities to fund and implement projects identified as candidates for retrofit opportunities. Projects may be implemented through the Offset Mitigation Program, in conjunction with other multi-benefit projects, grant funding, or other mechanisms deemed appropriate by the Co-Permittees.

d. Co-Permittees shall implement projects as funding and opportunities become available.

11. Maintenance Declaration

a. Each Co-Permittee shall require that all new private development and redevelopment projects subject to post-construction BMP requirements provide verification of maintenance provisions for LID BMPs, treatment control BMPs, and hydromodification control BMPs by way of a legally binding maintenance declaration which shall be recorded to the title deed and run with the land. The BMP maintenance declaration shall ensure that the BMPs remain fully functional and that all areas identified for treatment will discharge to the treatment BMP system.

b. Verification at a minimum shall include the developer's recorded maintenance declaration accepting responsibility for maintenance until the responsibility is legally transferred to a public entity, property owner, home owners association, or other entity designated to take over permanent responsibility for BMP maintenance.

c. BMP maintenance plans shall be implemented by entities with the appropriate funding and technical ability to conduct the maintenance. BMPs within the public right of way or treating public areas shall be maintained by the Co-Permittee, home owner's association, or other legally responsible party, and shall not be maintained by individual property owners.

12. Tracking and Inspection

a. Each Co-Permittee shall implement a tracking system, and an inspection and enforcement program for new development and redevelopment projects, both private and public, that have post-construction BMPs.

b. Each Co-Permittee shall implement a system for tracking projects with installed post-construction BMPs. The system shall be an electronic system, and at a minimum, contain the following information:

i. Municipal project identifying information;

ii. BMP type(s) and description;

iii. BMP location;

iv. Date of acceptance;

v. Scanned copy of the maintenance declaration;

vi. Date of end of warranty period;

vii. Maintenance records;

viii. Inspection date(s) and summary;

ix. Corrective action; and

x. Replacement or repair date.

c. Each Co-Permittee shall inspect all applicable development sites during installation to ensure proper installation of all post-construction BMPs. The inspection may be combined with other inspections provided it is conducted by personnel trained and qualified to verify proper installation of post-construction BMPs.

d. Each Co-Permittee shall inspect to assess proper maintenance and operation of post-construction BMPs that are located either in the public right of way or at locations that would not require entering private property. The post-construction BMP maintenance inspection program shall incorporate the following elements:

i. Inspection of post-construction BMPs at least once every 2 years to assess functionality, with particular attention to: hydraulic function, failure, invasive vegetation, health of desired vegetation including herbicide overuse and excessive mowing, vector risk, trash and debris, sediment clogging, improper modifications, solids removal, pump-out, blockage and drawdown drainage;

ii. Post-construction BMP maintenance inspection checklist; and

iii. Criteria and procedures for post-construction treatment control and hydromodification control BMP repair, replacement, or re-vegetation.

e. Each Co-Permittee may submit a plan for Executive Officer approval, to require annual reporting by other parties demonstrating proper maintenance and operation of post-construction BMPs. The approved plan would satisfy the requirements for verification of proper operation and maintenance and reduce the frequency of inspections to once in the five-year Order term.

13. Co-Permittee Owned Post-Construction BMPs

a. Each Co-Permittee shall implement an inspection and maintenance program for all Co-Permittee owned post-construction BMPs.

b. Each Co-Permittee shall ensure proper maintenance and operation of all post-construction BMPs.

14. Post-Construction BMP Implementation and Enforcement

Each of the Co-Permittees shall implement their Progressive Enforcement Policy to ensure that owners of dysfunctional or un-maintained post-construction BMPs are brought into compliance with all requirements within a reasonable time period but

no later than the next likely rain event[9]. See section VI.A.5 for requirements for the development and implementation of a Progressive Enforcement Policy.

E. State Conformity

1. CEQA

Each Co-Permittee shall incorporate procedures necessary for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall include the following considerations:

a. Potential impact of project on the site hydrograph and receiving waters by a change in runoff flow velocity or volume ;

b. Potential impact of post-construction storm water runoff on water quality and receiving water beneficial uses;

c. Potential for discharge of storm water from areas with material storage, vehicle or equipment fueling, vehicle or equipment maintenance, waste handling and disposal, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;

d. Potential for the discharge of storm water to cause harm to the biological integrity of the water ways and water bodies;

e. Potential for significant increases in erosion from storm water flows at the project site and surrounding areas; and

f. Potential to cause or contribute to an exceedance of water quality standards.

2. General Plan

a. Each Co-Permittee shall amend, revise or update their General Plan to include storm water quality and storm water management considerations and policies as needed to remain consistent with this Order. Such considerations shall take place when any of the following elements of the General Plan are updated or amended:

i. Land use;

ii. Housing;

iii. Conservation; and/or

iv. Open Space.

b. Each Co-Permittee shall provide the Regional Water Board with a draft amendment or revision when a General Plan element or General Plan is noticed for comment in accordance with Government Code section 653050 et. Seq.

[9] A likely rain event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. Each Co-Permittee shall obtain a copy of rain forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

F. Development Construction

1. General

a. Each Co-Permittee shall develop, implement, and enforce a construction program that:

i. Prevents illicit construction-related discharges of pollutants into the MS4 and receiving waters;

ii. Requires implementation and maintenance of structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites;

iii. Reduces construction site discharges of pollutants to the MS4 to the maximum extent practicable; and

iv. Prevents construction site discharges to the MS4 from causing or contributing to a violation of water quality standards.

2. Grading Restrictions

a. No grading shall occur between October 1st and April 30th for construction projects on hillsides with slopes 10% or steeper unless the project is granted an exception by a Co-Permittee.

b. If grading in these areas is not completed before October 1st and no exception is granted, grading shall be halted and effective erosion control measures shall be put in place to control erosion. Grading shall not resume until after April 30th.

c. A grading restriction exception may be granted by a Co-Permittee where the project proponent can demonstrate through plan review, inspections, monitoring, and use of effective BMPs that can reasonably be expected to meet the following goals:

i. Keep storm water from causing or contributing to degradation of water quality or impairing beneficial uses;

ii. The storm event daily average turbidity of the discharge from the site is 50 NTU or less; and

iii. The field pH of the discharge from the site is between 6.5 and 8.5.

d. If an exception is granted by a Co-Permittee, a monitoring program must also be conducted by the project proponent to demonstrate BMP effectiveness and compliance with the above goals. If the project does not meet one or more of the above goals, the Co-Permittee shall direct the project to cease grading activities and improve BMPs. Grading may resume after demonstrating BMPs are effective at meeting the goals.

3. Requirements for Construction Sites That Cause Less than One Acre of Land Disturbance

a. Each Co-Permittee shall require the implementation of an effective combination of erosion and sediment control BMPs from Table 7, or equivalent, to prevent erosion and sediment loss, and the discharge of construction wastes from all

projects that cause less than one acre of land disturbance and require a permit for grading within the Co-Permittee's jurisdictional boundary. This list of BMPs may not be applicable in its entirety and judgment is necessary to implement site-appropriate BMPs, but the Co-Permittees will ensure that an effective combination of BMPs are used.

Table 7: BMPs for Construction Sites That Cause Less than One Acre of Land Disturbance

Minimum Set of BMPs for All Construction Sites	**CASQA Handbook[10]**	**Caltrans Handbook[11]**
Erosion Control		
Scheduling	EC-1	SS-1
Preservation of Existing Vegetation	EC-2	SS-2
Sediment Controls		
Silt Fence	SE-1	SC-1
Fiber Rolls	SE-5	SC-5
Sand Bag Barrier	SE-8	SC-8
Gravel Bag Berm	SE-6	SC-6
Stabilized Construction Site Entrance/Exit	TR-1	TC-1
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering to surface water only under NPDES Permit No. R1-2009-0045)	NS-2	NS-2
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-3
Spill Prevention and Control	WM-4	WM-4
Solid Waste Management	WM-5	WM-5
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

4. Requirements for Construction Sites That Cause One Acre or More of Land Disturbance

a. General

Each Co-Permittee shall require operators of public and private construction sites that cause one acre or more of Land Disturbance within their jurisdictional boundary to select, install, implement and maintain BMPs during construction activities. For the purposes of this Order, any project one acre or more requiring a permit for grading activities is subject to these requirements.

[10] Or as updated or renewed.

[11] Or as updated or renewed.

b. Construction Site Inventory/ Electronic Tracking System

Each Co-Permittee shall use an electronic system to inventory grading permits, encroachment permits, demolition permits, building permits, or construction permits, (and any other municipal authorization to move soil, remove vegetation, and/or construct or destruct that involves land disturbance) issued by the Co-Permittee.

c. Construction Plan Review and Approval Procedures

i. Each Co-Permittee shall develop and implement procedures to review and approve relevant construction plan documents. The review procedures shall meet the following minimum requirements:

Prior to issuing a grading permit (or similar permit issued to regulate soil disturbing activities), the Co-Permittee shall require each operator of a construction activity within their jurisdictional boundary to prepare and submit an erosion and sediment control plan for the Co-Permittee's review and written approval. Each Co-Permittee shall require that:

(a) Each erosion and sediment control plan contains appropriate construction site BMPs, identifies specific locations where BMPs will be installed, and includes a maintenance schedule;

(b) The erosion and sediment control plan includes the rationale for selecting BMPs, including soil loss calculations, if necessary;

(c) A Storm Water Pollution Prevention Plan (SWPPP) is developed pursuant to the State Water Board's Construction General Permit, and the SWPPP may be substituted for the erosion and sediment control plan;

(d) The erosion and sediment control plan is developed and certified by a Qualified SWPPP Developer (QSD);

(e) Each erosion and sediment control plan is reviewed using a checklist or similar process; and

(f) The construction site operators have coverage under applicable permits, including but not limited to the Construction General Permit and 401 Water Quality Certifications.

d. BMP Implementation

i. Each Co-Permittee shall require the implementation of BMPs at all projects requiring an erosion and sediment control plan (or equivalent) to prevent erosion, sediment loss, and the discharge of construction waste.

ii. Each Co-Permittee must adopt BMP standards consistent with the range of activities presented in Table 8. Co-Permittees shall adopt BMP standards from the California BMP Handbook, Construction; or Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual (or addenda), or equivalent. This list of BMPs may not be

applicable in its entirety at all projects and judgment is necessary to implement site-appropriate BMPs.

Table 8: BMPs for Construction Sites That Cause One Acre or More of Land Disturbance

BMPs	CASQA Handbook[12]	Caltrans Handbook
Erosion Control		
Scheduling	EC-1	SS-1
Preservation of Existing Vegetation	EC-2	SS-2
Hydraulic Mulch	EC-3	SS-3
Hydroseeding	EC-4	SS-4
Soil Binders	EC-5	SS-5
Straw Mulch	EC-6	SS-6
Geotextiles and Mats	EC-7	SS-7
Wood Mulching	EC-8	SS-8
Sediment Controls		
Fiber Rolls	SE-5	SC-5
Gravel Bag Berm	SE-6	SC-6
Street Sweeping and/or Vacuum	SE-7	SC-7
Storm Drain Inlet Protection	SE-10	SC-10
Sediment Basin	SE-2	SC-2
Check Dam	SE-4	SC-4
Silt Fence	SE-1	SC-1
Sand Bag Barrier	SE-8	SC-8
Tracking Control BMPs		
Stabilized Construction Entrance/Exit	TR-1	TC-1
Entrance/Exit Tire Wash	TC-3	TC-3
Additional Controls		
Wind Erosion Controls	WE-1	WE-1
Stabilized Construction Roadway	TC-2	TC-2
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering to surface water only under NPDES Permit No. R1-2015-0003)	NS-2	NS-2
Vehicle and Equipment Washing	NS-8	NS-8
Vehicle and Equipment Fueling	NS-9	NS-9
Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-3
Solid Waste Management	WM-5	WM-5

[12] Or as updated or renewed.

BMPs	CASQA Handbook[12]	Caltrans Handbook
Spill Prevention and Control	WM-4	WM-4
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

e. Construction Site Inspections

i. Threat to Water Quality

(a) Each Co-Permittee shall develop and implement a prioritization system to determine the construction projects relative threat to water quality. In evaluating the threat to water quality, the following factors shall be considered: soil erosion potential; site slope and length of slope; project size and type; sensitivity to receiving water bodies, proximity to receiving water bodies, non-storm water discharges, past record of non-compliance by the operators of the construction site; and any water quality issues relevant to the particular Co-Permittee.

(b) On an annual basis, and prior to September 1 of each calendar year, each Co-Permittee shall identify all projects, both public and private, considered to have a high threat to water quality based on the prioritization system above. This requirement shall be implemented beginning in the 2016 calendar year.

(c) A Co-Permittee does not need to develop or implement a prioritization system if all projects are inspected at the frequency specified in section VI.F.4.e.ii,

ii. Inspection Frequency

(a) All projects must be inspected once between September 1 and October 1 of each calendar year;

(b) All projects must be inspected within 2 business days of the first quarter inch rain (in 24 hour period) at the start of the rainy season[13]; and

(c) All projects identified as having a high threat to water quality must be inspected at least monthly during the months of September through April.

iii. Inspection Procedures

All inspections shall:

(a) Be performed to ensure all necessary erosion and sediment structural and non-structural BMPs are selected, installed, implemented, and maintained according to the approved erosion and sediment control plan (or subsequent revisions);

[13] Rainy season is defined by October 1 through April 30.

(b) Assess the appropriateness of the planned and installed BMPs and their effectiveness;

(c) Include visual observation and record keeping of non-storm water discharges, potential illicit discharges and connections, and potential discharge of pollutants from storm water runoff; and

(d) Be documented in a manner to verify that the projects are inspected according to the required frequencies and procedures.

5. Enforcement

Each Co-Permittee shall implement their Progressive Enforcement Policy to require that construction sites are brought into compliance with all storm water requirements within a reasonable time period but no later than the next likely rain event.

G. Public Agency Activities

1. General

Each Co-Permittee shall develop and implement a Public Agency Activities Program to minimize storm water impacts from Co-Permittee owned or operated facilities and activities. Requirements for Public Agency Activities Program consist of the following components:

a. Public Facility Inventory;

b. Public Agency Facility and Activity Management;

c. Storm Water Facility Pollution Prevention Plans;

d. Public Facility Inspections;

e. Vehicle and Equipment Washing Management;

f. Landscape, Park, and Recreational Facilities Management;

g. Storm Drain Operation and Maintenance;

h. Trash Management;

i. Street and Road Maintenance;

j. Emergency Procedures; and

k. Municipal Employee and Contracted Municipal Employee Training.

2. Public Facility Inventory

a. Each Co-Permittee shall develop and maintain an inventory of all Co-Permittee owned or operated facilities within the jurisdictional boundary of this Order

that are potential sources of storm water pollution[14], including the following, as applicable:

i. Airports;

ii. Animal control facilities;

iii. Chemical storage facilities;

iv. Composting facilities;

v. Equipment storage and maintenance facilities;

vi. Fairgrounds;

vii. Fueling or fuel storage facilities;

viii. Hazardous waste disposal facilities;

ix. Hazardous waste handling and transfer facilities;

x. Incinerators;

xi. Landfills;

xii. Materials storage yards;

xiii. Pesticide storage facilities;

xiv. Fire stations;

xv. Public parking lots;

xvi. Public golf courses;

xvii. Public swimming pools;

xviii. Public parks;

xix. Public works yards;

xx. Public marinas;

xxi. Recycling facilities;

xxii. Solid waste management facilities (detention basins); and

xxiii. All other Co-Permittee owned or operated facilities or activities that each Co-Permittee determines may contribute a substantial pollutant load to the MS4.

b. Each Co-Permittee shall include the following fields of information for each facility in the inventory:

i. Name of facility;

ii. Address of the facility;

[14] To determine the facilities that are a potential source of storm water pollution, the Co-Permittee shall use the No Exposure Certification Checklist criteria contained in the Industrial General Permit Order No. 2014-0057-DWQ, or equivalent.

iii. A narrative description of activities performed at the facility; and

iv. Potential sources of storm water pollution.

c. Each Co-Permittee shall develop a complete public facilities inventory no later than one year after the effective date of this Order.

3. Public Agency Facility and Activity Management

a. Each Co-Permittee shall ensure the implementation and maintenance of activity-specific BMPs listed in Table 9 when such activities occur at Co-Permittee owned or operated facilities, or job site, as listed in the Public Facility Inventory, unless the pollutant generating activity does not occur. Table 9 references the Caltrans Storm Water Quality Handbook Maintenance Staff Guide, Appendix B. Equivalent BMPs may be substituted for those listed in Table 9. Each Co-Permittee shall require the implementation of additional BMPs, if the BMPs are found to not adequately protect water quality standards. The table of BMPs may not be applicable in its entirety at all projects and judgment is necessary to implement site-appropriate BMPs.

b. Any contractors hired by a Co-Permittee to conduct public agency activities including, but not limited to, storm and/or sanitary sewer system inspection and repair, street sweeping, trash pick-up and disposal, and street and right-of-way construction and repair shall be contractually required to implement and maintain the activity-specific BMP listed in Table 9, or equivalent. Each Co-Permittee shall conduct oversight of contractor activities to ensure these BMPs are implemented and maintained.

c. The City of Santa Rosa, the County of Sonoma, and the SCWA shall continue implementing BMPs at all public agency facilities and activities consistent with R1-2009-0050. All Co-Permittees shall fully implement the requirements of the Public Agency Facility and Activity Management Program in this Order no later than three years after the effective date of this Order.

Table 9: BMPs for Public Agency Facility and Activity Management

Maintenance Category	Caltrans Page	Activity Specific BMPs
General BMPs	B-4	Schedule and Planning
	B-5	Spill Prevention and Control
	B-5	Sanitary/Septic Waste Management
	B-6	Material Use
	B-6	Safer Alternative Products
	B-7	Vehicle/Equipment Cleaning, Fueling, and Maintenance
	B-7	Illicit Connection Detection, Reporting and Removal
	B-7	Illegal Spill Discharge Control
	B-8	Maintenance Facility Housekeeping Practices
Flexible Paving	B-9	Asphalt Cement Crack and Joint Grinding/Sealing
	B-10	Asphalt Paving
	B-11	Structural Pavement Failure (Digouts) Pavement Grinding and Paving

Maintenance Category	Caltrans Page	Activity Specific BMPs
	B-13	Emergency Pothole Repairs
	B-14	Sealing Operations
Rigid Pavement	B-15	Portland Cement Crack and Joint Sealing
	B-16	Mudjacking and Drilling
	B-17	Concrete Slab and Spall Repair
Slope/Drains/Vegetation	B-19	Shoulder Grading
	B-21	Nonlandscaped Chemical Vegetation Control
	B-23	Nonlandscaped Mechanical Vegetation Control/Mowing
	B-24	Nonlandscaped Tree and Shrub Pruning, Brush Chipping, Tree and Shrub Removal
	B-25	Fence Repair
	B-26	Drainage Ditch and Channel Maintenance
	B-28	Drain and Culvert Maintenance
	B-30	Curb and Sidewalk Repair
Litter/Debris/Graffiti	B-32	Sweeping Operations
	B-33	Litter and Debris Removal
	B-34	Emergency Response and Cleanup Practices
	B-36	Graffiti Removal
Landscaping	B-37	Chemical Vegetation Control
	B-39	Manual Vegetation Control
	B-40	Landscaped Mechanical Vegetation Control/Mowing
	B-41	Landscaped Tree and Shrub Pruning, Brush Chipping, Tree and Shrub Removal
	B-42	Irrigation Line Repairs
	B-43	Irrigation (Watering), Potable and Non-potable
	B-44	Storm Drain Stenciling
	B-45	Roadside Slope Inspection
Environmental	B-46	Roadside Stabilization
	B-48	Storm Water Treatment Devices
	B-49	Traction Sand Trap Devices
Public Facilities	B-50	
Bridges	B-52	Welding and Grinding
	B-54	Sandblasting, West Blast and Sand Injection and Hydroblasting
	B-56	Painting
	B-57	Bridge Repairs
Other Structures	B-59	Pump Station Cleaning
	B-61	Tube and Tunnel Maintenance and Repair
	B-63	Tow Truck Operations
	B-64	Toll Booth Lane Scrubbing Operations
Electrical	B-65	Sawcutting for Loop Installation
	B-67	Thermoplastic Striping and Marking
	B-68	Paint Striping and Marking
Traffic Guidance	B-70	Raised/Recessed Pavement Marker Application and

Maintenance Category	Caltrans Page	Activity Specific BMPs
		Removal
	B-71	Sign Repair and Maintenance
	B-73	Median Barrier and Guard Rail Repair
	B-75	Emergency Vehicle Energy Attenuation Repair
Snow and Ice Control	B-76	Snow Removal
	B-77	Ice Control
Storm Maintenance	B-78	Minor Slides and Slipouts Cleanup/Repair
Management and Support	B-80	Building and Grounds Maintenance
	B-82	Storage of Hazardous Materials (Working Stock)
	B-84	Material Storage Control (Hazardous Waste)
	B-85	Outdoor Storage of Raw Materials
	B-86	Vehicle and Equipment Fueling
	B-87	Vehicle and Equipment Cleaning
	B-88	Vehicle and Equipment Maintenance and Repair
	B-90	Aboveground and Underground Tank Leak and Spill Control

4. Facility Pollution Prevention Plans

a. Each Co-Permittee shall develop and implement a Facility Pollution Prevention Plan (FPPP) to include each facility (or group of facilities) identified in the Public Facility Inventory. The FPPP shall be developed consistent with the Public Agency Facility and Activity Management section of this Order. The FPPP must include the following elements, at a minimum:

i. Facility information including name of facility, address, supervisor contact information;

ii. Types of storm water pollutant generating activities, including non-storm water discharges;

iii. A site map showing the location of each pollutant generating activity and pollutant source areas;

iv. Staff roles and responsibilities related to storm water pollution prevention and water quality protection;

v. BMPs to address each type of pollutant generating activity and source areas;

vi. Spill prevention and response; and

vii. Inspection checklist.

b. Each Co-Permittee shall develop and implement the FPPP(s) no later than three years after the effective date of this Order.

5. Public Facility Inspection

a. By the end of the term of this Order, each Co-Permittee shall conduct inspections of each facility listed in the Public Facilities Inventory to assess BMP effectiveness and address any changes needed in the FPPP. The inspection shall include the following, at a minimum:

i. A visual inspection of all potential sources of pollutants that may enter the storm drain system by storm water and non-storm water discharges;

ii. A review and assessment of all BMPs to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed; and

b. Each inspection must be documented in such a manner that provides evidence that the inspection has taken place, the outcome of the inspection, and any follow-up actions needed as a result of the inspection.

6. Vehicle and Equipment Washing Management

a. Each Co-Permittee shall eliminate discharges of wash waters from the washing of vehicles and equipment to the MS4 by implementing any of the following measures at existing facilities with vehicle or equipment wash areas:

i. Infiltrate on-site;

ii. Self-contain, and haul off for disposal;

iii. Equip with a clarifier;

iv. Equip with an alternative pre-treatment device; or

v. Connect to the sanitary sewer with permission from the appropriate agency.

b. Each Co-Permittee shall ensure that any municipal facilities constructed, redeveloped, or replaced have all vehicle and equipment wash areas routed to a vegetated or gravel area for infiltration, connected to the sanitary sewer with prior approval by a POTW, or contained to be hauled away for proper disposal.

c. All Co-Permittees, except the City of Cloverdale, shall implement the requirements of the Vehicle and Equipment Washing program by the effective date of the Order. The City of Cloverdale shall implement the requirements by December 31, 2017.

7. Landscape, Park, and Recreational Facilities Management

a. Each Co-Permittee shall implement a jurisdiction-wide Integrated Pest Management program incorporating the following principles:

i. Pesticides are used only if evaluation indicates they are needed and are applied according to established guidelines;

ii. Treatments are made with the goal of removing only the target organism;

iii. Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial, non-target organisms, and the environment;

iv. The use of pesticides, including Organo-phosphates and Pyrethroids does not threaten water quality;

v. Partnerships with other agencies and organizations to encourage the use of IPM;

vi. Adoption and verification of implementation policies, procedures, and/or ordinances requiring the minimization of pesticide use and encouraging the use of IPM techniques in the Co-Permittees' overall operations and on municipal property;

vii. Policies, procedures, and ordinances shall include commitments and timelines to reduce the use of pesticides that cause impairment of surface waters by implementing the following procedures:

(a) Quantify pesticide use by its staff and hired contractors;

(b) Prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units; and

(c) Continue programs to reduce pesticide use to MEP.

(d) Report reductions in pesticide use annually.

b. Each Co-Permittee shall:

i. Use a standardized protocol for the routine and non-routine application of pesticides (including pre-emergents), and fertilizers;

ii. Ensure pesticides or fertilizers are not applied to an area immediately prior to a likely rain event, during, or immediately after a rain event, or when water is flowing off the area;

iii. Ensure pesticides are not applied within the MS4;

iv. Ensure that no banned or unregistered pesticides are stored or applied;

v. Ensure that all staff applying pesticides are certified in the appropriate category by the California Department of Pesticide Regulation, or are under the direct supervision of a pesticide applicator certified in the appropriate category;

vi. Implement procedures to encourage the retention and planting of native or drought-tolerant vegetation to reduce water, pesticide and fertilizer needs;

vii. Store pesticides and fertilizers indoors or under cover on paved surfaces with secondary containment;

viii. Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

ix. Regularly inspect storage areas.

c. The City of Santa Rosa, the County of Sonoma, and the SCWA must continue implementing the Landscape, Park, and Recreational Facilities Management program by the effective date of this Order. All other Co-Permittee shall implement no later than two years after the effective date of this Order.

8. Storm Drain Operation and Maintenance

a. Storm Drain Maintenance

i. Each Co-Permittee shall implement a program for storm drain maintenance that includes the following:

a) Maintain catch basins, storm drain inlets, and other conveyance structures on a regular basis to remove larger pollutants such as trash, debris and sediment;

b) Visual monitoring of prioritized Co-Permittee owned open channels and other drainage structures for debris at least annually prior to the rainy season;

c) Manually remove trash and debris, as needed from open channels and roadside ditches in priority areas a minimum of once per year, prior to the rainy season;

d) Use adequate BMPs to eliminate the discharge of contaminants and pollutants during MS4 maintenance and clean outs, and during subsequent rain events; and

e) Quantify the amount of materials removed using best estimates and ensure the materials are properly disposed.

f) The Storm Drain Maintenance Program shall be implemented by each Co-Permittee no later than October 1, 2016.

b. Storm Drain Inlet Labels

i. Each Co-Permittee shall label unlabeled storm drain inlets with a legible no dumping message through a proactive approach with a goal of labeling all public storm drain inlets in parking lots and within the public right of way by the end of the five year term of this Order

ii. Each Co-Permittee shall track all storm drains with illegible stencils or labels, and re-stencil or re-label these storm drain inlets at an annual frequency.

9. Trash Management

a. Trash Management at Public Events

Each Co-Permittee shall require for any public event, permitted private event, or other event were a foreseeable amount of substantial trash will be generated, that the following measures be implemented:

i. Conditions be placed on any special use permit issued for such event to control and clean up trash; and

ii. Require the proper management of trash generated; and

iii. Arrange for temporary covers to be placed on storm drain inlets; or

iv. Clean trash receptacles and grounds as needed in the event area in a timely manner.

b. Trash Receptacles

i. Each Co-Permittee shall install trash receptacles in areas subject to higher trash generation, such as transit stops or schools; and

ii. Each Co-Permittee shall ensure that trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.

10. Street and Road Maintenance

a. Street Sweeping

i. Each Co-Permittee shall develop and implement a street sweeping program to reduce the amount of trash, sediment and other forms of pollutants from entering the MS4. The program must include routine street sweeping of all streets with a curb and gutter and protocols to maximize street sweeping effectiveness. Protocols to include in the street sweeping program shall include, at a minimum:

(a) A schedule detailing street sweeping frequency;

(b) Evaluation of high priority areas in the jurisdictional boundary in which an increase in sweeping frequency would provide maximum benefit to pollutant removal;

(c) Increase sweeping frequency in conjunction with special events that are likely to increase trash loads;

(d) Conduct sweeping activities at optimal times of the day in which a minimal number of vehicles will be parked on the street and optimal day of the week (e.g., day after the trash pick-up) when streets might be littered by fugitive trash; and

(e) Notify the general population of street sweeping schedules. This effort should include recommendations to the community on how to help make street sweeping an effective resource.

ii. Each Co-Permittee's street sweeping program shall also include a record of the amount of waste collected as a result of street sweeping. Each Co-Permittee shall report the record of waste collected in the annual report and discuss effectiveness of the program over time.

iii. Each Co-Permittee shall submit a proposed street sweeping program to the Regional Water Board's Executive Officers for approval. The proposed program shall be submitted no later than the end of the first year following the effective date of this Order. The program will be required to be implemented within 60 days from the date of the Executive Officer's approval.

iv. Each Co-Permittee shall maintain routine street sweeping activities during the development of the street sweeping program as required by this Order.

b. Road Maintenance

Each Co-Permittee shall implement the Guidelines for Protecting Aquatic Habitat and Salmon Fisheries for County Road Maintenance (a.k.a. the Fishnet-4C Manual) or equivalent, for road maintenance projects.

c. Roadway Paving or Repaving Operations

Each Co-Permittee shall require that the following BMPs be implemented for any project involving roadbed or street paving, repaving, patching, digouts, or resurfacing roadbed surfaces:

i. Restrict paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions;

ii. Install BMPs at all susceptible storm drain inlets and at manholes to prevent discharges of paving products and tack coat;

iii. Prevent the discharge of release agents such as soybean oil, other oils, or diesel to the MS4 or watercourses;

iv. Minimize non-storm water runoff from water use for the roller and for evaporative cooling of the asphalt;

v. Clean equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose of properly;

vi. Collect liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled or disposed of properly;

vii. Collect solid waste by shoveling and vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly;

viii. Cover the "cold-mix" asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting prior to rain events;

ix. Cover loads with tarps before haul-off to a storage site and ensure the trucks are not overloaded;

x. Minimize airborne dust by using water spray during grinding;

xi. Protect stockpiles with a cover or sediment barriers during a rain event; and

xii. Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grinding materials or rubble in or near storm water drainage systems or watercourses.

11. Emergency Procedures

Each Co-Permittee may conduct repairs of essential public service systems and infrastructure in emergency situations with a self-waiver of the provisions of the Order. Where the self-waiver has been invoked, the Permittee shall submit to the Regional Water Board Executive Officer a statement of the occurrence of the emergency, an explanation of the circumstances, and the measures that were

implemented to reduce the threat to water quality, no later than 10 days after the emergency has passed.

12. Municipal Employee and Contracted Municipal Employee Training

a. Each Co-Permittee shall, no later than one year after Order adoption and annually thereafter, ensure all municipal and contracted employees whose interactions, jobs, and activities may affect storm water quality, are appropriately trained to:

i. Understand the requirements of the overall storm water management program;

ii. Identify which activities in their scope of duties have the potential to pollute storm water; and

iii. Identify opportunities to require, implement, and maintain appropriate BMPs in their line of work.

Co-Permittees shall keep records of all trainings conducted in this section including staff attendance and training topics covered. Such documentation shall be submitted in the Annual Report.

H. Illicit Connections and Illicit Discharges Elimination

1. General

Each Co-Permittee shall develop and implement an Illicit Connection and Illicit Discharge (IC/ID) Elimination Program to detect, investigate, and eliminate IC/IDs to the MS4.

2. Outfall Mapping

a. Each Co-Permittee shall create and maintain an up-to-date and accurate outfall map showing all outfalls owned by the Co-Permittee and within their jurisdictional boundary. The map may be hard copy and/or electronic from or within a geographic information system (GIS). The map must include the location of outfalls (with description and coordinates - latitude and longitude information in decimal degrees using WGS 84 datum or note the coordinate system used), the name and location of all receiving water bodies receiving a direct discharge from outfalls, and the jurisdictional boundary.

b. By the effective date of this Order, all Co-Permittees, except the City of Cloverdale and the County of Sonoma, shall have an up to date outfall map available. The City of Cloverdale shall complete outfall mapping by July 1, 2017. The County of Sonoma shall have newly designated areas mapped by June 30, 2016 and all other areas mapped by the effective date of this Order.

3. Outfall Inspection

a. Each Co-Permittee shall conduct field inspections for illicit discharges/non-storm water flows at all outfalls owned by the Co-Permittee and within the jurisdictional boundary that meet any of the following criteria:

i. 36 inches in diameter or greater; or

ii. 50 years or older in age, or

iii. Inspected during the Order No. R1-2009-0050 that were identified as having a non-storm water discharge not comprised of groundwater, surface water, natural spring, wetland, etc.

b. Inspections shall occur on all required outfalls once during the permit term and must be completed by the end of the fourth year of the permit. Inspections must take place at least 72 hours after a rain event. Any outfall found to be flowing and discharging non-storm water to receiving waters shall be investigated as described in the Illicit Discharge Source Investigation and Elimination section of this Order.

4. Illicit Discharge Source Investigation and Elimination

a. General

Each Co-Permittee shall develop and implement procedures for conducting investigations to identify the source of all suspected illicit discharges, including procedures to eliminate the discharge once the source is located. Procedures shall including the following:

i. Each Co-Permittee shall respond by the end of the next business day following discovery or a report of a suspected illicit discharge;

ii. Each Co-Permittee shall take necessary actions to identify and abate the source of all illicit discharges;

iii. All investigations must include an assessment of the illicit discharge effect on receiving water quality and beneficial uses, if any;

iv. Each Co-Permittee shall track all investigations to document, at a minimum, the dates the discharge was reported or observed, the results of the investigation, any follow-up investigations and the date the investigation was closed; and

v. Resulting enforcement actions shall follow the Co-Permittee's Progressive Enforcement Policy, as described in Part 1, section 5.

b. Identification and Response to Illicit Connections

i. Each Co-Permittee, upon discovery or upon receiving a report of a suspected illicit connection, shall initiate an investigation within 7 days, to determine the source of the connection, nature and volume of the discharge through the connection, and the responsible party for the connection.

ii. Each Co-Permittee, upon confirmation of an illicit connection, shall use their formal enforcement authority to ensure the connection is terminated within 180 days of completion of the investigation.

iii. Each Co-Permittee shall keep records of all illicit connection investigations and the enforcement actions taken to eliminate all illicit connections.

5. Public Reporting of Non-Storm Water Discharges and Spills

a. Each Co-Permittee shall establish and maintain a phone hotline to receive public reports of illicit discharges, unauthorized non-storm water discharges, trash and debris, and spills that may be discharging to the MS4.

b. Each Co-Permittee shall promote, publicize, and facilitate public reporting of illicit discharges, including publication of the hotline. At a minimum, the hotline and reporting procedures shall be published on each Co-Permittee's website. Co-Permittees shall also consider adding the hotline phone number to their storm drain stencil to direct the public on how to immediately report a non-storm water discharge.

c. Each Co-Permittee shall follow up on complaints as described in the Illicit Discharge Source Investigation and Elimination and/or Spill Response sections, as appropriate.

6. Spill Response Plan

Each Co-Permittee shall implement a response plan for spills to the MS4 within their jurisdictional boundary. The spill response plan shall clearly identify agencies responsible for spill response and cleanup, telephone numbers and email addresses for contacts, and shall contain the minimum following requirements:

a. Coordinate with spill response teams throughout all appropriate departments, programs and agencies;

b. Initiate the investigation of all spill complaints received within one business day of the incident report ;

c. Respond to spills requiring containment or if there is an immediate threat to public health or the environment within 2 hours of the incident report; and

d. Illicit discharge and non-storm water discharge spills that may endanger public health or the environment shall be reported to appropriate agencies, including County Health and the California Emergency Management Agency (CalEMA).

I. Special Projects

Workplans required in section VI.I shall provide the necessary details to implement the requirements set forth in VI.I.1-4. Project implementation time frames may extend beyond the five-year term of this Order.

1. Inorganic Pollutants

a. The City of Santa Rosa and the County of Sonoma shall develop a workplan to address copper, lead, and zinc in storm water runoff within their jurisdictional boundaries. The workplan shall include:

i. An inventory of sources of copper, lead, and zinc within their jurisdictions;

ii. Proposed BMPs needed to reduce the levels of copper, lead, and zinc in the discharge or storm water and non-storm water;

iii. A monitoring proposal to verify BMP effectiveness; and

iv. A proposed implementation schedule.

b. The workplan shall be submitted no later than 6 months after the effective date of this Order. The implementation schedule shall commence within 60 days of the Regional Water Board's Executive Officers approval.

2. Pathogens

a. The City of Santa Rosa and the County of Sonoma shall develop a workplan to address pathogens in storm water runoff. The workplan shall include:

i. An inventory of pathogen sources from human and domestic animals;

ii. Proposed BMPs to reduce the levels of bacteria in the discharge to surface water;

iii. A proposal to conduct field monitoring, investigation, or research to confirm the source(s) identified as significantly impacting water quality;

iv. A monitoring proposal to verify BMP effectiveness; and

v. A proposed implementation schedule.

b. The workplan shall be submitted no later than one year after the effective date of this Order. The implementation schedule shall commence within 60 days of approval by the Regional Water Board Executive Officer.

3. Sediment

a. Each Co-Permittee, working collaboratively with other Co-Permittees, or individually, shall develop a workplan to address sediment in storm water runoff. The workplan shall include:

i. An inventory of sediment sources;

ii. Proposed BMPs to reduce the levels of sediment in the discharge to surface water;

iii. A proposal to conduct field monitoring, investigation, or research to confirm the source(s) identified as significantly impacting water quality;

iv. A monitoring proposal to verify BMP effectiveness; and

v. A proposed implementation schedule.

b. The workplan shall be submitted no later than 18 months after the effective date of this Order. The implementation schedule shall commence within 60 days of approval by the Regional Water Board Executive Officer.

4. Trash and Litter Assessment

a. Each Co-Permittee, working collaboratively or individually, shall develop a workplan to assess trash (including litter) as a pollutant within receiving waters within each jurisdictional boundary or on a watershed wide basis. A single workplan may be submitted if the assessment will be conducted on a watershed wide basis. The objectives of the assessment is to establish baseline conditions of trash in receiving water, evaluate the quantity and type of trash found in receiving water, and determine the source of trash entering receiving water. The assessment shall include the following elements:

i. Locations: The workplan shall identify suitable assessment locations which are representative of receiving water within each jurisdictional boundary or watershed area.

ii. Frequency: Trash at each location shall be assessed a minimum of once during the wet weather following a qualified storm event (0.25 inches of rain in a 24 hour period, preceded by 72 hours of dry weather) and once during the dry weather during the 2016/2017 Fiscal Year.

iii. Protocol: The assessment shall be conducted using the Surface Water Ambient Monitoring "Rapid Trash Assessment Method Applied to Water of the San Francisco Bay Region" protocols, or equivalent approach.

b. A trash assessment workplan shall be submitted no later than 6 months from the effective date of this Order. The workplan shall include a schedule of implementation. The workplan shall be implemented within 30 days of the Regional Water Board Executive Officer's approval.

c. Within 90 days of completion of the assessment, the Co-Permittees shall present the results in a summary report. The report shall include a presentation of the data collected, an assessment of the results, a discussion on the pathways by which trash is entering receiving water, identification of high priority receiving water where trash is identified as a significant threat to water quality (based on Rapid Trash Assessment results) and recommendations to address the abatement of trash in high priority areas.

J. Annual Reports

1. Each Co-Permittee shall submit a summary of the past year's activities and provide a statement of compliance with all requirements within this Order. If a Co-Permittee is unable to certify compliance with all the requirements, the Co-Permittee must submit the reason for noncompliance, a description of tasks necessary to achieve compliance, and schedule of implementation. The report shall include the following, as specified in 40 CFR section 122.42(c):

a. The status of implementing the components of the storm water management program that are established as permit conditions [40 CFR section 122.42(c)(1)];

b. Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes shall be consistent with 40 CFR section 122.26(d)(2)(iii) [40 CFR section 122.42(c)(2))]; and

c. Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR section 122.26(d)(2)(iv) and (d)(2)(v) [40 CFR section 122.42(c)(3)];

d. A summary of data, including monitoring data, that is accumulated throughout the reporting year [40 CFR section 122.42(c)(4)];

e. Annual expenditures and budget for year following each annual report [40 CFR section 122.42(c)(5)];

f. A summary describing the number and nature of enforcement actions, inspections, and public education programs [40 CFR 122.42(c)(6)]; and

g. Identification of water quality improvements or degradation [40 CFR section 122.42(c)(7)].

2. Each Co-Permittee shall report any additional information deemed necessary as determined by Regional Water Board staff.

3. For fiscal year 2014-2015, Annual Reports shall be submitted no later than December 15, 2015. Starting with the 2015-2016 fiscal year, Annual Reports shall be submitted no later than October 15 of each year.

4. Annual Reports shall be submitted electronically to NorthCoast@waterboards.ca.gov unless directed otherwise.

K. Report of Waste Discharge

In accordance with Title 23, Chapter 3, Subchapter 9 of the California Code of Regulations, each Co-Permittee shall file a report of waste discharge no later than 180 days before the expiration date of this Order. The report of waste discharge serves as an application reissuance of this Order. The application shall include the following minimum components, unless otherwise approved by Regional Water Board staff:

1. A completed Form 200 application;

2. A map of the Co-Permittee's jurisdictional boundary;

3. The current population within each Co-Permittee's jurisdictional boundary;

4. A description of land uses serviced by the MS4, including the approximate coverage in acres;

5. A list of water bodies that receive discharges from the MS4, including a list of impaired water bodies and the pollutant(s) of concern;

6. Pollutants of concern or potential concern in the discharge from the MS4;

7. A summary of all available water quality data from the discharge and receiving water collected during the term of this Order;

8. Findings concluded from the data and special studies including recommendations based on such findings;

9. Proposed revisions to this Order with a supporting rationale for the proposed change, and;

10. Additional information deemed necessary as provided by Regional Water Board staff guidance.

ATTACHMENT - A - DEFINITIONS

The following are definitions for terms in this Order:

Adverse Impact - means a detrimental effect upon water quality or beneficial uses caused by a discharge of waste.

Agriculture - means the science, art, and business of cultivating the soil, producing crops, and raising livestock.

Antidegradation Policies - means State policies that protect surface and ground waters from degradation, and federal policies that protect high quality surface waters. In particular, these policies protect water bodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water (*Statement of Policy with Respect to Maintaining High Quality Water in California*, State Board Resolution No. 68-16).

Applicable Standards and Limitations - means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject, including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under the Clean Water Act and Porter-Cologne Water Quality Act.

Areas of Special Biological Significance (ASBS) - means all those areas listed specifically within the California Ocean Plan or so designated by the State Water Board.

Authorized Discharge - means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

Automotive Repair Shop - means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

Automotive Service Facilities - means a facility that is categorized in any one of the following SIC and North American Industry Classification System (NAICS) codes. For inspection purposes, Co-Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

SIC Code	Corresponding NAICS Code
5013	425120, 441310, 425110, & 423120
5014	425120, 425110, 423130, & 441320
5511	441110
5541	447110, & 447190
7532	811121
7533	811112

SIC Code	Corresponding NAICS Code
7534	326212, & 811198
7536	811122
7537	811113
7538	811111
7539	811198, & 811118

Beneficial Uses - means the existing or potential uses of receiving waters in the permit area as designated by the Regional Water Board in the Basin Plan.

Best Management Practices (BMPs) - means methods, measures, policies or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Bioretention BMPs - means post-construction storm water treatment BMPs that treat storm water vertically through an engineered soil filter media and vegetation and/or retain storm water runoff onsite through infiltration or evapotranspiration.

Business Day- is defined by each Co-Permittee as their official working days of the week in which normal business operations are conducted.

California Environmental Quality Act (CEQA) - means a California statute that requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible (Reference: California Public Resources Code § 21000 et seq.)

Channel - means an open conduit either naturally or artificially created that periodically or continuously contains moving water, or which forms a connecting link between two water bodies.

Commercial Area(s) - means any geographic area of the Co-Permittees' jurisdiction that is not heavy industrial or residential. A commercial area includes, but is not limited to areas surrounding: commercial activity, hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, restaurants, public warehouses and other light industrial complexes.

Commercial Development - means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, restaurants, hotels, office buildings, public warehouses and other light industrial complexes.

Construction - means any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or

routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Construction Activities Storm Water General Permit (Construction General Permit) - means general NPDES permit adopted by the State Water Board, which authorizes the discharge of storm water from construction activities under certain conditions.

Control - means to minimize, reduce, eliminate, or prohibit by technological, management, legal, contractual or other means, the discharge of pollutants from an activity or activities.

Co-Permittee(s) - means Co-Permittee(s) and any agency named in this Order as being responsible for permit conditions within its jurisdiction, as defined by Federal Regulation. Co-Permittees to this Order are the City of Santa Rosa, the County of Sonoma and the Sonoma County Water Agency.

Development - means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and any other non-residential projects, including public agency projects; or mass grading for future construction.

Discharge - means when used without qualification the "discharge of a pollutant or waste".

Discharge of a Pollutant - means any addition of any "pollutant" or combination of pollutants to receiving waters from any "point source" or, any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source.

Dry Season - means dry weather days occurring from May 1st through October 31st of each year.

Emergency - means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage. (Reference: California Public Resources Code § 21060.3. Emergency).

Environment - means the physical conditions existing within an area that will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The "environment" includes both natural and man-made conditions.

Federal Clean Water Act (CLEAN WATER ACT) - means (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92—500, as amended by Public Law 95—217, Public Law 95—576, Public Law 96—483 and Public Law 77—117, 33 U.S.C. 1251 et seq.

Green Infrastructure: means the systems or practices that use or minic natural processes to infiltrate, evapotraspirate or reuse storm water on the site where it is generated. Green infrastructure can be used at a wide range of landscape scales in place of, or in addition to, more traditional storm water control elements to support the principles of LID.

Groundwater Dewatering - means the active practice of removing standing water from below surface grades using a pump(s), artificial drains or other means.

Hillside - means property located in an area with known erosive soil conditions, where the development will result in grading on any slope that is 20% or greater or an area designated by the municipality under a General Plan or ordinance as a "hillside area".

Hydromodification - means altering the drainage patterns of a site and the flows or the beds or banks of rivers, streams, or creeks, including ephemeral washes, away from their natural state, which results in hydrogeomorphic or habitat changes.

Illegal Discharge - means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges authorized by an NPDES permit.

Illicit Connection - means any engineered conveyance that is connected to the storm drain system without a permit or municipal authorization. It also means any engineered conveyance that discharges pollutants to the separate storm drainage systems, where those discharges are not composed entirely of storm water or are not authorized by an NPDES permit.

Illicit Discharge - means any discharge to a municipal separate storm sewer that is not in compliance with applicable laws and regulations.

Impervious Surface - means an area that has been modified to reduce storm water runoff capture and percolation into underlying soils. Such surfaces include rooftops, walkways, and parking areas. Permeable pavements shall be considered impervious for this section if they have subdrains that preclude infiltration into underlying soils.

Industrial Facility - means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by either the Standard Industrial Classifications (SIC) or the North American Industry Classification System (NAICS). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Industrial Activities Storm Water General Permit (Industrial General Permit) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Industrial Park - means a land development that is set aside for industrial development. Industrial parks are usually located close to transport facilities, especially where more than one transport modalities coincide: highways, railroads, airports, and navigable rivers. It includes office parks, which may have offices and light industry.

Inspection - means entering onto a property or site to conduct a review of activities and operations to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research.
2. Request for entry.
3. Interview of facility personnel.
4. Facility or site walk-through.
5. Visual observation of the condition of premises.
6. Examination and copying of records, as required.
7. Sample collection (if necessary or required).
8. Exit conference (to discuss preliminary evaluation).
9. Report preparation, and if appropriate, recommendations for coming into compliance.

Integrated Pest Management (IPM) - means a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

Likely Rain Event -means any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. Each Co-Permittee shall obtain a copy of rain forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast.

Low Impact Development (LID) - means a development site design strategy with a goal of maintaining or reproducing the pre-development hydrologic system through the use of design techniques to create a functionally equivalent hydrologic setting. Hydrologic functions of storage, infiltration, and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed small-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of flow paths and runoff time. LID techniques also utilize natural processes to reduce or eliminate pollutants contained in storm water runoff. Other strategies include the preservation and protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, valuable trees, flood plains, woodlands, native vegetation and permeable soils.

LID BMPs are based on controlling storm water as close to the source as possible by using small scale controls that are distributed throughout the site. This is unlike conventional approaches to site design that typically convey and manage storm water runoff in large facilities located at the base of drainage areas or just before the runoff leaves the site.

Maximum Extent Practicable (MEP) - means the standard for implementation of storm water management programs to reduce pollutants in storm water. Clean Water Act section 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." Also, see State Board Order WQ 2000-11, page 20 and Defenders of Wildlife v. Browner, 191 F.3d 1159 (9th Cir. 1999).

Method Detection Limit (MDL) - means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136.

Minimum Level (ML) - means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed. The ML value represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique.

Municipal Separate Storm Sewer System (MS4) - means a conveyance or system of conveyances (including roads w/drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), as defined in 40 CFR 122.26(b)(8):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CLEAN WATER ACT that discharges into waters of the United States.

2. Designed or used for collecting or conveying storm water.

3. Which is not a combined sewer.

4. Which is not part of a Publicly Owned Treatment Works (POTW), as defined in 40 CFR 122.2.

NAICS - means North American Industry Classification System.

National Pollutant Discharge Elimination System (NPDES) - means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CLEAN WATER ACT § 307, 402, 318, and 405. The term includes an "approved program."

New Development - means land disturbing activities; structural development, including construction or installation of a building or structure, creation and replacement of impervious surfaces; and land subdivision.

Non-Storm Water Discharge - means any discharge to a storm drain that is not composed entirely of storm water.

Nuisance - means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Parking Lot - means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use.

Permit - means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of 40 CFR Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (§ 122.28). Permit does not include any permit, which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

Pollutants - means those "pollutants" defined in CLEAN WATER ACT § 502(6) (33.U.S.C.§ 1362(6)), and incorporated by reference into CWC § 13373.

Pollutants of Concern (POC) - means constituents that have exceeded Basin Plan Objectives, and/or CTR chronic or acute objectives and/or where receiving waters are listed on the 303(d) list and/or where a TMDL has been developed. Pollutants of concern are also identified based on land use (ex. petroleum at gas stations).

Post Construction Best Management Practices – means structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters.

Potable Water Sources - means the potable water system for the treatment, distribution, and provision of water for residential, commercial, industrial, or institutional use that meets all California safe drinking water regulatory standards for human consumption.

Pre-Developed Condition - means native vegetation and soils that existed at a site prior to first development. The pre-developed condition may be assumed to be an area with the typical vegetation, soil, and storm water runoff characteristics of open space areas in Sonoma County unless reasonable historic information is provided that the area was atypical.

Priority Pollutants - means those constituents referred to in 40 CFR 401.15 and listed in the U.S. EPA NPDES Application Form 2C, pp. V-3 through V-9.

Project - means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Reference: California Public Resources Code § 21065).

Rainy Season – defined as October 1st through April 30th.

Redevelopment - means land-disturbing activity that results in the creation, addition, or replacement of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Report of Waste Discharge (ROWD) - means an application for renewal of the NPDES Permit for Waste Discharge Requirements for Municipal Separate Storm Sewer Discharges.

Restaurant - means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

Restoration - means the reestablishment of predisturbance aquatic functions and related physical, chemical and biological characteristics (Reference: National Research Council. 1992. Restoration of Aquatic Ecosystems: Science, Technology and Public Policy. National Academy Press, Washington, D.C.)

Retail Gasoline Outlet (RGO) - means any facility engaged in selling gasoline and lubricating oils (SIC Code 5541 and NAICS 447110 & 447190).

1. RGOs - 447190 Other Gasoline Stations: This industry is comprised of establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/ or providing food services.
2. RGOs - 447110 Gasoline Stations with Convenience Stores:
   Retailing automotive fuels in combination with a convenience store or food mart.

Screening - means using proactive methods to identify illicit connections and discharges through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

Site - means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

Source Control BMP - means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

Standard Urban Stormwater Mitigation Plan (SUSMP) – mean the deliverable report that satisfies the project specific MS4 permit requirements as described in the LID Manual.

Stream - means a body of flowing water containing water at least part of the year.

Storm Event Monitoring- means a rainfall event that produces more than 0.50 inches of precipitation and that, which is separated from the previous storm event by at least one week of dry weather, for the purpose of monitoring.

Storm Water - means storm water runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Storm Water Discharge Associated with Industrial Activity - means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or storing raw materials or processed materials at an industrial plant, as defined in 40 CFR 122.26(b)(14).

Structural BMP - means any structural mechanism or apparatus designed and constructed to mitigate the adverse impacts of storm water runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

Total Maximum Daily Load (TMDL) - means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

Treatment - means the application of designed systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

Urbanization - means the process of changing of land use and land patterns from rural characteristics to urban characteristics. These changes include (i) the replacement of pervious surfaces with impervious surfaces such as rooftops and buildings, and impervious materials such as asphalt and concrete; and (ii) the conversion of rural land to house new residents, support new businesses, and facilitate vehicular traffic flow.

U.S. EPA Phase I Facilities - means facilities in specified categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c).These categories include:

1. Facilities subject to storm water effluent limitation guidelines, new source performance.
2. Standards, or toxic pollutant effluent standards (40 CFR N).
3. Manufacturing facilities.
4. Oil and gas/ mining facilities.
5. Hazardous waste treatment, storage, or disposal facilities.
6. Landfills, land application sites, and open dumps.
7. Recycling facilities.
8. Steam electric power generating facilities.
9. Transportation facilities.
10. Sewage of wastewater treatment works.
11. Light manufacturing facilities.

Vehicle Maintenance/Material Storage Facilities/Corporation Yards - means any Co-Permittee owned or operated facility or portion thereof that:

1. Conducts industrial activity, operates or stores equipment, materials, or provides services similar to Federal Phase I facilities;
2. Performs fleet vehicle service/maintenance including repair, maintenance, washing, or fueling;
3. Performs maintenance and/ or repair of machinery/ equipment; or
4. Stores chemicals, raw materials, or waste materials.

Water Quality Objectives - means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Water Board to regulate all discharges, including storm water discharges.

Water Quality Standards (WQS) - means the State Water Quality Standards, which are comprised of beneficial uses, water quality objectives and the State's Antidegradation Policy.

Waters of the State - means any surface water or groundwater, including saline waters, within boundaries of the state (Reference: CWC § 13050).

Waters of the United States or Waters of the U.S. - means:

1. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate "wetlands";
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters
   a) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
   b) From which fish or shellfish are or could be taken and sold in interstate; or
   c) Foreign commerce; or
   d) Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in the preceding paragraph (a) through (d) of this definition;
6. The territorial sea; and
7. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in the preceding paragraph (a) through (d) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of Clean Water Act (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are <u>not</u> waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CLEAN WATER ACT, the final authority regarding CLEAN WATER ACT jurisdiction remains with U.S. EPA. (Solid Waste Agency Of Northern Cook City. v. Army Corps Of Engineers (531 U.S. 159 (Sup. Ct. 2001)) ("SWANCC Decision"). The U.S. Supreme Court's SWANCC Decision upheld the primary rights and responsibilities of States over land and water, but limited the water and wetland areas subject to federal regulation under the Clean Water Act.

Watercourse - means any natural or artificial channel for passage of water, including the Sonoma County Water Agency's jurisdictional channels.

Watershed Management - is an approach to water resources protection. It is a strategy for integrating and managing resources, both human and fiscal that focuses less on regulation of point sources, to a more regional approach that acknowledges environmental impacts from other activities.

HU/HA /HSA	HYDROLOGIC UNIT/AREA/ SUBUNIT/DRAINAGE FEATURE	ATTACHMENT B - BENEFICIAL USES																			
		MUN	AGR	IND	PRO	GWR	FRSH	NAV	POW	REC1	REC2	COMM	WARM	COLD	ASBS	SAL	WILD	RARE	MAR	MIGR	SPWN
114.00	**Russian River Hydrologic Unit**																				
114.10	Lower Russian River Hydrologic Area																				
114.11	Guerneville Hydrologic Subarea	E	E	E	P	E	E	E	P	E	E	E	E	E			E	E		E	E
114.12	Austin Creek Hydrologic Subarea	E	E	E	P	E		E	P	E	E	E	E	E			E	E		E	E
114.20	Middle Russian River Hydrologic Area																				
114.21	Laguna Hydrologic Subarea	P	E	E	P	E	E	E	E	E	E	E	E	E			E	E		E	E
114.22	Santa Rosa Hydrologic Subarea	E	E	E	P	E		E	P	E	E	E	E	E			E	E		E	E
114.23	Mark West Hydrologic Subarea	E	E	E	P	E	E	E	P	E	E	E	E	E			E	E		E	E
114.24	Warm Springs Hydrologic Subarea	E	E	E	P	E	E	E	E	E	E	E	E	E			E	E		E	E
114.25	Geyserville Hydrologic Subarea	E	E	E	P	E	E	E	P	E	E	E	E	E			E	E		E	E
114.26	Sulphur Creek Hydrologic Subarea	E	E	E	P	E		E	P	E	E	E	E	E			E	E		E	E
114.30	Upper Russian River Hydrologic Area																				
114.31	Ukiah Hydrologic Subarea	E	E	E	P	E	E	E	E	E	E	E	E	E			E	E		E	E
115.00	**Bodega Hydrologic Unit**																				
115.10	Salmon Creek Hydrologic Area	E	E	E	P	E		E		E	E	E		E			E	E		E	E

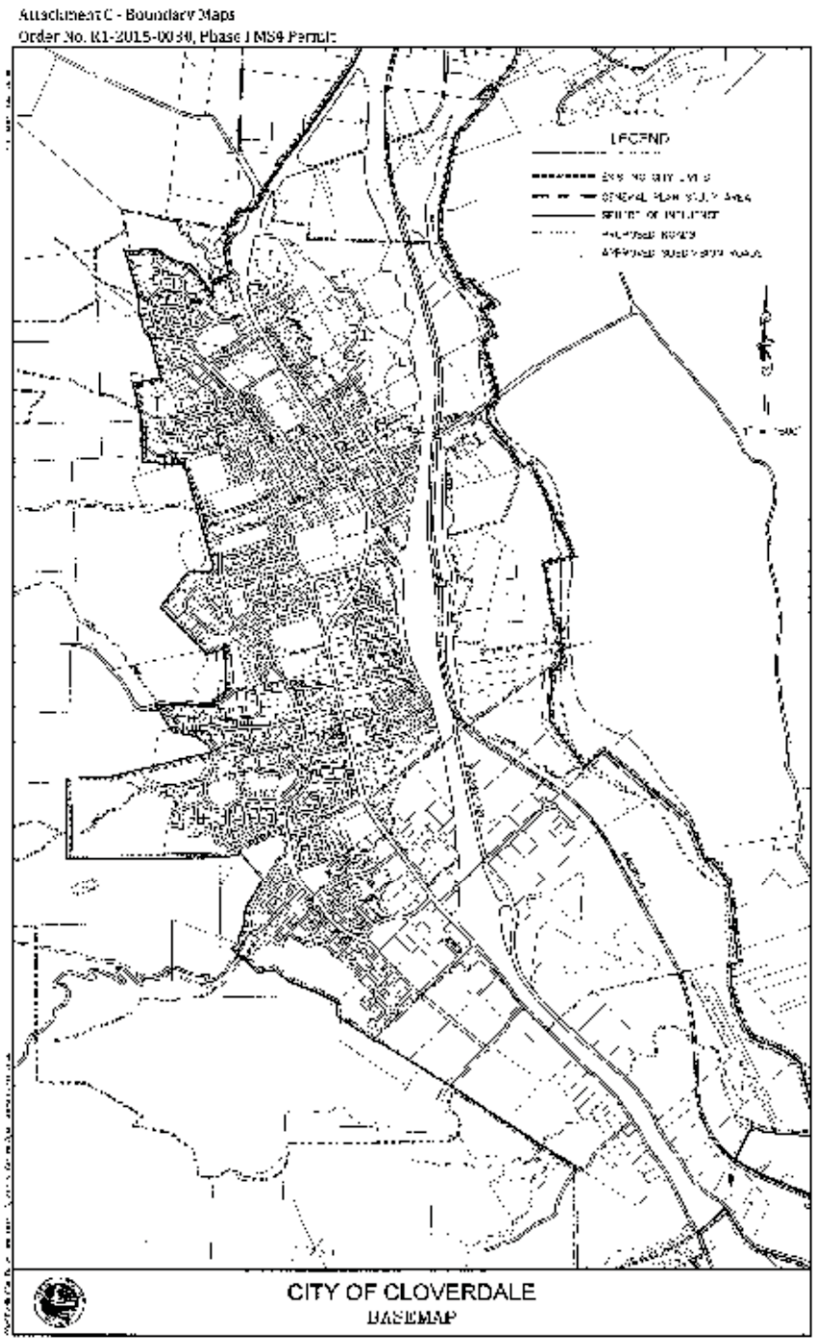
P = Potential E = Existing
Subsistence Fishing is considered a potential beneficial use of these waterbodies, and an existing beneficial use of the Laguna d
*Permanent and intermittent

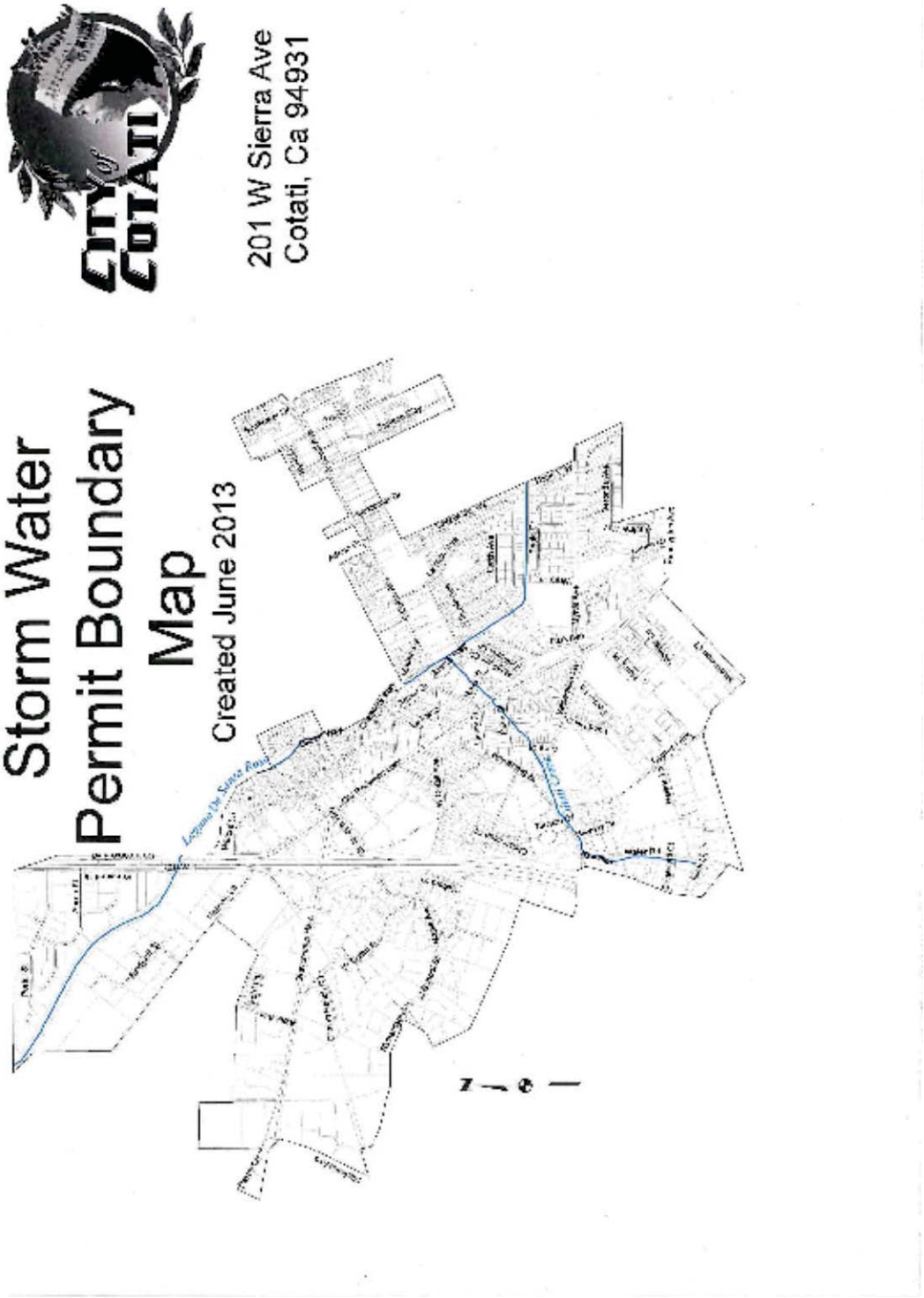
	BENEFICIAL USE	DESCRIPTION
(AGR)	**Agricultural Supply**	Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock wa vegetation for range grazing.
(AQUA)	**Aquaculture**	Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, c harvesting of aquatic plants and animals for human consumption or bait purposes.
(ASBS)	**Preservation of Areas of Special Biological Significance**	Includes marine life refuges, ecological reserves and designated areas of special biological significan propagation and maintenance are features of the marine environment requiring special protection.
(COLD)	**Cold Freshwater Habitat**	Uses of water that support cold water ecosystems including, but not limited to, preservation or enha vegetation, fish, or wildlife, including invertebrates.
(COMM)	**Commercial and Sport Fishing**	Uses of water for commercial, recreational (sport) collection of fish, shellfish, or other aquatic organ to, uses involving organisms intended for human consumption or bait purposes.
(CUL)	**Native American Culture**	Uses of water that support the cultural and/or traditional rights of indigenous people such as subsis gathering, basket weaving and jewelry material collection, navigation to traditional ceremonial loca
(EST)	**Estuarine Habitat**	Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhan vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).
(FISH)	**Subsistence Fishing**	Uses of water that support subsistence fishing.
(FLD)	**Flood Peak Attenuation / Flood Water Storage**	Uses of riparian wetlands in flood plain areas and other wetlands that receive natural surface draina receiving waters.
(FRSH)	**Freshwater Replenishment**	Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity)
(GWR)	**Groundwater Recharge**	Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, ma halting of saltwater intrusion into freshwater aquifers.
(IND)	**Industrial Service Supply**	Uses of water for industrial activities that do not depend primarily on water quality including, but n water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

	BENEFICIAL USE	DESCRIPTION
(MAR)	**Marine Habitat**	Uses of water that support marine ecosystems including, but not limited to, preservation or enhance vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
(MIGR)	**Migration of Aquatic Organisms**	Uses of water that support habitats necessary for migration or other temporary activities by aquatic anadromous fish.
(MUN)	**Municipal and Domestic Supply**	Uses of water for community, military, or individual water supply systems including, but not limited
(NAV)	**Navigation**	Uses of water for shipping, travel, or other transportation by private, military or commercial vessels
(POW)	**Hydropower Generation**	Uses of water for hydropower generation.
(PRO)	**Industrial Process Supply**	Uses of water for industrial activities that depend primarily on water quality.
(RARE)	**Rare, Threatened, or Endangered Species**	Uses of water that support habitats necessary, at least in part, for the survival and successful mainte species established under state or federal law as rare, threatened or endangered.
(REC-1)	**Water Contact Recreation**	Uses of water for recreational activities involving body contact with water, where ingestion of water uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, or use of natural hot springs.
(REC-2)	**Non-Contact Water Recreation**	Uses of water for recreational activities involving proximity to water, but not normally involving bo ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunb camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in con activities.
(SAL)	**Inland Saline Water Habitat**	Uses of water that support inland saline water ecosystems including, but not limited to, preservation saline habitats, vegetation, fish, or wildlife, including invertebrates.
(SHELL)	**Shellfish Harvesting**	Uses of water that support habitats suitable for the collection of filterfeeding shellfish (e.g., clams, oy consumption, commercial, or sports purposes.
(SPWN)	**Spawning, Reproduction, and / or Early**	Uses of water that support high quality aquatic habitats suitable for reproduction and early develop

	BENEFICIAL USE	DESCRIPTION
	Development	
(WARM)	**Warm Freshwater Habitat**	Uses of water that support warm water ecosystems including, but not limited to, preservation or en vegetation, fish, or wildlife, including invertebrates.
(WET)	**Wetland Habitat**	Uses of water that support natural and man-made wetland ecosystems, including, but not limited to of unique wetland functions, vegetation, fish, shellfish, invertebrates, insects, and wildlife habitat.
(WILD)	**Wildlife Habitat**	Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enh habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife v
(WQE)	**Water Quality Enhancement**	Uses of waters, including wetlands and other waterbodies, that support natural enhancement or imp or downstream of a waterbody including, but not limited to, erosion control, filtration and purificati pollutants, streambank stabilization, maintenance of channel integrity, and siltation control.

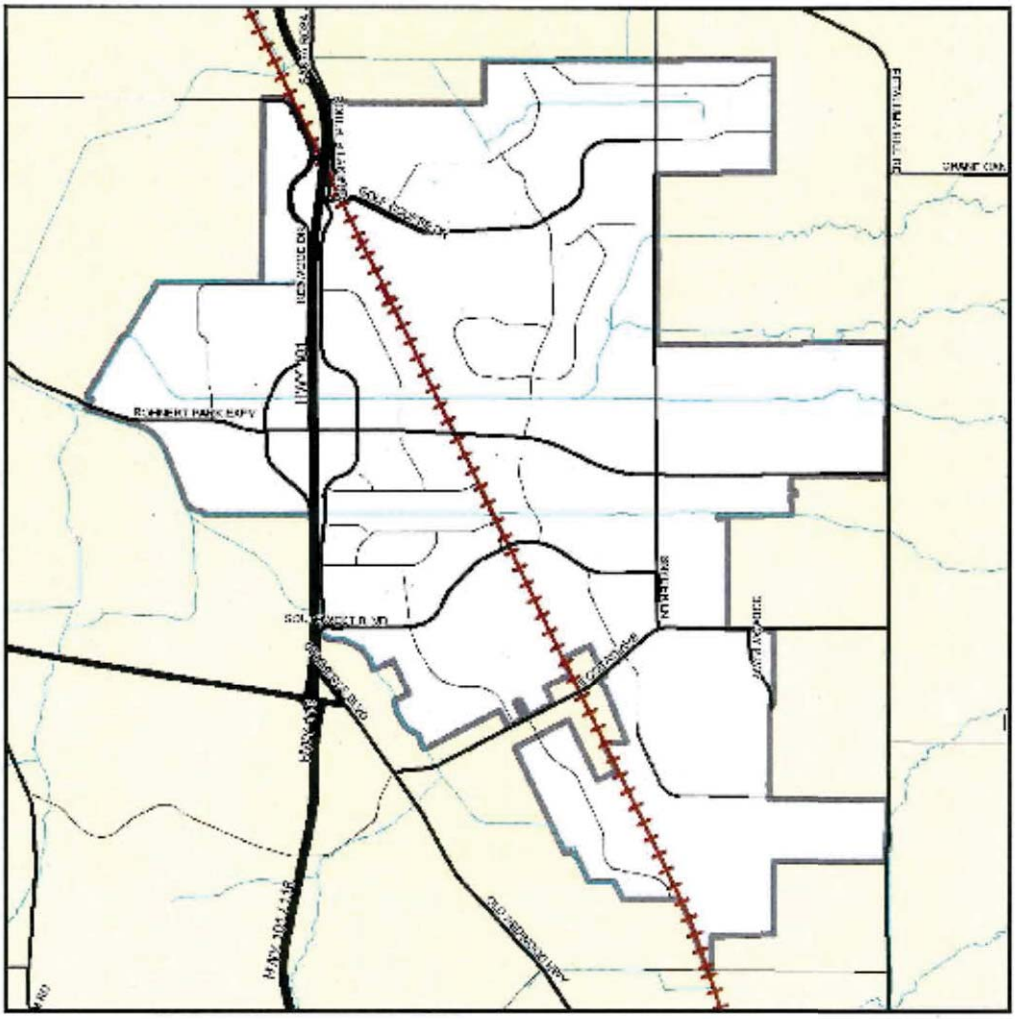
ATTACHMENT C – BOUNDARY MAPS




CITY of COTATI
201 W Sierra Ave
Cotati, Ca 94931
Storm Water
Permit Boundary
Map
Created June 2013

Healdsburg
California

City of Rohnert Park
MS4 Phase II Permit Boundary



LEGEND
- Railways
- Creeks and Rivers
- City Limits / Permit Boundary

SCALE 1 : 40,000
2,000 0 2,000 4,000 6,000
FEET

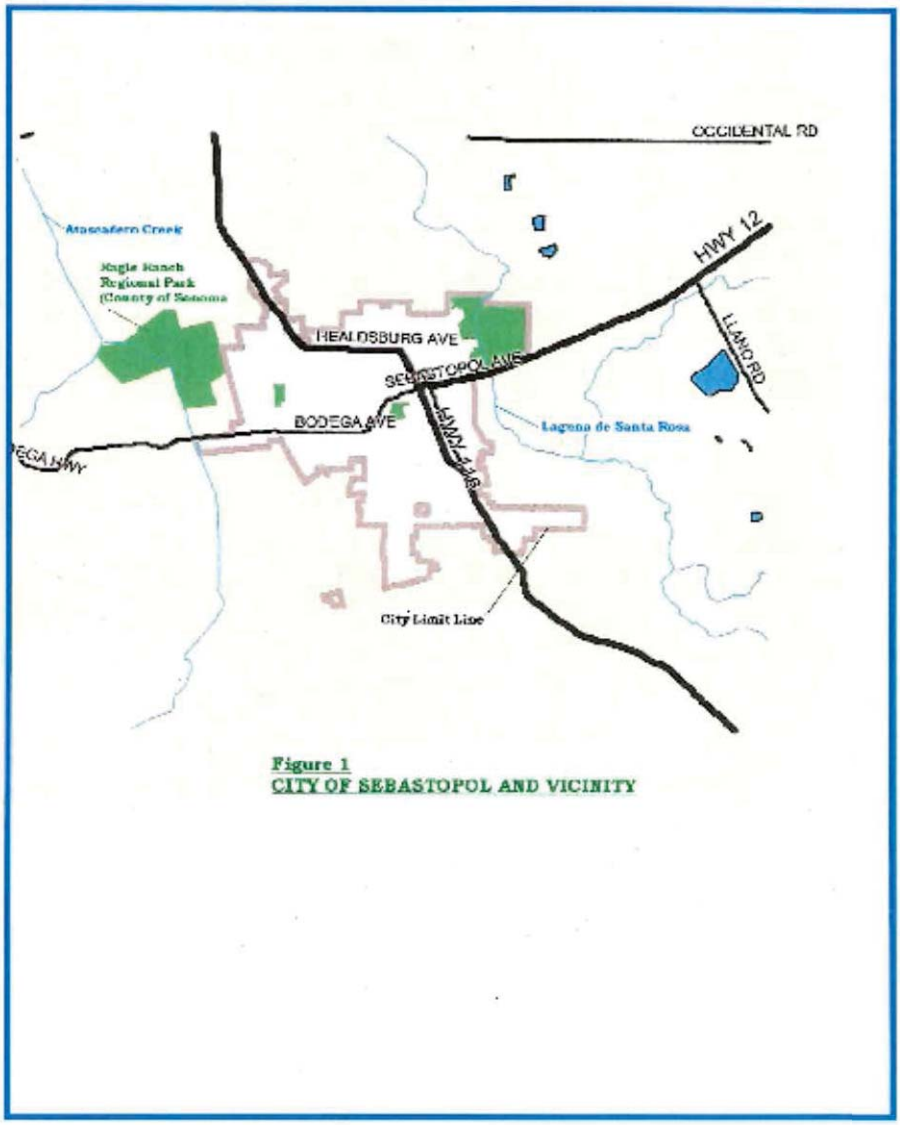
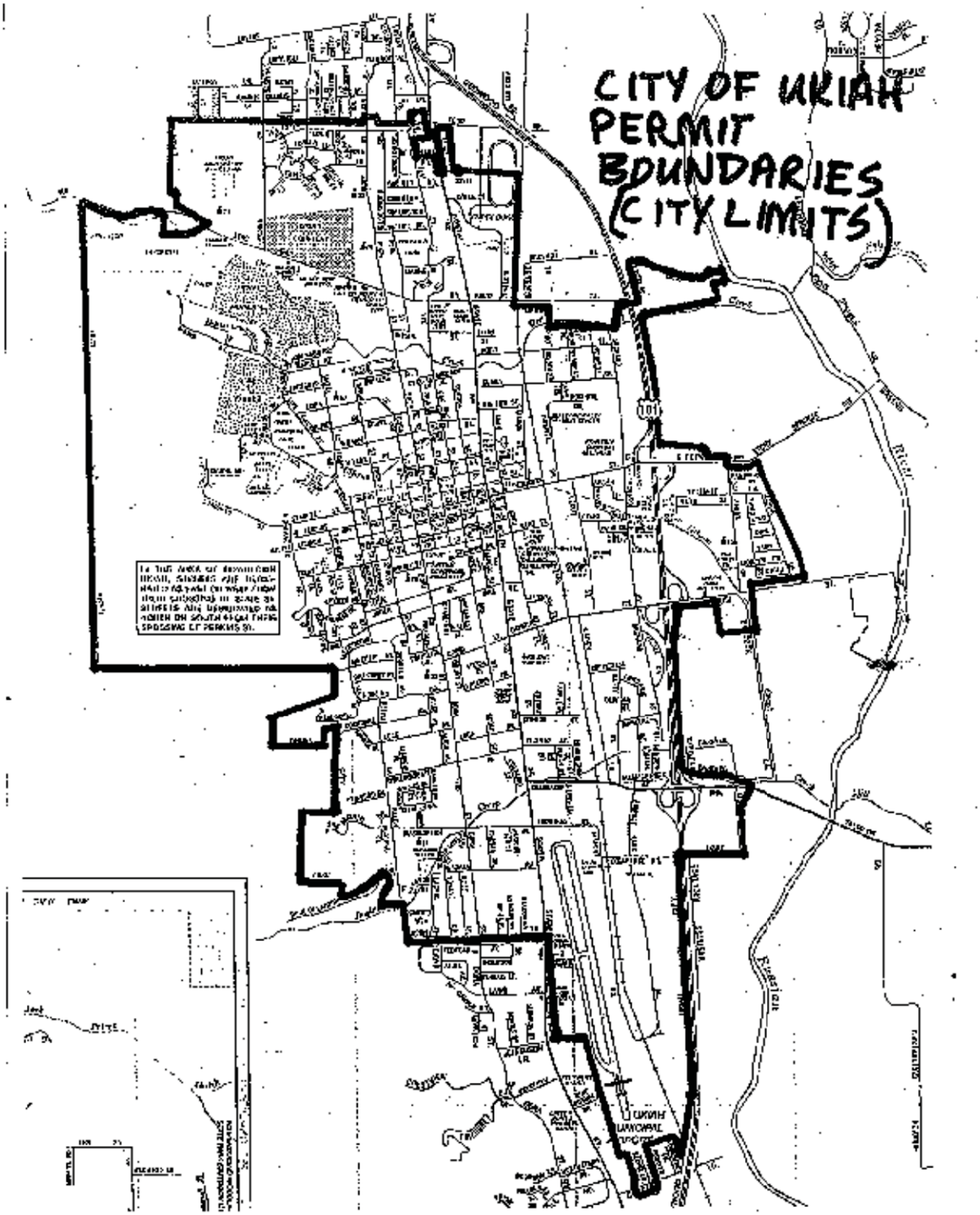
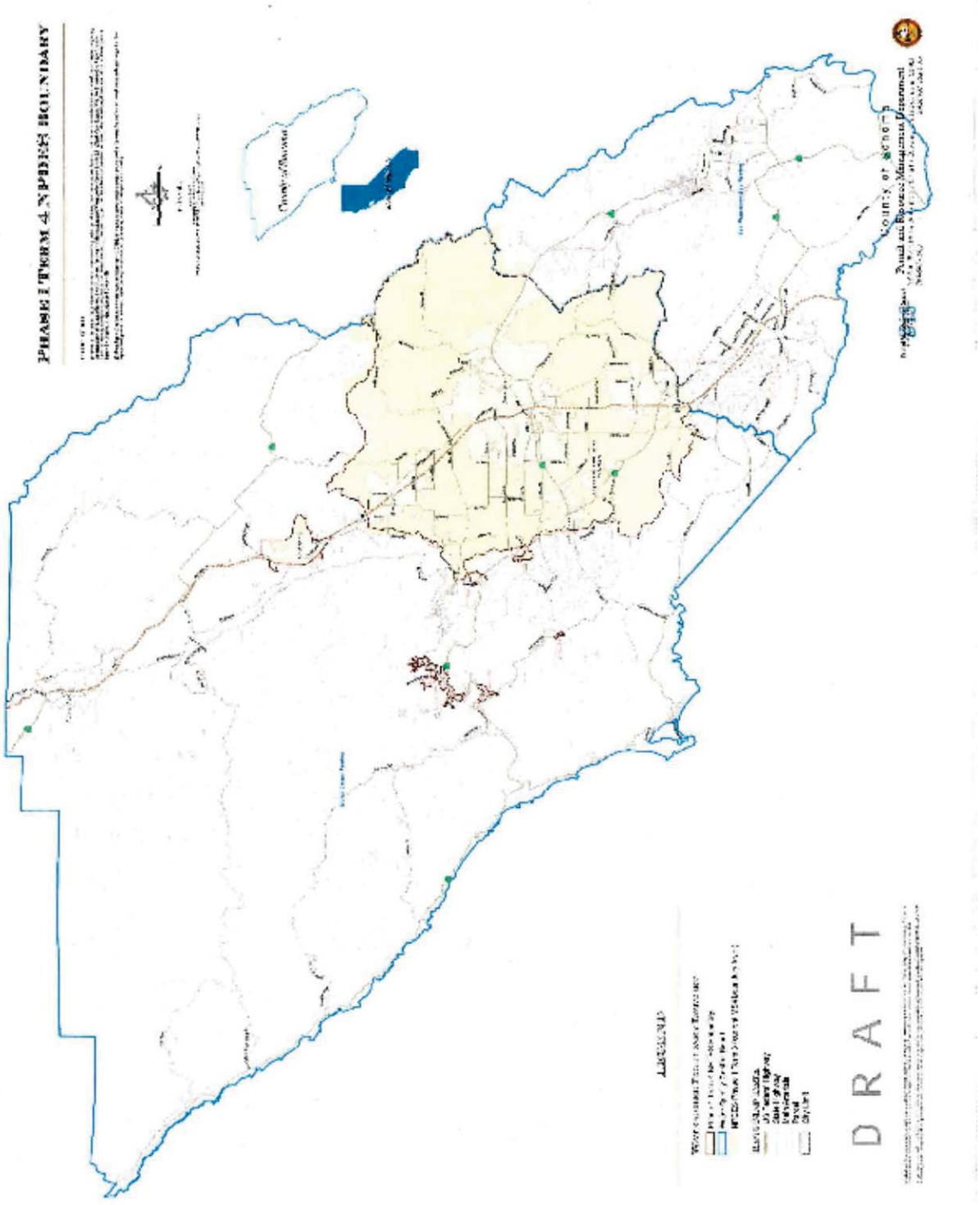
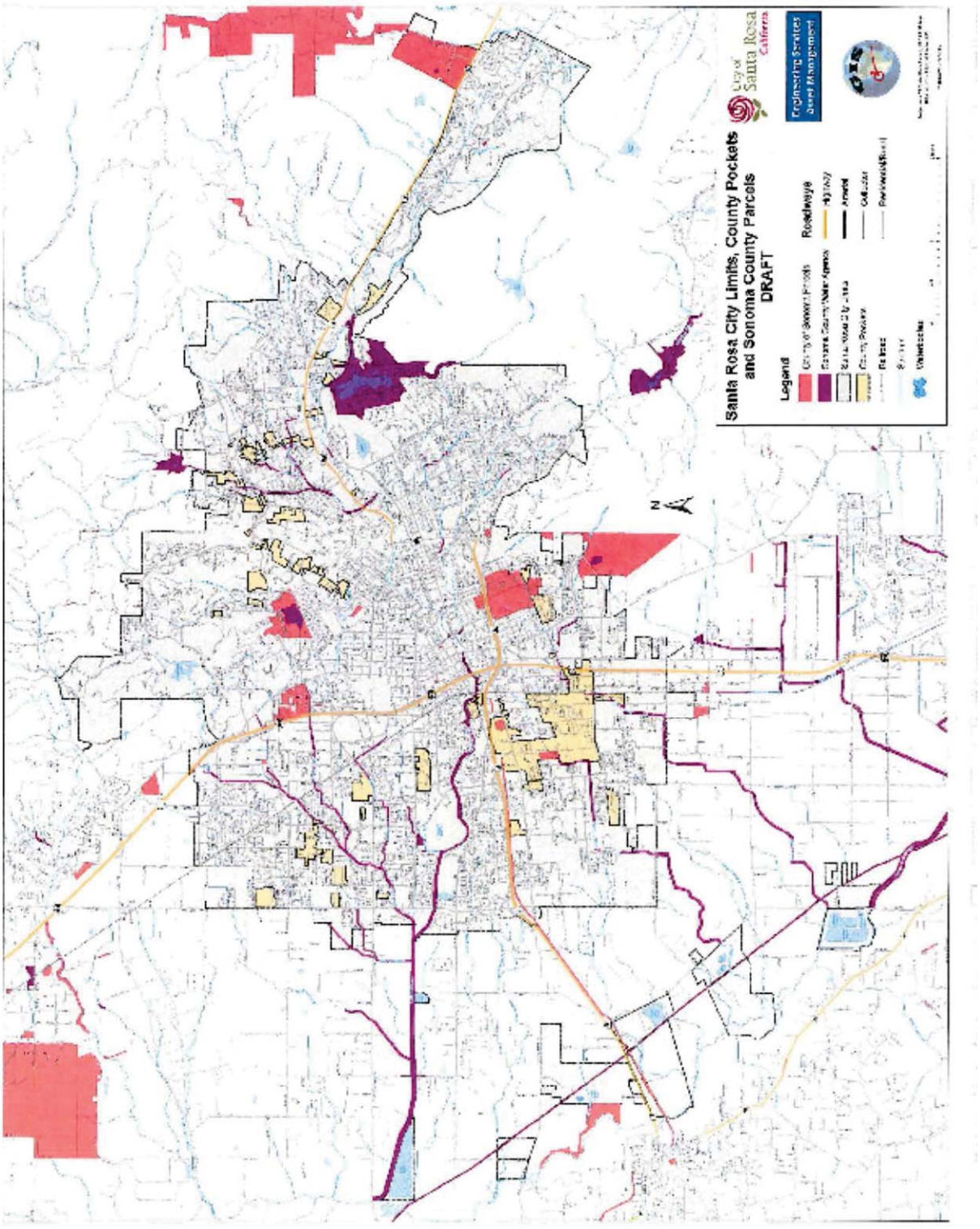


Figure 1
CITY OF SEBASTOPOL AND VICINITY


CITY OF UKIAH
PERMIT
BOUNDARIES
(CITY LIMITS)


PHASE I TERM 4 NPDES BOUNDARY
DRAFT


Santa Rosa City Limits, County Pockets and Sonoma County Parcels
DRAFT
Legend
Roadways
Engineering Services Asset Management
N

Forestville
USA
Forestville
Mirabel Rd
116
083-050-039
083-050-017
084-110-004
083-060-041
083-060-061
083-120-072
084-031-071
084-031-072
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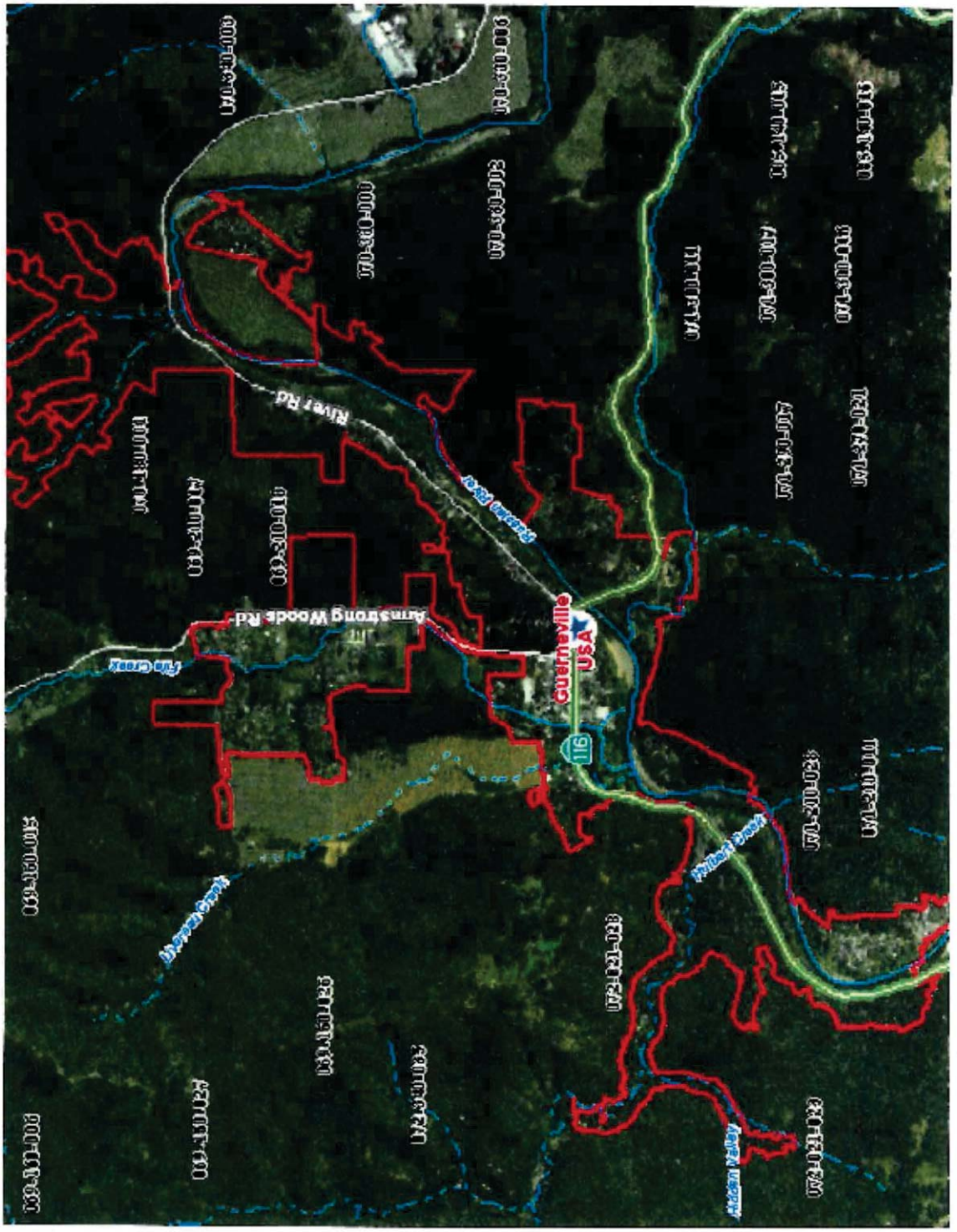
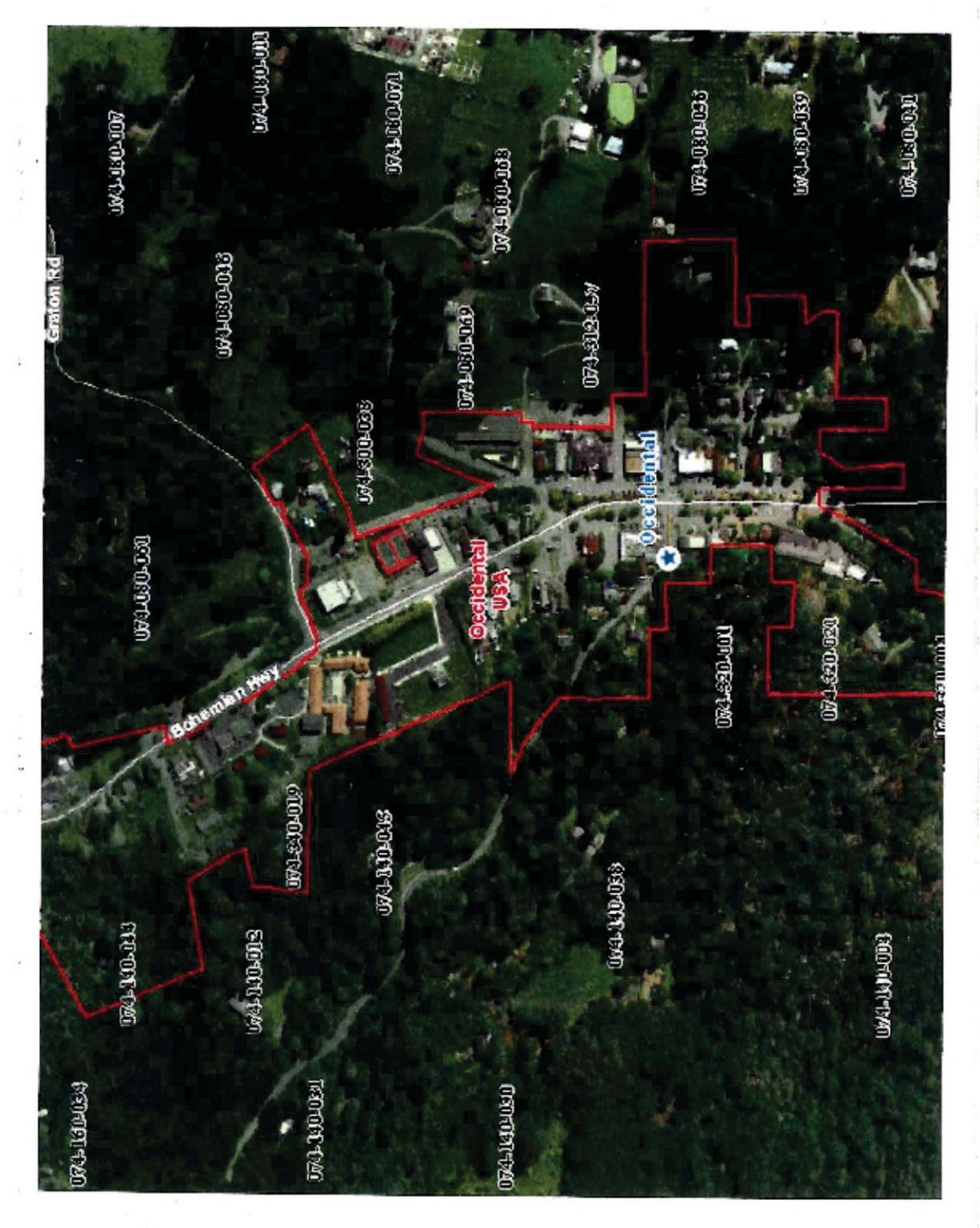
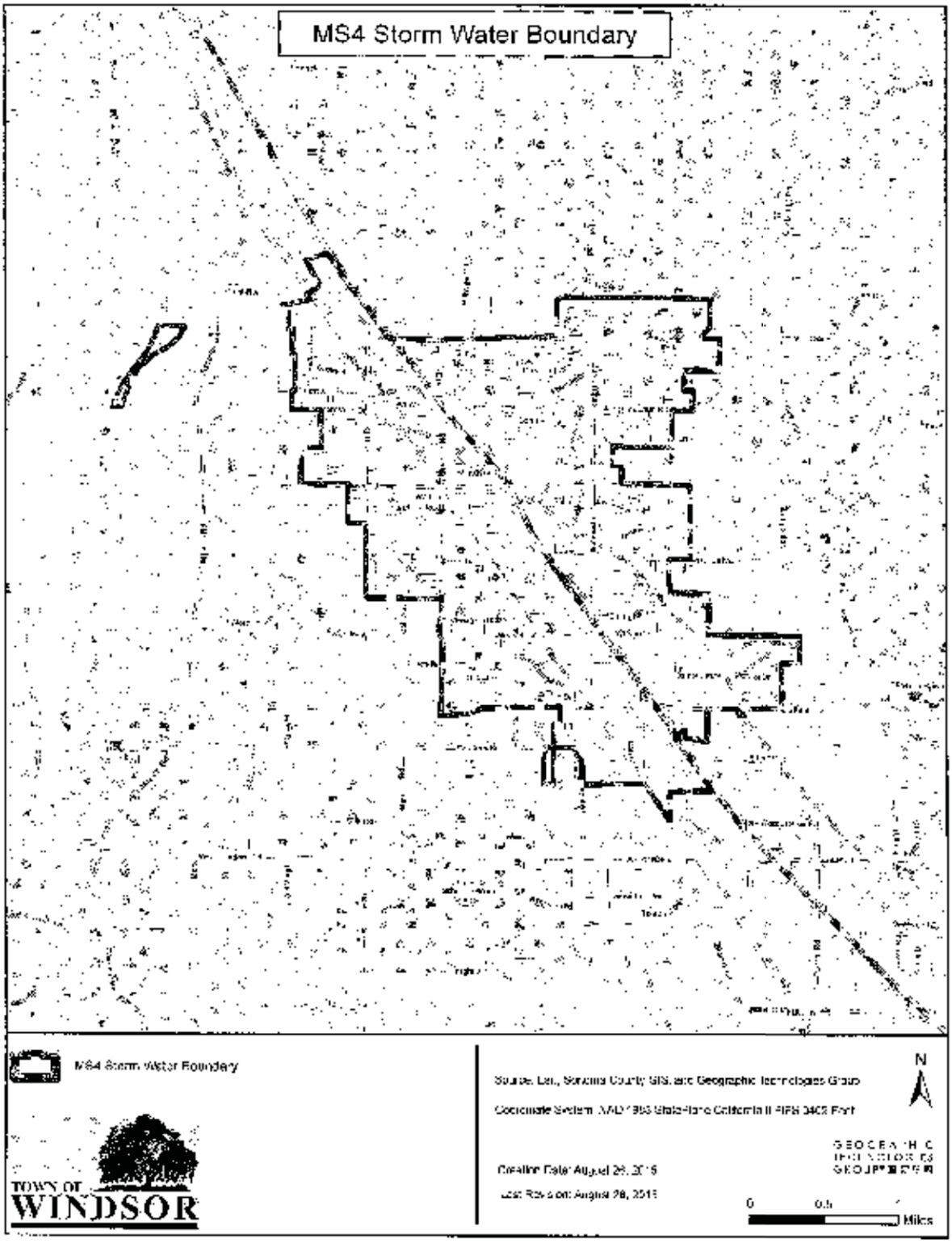
083-130-010
083-130-009
084-031-007


River Rd
Armstrong Woods Rd
Guerneville
USA
116
Fife Creek
Willow Creek
Mark West Creek
Laguna de Santa Rosa
Russian River

Monte Rio
Monte Rio USA
Bohemian Hwy
Dutch Bill Creek
Fir Rd
Moscow Rd
Shoreline Hwy
Highway 116


Occidental
USA
Occidental
Bohemian Hwy
Graton Rd


MS4 Storm Water Boundary
MS4 Storm Water Boundary
TOWN OF
WINDSOR
N
Miles

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Co-Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Co-Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Co-Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Co-Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Co-Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Co-Permittee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Co-Permittee only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Co-Permittee shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Co-Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Co-Permittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Co-Permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Co-Permittee must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Co-Permittee and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – RECORDS

A. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Co-Permittee (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

IV. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Co-Permittee shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board**,** State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Co-Permittee shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Co-Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Co-Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Co-Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Co-Permittee shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Co-Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Co-Permittee shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Co-Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Co-Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board**,** State Water Board, or U.S. EPA, the Co-Permittee shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

V. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

B. The Clean Water Act provide that any person who violates section 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act, or any permit condition or limitations implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402 (b)(8) of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates section 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act, or any condition or limitation implementing any such sections in a permit issued under 402 of the Clean Water Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Clean Water Act, subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year or both. In the case of a second or subsequent conviction for a negligent violations, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than tow (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318, or 405 of the Clean Water Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Clean Water Act, and who knows at the time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [40 CFR section 122.41 (a)(2)] [California Water Code sections 13385 and 13387].

C. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Clean Water Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000. [40 CFR section 122.41(a)(3)].

D. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon, conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violations, or by imprisonment of not more than 4 years, or both [40 CFR section 122.41(j)(5)].

E. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR section 122.41(k)(2)].

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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California Regional Water Quality Control Board
North Coast Region

Monitoring and Reporting Program No. R1-2015-0030
NPDES No. CA0025054

For

County of Sonoma, Sonoma County Water Agency, City of Santa Rosa, City of Cotati, City of Rohnert Park, City of Sebastopol, Town of Windsor, City of Cloverdale, City of Healdsburg, City of Ukiah

Discharges from Municipal Separate Storm Sewer Systems

Section 308(a) of the federal Clean Water Act and sections 122.41(h), (j-l), 122.44(i), and 122.48 of Title 40 of the Code of Federal Regulations require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. Federal regulations applicable to large and medium Municipal Separate Sewer Systems (MS4s) also specify additional monitoring and reporting requirements pursuant to 40 CFR section 122.26(d)(2)(i)(F) & (d)(2)(iii)(D, 122.42(c).). California Water Code 13383 further authorizes the California Regional Water Quality Control Board, North Coast Region (Regional Water Board) to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This Monitoring and Reporting Program (MRP) establishes monitoring, reporting, and recordkeeping requirements that implement the federal and State laws and/or regulations.

I. INTERIM MONITORING REQUIREMENTS

A. The County of Sonoma shall continue to implement the outfall mass chemical monitoring requirements as described in Monitoring and Reporting Program Order No. R1-2009-0050, section A.1. The County of Sonoma shall sample three outfalls during wet weather sampling and three outfalls during dry weather using sampling protocols and analyses required in section A.1.

B. The County of Sonoma shall report data collected in compliance with Interim Monitoring Requirements as part of the annual reporting requirements.

C. The County of Sonoma shall continue with implementing Interim Monitoring Requirements until the Regional Water Board Executive Officer provides notification that the sampling may be discontinued.

II. WORKPLAN

A. The Co-Permittees shall develop a workplan proposing a scope of work to conduct the outfall monitoring, receiving water monitoring, chronic toxicity monitoring, and the bioassessment study as required in this MRP. The workplan shall specify the necessary details to fully implement the requirements of this MRP. The workplan shall include the following elements:

1. Project Management: This is to address the basic area of project management, including the project history and objectives, roles, and responsibilities of the participants. These elements are to ensure that the project has a defined goal, that the participants

understand the goal and the approach to be used, and that the planning outputs have been documented.

2. Data Generation and Acquisition: This is to address all aspects of project design and implementation. Implementation of these elements ensure that appropriate methods for sampling, measurement and analysis, data collection or generation, data management, and quality control activities are properly documented.

3. Assessment and Oversight: This is to address associated quality assurance and quality control activities. The purpose of assessment is to ensure that the workplan is implemented as described.

4. Data Validation and Usability: This is to address the quality assurance activities that occur after the data collection or generation phase of the project is completed. Implementation of these elements ensures that the data conform to the specified criteria, thus achieving the project objectives.

B. The workplan shall be submitted no later than one year after the effective date of this Order and shall be implemented upon Regional Water Board Executive Officer approval.

III. MONITORING REQUIREMENTS

A. Outfall Monitoring

The City of Santa Rosa, the County of Sonoma, the Town of Windsor, The City of Rohnert Park, The City of Cotati and The City of Sebastopol shall develop and implement an outfall monitoring program.

1. Objectives

The outfall monitoring program shall be developed and implemented to meet the following objectives:

a. Characterize the discharge of storm water and non-storm water from the MS4 system in both wet weather and dry weather in the Laguna de Santa Rosa Watershed.

b. Characterize the discharge of storm water in multiple land use drainage areas.

c. Assess compliance with water quality standards.

d. Determine load calculations of total phosphorus and total nitrogen at each outfall where samples are collected within the MS4 system.

2. Implementation

The outfall monitoring program shall be developed and implemented to meet the following criteria:

a. Each identified outfall shall be sampled for the following constituents at least twice a fiscal year during wet weather flows and twice a fiscal year during dry weather flows:

i. Flow

ii. Total Suspended Solids (TSS)

iii. Biochemical Oxygen Demand (BOD)

iv. Total Nitrogen

v. Total Phosphorus

vi. Ammonia

vii. Lead

viii. Copper

ix. Zinc

x. E. Coli

xi. Enterococci

b. Each outfall shall be monitored for the following constituents once during the permit term for wet weather flows and once during the permit term for dry weather flows:

Inorganics

Antimony	Arsenic
Beryllium	Cadmium
Chromium (total)	Cyanide
Mercury	Nickel
Selenium	Silver
Thallium	

Pesticides

Aldrin	Chlordane
4,4-DDD	4,4-DDE
4,4-DDT	Dieldrin
alpha-Endosulfan	Endosulfan Sulfate
Endrin	Endrin Aldehyde
Heptachlor Epoxide	Heptachlor
alpha-Hexachloro-cyclohexane	delta-Hexachloro-cyclohexane
gamma-Hexachloro-cyclohexane	Toxaphene

c. For every sample collected, pH and temperature shall be measured in the field.

d. For every outfall sample collected and analyzed for copper, lead, and zinc, a representative receiving water grab sample shall be collected and analyzed for hardness (mg/L $CaCO_3$).

e. All chemical and bacteriological analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

f. E. Coli and enterococci densities shall be analyzed through appropriate standard methods using the highest dilution necessary to report the Most Probable Number (MPN).

3. Outfall Monitoring Locations

Outfall monitoring locations shall be selected throughout the Laguna de Santa Rosa Watershed at a variety of land use drainage areas. Land use drainage areas to be studied shall include residential, commercial, industrial, and downtown, at a minimum.

4. Wet Weather Monitoring Requirements

Wet weather monitoring protocols shall be implemented as follows:

a. Wet weather samples shall be collected from the discharge resulting from a storm event that is greater than 0.25 inches and at least 72 hours from the previously measureable (greater than 0.25 inch) storm event. A total of 0.25 inches must fall in total during a rain event to be a qualifying rain event.

b. Outfall monitoring shall occur during wet weather conditions resulting from the first storm event and at least one additional wet weather event within the same fiscal year. Co-Permittees shall sample the first storm event of the storm year with a predicted rainfall of at least 0.25 inches at a seventy percent probability of rainfall at least 24 hours prior to the event start time.

c. Co-Permittees shall provide a summary of precipitation characteristics during wet weather monitoring events. The summary shall include the date, time that the storm commenced and the storm duration in hours, the total storm volume (inches) and the time between the storm events sampled and the end of the previous storm event.

d. Field measurements shall be used for pH, temperature, dissolved oxygen and grab samples shall be collected for pathogen indicators.

e. For all other pollutants, samples shall be flow weighted composites, collected within the first 24-hours of a storm or for the duration of the storm event if it is less than 24 hours.

f. Flow-weighted composite samples for a storm water discharge may be taken with a continuous sampler, or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes within each hour of discharge.

g. Flow may be estimated using U.S. Geological Survey methods at sites where flow measurement devices are not feasible.

5. Dry Weather Monitoring Requirements

a. Dry weather outfall sampling locations shall be selected based on outfalls which are documented as to having known dry weather flows.

b. Dry weather outfall sampling shall be conducted at least 72 hours after a rainfall event of 0.1 inches.

c. Grab samples shall be used for the collection of dry weather flow samples.

B. Receiving Water Monitoring

The City of Santa Rosa, the County of Sonoma, the Town of Windsor, the City of Rohnert Park, the City of Cotati and the City of Sebastopol shall develop and implement a receiving water monitoring program.

1. Objective

The receiving water monitoring program shall be developed and implemented to assess if the discharge of storm water and non-storm water flows are causing or contributing to an exceedance of water quality standards within the Laguna de Santa Rosa Watershed.

2. Implementation

The receiving water monitoring program shall be developed and implemented to meet the following criteria:

a. Receiving water locations shall be sampled for the following constituents:

i. Total Suspended Solids (TSS)

ii. Biochemical Oxygen Demand (BOD)

iii. Total Nitrogen

iv. Total Phosphorus

v. Ammonia

vi. Lead

vii. Copper

viii. Zinc

ix. Hardness

x. E. Coli

xi. Enterococci

b. For every sample collected in receiving water, pH, temperature, and dissolved oxygen (DO) shall be measured in the field.

c. All chemical and Bacteriological analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

d. E. Coli and enterococci densities shall be analyzed through appropriate standard methods using the highest dilution necessary to report the Most Probable Number (MPN).

3. Receiving Water Monitoring Locations

In developing receiving water monitoring locations, the Co-Permittees shall select receiving water monitoring locations in conjunction with outfall locations as identified in the Workplan.

C. Chronic Toxicity Monitoring

The City of Santa Rosa, the County of Sonoma, the Town of Windsor, The City of Rohnert Park, The City of Cotati and The City of Sebastopol shall develop and implement a chronic toxicity monitoring program.

1. Objective

Determine if storm water and non-storm water flows from the MS4 are causing or contributing to chronic toxicity in receiving water within the Laguna de Santa Rosa Watershed.

2. Chronic Toxicity Monitoring Requirements

Chronic Toxicity Monitoring shall be conducted according to the procedures described as follows:

a. Samples shall be collected and analyzed from receiving water monitoring locations to evaluate toxicity in receiving waters.

b. Chronic toxicity testing shall be conducted in receiving water within 50 feet down gradient of outfalls which discharge storm water from the following land use drainage areas:

- Industrial
- Downtown
- A golf course
- A county park
- A nursery/landscape material retail center

3. Test Species Sensitivity Screening

To determine the most sensitive test species, the Co-Permittees shall conduct two wet weather toxicity tests with the fathead minnow, Pimephales promelas (larval survival and growth test), the water flea, Ceriodaphnoa dubia (survival and reproduction test), and the green alga, Selanastrum capricornutum (growth test). The species that exhibits the highest "Percent Effect" at the discharge in-stream waste concentration during species sensitivity screening shall be used for routine monitoring during the term of this Order.

4. Test Methods

The presence of chronic toxicity shall be determined as specified in EPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (U.S. EPA Report No. EPA-821-R-02-013, 4th edition or subsequent editions).

5. Quality Assurance and Additional Requirements

Chronic toxicity test biological endpoint data shall be analyzed using the Test of Significant Toxicity (TST) t-test approach specified in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (U.S.

Environmental Protection Agency, Office of Wastewater Management, Washington, D.C. EPA 833-R-10-003, 2010). Each sample shall be subject to determination of "Pass" or "Fail" and "Percent Effect" from a single effluent concentration chronic toxicity test at the in-stream waste concentration IWC) (100% receiving water or 100% storm drain outfall, as applicable) using the TST. The null hypothesis (H_o) for the TST approach is: Mean discharge IWC response 0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: ((Mean control response Mean discharge IWC response) ÷ Mean control response)) × 100.

6. Toxicity Identification Plan

a. The Co-Permittees shall develop a Toxicity Identification Plan (TIP) to address any identified toxicity in receiving water. The plan shall include the following elements:

i. Monitoring protocols to confirm toxicity,

ii. If toxicity is confirmed, protocols to evaluate the contribution of the discharge of storm water and/or non-storm water has on the identified toxicity, and

iii. Protocols for identifying the pollutant(s) causing the identified toxicity.

b. The TIP shall be implemented in the event of two consecutive "fail" toxicity testing results for the same sampling location.

c. The TIP shall be developed and submitted as part of the monitoring workplan.

7. Toxicity Reduction Plan

a. In the event a TIP is implemented, the Co-Permittees confirm the discharge of storm water and/or non-storm water is contributing to or causing the toxicity, and the pollutant(s) causing the toxicity are identified, the Co-Permittees shall develop and implement a Toxicity Reduction Plan (TRP).

b. Within 60 days of identifying the pollutants causing the identified toxicity, the Co-Permittees shall submit a TRP to address reducing the pollutant(s) in storm water and/or non-storm water discharges to the maximum extent practicable. The TRP shall include an assessment of pollutant sources and a discussion of suggested BMPs recommended to reduced and/or eliminate the discharge of pollutant(s) causing or contributing to the identified toxicity.

c. If it can be demonstrate that the discharge from the MS4 has no contribution to the identified toxicity, the Co-Permittees will not have to submit a TRP.

D. Bioassessment

1. Objective

Conduct a bioassessment study to assess the physical, chemical, and biological health of creek reaches within the Laguna de Santa Rosa Watershed.

2. Implementation

a. Bioassessment monitoring shall be conducted within the jurisdictional boundary of the County of Sonoma, the City of Cotati, the City of Rohnert Park, the Town of Windsor, and the City of Sebastopol. Bioassessment monitoring shall be conducted once during the term of this Order during dry weather, and at one creek reach, per jurisdictional boundary.

b. The bioassessment monitoring shall be conducted in accordance with the following standard operating procedures developed by SWAMP:

i. Collecting Benthic Macroinvertebrate Sample & Associated Physical and Chemical Data for Ambient Bioassessment in California-Standard Operating Procedures Manual-February 2007 edition, or subsequent revisions.

ii. Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessment in California-Standard Operating Procedures Manual-June 2010, or subsequent revisions.

IV. REPORTING REQUIREMENTS

A. Outfall Monitoring, Receiving Water Monitoring, and Chronic Toxicity Monitoring

1. Schedule

Outfall monitoring, receiving water monitoring, and chronic toxicity monitoring reports shall be submitted to the Regional Water Board on a semi-annual basis, according to the following schedule:

a. For monitoring conducted between October 1 and March 31, data shall be reported to the Regional Water Board no later than July 1 of that calendar year.

b. For monitoring conducted between April 1 and September 30, data shall be reported to the Regional Water Board no later January 1 of the following calendar year.

2. Report Components

Each monitoring report shall include the following information, at a minimum:

Component	Description
Introduction	A narrative description of who conducted the monitoring, what regulatory mechanism is triggering the monitoring and the time frame the report covers.
Monitoring Program	A summary of the monitoring requirements implemented during the reporting period.
Methods	A narrative description of the field and laboratory methods used to complete monitoring activities, Quality Assurance/Quality Control procedures, laboratory analyses.
Monitoring Activities	A narrative description of the monitoring activities conducted including dates, locations, constituents analyzed.
Monitoring Results	Results reported in tabular form (see below “Monitoring Results” for

Component	Description
	more details) and a comparison to water quality standards.
Assessment	Findings, conclusions, and recommendations.
Attachments	Monitoring location map (watershed wide view and a detailed view); Outfall location sample maps, showing drainage area and land use distribution; Cumulative data in tabular form; Analytical Methods Table: constituents, sample type, EPA Method, Minimum Level (ML), Method Detection Level (MDL), units, sample preservation, and hold time; Field Logs; Chain of Custody; and Laboratory Analytical Reports.

3. Monitoring Results

The monitoring report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

a. An actual numerical value for sample results greater than or equal to the ML;

b. Not-detected (ND) for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

c. Detected, but Not Quantified (DNQ) if results are greater than or equal to the laboratory's MDL but less than the ML.

d. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

e. For priority toxic pollutants, if the Co-Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 Code of Federal Regulations 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the State Implementation Policy (SIP). The Co-Permittees must submit documentation from the laboratory to the Regional Water Board Executive Officer for approval prior to raising the ML for any constituent.

B. Bioassessment Reporting

1. The bioassessment shall include the following components, at a minimum:

a. Narrative description of bioassessment study procedures, study locations, results, conclusions and recommendations;

b. Overview map,

c. Detailed map of each creek reach studied, including transects labeled A-K, direction of flow, and the closest upstream and downstream outfalls to the study reach;

d. Field logs; and

e. Pictures taken during the study.

2. The bioassessment monitoring report shall be submitted no later than four years after the effective date of this Order.

V. SPECIAL STUDIES

A. Nutrient Study-Brush Creek and Lower Santa Rosa Creek

The City of Santa Rosa shall collect a special sampling event at Brush Creek and Lower Santa Rosa Creek to assess the concern with excessive nutrients as described in the results of the City's 2012 bioassessment study. The sampling event shall meet the following criteria:

1. Samples shall be collected from Brush Creek and Lower Santa Rosa Creek within the same creek reach that was studied for the 2012 bioassessment study. Samples shall also be collected 100 feet upstream and 100 feet downstream of the reach of creek studied during the 2012 bioassessment study[15].

2. Samples shall be collected as grab samples as a one-time sampling event taking place between June and August of 2016.

3. Samples shall be collected and analyzed for total phosphorus, total nitrogen, and ammonia. Samples shall be field measured for pH, temperature and DO.

4. Results from the special sampling event shall be reported during the appropriate reporting period and shall include conclusions on the results and recommendations for additional sampling, for Executive Officer approval and warranted by the results of the sampling.

B. Best Management Practices Effectiveness Studies

1. The City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency, collectively or individually, shall develop and implement three Best Management Practice (BMP) Effectiveness Studies that assess the effectiveness of the following elements of storm water management:

a. Lawn care and lawn watering conservation BMPs;

b. Permanent post-construction BMPs; and

c. Hydromodification Control Plan.

[15] The City of Santa Rosa may propose an alternative location for upstream and downstream sampling to accommodate safety concerns, such as accessibility.

2. For each study the Co-Permittees shall develop a workplan with a monitoring proposal to determine the effectiveness of each storm water program element. The workplans shall include the following information, at a minimum:

a. A narrative description of the BMP;

b. A study location;

c. Pre-project monitoring need to assess a baseline conditions including sampling parameters, location, and frequency;

d. Post-project monitoring needed to assess BMP effectiveness relative to baseline conditions; and

e. A project schedule.

3. Workplans for these studies shall be submitted to the Regional Water Board no later than one year after the effective date of this Order. Co-Permittee shall implement the studies upon approval of the Regional Water Board's Executive Officer. The status of the studies shall be reported in each annual report. Upon completion of each study, the Co-Permittees shall submit a final report including the findings of the study and a conclusion on the measured effectiveness of each BMP. The duration of these studies may need to extend beyond the five year term of this permit. The workplan shall clearly outline the time frame needed to complete the study, including reporting the results.

C. Discharge Characterization

The City of Ukiah, the City of Cloverdale, and the City of Healdsburg shall:

1. Submit a workplan within 18 months from the effective date of this Order, to propose adequate monitoring and characterizing of outfall discharges within their respective jurisdictions. The workplan shall include a schedule of implementation.

2. Upon approval by the Executive Officer, implement the workplan.

3. Include the results in the next Annual Report.

VI. STANDARD MONITORING PROVISIONS

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR 122.41(j)(1)]

B. The Co-Permittees shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

C. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

D. Monitoring results must be conducted according to test procedures under 40 C.F.R. part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R. part 136 unless otherwise specified in 40 C.F.R. part 503 unless other test procedures have been specified in this Order. If a particular Minimum Level (ML) is not attainable in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead. [40 CFR 122.21(j)(4)]

E. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. [40 CFR 122.21(j)(5)]

F. If the Co-Permittees monitor any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Annual Monitoring Reports. [40 CFR 122.41(I)(4)(ii)]

G. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. [40 CFR 122.41(I)(4)(iii)]

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. CO-PERMITTEE INFORMATION

The following table summarizes administrative information related to the facility and the Permittees.

Table F-1: Co-Permittee Information

Permittee (WDID)	Legally Responsible Party
City of Cloverdale(1B15125SSON)	City Engineer 124 North Cloverdale Blvd., Cloverdale, CA 95425
City of Cotati (1B03048SSON)	City Engineer 201 West Sierra Avenue, Cotati, CA 94931 707-665-3637
City of Healdsburg (1B03046SSON)	City Engineer, 401 Grove Street, Healdsburg, CA 95448, 707-431-3346
City of Rohnert Park (1B03049SSON)	Director of Public Works 130 Avram Avenue, Rohnert Park, CA 94928 707-588-3301
City of Santa Rosa (1B96074SSON)	Mayor 100 Santa Rosa Avenue, Santa Rosa, CA 95401 707-543-4530
City of Sebastopol (1B03045SSON)	City Manager/Attorney 7210 Bodega Avenue, Sebastopol, CA 95472 707-823-1153
City of Ukiah (1B03187SMEN)	Director of Public Works 300 Seminary Avenue, Ukiah, CA 95482 707-463-6280
City of Windsor(1B03047SSON)	Town Engineer 8400 Windsor Road, Bldg. 100, Windsor, CA 95492 707-838-5978
County of Sonoma (1B0215SSON)	Chief Building Official 2550 Ventura Avenue, Santa Rosa, CA 95403 707-565-2502
Sonoma County Water Agency (1B02149SSON)	Chief Engineer 404 Aviation Blvd., Santa Rosa, CA 95403 707-521-1835

The ten municipalities in Table F-1 are the Legally Responsible Parties of Municipal Separate Storm Sewer Systems (MS4s) within the North Coast Regional Water Board boundary. The legally responsible party listed in the right hand column represents the municipality, as documented on the Form 200 application for this Order.

II. CO-PERMITTEE DESCRIPTION

A. Background Information

In 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s required operators of medium and large MS4s to implement a storm water management program to control polluted discharges from these MS4s.

Title 40 of the Code of Federal Regulations (CFR) section 122.26(b)(4) defines a large MS4 as those municipalities with a population of 250,000 or more. There are no large MS4s within the North Coast Region.

Title 40 CFR 122.26(b)(7) defines a medium MS4 as (i) an incorporated place with a population of 100,000 or more but less than 250,000, or (ii) counties with unincorporated urbanized areas with a population greater than 100,000, but less than 250,000, or (iii) a municipality that is designated by the Director as part of the medium MS4 due to interrelationship between the discharges of the designated storm water and the discharges from a MS4 meeting the definition of medium MS4, based on numerous factors including interconnections between MS4s, the quantity and nature of pollutants discharged, or the nature of the receiving waters. Title 40 CFR 122.26(a)(iv) requires those meeting the definition of medium MS4 to obtain an NPDES permit for discharges of storm water to waters of the United States. Further, 40 CFR 122.26(a)(v) provides that an NPDES permit is required when the Director determines storm water discharges "contribute to a violation of water quality standards or is a significant contributor of pollutants to waters of the United States." Such sources are then designated into the program. In the North Coast Region the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency (SCWA) are designated collectively as a medium MS4 and are regulated as Co-Permittees under a single NPDES Order.

Prior to issuance of this Order, Regional Water Board Order No. R1-2009-0050 (Order No. R1-2009-0050) served as the NPDES MS4 permit for storm water and non-storm water discharges within the jurisdictional boundaries of the City of Santa Rosa, the County of Sonoma and the SCWA. Order No. R1-2009-0050 was adopted by the Regional Water Board on October 1, 2009, and became effective on January 1, 2010.

Title 40 CFR section 122.26(b)(14) defines a small MS4 as those not defined as medium or large MS4s. On December 8, 1999, U.S. EPA promulgated Phase II storm water regulations under authority of the Clean Water Action section 402 (p)(6) to address discharges from these small MS4s. An NPDES permit is required if the small MS4 is located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census or, designated by the NPDES permitting authority. The State Water Resources Control Board has issued a general NPDES permit to these small MS4 operators under the Phase II storm water program.

Within the Russian River Watershed, the City of Cotati, the City of Rohnert Park, the City of Healdsburg, the City of Sebastopol, the City of Ukiah, the Town of Windsor and portions

of unincorporated County of Mendocino were previously designated as Small Phase II MS4 in 2003. State Water Board Order No. 2003-0005-DWQ (2003 Order) served as the NPDES MS4 permit for storm water and non-storm water discharges within the jurisdictional boundaries of each municipality. The 2003 Order was adopted on April 30, 2003. The Order required each Permittee to develop and implement a storm water management plan (SWMP) in which Best Management Practices (BMPs) are selected to reduce or eliminate pollutants in storm water to the maximum extent practicable.

On February 5, 2013, the State Water Board adopted Order No. 2013-0001-DWQ (2013 Order), replacing the 2003 Order. Within the Russian River Watershed, the City of Cotati, the City of Rohnert Park, the City of Healdsburg, the City of Sebastopol, the City of Ukiah, the Town of Windsor, and portions of the County of Mendocino were designated as renewal Phase II MS4 Permittees. The City of Cloverdale, additional portions of unincorporated County of Sonoma and Sonoma State University were designated as new Phase II MS4 Permittees. The 2013 Order went into effect on July 1, 2013. Phase II MS4 Permittees were required to submit a Notice of Intent (NOI) to the State Water Board by July 1, 2013, for coverage under the 2013 Order.

In accordance with 40 CFR section 122.34(b)(3), a regulated Small MS4 in the same urbanized area as a medium or large MS4 may join with the medium or large MS4 to be added as a limited Co-Permittee. Additionally, Title 40 CFR section 122.26(b)(7)(iii) states that the Regional Water Board Executive Officer can designate municipalities as a medium MS4 based on factors other than population. Other factor include physical interconnection between MS4s [122.26(b)(7)(iii)(A)], the location of discharges [122.26(b)(7)(iii)(B)], the quantity and nature of pollutants discharged [122.26(b)(7)(iii)(C)], the nature of receiving water [122.26(b)(7)(iii)(D)], or other relevant factors [122.26(b)(7)(iii)(E)].

As such, the Phase II MS4 Permittees within the Russian River Watershed were provided the options of either filing an NOI with the State Water Board to enroll in the 2013 Phase II Order for Regulated Small MS4s or provide a letter to the Executive Officer of the Regional Water Board requesting participation in the Phase I Order with the existing Co-Permittees. Table 5: Small Phase II MS4 Compliance Action summarizes the option selected by each designated Phase II MS4.

Table F-2: Small Phase II MS4 Compliance Action

Municipality	Action	Date of Action
City of Cloverdale	Requested to participate in Phase I Program	June 24, 2013
City of Cotati	Requested to participate in Phase I Program	June 26, 2013
City of Healdsburg	Requested to participate in Phase I Program	July 9, 2013
City of Rohnert Park	Requested to participate in Phase I Program	July 1, 2013
City of Sebastopol	Requested to participate in Phase I Program	June 24, 2013

Municipality	Action	Date of Action
Town of Windsor	Requested to participate in Phase I Program	June 27, 2013
City of Ukiah	Requested to participate in Phase I Program	July 1, 2013
County of Mendocino	Submitted NOI for Coverage Under the 2013 Order	July 1, 2013
County of Sonoma	Requested to participate in Phase I Program	January 2, 2014
Sonoma State University	Submitted NOI for Coverage Under the 2013 Order	June 28, 2013

Effective July 1, 2013, those Phase II MS4s electing to participate in the Phase I MS4 program were automatically terminated from coverage under the 2013 Order and were required to begin implementing the terms and conditions of Order No. R1-2009-0050.

Each Phase II MS4 electing to participate in the Phase I MS4 program was required to develop and submit an implementation plan for Regional Water Board approval. The implementation plan outlined all of the requirements in Order No. R1-2009-0050 with a proposed time frame for compliance. Additionally, each Phase II MS4 was required to continue implementing the individual SWMP approved under the 2003 Order. The SWMP and implementation plan served as NPDES Permit coverage for those Phase II MS4s electing to participate in the Phase I MS4 program.

Discharges from the Co-Permittees meet the definition of a medium MS4, contribute to violations of water quality standards, and are a contributor of pollutants to receiving water.

With the adoption of this Order, the City of Cotati, the City of Cloverdale, the City of Healdsburg, the City of Rohnert Park, the City of Sebastopol, the Town of Windsor, and the City of Ukiah are now designated as Phase I MS4 Permittees. These Phase I Permittees, along with the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency, are collectively referred to as Co-Permittees.

B. Pollutants of Concern

In general, the pollutants that are found in municipal storm water runoff are a threat to human health and/or the environment. The National Urban Runoff Program (NURP) study reported that heavy metals, organics, bacteria, nutrients, oxygen demanding substances (e.g. decaying vegetation), and total suspend solids are found at relatively high levels in storm water runoff. In addition, the State Water Board Urban Runoff Technical Advisory Committee finds that storm water runoff pollutants include sediment, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.

In 1992, 1994, and 1996, National Water Quality Inventory Reports to Congress prepared by U.S. EPA showed a trend of impairment in the nation's waters from contaminated runoff. The 1998 National Water Quality Inventory Report states that ocean shoreline

impairment due to storm water runoff increased from 55 percent in 1996 to 63 percent in 1998. The report notes that storm water runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams.

The quality and quantity of the MS4 discharges vary considerably because of the effects of hydrology, geology, land use, seasonality, and sequence and duration of precipitation events. Storm water runoff discharges typically contain pollutants that lower the quality of receiving waters and impact beneficial uses of receiving waters. Nationwide and local studies have shown exceedances of water quality standards and instances of aquatic toxicity in receiving waters associated with storm water discharges.

1. Transport

Watershed development and urbanization result in increased pollutants loading, runoff volume and discharge velocity to receiving waters. In many cases, development results in naturally vegetated, pervious areas being converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Pollutants will then accumulate on impervious surfaces until they are mobilized during rain events. Storm water runoff that flows over impervious surfaces carries untreated pollutants through the MS4, which ultimately discharge to receiving waters of the North Coast Region.

2. Heavy Metals

Storm water runoff can contain heavy metals such as arsenic, cadmium, chromium, copper, lead, mercury, and zinc at concentrations that may exceed water quality standards. Lead, copper, and zinc tend to be the most common metals in storm water runoff. Sources of heavy metals in storm water runoff often are associated with vehicle use including, exhaust, brake linings and pads, and tire and engine wear. Zinc can be found in galvanized metal rooftops, gutters, and downspouts. Copper can come from architectural uses and treated wood. Lead can be commonly found in fuels and paints. Additionally, sources of heavy metals in storm water runoff can be from atmospheric deposition and sediment.

The City of Santa Rosa's outfall chemical monitoring program included analysis of thirteen inorganic pollutants including antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc. Samples were collected during both wet and dry weather sampling events. Sample results reported copper, lead and zinc above water quality standards in multiple wet weather samples. Mercury was the only pollutant reported above water quality standards in dry weather.

3. Pathogens

Storm water runoff is a common contributor of pathogens and bacteria to watersheds. Wastes from warm-blooded animals are a source for many types of pathogenic (disease-causing) bacteria found in surface waters, including the coliform group. Total coliform, fecal coliform, E. coil, Enteroccus, and Bacteroides bacteria are used to indicate the possible of sewage and pathogenic bacteria that also live in human and animal digestive systems. Sources of these pathogenic

bacteria include domestic pet waste, wildlife, livestock, and human contributions from leaking sewage collection systems and homeless encampments.

The most common fecal bacteria indicators used to assess the human health risk from recreation beneficial uses are total coliform, fecal coliform, E. coil, and Enterococcus bacteria. E. coli and Enterococcus bacteria are appropriate indicators of fecal contamination in fresh water and human health risk from water contact recreation.

Elevated pathogen levels impair the water contact recreation (REC-1) beneficial use at beaches, rivers, creeks, estuaries, lagoons, and marinas. Swimming in waters with elevated pathogens has been associated with adverse health effects.

The Co-Permittee's outfall chemical water monitoring program included analysis of fecal coliform, E. coli, and Enterococcus bacteria in both wet weather and dry weather flows. Levels reported in outfall samples confirm the presence of bacteria at elevated concentrations. Additionally the Sonoma County Water Agency's receiving water chemical monitoring program includes the same parameters. Levels reported in receiving water samples also confirmed the presence of bacteria at elevated levels in both the upstream and downstream sample locations.

4. Nutrients

Storm water is a documented source of nutrients to receiving waters. The Total Maximum Daily Load (TMDL) and Waste Reduction Strategy for the Laguna de Santa Rosa, Sonoma County developed by Regional Water Board staff and approved by U.S. EPA in 1995, identifies storm water runoff as a significant source of nutrient loading in the Laguna watershed.

Sources of nutrients include fertilizers which are transported in storm water runoff from agricultural lands, orchards, nurseries, parks, golf courses, and residential and commercial landscaping; detergents which enter storm water through wash water waste from car washes and mop water being improperly disposed; sewage including pet waste, septic systems and livestock; and natural sources such as the decomposition of plants, rocks and soil, and air deposition.

Eutrophication is the process by which a body of water acquires a high concentration of nutrients which promote excessive growth of algae. The decomposition of algae results in oxygen depletion and a drop in dissolved oxygen. Excess nutrients in the form of nitrogen and phosphorus can stimulate the growth of algae, thus accelerating the eutrophication process. Low dissolved oxygen can result in an impact to beneficial uses, primarily the impairment of warm freshwater habitat, cold freshwater habitat, and wildlife habitat.

Co-Permittee outfall monitoring included the analysis of parameters to characterize nutrient concentrations in storm water runoff. Additional data collection is necessary to continue to evaluate the concentration of nutrients entering surface water from storm water runoff. Additionally, sampling efforts will include calculating estimated nutrient loads contributing to surface water through storm water runoff.

5. Pesticides

Pesticides are chemicals used to prevent, destroy, repel or mitigate pests such as insects, weeds, and microorganisms. Pesticides can cause adverse health effects on fish and wildlife causing aquatic toxicity and can impacted through both direct and indirect exposure. Pesticides enter storm water runoff from overuse and application on landscaping and agricultural lands.

6. Pollutants Associated with Vehicles

Vehicle use and maintenance activities contribute a variety of pollutants into the environment including: coolants, antifreeze, oil, grease, dioxins, polycyclic aromatic hydrocarbons and petroleum hydrocarbons like gasoline and diesel. Sources of these pollutants in storm water include spills, leaks, exhaust, wash water, and improper chemical disposal from maintenance activities.

7. Trash

Trash discarded on land frequently makes its way into surface water as storm water runoff transports trash through MS4 systems. Common types of trash generated by human activity found in surface water often include cigarette butts, paper, fast food containers, plastic grocery bags, cans, bottles, used diapers, plastic pellets, old tires, appliances and more. Trash is a significant pollutant that can impact beneficial uses that support aquatic life, terrestrial wildlife, and public health.

8. Sediment

Storm water can be a significant source of sediment in waterways through two primary mechanisms: transport of large volumes of sediment from impervious surfaces and developed landscapes into stream channels; or through destabilization of the stream channel and stream bed from excess hydraulic energy leading to erosion within the stream channel.

Some types of sediment (sands and gravels) are natural components of stream systems and often provide benefits for aquatic habitat. However, excessive fine sediments may impact freshwater habitat leading to damage to fish gills, reduced feeding efficiency and ability to avoid predation due to impaired visibility, impact to plant growth from reduced light penetration, filling of fish spawning areas, and reduced survival rates of fish eggs.

In addition to the direct impact excessive sediment has on the beneficial uses of receiving water, sediment itself can be contaminated with other forms of pollutants including pesticides, polychlorinated biphenyls, nutrients, petroleum hydrocarbons, PAHs, and inorganic elements.

9. Temperature

Storm water flows may alter the natural temperature regime of waters through direct differences in runoff temperature versus natural flows. Direct flows can be warmer than the receiving water, which can lead to temperature stress in many cold water aquatic species. For example, increased runoff from impervious surfaces may increase the temperature of receiving waters. The impact of warmer flows can also

be less direct. It can cause the stream to have lower oxygen because warmer water has a lower oxygen saturation potential, and therefore lower dissolved oxygen.

C. Best Management Practices

The State Water Board finds in Order No. WQ 98-01 that BMPs are effective in reducing pollutants in storm water runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." A State Board Technical Advisory Committee Report further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [BMPs] in the following order:

1. Pollution Prevention-implementation of practices that use or promote pollution free alternatives;
2. Source Control-implementation of control measures that focus on preventing or minimizing storm water runoff from contacting pollution sources; and
3. Treatment Control-implementation of practices that require treatment of polluted runoff either onsite or offsite.

Pollution prevention, the reduction or elimination of pollutant generation at its source is an essential aspect of effective BMP implementation. Fewer pollutants are available to be washed from urban areas when the generation of pollutants by urban activities is limited. Thus, pollutants loads in storm water discharges are reduced from these areas. Pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.

This Order requires the use of BMPs shown to be effective for activities covered under this Order. The BMPs identified in this Order are technically feasible, practicable, and cost-effective. Consistent with California Water Code section 13360, where an identified BMP may be impracticable on a particular site or for a specific activity, this Order includes a provision to select and implement alternative BMPs.

This Order is consistent with 40 CFR 122.26 (d)(2)(iv)(A) which states that the storm water management program shall include "structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the [MS4} that are to be implemented during the life of the permit."

D. Municipal Storm Water Compliance Inspections

On April 4, 2014, Regional Water Board staff conducted an inspection of the City of Santa Rosa's Development Construction Program. No violations were identified as a result of the inspection. However, inspection staff identified areas of the program needing improvement or further development. The area most notable for needing improvement was record keeping of construction site inspections. While it is evident the City of Santa Rosa has developed and implemented procedures consistent with the Development Construction Program requirements in Order No. R1-2009-0050, City staff could not provide evidence of inspections based on the frequency required.

Regional Water Board staff also conducted an inspection of the County of Sonoma's Development Construction Program, with a specific focus on private development. The inspection took place on May 13, 2014. Similar to the City of Santa Rosa, no violations were identified, but the record keeping of inspection was inconsistent and in need of improvement in order to demonstrate compliance.

As a result of these two inspections, this Order incorporates more details on requirements to record and document inspections required at construction projects.

E. Order is Not An Unfunded Mandate

This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, section (6) of the California Constitution for several reasons, including, but not limited to, the following.

First, this Order implements federally mandated requirements under federal Clean Water Act section 402, subdivision (p)(3)(B). (33 U.S.C. section 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (Natural Resources Defense Council, Inc. v. U.S. E.P.A. (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.) The authority exercised under this Order is not reserved state authority under the Clean Water Act savings clause (cf. Burbank v. State Water Resources Control Bd. (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. section 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region (2006) 135 Cal.App.4th 1377, 1389; Building Industry Ass'n of San Diego County v. State Water Resources Control Bd. (2004) 124 Cal.App.4th 866, 882-883.)

Second, the Co-Permittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the Clean Water Act regulates the discharge of pollutants from point sources (33 U.S.C. section 1342) and the Porter-Cologne regulates the discharge of waste (California Water Code section 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See County of Los Angeles v. State of California (1987) 43 Cal.3d 46, 57-58.)

The Clean Water Act and the Porter-Cologne Water Quality Control Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Except for MS4s, the Clean Water Act requires point source dischargers, including discharges of storm water associated with industrial or

construction activity, to comply strictly with water quality standards. (33 U.S.C. section 1311(b)(1)(C), Defenders of Wildlife v. Browner (9th Cir. 1999) 191 F.3d 1159, 1164-1165.) As discussed in prior State Water Board decisions, this Order does not require strict compliance with water quality standards. (SWRCB Order No. WQ 2001-15, p. 7.) The Order, therefore, regulates the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Third, the Co-Permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The Fact Sheet demonstrates that numerous activities contribute to the pollutant loading in the MS4. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles (2001) 24 Cal.4th 830, 842.) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (County of Fresno v. State of California (1991) 53 Cal.3d 482, 487-488.)

Fourth, the Co-Permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. section 1311(a)) and in lieu of numeric restrictions on their discharges. To the extent the local agencies have voluntarily availed themselves of the permit; the program is not a state mandate. (Accord County of San Diego v. State of California (1997) 15 Cal.4th 68, 107-108.) Likewise, the Co-Permittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limits approach. (See City of Abilene v. U.S. E.P.A. (5th Cir. 2003) 325 F.3d 657, 662-663.) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See Environmental Defense Center v. U.S.EPA (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIIIB, section (6) of the California Constitution.

III. APPLICABLE STATUES, REGULATIONS, PLANS, AND POLICIES

The provisions contained in this Order are based on the requirements and authorities described below.

A. Legal Authorities-Federal Clean Water Act and California Water Code

This Order is issued pursuant to section 402 of the federal Clean Water Act and implementing regulations adopted by the US EPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It serves as an NPDES permit for point source discharges from these facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).

B. Federal and California Endangered Species Acts

This Order does not authorize any act that results in the taking of a threatened or endangered species or an act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Wildlife Code section 2050 to 21155.5) or the Federal Endangered Species Act (16 U.S.C.A., section 1531 to 1544). This Order requires compliance with requirements to protect the beneficial uses of waters of the United States. Co-Permittees are responsible for meeting all requirements of the applicable Endangered Species Act.

C. California Environmental Quality Act (CEQA)

This action to adopt an NPDES Permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code, section 21100, et seq.) pursuant to California Water Code section 13389. The renewal of the NPDES permit is also exempt from CEQA pursuant to Title 14, California Code of Regulations, section 15301, as an existing facility.

D. Water Quality Control Plans

The Clean Water Act requires the Regional Water Board to establish water quality standards for each water body in its region. Water quality standards include beneficial uses, water quality objectives, and criteria that are established at levels sufficient to protect those beneficial uses, and an Antidegradation policy to prevent degrading waters. For the North Coast Region these standards are established in the Water Quality Control Plan for the North Coast Region (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the North Coast Region. The Regional Water Board has amended the Basin Plan on multiple occasions since the initial adoption. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Russian River are provided in Attachment B of this Order.

E. Ocean Plan

In 1972, the State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (hereinafter Ocean Plan). The State Water Board adopted the most recent amended Ocean Plan on October 12, 2012, with a August 19, 2013 effective date. The Ocean Plan is applicable, in its entirely, to ocean waters of the State. In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation.

F. The Coastal Zone Act Reauthorization Amendments of 1990

The Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Section 6217(g), requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas,

and hydromodification. In September 1995, the State Water Board and the California Coastal Commission submitted the state's response to the CZARA requirements. In lieu of a separate state program for the coastal zone, the state decided to apply the CZARA requirements on a statewide basis. This Order does address some CZARA requirements (urban and hydromodification) within the permit area. However, this Order does not address the CZARA management measures required for the coastal areas that are not included within the permit boundary. Compliance with requirements specified in this Order does not relieve the Co-Permittees from developing a non-point source plan for other programs identified under CZARA.

G. National Toxics Rule (NTR) and California Toxics Rule (CTR)

U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

H. State Implementation Policy

On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

I. Trash Provisions of the State Water Board's Water Quality Control Plan

On April 7, 2015, the State Water Board adopted the Amendment to the Water Quality Control Plan for the Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Trash Amendment). The Trash Amendment includes six elements: (1) a water quality objective, (2) applicability, (3) prohibition of discharge, (4) implementation of provisions, (5) time schedule, and (6) monitoring and reporting requirements. The discharges from MS4s covered in this Order are subject to the requirements set forth in the Trash Amendment. Upon the Trash Amendments taking effect, the Co-Permittees will receive notification of the timing and schedule to incorporate requirements into this Order.

J. State Board Order WQ 2015-0075

On May 22, 2015, the Regional Water Board circulated its notice of public hearing for Order WQ 2015-0075 and invited public comment up to June 6, 2015. On June 16, 2015,

the State Water Board adopted Order WQ 2015-0075, *In the Matter of Review of Order No. R4-2012-0175, NPDES Permit No. CAS004001, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4.* State Water Board Order WQ 2015-0075 directs the Regional Water Boards to consider a watershed-based planning and implementation approach to compliance with receiving water limitations when issuing Phase I MS4 permits going forward. Order WQ 2015-0075 provides specific principles that would apply when incorporating an alternative compliance pathway into an MS4 permit.

The Regional Water Board did not receive any comments relating to the State Water Board's Order, and find that the development of this Order is too far advanced to make any meaningful amendments in response to the State Water Board's Order. However, the Regional Water Board will work with Co-Permittees who want to pursue an alternative approach to compliance in the future, in response to a new TMDL or in the next iteration of this Order. Co-Permittees are encourage to work together on an alternative compliance approach in advance of such alterations to this or future Orders.

K. Alaska Rule

On March 30, 2000, U.S. EPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for Clean Water Act purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to U.S. EPA after May 30, 2000, must be approved by U.S. EPA before being used for Clean Water Act purposes. The final rule also provides that standards already in effect and submitted to U.S. EPA by May 30, 2000, may be used for Clean Water Act purposes, whether or not approved by U.S. EPA.

L. Antidegradation Policy

State Water Board Resolution No. 68-16 contains the State Antidegradation Policy, titled "Statement of Policy with Respect to Maintaining High Quality Waters in California" (Resolution 68-16); this policy applies to all waters of the State, including ground waters of the State, whose quality meets or exceeds (is better than) water quality objectives. Resolution No. 68-16 incorporates the federal Antidegradation Policy (40 CFR section 131.12) where the federal policy applies, (State Water Board Order WQO 86-17). Both state and federal antidegradation policies acknowledge that an activity that results in a minor water quality lowering, even if incrementally small, can result in violation of Antidegradation Policies through cumulative effects, for example, when the waste is a cumulative, persistent, or bioaccumulative pollutant.

Federal Antidegradation Policy (40 CFR section 131.12) states that the State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:

1. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2. Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control**.**

3. Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

State Water Board Resolution No. 68-16 establishes essentially a 2-step process for compliance with the state anti-degradation policy.

1. Step 1: if a discharge will degrade high quality water, the discharge may be allowed if any change in water quality:

- **a.** Will be consistent with maximum benefit to the people of the State;
- **b.** Will not unreasonably affect present and anticipated beneficial use of such water; and
- **c.** Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in Water Quality Control Plans).

2. Step 2: any activities that result in discharges to high quality waters are required to:

- **a.** Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance.
- **b.** Maintain the highest water quality consistent with the maximum benefit to the people of the State.
- **c.** If such treatment or control results in a discharge that maintains the existing water quality, then a lowering of water quality would not be consistent with State Antidegradation Policy.
- **d.** Likewise, the discharge could not be allowed under State Antidegradation Policy if:
  - **i.** The discharge, even after treatment, would unreasonably affect beneficial uses; or
  - **ii.** The discharge, would not comply with applicable provisions of Water Quality Control Plans.

The discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16 because the Order requires the Co-Permittees to meet best practicable treatment or control to meet water

quality standards. As required by 40 CFR 122.44(a), the Co-Permittees must comply with the "maximum extent practicable" technology-based standard set forth in Clean Water Act section 402(p) for discharges of pollutants in storm water from the MS4s.

Many of the waters within the area covered by this Order are impaired for multiple pollutants discharged through MS4s and are not high quality waters with regard to these pollutants. In most cases, there is insufficient data to determine whether these water bodies were impaired as early as 1968, but the limited available data shows impairment dating back for more than two decades. Many such water bodies are listed on the State's Clean Water Act Section 303(d) List. This Order ensures that existing instream (beneficial) water uses and the level of water quality necessary to protect the existing uses is maintained and protected. This Order requires compliance with receiving water limitations to meet water quality standards in the receiving water. This Order includes requirements to develop and implement storm water best management practices and effectively prohibit non-storm water discharges into the MS4. The issuance of this Order does not authorize an increase in the amount of discharge of waste.

To the extent that water bodies within the area covered by this Order are high quality waters with regard to some constituents, this Order finds as follows:

Allowing limited degradation of high quality water bodies through MS4 discharges is necessary to accommodate important economic or social development in the area and is consistent with the maximum benefit to the people of the state. The discharge of storm water in certain circumstances is to the maximum benefit to the people of the state because it can assist with maintaining instream flows that support beneficial uses, may spur the development of multiple-benefit projects, and may be necessary for flood control, and public safety as well as to accommodate development in the area. The alternative – capturing all storm water from all storm events – would be an enormous opportunity cost that would preclude MS4 Co-Permittees from spending substantial funds on other important social needs. The Order ensures that any limited degradation does not affect existing and anticipated future uses of the water and does not result in water quality less than established standards. The Order requires compliance with receiving water limitations that act as a floor to any limited degradation.

The Order requires the highest statutory and regulatory requirements and requires that the Co-Permittees meet best practicable treatment or control. The Order prohibits non-storm water discharges, with a few enumerated exceptions, through the MS4 to the receiving waters. As required by 40 CFR section 122.44(a), the Co-Permittees must comply with the "maximum extent practicable" technology-based standard set forth in CWA section 402(p), and implement extensive minimum control measures in a storm water management program.

M. Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the Clean Water Act and federal regulation at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. This Order is consistent with anti-backsliding requirements.

N. Impaired Water Bodies and Total Maximum Daily Loads

Section 303(d) of the Clean Water Act and 40 CFR section 130.7 require states to identify water bodies that do not meet water quality standards and are not supporting their beneficial uses. These waters are placed on the Section 303(d) List of Water Quality Limited Segments, also known as the 303(d) List of Impaired Water Bodies. The 303(d) List identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. Placement on the 303(d) List generally triggers development of a pollution control plan called a Total Maximum Daily Load (TMDL) for each listed water body and associated pollutant/stressor.

A TMDL is a process that leads to a "pollutant budget" designed to restore the health of a polluted or impaired water body. The TMDL process provides a quantitative assessment of water quality problems, contributing sources of pollution and the pollutant load reductions or control actions needed to restore and protect the beneficial uses of an individual water body impaired from loading of a particular pollutant. More specifically, a TMDL is defined as the sum of the individual waste load allocations for point sources, load allocations for non-point sources, and natural background such that the capacity of the water body to assimilate pollutant loading (the loading capacity) is not exceeded. In other words, a TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. In addition, the TMDL contains the reductions needed to meet water quality standards and allocates those reductions among the pollutants sources in the watershed.

MS4 discharges regulated in this Order discharge to 303(d)-listed receiving water bodies. A list of impaired water bodies within the Russian River Watershed are provided in Table F-3. The list includes an identification of Co-Permittees who discharge to a given impaired segment of the Russian River.

Table F-3: Russian River Watershed Impairments

Hydrologic Unit/Area/Subunit	Listing Extent	Impairments
Russian River HU: Lower Russian River HA, Guerneville HSA	Entire water body	Sedimentation/Siltation Temperature
	Mainstem Russian River at Healdsburg Memorial Beach from the Railroad Bridge to Highway 101	Indicator Bacteria Specific Conductivity Aluminum
	Mainstem Russian River at Fife Creek to Dutch Bill Creek	Indicator Bacteria Aluminum
	Mainstem Dutch Bill Creek	Indicator Bacteria
Russian River HU: Lower Russian River HA, Green Valley Creek Watershed	Entire Water Body	Indicator Bacteria Oxygen, Dissolved
Russian River HU: Lower Russian River HA, Austin Creek HAS		Temperature Sedimentation/Siltation
Russian River HU:	Entire Water Body	Dissolved Oxygen

Hydrologic Unit/Area/Subunit	Listing Extent	Impairments
Middle Russian River HA, Laguna HSA, mainstem Laguna de Santa Rosa		Mercury Indicator Bacteria Phosphorus Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, tributaries to the Laguna de Santa Rosa (except Santa Rosa Creek and its tributaries)	Mainstem Colgan Creek	Oxygen, Dissolved
	Entire Water Body	Indicator Bacteria Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, Mark West Creek downstream of the confluence with the Laguna de Santa Rosa	Entire Water Body	Aluminum Oxygen, Dissolved Phosphorus Manganese Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, Mark West Creek HSA, mainstem Mark West Creek upstream of the confluence with the Laguna de Santa Rosa	Entire Water Body	Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, tributaries to Mark West Creek (except Windsor Creek and its tributaries)	Entire Water Body	Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, Mark West HSA, Windsor Creek and its tributaries	Entire Water Body	Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, mainstem Santa Rosa Creek HSA	Entire Water Body	Indicator Bacteria Sediment/Siltation Temperature
Russian River HU: Middle Russian River HA, Santa Rosa HSA,	Spring Lake	Mercury
	Entire Water Body	Indicator Bacteria Sedimentation/Siltation

Hydrologic Unit/Area/Subunit	Listing Extent	Impairments
tributaries to Santa Rosa Creek		Temperature
Russian River HU: Middle Russian River HA, Warm Springs HSA		Sedimentation/Siltation Temperature
Russian River HU: Middle Russian River HA, Geyserville HSA	Entire Water Body	Sedimentation/Siltation Temperature
	Stream 1 on Fitch Mountain	Indicator Bacteria
	Foss Creek	Diazinon
Russian River HU: Middle Russian River HA, Big Sulphur Creek HSA		Sedimentation/Siltation Temperature
Russian River HU: Upper Russian River HA, Ukiah HSA	Mainstem Russian River	Aluminum
	Entire Water Body	Sedimentation/Siltation Temperature

1. Laguna de Santa Rosa TMDL

On March 1, 1995, the Regional Water Board approved TMDLs for the Laguna de Santa Rosa (Laguna) watershed, which consists of the Laguna de Santa Rosa, Mark West Creek, and Santa Rosa Creek HSAs. These TMDLs assigned numeric, seasonal targeted reductions and net load goals for total nitrogen and total ammonia in urban storm water in four areas of the Laguna watershed. On May 4, 1995, the U.S. EPA approved the TMDLs and the Waste Reduction Strategy for the Laguna de Santa Rosa (Strategy). The Strategy anticipated the TMDL implementation would reduce total nitrogen, ammonia, total phosphate, and organic matter discharges to the Laguna. This would lead to a reduction of algal productivity and reduce the daily dissolved oxygen and pH excursions in the Laguna. The Strategy anticipated attaining the targeted reductions and net load goals by July 2000.

The Strategy found that storm water and non-storm water runoff from MS4 systems contributed to the impairment of the Laguna. The City of Santa Rosa, the City of Rohnert Park, the City of Cotati, the City of Sebastopol, and the Town of Windsor were identified as urban areas contributing to the impairment of the Laguna from the MS4 discharges. Additionally, the Strategy identified the County of Sonoma urban areas within the Laguna also contributing to the impairments and recommended that the County of Sonoma develop a storm water management program as a Co-Permittee with the City of Santa Rosa.

The Strategy was based on a watershed approach and proposed targeting specific pollutant sources found within different areas of the watershed. The Laguna watershed was divided into four attainment areas, the lowermost point in the stream for each area being the point of attainment. The points of attainment and net

load goals for total nitrogen in urban runoff are listed in Table F-3 and net load goals for total ammonia in urban runoff in Table F-4.

Table F-4: Laguna TMDL Net Load Goals for Total Nitrogen (pounds/season) in Urban Runoff

Attainment Point	Winter Net	Spring Net	Summer Net	Fall Net
Trenton-Healdsburg Road	182, 353	11,789	0	7,718
Guerneville Road	129,960	5,321	0	2,543
Occidental Road	42,025	1,161	0	514
Stony Point Road	17,054	1,161	0	514

Table F-5: Laguna TMDL Net Load Goals for Total Ammonia (pounds/season) in Urban Runoff

Attainment Point	Winter Net	Spring Net	Summer Net	Fall Net
Trenton-Healdsburg Road	16,174	942	0	539
Guerneville Road	11,593	376	0	140
Occidental Road	3,589	50	0	10
Stony Point Road	1,318	50	0	10

The net loads for total nitrogen and total ammonia were developed in the TMDLs as goals and did not establish firm compliance dates. These are not enforceable net loads and are included here for reference only.

This Order requires implementation of BMPs to address, control, and minimize the discharge of nutrients in storm water and non-storm water runoff to receiving water. Required BMPs that are intended to address nutrients include public education and outreach on proper handling and disposal of fertilizers; lawn watering conservation and minimizing over-irrigation; residential car wash education; inspections of local nurseries and landscape material retailers; low impact development and storm water treatment post-construction BMPs; control of sediment (to which nutrients may be attached); and a multitude of BMPs at municipal facilities involving proper handling, use, and disposal of fertilizers and soap products.

Regional Water Board staff is currently in the process of developing updated TMDLs for the Laguna watershed for nitrogen, phosphorus, sediment, temperature, and dissolved oxygen. Co-Permittees with an MS4 discharge located within the Laguna watershed will be subject to waste load allocations and implementation plans to meet those allocations. Waste load allocations in the updated TMDLs will replace the net load goals of the current Strategy. It is anticipated that the requirements related to MS4 discharges for each Co-Permittee's implementation plan, which may include options for compliance through the use of offsets, pollutant trading, or other market-based regulatory programs, will be incorporated into future MS4 permits and will be used as the primary regulatory tool for TMDL compliance.

2. Russian River Pathogen TMDL

Regional Water Board staff is currently in the process of developing a TMDL to address the impairment of indicator bacteria in the Russian River. Storm water

runoff is a source of bacteria to receiving water. Co-Permittees with an MS4 discharge located within the Russian River watershed are subject to waste load allocation and implementation plan to meet those allocations. It is anticipated that the requirements related to MS4 discharges for each Co-Permittee's implementation plan will be incorporated into future MS4 permits, or possibly in a renewal of this Order.

O. North Coast Regional Water Board's Temperature Policy

The Regional Water Board has approved a Policy for the Implementation of the Water Quality Objectives for Temperature (Temperature Policy) in the North Coast Region. The Temperature Policy describes the approach to implementing the water quality objectives for temperature in one cohesive policy. It identifies activities and factors that have potential to cause temperature alterations, primarily those associated with riparian shade, instream flow, and increased sediment loads. The Temperature Policy identifies the regulatory mechanisms staff will employ to ensure achievement of the water quality objectives for temperature, such as permits. The Temperature Policy also describes the significance of stream shade as a factor determining stream temperatures and identifies shade as a controllable water quality factor. Finally, the Temperature Policy directs staff to address temperature concerns through existing authorities and processes. This Order implements the Temperature Policy.

P. Legal Authority

The legal authority citations below generally apply to requirements in Order No. R1-2015-0030 (Order), and provide the North Coast Regional Water Board (Regional Water Board) with the underlying authority to require each of the requirements within the Order.

Q. Federal Clean Water Act

Section 402 of the Clean Water Act prohibits the discharge of any pollutant to water of the United States from a point source, unless that discharge is authorized by an NPDES permit. The Clean Water Act defines point source as "discernible, confined and discrete conveyances, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged, 33 U.S. Code section 1362. Though storm water runoff comes from a diffuse source, it is discharged to receiving waters through an MS4, it is considered a point source under the Clean Water Act.

In 1987, the United States Congress amended the Clean Water Act section 402 to specifically require storm water discharges, including those from municipalities with populations over 100,000 or greater, conveyed by a separate storm sewer system, to be addressed as point sources of pollution under the NPDES permit program. Section 402(p) prohibits the discharge of pollutants from specified MS4s to waters of the United States, except as authorized by an NPDES permit and identifies the substantive standards for MS4 permits. MS4 permits (1) "shall include a requirement to effectively prohibit non-storm water discharges into storm sewers" and (2) "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such

other provisions as the Administrator or the State determines appropriate for the control of such pollutants, "the Clean Water Act 402(p)(3)(B)(ii-iii).

On November 16, 1990, pursuant to the Clean Water Act section 402(p), the USEPA promulgated regulations at section 122.26 of title 40 of the Code of Federal Regulations which established requirements for storm water discharges under the NPDES program. The regulations establish minimum requirements for MS4 permits addressing both storm water and non-storm water discharges from MS4s.

The Clean Water Act authorizes U.S. EPA to permit a state to serve as the NPDES permitting authority in lieu of U.S. EPA. The State of California has in lieu authority for the NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Water Board, through Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State. On September 22, 1989, the State Water Board entered into a Memorandum of Agreement (MOA) with U.S. EPA to administer the NPDES Program governing discharges to waters of the United States.

IV. RATIONALE FOR DISCHARGE PROHIBITIONS

A. Discharge Prohibition III.A. The discharges of storm water and non-storm water from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance is water of the State are prohibited. This prohibition is based on section 13050 of the Californian Water Code and has been retained from Order No. R1-2009-0050.

1. Section 13050(l) of the California Water Code defines "pollution" as (1)" alternative of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses. (B) Facilities which serve these beneficial uses. (2) Pollution may include contamination."

2. Section 13050(k) defines "contamination" as "an impairment of the quality of the waters of the state be waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. Contamination includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected."

3. Section 13050(m) defines "nuisance" as "anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes."

B. Discharge Prohibition III.B. The discharges from the MS4 shall be in compliance with the applicable discharge prohibitions contained in the Basin Plan, unless the Action Plan for Storm Water Discharges is implemented. (Basin Plan, Chapter 4, Implementation Plan).

Section 13243 of the California Water Code authorizes the Regional Water Board, within the Basin Plan, to specify certain conditions or areas where the discharge of waste, or certain types of waters, will not be permitted. Such prohibitions for the North Coast Basin are prescribed within the Basin Plan. For the Russian River and its tributaries this

includes a prohibition of all point sources during the period of May 15 through September 30 and during all other periods when the waste discharge flow is greater than one percent of the receiving water's flow.

Permitted storm water and low threat non-storm water flows are not subject to the Basin Plan's point source discharge waste discharge prohibition provided that the following conditions are met:

1. The discharge and the activities which affect the discharge are managed in conformance with the provisions of the applicable NPDES permit.

2. The discharge does not cause adverse effects on the beneficial uses of the receiving water.

3. The Permittee shall implement a general management program to eliminate or minimize non-storm water discharges into surface waters. The program shall be submitted to the Regional Water Board for approval and include implementation of BMPs, outreach and education, inspections, monitoring, reporting and enforcement provisions.

Thus, by implementing the Action Plan for Storm Water, a Co-Permittee is "exempt" from the discharge prohibition set forth in the Basin Plan. The intent of this Prohibition is that absent of implementing the Action Plan for Storm Water, the Co-Permittee will need to comply with the discharge prohibition.

C. **Discharge Prohibition III.C** prohibits non-storm water discharges from entering into the MS4 unless such discharges are either authorized by an NPDES permit or not prohibited in accordance with a non-storm water BMP plan. The Clean Water Act section 402(p)(3)(B)(ii) requires operators of an MS4 to prohibit non-storm water discharges into their MS4.

Chapter 40 of the Federal Code of Regulations, section 122.26(d)(2)(iv)(B)(1) requires the operator of a large or medium MS4 to implement and enforce in an ordinance a means to prevent illicit discharges to the MS4. The program is to include all types of illicit discharges except for a category of non-storm water flows that are often considered "low threat" or not a significant source of pollution. This section of 122.26 includes a list of non-storm water flows that need to be a prohibited discharge if they are deemed to be a source of pollution by the municipality. This list has been incorporated into the Order for each municipality to determine (1) if the discharge is a source of pollution and must therefore be a prohibited non-storm water discharge to the MS4 or (2) conclude the discharge is not a source of pollution and allow the discharge to occur in accordance with BMPs to conduct the discharge in a manner which is not a significant source of pollution and is consistent with water quality standards.

1. Low Threat Non-Storm Water Discharges

Implementation plans for low threat non-storm water discharges are addressed in the Basin Plan under two actions plans: The Action Plan for Low Threat Discharges and the Action Plan for Storm Water Discharges. These two plans were adopted by the Regional Water Board on July 23, 2009, in Resolution No. R1-2009-0004, adopted by

the State Water Board on March 15, 2011, in Resolution No. 2011-0012, and approved by the State Office of Administrative Law on May 12, 2011. These actions were approved after the adoption of Order No. R1-2009-0050. This Order fully implements the two Action Plans as they apply to low threat discharges from the Co-Permittees' MS4s. Details of these plans are provided below.

a. The Action Plan for Low Threat Discharges

Under The Action Plan for Low Threat Discharges, the Basin Plan defines a low threat discharge as one that is generally planned, short-term, and/or of minimized volume from a definable project that results in a point source discharge to surface waters and is managed in a manner that does not threaten the quality or beneficial uses of water without additional dilution. Absent of these discharges being properly managed, however, they can cause or threaten to cause minor impairment of existing or potential beneficial uses.

The Action Plan for Low Threat Discharges is in place to identify procedures for regulating low threat point source discharges that can be demonstrated to not have an adverse impact on beneficial uses or water quality and for which there are no reasonable discharge alternatives, and thus can be allowed under conditions which would otherwise be unallowable. Low threat discharges are allowable provided they meet the following conditions:

i. The discharge shall not adversely affect the beneficial uses of the receiving water or cause a condition of nuisance.

ii. The discharge shall comply with all applicable water quality objectives.

iii. Best practicable treatment or control of the discharge shall be implemented to assure that pollution and nuisance will not occur, and the highest level of water quality consistent with maximum benefit to the people of the State will be maintained.

iv. The discharge is necessary because no feasible alternative to the discharge (reclamation, evaporation, infiltration, discharge to the sanitary sewer, etc.) is available.

v. The discharge is limited to that increment of wastewater that remains after implementation of all reasonable alternatives for reclamation or disposal.

vi. The discharge is regulated by NPDES permit/waste discharge requirements.

b. The Action Plan for Storm Water Discharges

The Basin Plan's Action Plan for Storm Water Discharges acknowledges that MS4 systems may convey certain types of non-storm water flows that were considered a low threat source of pollutants. Although these discharges pose little threat to water quality, the Action Plan for Storm Water Discharges requires permits to contain requirements to implement certain control measures to ensure that these discharges individually and cumulatively do not

adversely impact water quality. These discharges are allowable under the same conditions described above to comply with the discharge prohibition.

2. Non-Storm Water BMP Plans

In order to meet the requirements of the Clean Water Act, the Federal Code of Regulations and the North Coast Basin Plan, Co-Permittees are required to develop and implement a non-storm water BMP plan for all low threat non-storm water discharges, which will be allowable under the terms and conditions of the permit. These conditions are consistent with and implement the Action Plans in the Basin Plan. The Co-Permittees, with the exception of the City of Cloverdale, developed these plans prior to the adoption of this Order. Their plans were available for public comment prior to approval by the Executive Officer. Co-Permittees with approved plans in place by the effective of this Order do not have to re-submit plans for approval.

The City of Cloverdale, as new municipality designated in the MS4 program in 2013, had requested additional time to submit a non-storm water BMP plan. This was to allow the City of Cloverdale to prioritize their newly developing program and focus on specific priorities needed to effectively manage storm water run-off. Regional Water Board staff was agreeable to their proposed submittal date of December 31, 2015.

There are several permitting options available for a low threat discharge under the requirement for an NPDES permit/waste discharge requirements. This includes the Statewide general municipal, industrial, or construction storm water permits, Statewide general permit for utility vaults and underground structures, the North Coast's general low threat permit, and individual permits, including this Order.

For Co-Permittees with an approved non-storm BMP Plan, low threat discharges are allowed in the Co-Permittee's jurisdictional boundary by the municipality itself and third party dischargers not named as a Co-Permittee in this Order. For most covered discharges, the third party discharge does not need to apply for a separate NPDES permit, as long as the discharge is conducted in a manner that meets the terms and conditions of this Order and the approved the applicable Co-Permittee's non-storm water BMP plan. It is the Co-Permittee's responsibility to work with third party dischargers to ensure compliance with the non-storm water BMP plan.

The Co-Permittees may also make the determination that a discharge should not be covered under the non-storm water BMP plan, and a separate NPDES permit is needed. This determination may be made for a specific category of discharge or on a case-by-case basis, depending on the nature of a specific discharge. Common types of discharges that may need a separate NPDES permit include utility vault dewatering.

Also, certain types of discharges may need additional permits, besides coverage under the MS4 permit for non-storm water discharges. This could include permits and authorization to intentionally divert overflows from riparian habitats or wetlands and appropriate permits for the use of reclaimed water.

The Order also allows for the Co-Permittees to propose additional types of non-storm water flows to be included in a non-storm water BMP plan, if it can be demonstrated that the discharge meets the terms and conditions of the Order and is conducted with BMPs to reduce or eliminate the discharge. It is the Co-Permittees' responsibility to

obtain prior approval for a new type of discharge, this includes a discharge proposed by a third party.

Chapter 40 of the Federal Code of Regulations section 122.26(d)(2)(iv)(B)(1) states that a Co-Permittee's illicit discharge program only needs to address firefighting activity when such discharges or flows are identified as significant sources of pollutants to receiving waters. Unless such a determination is made, firefighting flows are exempt from the discharge prohibition. This Order, however, requires the use of BMPs during firefighting activities when possible. Additionally, BMPs are required for all training exercises and equipment maintenance.

Order No. R1-2009-0050 included a Discharge Prohibition which stated that "discharges from the MS4 which cause or contribute to exceedances of receiving water quality objectives for surface water are prohibited." Order No. R1-2009-0050 also had a Receiving Water Limitation which stated "Discharges of storm water and non-storm water from the MS4 that cause or contribute to a violation of water quality standards are prohibited." This Discharge Prohibition and Receiving Water Limitation are redundant. To address this redundancy, the Discharge Prohibition has been removed from this Order. This is consistent with other NPDES permits, which address this requirement as a Receiving Water Limitation. The Receiving Water Limitation alone provides protection to water quality and meets the intention of 40 CFR and the California Water Code.

V. RECEIVING WATER LIMITATIONS AND WATER QUALITY STANDARDS

A. Receiving Water Limitation IV.A. The discharges of storm water and non-storm water from an MS4 shall not cause or contribute to a violation of water quality standards. This receiving water limitation has been retained from Order NO. R1-2009-0050.

Water quality standards are defined in 40 CFR section 131.3(i) as provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act.

Under title 40 CFR section 131.4(a), asserts that States are responsible for reviewing, establishing, and revising water quality standards and 40 CFR section 131 subpart B sets out the criteria in which States must establish water quality standards. This is defined by:

1. Section 131.10, designation of uses, states each State must specify appropriate water uses to be achieved and protected;

2. Section 131.11, criteria, states that each State must adopt those water quality criteria that protect the designated use; and

3. Section 131.12, Antidegradation policy, states that States shall develop and adopt a statewide antidegradation policy and identify methods for implementing such policy.

This Order requires that the discharges of storm water and non-storm water from a MS4 shall not cause or contribute to a violation of water quality standards. The determination of applicable water quality standards is based on the beneficial use of the water and the

most stringent water quality criteria needed to protect those uses. Water quality standards generally consist of narrative and numeric water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, the State Implementation Policy for the California Toxics Rule, and other state or federally approved surface water quality plans.

The Clean Water Act section 402(p) does not explicitly state that municipal dischargers must meet water quality standards, but rather "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants." The U.S. EPA, the State Water Board, and Regional Water Boards have consistently maintained that MS4s must meet water quality standards.

In 1999 case law involving MS4 permits issued by the U.S.EPA to several Arizona cities (Defenders of Wildlife v. Browner, 1999, 197 F.3d 1035), the United States Court of Appeals for the Ninth Circuit upheld U.S.EPA's requirement for MS4 discharges to meet water quality standards, but it did so on the basis of U.S. EPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with water quality standards, the U.S. EPA had the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants.

This receiving water limitation is consistent with 40 CFR 122.44(d)(1)(i), which requires NPDES permit to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic) which the Director determines are or may be discharged at a level which cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

B. Receiving Water Limitation IV.B. The discharges of storm water and non-storm water from an MS4 shall not cause an alteration of natural temperature of receiving waters unless it can be demonstrated to the satisfaction of the Executive Officer that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall discharges cause temperature to increase more than 5^0 Fahrenheit above natural receiving water temperature. This receiving water limitation is based on the narrative temperature water quality objective contained in the Basin Plan.

The Basin Plan contains numerous narrative and numeric water quality objectives in which the Co-Permittees cannot cause or contribute to a violation of (as required in IV.1.). This includes a narrative objective for temperature. The Basin Plan water quality objectives are not explicitly listed in the body of this Order, but rather referenced holistically within the definition of water quality standards. However, due to the recently adopted "Policy for the Implementation of the Water Quality Objective for Temperature," this Order now states the narrative water quality objective for temperature. This water quality objective has been retained from Order No. R1-2009-0050.

VI. EFFLUENT LIMITATIONS AND ITERATIVE PROCESS

This Order does not contain effluent limitations, consistent with the State Water Board findings in Order No. WQ 91-03 and WQ 91-04 that permits can contain narrative requirements for implementation of BMPs in place of numeric effluent limits. The U.S. EPA, the State Water Board, and Regional Water Boards have previously determined that limitations necessary to meet water quality standards can be appropriate for the control of pollutants discharged by the MS4s and must be included in MS4 permits. Consistent with federal law, the State Water Board has also found it appropriate to require implementation of BMPs in lieu of numeric water quality-based effluent limitations.

State Water Board Order No. 99-05 requires Permittees to comply with discharge prohibitions and receiving water limitations through timely implementation of control measures and other actions to reduced pollution in discharges. Also consistent with Order 99-05, compliance with water quality standards in this Order is to be achieved through an iterative approach requiring the implementation of improved BMPs over time. The iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with water quality standards. If a determination is made that a Co-Permittee is causing or contributing to an exceedance of applicable water quality standards, the Co-Permittee must engage in the iterative process of proposing and implementing additional BMPs to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all MS4 permits.

Title 40 CFR section 122.44(d)(1) requires MS4 permits to include any requirements necessary to achieve water quality standards established under the Clean Water Act section 303, including State narrative criteria for water quality.

California Water Code section 13240 requires each regional water board to formulate and adopt water quality control plans for all areas within the region. California Water Code section 13050(j) defines water quality control plan consisting of a designation or establishment for the waters within a specified area of all of the following:

A. Beneficial uses to be protected.

B. Water quality objectives

C. A program of implementation needed for achieving water quality objectives.

The water quality control plan for the North Coast Region is entitled “Water Quality Control Plan for the North Coast Region” and is often referred to as the “Basin Plan.”

California Water Code section 10305(h) defines water quality objectives as the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

Federal Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D. Dischargers must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR section 122.42. These provisions are retained from Order No. R1-2009-0050.

B. General Provisions

Title 40 CFR 122.26(d)(2)(iv) requires that each Co-Permittee shall develop and implement a proposed management program which "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design, and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Proposed program may impose controls on a system wide basis, a watershed basis, a jurisdictional basis, or on individual outfalls. Proposed management programs shall describe priorities for implementing controls. "

1. Maximum Extent Practicable

The Clean Water Action section 402(p)(3)(B)(iii) requires municipalities to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design, and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

The maximum extent practicable standard requires Co-Permittees to apply BMPs that are effective in reducing or eliminating the discharge of pollutants to the waters of the United States. The maximum extent practicable standard emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff.

The maximum extent practicable standard is ever-evolving, flexible, and advancing concept, which considers technical and economically feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which the standard for meeting maximum extent practicable. BMP development is a dynamic process and may require changes over time as the Co-Permittees gain experience and/or the state of the science and art of storm water treatment and control progresses. Co-Permittees must choose effective BMPS, and reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. This is consistent with the State Water Board's Office of

Chief Counsel February 11, 1993 memorandum regarding the "Definition of Maximum Extent Practicable."

Further, because local communities vary, some BMPs may be more effective in one community than in another. The Maximum Extent Practicable standard is the cumulative result of implementing, evaluating, and creating corresponding changes to a variety of technically appropriate and economically feasible BMPS, ensuring that the most appropriate BMPs are implemented in the most effective manner.

Consistent with federal regulations and State Water Board this Order allows the Co-Permittees to implement BMPs to comply with the requirements of this Order.

2. Legal Authority

This Order requires each Co-Permittee to establish and maintain adequate legal authority through ordinance or other such similar means to control discharges to the MS4. This requirement is consistent with 40 CFR 122.26(d)(1)(ii) which states requires the Co-Permittees to describe legal authority to control discharges to the MS4 and 122.26(d)(2)(i) which states each Co-Permittee can operate pursuant to legal authority established by statue, ordinance, or series of contract which authorizes or enables the applicant at a minimum to:

a. 122.26(d)(2)(i)(A): control through ordinance, permit contract, order or similar means, the contribution of pollutants to the [MS4] by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

b. 122.26(d)(2)(i)(B): prohibit through ordinance, order or similar means the discharge to a municipal separate storm sewer;

c. 122.26(d)(2)(i)(C): control through ordinance, order or similar means the discharge to a [MS4] of spills, dumping or disposal of materials other than storm water;

d. 122.26(d)(2)(i)(D): control through interagency agreements among (Co-Permittees) the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

e. 122.26(d)(2)(i)(E): require compliance with conditions in ordinances, permits, contracts or orders; and

f. 122.26(d)(2)(i)(F): Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the [MS4].

As operators of the MS4, each Co-Permittee cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the United States, each Co-Permittee essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a exceedance of water quality standards.

Clean Water Act section 402(p) requires operators of MS4s to prohibit non-storm water discharges into their MS4s. This is necessary because pollutants which enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters without any sort of treatment. If a municipality does not effectively prohibit unauthorized non-storm water discharges, it is providing the pathway through the MS4, which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service.

Furthermore, third party discharges may cause a Co-Permittee to be out of compliance with its permit. Since pollutants from third parties which enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of Co-Permittee non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Co-Permittee must prohibit and/or control discharges from third parties to its MS4. U.S. EPA supports this concept when it states "the operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" and "the operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges.

At a minimum, by providing free and open access to the MS4s that convey discharges to waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."[16]

Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the United States unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into MS4s must be reduced to the maximum extent practicable using a combination of management measures, including source control, and an effective MS4 maintenance program implemented by each Co-Permittee.

Enforcement of local storm water runoff related ordinances, permits, and plans is an essential component of every storm water runoff management program and is specifically required in the federal storm water regulations and this Order. Each Co-Permittee is individually responsible for adoption and enforcement of ordinances and or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.

The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of storm water runoff from third party activities and land uses to their MS4.17 In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing storm

[16] Federal Register/Vol. 64, No. 235/Wednesday, December 8, 1999/Rules and Regulations. p. 68765-68766.
[17] U.S.EPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

water runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. When a Co-Permittee determines a violation of its storm water ordinance, it must pursue correction of the violation.

Without enforcement, third parties do not have incentive to correct violations. U.S.EPA supports enforcement by municipalities when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described."[18]

Adequate legal authority is required for each Co-Permittee to implement and enforce their storm water programs. Without adequate legal authority, Co-Permittees would be unable to perform many vital program elements such as performing inspections and requiring installation of control measures. In addition, Co-Permittees would not be able to conduct enforcement activities, assess penalties, and/or recover costs of remediation. Enforcement of local storm water runoff related ordinances, permits, and plans are an essential component of every storm water runoff management program and is specifically required by federal regulations and this Order.

Each Co-Permittee is required to have adequate legal authority no later than one year after the effective date of this Order. Most Co-Permittees already have adequate legal authority. The Co-Permittees have been given the first year of this Order to review their legal authority and determine if it is consistent with this Order.

3. Fiscal Resources

This Order requires each Co-Permittee to provide an annual fiscal analysis of the capital necessary to comply with the Order, including the source of funds used in the past year and proposed for the upcoming year. This is a requirement consistent with 40 CFR 122.26(d)(2)(vi) which states "for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds."

This requirement is necessary to show that the Co-Permittee has adequate resource to meet all of the requirements of this Order. The analysis can also show year-to-year changes in funding the storm water program. A summary of the annual analysis must be reported in the annual report. This report will help the Regional Water Board understand the resources that are dedicated to compliance with this Order, to implement and enforce on the storm water program, and track how this changes over time. This requirement has been retained from Order No. R1-2009-0050.

[18] U.S.EPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA/833-B-92-002.

4. Storm Water Management Plan

The requirement to maintain a Storm Water Management Plan (SWMP) has been removed from this Order. Historically, Permittees have developed and submitted a Storm Water Management Plan (SWMP) as part of the permit application. The intent of the SWMP was to identify specific tasks and programs the Permittee would develop and implement to reduce the discharge of pollutants in storm water to the maximum extent practicable in a manner designed to achieve compliance with water quality standards. The SWMP would define the actions and sets measureable goals that will meet the maximum extent practicable standard. The Permittee would then be required as part of the NPDES permit, to implement the BMPs identified in the SWMP.

However, beginning with Order No. R1-2009-0050, the development of the storm water NPDES permits evolved. These permits used to provide general requirements, allowing the Permittee to develop a customized storm water program, documented in a SWMP. Now, requirements are more prescriptive and imbed specific BMPs directly into the permit. Essentially, permits now provide the framework for Permittees to reduce pollution in storm water runoff to the maximum extent practicable, the same standard used to develop a SWMP. This level of prescriptiveness within the permit is equivalent to the details provided in the SWMP. The Permittee can now use the permit itself as the SWMP. The elimination of the SWMP cuts out redundant requirements and allows the Permittees to better utilize resources in other areas the program.

C. Special Provisions

1. Public Information and Participation Program (PIPP)

a. General

This Order requires each Co-Permittee to develop and implement a Public Information and Participation Program (PIPP). The objectives of the program are to educate the general public on storm water runoff, the adverse impact of storm water pollution on receiving waters and potential solutions to mitigate the impacts. The program also sets out to educate the public on proper disposal of various types of waste with the intention of eliminating the use of the MS4 system as a disposal method. Additionally, the program is used to facilitate public engagement on participating in achieving a healthy watershed. This requirement is consistent with 40 CFR section 122.26(d)(2).

Implementation of a PIPP is a critical part of an effective storm water management program. The State Water Board Technical Advisory Committee "recognized that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problem." The US EPA's Phase I Fact Sheet 2.3 (Fact Sheet 2.3) finds that "an informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (1) Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (2) Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and

other in the community, including the individual actions they can take to protect or improve the quality of area waters."

Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and, therefore, should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program because it allows for:

Broader public support since residents who participate in the development and decision making process are partially responsible for the program and, therefore, are more likely to take an active role in its implementation;

i. Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of residents volunteers;

ii. A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and

iii. A conduit to other programs as residents involved in the storm water program development process make important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis.

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b. Residential Outreach Program

This Order requires the Co-Permittees to develop and implement several different types of educational materials, conduct public service announcements, and develop an advertising campaign to inform the general public on topics related to storm water pollution prevention, appropriate disposal methods of different forms of waste, proper lawn care, water conservation practices, appropriate fertilizer and pesticide application and proper car wash methods.

This Order requires that each Co-Permittee develop and distribute an "only rain down the drain" themed campaign targeted at residents with the goal of providing general storm water pollution prevention education. The general population is often not aware that the storm water drain is not the same as the sanitary sewer. Therefore, there is a false understanding that storm water is somehow treated. Additionally, there is a lack of knowledge that the storm drain system leads directly to creeks and rivers. A general storm water campaign is important to provide the general education to the public that disposing of pollutants down the storm drain is not only illegal, but is also impacts creeks, rivers, aquatic life, wildlife and the ability of those waters to support human uses, like drinking water and recreation. By providing this form of general education, it will help inform

people to think twice about their actions when disposing of pollutants and hopefully protecting the storm drain system from unwanted pollutants.

This Order requires each Co-Permittee to develop and distribute educational material on the proper handling and disposal on the following types of wastes:

i. Vehicle fluids;

ii. Household waste;

iii. Construction waste;

iv. Unused pesticides and fertilizers;

v. Green waste;

vi. Trash; and

vii. Animal waste.

The purpose of this outreach requirement is to not only promote proper disposal of these common residential types of wastes, but also serves to reduce and/or eliminate the use of the MS4 system as a place to dispose of waste. These listed wastes are the most common among residents to use and therefore dispose.

This Order requires each Co-Permittee to develop and implement an outreach program to residents on proper lawn care and water conservation practices. Over-irrigation is a common problem in urbanized areas. The general public may not be knowledgeable that potable water from an irrigation system is considered a source of pollutants in surface water. Potable water in most urbanized areas is treated to be suitable as drinking water. But chlorine, a by-product of chlorination, is a pollutant to aquatic life. Additionally, irrigation runoff can also convey pollutants such as fertilizers, pesticides, and herbicides. By educating the general public on lawn care techniques, the potential to discharge pollutants from over-irrigation can be dramatically reduced. Also, by promoting water conservation through limiting over-irrigation can result in reducing or even eliminating potable water to the MS4.

This Order requires that each Co-Permittee develop and distribute educational materials on proper methods of residential car washing. Most people are not aware that washing their car can result in a discharge of a variety of pollutants to receiving waters. Wash water contains pollutants such as chlorine, oils, fine sediments, and soaps. Soaps are a particular concern due to the potential of containing phosphate, a pollutant found above water quality standards in the Laguna watershed. Even "environmental friendly" soaps are still not allowed down the storm drain. Education and outreach on this particular activity is critical for an effective storm water program.

This Order requires each Co-Permittee to participate in local watershed groups or committees to educate the public about storm water pollution prevention and to organize events targeted to residents to participate in community pollution prevention and clean-up events. The intent of this requirement is to solicit public input for messages and information that will persuade the public to modify their common activities to reduce or prevent pollutants from impacting storm water. A

paper presented by David Galvin during the 4th National Conference Nonpoint Source and Storm Water Pollution Education Programs October 17-20, 2005, "Measuring Results from Outreach and Education Program: Can We See Improvements Downstream?" stated: "Experiential programs appear to be more powerful than information campaigns, more likely to connect people with their watershed. Activities such as citizen volunteer monitoring, hands-on restoration, storm-drain stenciling projects, and other ways to get an experiential element incorporated into the program have a greater likelihood of success. Get people's feet wet and hands dirty. Once they have invested in the watershed, even in a tiny part of it, they will have more ownership." Direct feedback from the public on storm water pollution prevention messages can be an inexpensive alternative to traditional surveys and studies as well as promoting increased public support for storm water pollution prevention campaigns.

This Order requires each Co-Permittee to use effective outreach strategies to educate and involve ethnic communities in storm water pollution prevention. If outreach materials are only developed for the English speaking audience, the PIPP campaign will not be effective at reaching a portion of non-English speaking communities. The intent of this requirement is an attempt to deliver storm water pollution prevention measures to as many members of the community as possible.

Each Co-Permittee has one year to plan out their Residential Outreach Program. Implementation is required at the start of the second year. Most Co-Permittees have a Residential Outreach Program or have been working on an enhancement of the existing program. One year provides adequate time to plan out the implementation for the term of this Order.

c. Education to School Children

This Order requires each Co-Permittee to develop and implement an outreach strategy to target school aged children with education on storm water pollution. The term "school aged children" is defined in this Order as kindergarten to seniors in high school. The plan must include four basic components including educational materials, locations and special events, interactive opportunities, and partnerships.

Educating school aged children is an essential component of an effective storm water program. If storm water pollution prevention education is delivered to children at an early age, pollution prevention techniques will likely become a routine practice. Additionally, children often relay new information to their parents, further supporting the messages throughout the community.

The plan to educate students is required to include educational materials and an outline for locations and special events to deliver the materials. The Order requires materials to be developed for five topics. The rationale for each topic is provided as follows:

i. **General watershed education:** in order to understand the significance of storm water pollution and the transport of pollutants from land to surface water, it is important to understand the general concept of a watershed.

ii. **Local aquatic species:** storm water pollution has a direct impact on aquatic life. In order for children to make the connection to the effects of storm water pollution on aquatic life, they need education on the types of species that live in the local streams and how they are impacted by pollution.

iii. **Anti-littering campaign:** trash continues to be an issue on and near elementary and high school campuses. Students may not be aware of the consequences that littering can have on water quality, the aquatic ecosystem, and wildlife. This requirement is intended to not only educate youth on the fate and transport of trash to nearby creeks and streams, but to demonstrate the harmful consequences trash has on the environment.

iv. **Pet waste management:** cleaning up pet waste is a BMP that children can implement in their own life and to ownership and pride in contributing to protecting water quality. Again, this message can also be delivered to the adults in the child's life to further educate the community on this water quality concern.

The plan must include the locations and special events that Co-Permittees can distribute educational materials. The development of educational materials is futile if not distributed at locations and events in which children will be in attendance and will capture their attention. It is important that the Co-Permittees plan upfront on the distribution strategy and have a plan in place for the duration of the Order.

Providing education to children needs to be done in a fun and interesting way in order to be effective. Co-Permittees will need to identify interactive opportunities for delivering education methods. Interactive opportunities can be delivered in a variety of ways including games, displays, contests, puzzles, and workbooks.

Finally, the education of children will further be strengthened through the development of partnerships in the community. Developing partnerships will help the Co-Permittees identify opportunities to further enhance efforts to educate children on storm water pollution. Co-Permittees may be able to provide additional support to existing efforts, incorporate storm water education into existing youth programs, or support efforts of local watershed groups to include children in activities, like beach or creek clean-ups.

The Co-Permittees must develop the outreach plan by the end of the second year of the Order. Co-Permittee have the option to develop a single, watershed-wide plan or an individual plan. The watershed-wide plan can identify areas of outreach that can be implemented watershed wide by all Co-Permittees, but will need to include a specific element for each municipality with regards to targeting outreach in each Co-Permittee's jurisdictional boundary. For example, the Co-Permittees may develop educational materials on a watershed wide basis, but then have individual plans for the distribution of those materials.

The requirements for this Order have been retained from Order No. 2009-0050, with the following changes:

Order No. R1-2009-0050 PIPP included a storm drain stenciling requirement and a method for the community to report MS4 related problems to each Co-

Permittee. These requirements are now addressed in the Illicit Discharge and Detection Elimination section of this Order.

Order No. R1-2009-0050 required each Co-Permittee to distribute storm water pollution prevention public educational materials to automotive part stores, home improvement centers, lumber yards, hardware stores, landscape supply stores, nurseries, stores where fertilizers and pesticides are sold, pet shops, feed stores and local fairs and events. This requirement was been removed from this Order. Alternatively, this Order now requires each Co-Permittee to determine the most effective way to distribute storm water educational materials to residents. This level of flexibility provides each Co-Permittee to determine the best way to reach residents, rather than having a set of specific requirements.

Order No-R1-2009-0050 required each Co-Permittee to make impressions on at least 25% of the permanent population via newspaper, local TV access, billboard, local radio, internet access, and/or other advertising techniques or media. This requirement has been removed from this Order. While there are still requirements to conduct outreach to the public, this Order does allow the Co-Permittee to determine how to distribute storm water messages to the general public. Additionally, the requirement to make impressions on at least 25% of the permanent population proved to be a difficult goal to measure.

This Order requires each Co-Permittee to develop and distribute educational material on proper methods of washing cars, specific towards residential use. This is a new requirement. The September 2012, Russian River Watershed Associations' Storm Water & Watershed Awareness Baseline & Tracking Survey identified car washing activities of the greatest concern with regards to residential pollutants sources discharging to the MS4. The report identified that a large portion of the population engage in this activity and with many doing so on a paved surface. This requirement was added to this Order to mitigate this finding.

This Order requires each Co-Permittee to keep a website (or a link to a website) with outreach and educational materials, including advertising of public participation opportunities. This is a new requirement. Websites are a fundamental way of reaching a majority of residents. This is a quick, inexpensive, and effective way of disseminating information to the general public. Most Co-Permittees are already maintaining a storm water website. By having a requirement within the permit to have the website, each Co-Permittee can best utilize their PIPP. Additionally, as many of the Co-Permittees share resources with one another, this will provide an easy mechanism to access a variety of resources.

Order No. R1-2009-0050 required each Co-Permittee to develop and implement a corporate outreach program. This consisted of providing outreach and educational materials on storm water pollution prevention to four retail gasoline outlet franchisers, four automotive parts franchisers, two home improvement center franchisers, and six restaurant franchisers. This requirement is not included in this Order. These types of facilities are included in the Industrial/Commercial Facilities Program, which includes the distribution of outreach materials to all identified facilities within each Co-Permittee's

jurisdictional boundary. The corporate outreach program in the PIIP section of this Order is duplicative and is better addressed in the Industrial/Commercial Facilities Program. Additionally, the Business Assistance Program has moved to the Industrial/Commercial Facilities Program.

2. Industrial/Commercial Facilities Program

a. Business Assistance Program

This Order requires each Co-Permittee to implement a Business Assistance Program to provide technical resources to specific types of facilities to facilitate their efforts to reduce pollution in storm water runoff. Each Co-Permittee is required to provide outreach and educate to all of the following facilities within their jurisdictional boundary:

i. Automotive parts retail facilities;

ii. Commercial car washing operations;

iii. Mobile carpet cleaning services;

iv. Power washers;

v. Portable sanitary service providers; and

vi. Commercial pesticide applicator services.

The Business Assistance Program is intended to target pollutant generating activities with educational materials on controlling pollutants in storm water runoff and eliminating non-storm water discharges, except where authorized under a Co-Permittee's Non-Storm Water BMP Plan. Each Co-Permittee is required to distribute educational materials to these businesses once during the permit term.

b. Critical Source Program

This Order requires each Co-Permittee to develop and implement an industrial/commercial facilities program consistent with 40 CFR section 122.26(d)(2)(iv)(C). Regulations under this section require that municipalities identify priorities and procedures for inspections and establish and implement control measures for facilities determined to be contributing a substantial pollutant loading to the MS4.

This Order includes requirements to identify, inventory, educate, inspect and enforce at four type of facilities considered to have high pollutant generating activities. These types of facilities are referred to as "critical sources." The four facility types are restaurants, automotive service facilities, retail gasoline outlets, and nurseries/landscape centers. Other facilities may be identified as critical sources if they are found to be identified as a high potential to discharge sediment or nutrients to the MS4 that may result in an exceedance of water quality standards.

These four categories of facilities have been identified as critical sources based on the pollutants of concern handled at each facility and the potential to discharge pollutants to the MS4 in storm water and non-storm water discharges.

Pollutants of concern include those identified as causing impairment to surface water such as bacteria, sediment and nutrients. Table F-6 provides typical pollutants found at each critical facility and the sources most likely to contribute pollutants to storm water and the pollutants.

Table F-6: Critical Source Facilities

Critical Source	Source Areas	Pollutants of Concern
Restaurants	Food Waste Handling Grease Handling Dumpsters Equipment Cleaning Power Washing Wash Water	Bacteria Cooking Grease Food Waste Nutrients (in soaps) Trash
Automotive Service Repair	Wet and Dry Sanding Equipment Cleaning Dumpsters Waste Oil Handling Vehicle Cleaning Power Washing Wash Water	Heavy Metals, Hydrocarbons Trash and Debris Solvents Nutrients (in Soaps)
Retail Gasoline Outlets	Fueling Dumpsters Power Washing	Heavy Metals Hydrocarbons Trash and Debris Oil and Grease
Nurseries and Nursery Centers	Irrigation Chemical Storage Chemical Usage Green Waste Disposal	Nutrients Pesticides Sediments

This Order requires Co-Permittees to require source control BMPs at critical source facilities with the objective of pollutant reduction in storm water runoff and to control non-storm water discharges. It is the responsibility of the Co-Permittee to educate each facility within their jurisdictional boundary on proper BMPs required to comply with local ordinances. Minimum BMPs are identified in this Order and are referenced from the 2003 CASQA Storm Water Best Management Practice Handbook Commercial/Industrial Activity, which serves as the industry standard for California. These BMPs include the implementation of good housekeeping practices designed to control pollutants at the source, promote the use of proper waste management practices, and implement control practices to keep pollutants away from any entrance to the MS4 system. The BMPs are technically feasible, practicable, and cost-effective. Consistent with the California Water Code section 13360, where an identified BMP may be impracticable at a particular facility, the Order includes a provision to select and implement an alternative BMP. Additionally, not all BMPs listed in the table will be applicable at all critical source facilities. In absence of such activity at a given facility, the applicable BMPs are not required.

This Order requires each Co-Permittee to conduct inspections at all critical course facilities twice during the permit term. Inspections are necessary to ensure that BMPs are being implemented and that the facility operator(s) are aware of storm water management requirements. Inspections are the most effective way to determine compliance with the critical source requirements within the Order.

This Order requires each Co-Permittee to document the inspection including the inspection findings and the necessary follow up associated with the inspection. Documentation of the inspection is an important element of regulatory effectiveness. It provides evidence of the inspection taking place. This not only supports compliance with the inspection requirements of this Order, but creates a record of potential non-compliance at any given critical source facility. This is necessary in any follow up inspection, and with enforcement procedures.

Each Co-Permittee is required to have an inventory of critical source facilities no later than one year after the effective date of this Order, provide outreach material once during the Order term, and inspect twice during the Order term. In Order to maximize resources, the Co-Permittees are encouraged to coordinate with other agencies and departments to comply with these requirements. For example, the local Certified Unified Program Agency (CUPA) is already charged with inspecting facilities with a Hazardous Materials Business Plan. It is logical to have the CUPA include storm water as part of their inspections, as they are already going to the facility, rather than have an additional staff person conduct an additional inspection. This requires coordination and training, but is a more efficient way of complying.

The requirements for the Industrial/Commercial Facilities Program in this Order have been retained from Order No. R1-2009-0050 with the following changes:

The Business Assistance Program was found in the PIPP section of Order No. R1-2009-0050. While the program in this Order is consist with Order No. R1-2009-0050, Regional Water Board staff moved the requirements within the Industrial/Commercial Facilities Program in effort to put all the requirements for industrial and commercial facilities in one section of the Order. This section of the Order now includes all the education and outreach requirements for the Business Assistance Program and Critical Sources in one place.

The Business Assistance Program in Order No. R1-2009-0050 included requirements for each Co-Permittee to distribute storm water educational materials to auto repair shops, car wash facilities, mobile carpet cleaning services, commercial pesticide applicator services, and restaurants. This Order removed restaurants and auto repair shops from the Business Assistance Program. These two facilities are included as a facility type in the Critical Source section of the Industrial/Commercial Facilities Program. The Critical Source section of the permit includes a requirement to distribute educational materials to all critical sources, including restaurants and auto repair shops. Including these facilities in the Business Assistance Program is redundant and therefore, not necessary.

The Business Assistance Program in this Order now includes requirements to distribute educational materials to power washers and portable sanitary service providers. Order No. R1-2009-0050 did not include outreach to these two groups.

These two types of groups have a high potential to discharge unauthorized non-storm water discharges. Pollutants of concern with these types of businesses include bacteria, nutrients and other pollutants from cleaning products, and sediment. Education is a proactive and effective approach to reduce and/or eliminate non-storm water discharges and achieve pollutant reduction.

Order No. R1-2009-0050 identified commercial car washing facilities and plastic pellet facilities be included as critical source facilities. Regulation of these facilities in the Critical Source Program has been removed. During the term of Order No. R1-2009-0050, no plastic pellet facilities were identified in the jurisdictional boundary of the Co-Permittees and there were no reports of receiving water impact with plastic pellets. This type of facility does not meet the definition of a critical source and should not be regulated as such.

Commercial car washing is conducted in a manner in which waste water is either reused or is directed to the sanitary sewer. While these facilities still need to operate with BMPs to protect water quality, they are not found to meet the definition of "critical sources." Therefore the requirement to inspect these facilities as critical sources have been removed from this Order.

Each Co-Permittee is now required to provide educational and outreach material to all critical source facilities. Order No. R1-2009-0050 did not include an outreach component. Education and outreach is one of the most effective ways to facilitate compliance with storm water management requirements. Most unauthorized dischargers occur out of ignorance and not negligence. By educating critical source businesses and providing reminders of storm water management practices, facilities are more likely to be in compliance with requirements.

3. Industrial and Construction Site Regulation

U.S. EPA finds the control of pollutant discharges from industrial and construction sites so important to receiving water quality that it has established a dual (state and local) storm water regulation system. Under this dual system, each Co-Permittee is responsible for enforcing its local permits, plans, and ordinances, and the Regional Water Board is responsible for enforcing the General Construction Activities Storm Water Permit, State Water Board Order No. 2009-0009-DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, State Water Board Order No. 2014-0057-DWQ, NPDES No. CAS000001 (General Industrial Permit).

These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce Regional Water Board and State Water Board permits; however, they are required to enforce their ordinances and permits. The Federal regulations are clear that municipalities have responsibility to address runoff from industrial and construction sites which enters their MS4. Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the Regional Water Board will work with the municipality and provide support where needed. The Regional Water

Board will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

U.S.EPA discusses the "dual regulation" of construction sites in its Storm Water Phase II Compliance Assistance Guide, which states "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure […] is needed to induce more localized site regulation and enforcement efforts, and to enable operators […] to more effectively control construction site discharges into their MS4s."

NPDES municipal regulations require that municipalities develop and implement measures to address runoff from industrial and construction activities. Those measures may require the implementation of additional BMPs than are required under the statewide general permits for activities subject to both state and local regulation.

Inspections provide a necessary means for the Co-Permittees to evaluate compliance of pollutant sources with their municipal ordinances and minimum BMP requirements. U.S.EPA recommends inspections of construction, municipal, and industrial sources. Inspection of high risk sources are especially important because of the ability of frequent inspections to help ensure compliance, thereby reducing the risk associated with such sources. U.S.EPA suggests that inspections can improve compliance when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations."

4. Planning and Land Development

a. General

This Order requires each Co-Permittee to develop and implement the goals to:

i. Minimize the adverse impacts from storm water runoff on water quality, the biological integrity of receiving waters, and the beneficial uses of water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), and local government ordinances.

ii. Minimize the percentage of impervious surfaces on land development projects and implement mitigation measures to mimic the pre-development water balance through infiltration, evapotranspiration, and capture and reuse of storm water. Pre-development water balance determinations shall include assessments of runoff stored on the surface in natural depressions, runoff captured by topsoil and debris layers and runoff evapotranspiration by vegetation.

iii. Minimize pollutant loadings from impervious surfaces such as roof-tops, parking lots, and roadways through the use of properly designed, technically appropriate BMPs (including source control BMPs such as trash enclosures, good housekeeping practices), Low Impact Development (LID) strategies, and treatment control BMPs.

iv. Properly select, design and maintain treatment control BMPs and hydromodification control BMPs to address pollutants that are likely to be generated by land development, minimize post-development surface flows and velocities, assure long-term functionality of the BMPs, and avoid the breeding of vectors.

v. Prioritize the selection of post-development BMPs to remove storm water pollutants specific to the proposed development, control storm water runoff volume and velocity, and beneficially reuse storm water to support an integrated approach to protecting water quality and managing water resources.

The Planning and Land Development requirements are consistent with 40 CFR 122.26(d)(2)(iv)(A)(2) which states that the storm water management plan shall include: "a description of planning procedures including a comprehensive mater plan to develop, implement and enforce control to reduce the discharge of pollutants from [MS4s] which receive discharges from areas of new development and significant redevelopment. Such plan shall address pollutants in discharges from [MS4s] after construction is completed."

Land development and urbanization have been linked to the impairment of receiving water and impact to beneficial uses. Development projects have the potential to impact the hydrology of the watershed and the water quality of the surface waters. Development without proper controls, often result in increased soil compaction, changes in vegetation and increased impervious surfaces. These conditions may lead to a reduction in groundwater recharge, increase pollutants loads and changes in the flow regime of the surface water drainages. Urban development can result in increased peak stream flows and flow duration, reduced base flows, and increased water temperatures. Increased peak flows and flow duration can cause stream bank erosion, benthic habitat degradation, decreased diversity in macroinvertebrates, changes in channel geomorphology and bed sediment composition and stability.

As development and redevelopment continues within the jurisdictional boundaries of each Co-Permittee, there is a potential for an increase in discharges of storm water and pollutants discharge through the MS4 and thus, further degradation of receiving water. The Land Development and Planning requirements in this Order are intended to reduce the impacts of storm water runoff from future development and redevelopment projects.

This Order requires applicable development and redevelopment projects to select, install, and maintain permanent post-construction storm water BMPs to treat and/or capture post-development storm water runoff. Applicable projects are defined as:

i. All development and redevelopment projects creating or replacing 10,000 square feet or more of impervious surface; and

ii. Streets, roads, highways, and freeway construction or reconstruction creating or replacing a combined total of 10,000 square feet or more of impervious surface.

Impervious surface is defined as an area that has been modified in such a way as to reduce storm water runoff capture, treatment, and infiltration into underlying soils. Examples of impervious surface include rooftops, walkways, plastic liners, ground surfaces compacted that reduce infiltration, and parking lots.

Each Co-Permittee shall incorporate the selection and sizing of post-construction BMPs during the entitlement process and as early in the process as possible. This Order recognizes that land use planning and development is controlled and authorized by local government. Thus, this Order requires the Co-Permittees to implement and require developers to implement, appropriate post-construction BMPs to reduce the discharge of pollutants and increase flow from new development and redevelopment projects. Including plans for BMP implementation during the design phase of new development and redevelopment projects offer the most cost effective strategy to reduce storm water runoff pollutant loads to surface water.

This Order requires post-construction BMPs to meet sizing criteria to treat and/or capture storm water runoff from new development and redevelopment projects.

The American Society of Civil Engineers and the Water Environmental Federation have recommend a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/runoff statistics and which is economically sound. The maximized treatment volume is cut off at the point of diminishing returns for rainfall/runoff frequency.

b. Low Impact Development

This Order requires all applicable projects subject to post-construction BMPs to integrate LID principles into project design. LID is a site development site design strategy with a goal of maintaining or reproducing the pre-development hydrologic system through the use of design techniques to create a functionally equivalent hydrologic setting. Hydrologic functions of storage, infiltration, and groundwater recharge, as well as the volume and frequency of discharges, are maintained through the use of integrated and distributed small scale storm water retention and detention areas as, reduction of impervious surfaces, and the lengthening of flow paths and runoff time. Other LID strategies include the preservation and protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, valuable trees, flood plains, woodlands, native vegetation and permeable soils. Other benefits from LID BMPs include reducing global warming impacts from new development (preserving carbon sequestering in native soils and retaining native vegetation), increasing water supply through groundwater recharge, and reducing energy consumption.

The use of LID BMPs reduces the amount storm water runoff conveyed to receiving water and promotes storm water infiltration into the soil. Natural vegetation and soil filters storm water runoff and reduces the volume and pollutant loads of storm water. By preserving the pre-development runoff volume with LID BMPs this can result in controlling adverse effects from changes in receiving water hydraulic conditions.

Open space designs which maximize pervious surfaces and retention of "natural" drainages have been found to reduce both the costs of development and pollutant export. Moreover, U.S.EPA finds including plans for a "natural" site design and BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce pollutant loads to receiving waters. In addition, a U.S. Department of Housing and Urban Development guidance document on LID notes that the use of LID BMPs allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts.

LID BMPs are a critical component of storm water runoff management at new development projects and provide multiple benefits including preservation of hydrologic conditions, reduction of pollutant discharges, cost effectiveness, and green space.

LID options do not need to be costly. Some design options, such as concave vegetated surfaces or routing rooftop or walkway runoff to landscaped areas, are cost neutral, or can be less expensive due to less piping and excavation costs. Other LID BMPs, such as minimizing parking stall widths or use of efficient irrigation devices, are often already required. In addition, use of LID BMPs reduces runoff quantity, allowing for treatment control BMPs and other storm water infrastructure on site to be smaller, therefore being cost effective for both developers and municipalities.

The requirement for LID BMPs at new development and redevelopment project is consistent with the following State Water Board Resolutions:

i. On May 6, 2008, the State Water Board adopted Resolution No. 2008-30 Requiring Sustainable Water Resources Management. It was resolved that the State Water Board:

a) Continues to commit to sustainability as a core value for all Water Boards' activities and programs;

b) Directs Water Boards' staff to require sustainable water resources management such as LID and climate change considerations, in all future policies, guidelines, and regulatory actions; and

c) Directs Regional Water Boards to aggressively promote measures such as recycled water, conservation, and LID Best Management Practices where appropriate and work with Dischargers to ensure proposed compliance documents include appropriate, sustainable water management strategies.

ii. On May 15, 2008, the California Ocean Protection Council (OPC) adopted the Resolution Regarding Low Impact Development. In the Resolution, OPC:

a) Resolves to promote the policy that new developments and redevelopments should be designed consistent with LID principles so that storm water pollution and the peaks and durations of runoff are significantly reduced and, in the case of a new development, are substantially the same as before development occurred on the site;

b) Finds that LID is a practicable and superior approach that new and redevelopment projects can implement to minimize and mitigate increases in runoff and runoff pollutants and the resulting impacts on downstream uses, coastal resources and communities; and

c) Resolves to advance LID implementation in California through NPDES Permit Requirements: When crafting storm water NPDES permit requirements, the State Water Board and Regional Water Boards should ensure that LID designs are utilized as the primary approach to satisfying post-construction runoff control requirements and that LID designs can be utilized to control pollutants and the rate and volume of runoff.

As required by Order No. R1-2009-0050, the City of Santa Rosa and the County of Sonoma developed the Storm Water Low Impact Development Technical Design Manual (LID Manual), approved by the Regional Water Board's Executive Officer. The LID Manual provides the technical design guidelines for development projects in the implementation of permanent post-construction BMPs. The LID Manual incorporated post-construction BMP sizing and selection requirements contained in Order No. R1-2009-0050 as a tool for stakeholders to follow for project compliance.

c. Hydromodification Control Plan

This Order requires each Co-Permittee to implement a Hydromodification Control Plan. Hydromodification is defined as an alteration of hydrologic characteristics of surface water, resulting from a change of the natural landscape such as alteration to natural land contours and increase in impervious surfaces. These alterations can result in the increase in velocity and volume (flow rate) and often the timing of runoff. These alterations of a natural watercourse can adversely impact aquatic ecosystems and stream habitat and cause stream bank erosion and other physical modification, including increased flooding.

Increased urbanization can lead to hydromodification impacts through the increase in impervious cover. As impervious surface increases, infiltration will decrease, forcing more water to run of the surface, picking up velocity, as well as altering the timing and magnitude of the flood hydrograph. As a result, runoff leaving urbanized areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area. Urbanization has also altered the flow regime (rate, magnitude, frequency, timing, and flashiness of runoff) that supports aquatic and riparian habitats.

Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters. One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness in the watershed as low as 10 to 20 percent. Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For example, few urban streams can support diverse benthic communities with imperviousness within the watershed greater than 25 percent.

Hydrologic changes from urban development also directly and indirectly impact wetlands. Natural wetlands support many beneficial uses and provide important water quality related ecological services, including pollutant removal, flood attenuation, and groundwater recharge. The Center for Watershed Protection provided the USEPA with a synthesis of more than 100 scientific studies on the direct and indirect impacts of urbanization on wetlands and the role wetlands plat in watershed quality. The report found that the three changes from land development with the most potential to impact wetlands include: increases storm water runoff, decreased groundwater recharge, and flow construction.

Non-urban land use changes such as agriculture, grazing, timber harvesting, and low density development may also have hydromodification impacts on receiving waters due to removal of natural vegetation, reduction of riparian vegetation and riparian buffers, and soil compaction. These non-urban land uses, cumulatively, may have similar hydromodification impacts to surface water as urban development.

According to the State Water Board Urban Runoff Technical Advisory Committee report, increases in population density and imperviousness result in the following changes to stream hydrology:

i. Increased peak discharges compared to pre-development;

ii. Increased volume of storm water runoff with each storm compared to pre-development levels;

iii. Decreased travel time to reach receiving water; increased frequency and severity of floods;

iv. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

v. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and

vi. Decreased infiltration and diminished groundwater recharge.

d. Offset Mitigation Program

This Order requires each Co-Permittee to develop and implement an offset mitigation program to allow mitigation for projects that are technically infeasible of being able to comply with the volume capture requirements contained in this Order. Projects eligible for the offset mitigation program must meet the criteria contained in this Order including one or more of the following:

i. The project's proximity to geotechnical hazards;

ii. The project's proximity to a contaminated groundwater site where infiltration poses a risk of causing pollutant mobilization;

iii. Site constraints that prohibit the ability to infiltrate storm water due to shallow groundwater or depth to hardpan; or

iv. Other criteria proposed by a Co-Permittee for Regional Water Board Executive Officer approval in which compliance with volume capture is not feasible, such as high density development.

The purpose of the offset mitigation program is to allow an alternative method of compliance with the implementation of post-construction BMP sizing criteria specific to volume capture. In some areas, infiltration of storm water runoff may pose a significant hazard is done so near a geotechnical hazard, such as fault line. Or, it may be technically impossible due to the project soils slow infiltration rate. For these types of constraints, the offset mitigation program will allow a project applicant to fund a project offsite that will provide an equal (or greater) water quality benefit.

The offset mitigation program is not available to projects to mitigate storm water treatment requirements. Treatment of storm water is not limited by the above factors and therefore can still take place at these projects.

The Co-Permittees will develop a list of projects which will be funded by the offset mitigation program. The Co-Permittee must consider and select projects which provide a measureable water quality benefit. Consideration shall be given to projects that address receiving water impairments, LID retrofit opportunities, and stream restoration. The list must be approved the Regional Water Board.

e. Maintenance and Operations

This Order requires each Co-Permittee to require that all new development and redevelopment projects subject to post-construction BMPs provide verification of maintenance provisions for LID BMPs, treatment control BMPs and hydromodification controls by way of a legal binding maintenance declaration. Additionally, each Co-Permittee must track and inspect all projects with permanent post-construction BMPs to assess maintenance and operation compliance. This is a vital element to the success of permanent post-construction BMPs. These BMPs will only function properly if maintained accordingly. Each Co-Permittee shall assess BMPs on public right of way and at locations that would not require entering private property. Failure to comply with a maintenance declaration shall be subject to the Co-Permittee's Progressive Enforcement Policy.

The requirements in the Planning and Land Development have been retained from Order. No. 2009-0050, with the following changes:

Order No. R1-2009-0050 included requirements for BMPs to be sized to treat and capture runoff generated by the 85th percentile, 24-hour storm event. This Order no longer references the design storm as the 85th percentile, 24-hour storm event and has replaced the design storm criteria to be the first inch of rain in a 24-hour storm event. This change was made in consideration of the varying design storm through the jurisdictional boundaries of each Co-Permittee. Standardizing the design storm is intended to provide a regional consistency of post-construction requirements. The City of Santa Rosa has determined 0.92 inches is the 85th percentile, 24-hour storm event, so the one inch requirement is a more stringent design storm. For some of the new Co-Permittees, their design storm is slightly

larger than an inch. A one inch design storm was been selected as a reasonable and effective design storm for the treatment of pollutants.

This Order now includes biofiltration BMPs with an underdrain to be sized to treat the first 1.5 inches of rain in a 24-hour storm event. This is an increase from the standard design storm by a factor of 1.5. This multiplier is based on the finding in the Ventura County Technical Guidance Manual that biofiltration of 1.5 times the design capture volume not retained onsite will provide approximately the same pollutant removal as retention of the design capture volume on an annual basis.

Order No. R1-2009-0050 provided the option for the Co-Permittees to develop an offset mitigation program to allow for an alternative method of compliance for projects that could not meet post-construction BMP requirements. The Co-Permittees did not complete the development of their offset mitigation program. Absent of an offset mitigation program, projects not able to meet post-construction requirements would be referred to the Regional Water Board for approval. This Order now requires an offset mitigation program to be developed and implemented by all Co-Permittees. With the addition of seven Co-Permittees, it is not feasible for Regional Water Board staff to review all projects not meeting post-construction requirements, as this could pose a significant workload over time. It is important that each Co-Permittee has a process in place to address offset mitigation without Regional Water Board involvement. While the offset mitigation program itself is subject to Regional Water Board approval, the ability to determine which projects qualify for offset and the appropriate mitigation needs to reside with the Co-Permittee.

Order No. R1-2009-0050 exempted reconstruction projects, undertaken by a public agency, of streets or roads remaining within the original footprint and less than 48 feet wide from post-construction BMP requirements. This exemption has been removed from this Order. Pollution in storm water runoff from streets and roads has been thoroughly documented. The National Research Council states in their *Urban Stormwater Management in the United States* report (October 15, 2008), that "roads tend to capture and export more storm water pollutants than other land covers in these highly impervious areas because of their close proximity to the variety of pollutants associated with automobiles." Due to the nature of pollution on streets and roads, it is important to implement BMPs to address reducing pollution runoff from these sources.

Incorporating post-construction BMPs on street and road reconstruction projects is an effective BMP to address pollution on streets and roads. The US EPA has published "*A Conceptual Guide to Effective Green Streets Design Solutions*" (August 2009) which offers sensible LID solutions for existing streets and roads, providing technical resources for feasibility of compliance with requirements for post-construction BMPs at street and road reconstruction projects.

Regional Water Board staff understands the incorporation of road reconstruction projects needing storm water retention and/or treatment to be technical and economic concern for Co-Permittees. To address this concern, this Order allows Co-Permittees to develop an program to offset the requirements of post-construction requirements for street and road reconstruction. The offset criteria

must be developed and implemented no later than two years from the effective date of this Order. Street and road reconstruction projects will not be subject to offset during the development of the offset criteria, giving the Co-Permittees a grace period to plan for the addition of this requirement.

5. Development Construction Program

This Order requires each Co-Permittee to develop and implement a Development Construction Program to:

a. Prevent illicit construction related discharges of pollutants into the MS4 and receiving waters;

b. Implement and maintain structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites;

c. Reduce construction site discharges of pollutants to the MS4 to the maximum extent practicable; and

d. Prevent construction site discharges to the MS4 from causing or contributing to a violation of water quality standards.

This is consistent with 40 CFR 122.26(d)(2)(iv)(D) which states that storm water management program shall include "A description of a program to implement and maintain structural and non-structural [BMPs] to reduce pollutants in storm water runoff from construction sites to the [MS4].

Soil disturbing activities during construction and demolition exacerbate sediment losses. Sediment is a primary pollutant impacting beneficial uses of receiving waters. According to the U.S. EPA "Stormwater Phase II Final Rule publication, "sediment runoff rates from construction site are typically 10 to 20 times greater than those of agricultural lands and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation can cause physical, chemical, and biological harm" to receiving waters. Sediment, and other construction activity pollutants, must be properly controlled to reduce or eliminate adverse impacts.

This Order requires each Co-Permittee to restrict grading activities on hillside projects sloped 10% or steeper, unless the project is granted an extension. Grading activities at these projects cannot be conducted during October 1st through April 1st. A Co-Permittee may grant an extension to this requirement and the process to grant an exception is included in this Order. Hillside grading activities pose a larger threat of sediment discharges because of the geography and geology characteristics. Erosion and sediment control cannot be controlled through the use of conventional BMPs. This strict requirement is necessary in order to protect receiving waters impaired with sediment.

This Order requires each Co-Permittee to require basic erosion and sediment control BMPs at construction sites less than one acre. This Order references BMPs from the CASQA California BMP Handbook, Construction January 2003 and the Caltrans Stormwater Quality Handbooks, Construction Site Best Management

Practices (BMPs) Manual, March 2003 (or subsequent updates). These handbooks are considered industry standards in California.

This Order requires each Co-Permittee to develop and implement a program to require both public and private construction sites one acre or more within their jurisdictional boundary to select, install, implement and maintain BMPs. For the purpose of this Order, construction projects subject to these requirements are projects that require a permit for grading activities. Most municipalities regulate grading by issuing a grading permit, but some issue a building permit. Not all projects with a building permit include soil distribution and therefore are not subject to this Order.

This Order requires each Co-Permittee to develop and implement procedures for construction plan review and approval. This is consistent with 40 CFR 122.26(d)(2)(iv)(D)(1) which states that the storm water management plan shall include "procedures for site planning which incorporate consideration of potential water quality impacts" at construction projects.

This Order requires each Co-Permittee to require the implementation of BMPs at construction projects. Referenced BMPs applicable to construction projects are listed in Table 8 and Table 9 and are referenced from the CASQA California BMP Handbook, Construction January 2003 and the Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003 (or subsequent updates). This is consistent with 40 CFR 122.26(d)(2)(iv)(D)(2) which states the storm water management program shall include "requirements for nonstructural and structural [BMPs]" at construction sites.

This Order requires each Co-Permittee to inspection construction site projects to ensure BMPs are properly installed, maintained, and effective. All projects are subject to two inspections per year. All projects must be inspected between September 1 and October 1 (prior to the start of the rainy season), and following within 48 hours of the first half inch rain event at the start of the rainy season. The timing of these inspections is critical to the protection of water quality. It is imperative that sites are inspected prior to the start of the rainy season to ensure BMPs are in place. It is also imperative that BMP effectiveness is assess at the onset of the first rain event. If a BMP is not effective, it is necessary to make this determination as early possible as to correct the problem prior to additional rain events.

Additionally, projects determined to be a high threat to water quality will need to be inspected at a monthly frequency during the period of September through May. To determine which projects are considered a high threat to water quality, each Co-Permittee will need to develop a prioritization system. This Order provides factors to consider when developing a prioritization system. These factors include soil erosion potential, site slope, project size and type, sensitivity to receiving water bodies, proximity to receiving water bodies, non-storm water discharges, past non-compliance, and other relevant water quality issues to a particular MS4. Each Co-Permittee should consider triggers for each of these factors that would put a project into a category of high threat to water quality. For example, a Co-Permittee may

deem any project within a certain number of feet of surface water has a high threat to water quality.

Requirements for construction project inspections is consistent with 40 CFR 122.26(d)(2)(iv)(D)(3) which states the storm water management program shall include "procedures for identifying priorities for inspecting and enforcing control measures which consider the nature of construction activity."

The Development Construction requirements have been retained from Order. No. 2009-0050, with the following changes:

Order No. R1-2009-0050 required preparation of an erosion control plan for all public and private construction sites five acres or more. This Order now requires the preparation of an erosion and sediment control plan (or equivalent) for projects one acre or more. This requirement is consistent with other MS4 permits in California and is necessary for achieving compliance with the maximum extent practicable standard.

The requirement to develop and implement a prioritization system to determine the construction projects that are a high threat to water quality is new to this Order. The intention of this requirement is to identify the sites that are necessary to inspect at a regular frequency. By identifying those projects which are the highest threat to water quality, the Co-Permittees can concentrate on inspecting those sites which need the most attention. Sites identified as having a high threat to water quality are required to be inspected once a month between the months of September and May. This is intended to capture high threat projects during the rainy season.

The requirement to inspect high threat to water quality sites at a monthly frequency is new to this Order. The increase in inspections is necessary to ensure compliance with sites identified to be a high threat to water quality. Inspections are the most efficient and effective way to determine compliance and BMP effectiveness. For projects with a high threat to water quality, inspections throughout the rainy season are essential.

This Order requires that all inspections be documented in a manner to verify that the projects are inspected according to the required frequencies and procedures. This requirement has been added in response to Regional Water Board's inspection findings of the Co-Permittee's Development Construction Program. While it was demonstrated inspectors where knowledgeable and qualified to conduct inspections, there was no evidence provided that inspections took place according to the specified frequencies. The method to document these inspections is subject to the Co-Permittees discretion, but must provide written evidence that the inspections took place at the specified frequencies, and inspection procedures are met as required in this Order.

6. Public Agency Activities

This Order requires each Co-Permittee to develop and implement a Public Agency Activities program to minimize storm water impacts from Co-Permittee owned or operated facilities and activities.

Publicly owned or operated facilities serve as hubs of activity for a variety of municipal staff from many different departments. Some of these activities may be a source of pollution in storm water runoff, and thus need BMPs to ensure pollution is reduced to the maximum extent practicable.

This Order requires each Co-Permittee to develop an inventory of all owned or operated facilities within the jurisdictional boundary that are potential sources of storm water pollution. A variety of sample facilities are listed in this Order. It is the Co-Permittee's responsibility to apply appropriate discretion to determine if a specific facility may or may not be a source of pollution. The purpose of this requirement is to assist the Co-Permittees in making the determination which facilities may contribute pollutants to storm water runoff. Consideration should be given to the types of activities conducted at the facility, and the types of material stored. Facilities that store hazardous materials, waste, pesticides, fertilizers, pool chemicals, etc. should be included as potential sources of storm water runoff pollution. Each Co-Permittee should also consider the potential for the transport of pollutants when considering a facility as a source of storm water runoff pollutions. For example, parking lots have a high potential to transport pollutants, especially sediments and oil from vehicles. Facilities with parking lots will likely need BMPs to control pollution sources, and thus will need to be identified as an inventoried facility. The inventory must include all facilities that are potential sources of storm water pollution, even if BMPs are already employed. Each Co-Permittee must have a completed inventory no later than one year after the effective date of this Order.

All facilities identified in the inventory will be subject to BMPs for pollutant generating activities. Activity specific BMPs are required to be implemented at any Co-Permittee owned or operated facilities, or at a job site for which the pollutant generating activity is being conducted. This Order includes a list of specific activities for which BMPs are required, which includes the types of BMPs to implement for that activity and is referenced from the Caltrans Storm Water Quality Handbook Maintenance Staff Guide (May 2003), considered an industry standard in the State of California. Additional BMPs may be needed to be protective of water quality and to meet the terms and conditions of this Order. Each Co-Permittee is required to have necessary BMPs implemented at all applicable facilities no later than three years after the effective date of this Order.

This Order requires each Co-Permittee to develop a storm water facility pollution prevention plan(s) for each facility or groups of facilities identified in the Public Facility Inventory. To comply with this requirement, the Co-Permittee does not need to develop an individual plan for each facility in the inventory. The Co-Permittee can develop a plan that groups similar types of facilities and describes pollution prevention activities that are applicable at each facility and include individual requirements, as necessary. A copy of the facility pollution prevention plan must be easily accessible at the personnel should be familiar with the contents and how to find the document.

This requirement has been added to this Order in an effort to better define pollutant sources and BMPs necessary at each facility that is considered a potential source of storm water pollution. A written plan will enable the Co-Permittees to keep track of

requirements at each facility and allow for a clear expectation for staff required to implement and maintain BMPs.

This Order requires that the Co-Permittees inspect all facilities listed in the Public Facilities Inventory be inspected once during the term of the Order. The purpose of the inspection is to determine the effectiveness of BMPs and evaluate any changes needed to in the facility pollution prevention plan. Inspections are required to be documented in order to demonstrate compliance with this requirement.

This Order includes a specific section on requirements for facilities in which vehicle and equipment washing is taking place. While the Caltrans Storm Water Quality Handbook Maintenance Staff Guide, May 2003 (or subsequent revisions) includes BMPs for vehicle and equipment washing activities, the measures listed in the Order are in addition to those listed in the Handbook. All Co-Permittees are required to implement the vehicle and equipment washing program by the effective date of the Order, except the City of Cloverdale. The City of Cloverdale is required to implement the requirements by December 31, 2017. These compliance dates are based on the information in the implementation plans.

This Order includes requirements to develop and implement a Landscape, Park, and Recreational Facilities Management plan. This requirement is consistent with 40 CFR 122.26(d)(2)(iv)(A)(6) which states that Co-Permittees must have a program "to reduce to the maximum extent practicable, pollutants in discharges from [MS4s] associated with the application of pesticides, herbicides, and fertilizers."

This Order includes requirements for each Co-Permittee to implement a Storm Drain Operation and Maintenance program. This program includes two parts: storm drain maintenance and storm drain inlet labels. Implementation the Storm Drain Operation and Maintenance program is required by the effective date of this Order. This is consistent with 40 CFR 122.26(d)(2)(iv)(A)(1) which states the storm water program management shall include "a description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from [MS4s].

This Order includes requirements for each Co-Permittee to implement a Street and Road Maintenance program. This program includes requirements for street sweeping and road reconstruction. This requirements is consistent with 40 CFR 122.26(d)(2)(iv)(A)(3) which states that the Co-Permittee must include "practices for operating and maintaining public streets, roads highways and procedures for reducing the impact on receiving water of discharges form [MS4s]."

Streets and roads are a significant source of pollutants in storm water discharges. Trash, organic debris, and sediments accumulate on streets, usually within one foot of the curb. If not properly maintained, these pollutants will be conveyed via the MS4 to receiving water. Additionally, these bulky items can accumulate within the MS4 system and cause the improper operation of the system, possibly creating flood conditions. Sediments can often be impacted with pollutants, such as heavy metals, and may contribute an increase of pollutants in receiving water. Physical removal of these pollutants is key in reducing pollution from entering receiving water.

There are two preferred methods at addressing removal of pollutants that accumulate on streets: street sweeping or catch basin cleaning. Of the two, street sweeping is usually the more economically feasible method for reducing pollution that has accumulated on streets. Catch basin cleaning, while an effective BMP at removing pollutants that have entered the MS4 from streets, may be technically infeasible and cost prohibitive. Street sweeping can be conducted in a relatively short time frame, with minimal staff needed. Catch basin cleaning is more time intensive and thus creates additional staff resources needed to complete the BMP. The City of Santa Rosa is able to conduct street sweeping within the entire city limits in one month. To clean out all catch basins within the jurisdictional boundary takes multiple years to complete. Therefore, this Order is focusing on each municipality developing a robust street sweeping program as a method for removing accumulated pollutants from curbed streets.

Each Co-Permittee is required to develop and implement a street sweeping program. The program will need to be proposed for Executive Officer approval. The program will need to include routine street sweeping at all streets with a curb and gutter within the Co-Permittees jurisdictional boundary and will need to include protocols to maximize street sweeping effectiveness.

There are many factors to consider in developing an effective street sweeping program. Each Co-Permittee will need to consider protocols necessary to achieve an effective street sweeping program. The following protocols will need to be evaluated, proposed, and implemented as appropriate:

a. Frequency: Co-Permittees will need to evaluate the optimal frequency in which to conduct street sweeping activities to prevent pollutants from entering the MS4 system to meet the maximum extent practicable standard. High priority areas, like high traffic areas and high litter areas will likely need more frequent sweeping to effectively prevent pollutants from entering the MS4, then in lower priority areas.

b. Additional sweeping efforts will be needed after special community events that are likely to increase trash loads. The street sweeping plan will need to identify the events that will trigger additional sweeping. Special events to consider are events like farmers markets, parades, community gatherings like outdoor concerts or movie nights, or any other outdoor event which will result in people gathering in one area in a volume larger than typical.

c. Timing: Co-Permittees will need to develop a street sweeping schedule that includes the most optimal time of day to sweep. Consideration should be given to the likelihood of vehicles being parked on the street at different times during the day. For example, sweeping a commercial or industrial area in early morning hours may be more effective because there are likely to be less cars parked on the street before (or after) business hours. Vice-versa, sweeping residential neighborhoods in the afternoons may be more effective because there are likely to be fewer vehicles parked on the streets during the regular business/school hours.

d. Finally, the Co-Permittees will need to propose an education and outreach strategy to notify residents of the street sweeping schedule. The notification

should also include recommendations to residents on how to help make street sweeping effective, like not parking on the street on the designated street sweeping day(s). Educating the residents on street sweeping days will hopefully engage the community into voluntarily participating to help make the most out of the program.

Each Co-Permittee will need to record the amount of debris collected with street sweeping activities. Having a record of the amount of debris collected will record the amount of pollutants prevented from entering the MS4 system. This is to establish a record of the amount of debris prevented from entering the MS4.

Each Co-Permittee will need to submit a proposed street sweeping program no later than the end of the second year of the effective date of this Order. The program will be required to be implemented within 60 days from the dated of the Regional Water Board's Executive Officers approval.

Each Co-Permittee shall maintain their existing routine street sweeping activities during the development of the new street sweeping plan. The intent of developing a plan is to improve the current approach to street sweeping. Street sweeping will still be required during the planning stage and will be updated upon implementation of the approved plan. The two year planning window is not intended to halt street sweeping activities until a new plan is in place.

The Road Reconstruction program includes BMPs for road reconstruction activities including roadbed or street paving, repaving, patching, digouts, or resurfacing roadbed surfaces. This section must be implemented by the effective date of the Order.

This Order addresses a self-waiver provision each Co-Permittee may invoke in the event of conducting essential repairs in the event of an emergency. In the event the self-waiver is invoked, the Co-Permittee must submit a notice to the Regional Water Board with an explanation of the circumstances and measures taken to reduce the threat to water quality within 10 business days after the emergency has passed.

This Order includes requirements that each Co-Permittee provide training to employees and contractors that have job duties or participate in activities that have the potential to affect storm water quality. The training should promote a general understanding of the potential for activities to pollute storm water and include information on the identification of opportunities to require, implement and maintain BMPs associated with the activities they perform. Training topics should include instruction on the potential for pesticide related surface water toxicity, the proper use, handling and disposal of pesticides and proper application in regards to reducing or eliminating the potential for pesticides to runoff in storm water or non-storm water discharges.

The requirements in the Public Agency and Activities Program have been retained from Order. No. 2009-0050, with the following changes:

The requirement to develop a public facility inventory is new to this Order. However, the requirement to implement BMPs and control pollution from these facilities has been retained from the Order No. R1-2009-0050. Having the Co-Permittees develop an inventory of the facilities is a requirement to assist Co-

Permittees with determining the facilities which will need BMPs and source control measures to comply with this Order. This requirement also assists Regional Water Board staff in determining compliance with the Public Agency Activities Program portion of this Order. The facility inventory will provide the Regional Water Board with an official list of facilities subject to this Order, thus allowing Regional Water Board staff to focus inspections at applicable facilities and leaving no ambiguity as to the facilities regulated under this Order.

The requirement to develop storm water facility pollution prevention plans and conduct facility inspections is new to this Order. As explained above, this requirement has been added to have a clear expectation of how storm water is managed at facilities considered to be potential sources of pollutants to storm water runoff. Inspections are needed to confirm the effectiveness of BMPs and update the facility pollution prevention plans on a regular basis.

Order No. R1-2009-0050 included requirements on public project to obtain coverage under the Construction General Permit for applicable projects. This requirement has been retained but has been moved to the Construction Development Program in an effort to keep all construction requirements of this Order in one section. The same is true for areas of Order No. R1-2009-0050 related to post-construction requirements at public projects.

The requirement for catch basin cleaning has been removed from this Order and has been placed with a more robust street sweeping program. Order No. 2009-0050 required catch basins to be prioritized and cleaned at a given frequency based on the priority. However, the Order defined catch basins needing cleaning as "storm drain inlets that include a sump to trap debris." The City of Santa Rosa and County of Sonoma made the determination that there are no catch basins within their jurisdictional boundaries meet this definition. Additionally, the smaller municipalities confirmed having very few catch basins meeting this definition. Therefore, the requirement is not relevant to the MS4s regulated by this Order and therefore, not an effective BMP. By focusing on street sweeping, Co-Permittees can focus resources on preventing debris from entering the MS4 system.

This Order removed the explicit requirement to "protect debris and material stockpiles from rain or wind erosion with a cover or sediment barrier." The BMP to cover stockpiles is included in the BMP Table 10 in the "General BMPs" section of the Table.

The requirement to implement a spill response plan has been retained from Order 2009-0050, but moved to the Illicit Discharge/Illicit Connection section of the Order. This is to keep similar requirements together in one section of this Order.

7. Illicit Connections and Illicit Discharges Elimination Program

This Order requires Co-Permittees to develop and implement an Illicit Connection and Illicit Discharge (IC/ID) Elimination Program to detect, investigate, and eliminate IC/ID to the MS4. This requirement is consistent with 40 CFR section 122.26(d)(2)(iv)(B) which states that each Co-Permittee must implement a program to "detect and remove (or require the discharge to the [MS4] to obtain a separate

NPDES permit for) illicit discharges and improper disposal into the storm sewer." The IC/ID program includes the components identified below.

Each Co-Permittee is required to maintain an up to date map of all the outfalls within the MS4 which discharge to receiving water. As defined in 40 CFR section 122.26(b)(9) an outfall means a "point source…at the point where a [MS4] discharges to waters of the United States and does not include open conveyances connecting two [MS4s] or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States." Outfalls meeting this definition must be included on the map, as well as all receiving water bodies receiving a direct discharge from outfalls. Co-Permittees are only required to map outfalls which fall into their jurisdictional boundary.

An accurate outfall map is an important component in an effective storm water management program. The outfall map is useful in investigating illicit discharges, especially in identifying the fate of an illicit discharge. Outfall maps are a quick and reliable resource to determine to flow path of a non-storm water discharge once it enters into the MS4. This information can be critical at addressing non-storm water flows and minimizing their impact to receiving water. Similarly, if an outfall is identified as discharging a non-storm water flow, the mapping system can be used to investigate possible source locations of the discharge and thereby eliminate any on-going discharge.

The City of Cotati, the City of Healdsburg, the City of Rohnert Park, the City of Sebastopol, the City of Windsor, and the City of Ukiah were required to complete an outfall map as required in the previous Phase II MS4 permit. Based on inspections of these municipalities during the 2012-2013 fiscal year, these municipalities have completed this task. Therefore, the requirement in this Order would be for this group to maintain their maps, as needed.

The City of Santa Rosa and the County of Sonoma were not required to complete an outfall map under the R1-2009-0050 Order. However, the City of Santa Rosa has all of their outfalls mapped and would also only need to keep the map updated during this permit term. The status of the County of Sonoma's outfall mapping is unknown. This requirement does not apply to the SCWA because they do not own outfalls.

The City of Cloverdale will need to complete this task by July 1, 2017. This date has been established based on their implementation plan.

This Order requires all Co-Permittee to conduct a field screening of all outfalls which are 36 inches or greater or are 50 years older in age. This requirement is consistent with 40 CFR 122.26(d)(2)(B)(2) which states that each Co-Permittee's storm water management program must include procedures to conduct on-going field screening activities.

The intent of this requirement is to screen outfalls for non-storm water flows/illicit discharges, investigate sources, determine if the discharge is allowable under a non-storm water BMP plan and abate when appropriate. Field screening is the most effective way at identifying prohibited non-storm water flows and is therefore an important part of a storm water management program. Because the intent of this

screening is to find non-storm water flows, screening inspections must take place at least 72 hours after a rain event. Follow up is required for any outfall that is found to be discharging a non-storm water flow/illicit discharge and is detailed in the Illicit Discharge Source Investigation and Elimination section of this Order.

The City of Santa Rosa and the County of Sonoma were required to complete this task under Order No. 2009-0050 by October 1, 2014. Outfalls screened during the previous Order do not need to be screened again during the terms of this Order, with one exception. Re-inspection is required under this Order for those outfalls that were screened in the previous permit and found to be discharging a non-storm water flow other than that of groundwater, surface water, a natural spring, wetland or other natural feature not prohibited to be discharged. For example, the City of Santa Rosa found 79 outfalls to be discharging irrigation water during the previous Order. Follow up is appropriate to ensure the dischargers are not on-going and have been appropriately abated.

The requirement to inspect all applicable outfalls must be completed by the fourth year of the permit. This will give Co-Permittees adequate time to investigate outfalls and report on findings prior to the renewal of this Order.

This Order includes requirements to address illicit discharges and illicit connections including investigation, source identification, abatement, and tracking. This requirement is consistent with 40 CFR 122.26(b)(2)(B)(3) which states that Co-Permittees must have a procedure to "investigate portions of the [MS4] that…indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."

The terms illicit discharge and illicit connection are defined as followed:

An illicit discharge is defined by 40 CFR 122.26(b)(2) as "any discharge to an [MS4] that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting."

An illicit connection is any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets or outlets that are connected directly to the storm drain system.

While an illicit connection can result in an illicit discharge, the requirements in this Order to address an illicit connection are different than that of an illicit discharge. Upon discovery of an illicit discharge, each Co-Permittee has one business day to respond, where discovery of a suspected illicit connection needs to be responded to within 21 days. Additionally, spills must be responded to in a shorter time frame (24 hours) if the incident is an immediate threat to public health or the environment. Spills requiring containment must be responded to within 2 hours of the incident being reported.

This Order requires each Co-Permittee to have a spill response plan. This is consistent with 40 CFR 122.26(d)(2)(iv)(B)(4), which states that Co-Permittees are required to have procedures "to prevent, contain, and respond to spills that may discharge into the [MS4]." This Order requires the Co-Permittee to coordinate with

appropriate departments and agencies responsible for spill response and response time requirements as described above.

This Order also includes requirements for reporting spills to appropriate departments and agencies, like the County Health Department or the California Emergency Management Agency (CalEMA). Co-Permittees are required to report a spill or illicit discharges/non-storm water discharges which has an impact to surface water to the Regional Water Board. Notification to CalEMA is sufficient notification to the Regional Water Board.

This Order requires each Co-Permittee to establish and maintain a phone hotline to receive public reports of illicit discharges, non-storm water discharges, and spills that may be discharging into the MS4. This requirement is consistent with 40 CFR 122.26(b)(2)(B)(5), which states each Co-Permittee must "promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from [MS4]."

The requirements for the Illicit Connections and Illicit Discharges Elimination Program in this Order have been retained from Order No. R1-2009-0050 with the following changes:

Order No. R1-2009-0050 required the Co-Permittees to map or document all permitted connections to their MS4. This requirement has been removed from this Order. During the course of the R1-2009-0050, the mapping or documenting of permitted connections did not provide a direct benefit to the storm water program. However, this Order includes a requirement to map all outfalls. This effort will provide more benefit to the Co-Permittees. As explained above, an up to date and accurate outfall map is a valuable resource for the protection of water quality in spill response.

Order No. R1-2009-0050 included requirements for screening illicit connections and non-storm water flows. The general intent of this requirement was been retained in this Order, but the requirements have been expanded to clarify the field screening requirements. The includes requirements to screen for dry weather flows at least 72 hours after a rain event and requirements that must be followed when dry weather flows are identified during field screening.

This Order includes a new requirement to assess receiving water conditions during the investigation of an illicit discharge. Assessing receiving water conditions is a necessary function to understand the magnitude of a spill, non-storm water discharge, or illicit discharge. This also facilitates the Co-Permittee to initiate abatement measures needed at the receiving water, as well as make an assessment of any impacts to receiving water quality as a result of the discharge. Additionally, this Order provides clarification to notify the Regional Water Board directly in the event of an illicit discharge that causes an impact to receiving water.

The Illicit Connections and Illicit Discharge Elimination Detection Program now includes the requirement for public reporting of non-storm water discharges and spills. This requirement is retained from Order No. 2009-0050, but has been moved to this section of the Order from the PIPP section. The change was made in an effort

to address all requirements associated with illicit discharges and spills in one section of the Order.

8. Special Projects

a. Inorganic Pollutants

The City of Santa Rosa and the County of Sonoma are responsible for developing and implementing a workplan to address copper, lead, and zinc in storm water runoff. The need for this requirement is based on the findings of these pollutants in storm water runoff. During fiscal year 2012-2013, the City of Santa Rosa collected outfall samples from outfall sampling locations in both wet and dry weather conditions for inorganic analysis. Results for copper, lead, and zinc were reported above water quality objectives in some wet weather samples. For dry weather, these constituents were reported below water quality objectives. Thus, demonstrating these pollutants are being mobilized during rain events above water quality objectives.

Order No. R1-2009-0050 and this Order prohibit the discharge from an MS4 which causes or contributes to an exceedance of water quality standards. When such an exceedance is reported, the Co-Permittee is required to initiate the iterative process to select and deploy alternative BMPs to reduce or elimination the exceedance to the maximum extent practicable. The requested study is intended to initiate the iterative process and allow the Co-Permittees to propose and implement alternative BMPs to reduce and/or eliminate this exceedance.

b. Pathogens

Like inorganics, pathogens have been reported in outfall monitoring and receiving water monitoring samples at elevated levels and above water quality standards. The designated Co-Permittees are required to develop a workplan to address pathogens above water quality standards. Like inorganics, this requirement is initiating the iterative process to select and implement alternative BMPs to reduce and/or elimination pathogens in storm water runoff to the maximum extent practicable.

c. Sediment

Outfall monitoring requirements report elevated levels of sediment during wet weather sampling events. The designated Co-Permittees are required to address the increase in sediment during wet weather, similar to that of inorganics and pathogens.

d. Trash

This Order requires each Co-Permittee to conduct an assessment of trash in receiving water either by jurisdictional boundaries or on a watershed wide scale. The objectives of the assessment is to establish baseline conditions of trash in receiving water, evaluate the quantity and type of trash found in receiving water, and identify the source of trash entering receiving water.

VIII. REPORTING REQUIREMENTS

Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Co-Permittees' programs. The annual reporting requirements are consistent with 40 CFR 122.42(c). The report shall include:

A. The status of implementing the components of the storm water management program that are established as permit conditions;

B. Proposed changes to the storm water management program that are established as permit condition; such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part;

C. Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)iv) and (d)(2)(v) of this part;

D. A summary of data, including monitoring data, that is accumulated throughout the reporting year;

E. Annual expenditures and budget for year following each annual report;

F. A summary describing the number and nature of enforcement actions, inspections, and public education programs; and

G. Identification of water quality improvements or degradation."

Water Code section 13267 provides that "the regional board may require that any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

The Regional Water Board must assess the reports to ensure that the Co-Permittees' programs are adequate to assess and address water quality. The reporting requirements can also be useful tools for the Co-Permittees to review, update, or revise their programs. Areas or issues which have received insufficient efforts can also be identified and improved.

IX. MONITORING AND REPORTING PROGRAM

Section 308(a) of the federal Clean Water Act and sections 122.41(h), (j-l), 122.44(i), and 122.48 of Title 40 of the Code of Federal Regulations require that all NPDES permits specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements pursuant to 40 CFR section 122.26(d)(2)(i)(F) & (d)(2)(iii)(D, 122.42(c).). California Water Code 13383 further authorizes the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This Monitoring and Reporting Program (MRP) establishes monitoring, reporting, and recordkeeping requirements that implement the federal and State laws and/or regulations.

A. Interim Monitoring Requirements

This Order requires the County of Sonoma to continue to implement the outfall mass chemical monitoring requirements as described in Monitoring and Reporting Program Order No. R1-2009-0050, section A.1. The purpose of the outfall mass chemical monitoring requirements is to characterize the discharge of storm water runoff entering receiving water from the MS4 system and to determine compliance with water quality standards.

The County of Sonoma did not meet these objectives due to the lack of sampling completed during the course of Order No. R1-2009-0050. Therefore, the County of Sonoma is required to continue to conduct the outfall mass chemical monitoring to provide the data needed to meet the objectives. The County of Sonoma shall conduct monitoring until the Regional Water Board Executive Officer provides notification that the sampling may be discontinued.

B. Monitoring Workplan

The Co-Permittees are responsible for developing a workplan to propose the scope of work to conduct the outfall monitoring, receiving water monitoring, chronic toxicity testing, and the bioassessment studies. The workplan is required to have four main elements: project management, data generation and acquisition, assessment and oversight, and data validation and usability. These elements are consistent with U.S.EPA requirements for a Quality Assurance Project Plan (QAPP). While the Co-Permittees are not required to develop a QAPP for U.S. EPA approval, they are required to develop the four main elements of a QAPP in order to meet the requirements of having a complete workplan. Co-Permittees are encouraged to use the specific components within each of the four elements as guidance in developing the workplan.

As part of the workplan, the Co-Permittees have the responsibility to develop the outfall and receiving water monitoring program. The Co-Permittees are tasked with proposing the number of outfalls to be sampled and the location. The MRP does specify that outfalls shall be selected based on a variety of land use drainage areas including residential, commercial, industrial, and downtown, at a minimum. It is up to the discretion of the Co-Permittees to select the number of outfalls to be sampled and the frequency at which they will be sampled, as long as the rationale for these determinations is supportive of obtaining the objectives. This allows the Co-Permittees to develop a technical and economically feasible plan. The Co-Permittees are also required to propose the sampling locations and frequency of chronic toxicity monitoring, and the locations and timing of the bioassessment studies.

C. Outfall and Receiving Water Monitoring

Outfall and receiving water monitoring is required for the Co-Permittees whose jurisdictional boundaries are within the Laguna de Santa Rosa Watershed. Monitoring is focused in this watershed due to the nature of the Laguna de Santa Rosa's impairments and the urbanized properties of the watershed characteristics.

Objectives of outfall monitoring include characterization of storm water discharge during both wet and dry weather conditions and to assess compliance with water quality standards. Additionally, data will be collected with the intention of calculating nutrient loads in line with the TMDL.

Constituents for outfall and receiving water sampling include total suspended solids, biochemical oxygen demand, total nitrogen, total phosphorus and ammonia, consistent with the impairment of nutrients in the Laguna de Santa Rosa; lead, copper, and zinc, consistent with the findings of outfall monitoring; and E.Coli and enterococci consistent with the impairment of pathogens in the Russian River. Analysis of these constituents are required in all outfalls twice a year during wet weather flow and twice a year during dry weather flow for each year monitoring is required.

Samples from outfalls are also required to be sampled once during the permit term in wet weather flows and once in dry weather flow for inorganics and pesticides. The specific inorganics and pesticides required for analysis are priority pollutants identified in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005).

Outfall monitoring for inorganic constituents was conducted as part of the MRP of Order No. R1-2009-0050. Constituents reported above water quality standards (copper, lead, zinc) are now required as part of routine monitoring. Routine monitoring of the remaining constituents is not warranted. However, periodic sampling of these constituents is necessary to confirm the levels are not changing.

Monitoring for pesticides was not required as part of the MRP of Order No. R1-2009-0050. Outfalls are now required to be sampled once during the permit term to characterize the discharge for select pesticides. Additional sampling requirements may result from sample results that demonstrate pesticides above water quality standards.

Wet weather sampling procedures are required consistent with 40 CFR section 122.21(g)(7)(ii), which include requirements for flow-weighted composite sampling, qualifying storm events, and timing of sampling. For the purpose of this Order, the Regional Water Board has changed sampling to be conducted during storm events of 0.25 inches. Co-Permittees have demonstrated 0.10 inches is not feasible and have suggested this alternative storm event. This storm event has been retained from Order No. 2009-0050.

Receiving water is required for parameters similar to outfall monitoring. The sampling is intended to assess if storm water runoff is causing or contributing to an exceedance of water quality standards in receiving water. The Co-Permittees are encourage to pair receiving water monitoring with outfall monitoring locations to maximize the potential to meet objectives of the monitoring requirements.

D. Chronic Toxicity Monitoring

Chronic toxicity monitoring is required within the Laguna de Santa Rosa with the objective of assessing if storm water and non-storm water flows are causing or contributing to chronic toxicity in receiving waters. The presence of chronic toxicity shall be determined as specified in EPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (U.S. EPA Report No. EPA-821-R-02-013, 4th edition or subsequent editions).

The MRP requires the Co-Permittees to address toxicity identified in receiving waters and implement a mitigation plan if it is confirmed that storm water and/or non-storm water discharges are contributing or causing toxicity.

E. Bioassessment

The City of Cotati, the City of Rohnert Park, the Town of Windsor, the City of Sebastopol and the County of Sonoma are responsible for conducting a bioassessment study within their own jurisdictional boundary. The City of Santa Rosa conducted a bioassessment study in 2012 at creek reaches within their jurisdictional boundary. The City of Santa Rosa will be conducting further studies based on the results of that study. Bioassessment efforts need to be expanded beyond the city limits of Santa Rosa and therefore, the listed

Co-Permittees are being required to conduct bioassessment on one creek reach within their jurisdictional boundary.

The Co-Permittees shall use bioassessment standard operating procedures (SOPs) developed by the Surface Water Ambient Monitoring Program (SWAMP). This includes SOPs for Benthic Macroinvertebrate Samples and Stream Algae Samples.

F. Nutrient Study

The City of Santa Rosa is required to conduct a special sampling event of nutrients in receiving water at Brush Creek and Lower Santa Rosa Creek. The City is being required to conduct this special assessment based on the results of the 2012 bioassessment study, which noted a potential for excessive nutrients in the creek reaches studies.

G. Best Management Practices Effectiveness Studies

A critical objective in the storm water program is determining the effectiveness of BMPs deployed to reduce pollution in storm water runoff. Outfall and receiving water monitoring is focused on data characterization and water quality standards. The Co-Permittees are now being required to develop a component of the monitoring program to assess BMP effectiveness. BMPs being studied include lawn care and lawn watering conservation BMPs, permanent post-construction BMPs, and the effectiveness of the Hydromodification Control Plan.

Over-irrigation continues to be a problem in urban settings. While it is an allowable discharge in the non-storm water BMP plan, it is only allowable in infrequent, isolated incidents. Chronic over-irrigation is not an allowable discharge. Pollutants of concern related to over-irrigation include chlorinated water, nutrients from fertilizers, pesticides, and sediment. It is important to study the BMPs related to the prevention of over-irrigation for effectiveness. Types of BMPs to be studied include outreach and education on preventing over-irrigation, "cash-for-grass" an incentive program to replace lawn with native plants, proper fertilizer and pesticide application, and lawn watering conservation practices.

The Co-Permittees will also need to study permanent post-construction BMPs for effectiveness. This Order places a priority on LID features. The Co-Permittees shall develop a study to confirm the effectiveness of these features. Due to the priority of LID features, it is important to study their effectiveness and use the data to redefine the program in future Orders.

The Co-Permittees will also need to develop an effectiveness study of the Hydromodification Control Plan. This assessment should include monitoring of receiving water in an area where the Hydromodifcation Control Plan will be implemented. The study should include a method to assess receiving water in the long term, and to establish if hydomodification is minimized by BMPs implemented under the Hydromodification Control Plan.

H. Regional Monitoring Participation Opportunity

In 2015, Regional Water Board Executive Management began efforts to develop a regional monitoring program in the Russian River Watershed (Russian River Regional Monitoring Program or R3MP). At the time this Order was adopted, R3MP was still in a concept design phase. As the R3MP continues to evolve, the Co-Permittees will have the

opportunity to participate in the R3MP. Compliance with receiving water monitoring requirements in this Order can be achieved by participating in the R3MP, should the program be formed during the term of this Order.