California Regional Water Quality Control Board
San Diego Region

Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watershed of the County of Orange, The Incorporated Cities of Orange County, and The Orange County Flood Control District Within the San Diego Region

Tentative Order No. R9-2009-0002
NPDES NO. CAS0108740

PUBLIC RELEASE DRAFT

August 12, 2009

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100, San Diego, California 92123-4340
Phone • (858) 467-2952 • Fax (858) 571-6972
http://www.waterboards.ca.gov/sandiego

To request copies of the Orange County Municipal Storm Water Permit, please contact Ben Neill, Water Resources Control Engineer at (858) 467 – 2983, bneill@waterboards.ca.gov

Documents also are available at: http://www.waterboards.ca.gov/sandiego

WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHED OF THE COUNTY OF ORANGE, THE INCORPORATED CITIES OF ORANGE COUNTY, AND THE ORANGE COUNTY FLOOD CONTROL DISTRICT WITHIN THE SAN DIEGO REGION

Adopted by the
California Regional Water Quality Control Board
San Diego Region
on MM DD, 2009

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

Telephone (858) 467-2952

STATE OF CALIFORNIA

ARNOLD SCHWARZENEGGER, Governor
LINDA S. ADAMS, Agency Secretary, California Environmental Protection Agency

California Regional Water Quality Control Board
San Diego Region

Richard Wright *Chair*	County Government
David King *Vice Chair*	Recreation / Wildlife
Eric Anderson	Irrigated Agriculture
Wayne Rayfield	Water Quality
Grant Destache	Industrial Water Use
George Loveland	Water Supply
Marc Luker	Undesignated (Public)

John H. Robertus*, Executive Officer*
Michael P. McCann*, Assistant Executive Officer*

This permit was prepared under the direction of

David T. Barker P.E.*, Chief, Water Resource Protection Branch*

by

Jimmy G. Smith*, Senior Environmental Scientist*
Ben Neill, *Water Resource Control Engineer*
Chad Loflen, *Environmental Scientist*

Table of Contents

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

A. BASIS FOR THE ORDER

1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable State and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Board), the Water Quality Control Plan for the San Diego Basin adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

2. This Order reissues National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108740, which was first adopted by the Regional Board on July 16, 1990 (Order No. 90-38), and then reissued on August 8, 1996 (Order No. 96-03) and February 13, 2002 (Order No. R9-2002-01). On August 21, 2006, in accordance with Order No. R9-2002-01, the County of Orange, as the Principal Copermittee, submitted a Report of Waste Discharge (ROWD) for reissuance of the municipal separate storm sewer system (MS4) Permit.

3. This Order is consistent with the following precedential Orders adopted by the State Water Resources Control Board (State Board) addressing MS4 NPDES Permits: Order 99-05, Order WQ-2000-11, Order WQ 2001-15, Order WQO 2002-0014, and Order WQ-2009-0008 (*SWRCB/OCC FILE A-1780).*

B. REGULATED PARTIES

1. Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates an MS4, through which it discharges runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States (waters of the U.S).

Table 1. Municipal Copermittees

1. City of Aliso Viejo	8. City of Mission Viejo
2. City of Dana Point	9. City of Rancho Santa Margarita
3. City of Laguna Beach	10. City of San Clemente
4. City of Laguna Hills	11. City of San Juan Capistrano
5. City of Laguna Niguel	12. County of Orange
6. City of Laguna Woods	13. Orange County Flood Control District
7. City of Lake Forest	

C. DISCHARGE CHARACTERISTICS

1. Runoff discharged from an MS4 contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA.

2. MS4 storm water and non-storm water discharges are likely to contain pollutants that cause or threaten to cause a violation of water quality standards, as outlined in the Regional Board's Water Quality Control Plan for the San Diego Basin (Basin Plan). Storm water and non-storm water discharges from the MS4 are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These surface water quality standards must be complied with at all times, irrespective of the source and manner of discharge.

3. The most common categories of pollutants in runoff include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), detergents, and trash.

4. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and/or impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

5. Pollutants in runoff can threaten and adversely affect human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

6. Runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

7. The Copermittees discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within one of the eleven hydrologic units (San Juan Hydrologic Unit) comprising the San Diego Region as shown in Tables 2a and 2b. Some of the receiving water bodies have been designated as impaired by the Regional Board and the United States Environmental Protection Agency (USEPA) in 2006 pursuant to CWA section 303(d). Also shown in the Tables are the watershed management

areas (WMAs) as defined in the Regional Board report, Watershed Management Approach, January 2002.

Table 2a. Common Watersheds and CWA Section 303(d) Impaired Waters

Regional Board Watershed Management Area (WMA)	**Hydrologic Area (HA) or Hydrologic Subarea (HSA) of the San Juan Hydrologic Unit**	**Major Receiving Water Bodies**	**303(d) Pollutant(s)/stressor or Water Quality Effect[1]**
Laguna Coastal Streams	Laguna HA, excluding Aliso HSA and Dana Point HSA	Laguna Canyon Creek, Pacific Ocean	Bacterial indicators Sediment toxicity
Aliso Creek	Aliso HSA	Aliso Creek, English Canyon, Pacific Ocean	Toxicity Phosphorus Bacterial indicators Benzo[b]fluoranthene Dieldrin Sediment Toxicity
Dana Point Coastal Streams	Dana Point HSA	Dana Point Harbor, Salt Creek, Pacific Ocean	Bacterial indicators
San Juan Creek	Mission Viejo HA	San Juan Creek, Trabuco Creek, Oso Creek, Canada Gobernadora, Bell Canyon, Verdugo Canyon, Pacific Ocean	Bacterial indicators DDE Chloride Sulfates Total dissolved solids
San Clemente Coastal Streams	San Clemente HA	Prima Deshecha, Segunda Deshecha, Pacific Ocean	Bacterial indicators Phosphorus Turbidity
San Mateo Creek	San Mateo HA	San Mateo Creek, Christianitos Creek, Pacific Ocean	

[1] The listed 303(d) pollutant(s) do not necessarily reflect impairment of the entire corresponding WMA or all corresponding major surface water bodies. The specific impaired portions of each WMA are listed in the State Water Resources Control Board's 2006 Section 303(d) List of Water Quality Limited Segments.

Table 2b. Common Watersheds and Municipalities

Municipality	Laguna Coastal Streams	Aliso Creek	Dana Point Coastal Streams	San Juan Creek	San Clemente Coastal Streams	San Mateo Creek
Aliso Viejo	☑	☑				
Dana Point			☑	☑		
Laguna Beach	☑	☑				
Laguna Hills *		☑		☑		
Laguna Niguel		☑	☑	☑		
Laguna Woods *		☑				
Lake Forest *		☑				
Mission Viejo		☑		☑		
Rancho Santa Margarita				☑		
San Clemente					☑	☑
San Juan Capistrano				☑		
County of Orange *	☑	☑	☑	☑	☑	☑
Orange County Flood Control District *	☑	☑	☑	☑	☑	
* Municipality also includes areas within watersheds of the Santa Ana Regional Board that are outside the scope of this Order						

8. Trash is a persistent pollutant which can enter receiving waters from the MS4 resulting in accumulation and transport in receiving waters over time. Trash poses a serious threat to the Beneficial Uses of the receiving waters, including, but not limited to, human health, rare and endangered species, navigation and human recreation.

9. The Copermittees' water quality monitoring data submitted to date documents persistent violations of Basin Plan water quality objectives for various runoff-related pollutants (fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of urbanized receiving waters have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Orange County.

10. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff, and decreased natural clean sediment loads,

greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 3-5 percent conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

11. Development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

12. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d)-impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in other areas. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional control to reduce storm water pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

13. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not “inject” runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; (4) ensuring that each drainage feature is adequately maintained in perpetuity; and (5) pretreatment.

14. Non-storm water (dry weather) discharge from the MS4 is not considered a storm water (wet weather) discharge and therefore is not subject to regulation under the Maximum Extent Practicable (MEP) standard from CWA 402(p)(3)(B)(iii), which is explicitly for “Municipal … *Stormwater Discharges* (emphasis added)” from the MS4. Non-storm water discharges, per CWA 402(p)(3)(B)(ii), are to be effectively prohibited. Such dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds and are to be effectively prohibited under the Clean Water Act.

15. Non-storm water discharges to the MS4 granted an influent exception [i.e., which are exempt from the effective prohibition requirement set forth in CWA section 402(p)(3)(B)(ii)] under 40 CFR 122. 26 are included within this Order. Any exempted discharges identified by Copermittees as a source of pollutants are subsequently required to be *addressed* (emphasis added) as illicit discharges through prohibition and incorporation into existing IC/ID programs. The Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the United States.

D. RUNOFF MANAGEMENT PROGRAMS

1. General

a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in storm water runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard, which evolves over time as runoff management knowledge increases, the Copermittees' runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of runoff management program implementation is expected to ultimately achieve compliance with water quality standards in the Region.

b. The Copermittees have generally been implementing the jurisdictional runoff management programs required pursuant to Order No. 2002-01 since February 13, 2003. Prior to that, the Copermittees were regulated by Order No. 96-03 since August 8, 1996. Runoff discharges, however, continue to cause or contribute to violations of water quality standards as evidenced by the Copermittees monitoring results.

c. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in storm water runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the revised Watershed Runoff Management Program section, are designed to specifically address high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

d. Updated Jurisdictional Runoff Management Plans (JRMPs) and Watershed Runoff Management Plans (WRMPs), which describe the Copermittees' runoff management programs in their entirety, are needed to guide the Copermittees' runoff management efforts and aid the Copermittees in tracking runoff management program implementation. It is practicable for the Copermittees to

update the JRMPs and WRMPs within one year, since significant efforts to develop these programs have already occurred.

e. Pollutants can be effectively reduced in storm water runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense." Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants that have been mobilized by wet-weather or dry-weather flows.

f. Runoff needs to be addressed during the three major phases of urban development (planning, construction, and use) in order to reduce the discharge of pollutants from storm water to the MEP, effectively prohibit non-storm water discharges and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can negatively impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in runoff to receiving waters.

g. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

h. This Order establishes Storm Water Action Levels (SALs) for selected pollutants based on USEPA Rain Zone 6 (arid southwest) Phase I MS4 monitoring data for pollutants in storm water. The SALs were computed using the statistical based population approach, one of three approaches recommended by the California Water Board's Storm Water Panel in its report, 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006). SALs are identified in Section D of this Order. Copermittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the SALs. Exceedance of SALs may indicate inadequacy of programmatic measures and BMPs required in this Order.

2. **Development Planning**

a. The Standard Storm Water Mitigation Plan (SSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the State Water Resources Control Board (State Board) on October 5, 2000. In the precedential order, the State Board found that the design standards, which essentially require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The State Board also gave Regional Water Quality Control Boards the needed discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in SSMPs.

b. Controlling runoff pollution by using a combination of onsite source control and site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

c. Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit projects can be an effective means for minimizing the impact of storm water runoff discharges from the development projects on receiving waters. LID is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. Current runoff management, knowledge, practices and technology have resulted in the use of LID BMPs as an acceptable means of meeting the storm water MEP standard.

d. Retail Gasoline Outlets (RGOs) are significant sources of pollutants in storm water runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas.

e. Industrial sites are significant sources of pollutants in runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID site design, source control, and treatment control BMPs are needed at industrial sites in order to meet the MEP standard. These BMPs are necessary where the industrial site is larger than 10,000 square feet. The 10,000 square feet threshold is appropriate, since it is consistent with requirements in other Phase I NPDES storm water regulations throughout California.

f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). Proper BMP design and maintenance to avoid standing water, however, can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, the Orange County Vector Control District, and the California Department of Public Health during the development and implementation of runoff management programs.

g. The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and the volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Hydromodification measures for discharges to hardened channels are needed for the future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local receiving waters.

3. **Construction and Existing Development**

a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (State and local) storm water regulation. Under this dual system, each Copermittee is responsible for enforcing its local permits, plans, and ordinances, and the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, State Board Order 99-08 DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, State Board Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit) and any reissuance of these permits. 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.

b. Identification of sources of pollutants in runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants from its MS4 in storm water are reduced to the MEP and that non-storm water discharges are not occurring. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.

c. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.

d. As operators of the MS4s, the Copermittees 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 U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. 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 from storm water into MS4s must be reduced using a combination of management measures, including source control, and an

effective MS4 maintenance program must be implemented by each Copermittee.

f. Enforcement of local runoff related ordinances, permits, and plans is an essential component of every runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee 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. Education is an important aspect of every effective runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

g. Public participation during the development of runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

h. Retrofitting existing development with storm water treatment controls, including LID, is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Although SSMP BMPs are required for redevelopment, the current rate of redevelopment will not address water quality problems in a timely manner. Cooperation with private landowners is necessary to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.

4. **Watershed Runoff Management**

a. Since runoff within a watershed can flow from and through multiple land uses and political jurisdictions, watershed-based runoff management can greatly enhance the protection of receiving waters. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems. Watershed-based runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of the Tentative Order. Watershed management of runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

b. Some runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

c. It is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially the State of California Department of Transportation, the United States Department of Defense, and water and sewer districts, is also important.

E. STATUTE AND REGULATORY CONSIDERATIONS

1. The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by the USEPA and established in State Board Water Quality Order 99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Board on June 17, 1999. The RWL in this Order require compliance with water quality standards, which for storm water discharges is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. 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 and the creation of conditions of pollution.

2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in Orange County: Municipal and Domestic Supply (MUN)[2], Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of Orange County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

3. This Order is in conformance with State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*, and the federal Antidegradation Policy described in 40 CFR 131.12.

4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Copermittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

[2] Subject to exceptions under the "Sources of Drinking Waters" Policy (Resolution No. 89-33)

5. Section 303(d)(1)(A) of the CWA requires that "Each state must identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the Section 303(d) List. The current Section 303(d) List was approved by the State Board on October 25, 2006. On June 28, 2007 the 2006 303(d) list for California was given final approval by the United States Environmental Protection Agency (USEPA).

6. 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. (33 U.S.C. § 1342(p)(3)(B).) Second, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges. Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. Fourth, the Copermittees 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. § 1311(a)) and in lieu of numeric restrictions on their storm water discharges. 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. Likewise, the provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The federal Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. sec. 1313(d).) Once the U.S. Environmental Protection Agency or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. sec. 122.44(d)(1)(vii)(B).)

7. Runoff treatment and/or mitigation must occur prior to the discharge of runoff into receiving waters. Treatment BMPs must not be constructed in waters of the U.S. or State unless the runoff flows are sufficiently pretreated to protect the values and functions of the water body. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well

as the beneficial uses, of the water body. Without federal authorization (e.g., pursuant to Clean Water Act Section 404), waters of the U.S. may not be converted into, or used as, waste treatment or conveyance facilities. Similarly, waste discharge requirements pursuant to California Water Code Section 13260 are required for the conversion or use of waters of the State as waste treatment or conveyance facilities. Diversion from waters of the U.S./State to treatment facilities and subsequent return to waters of the U.S. is allowable, provided that the effluent complies with applicable NPDES requirements.

8. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

9. Multiple water bodies in Orange County have been identified as impaired and placed on the 303(d) list. In 2004, Bacteria Impaired Waters TMDL Project II included six bacteria impaired shorelines in Dana Point Harbor and San Diego Bay: Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park, B Street, G Street Pier, Tidelands Park, and Chula Vista Marina in San Diego Bay. Since then, only Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay can be confirmed as still impaired by indicator bacteria. On June 11, 2008 the Regional Board adopted a Basin Plan amendment to incorporate *Bacteria Impaired Waters TMDL Project II for San Diego Bay and Dana Point Harbor Shorelines*. On June 16, 2009, the State Board approved the Basin Plan amendment. This action meets requirements of section 303(d) of the Clean Water Act (CWA). The Basin Plan amendment process is authorized under section 13240 of the Water Code.

10. Storm water discharges from developed and developing areas in Orange County are significant sources of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Orange County. Furthermore, as delineated in the CWA section 303(d) list in Table 3, the Regional Board has found that there is a reasonable potential that municipal storm water and non-storm water discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria, Phosphorous, Toxicity and Turbidity. In accordance with CWA section 303(d), the Regional Board is required to establish Total Maximum Daily Loads (TMDLs) for these pollutants to these waters to eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Copermittees are warranted and required pursuant to this Order.

Table 3. 2006 Section 303(d) Listed Waterbodies in So. Orange County

Waterbody	**Pollutant**
Aliso Creek	Indicator Bacteria, Phosphorus, Toxicity
Aliso Creek Mouth	Indicator Bacteria
Dana Point Harbor	Indicator Bacteria
English Canyon Creek	Benzo[b]fluoranthene, Dieldrin, Sediment Toxicity
Laguna Canyon Channel	Sediment Toxicity
Oso Creek (at Mission Viejo Golf Course)	Chloride, Sulfates, Total Dissolved Solids
Pacific Ocean Shoreline, Aliso HSA	Indicator Bacteria
Pacific Ocean Shoreline, Dana Point HSA	Indicator Bacteria
Pacific Ocean Shoreline, Laguna Beach HSA	Indicator Bacteria
Pacific Ocean Shoreline, Lower San Juan HSA	Indicator Bacteria
Pacific Ocean Shoreline, San Clemente HA	Indicator Bacteria
Pacific Ocean Shoreline, San Joaquin Hills HSA	Indicator Bacteria
Prima Deshecha Creek	Phosphorus, Turbidity
San Juan Creek	DDE, Indicator Bacteria
San Juan Creek (mouth)	Indicator Bacteria
Segunda Deshecha Creek	Phosphorus, Turbidity

11. This Order incorporates only those MS4 Waste Load Allocations (WLAs) developed in TMDLs that have been adopted by the Regional Water Board and have been approved by the State Board, Office of Administrative Law and U.S. EPA. Approved TMDL WLAs are to be addressed using water quality-based effluent limitations (WQBELs) calculated as numeric limitations (either in the receiving waters and/or at the point of MS4 discharge) and/or as BMPs. In most cases, the numeric limitation must be achieved to ensure the adequacy of the BMP program. Waste load allocations for storm water and non-storm water discharges have been included within this Order only if the TMDL has received all necessary approvals. This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.33(d)(1)(vii)(B).

    A TMDL is the total amount of a particular pollutant that a water body can receive and still meet Water Quality Standards (WQSs), which are comprised of Water Quality Objectives (WQOs), Beneficial Uses and the States Policy on Maintaining

High Quality Waters[3]. The WQOs serve as the primary basis for protecting the associated Beneficial Use. The Numeric Target of a TMDL interprets and applies the numeric and/or narrative WQOs of the WQSs as the basis for the WLAs.

This Order addresses TMDLs through Water Quality Based Effluent Limitations (WQBELs) that must be consistent with the assumptions and requirements of the WLA[4]. Federal guidance[5] states that when adequate information exists, storm water permits are to incorporate numeric water quality based effluent limitations. In most cases, the numeric target(s) of a TMDL are a component of the WQBELs. When the numeric target is based on one or more numeric WQOs, the numeric WQOs and underlying assumptions and requirements will be used in the WQBELs as numeric effluent limitations by the end of the TMDL compliance schedule, unless additional information is required. When the numeric target interprets one or more narrative WQOs, the numeric target may assess the efficacy and progress of the BMPs in meeting the WLAs and restoring the Beneficial Uses by the end of the TMDL compliance schedule.

This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on June 11, 2008 for indicator bacteria in Baby Beach by establishing WQBELs expressed as both BMPs to achieve the WLAs and as numeric limitations[6] for the City of Dana Point and the County of Orange. The establishment of WQBELs expressed as BMPs should be sufficient to achieve the WLA specified in the TMDL. The Waste Load Allocations (WLAs) and Numeric Targets are the necessary metrics to ensure that the BMPs achieve appropriate concentrations of bacterial indicators in the receiving waters.

12. This Order includes WQBELs for non-storm water discharges from the MS4. WQBELs included in this Order have been established for pollutants which have the reasonable potential to cause or contribute to an excursion of numeric or narrative water quality criteria as defined in the Basin Plan, the Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). This is consistent with existing Regional Board requirements in Orders for other non-storm water discharges throughout the region, including those which discharge into and from the MS4. NPDES regulations require that all permit limitations be expressed, unless impracticable, as both average monthly limitations (AMEL) and maximum daily limitations (MDEL) for all discharges other than privately owned treatment works (40 CFR 122.45(d)).

[3] State Water Resources Control Board, Resolution No. 68-16
[4] 40 CFR 122.44(d)(1)(vii)(B)
[5] USEPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits,* 61 FR 43761, August 26, 1996
[6] The Waste Load Allocations are defined in Resolution No. R9-2008-0027, A Resolution to Adopt an Amendment to the *Water Quality Control Plan for the San Diego Basin (9)* to Incorporate Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay.

F. PUBLIC PROCESS

1. The Regional Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of runoff.

2. The Regional Board has held public hearings on April 11, 2007, February 13, 2008, July 1, 2009, and MM DD, 2009 and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the Clean Water Act (CWA) and regulations adopted thereunder, must each comply with the following:

A. PROHIBITIONS AND RECEIVING WATER LIMITATIONS

1. Discharges into and from municipal separate storm sewer systems (MS4s) in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state are prohibited.

2. Storm water discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.[7]

3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses, water quality objectives developed to protect beneficial uses, and the State policy with respect to maintaining high quality waters) are prohibited.

a. Each Copermittee must comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in storm water discharges in accordance with this Order, including any modifications. If exceedance(s) of water quality standards persist notwithstanding implementation of this Order, the Copermittee must assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:

(1) Upon a determination by either the Copermittee or the Regional Board that storm water MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee must notify the Regional Board within 30 days and thereafter submit a report to the Regional Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the Annual Report unless the Regional Board directs an earlier submittal. The report must include an implementation schedule. The Regional Board may require modifications to the report;

(2) Submit any modifications to the report required by the Regional Board within 30 days of notification;

[7] This prohibition does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer).

(3) Within 30 days following approval of the report described above by the Regional Board, the Copermittee must revise its Jurisdictional Runoff Management Program and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and

(4) Implement the revised Jurisdictional Runoff Management Program and monitoring program in accordance with the approved schedule.

b. The Copermittee must repeat the procedure set forth above to comply with the receiving water limitations for continuing or recurring exceedances of the same water quality standard(s) unless directed to do otherwise by the Regional Board Executive Officer.

c. Nothing in section A.3 must prevent the Regional Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

B. NON-STORM WATER DISCHARGES

1. Each Copermittee must effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit; or not prohibited in accordance with sections B.2 and B.3 below.

2. The following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a source of pollutants to waters of the U.S. Where the Copermittee(s) have identified a category as a source of pollutants, the category shall be addressed as an illicit discharge and prohibited through ordinance, order or similar means. The Regional Board may identify categories of discharge that either requires prohibition or other controls. For such a discharge category, the Copermittee, under direction of the Regional Board, must either prohibit the discharge category or develop and implement appropriate control measures to prevent the discharge of pollutants to the MS4 and report to the Regional Board pursuant to Section K.1 and K.3 of this Order.

a. Diverted stream flows;
b. Rising ground waters;
c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;

d. Uncontaminated pumped ground water[8];
e. Foundation drains[8];
f. Springs;
g. Water from crawl space pumps[8];
h. Footing drains[8];
i. Air conditioning condensation;
j. Flows from riparian habitats and wetlands;
k. Water line flushing[9,10];
l. Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
m. Individual residential car washing; and
n. Dechlorinated swimming pool discharges[11].

3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Runoff Management Plan (JRMP), each Copermittee must develop and implement a program to address pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.

a. Building fire suppression system maintenance discharges (e.g. sprinkler line flushing) contain waste. Therefore, such discharges are to be prohibited by the Copermittees as illicit discharges through ordinance, order, or similar means.

4. Each Copermittee must examine all dry weather effluent analytical monitoring results collected in accordance with section F.4 of this Order and Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in section B.2. Follow-up investigations must be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.

[8] Requires enrollment under Order R9-2008-002. Discharges into the MS4 require authorization from the owner and operator of the MS4 system.
[9] This exemption does not include fire suppression sprinkler system maintenance and testing discharges. Those discharges may be regulated under Section B.3.
[10] Requires enrollment under Order R9-2002-0020.
[11] Including saline swimming pool discharges directly to a saline water body.

C. NON-STORM WATER DRY WEATHER NUMERIC EFFLUENT LIMITATIONS

1. Section C of this Order incorporates numeric effluent limitations (NELs) to assure non-storm water dry weather discharges from the Copermittee's MS4s into receiving waters are not causing, threatening to cause or contributing to a condition of pollution or nuisance and to protect designated Beneficial Uses. Compliance with numeric limitations does not excuse compliance with the non-storm water discharge prohibition in Section B.1. Compliance with NELs provides an assessment of the effectiveness of the prohibition of non-storm water discharges and of the appropriateness of exempted non-storm water discharges.[12] Compliance with Section C of this Order requires that an exceedance of an NEL must result in one of the following outcomes:

a. Copermittees investigate the source of the exceedance and determine that it is natural (non-anthropogencially influenced) in origin and conveyance. The findings are to be conveyed to the Regional Board for review and acceptance.

b. Copermittees investigate the source of the exceedance and determine that the source is an illicit discharge or connection. The Copermitees are to eliminate the discharge to their MS4 and report the findings, including any enforcement action(s) taken, to the Regional Board. Those seeking to continue such a discharge must become subject to a separate NPDES permit.

c. Copermittees investigate the source of the exceedance and determine that the source is an exempted non-storm water discharge. The Copermittees shall investigate the appropriateness of the discharge continuing to be exempt and report the findings to the Regional Board.

2. Each Copermittee, beginning no later than the 3rd year following adoption of this Order, shall begin the non-storm water dry weather numeric effluent monitoring as described in Attachment E of this Order.

3. Each Copermittee shall implement all measures to comply (as described in C.1) with the numeric limitations in Section C of this Order. This Permit does not regulate natural sources and conveyances of constituents listed in Table 4. To be relieved of the requirements to meet NELs and to continue monitoring a station, the Copermittee must demonstrate that the likely and expected cause of the NEL exceedance is not anthropogenic in nature.

4. Monitoring of effluent will occur at the end-of-pipe prior to discharge into the receiving waters, with a focus on Major Outfalls, as defined in 40 CFR 122.26(B 5-6) and Attachment E of this Order. The Copermittees must develop their monitoring plans to sample a representative percentage of major outfalls and identified stations

[12] If the Copermittee can show that the exceedance of the NEL was caused by the intentional act of a third party, in violation of Copermittee ordinances, the Copermittee may not be subject to Mandatory Minimum Penalties in accordance with CWC §13385 (j)(1)(B).

within each hydrologic subarea. At a minimum outfalls that exceed NELs must be monitored in the subsequent year. Any station that does not exceed an NEL for 3 years may be replaced with a different station.

5. Each Copermittee shall monitor for and attain the non-storm water dry weather numeric limitations, which are incorporated into this Order as follows:

a. Discharges to inland surface waters: Non-storm water discharges from the MS4 to inland surface waters shall not contain pollutants in excess of the following effluent limitations:

Table 4.a.1: General Constituents

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Fecal Coliform	MPN/ 100 ml	200[A] 400[B]	-		BPO
Enterococci	MPN/ 100 ml	33	-	104[C]	BPO/OP
Turbidity	NTU	-	20		BPO
pH	Units	Within limit of 6.5 to 8.5 at all times			BPO
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BPO
Total Nitrogen	mg/L	-	1.0	See MDEL	BPO
Total Phosphorus	mg/L	-	0.1	See MDEL	BPO
Methylene Blue Active Substances	mg/L	-	0.5	See MDEL	BPO

A – Based on a minimum of not less than five samples for any 30-day period
B – During any 30 day period
C – This Value has been set to Ocean Plan Criteria for Designated Beach Areas
BPO – Basin Plan Objective OP – Ocean Plan
MDEL – Maximum Daily Effluent Limitation AMEL – Average Monthly Effluent Limitation

Table 4.a.2: Priority Pollutants

		Freshwater (CTR)		Saltwater (CTR)	
Parameter	Units	AMEL	MDEL	AMEL	MDEL
Cadmium	ug/L	*	*	16	8
Copper	ug/L	*	*	5.8	2.9
Chromium III	ug/L	*	*	-	-
Chromium VI (hexavalent)	ug/L	16	8.1	83	41
Lead	ug/L	*	*	14	2.9
Nickel	ug/L	*	*	14	6.8
Silver	ug/L	*	*	2.2	1.1
Zinc	ug/L	*	*	95	47

CTR – California Toxic Rule
* - Effluent limitations developed on a case-by-case basis (see below)

The Effluent Limitations for Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, the following equations (40 CFR 131.38.b.2) will be required:

Cadmium (Total Recoverable) = exp(0.7852[ln(hardness)] -2.715)
Chromium III (Total Recoverable) = exp(0.8190[ln(hardness)] + .6848)
Copper (Total Recoverable) = exp(0.8545[ln(hardness)] - 1.702)
Lead (Total Recoverable) = exp(1.273[ln(hardness)] - 4.705)
Nickel (Total Recoverable) = exp(.8460[ln(hardness)] + 0.0584)
Silver (Total Recoverable) = exp(1.72[ln(hardness)] - 6.52)
Zinc (Total Recoverable) = exp(0.8473[ln(hardness)] + 0.884)

b. Discharges to bays, harbors and lagoons/estuaries: Non-storm water discharges from the MS4 to Dana Point Harbor and to saline lagoons/estuaries shall not contain pollutants in excess of the following effluent limitations:

Table 4.b: General Constituents

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000	BPO
Fecal Coliform	MPN/100 ml	200[A],400[B]	-		BPO
Enterococci	MPN/100 ml	35	-	104[C]	BPO
Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP
Priority Pollutants	ug/L	See limitations in Table 4.a.2			

A – Based on a minimum of not less than five samples for any 30-day period
B – During any 30 day period
C – Designated Beach Areas
OP – California Ocean Plan 2005 BPO – Basin Plan Objective
MDEL – Maximum Daily Effluent Limitation AMEL – Average Monthly Effluent Limitation

c. Discharges to the surf zone: Non-storm water discharges from the MS4 to the surf zone shall not contain pollutants in excess of the following effluent limitations:

Table 4.c: General Constituents

Parameter	Units	AMEL	MDEL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000 1,000[A]	OP
Fecal Coliform	MPN/100 ml	200[B]	-	400	OP
Enterococci	MPN/100 ml	35	-	104[C]	OP

A – Total coliform density shall not exceed 1,000 per 100 ml when the ratio of fecal/total coliform exceeds 0.1
B – During any 30 day period
C – Designated Beach Areas
OP – California Ocean Plan 2005

D. STORM WATER ACTION LEVELS

1. Beginning Year 3 after Order adoption date, a running average of twenty percent or greater of exceedances of any discharge of storm water from the MS4 to waters of the United States that exceed the Storm Water Action Levels (SALs) for the pollutants listed in Table 5 (below) will require each Copermittee to affirmatively augment and implement all necessary storm water controls and measures to reduce the discharge of the associated class of pollutants(s) to the MEP standard. The Copermittees must utilize the exceedance information when adjusting and executing annual work plans, as required by this Order. Copermittees shall take the magnitude, frequency, and number of constituents exceeding the SAL(s), in addition to receiving water quality data and other information, into consideration when reacting to SAL exceedances in an iterative manner. Failure to appropriately consider and react to SAL exceedances in an iterative manner creates a presumption that the Copermittee(s) have not complied with the MEP standard.

Table 5. Storm Water Action Levels

Pollutant	Action Level
Turbidity (NTU)	126
Nitrate & Nitrite total (mg/L)	2.6
P total (mg/L)	1.46
Cd total (µg/L)	3.0
Cu total (µg/L)	127
Pb total (µg/L)	250
Ni total (µg/L)	54
Zn total (µg/L)	976

2. The end-of-pipe assessment points for the determination of SAL compliance are all major outfalls, as defined in 40 CFR 122.26(b)(5) and (b)(6). The Copermittees must develop their monitoring plans to sample a representative percent of the outfalls within each hydrologic subarea. At a minimum, outfalls that exceed SALs must be monitored in the subsequent year. Any station that does not exceed an SAL for 3 years may be replaced with a different station. SAL samples must be 24 hour time weighted composites.

3. The absence of SAL exceedances does not relieve the Copermittees from implementing all other required elements of this Permit.

4. This Permit does not regulate natural sources and conveyances of constituents listed in Table 5. To be relieved of the requirements to prioritize pollutant/watershed combinations for BMP updates and to continue monitoring a station, the Copermittee must demonstrate that the likely and expected cause of the SAL exceedance is not anthropogenic in nature.

5. The SALs will be reviewed and updated at the end of every permit cycle. The data collected pursuant to D.2 above can be used to create SALs based upon local data. It is the goal of the SALs, through the iterative and MEP process, to have outfall storm water discharges meet all applicable water quality standards.

E. LEGAL AUTHORITY

1. Each Copermittee must establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. Nothing herein shall authorize a Co-Permittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water right holders in the exercise of their water rights. This legal authority must, at a minimum, authorize the Copermittee to:

a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances must be updated and enforced as necessary to comply with this Order;

b. Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2

c. Prohibit and eliminate illicit connections to the MS4;

d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;

g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation, the United States Department of Defense, or Native American Tribes is encouraged;

h. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;

i. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s from storm water to the MEP; and

j. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of storm water pollutants to the MS4 to the MEP.

2. Each Copermittee must submit within 365 days of adoption of this Order, a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order except for the updated requirements for low impact development and hydromodification in section F.1. Each Copermittee must submit as part of its updated SSMP, a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce the low impact development and hydromodification requirements in section F.1. These statements must include:

a. Identification of all departments within the jurisdiction that conduct runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.

b. Citation of runoff related ordinances and the reasons they are enforceable;

c. Identification of the local administrative and legal procedures available to mandate compliance with runoff related ordinances and therefore with the conditions of this Order;

d. A description of how runoff related ordinances are implemented and appealed; and

e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

F. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM (JRMP)

Each Copermittee must implement all requirements of section F of this Order no later than 365 days after adoption of the Order, unless otherwise specified in this Order. Prior to 365 days after adoption of the Order, each Copermittee must at a minimum implement its Jurisdictional RMP document, as the document was developed and amended to comply with the requirements of Order No. R9-2002-001.

Each Copermittee must develop and implement an updated JRMP for its jurisdiction. Each updated JRMP must meet the requirements of section F of this Order, reduce the discharge of storm water pollutants from the MS4 to the MEP, and prevent runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.

1. DEVELOPMENT PLANNING COMPONENT

Each Copermittee must implement a program which meets the requirements of this section and (1) reduces Development Project discharges of storm water pollutants from the MS4 to the MEP, (2) prevents Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards, (3) prevents illicit discharges into the MS4; and (4) manages increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

a. GENERAL PLAN

Each Copermittee must revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) for the purpose of providing effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for all development and redevelopment projects.

b. ENVIRONMENTAL REVIEW PROCESS

Each Copermittee must revise as needed its current environmental review processes to accurately evaluate water quality impacts and cumulative impacts and identify appropriate measures to avoid, minimize and mitigate those impacts for all Development Projects.

c. APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

For all proposed Development Projects, each Copermittee during the planning process, and prior to project approval and issuance of local permits, must prescribe the necessary requirements so that Development Project discharges of

storm water pollutants from the MS4 will be reduced to the MEP, will not cause or contribute to a violation of water quality standards, and will comply with Copermittee's ordinances, permits, plans, and requirements, and with this Order.

Performance Criteria: Discharges from each approved development project must be subject to the following management measures:

(1) Source control BMPs that reduce storm water pollutants of concern in runoff, including prevention of illicit discharges into the MS4; prevention of irrigation runoff; storm drain system stenciling or signage; properly designed outdoor material storage areas; properly designed outdoor work areas; and properly designed trash storage areas;

(2) The following LID BMPs listed below shall be implemented at all Development Projects where applicable and feasible.
  (a) Conserve natural areas, including existing trees, other vegetation, and soils.
  (b) Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety is not compromised.
  (c) Minimize the impervious footprint of the project.
  (d) Minimize soil compaction to landscaped areas.
  (e) Minimize disturbances to natural drainages (e.g., natural swales, topographic depressions, etc.)
  (f) Disconnect impervious surfaces through distributed pervious areas.

(3) Buffer zones for natural water bodies, where feasible. Where buffer zones are infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc;

(4) Measures necessary so that grading or other construction activities meet the provisions specified in section F.2 of this Order; and

(5) Submittal of proof of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPs will be conducted.

(6) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee must apply restrictions to the use of treatment control BMPs that are designed to primarily function as centralized infiltration devices (such as large infiltration trenches and infiltration basins). Such restrictions must be designed so that the use of such infiltration treatment control BMPs must not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, each treatment control BMP designed to primarily function as a centralized infiltration device must meet the restrictions below, unless it is demonstrated that a restriction is not necessary to protect groundwater quality. The Copermittees may

collectively or individually develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as centralized infiltration devices. Alternative restrictions developed by the Copermittees can partially or wholly replace the restrictions listed below. The restrictions are not intended to be applied to small infiltration systems dispersed throughout a development project.

(a) Runoff must undergo pretreatment such as sedimentation or filtration prior to infiltration;

(b) All dry weather flows containing significant pollutant loads must be diverted from infiltration devices and treated through other BMPs;

(c) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;

(d) Infiltration treatment control BMPs must be adequately maintained so that they remove storm water pollutants to the MEP;

(e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;

(f) The soil through which infiltration is to occur must have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses;

(g) Infiltration treatment control BMPs must not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Copermittee unless first treated or filtered to remove pollutants prior to infiltration and a comprehensive site-specific evaluation has been conducted; and

(h) Infiltration treatment control BMPs must be located a minimum of 100 feet horizontally from any water supply wells.

(7) Where feasible, landscaping with native or low water species shall be preferred in areas that drain to the MS4 or to waters of the United States.

(8) Where a development project, greater than 100 acres in total project size or smaller than 100 acres in size yet part of a larger common plan of development that is over 100 acres, has been prepared using watershed and/or sub-watershed based water quality, hydrologic, and fluvial geomorphologic planning principles that implement regional LID BMPs in accordance with the sizing and location criteria of this Order and acceptable to the Regional Board, such standards shall govern review of projects with respect to Section F.1 of this Order and shall be deemed to satisfy this Order's requirements for LID site design, buffer zone, infiltration and groundwater protection standards, source control, treatment control, and hydromodification control standards. Regional BMPs must clearly exhibit that they will not result in a net impact from pollutant loadings over and above the impact caused by capture and retention of the design storm. Regional BMPs may be used provided that the BMPs capture and retain the volume of runoff produced from the 24-hour 85th percentile storm event as defined in section F.1.d.(6)(a)(i) and that such controls are located upstream of receiving waters. Any volume that is not retained by the LID BMPs, up to the design capture volume, must be treated using LID biofiltration. Any volume up to and including the design capture volume, not retained by LID BMPs, nor treated by LID biofiltration, must be treated using conventional treatment control BMPs in accordance with Section F.1.d.(6) below and participation in the LID substitution program in Section F.1.d.(8).

d. STANDARD STORM WATER MITIGATION PLANS (SSMPS) – APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR PRIORITY DEVELOPMENT PROJECTS

Within 12 months of adoption of this Order, the Copermittees must submit an updated model SSMP, to the Regional Board's Executive Officer for a 30 day public review and comment period. The Regional Board's Executive Officer has the discretion to determine the necessity of a public hearing. Within 180 days of determination that the Model SSMP is in compliance with this Permit's provisions, each Copermittee must update their own local SSMP, and amended ordinances consistent with the model SSMP, and shall submit both (local SSMP and amended ordinances) to the Regional Board. The model SSMP must meet the requirements of section F.1.d of this Order and (1) reduce Priority Development Project discharges of storm water pollutants from the MS4 to the MEP, (2) prevent Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards, (3) manage increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due

to increased erosive force and (4) implement the hydromodification requirements in section F.1.h.[13]

(1) Definition of Priority Development Project (PDP):

Priority Development Projects are:

(a) All new Development Projects that fall under the project categories or locations listed in section F.1.d.(2), and

(b) Those redevelopment projects that create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site and the existing development and/or the redevelopment project falls under the project categories or locations listed in section F.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SSMP requirements, the numeric sizing criteria discussed in section F.1.d.(6) applies only to the addition or replacement, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development.

(c) One acre threshold: In addition to the Priority Development Project Categories identified in section F.1.d.(2), Priority Development Projects must also include all other pollutant-generating Development Projects that result in the disturbance of one acre or more of land within three years of adoption of this Order.[14] As an alternative to this one-acre threshold, the Copermittees may collectively identify a different threshold, provided the Copermittees' threshold is at least as inclusive of Development Projects as the one-acre threshold.

[13] Updated SSMP and hydromodification requirements must apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SSMP or hydromodification requirement commences. If lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is illegal, the updated SSMP or hydromodification requirement need not apply to the project. Updated Development Planning requirements set forth in Sections F.1. (a) through (h) of this Order must apply to all projects or phases of projects, unless, at the time any updated Development Planning requirement commences, the projects or project phases meet any one of the following conditions: (i) the project or phase has begun grading or construction activities; or (ii) a Copermittee determines that lawful prior approval rights for a project or project phase exist, whereby application of the Updated Development Planning requirement to the project is legally infeasible. Where feasible, the Permittees must utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SSMP and hydromodification requirements in their plans.

[14] Pollutant generating Development Projects are those projects that generate pollutants at levels greater than natural background levels.

(2) Priority Development Project Categories

Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SSMP requirements.

(a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site) including commercial, industrial, residential, mixed-use, and public projects. This category includes development projects on public or private land which fall under the planning and building authority of the Copermittees.

(b) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

(c) Restaurants. This category is defined as 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), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet must meet all SSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.1.d.(6) and hydromodification requirement F.1.h.

(d) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

(e) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10 percent or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

(f) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

(g) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

(h) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

(3) Pollutants of Concern

As part of its local SSMP, each Copermittee must implement an updated procedure for identifying pollutants of concern for each Priority Development Project. The procedure must address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land-use type of the Development Project and pollutants associated with that land use type; and (3) Pollutants expected to be present on site.

(4) Low Impact Development BMP Requirements

Each Copermittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss.

(a) The following LID BMPs must be implemented:

(i) Each Copermittee must require LID BMPs or make a finding of infeasibility for each Priority Development Project in accordance with the LID waiver program in Section F.1.d.(8);

(ii) Each Copermittee must incorporate formalized consideration, such as thorough checklists, ordinances, and/or other means, of LID BMPs into the plan review process for Priority Development Projects;

(iii) The review of each Priority Development Project must include an assessment of potential collection of storm water for on-site or off-site reuse opportunities;

(iv) The review of each Priority Development Project must include an assessment of techniques to infiltrate, filter, store, evaporate, or detain runoff close to the source of runoff; and

(v) Within 2 years after adoption of this Order, each Copermittee must review its local codes, policies, and ordinances and identify barriers therein to implementation of LID BMPs. Following the identification of these barriers to LID implementation, where feasible, the Copermittee must take, by the end of the permit cycle, appropriate actions to remove such barriers.

(b) The following LID BMPs must be implemented at all Priority Development Projects where technically feasible as required below:

(i) Maintain or restore natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams.

(ii) Projects with landscaped or other pervious areas must, where feasible, drain runoff from impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall not exceed the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' geologic and soil conditions, slope, and other pertinent factors.

(iii) Projects with landscaped or other pervious areas must, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas shall be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other pertinent factors.

(iv) Projects with low traffic areas and appropriate soil conditions must construct walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.

(c) To protect ground water resources any infiltration LID BMPs must comply with Section F.1.(c)(6).

(d) LID BMPs sizing criteria:

(i) LID BMPs shall be sized and designed to ensure onsite retention without runoff, of the volume of runoff produced from a 24-hour 85th

percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Map[15] ("design capture volume");

(ii) If onsite retention LID BMPs are technically infeasible, LID biofiltration BMPs may treat any volume that is not retained onsite by the LID BMPs. The LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume is allowed to be no less than 0.75 times the design storm volume;

(iii) If it is shown to be technically infeasible to treat the remaining volume up to and including the design capture volume using LID BMPs (retention or biofiltration), the project may implement conventional treatment control BMPs in accordance with Section F.1.d.(6) below and must participate in the LID waiver program in Section F.1.d.(8).

(e) All LID BMPs shall be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

(5) Source Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement source control BMPs. The source control BMPs to be required must:

(a) Prevent illicit discharges into the MS4;
(b) Minimize storm water pollutants of concern in runoff;
(c) Eliminate irrigation runoff;
(d) Include storm drain system stenciling or signage;
(e) Include properly designed outdoor material storage areas;
(f) Include properly designed outdoor work areas;
(g) Include properly designed trash storage areas;
(h) Include water quality requirements applicable to individual priority project categories.

[15] The isopluvial map is available from the County of Orange. The map can also be found as Figure A-1 Exhibit 7.II in the Model WQMP (September 2003), page 5 of 57 at http://www.ocwatersheds.com/documents/2003_DAMP_Exhibit_7_II_Model_WQMP_Attachments.pdf

(6) Treatment Control BMP Requirements[16]

Each Copermittee must require each Priority Development Project to implement treatment control BMPs that meet the following requirements:

(a) All treatment control BMPs for a single Priority Development Project must collectively be sized to comply with the following numeric sizing criteria:

(i) Volume-based treatment control BMPs must be designed to mitigate (infiltrate, filter, or treat) the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Isopluvial Map[17]; or

(ii) Flow-based treatment control BMPs must be designed to mitigate (infiltrate, filter, or treat) either: a) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or b) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two.

(b) Treatment control BMPs for all Priority Development Projects must mitigate (treat through infiltration, settling, filtration or other unit processes) the required volume or flow of runoff from all developed portions of the project, including landscaped areas.

(c) All treatment control BMPs must be located so as to remove pollutants from runoff prior to its discharge to any waters of the U.S. Multiple Priority Development Projects may use shared treatment control BMPs as long as construction of any shared treatment control BMP is completed prior to the use or occupation of any Priority Development Project from which the treatment control BMP will receive runoff.

(d) All treatment control BMPs for Priority Development Projects must, at a minimum:

(i) Be ranked with high or medium pollutant removal efficiency for the project's most significant pollutants of concern, as the pollutant removal efficiencies are identified in the Copermittees' Model

[16] Low-Impact Development (LID) and other site design BMPs that are correctly designed to effectively remove pollutants from runoff are considered treatment control BMPs.
[17] The isopluvial map is available from the County of Orange. The map can also be found as Figure A-1 Exhibit 7.II in the Model WQMP (September 2003), page 105 of 157 at http://www.ocwatersheds.com/StormWater/PDFs/2003_DAMP/2003_DAMP_Section_7_New_Development_Significant_Redevelopment.pdf.

SSMP. Treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

(ii) Be correctly sized and designed so as to remove storm water pollutants to the MEP.

(e) Target removal of pollutants of concern from runoff.

(f) Be implemented close to pollutant sources, and prior to discharging into waters of the U.S.

(g) Not be constructed within a waters of the U.S. or waters of the State.

(h) Include proof of a mechanism under which ongoing long-term maintenance will be conducted to ensure proper maintenance for the life of the project. The mechanisms may be provided by the project proponent or Copermittee.

(i) Be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

(7) Low Impact Development (LID) BMP Waiver Program

The Copermittees must develop, collectively or individually, a LID waiver program for incorporation into local SSMPs, which would allow a Priority Development Project to substitute implementation of all or a portion of required LID BMPs in section F.1.d(4) with implementation of treatment control BMPs and a mitigation project, payment into an in-lieu funding program, and/or watershed equivalent BMP(s) consistent with Section F.1.c.(8). The Copermittees shall submit the LID waiver program as part of their updated model SSMP. At a minimum, the program must meet the requirements below:

(a) Prior to implementation, the LID waiver program must clearly exhibit that it will not allow PDPs to result in a net impact (after consideration of any mitigation and in-lieu payments) from pollutant loadings over and above the impact caused by projects meeting LID requirements;

(b) For each PDP participating, a technical feasibility analysis must be included demonstrating that it is technically infeasible to implement LID BMPs that comply with the requirements of Section F.1.(d)(4). The

Copermittee(s) must develop criteria for the technical feasibility analysis including a cost benefit analysis, examination of LID BMPs considered and alternatives chosen. Each PDP participating must demonstrate that LID BMPs were implemented as much as feasible given the site's unique conditions. Analysis must be made of the pollutant loading for each project participating in the LID substitution program. The estimated impacts from not implementing the required LID BMPs in section F.1.d.(4) must be fully mitigated. Technical infeasibility may result from conditions including, but not limited to:

(i) Locations that cannot meet the infiltration and groundwater protection requirements in section F.1.c.(6). Where infiltration is technically infeasible, the project must still examine the feasibility of other onsite retention LID BMPs;
(ii) Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirements; and
(iii) Other site, geologic, soil or implementation constraints identified in the Copermittees updated local SSMP document.

(c) The LID waiver program must include mechanisms to verify that each Priority Development Project participating in the program is in compliance with all applicable SSMP requirements;

(d) The LID waiver program must develop and implement a review process verifying that the BMPs to be implemented meet the designated design criteria. The review process must also verify that each Priority Development Project participating in the program is in compliance with all applicable SSMP requirements.

(e) The LID waiver program must include performance standards for treatment control BMPs specified in compliance with section F.1.(d)(6).

(f) Each PDP that participates in the LID waiver program must mitigate for the pollutant loads expected to be discharged due to not implementing the LID BMPs in section F.1.d.(4). Mitigation projects must be implemented within the same hydrologic subarea as the PDP. Mitigation projects outside of the hydrologic subarea but within the same hydrologic unit may be approved provided that the project proponent demonstrates that mitigation projects within the same hydrologic subarea are infeasible and that the mitigation project will address similar beneficial use impacts as expected from the PDPs pollutant load types and amount. Offsite mitigation projects may include green streets projects, existing development retrofit projects, retrofit incentive programs, regional BMPs and stream restoration. Project applicants seeking to utilize these

alternative compliance provisions may propose other offsite mitigation projects, which the Copermittees may approve if they meet the requirements of this subpart.

(g) A Copermittee may choose to implement a pollutant credit system as part of the LID waiver program provided that such a credit system clearly exhibits that it will not allow PDPs to result in a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements. Any credit system that a Copermittee chooses to implement must be submitted to the Executive Officer for review and approval as part of the waiver program.

(h) The LID waiver program shall include a storm water mitigation fund developed by the Copermittee(s) to be used for water quality improvement projects which may serve in lieu of the PDP's required mitigation in section F.1.d.(8)(e). The LID waiver program's storm water mitigation fund shall, at a minimum, identify;

(i) The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility;
(ii) The range and types of acceptable projects for which storm water mitigation funds may be expended;
(iii) The entity or entities that will assume full responsibility for each water quality improvement project, including its successful completion; and
(iv) How the dollar amount of storm water mitigation fund contributions will be determined. In-lieu payments must be proportional to the additional pollutant load discharged by not fully implementing LID.

(i) Each Copermittee must notify the Regional Board in their annual report of each PDP choosing to participate in the LID waiver program. The annual report must include the following information:

(i) Name of the developer of the participating PDP;
(ii) Site location;
(iii) Reason for LID waiver including technical feasibility analysis;
(iv) Description of BMPs implemented;
(v) Total amount deposited, if any, into the storm water mitigation fund described in section F.1.d.(8)(f)
(vi) Water quality improvement project(s) proposed to be funded; and
(vii) Timeframe for implementation of water quality improvement projects.

(8) Site Design and Treatment Control BMP Design Standards

As part of its local SSMP, each Copermittee must develop and require Priority

Development Projects to implement sitting, design, and maintenance criteria for each site design and treatment control BMP listed in its local SSMP to determine feasibility and applicability and so that implemented site design and treatment control BMPs are constructed correctly and are effective at pollutant removal, runoff control, and vector minimization. LID techniques, such as soil amendments, must be incorporated into the criteria for appropriate treatment control BMPs. Development of BMP design worksheets which can be used by project proponents is encouraged.

(9) Implementation Process

As part of its local SSMP, each Copermittee must implement a process to verify compliance with SSMP requirements. The process must identify at what point in the planning process Priority Development Projects will be required to meet SSMP requirements and at a minimum, the Priority Development Project must implement the required post-construction BMPs prior to occupancy and/or the intended use of any portion of that project. The process must also include identification of the roles and responsibilities of various municipal departments in implementing the SSMP requirements, as well as any other measures necessary for the implementation of SSMP requirements.

(10) Treatment BMP Review

(a) The Copermittees must review and update the BMPs that are listed in their local SSMPs as options for treatment control during the third year of implementation of this Order. At a minimum, the update must include removal of obsolete or ineffective BMPs and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update must also add appropriate LID BMPs to any tables or discussions in the local SSMPs addressing pollutant removal efficiencies of treatment control BMPs. In addition, the update must include review and revision where necessary of treatment control BMP pollutant removal efficiencies.

(b) The update must incorporate findings from BMP effectiveness studies conducted by the Copermittees for projects funded wholly or in part by the State Board or Regional Board.

(c) Each Copermittee must implement a mechanism for annually incorporating findings from local treatment BMP effectiveness studies (e.g., ones conducted by, or on-behalf of, public agencies in Orange County) into SSMP project reviews and permitting

e. BMP CONSTRUCTION VERIFICATION

Prior to occupancy and/or intended use of any portion of the Priority Development Project subject to SSMP requirements, each Copermittee must inspect the constructed site design, source control, and treatment control BMPs to verify that they have been constructed and are operating in compliance with all specifications, plans, permits, ordinances, and this Order.

f. BMP MAINTENANCE TRACKING

(1) Each Copermittee must develop and maintain a watershed-based database to track and inventory all approved post-construction BMPs and BMP maintenance within its jurisdiction since July 2001. LID BMPs implemented on a lot by lot basis at a single family residential home, such as rainbarrels, are not required to be tracked or inventoried. At a minimum, the database must include information on BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions, including whether the site was referred to the Vector Control District.

(2) Each Copermittee must establish a mechanism not only to track post-construction BMPs, but also to ensure that appropriate easements and ownerships are properly recorded in public records and the information is conveyed to all appropriate parties when there is a change in project or site ownership.

(3) Each Copermittee must verify that approved post-construction BMPs are operating effectively and have been adequately maintained by implementing the following measures:

(a) An annual inventory of all approved BMPs within the Copermittee's jurisdiction. LID BMPs implemented on a lot by lot basis at a single family residential home, such as rainbarrels, are not required to be tracked or inventoried. The inventory must also include all BMPs approved for Priority Development Projects since July 2001;

(b) The designation of high priority BMPs. High-priority designation must include consideration of BMP size, recommended maintenance frequency, likelihood of operational and maintenance issues, location, receiving water quality, and other pertinent factors;

(c) Verify implementation, operation, and maintenance of BMPs by inspection, self-certification, surveys, or other equally effective approaches with the following conditions:

(i) The implementation, operation, and maintenance of at least 90 percent of approved and inventoried final project public and private SSMPs

(a.k.a. WQMPs) must be verified annually. All post-construction BMPs shall be verified within every four year period;

(ii) Operation and maintenance verifications must be required prior to each rainy season;

(iii) All (100 percent) projects with BMPs that are high priority must be inspected by the Copermittee annually prior to each rainy season;

(iv) All (100 percent) public agency projects with BMPs must be inspected by the Copermittee annually;

(v) At least 50 percent of projects with drainage insert treatment control BMPs must be inspected by the Copermittee annually;

(vi) Appropriate follow-up measures (including re-inspections, enforcement, maintenance, etc.) must be conducted to ensure the treatment BMPs continue to reduce storm water pollutants as originally designed;

(vii) All inspections must verify effective operation and maintenance of the treatment control BMPs, as well as compliance with all ordinances, permits, and this Order; and

(viii) Inspections must note observations of vector conditions, such as mosquitoes. Where conditions are identified as contributing to mosquito production, the Copermittee must notify the Orange County Vector Control District.

g. ENFORCEMENT OF DEVELOPMENT SITES

Each Copermittee must enforce its storm water ordinance for all Development Projects and at all development sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms must include appropriate sanctions to achieve compliance. Sanctions must include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit or occupancy denials for non-compliance.

h. HYDROMODIFICATION – LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS[18]

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects.

The HMP shall be incorporated into the local SSMP and implemented by each Copermittee so that estimated post-project runoff discharge rates and durations shall not exceed pre-development discharge rates and durations. Where the proposed project is located on an already developed site, the pre-project discharge rate and duration shall be that of the pre-developed, naturally occurring condition. The HMP shall be submitted to the Executive Officer within 2 years of permit adoption. The HMP will be made available for public review and comment and the Executive Officer will determine the need for a public hearing.

(1) The HMP must:

(a) Identify a method for assessing susceptibility of channel segments which receive runoff discharges from Priority Development Projects. The geomorphic stability within the channel shall be assessed. A performance standard shall be created that ensures that the geomorphic stability within the channel not be compromised as a result of receiving runoff discharges from Priority Development Projects.

(b) Utilize continuous simulation of the entire rainfall record (or other analytical method proposed by the Copermittees and deemed acceptable by the Regional Board) to identify a range of runoff flows[19] for which priority Development Project post-project runoff flow rates and durations shall not exceed pre-development (naturally occurring) runoff flow rates and durations by more than 10 percent, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses. In addition, the identified range of runoff flow rates and durations must compensate for the loss of sediment supply due to the development. The lower boundary of the

[18] Updated SSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updates SSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is legally infeasible, the updated SSMP or hydromodification requirement need not apply to the project. The Copermittees shall utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SSMP and hydromodification requirements in their plans.

[19] The identified ranfe of runoff flows to be controlled should be expressed in terms of peak flow rates of rainfall events, such as "10% of the pre-development 2-year runoff event up to the pre-project 10-year runoff event."

range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches. In the case of an artificially hardened (concrete lined, rip rap, etc.) channel, the lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks of a comparable soft-bottomed channel.

(c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project (naturally occurring) runoff flow rates and durations by more than 10 percent for the range of runoff flows identified under section F.1.h.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses; (2) do not result in channel conditions which do not meet the channel standard developed under section F.1.h.(1)(a) for channel segments downstream of Priority Development Project discharge points; and (3) compensate for the loss of sediment supply due to development.

(d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent runoff from the projects from increasing and/or continuing unnatural rates of erosion of channel beds and banks, silt pollutants generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

(e) Include a review of pertinent literature.

(f) Identify areas within the San Juan Hydrologic Unit where historic hydromodification has resulted in a negative impact to benthic macroinvertebrate and benthic periphyton by identifying areas with low or very low Index of Biotic Integrity (IBI) scores.

(g) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects. This protocol must include the use of the IBI score as a metric for assessing impacts and improvements to downstream watercourses.

(h) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.

(i) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.

(j) Include technical information supporting any standards and criteria proposed.

(k) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.

(l) Include a description of pre- and post-project monitoring and other program evaluation, including IBI score, to be conducted to assess the effectiveness of implementation of the HMP.

(m) Include mechanisms for assessing and addressing cumulative impacts within a watershed on channel morphology.

(n) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.

(2) In addition to the hydrologic control measures that must be implemented per section F.1.h.(1)(c), the HMP must include a suite of management measures to be used on Priority Development Projects to protect and restore downstream beneficial uses and prevent or further prevent adverse physical changes to downstream channels. The measures must be based on a prioritized consideration of the following elements in this order:

(a) Hydrologic control measures;

(b) On-site management controls;

(c) Regional controls located upstream of receiving waters; and

(d) In-stream controls.

Where stream channels are adjacent to, or are to be modified as part of a Priority Development Project, management measures must include buffer zones and setbacks. Under no circumstances will in-stream controls include the use of non-naturally occurring hardscape materials such as concrete, riprap, gabions, etc. The suite of management measures shall also include stream restoration as a viable option to achieve the channel standard in section F.1.h.(1)(a).

(3) Each individual Copermittee has the discretion to not require Section F.1.h. at Priority Development Projects where the project:

(a) Discharges storm water runoff into underground storm drains discharging directly to bays or the ocean; or

(b) Discharges storm water runoff into conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to ocean waters, enclosed bays, estuaries, or water storage reservoirs and lakes.

(4) HMP Reporting and Implementation

(a) Within 2 years of adoption of the Order, the Copermittees shall submit to the Regional Board a draft HMP that has been reviewed by the public, including the analysis that identifies the appropriate limiting range of flow rates per section F.1.h.(1)(b).

(b) Within 180 days of receiving Regional Board comments on the draft HMP, the Copermittees shall submit a final HMP that addressed the Regional Board's comments.

(c) Within 90 days of receiving a finding of adequacy from the Executive Officer, each Copermittee shall incorporate and implement the HMP for all Priority Development Projects.

(d) Prior to approval of the HMP by the Regional Board, the early implementation measures likely to be included in the HMP shall be encouraged by the Copermittees.

(5) Interim Hydromodification Criteria

Within one year of adoption of this Order, each Copermittee must ensure that all Priority Development Projects are implementing the following criteria by comparing the pre-development (naturally occurring) and post-project flow rates and durations using a continuous simulation hydrologic model such as US EPA's Hydrograph Simulation Program-Fortran (HSPF):

(a) For flow rates from 10 percent of the 2-year storm event to the 5 year storm event, the post-project peak flows shall not exceed pre-development (naturally occurring) peak flows.

(b) For flow rates from the 5 year storm event to the 10 year storm event the post-project peak flows may exceed pre-development (naturally occurring) flows by up to 10 percent for a 1-year frequency interval.

The interim hydromodification criteria do not apply to Priority Development Projects where the project discharges (1) storm water runoff into underground storm drains discharging directly to bays or the ocean, or (2) storm water runoff into conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to ocean waters, enclosed bays, estuaries, or water storage reservoirs and lakes.

Within one year of adoption of this Order, each Copermittee must submit a signed, certification statement to the Regional Board verifying implementation of the interim hydromodification criteria.

(6) No part of section F.1.h shall alleviate the Copermittees responsibilities for implementing Low Impact Development BMPs as required under section F.1.d.(4).

i. TRAINING AND EDUCATION

(1) Municipal Departments and Personnel Education

Municipal Development Planning: Each Copermittee must implement an education program so that its planning and development review staffs and contractors (and Planning Boards and Elected Officials, if applicable) have an understanding of:

(a) Federal, State, and local water quality laws and regulations applicable to Development Projects;
(b) The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and
(c) Methods of minimizing impacts to receiving water quality resulting from development, including:
  (i) Storm water management plan development and review;
  (ii) Local sensitive water bodies, including 303(d)-impairments and ESAs;
  (iii) Methods to control downstream erosion impacts;
  (iv) Identification of pollutants of concern;
  (v) Site design BMP techniques;
  (vi) Source control BMPs;
  (vii) Selection of the most effective treatment control BMPs for the pollutants of concern; and
  (viii) Public heath concerns related to storm water management infrastructure.

(2) Project Applicants, Developers, Contractors, Property Owners, and other Responsible Parties

(a) Each Copermittee must implement a New Development / Redevelopment education program using all media as appropriate to:

  (i) Measurably increase the knowledge of the target communities regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target audience; and

(ii) To measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment.

(b) Each Copermittee must educate each target community on the following topics where appropriate:

(i) The importance of educating all construction workers in the field about storm water issues and BMPs though formal or informal training;

(ii) Federal, State, and local water quality laws and regulations applicable to new development and redevelopment activities;

(iii) Site design, source control, pollution prevention, and treatment BMPs;

(iv) General runoff concepts; and

(v) Other topics of local importance, including local water quality conditions, impaired waterbodies and environmentally sensitive areas.

2. CONSTRUCTION COMPONENT

Each Copermittee must implement a construction program which meets the requirements of this section, prevents illicit discharges into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites to the MS4, reduces construction site discharges of storm water pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

a. ORDINANCE UPDATE

Within 365 days of adoption of this Order, each Copermittee must review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures.

b. SOURCE IDENTIFICATION

Each Copermittee must maintain an updated watershed based inventory of all construction sites within its jurisdiction. The use of an automated database system, such as Geographical Information System (GIS) is required.

c. SITE PLANNING AND PROJECT APPROVAL PROCESS

Each Copermittee must incorporate consideration of potential water quality impacts prior to approval and issuance of construction and grading permits.

(1) Each construction and grading permit must require proposed construction sites to implement designated BMPs and other measures so that illicit discharges into the MS4 are prevented and storm water pollutants discharged from the site will be reduced to the maximum extent practicable and will not cause or contribute to a violation of water quality standards.

(2) Prior to permit issuance, the project proponent's runoff management plan (or equivalent construction BMP plan) must be required to comply, and reviewed to verify compliance, with the local grading ordinance, other applicable local ordinances, and this Order.

(3) Prior to permit issuance, each Copermittee must verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

d. BMP IMPLEMENTATION

(1) Designate BMPs: Each Copermittee must designate a minimum set of BMPs and other measures to be implemented at all construction sites. The designated minimum set of BMPs must include:

(a) Management Measures:

(i) Pollution prevention, where appropriate;
(ii) Development and implementation of a site-specific runoff management plan;
(iii) Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;
(iv) Minimization of exposure time of disturbed soil areas;
(v) Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible;
(vi) Limitation of grading to a maximum disturbed area as determined by each Copermittee before either temporary or permanent erosion controls are implemented to prevent storm water pollution. The Copermittee has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution;
(vii) Temporary stabilization and reseeding of disturbed soil areas as rapidly as feasible;
(viii) Wind erosion controls;
(ix) Tracking controls;

(x) Non-stormwater management measures to prevent illicit discharges and control storm water pollution sources;
(xi) Waste management measures;
(xii) Preservation of natural hydrologic features where feasible;
(xiii) Preservation of riparian buffers and corridors where feasible;
(xiv) Evaluation and maintenance of all BMPs, until removed; and
(xv) Retention, reduction, and proper management of all storm water pollutant discharges on site to the MEP standard.

(b) Erosion and Sediment Controls:

(i) Erosion prevention. Erosion prevention is to be used as the most important measure for keeping sediment on site during construction;
(ii) Sediment controls. Sediment controls are to be used as a supplement to erosion prevention for keeping sediment on-site during construction;
(iii) Slope stabilization must be used on all active slopes during rain events regardless of the season and on all inactive slopes during the rainy season and during rain events in the dry season; and
(iv) Permanent revegetation or landscaping as early as feasible.

(c) Designate enhanced BMPs[20] for 303(d) impairments and ESAs: Each Copermittee must implement, or require implementation of, enhanced measures to address the exceptional threat to water quality posed by all construction sites tributary to CWA section 303(d) water body segments impaired for sediment or turbidity. Each Copermittee must also implement, or require implementation of, enhanced, site-specific measures for construction sites within or adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(i) Active Sediment Treatment (AST): Each Copermittee must require implementation of advanced treatment for sediment at construction sites (or portions thereof) that are determined by the Copermittee to be an exceptional threat to water quality. In evaluating the threat to water quality, the following factors must be considered by the Copermittee:

[a] Soil erosion potential or soil type;
[b] The site's slopes;
[c] Project size and type;
[d] Sensitivity of receiving water bodies;

[20] Enhanced BMPs are control actions specifically targeted to the pollutant or condition of concern and of higher quality and effectiveness than the minimum control measures otherwise required. Enhanced in this Order means better, not simply more, BMPs.

[e] Proximity to receiving water bodies;
[f] Non-storm water discharges;
[g] Ineffectiveness of other BMPs;
[h] Proximity and sensitivity of aquatic threatened and endangered species of concern;
[i] Known effects of AST chemicals; and
[j] Any other relevant factors.

(d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each construction site within its jurisdiction year round. BMP implementation requirements, however, can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30).

e. INSPECTION OF CONSTRUCTION SITES

Each Copermittee must conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order. Priorities for inspecting sites must consider the nature and size of the construction activity, topography, and the characteristics of soils and receiving water quality.

(1) During the wet season, each Copermittee must inspect at least biweekly (every two weeks), all construction sites within its jurisdiction meeting any of the following criteria:

(a) All sites 30 acres or more in size with rough grading or active slopes occurring during the wet season;

(b) All sites one acre or more, and tributary to a CWA section 303(d) water body segment impaired for sediment or within or directly adjacent to, or discharging directly to, the ocean or a receiving water within an ESA; and

(c) Other sites determined by the Copermittees or the Regional Board as a significant threat to water quality. In evaluating threat to water quality, the following factors must be considered: (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; (7) past record of non-compliance by the operators of the construction site; and (8) any other relevant factors.

(2) During the wet season, each Copermittee must inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above in section F.2.e.(1).

(3) During the wet season, each Copermittee must inspect construction sites less than one acre in size as needed to ensure compliance with its ordinances and this Order.

(4) Each Copermittee must inspect all construction sites as needed during the dry season. Sites meeting the criteria in section F.2.e.(1) must be inspected at least once in August or September each year.

(5) Re-inspections: Based upon site inspection findings, each Copermittee must implement all follow-up actions (i.e., re-inspection, enforcement) necessary to comply with this Order. Reinspection frequencies must be determined by each Copermittee based upon the severity of deficiencies, the nature of the construction activity, and the characteristics of soils and receiving water quality.

(6) Inspections of construction sites must include, but not be limited to:

(a) Check for coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.) during initial inspections;

(b) Assessment of compliance with Copermittee ordinances and permits related to runoff, including the implementation and maintenance of designated minimum BMPs;

(c) Assessment of BMP effectiveness;

(d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;

(e) Education and outreach on storm water pollution prevention, as needed; and

(f) Creation of a written or electronic inspection report.

(7) The Copermittees must track the number of inspections for each inventoried construction site throughout the reporting period to verify that each site is inspected at the minimum frequencies required.

f. ENFORCEMENT OF CONSTRUCTION SITES

(1) Each Copermittee must develop and implement an escalating enforcement process that achieves prompt corrective actions at construction sites for violations of the Copermittee's water quality protection permit requirements and ordinances. This enforcement process must include authorizing the

Copermittee's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process must include appropriate sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(2) Each Copermittee must be able to respond to complaints received from third-parties and to ensure the Regional Board that corrective actions have been implemented.

g. REPORTING OF NON-COMPLIANT SITES

(1) In addition to the notification requirements in Attachment B, each Copermittee must notify the Regional Board when the Copermittee issues a stop work order or other high level enforcement to a construction site in its jurisdiction as a result of storm water violations.

(2) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all construction sites with alleged violations. Information may be provided as part of the JRMP annual report. Information provided shall include, but not be limited to, the following:

(a) WDID number if enrolled under the General Construction Permit

(b) Site Location, including address

(c) Current violations or suspected violations

h. TRAINING AND EDUCATION

(1) Municipal Staff and Contractors: Requirements for municipal staff and contractors are described in the Municipal Component section of this Order.

(2) Construction Site Owner / Operator Responsibilities:

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee must implement a program to educate project applicants, developers, contractors, property owners, and other responsible parties. The education program must provide an understanding of the topics listed below, as appropriate for the audience being educated.

(a) The importance of educating all construction workers in the field about storm water issues and BMPs though formal or informal training;

(b) Federal, State, and local water quality laws and regulations applicable to construction and grading activities;

(c) Site design, source control, pollution prevention, and treatment BMPs;

(d) General runoff concepts; and

(e) Other topics of local importance, including local water quality conditions, impaired waterbodies and environmentally sensitive areas.

3. EXISTING DEVELOPMENT COMPONENT

a. MUNICIPAL

Each Copermittee must implement a municipal program which meets the requirements of this section, prevents illicit discharges into the MS4, reduces municipal discharges of storm water pollutants from the MS4 to the MEP, and prevents municipal discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification / Inventory

Each Copermittee must maintain an updated watershed-based inventory of municipal areas and activities. The inventory must include the name, address (if applicable), and a description of the area/activity; which pollutants are potentially generated by the area/activity; whether the area/activity is adjacent to an ESA; and identification of whether the area/activity is tributary to a CWA section 303(d) water body segment and generates pollutants for which the water body segment is impaired. The use of an automated database system, such as Geographical Information System (GIS) is required when applicable.

(2) General BMP Implementation

(a) Pollution Prevention: Each Copermittee must implement pollution prevention methods in its municipal program and must require their use by appropriate municipal departments, personnel, and contractors, where appropriate.

(b) Designate Minimum BMPs: Each Copermittee must designate a minimum set of BMPs for all municipal areas and activities. The designated minimum BMPs for municipal areas and activities must be area or activity specific as appropriate. BMPs must be designated for special events that are expected to generate significant trash and litter.

(c) Designate BMPs for ESAs and 303(d) Impairments: Each Copermittee must designate enhanced measures for municipal areas and activities

tributary to CWA section 303(d) impaired water body segments when an area or activity generates pollutants for which the water body segment is impaired. Each Copermittee must also designate additional controls for municipal areas and activities within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum and enhanced BMPs and any additional measures necessary based on its inventory to comply with this Order for each municipal area or activity within its jurisdiction.

(3) BMP Implementation for Management of Pesticides, Herbicides, and Fertilizers

Each Copermittee must implement BMPs to reduce the contribution of storm water pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s and receiving waters. Such BMPs must include, at a minimum:

(a) Educational activities, permits, certifications and other measures for municipal applicators and distributors;
(b) Integrated Pest Management (IPM) measures that rely on non-chemical solutions;
(c) The use of native vegetation;
(d) Schedules for irrigation and chemical application; and
(e) The collection and proper disposal of unused pesticides, herbicides, and fertilizers.

(4) BMP implementation for Flood Control Structures

(a) Each Copermittee must implement procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies.

(b) Each Copermittee must include water quality protection measures, where feasible, when retrofitting existing flood control structural devices.

(c) Each Copermittee must evaluate its existing flood control devices, identify devices causing or contributing to a condition of pollution, identify measures to reduce or eliminate the structure's effect on pollution, and evaluate the feasibility of retrofitting the structural flood control device. The inventory and evaluation must be completed by and submitted to the Regional Board in the 2nd year JRMP Annual Report.

(5) BMP Implementation for Sweeping of Municipal Areas

Where municipal area sweeping is implemented as an MS4 BMP for municipal roads, streets, highways, and parking facilities, each Copermittee must design and implement the program based on the following criteria:

(a) Optimize pickup of trash and debris based on land uses, trash collection schedules, seasonal factors (e.g., special events, tourism, etc.) and inspections of municipal areas/activities.

(6) Operation and Maintenance of Municipal Separate Storm Sewer System (MS4) and Structural Controls

(a) Treatment Controls: Each Copermittee must implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce storm water pollutant discharges to or from its MS4s and related drainage structures.

(b) MS4 and Facilities: Each Copermittee must implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities must, at a minimum, include:

(i) Inspection and removal of accumulated waste at least once a year between May 1 and September 30 of each year for all MS4 facilities;
(ii) Additional cleaning as necessary between October 1 and April 30 of each year for facilities that receive or collect high volumes of trash and debris;
(iii) Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less that every other year;
(iv) Open channels must be cleaned of observed anthropogenic litter in a timely manner;
(v) Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed;
(vi) Proper disposal of waste removed pursuant to applicable laws; and
(vii) Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

(7) Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both

(a) Each Copermittee must implement controls and measures to prevent and eliminate infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a

MS4 must implement controls and measures to prevent and eliminate infiltration of seepage from the municipal sanitary sewers to the MS4s that must include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

(b) Each Copermittee must implement controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary. Such controls must include:
(i) Adequate plan checking for construction and new development,
(ii) Incident response training for municipal employees that identify sanitary sewer spills;
(iii) Code enforcement inspections;
(iv) MS4 maintenance and inspections;
(v) Interagency coordination with sewer agencies; and
(vi) Proper education of municipal staff and contractors conducting field operations on the MS4 or municipal sanitary sewer (if applicable).

(8) Inspection of Municipal Areas and Activities

(a) At a minimum, each Copermittee must inspect the following high priority municipal areas and activities annually:

(i) Roads, Streets, Highways, and Parking Facilities;
(ii) Flood Management Projects and Flood Control Devices;
(iii) Areas and activities tributary to a CWA section 303(d) impaired water body segment, where an area or activity generates pollutants for which the water body segment is impaired.
(iv) Areas and activities within or adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order);
(v) Municipal Facilities:
[a] Active or closed municipal landfills;
[b] Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
[c] Solid waste transfer facilities;
[d] Land application sites;
[e] Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
[f] Household hazardous waste collection facilities.
(vi) Municipal airfields;
(vii) Parks and recreation facilities;
(viii) Special event venues following special events (festivals, sporting events, etc.);
(ix) Power washing; and

(x) Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.

(b) Other municipal areas and activities must be inspected as needed and in response to water quality data, valid public complaints, and findings from municipal or contract staff.

(c) Based upon site inspection findings, each Copermittee must implement all follow-up actions necessary to comply with this Order.

(9) Enforcement of Municipal Areas and Activities

Each Copermittee must enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

(10) Training and Education

Each Copermittee must ensure that all municipal personnel and contractors that have responsibilities for selecting, implementing, and evaluating BMPs for municipal areas and activities are adequately trained and educated to perform such tasks.

(a) Municipal Departments and Personnel Education

(i) Municipal Construction Activities: Each Copermittee must implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:

[a] Federal, State, and local water quality laws and regulations applicable to construction and grading activities;
[b] The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment);
[c] Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities;
[d] The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application;
[e] Current advancements in BMP technologies;
[f] SSMP Requirements including treatment options, site design, source control, and applicable tracking mechanisms; and
[g] Other topics of local importance, including local water quality conditions, impaired water bodies, environmentally sensitive areas,

and public health and disease vector issues associated with runoff.

(ii) Municipal Industrial/Commercial Activities: Each Copermittee must train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training must cover inspection and enforcement procedures, BMP implementation, and review of monitoring data

(iii) Municipal Other Activities: Each Copermittee must implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

b. COMMERCIAL / INDUSTRIAL

Each Copermittee must implement a commercial / industrial program that meets the requirements of this section, prevents illicit discharges into the MS4, reduces commercial / industrial discharges of storm water pollutants from the MS4 to the MEP, and prevents commercial / industrial discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

(a) Each Copermittee must maintain an updated watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory must include the following minimum information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source; and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body segment and generates pollutants for which the water body segment is impaired; and a narrative description including SIC codes which best reflects the principal products or services provided by each facility.

At a minimum, the following sites/sources must be included in the inventory:

(i) Commercial Sites/Sources:

[a] Automobile repair, maintenance, fueling, or cleaning;
[b] Airplane repair, maintenance, fueling, or cleaning;
[c] Boat repair, maintenance, fueling, or cleaning;
[d] Equipment repair, maintenance, fueling, or cleaning;
[e] Automobile and other vehicle body repair or painting;
[f] Mobile automobile or other vehicle washing;

[g] Automobile (or other vehicle) parking lots and storage facilities;
[h] Retail or wholesale fueling;
[i] Pest control services;
[j] Eating or drinking establishments, including food markets;
[k] Mobile carpet, drape or furniture cleaning;
[l] Cement mixing or cutting;
[m] Masonry;
[n] Painting and coating;
[o] Botanical or zoological gardens and exhibits;
[p] Landscaping;
[q] Nurseries and greenhouses;
[r] Golf courses, parks and other recreational areas/facilities;
[s] Cemeteries;
[t] Pool and fountain cleaning;
[u] Marinas;
[v] Portable sanitary services;
[w] Building material retailers and storage;
[x] Animal facilities;
[y] Mobile pet services;
[z] Power washing services; and
[aa] Other sites and sources with a history of un-authorized discharges to the MS4.

(ii) Industrial Sites/Sources:

[a] Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;
[b] Operating and closed landfills;
[c] Facilities subject to SARA Title III; and
[d] Hazardous waste treatment, disposal, storage and recovery facilities.

(iii) ESAs and 303(d) Listed Waterbodies: All other commercial or industrial sites/sources tributary to a CWA Section 303(d) impaired water body segment, where the site/source generates pollutants for which the water body segment is impaired. All other commercial or industrial sites/sources within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(iv) All other commercial or industrial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4.

(2) General BMP Implementation

(a) Pollution Prevention: Each Copermittee must require the use of pollution prevention methods by industrial and commercial sites/sources.

(b) Designate / Update Minimum BMPs: Each Copermittee must designate a minimum set of BMPs for all industrial and commercial sites/sources. Where BMPs have already been designated, each Copermittee must review its existing BMPs for adequacy. The designated minimum BMPs must be specific to facility types and pollutant-generating activities, as appropriate.

(c) Designate Enhanced BMPs for ESAs and 303(d) Impairments: Each Copermittee must designate enhanced measures for industrial and commercial sites/sources tributary to CWA section 303(d) impaired water body segments (where a site/source generates pollutants for which the water body segment is impaired). Each Copermittee must also designate additional controls for industrial and commercial sites/sources within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum and enhanced BMPs and any additional measures necessary based on inspections, incident responses, and water quality data to comply with this Order at each industrial and commercial site/source within its jurisdiction.

(3) BMP Implementation for Mobile Businesses

(a) Each Copermittee must develop and implement a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP and to prohibit non-storm water discharges pursuant to Section B of this Order. Each Copermittee must keep as part of their commercial source inventory a listing of mobile businesses known to operate within its jurisdiction. The program must include:

(i) Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses;
(ii) Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses;
(iii) Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements and local ordinances;
(iv) Development and implementation of an outreach and education strategy; and

(v) Inspection of mobile businesses as needed to implement the program.

(b) If they choose to, the Copermittees may cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action information, and education.

(4) Inspection of Industrial and Commercial Sites/Sources

Each Copermittee must conduct industrial and commercial site inspections for compliance with its ordinances, permits, and this Order.

(a) Inspection Procedures: Inspections must include but not be limited to:

(i) Review of BMP implementation plans, if the site uses or is required to use such a plan;

(ii) Review of facility monitoring data, if the site monitors its runoff;

(iii) Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification Number), if applicable;

(iv) Assessment of compliance with Copermittee ordinances and permits related to runoff;

(v) Assessment of BMP implementation, maintenance and effectiveness;

(vi) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and

(vii) Education and training on storm water pollution prevention, as conditions warrant.

(b) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all Industrial Sites and Industrial Facilities subject to the General Industrial Permit or other individual NPDES permit with alleged violations. Information may be provided as part of the JRMP annual report. Information provided shall include, but not be limited to, the following:

(i) WDID number if enrolled under the General Industrial Permit;

(ii) Site Location, including address;

(iii) Current violations or suspected violations; and

(iv) Past Violation history.

(c) Frequencies: At a minimum, 20 percent of the sites inventoried as required in section F.3.b.(1) above (excluding mobile sources and food facilities) must be inspected each year. Mobile businesses must be inspected pursuant to the enforcement strategy developed pursuant to section F.3.b.(3). Other inspection frequencies must be based upon findings of the Copermittee's existing program and the following factors:

(i) Type of activity (SIC code);
(ii) Materials used at the facility;
(iii) Wastes generated;
(iv) Pollutant discharge potential;
(v) Non-storm water discharges;
(vi) Size of facility;
(vii) Proximity to receiving water bodies;
(viii) Sensitivity of receiving water bodies;
(ix) Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;
(x) Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
(xi) Facility design;
(xii) Total area of the site, area of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
(xiii) The facility's compliance history; and
(xiv) Any other relevant factors.

(d) Food Facilities: Each food facility must be inspected annually for compliance with the Copermittee's water quality ordinances and this Order. Each inspection of a food facility must, at a minimum, address the following concerns:

(i) Trash storage and disposal;
(ii) Grease storage and disposal;
(iii) Washwater discharges to the MS4 (e.g., from floor mats, driveways, sidewalks, etc.);
(iv) Identification of outdoor sewer and MS4 connections; and
(v) Education of property managers when grease and/or trash facilities are shared by multiple facilities.

(e) Third-Party Inspections: Each Copermittee may develop and implement a third party inspection program for verifying industrial and commercial site/source compliance with its ordinances, permits, and this Order. To the extent that third party inspections are conducted to fulfill the

requirements of this Order, the Copermittee will be responsible for conducting and documenting quality assurance and quality control of the third-party inspections.

(i) Each inspection conducted by a third-party must, at a minimum, result in the following:

[a] Photo documentation of potential storm water violations identified during the third party inspection;
[b] Reporting to the Copermittee of identified significant potential violations, including imminent or observed illegal discharges, within 24 hours of the third party inspection;
[c] Reporting to the Copermittee of all inspection findings within one week of the inspection being conducted; and
[d] Copermittee follow-up and/or enforcement actions for identified potential storm water violations within two business days of the inspection or potential violation report receipt.

(f) Based upon site inspection findings, each Copermittee must implement all follow-up actions and enforcement necessary to comply with this Order.

(g) To the extent that the Regional Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year will be satisfied.

(h) The Copermittees must track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to verify that the sites/sources are inspected at the minimum frequencies listed in this Order.

(5) Enforcement of Industrial and Commercial Sites/Sources

Each Copermittee must enforce its storm water ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms must include appropriate sanctions to achieve compliance. Sanctions must include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(6) Training and Education for Owners and Operators of Commercial and Industrial Activities

(a) Each Copermittee must implement an education program using all media as appropriate to (1) measurably increase the knowledge of owners and operators of commercial and industrial activities regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target

audience; and (2) to measurably change the behavior of target communities and thereby reduce storm water pollutant releases and eliminate prohibited non-storm water discharges to MS4s and the environment. At a minimum, the education program must meet the requirements of this section and address the following issues:

(i) Laws, regulations, permits, & requirements;
(ii) Best management practices;
(iii) General runoff concepts; and
(iv) Other topics, including public reporting mechanisms, water conservation, low-impact development techniques.

(b) BMP Notification: At least twice during the five-year period of this Order, each Copermittee must notify the owner/operator of each inventoried industrial and commercial site/source of the BMP requirements applicable to the site/source.

c. RESIDENTIAL

Each Copermittee must implement a residential program which meets the requirements of this section, prevents illicit discharges into the MS4, reduces residential discharges of storm water pollutants from the MS4 to the MEP, and prevents residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Threat to Water Quality Prioritization

Each Copermittee must identify residential areas and activities that pose a high threat to water quality. At a minimum, these must include:

(a) Automobile repair, maintenance, washing, and parking;
(b) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
(c) Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);
(d) Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;
(e) Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
(f) Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon, the ocean, or other receiving waters within an environmentally sensitive area (as defined in Attachment C of this Order).

(2) BMP Implementation

(a) Pollution Prevention: Each Copermittee must actively encourage the use of pollution prevention methods by residents.

(b) Designate BMPs: Each Copermittee must designate minimum BMPs for high-threat-to-water quality residential areas and activities. The designated minimum BMPs for high-threat-to-water quality residential areas and activities must be area or activity specific.

(c) Hazardous Waste BMPs: Each Copermittee must facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation must include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Curbside collection of household hazardous wastes is encouraged.

(d) Implement BMPs: Each Copermittee must implement, or require implementation of, the designated minimum BMPs and any additional measures necessary to comply with Sections A and B of this Order.

(e) Each Copermittee must implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.

(3) Enforcement of Residential Areas and Activities

Each Copermittee must enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

(4) Evaluation of Oversight of Residential Areas and Activities

Each Copermittee must annually review the effectiveness of efforts to reduce residential discharges of storm water pollutants from the MS4 and eliminate illicit residential discharges into the MS4. The evaluation must consider findings from monitoring data, municipal employee comments, inspections, complaints, and other appropriate sources.

(5) Common Interest Areas (CIA) / Home Owner Association (HOA) Areas

Each Copermittee must implement measures specifically to ensure that runoff within common interest developments, including areas managed by associations, meets the objectives of this section and Order.

(a) BMP Implementation: Each Copermittee must implement management measures based on a review of pertinent factors, including:

(i) Current maintenance duties and procedures used by CIA/HOA maintenance associations within its jurisdiction;
(ii) Whether streets and storm drains are publicly or privately owned within the CIA/HOA;
(iii) Whether the CIA/HOA area has been identified as a high priority residential area;
(iv) Proximity to 303(d)-listed waterbodies, the ocean, environmentally sensitive areas;
(v) Evaluation of water quality monitoring data;
(vi) Evaluation of existing illegal discharge/illicit connection activities;
(vii) Other activities conducted or authorized by the HOA that may pose a significant risk to inland or coastal receiving waters.

(b) Legal Authority and Enforcement: Within one year of adoption of this Order, each Copermittee must review its Municipal Code to determine the most appropriate method to implement and enforce runoff management measures within CIA/HOA areas.

(6) Residential Education Program

(a) Each Copermittee must implement a Residential Education Program using all media as appropriate to (1) measurably increase the knowledge regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce storm water and eliminate prohibited non-storm water pollutant releases to MS4s and the environment.

(b) Copermittee educational programs must emphasize underserved target audiences, residents and managers of CIA/HOA areas, high-risk behaviors, and "allowable" behaviors and discharges. At a minimum, the education program must meet the requirements of this section and address the following issues:
(i) Laws, regulations, permits, & requirements;
(ii) Best management practices;
(iii) General runoff concepts;
(iv) Existing water quality, including local water quality conditions, impaired waterbodies and environmentally sensitive areas; and
(v) Other topics, including public reporting mechanisms, water conservation, low-impact development techniques, and public health and disease vector issues associated with runoff.

d. Retrofitting Existing Development

Each Copermittee must develop and implement a retrofitting program which

meets the requirements of this section. The goals of the existing development retrofitting program are to reduce impacts from hydromodification, promote LID, support riparian and aquatic habitat restoration, reduce the discharges of storm water pollutants from the MS4 to the MEP, and prevent discharges from the MS4 from causing or contributing to a violation of water quality standards. Where feasible, at the discretion of the Copermittee, the existing development retrofitting program may be coordinated with flood control projects and infrastructure improvement programs.

(1) Source Identification
The Copermittee must identify and inventory existing developments (i.e. municipal, industrial, commercial, residential) as candidates for retrofitting. Potential retrofitting candidates must include but are not limited to:

(a) Development that contributes pollutants of concern to a TMDL or a ESA,
(b) Receiving waters channelized or otherwise hardened,
(c) Development tributary to receiving waters that are channelized or otherwise hardened,
(d) Developments tributary to receiving waters that are significantly eroded,
(e) Developments tributary to an ASBS or SWQPA, and
(f) Development that causes hydraulic constriction.

(2) Each Copermittee shall evaluate and rank the inventoried existing developments to prioritize retrofitting. Criteria for evaluation must include but is not limited to:

(a) Feasibility,
(b) Cost effectiveness,
(c) Pollutant removal effectiveness,
(d) Impervious area potentially treated,
(e) Maintenance requirements,
(f) Landowner cooperation,
(g) Neighborhood acceptance,
(h) Aesthetic qualities, and
(i) Efficacy at addressing concern.

(3) Each Copermittee must consider the results of the evaluation in prioritizing work plans for the following year. Highly feasible projects expected to benefit water quality should be given a high priority to implement source control and treatment control BMPs. Where feasible, the retrofit projects should be designed in accordance with the SSMP requirements within sections F.1.d.(3) through F.1.d.(8). In addition, the Copermittee shall encourage retrofit projects to implement where feasible the Hydromodification requirements in Section F.1.h.

(4) When requiring retrofitting on existing development, the Copermittees will cooperate with private landowners to encourage retrofitting projects. The Copermittee may consider the following practices in cooperating and encouraging private landowners to retrofit their existing development:

(a) Demonstration retrofit projects;
(b) Retrofits on public land and easements;
(c) Education and outreach;
(d) Subsidies for retrofit projects;
(e) Requiring retrofit projects as mitigation or ordinance compliance;
(f) Public and private partnerships; and
(g) Fees for existing discharges to the MS4.

(5) The completed retrofit BMPs shall be tracked and inspected in accordance with section F.1.f.

(6) Where constraints on Retrofitting preclude effective BMP deployment on existing developments at locations critical to protect receiving waters, a Copermittee may propose a regional mitigation project to improve water quality. Such regional projects may include but are not limited to:

(a) Regional water quality treatment BMPs,
(b) Urban creek or wetlands restoration and preservation,
(c) Daylighting and restoring underground creeks,
(d) Localized rainfall storage and reuse to the extent such projects are fully protective of downstream water rights,
(e) Hydromodification project, and
(f) Removal of invasive plant species.

(7) A retrofit project or regional mitigation project may qualify as a Watershed Water Quality Activity provided it meets the requirements in section G. Watershed Runoff Management Program.

4. ILLICIT DISCHARGE DETECTION AND ELIMINATION

Each Copermittee must implement a program which meets the requirements of this section to actively detect and eliminate illicit discharges and disposal into the MS4. The program must address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of this Order.

a. PREVENT AND DETECT ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must implement measures to prevent and detect illicit discharges to the MS4.

(1) Legal Authority: Each Copermittee must retain legal authority to prevent and eliminate illicit discharges and connections to the MS4.

(2) Inspections: Each Copermittee must include use of appropriate municipal personnel and contractors to assist in identifying illicit discharges and connections during their daily activities.

(a) Inspections for illegal discharges and connections must be conducted during routine maintenance of all MS4 facilities.

(b) Municipal staff and contractors conducting non-MS4 field operations must be trained to report suspected illegal discharges and connections to proper municipal staff.

b. MAINTAIN MS4 MAP

Each Copermittee must maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of GIS is required. The accuracy of the MS4 map must be confirmed during dry weather field screening and analytical monitoring and must be updated at least annually. The GIS layers of the MS4 map must be submitted with the updated Jurisdictional Runoff Management Plan within 365 days after adoption of this Order.

c. FACILITATE PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS - PUBLIC HOTLINE

Each Copermittee must promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee must facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines must be capable of receiving reports in both English and Spanish 24 hours per day and seven days per week.

d. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

Each Copermittee must conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 in Attachment E of this Order.

e. INVESTIGATION / INSPECTION AND FOLLOW-UP

Each Copermittee must implement procedures to investigate and inspect portions of the MS4 that, based on the results of field screening, analytical monitoring, or other appropriate information, indicate a reasonable potential of containing illicit

discharges, illicit connections, or other sources of pollutants in non-storm water.

(1) Develop response criteria for data: Each Copermittee must develop, update, and use numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed in response to water quality monitoring. The criteria must include numeric effluent limitations (see Section C) and a consideration of 303(d)-listed waterbodies and environmentally sensitive areas (ESAs) as defined in Attachment C.

(2) Respond to data: Each Copermittee must investigate portions of the MS4 for which water quality data or conditions indicates a potential illegal discharge or connection.

(a) Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) must be investigated immediately.

(b) Field screen data: Within two business days of receiving dry weather field screening results that exceed action levels, the Copermittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation shall be included in the Annual Report.

(c) Analytical data: Within two business days of receiving analytical laboratory results that exceed action levels, the Copermittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation shall be included in the Annual Report.

(3) Respond to notifications: Each Copermittee must respond to and resolve each reported incident (e.g., public hotline, staff notification, etc.) in a timely manner. Criteria may be developed to assess the validity of, and prioritize the response to, each report.

f. ELIMINATION OF ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must take immediate action to initiate steps necessary to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections after detection. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately.

g. ENFORCE ORDINANCES

Each Copermittee must implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4 and to eliminate detected illicit discharges and connections to it's MS4.

h. PREVENT AND RESPOND TO SEWAGE SPILLS (INCLUDING FROM PRIVATE LATERALS AND FAILING SEPTIC SYSTEMS) AND OTHER SPILLS

(1) Each Copermittee must implement management measures and procedures to prevent, respond to, contain and clean up all sewage (see below) and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Copermittees must coordinate with spill response teams to prevent entry of spills into the MS4 and contamination of surface water, ground water and soil. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times.

(2) Each Copermittee must develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee must implement management measures and procedures to prevent, respond to, and coordinate a response to contain and clean up sewage from any such notification.

i. EDUCATION AND TRAINING

Each Copermittee must implement educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.

5. PUBLIC PARTICIPATION COMPONENT

Each Copermittee must incorporate a mechanism for public participation in the updating, development, and implementation of the Jurisdictional Runoff Management Program.

G. WATERSHED RUNOFF MANAGEMENT PROGRAM

1. Lead Watershed Copermittee Identification

Watershed Copermittees shall identify the Lead Watershed Copermittee for their Watershed Management Area (WMA). The Lead Watershed Copermittees shall serve as liaisons between the Permittees and Regional Board, where appropriate.

2. Watershed Water Quality Workplan (Watershed Workplan)

The Watershed Workplan shall describe the Permittees' development and implementation of a collective watershed strategy to assess and prioritize the water quality problems within the watershed's receiving waters, identify and model sources of the highest priority water quality problem(s), develop a watershed-wide BMP implementation strategy to abate highest priority water quality problems, and a monitoring strategy to evaluate BMP effectiveness and changing water quality prioritization in the WMA.

The work plan shall, at a minimum:

a. Characterize the receiving water quality in the WMA. Characterization shall include use of regularly collected water quality data, reports, monitoring and analysis generated in accordance with the requirements of the Receiving Waters Monitoring and Reporting Program, as well as applicable information available from other public and private organizations.

b. Identify the highest priority water quality problem(s), in terms of constituents by location, in the WMA's receiving waters. Identified water quality problem(s) shall, at a minimum, give consideration to; TMDLs, receiving waters listed on the CWA section 303(d) list, waters with persistent violations of water quality standards, toxicity, or impacts to beneficial uses, and other pertinent conditions.

c. Identify the sources of the highest water quality problem(s) within the WMA. Efforts to determine such sources shall include, but not be limited to: use of information from the construction, industrial/commercial, municipal, and residential source identification programs required within the Jurisdictional Runoff Program (JRMP) of this Order; specific actions to model pollutant transport to receiving waters for the sake of identifying the source(s) point(s) of origin; water quality monitoring data collected as part of the Receiving Water Monitoring and Reporting Program required by this Order, and additional focused water quality monitoring to identify specific sources within the watershed.

d. Develop a watershed BMP implementation strategy to attain receiving water quality objectives in the identified highest priority water quality problem(s). The BMP implementation strategy shall include a schedule for implementation of the

BMP projects to abate specific receiving water quality problems. BMPs not contributing to measured pollutant reductions or improvements to water quality must be removed and replaced with alternative BMPs. Identified watershed water quality problems may be the result of jurisdictional discharges that will need to be addressed with BMPs applied in a specific jurisdiction in order to generate a benefit to the watershed.

e. Develop a strategy to model and monitor improvements in receiving water quality directly resulting from implementation of the BMPs described in the Watershed Workplan. The modeling and monitoring strategy shall generate the necessary data to report on the measured pollutant reduction that results from proper BMP implementation. Monitoring shall, at a minimum, be conducted in the receiving water to demonstrate reduction in pollutant concentrations and progression towards attainment of receiving water quality objectives.

f. Establish a schedule for development and implementation of the Watershed strategy outlined in the Workplan. The schedule shall, at a minimum, include forecasted dates of planned actions to address Provisions E.2(a) through E.2(e) and dates for watershed review meetings through the remaining portion of this Permit cycle. Annual watershed workplan review meetings must be open to the public and appropriately publically noticed such that interested parties may come and provide comments on the watershed program.

3. **Watershed Workplan Implementation –** Watershed Copermittee's shall begin implementing the Watershed Workplan within 60-days of acceptance by the Regional Board Executive Officer.

4. **Copermittee Collaboration** – Watershed Copermittees shall collaborate to develop and implement the Watershed Workplan. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

5. **Public Participation –** Watershed Copermittees shall implement a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation shall be a minimum 30-day public review of the Watershed Workplan. Opportunity for the public to review and comment on the Watershed Workplan must occur before the workplan is implemented.

6. **Watershed Workplan Review and Updates –** Watershed Copermittees shall review and update the Watershed Workplan annually to identify needed changes to the prioritized water quality problem(s) listed in the workplan. All updates to the Watershed Workplan shall be presented during an Annual Watershed Review Meeting. Annual Watershed Review Meetings shall occur once every calendar year and be conducted by the Watershed Copermittees. Annual Watershed Review Meetings shall be open to the public and adequately noticed. Individual Watershed Copermittees shall also review and modify their jurisdictional programs and JRMP

Annual Reports, as necessary, so that they are consistent with the updated Watershed Workplan.

7. Aliso Creek Watershed Runoff Management Plan (WRMP) Provisions

The following provisions apply to the Aliso Creek WRMP. Requirements in this subsection must supersede requirements prescribed by the Regional Board on October 18, 2005.[21]

a. Each Copermittee within the Aliso Creek Watershed must implement the monitoring and reporting program described in *Aliso Creek 13325 Directive, Revised Monitoring Program Design – Integration with NPDES Program*, December 2004 (Revised Aliso Creek Program).

b. Each Copermittee must provide annual reports by March 1 of each year beginning in 2011 for the preceding annual period of January through December. The annual reports must contain the following information:

(1) Water quality data and assessment from the Revised Aliso Creek Program. Each municipality must implement the monitoring and reporting program described in the Revised Aliso Creek Program. All information submitted in the report must conform to a SWAMP-Compatible Quality Assurance Project Plan[22]. The report must contain an assessment of compliance with applicable water quality standards for each monitoring station. The report must include data in tabular and graphical form, and electronic data must be submitted to the Regional Board.

(2) Program Assessment. A description and assessment of each municipality's program implemented within the high-priority storm drain locations (as identified Revised Aliso Creek Program) to reduce discharges of indicator fecal bacteria/pathogens. Monitoring alone is not sufficient to assess progress of the municipal programs. Municipalities must demonstrate each year that their programs are effective and resulting in a reduction of bacteria sources.

(i) For structural and nonstructural management practices implemented, the assessment must contain a description of the

[21] On October 12, 2005, the Regional Board accepted proposed changes to the bacteria monitoring program that had been conducted since spring 2001 pursuant to an Investigative Order from the Regional Board's executive officer. The October 18, 2005, letter from the Regional Board's executive officer revised the Investigative Order and instituted the new monitoring and reporting requirements.

[22] The State Water Resource Control Board (State Board) has prepared an electronic template for Quality Assurance Project Plans (QAPP) to assist in QAPP development, to provide a common format that will allow for review to be expedited, and to provide information on Surface Water Ambient Monitoring (SWAMP) consistency. Additional information and the template are available on-line at http://www.waterboards.ca.gov/swamp/qapp.html.

practice, capital and maintenance costs, expectations for effectiveness, date implemented, and any observed results.

(ii) For structural and nonstructural management practices evaluated, the assessment must contain a description of the practice(s), conclusions from the evaluation, and whether and when the practice is planned for implementation by the municipality or group of municipalities.

(3) Status Reports. Updates on high-priority storm drain areas. Status reports must be provided by each municipality that discuss the causes of impairment and subsequent management activities implemented within the reporting period in the high priority areas and the planned activities for the next reporting period.

(4) Certification Statement. The technical reports submitted to the Regional Board must include the following certification statement signed by either the principal executive officer, ranking elected official, or duly authorized representative of that person:

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(s) directly responsible for gathering the information, the information 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.

c. The annual reports must be submitted until the Regional Board determines they are no longer warranted. If requested by a municipality, the monitoring program may be modified or reduced by the Regional Board. The monitoring program and annual reporting may be modified in response to adopted TMDLs and additional Clean Water Act 303(d) listings for impairment.

d. Municipalities must continue meeting on a quarterly basis to discuss efforts to reduce bacteria in the Aliso Creek watershed.

H. FISCAL ANALYSIS

1. Secure Resources: Each Copermittee must secure the resources necessary to meet all requirements of this Order.

2. Annual Analysis: Each Copermittee must conduct an annual fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs required by this Order. The analysis must include estimated expenditures for the reporting period, the preceding period, and the next reporting period.

a. Each analysis must 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.

b. Each analysis must include a narrative description of circumstances resulting in a 25 percent or greater annual change for any budget line items.

3. Annual Reporting: Each Copermittee must submit its annual fiscal analysis with the annual JRMP report.

I. TOTAL MAXIMUM DAILY LOADS

The waste load allocations (WLAs) of fully approved and adopted TMDLs are incorporated as Water Quality Based Effluent Limitations on a pollutant by pollutant, watershed by watershed basis. Early TMDL requirements, including monitoring, may be required and inserted into this Order pursuant to Finding E.12

1. Baby Beach Bacterial Indicator TMDL Water Quality Based Effluent Limitations

a. The Copermittees in the Baby Beach watershed shall implement BMPs capable of achieving the interim and final Bacterial Indicator Waste Load Allocations (WLAs) in discharges to Baby Beach as described in Table 6.

Table 6: TMDL Waste Load Reduction Milestones

Action	Date
Meet 50% wasteload reductions	3 years after effective date for dry weather
	7 years after effective date for wet weather
Meet 100% wasteload reductions	5 years after effective date for dry weather
	10 years after effective date for wet weather

b. The Copermittees shall conduct necessary monitoring, as described in Attachment A to Resolution No. R9-2008-0027, and submit annual progress reports as part of their yearly reports.

c. The following WLAs (Table 7) are to be met in Baby Beach receiving water by the end of the year 2019:

Table 7: Final Bacterial Indicator Waste Load Allocations for Baby Beach

	Waste Load Allocation	
Bacterial Indicator	Dry Weather (Billion MPN / Day)	Wet Weather (Billion MPN / 30 Days)
Total Coliform	0.86	3,254
Fecal Coliform	0.17	112
Enterococcus	0.03	114

MPN: Most Probable Number

d. The Copermittees must meet the following Numeric Targets (Table 8) in Baby Beach receiving waters in order to meet the underlying assumptions of the TMDL. The Numeric Targets are to be met once 100 percent of the WLA reductions have been achieved (see Table 7 above).

Table 8: Final Bacterial Indicator Numeric Targets for Baby Beach

Bacterial Indicator	30-day geo mean (MPN / 100mL)	Single Sample Max (MPN / 100mL)
	Dry Weather only	Dry and Wet Weather
Total Coliform	1,000	10,000
Fecal Coliform	200	400
Enterococcus	35	104

MPN: Most Probable Number

J. PROGRAM EFFECTIVENESS ASSESSMENT AND REPORTING

1. Jurisdictional Program Effectiveness Assessments

a. OBJECTIVES OF EFFECTIVENESS ASSESSMENTS

Beginning with the Annual Report due in 2010, each Copermittee must annually assess the effectiveness of its Jurisdictional Runoff Management Program (JRMP) implementation at meeting the following objectives:

(1) Objective for 303(d) Waterbodies: Reduce storm water pollutant loadings.

(a) Each Copermittee must establish annual assessment measures or methods specifically for reducing discharges of storm water pollutants from its MS4 into each downstream 303(d)-listed water body for which that waterbody is impaired. Assessment measures must be developed for each of the six outcome levels described by CASQA.[23]

(b) Each Copermittee must annually conduct each established assessment measure or method and evaluate the outcome. Each outcome must then be used to assess the effectiveness of implemented management measures toward reducing MS4 discharges of the specific pollutants causing or contributing to conditions of impairment.

(c) The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

(2) Objective for Environmentally-Sensitive Areas: Prevent storm water MS4 discharges from causing or contributing to conditions of pollution, nuisance, or contamination.

(a) Each Copermittee must establish annual measures or methods specifically for assessing the effectiveness of its management measures for protecting downstream ESAs from adverse effects caused by discharges from its MS4. Assessment measures must be developed for each of the six outcome levels described by CASQA.

(b) Each Copermittee must annually implement each established assessment measure or method and evaluate the outcome. Each outcome must be used to assess the effectiveness of implemented management measures toward reducing MS4 discharges of the specific pollutants causing or contributing to conditions of impairment.

[23] Effectiveness assessment outcome levels as defined by CASQA are defined in Attachment C of this Order. See "*Municipal Stormwater Program Effectiveness Assessment Guidance"* (CASQA, May 2007) for guidance for assessing program activities at the various outcome levels.

(c) The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

(3) Objectives for major program component outcomes: Determined by Each Copermittee.

(a) Each Copermittee must annually develop objectives for each program component in Section F and the overall JRMP. The objectives must be established as appropriate in response to program implementation and evaluation of water quality and management practices.

(b) Assessment approaches for program implementation must include a mix of specific activities, general program components, and water quality data.

(c) The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

(4) Objectives for actions taken to protect receiving water limitations in accordance with this Order.

(a) Each Copermittee must develop and implement an effectiveness assessment strategy for each measure conducted in response to a determination to implement the "iterative" approach to prevent or reduce any storm water pollutants that are causing or contributing to the exceedance of water quality standards as outlined in this Order

b. ASSESSMENT REVIEW

(1) Based on the results of the effectiveness assessments, each Copermittee must annually review its jurisdictional activities and BMPs to identify modifications and improvements needed to maximize JRMP effectiveness, as necessary to achieve compliance with this Order.

(2) Each Copermittee must develop and annually conduct an Integrated Assessment[24] of each effectiveness assessment objective above (Section J.1.a) and the overall JRMP using a combination of outcomes as appropriate to the objectives.[25]

2. Program Modifications

a. Each Copermittee must develop and implement a plan and schedule to address program modifications and improvements identified during annual effectiveness

[24] Integrated assessment is defined in Attachment C. It is the process of evaluating whether program implementation is resulting in the protection or improvement of water quality. Integrated assessment combines assessments of program implementation and water quality.
[25] Not all program components need be addressed at each of the six outcome levels.

assessments.

b. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs must be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems must be modified and improved to correct the water quality problems.

3. Effectiveness Assessment and Program Response Reporting

a. Each Copermittee must include a description and summary of its annual and long-term effectiveness assessments within each Annual Report. Beginning with the Annual Report due in 2010, the Program Effectiveness reporting must include:

(1) 303(d) waterbodies: A description and results of the annual assessment measures or methods specifically for reducing discharges of storm water pollutants from its MS4 into each 303(d)-listed waterbody;

(2) ESAs: A description and results of the annual assessment measures or methods specifically for managing discharges of pollutants from its MS4 into each downstream ESA;

(3) Other Program Components: A description of the objectives and corresponding assessment measures and results used to evaluate the effectiveness of each general program component. The results must include findings from both program implementation and water quality assessment where applicable;

(4) Receiving water protection: A description and results of the annual assessment measures or methods employed specifically for actions taken to protect receiving water limitations in accordance with Section A.3 of this Order;

(5) A description of the steps taken to use dry-weather and wet-weather monitoring data to assess the effectiveness of the programs for 303(d) impairments, ESAs, and general program components;

(6) A description of activities conducted in response to investigations of illicit discharge and illicit connection activities, including how each investigation was resolved and the pollutant(s) involved;

(7) Responses to effectiveness assessments: A description of each program modification, made in response to the results of effectiveness assessments

conducted pursuant to Section J.1.a, and the basis for determining (pursuant to Section J.2.b.) that each modified activity and/or BMP represents an improvement with respect to reducing the discharge of storm water pollutants from the MS4.

(8) A description of the steps that will be taken to improve the Copermittee's ability to assess program effectiveness using measurable targeted outcomes, assessment measures, assessment methods, and outcome levels 1-6. Include a time schedule for when improvement will occur; and

(9) A description of the steps that will be taken to identify aspects of the Copermittee's Jurisdictional Runoff Management Program that will be changed based on the results of the effectiveness assessment.

4. Work Plan

Each Copermittee must develop a work plan to address their high priority water quality problems in an iterative manner over the life of the permit. The goal of the work plan is to demonstrate a responsive and adaptive approach for the judicious and effective use of available resources to attack the highest priority problems. The work plan shall include, at a minimum, the following:

a. The problems and priorities identified during the assessment;
b. A list of priority pollutants and known or suspected sources;
c. A brief description of the strategy employed to reduce, eliminate or mitigate the negative impacts;
d. A description and schedule for new and/or modified BMPs. The schedule is to include dates for significant milestones;
e. A description of how the selected activities will address an identified high priority problem. This will include a description of the expected effectiveness and benefits of the new and/or modified BMPs;
f. A description of implementation effectiveness metrics;
g. A description of how efficacy results will be used to modify priorities and implementation; and
h. A review of past activities implemented, progress in meeting water quality standards, and planned program adjustments.

The Copermittee shall submit the work plan to the Regional Board within 365 days of adoption of the Order. Annual updates are also required and shall be included with the annual JRMP report. The Regional Board will assess the work plan for compliance with the specific and overall requirements of the Order. To increase effectiveness and efficiencies, Copermittees may combine their implementation efforts and work plans within a hydrologic area or sub area. Each Copermittee, however, maintains individual responsibility for developing and implementing an acceptable work plan.

K. REPORTING

The Copermittees may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer's acceptance. The Copermittees shall submit the updated JRMP within 365 days after adoption of this Order.

1. Runoff Management Plans

a. JURISDICTIONAL RUNOFF MANAGEMENT PLANS

(1) Copermittees: The written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section F of this Order is referred to as the Jurisdictional Runoff Management Plan (JRMP). Each Copermittee must revise and update its existing JRMP so that it describes all activities the Copermittee will undertake to implement the requirements of this Order. Each Copermittee must submit its updated and revised JRMP to the Regional Board 365 days after adoption of this Order.

(2) At a minimum, each Copermittee's JRMP must be updated and revised to demonstrate compliance with each applicable section of this Order.

b. WATERSHED WORKPLANS

(1) Copermittees: The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Workplan. Copermittees within each watershed shall be responsible for updating and revising each Watershed Workplan. Each Watershed Workplan shall be updated and revised to describe any changes in water quality problems or priorities in the WMAs, and any necessary change to actions Copermittees will take to implement jurisdictional or watershed BMPs to address those identified.

(2) Lead Watershed Copermittee: Each Lead Watershed Permittee shall be responsible for coordinating the production of the Watershed Workplan, as well as coordinating Annual Watershed Review Meetings and public participation/public noticing in accordance with the requirements of this Order. The Lead Watershed Permittee shall submit the Watershed Workplan to the Principal.

(3) Principal Copermittee: The Principal Permittee shall assemble and submit the Watershed Workplan to the Regional Board no later than 365 days after adoption of this Order, and shall be prepared to implement the workplan within 60 days of the Regional Board Executive Officer deeming the workplan acceptable.

(4) Each Watershed Workplan shall, at a minimum, include:

(a) Identification of the Lead Watershed Permittee for the watershed.
(b) An updated watershed map.
(c) Identification and description of all applicable water quality data, reports, analyses, and other information to be used to assess receiving water quality.
(d) Assessment and analysis of the watershed's water quality data, reports, analyses, and other information, used during identification and prioritization of the watershed's water quality problems.
(e) A prioritized list of water quality problems within the WMA including rationale explaining the method/logic used to determine prioritization.
(f) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the WMA.
(g) A description of the strategy to be used to guide Copermittee implementation of BMPs either jurisdictionally or on a watershed-wide basis to abate the highest water quality problems
(h) A list of criteria used to evaluate BMP effectiveness and how it was applied.
(i) A GIS map of BMPs implemented and BMPs scheduled for implementation.
(j) A description of the public participation mechanisms to be used and the parties anticipated to be involved during the development and implementation of the Watershed Workplan.
(k) A description of Copermittee collaboration to accomplish development of the Watershed Workplan, including a schedule for Watershed meetings.
(l) A description of how TMDLs and 303(d)-listed water bodies were considered during prioritization of watershed water quality problems
(m) A description of the strategy to model and monitor improvement in receiving water quality directly resulting from implementation of the BMPs described in the Watershed Workplan.
(n) A scheduled annual Watershed Workplan Review Meeting once every calendar year. This meeting shall be open to the public.

2. Other Required Reports and Plans

a. SSMP UPDATES

(1) Copermittees must submit their updated model SSMP in accordance with the applicable requirements of section F.1 with the JRMP 365 days after adoption of this Order.

(2) Within 180 days of determination that the Model SSMP is in compliance with this Permit's provisions, each Copermittee must update their own local SSMP, and amended ordinances consistent with the model SSMP, and shall submit both (local SSMP and amended ordinances) to the Regional Board.

(3) For SSMP-related requirements of Section F.1 with subsequent implementation due dates, updated SSMPs must be submitted with the JRMP annual report covering the applicable reporting period.

b. REPORT OF WASTE DISCHARGE

The Principal Copermittee must submit to the Regional Board, no later than 210 days in advance of the expiration date of this Order, a Report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements. The fourth annual report for this Order may serve as the ROWD, provided it contains the minimum information below.

At a minimum, the ROWD must include the following: (1) Proposed changes to the Copermittees' runoff management programs; (2) Proposed changes to monitoring programs; (3) Justification for proposed changes; (4) Name and mailing addresses of the Copermittees; (5) Names and titles of primary contacts of the Copermittees; and (6) Any other information necessary for the reissuance of this Order.

3. Annual Reports

a. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM (JRMP) ANNUAL REPORTS

(1) Copermittees: Each Copermittee must generate individual JRMP Annual Reports which cover implementation of its jurisdictional activities during the past annual reporting period. Each Annual Report must verify and document compliance with this Order as directed in this section. Each Copermittee must retain records through 2015, available for review, that document compliance with each requirement of this Order. Each Copermittee must submit to the Principal Copermittee its individual JRMP Annual Report by the date specified by the Principal Copermittee. The reporting period for these annual reports must be the previous fiscal year. For example, the report submitted September 30, 2010 must cover the reporting period July 1, 2009 to June 30, 2010.

(2) Principal Copermittee: The Principal Copermittee is responsible for collecting and assembling each Copermittee's individual JRMP Annual Report. The Principal Copermittee must submit Unified JRMP Annual Reports to the Regional Board by September 30 of each year, beginning on September 30, 2010. The Unified JRMP Annual Report must contain the 13 individual JRMP Annual Reports.

(3) Each JRMP Annual Report must contain, at a minimum, the following information:

(a) Information required to be reported annually in Section H (Fiscal Analysis)

of this Order;
(b) Information required to be reported annually in Section J (Program Effectiveness) of this Order;
(c) The completed Reporting Checklist found in Attachment D, and
(d) Information for each program component by watershed as described in the following Table 9:

Table 9. Annual Reporting Requirements

Program Component	Reporting Requirement
New Development	1. Updated relevant sections of the General Plan and environmental review process and a description of planned updates within the next annual reporting period, if applicable
	2. Revisions to the local SSMP, including where applicable: (a) Identification and summary of where the SSMP fails to meet the requirements of this Order; (b) Updated procedures for identifying pollutants of concern for each Priority Development Project; (c) Updated treatment BMP ranking matrix; and (d) Updated site design and treatment control BMP design standards;
	3. Verification that site design, source control, and treatment BMPs were required on all applicable Priority Development Projects;
	4. Description of the application of LID and site design BMPs in the planning and approval process;
	5. Description of projects subject to the local waiver provision for numeric sizing of treatment control BMP requirements;
	6. Description and summary of the LID site design BMP substitution program, if applicable;
	7. Description and summary of the process to verify compliance with SSMP requirements;
	8. Updates to the BMPs that are listed in the local SSMP as options for treatment control;
	9. Description of the treatment control maintenance tracking process and verification that the requirements of this Order were met during the reporting period; (a) Updated watershed-based database of approved treatment control BMPs and treatment control BMP maintenance within its jurisdiction, including updates to the list of high-priority treatment BMPs;
	10. Description of the process for identifying and evaluating hydrologic conditions of concern and requiring a suite of management measures within all Priority Development Projects to protect downstream beneficial uses and prevent adverse physical changes to downstream stream channels;

Program Component	Reporting Requirement
	11. Description of enforcement activities applicable to the new development and redevelopment component and a summary of the effectiveness of those activities;
Construction	1. Updated relevant ordinances and description of planned ordinance updates within the next annual reporting period, if applicable;
	2. A description of procedures used for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality;
	3. Designated minimum and enhanced BMPs;
	4. Summary of the inspection program, including the following information: (a) Number and date of inspections conducted at each facility, including the facility address; (b) Number of facilities lacking adequate BMPs; (c) The BMP violations identified during the inspection by facility; (d) Number, date, and types of enforcement actions by facility; (e) Narrative description of inspection findings and follow-up activities for each facility;
Municipal	1. Updated source inventory;
	2. Changes to the designated municipal BMPs
	3. Descriptions of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies;
	4. Summary and assessment of BMPs implemented at retrofitted flood control structures, including: (a) List of projects with BMP retrofits; and (b) List and description of structures retrofitted without BMPs;
	5. Description and assessment of the municipal structural treatment control operations and maintenance activities, including: (a) Number of inspections and types of facilities; and (b) Summary of findings;
	6. Description of the municipal areas/facilities operations and maintenance activities, including: (a) Number and types of facilities maintained; (b) Amount of material removed and how that material was disposed; and (c) List of facilities planned for bi-annual inspections and the justification;

Program Component	Reporting Requirement
	7. Description of the municipal areas/programs inspection activities, including: (a) Number and date of inspections conducted at each facility; (b) Number of facilities lacking adequate BMPs; (c) The BMP violations identified during the inspection by facility; (d) Number, date and types of enforcement actions by facility; (e) Narrative description of inspection findings and follow-up activities for each facility;
	8. Description of activities implemented to address sewage infiltration into the MS4;
Commercial / Industrial	1. Annual inventory of commercial / industrial sources;
	2. Summary of the inspection program, including the following information: (a) Number and date of inspections conducted at each facility including the facility address; (b) Number of facilities lacking adequate BMPs; (c) The BMP violations identified during the inspection by facility; (d) Number, date, and types of enforcement actions by facility; (e) Narrative description of inspection findings and follow-up activities for each facility;
	3. Changes to designated minimum and enhanced BMPs;
	4. A list of industrial sites, including each name, address, and SIC code, that the Copermittee suspects may require coverage under the General Industrial Permit, but has not submitted an NOI.
Residential	1. Updated minimum BMPs required for residential areas and activities;
	2. Quantification and summary of applicable runoff and storm water enforcement actions within residential areas and activities
	3. Description of efforts to manage runoff and storm water pollution in common interest areas;
Illicit Discharge Detection and Elimination	1. Changes to the legal authority to implement Illicit Discharge Detection and Elimination activities;
	2. Changes to the established investigation procedures;
	3. Public reporting mechanisms, including phone numbers and web pages;
	4. All data and assessments from the Dry Weather Effluent Analytical Monitoring activities;
	5. Response criteria developed for water quality data and notifications;
	6. Summaries of illicit discharges (including spills and water quality data events) and how each significant case was resolved;
	7. A description of instances when field screening and analytical data exceeded action levels, but for which no investigation was conducted;

Program Component	Reporting Requirement
	8. A description of enforcement actions taken in response to investigations of illicit discharges and a description of the effectiveness of those enforcement measures;
	9. A description of controls to prevent infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems.
Work Plan	Priorities, strategy, implementation schedule and effectiveness evaluation.

(4) Each JRMP Annual Report must also include the following information regarding non-storm water discharges (see Section B.2. of this Order):

(a) Identification of non-storm water discharge categories identified as a source of pollutants to waters of the U.S;
(b) A description of ordinances, orders, or similar means to prohibit non-storm water discharge categories identified under section B.2 above ;
(c) Identification of any control measures to be required and implemented for non-storm water discharge categories identified as needing said controls by the Regional Board; and
(d) A description of a program to address pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.

4. Interim Reporting Requirements

For the July 2009-June 2010 reporting period, the Jurisdictional RMP must be submitted on January 31, 2011. Each Jurisdictional RMP Annual Report submitted for this reporting period must, at a minimum, include comprehensive descriptions of all activities conducted to fully implement the Copermittees' Jurisdictional RMP documents, as those documents were developed to comply with the requirements of Order No. 2002-01. The Principal Copermittee must submit these documents in a unified manner, consistent with the unified reporting requirements of Order No. 2002-01.

5. Universal Reporting Requirements

All submittals must include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal. The Principal Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

L. MODIFICATION OF PROGRAMS

Modifications of Jurisdictional Runoff Management Programs and/or Watershed Runoff Management Programs may be initiated by the Executive Officer of the Regional Board or by the Copermittees. Requests by Copermittees must be made to the Executive Officer, and must be submitted during the annual review process. Requests for modifications should be incorporated, as appropriate, into the Annual Reports or other deliverables required or allowed under this Order.

1. Minor Modifications: Minor modifications to Jurisdictional Runoff Management Programs, and/or Watershed Runoff Management Programs, may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of this Order.

2. Modifications Requiring an Amendment to this Order: Proposed modifications that are not minor require amendment of this Order in accordance with this Order's rules, policies, and procedures.

M. PRINCIPAL COPERMITTEE RESPONSIBILITIES

Within 180 days of adoption of this Order, the Copermittees must designate the Principal Copermittee and notify the Regional Board of the name of the Principal Copermittee. The Principal Copermittee must, at a minimum:

1. Serve as liaison between the Copermittees and the Regional Board on general permit issues, and when necessary and appropriate, represent the Copermittees before the Regional Board.

2. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order.

3. Integrate individual Copermittee documents and reports into single unified documents and reports for submittal to the Regional Board as required under this Order.

4. Produce and submit documents and reports as required by section K of this Order and Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 in Attachment E of this Order.

N. RECEIVING WATERS AND MS4 DISCHARGE MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Copermittees must comply with all the requirements contained in Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 in Attachment E of this Order.

O. STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. Each Copermittee must comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment B of this Order. This includes 24 hour/5 day reporting requirements for any instance of non-compliance with this Order as described in section 5.e of Attachment B.

2. All plans, reports and subsequent amendments submitted in compliance with this Order must be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on (**DATE**).

_____ TENTATIVE _____
John H. Robertus
Executive Officer

ATTACHMENT A

BASIN PLAN PROHIBITIONS

California Water Code Section 13243 provides that a Regional Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a NPDES permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this Regional Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the Regional Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of "storm water" is prohibited unless authorized by the Regional Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water

runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities. [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.

10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the Regional Board.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

ATTACHMENT B

STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE [40 CFR 122.41]

(a) *Duty to comply* [40 CFR 122.41(a)].

(1) The Copermittee 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 (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(2) The Copermittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA 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 or standards for sewage sludge use or disposal, even if the Order has not yet been modified to incorporate the requirement.

(b) *Need to halt or reduce activity not a defense* [40 CFR 122.41(c)]. It shall not be a defense for the Copermittee 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.

(c) *Duty to mitigate* [40 CFR 122.41(d)]. The Copermittee shall take all reasonable steps to minimize or prevent any discharge 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.

(d) *Proper operation and maintenance* [40 CFR 122.41(e)]. The Copermittee 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 Copermittee 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 back-up or auxiliary facilities or similar systems that are installed by the Copermittee only when necessary to achieve compliance with the conditions of this Order.

(e) *Property rights* [40 CFR 122.41(g)].

(1) This Order does not convey any property rights of any sort or any exclusive privilege.
(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.

(f) *Inspection and entry* [40 CFR 122.41(i)]. The Copermittee shall allow the Regional Water Quality Control Board, San Diego Region (Regional Board), State Water

Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
(3) Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
(4) Sample or monitor, at reasonable times, for the purpose of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location.

(g) *Bypass* [40 CFR 122.41(m)]

(1) Definitions:

i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations - The Copermittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance (g)(3), (g)(4) and (g)(5) below.

(3) Prohibition of Bypass - Bypass is prohibited, and the Regional Board may take enforcement action against a Copermittee for bypass, unless:

i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
iii) The Copermittee submitted notice as required under Standard Provisions – Permit Compliance (g)(3) above.

(4) Notice

i) Anticipated bypass. If the Copermittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least ten days before the date of the bypass.
ii) Unanticipated bypass. The Copermittee shall submit notice of an unanticipated bypass as required in Standard Provisions 5(e) below (24-hour notice).

(h) *Upset* [40 CFR 122.41(n)] Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the Copermittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance (h)(2) below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(2) Conditions necessary for a demonstration of upset. A Copermittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i) An upset occurred and that the Copermittee can identify the cause(s) of the upset;
ii) The permitted facility was at the time being properly operated;
iii) The Copermittee submitted notice of the upset as required in Standard Provisions – Permit Compliance (5)(e)(ii)(B) below (24-hour notice); and
iv) The Copermittee complied with any remedial measures required under Standard Provisions – Permit Compliance 1(c) above.

(3) Burden of Proof. In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof.

2. STANDARD PROVISIONS – PERMIT ACTION

(a) *General* [40 CFR 122.41(f)] This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition.

(b) *Duty to reapply* [40 CFR 122.41(b)]. If the Copermittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Copermittee must apply for and obtain new permit.

(c) *Transfers*. This Order is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the Order to change the name of the Copermittee and incorporate such other requirements as may be necessary under the CWA and the CWC.

3. STANDARD PROVISIONS – MONITORING

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

(b) Monitoring results must be conducted according to test procedures under 40 CFR Part 136, or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR Section 122.41(j)(4)][40 CFR Section 122.44(i)(1)(iv)].

4. STANDARD PROVISIONS – RECORDS

(a) Except for records of monitoring information required by this Order related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Copermittee 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 rime [40 CFR Section 122.41(j)(2)].

(b) *Records of monitoring information* [40 CFR 122.41(j) (3)] shall include:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.

(c) *Claims of confidentiality* [40 CFR Section 122.7(b)] of the following information will be denied:

(1) The name and address of any permit applicant or Copermittee; and
(2) Permit applications and attachments, permits and effluent data.

5. STANDARD PROVISIONS – REPORTING

(a) *Duty to provide information* [40 CFR 122.41(h)]. The Copermittee shall furnish to the Regional Board, SWRCB, or USEPA within a reasonable time, any information which

the Regional Board, SWRCB, or USPEA 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 Copermittee shall also furnish to the Regional Board, SWRCB, or USEPA, copies of records required to be kept by this Order.

(b) *Signatory and Certification Requirements* [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the Regional Board, SWRCB, or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting 5(b)ii), 5(b)iii), 5(b)iv), and 5(b) (see 40 CFR 122.22)

(2) *Applications* [40 CFR 122.22(a)(3)] All permit applications shall be signed by either a principal executive officer or ranking elected official.

(3) *Reports* [40 CFR 122.22(b)]. All reports required by this Order, and other information requested by the Regional Board, SWRCB, or USEPA shall be signed by a person described in Standard Provisions – Reporting 5(b)(2) above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

i) The authorization is made in writing by a person described in Standard Provisions-Reporting 5(b)(2) above;

ii) 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.); and,

iii) The written authorization is submitted to the Regional Water Board and State Water Board.

(4) *Changes to authorization* [40 CFR Section 122.22(c)] If an authorization under Standard Provisions – Reporting 5(b)(3)of this reporting requirement 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 5(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.

(5) *Certification* [40 CFR Section 122.22(d)] Any person signing a document under Standard Provisions – Reporting 5(b)(2), or 5(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."

(c) *Monitoring reports*. [40 CFR 122.41(l)(4)]

(1) Monitoring results shall be reported at the intervals specified in the Receiving Waters and Runoff Monitoring and Reporting Program No. R9-2009-0002.

(2) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Board or SWRCB for reporting results of mentoring of sludge use or disposal practices.

(3) If the Copermittee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Board.

(4) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.

(d) *Compliance schedules*. [40 CFR Section 122.41(l)(5)] 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.

(e) *Twenty-four hour reporting* [40 CFR Section 122.41(l)(6)]

(1) The Copermittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Copermittee 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.

(2) The following shall be included as information, which must be reported within 24 hours under this paragraph:

i) Any unanticipated bypass that exceeds any effluent limitation in the Order (See 40 CFR 122.41(g)).
ii) Any upset which exceeds any effluent limitation in this Order.

(3) The Regional Board may waive the above-required written report under this

provision on a case-by-case basis if the oral report has been received within 24 hours.

(f) *Planned changes*. [40 CFR Section 122.41(l)(1)] The Copermittee shall give notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when:

(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 40 CFR 122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are not subject to effluent limitations in this Order.

(3) The alteration or addition results in a significant change in the Copermittee'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 Order, 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.

(g) *Anticipated noncompliance*. [40 CFR Section 122.41(l)(7)] The Copermittee shall give advance notice to the Regional Board or SWRCB of any planned changes in the permitted facility or activity, which may result in noncompliance with Order requirements.

(h) *Other noncompliance* [40 CFR Section 122.41(l) 7)] The Copermittee shall report all instances of noncompliance not reported under Standard Provisions 5(c), 5(d), and 5(e) above, at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5(e) above.

(i) *Other information* [40 CFR Section 122.41(l)(8)] When the Copermittee 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 Board, SWRCB, or USEPA, the Copermittee shall promptly submit such facts or information.

6. STANDARD PROVISIONS – ENFORCEMENT

(a) The Regional Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, Sections 13385, 13386, and 13387.

7. ADDITIONAL STANDARD PROVISIONS

(a) *Municipal separate storm sewer systems* [40 CFR 122.42(c)]. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the

permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

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

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

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and

(7) Identification of water quality improvements or degradation.

(b) *Storm water discharges* [40 CFR 122.42(d)]. The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

(c) *Other Effluent Limitations and Standards* [40 CFR 122.44(b)(1)]. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

(d) *Discharge is a privilege* [CWC section 13263(g)]. No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights.

(e) *Review and revision of Order* [CWC section 13263(e)]. Upon application by any affected person, or on its own motion, the Regional Board may review and revise this permit.

(f) *Termination or modification of Order* [CWC section13381]. This permit may be terminated or modified for causes, including, but not limited to, all of the following:

(1) Violation of any condition contained in this Order;
(2) Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts.
(3) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

(g) *Transfers*. When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.

(h) *Conditions not stayed*. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

(i) *Availability*. A copy of this Order shall be kept at a readily accessible location and shall be available to on-site personnel at all times.

(j) *Duty to minimize or correct adverse impacts*. The Copermittees shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

(k) *Interim Effluent Limitations.* The Copermittee shall comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by this Regional Board.

(l) *Responsibilities, liabilities, legal action, penalties* [CWC sections 13385 and 13387]. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.

Except as provided for in 40CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.

Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.

Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

(m) *Noncompliance*. Any noncompliance with this Order constitutes violation of the CWC and is grounds for denial of an application for modification of the Order (also see 40 CFR 122.41(a).

(n) *Director*. For purposes of this Order, the term “Director” used in parts of 40 CFR

incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term "Regional Board" used elsewhere in this Order, except that in 40 CFR 122.41(h) and (l), "Director" shall mean "Regional Board, SWRCB, and USEPA."

(o) The Regional Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The Regional Board or SWRCB may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to a MS4. Copermittees may prohibit any non-storm water discharge (or class of non-storm water discharges) to a MS4 that is authorized under such separate NPDES permits.

(p) *Effective date*. This Order shall become effective on the date of its adoption provided the USEPA has no objection. If the USEPA objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order supersedes Order No. 2001-01 upon the effective date of this Order.

(q) *Expiration*. This Order expires five years after adoption.

(r) *Continuation of expired order* [23 CCR 2235.4]. After this Order expires, the terms and conditions of this Order are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.

(s) *Applications*. Any application submitted by a Copermittee for reissuance or modification of this Order shall satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.

(t) *Confidentiality*. Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the Regional Board office.

(u) *Severability*. The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

(v) R*eport submittal*. The Copermittee shall submit reports and provide notifications as required by this Order to the following:

NORTHERN WATERSHED UNIT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-2952 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

Unless otherwise directed, the Copermittee shall submit one hard copy for the official record and one electronic copy of each report required under this Order to the Regional Board and one electronic copy to the EPA.

ATTACHMENT C

ACRONYMS AND ABBREVIATIONS

ADT	Average Daily Traffic
AMEL	Average Monthly Effluent Limitation
ASBS	Area of Special Biological Significance
AST	Active Sediment Treatment
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
BU	Beneficial Use
CASQA	California Stormwater Quality Association
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
DAMP	Drainage Area Management Plan
DNQ	Detected, but not Quantified
EIA	Effective Impervious Area
ESAs	Environmentally Sensitive Areas
GIS	Geographic Information System
HMP	Hydromodification Management Plan
IBI	Index of Biotic Integrity
JRMP	Jurisdictional Runoff Management Plan
LID	Low Impact Development
MDEL	Maximum Daily Effluent Limitation
MEP	Maximum Extent Practicable
ML	Mimimum Level
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OCVCD	Orange County Vector Control District
Copermittees	County of Orange, the 11 incorporated cities within the County of Orange in the San Diego Region, and the Orange County Flood Control District
Regional Board	California Regional Water Quality Control Board, San Diego Region
RGOs	Retail Gasoline Outlets
ROWD	Orange County Copermittees' Report of Waste Discharge (application for NPDES reissuance)
RWLs	Receiving Water Limitations
SAL	Storm Water Action Level
SIC	Standard Industrial Classification Code
SSMP	Standard Urban Storm Water Mitigation Plan
State Board	State Water Resources Control Board
SWQPA	State Water Quality Protected Area
TMDL	Total Maximum Daily Load

USEPA	United States Environmental Protection Agency
WLA	Waste Load Allocation
WQBEL	Water Quality Based Effluent Limits
WQMP	Water Quality Management Plan
WRMP	Watershed Runoff Management Plan

DEFINITIONS

Active Sediment Treatment - Using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Average Monthly Effluent Limitation – the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Basin Plan – Water Quality Control Plan, San Diego Basin, Region 9, and amendments, developed by the Regional Board.

Beneficial Uses - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. "Beneficial Uses" of the waters of the State that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Biocriteria - Under the CWA, numerical values or narrative expressions that define a desired biological condition for a water body that are legally enforceable. The USEPA defines biocriteria as: "numerical values or narrative expressions that describe the reference biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use… (that)…describe the characteristics of water body segments least impaired by human activities."

Biofiltration - refers to practices that use vegetation and amended soils to retain and treat runoff from impervious areas. Treatment is through filtration, infiltration, adsorption, ion exchange, and biological uptake of pollutants. USEPA "National Management Measures to Control Nonpoint Source Pollution from Urban Areas", EPA-841-B-05-004, November 2005.

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

Clean Water Act Section 402(p) [33 USC 1342(p)] - The federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by 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."

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

CWA – Federal Clean Water Act

CWC – California Water Code

Daily Discharge – Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day or any 24 hour period that reasonably

represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g. concentration.)

The Daily Discharge may be determined b y the analytical results of a composite sample taken over the course of one day (a calendar day, or other 24 hour period other than a day), or by the arithmetic mean of analytical results from one or more grab samples taken over the course of a day.

Detected, but not Quantified – those sample results less than the reporting level, but greater than or equal to the laboratory's Method of Detection Limit (MDL.)

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.

Dilution Credit – the amount of dilution granted to a discharger in the calculation of a WQBEL, based on the allowance of a specific mixing zone. It is calculated from the dilution ratio, or determined through conducting of a mixing zone study, or modeling of the discharge and receiving water.

Dry Season – May 1 through September 30 of each year.

Dry Weather – weather is considered dry if the preceding 72 hours has been without precipitation.

Effectiveness Assessment Outcome Level 1 - Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it.

Effectiveness Assessment Outcome Level 2 - Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, businesses, and municipal employees.

Effectiveness Assessment Outcome Level 3 - Behavioral Change and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation.

Effectiveness Assessment Outcome Level 4 - Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed.

Effectiveness Assessment Outcome Level 5 - Changes in Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s.

Effectiveness Assessment Outcome Level 6 - Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges

into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity, or beneficial use attainment.

Effluent Limitations – Any restriction imposed on quantities, discharge rates, and concentrations of pollutants, which are discharged from point sources into waters of the State. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. Effluent limits are typically numeric (e.g., 10 mg/l), but can also be narrative (e.g., no toxics in toxic amounts). Municipal Action Levels are not effluent limitations.

Enclosed Bays – Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost bay works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Estuaries – waters, including coastal lagoons, located at the mouth of streams that serve as areas of mixing fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and ocean water. Estuaries do not include inland surface waters or ocean waters.

Feasibility Analysis – Detailed description of the selection process for the treatment control BMPs for a Priority Development Project, including justification of why one BMP is selected over another. For a Priority Development Project where a treatment control BMP with a low removal efficiency ranking (as identified by the Model SUSMP) is proposed, the analysis shall include a detailed and adequate justification exhibiting the reasons implementation of a treatment control BMP with a higher removal efficiency is infeasible for the Priority Development Project or portion of the Priority Development Project.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-project flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-project condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

GIS – Geographic Information System

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as "any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code" [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities [40 CFR 122.26(b)(2)].

Implementation Assessment – Assessment conducted to determine the effectiveness of Copermittee programs and activities in achieving measurable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed.

Inactive Slopes – Slopes on which no grading or other soil disturbing activities are conducted for 10 or more days.

Inland Surface Waters – all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Integrated Assessment – Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality.

Jurisdictional Runoff Management Plan (JRMP) – A written description of the specific jurisdictional runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) for storm water that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their runoff management programs. Their total collective and individual activities conducted pursuant to the runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

> "*To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*
>
> *a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
> *b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
> *c. Public Acceptance: Does the BMP have public support?*
> *d. Cost: Will the cost of implementing the BMP have a reasonable*

relationship to the pollution control benefits to be achieved?

e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."

Minimum Level – 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 b a specific analytical procedure, assuming that all the method sample weights, volumes and processing steps have been followed.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, 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 designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

NOI – Notice of Intent

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act a nuisance is "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."

Ocean Waters – the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board's California Ocean Plan.

Order – Order No. R9-2009-0002 (NPDES No. CAS0108740)

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - 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 operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act: "the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollutants of Concern – Pollutants for which water bodies are listed as impaired under CWA section 303(d), pollutants associated with the land use type of a development, and/or pollutants commonly associated with runoff. Pollutants commonly associated with runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Post-Construction BMPs - A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of developments.

Pre-Project or Pre-Development Runoff Conditions (Discharge Rates, Durations, Etc.) – Runoff conditions that exist onsite immediately before the planned development activities occur. This definition is not intended to be interpreted as that period before any human-induces land activities occurred. This definition pertains to redevelopment as well as initial development.

Principal Copermittee – County of Orange

Priority Development Projects - New development and redevelopment project categories listed in Section F.1.d(2) of Order No. R9-2009-0002.

Receiving Waters – Waters of the United States.

Receiving Water Limitations (RWLs) - Waste discharge requirements issued by the Regional Board typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Runoff - All flows in a storm water conveyance system that consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water including dry weather flows.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Shared Treatment Control BMP - BMPs used by multiple developments to infiltrate, filter, or treat the required volume or flow prior to discharge to a receiving water. This could include, for example, a treatment BMP at the end of an enclosed storm drain that collects runoff from several commercial developments.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and runoff.

State Water Quality Protection Area – A nonterrestrial marine or estuarine area designated to protect marine species or biological communities from an undesirable alteration in natural water quality, including, but not limited to, areas of special biological significance that have been designated by the State Water Resources Control Board through its water quality control planning process. Areas of special biological significance are a subset of State Water Quality Protection Areas, and require special protection as determined by the State Water Resources Control Board pursuant to the California Ocean Plan adopted and reviewed pursuant to Article 4 (commencing with Section 13160) of Chapter 3 of Division 7 of the California Water Code and pursuant to the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (California Thermal Plan) adopted by the state board.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage. Surface runoff and drainage pertains to runoff and drainage resulting from precipitation events.

Standard Storm Water Mitigation Plan (SSMP) – A plan developed to mitigate the impacts of runoff from Priority Development Projects.

Third Party Inspectors - Industrial and commercial facility inspectors who are not contracted or employed by a regulatory agency or group of regulatory agencies, such as the Regional Board or Copermittees. The third party inspector is not a regular facility employee self-inspecting their own facility. The third party inspector could be a contractor or consultant employed by a facility or group of businesses to conduct inspections.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part…"All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life….The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge".

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Waste - As defined in CWC Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Assessment – Assessment conducted to evaluate the condition of non-storm water and storm water discharges, and the water bodies which receive these discharges.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans. Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - The beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of water and the water quality objectives necessary to protect those uses.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a MS4 is always considered to be a Waters of the State.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: "(a) All waters, which 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; (b) All interstate waters, including interstate

"wetlands;" (c) 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: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. 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 the EPA."

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Watershed Runoff Management Plan (WRMP) – A written description of the specific watershed runoff management measures and programs that each watershed group of Copermittees will implement to comply with this Order and ensure that storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

WDRs – Waste Discharge Requirements

Wet Season – October 1 through April 30 of each year.

ATTACHMENT D

SCHEDULED SUBMITTALS SUMMARY

Submittal	Permit Section	Completion Date	Frequency
Prohibitions on dry-weather discharges listed in Section B.2	B.2	365 days after adoption and in annual reports	Annual
Submit Certified Statement of Adequate Legal Authority	E.2	365 days after adoption of the Order	One time
Flood Control Structure BMP Inventory and Evaluation	F.3.a.(4)	2nd year JRMP Annual Report	One time
Fiscal Analysis	H.3	With annual JRMP report	Annual
Updated Jurisdictional Runoff Management Plans	K.1.a	365 days after adoption of the Order	One time
Updated Watershed Workplans	K.1.b	365 days after adoption of the Order	One time
Updated model SSMP	F.1.d, K.2.a	365 days after adoption of the Order	One time
Updated local SSMPs and amended ordinances and certified statement of adequate legal authority to implement LID and hydromodification requirements	E.2, F.1.d, K.2.a	180 days after RB determination that Model SSMP is in compliance	One time
Identify and remove barriers to LID implementation	F.1.d.(4)(a)(v)	2nd year JRMP Annual Report	One time
Report of Waste Discharge	K.2.b	At least 210 days prior to expiration of this Order	One time
Submit to Principal Copermittee(s) individual JRMP Annual Reports	K.3.a.(1)	Prior to September 30, 2010 and annually thereafter (Principal Copermittee specifies date of submittal)	Annual
Principal Copermittee submits JRMP Annual Reports to Regional Board	K.3.a.(2)	September 30, 2010 and annually thereafter	Annual
Principal Copermittee submits Notification of Principal Copermittee	M	180 days after adoption of the Order	One Time
Principal Copermittee submits description of Receiving Waters Monitoring Program	Monitoring and Reporting Program (M&R Program), III.A.1	September 1, 2010 and annually thereafter	Annual
Receiving Waters and Runoff Monitoring Annual Reports	M&R Program, III.A.2	October 1, 2010 and annually thereafter	Annual
Principal Copermittee submits interim Receiving Waters Monitoring Program Annual Report	M&R Program, III.B	January 31, 2010	One Time
Hydromodification Management Plan	F.1.h.5	Draft within 2 years of adoption of the Order	One Time for Draft
Trash and Litter Impairment Special Study	M&R Program II.D.5	Draft Monitoring Protocol and Locations within 365 days of Order adoption	One Time

Jurisdictional Runoff Management Program Annual Report Checklist

In the JRMP Annual Report each Copermittee shall provide an Annual Report Checklist. The Annual Report Checklist must be no longer than 2 pages, be current as of the 1st day of the rainy season of that year, and include a signed certification statement. The Annual Report Summary Checklist must provide the following information:

Order Requirements
Were All Requirements of this Order Met?

Construction
Number of Active Sites
Number of Inactive Sites
Number of Sites Inspected
Number of Inspections
Number of Violations
Number of Construction Enforcement Actions Taken

New Development
Number of Development Plan Reviews
Number of Grading Permits Issued
Number of Projects Exempted from Interim/Final Hydromodification Requirements

Post Construction Development
Number of Priority Development Projects
Number of SUSMP Required Post-Construction BMP Inspections
Number of SUSMP Required Post-Construction BMP Violations
Number of SUSMP Required Post-Construction BMP Enforcement Actions Taken

Illicit Discharges and Connections
Number of IC/ID Inspections
Number of IC/ID Detections by Staff
Number of IC/ID Detections from the Public
Number of IC/ID Eliminations
Number of IC/ID Violations
Number of IC/ID Enforcement Actions Taken

MS4 Maintenance
Number of Inspections Conducted
Amount of Waste Removed
Total Miles of MS4 Inspected

Municipal/Commercial/Industrial
Number of Facilities
Number of Inspections Conducted
Number of Facilities Inspected
Number of Violations
Number of Enforcement Actions Taken

Attachment E

RECEIVING WATERS AND MS4 DISCHARGE MONITORING AND REPORTING PROGRAM NO. R9-2009-0002

I. PURPOSE

A. This Receiving Waters and MS4 Discharge Monitoring and Reporting Program is intended to meet the following goals:
   1. Assess compliance with Order No. R9-2009-002;
   2. Measure and improve the effectiveness of the Copermittees' runoff management programs;
   3. Assess the chemical, physical, and biological impacts to receiving waters resulting from MS4 discharges;
   4. Characterize storm water discharges;
   5. Identify sources of specific pollutants;
   6. Prioritize drainage and sub-drainage areas that need management actions;
   7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
   8. Assess the overall health of receiving waters.
   9. Provide information to implement required BMP improvements

B. In addition, this Receiving Waters and MS4 Discharges Monitoring and Reporting Program is designed to answer the following core management questions1:
   1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
   2. What is the extent and magnitude of the current or potential receiving water problems?
   3. What is the relative MS4 discharge contribution to the receiving water problem(s)?
   4. What are the sources of MS4 discharge that contribute to receiving water problem(s)?
   5. Are conditions in receiving waters getting better or worse?

II. MONITORING PROGRAM

A. Receiving Waters Monitoring Program

Each Copermittee must collaborate with the other Copermittees to develop, conduct, and report on a year-round watershed based Receiving Waters Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting must be conducted

[1] Core management questions from "*Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California: A report from the Stormwater Monitoring Coalition's Model Monitoring Technical Committee.*" Technical Report No. 419. August 2004.

on a watershed basis for each of the watershed management areas. The monitoring program must be designed to meet the goals and answer the questions listed in section I above. The monitoring program must include the following components:

1. MASS LOADING STATION (MLS) MONITORING

a. Locations: The following existing mass loading stations must continue to be monitored: Laguna Canyon, Aliso Creek, San Juan Creek, Trabuco Creek, Prima Deshecha Channel, and Segunda Deshecha Channel.

b. Frequency: Each mass loading station to be monitored in a given year must be monitored twice during wet weather events and twice during dry weather flow conditions.

c. Timing: Each mass loading station must be monitored for the first wet weather event of the season which meets the USEPA's criteria as described in 40 CFR 122.21(g)(7). Monitoring of the second wet weather event must be conducted after February 1. Dry weather mass loading monitoring events must be sampled at least three months apart between May and October. If flows are not evident in September or October for the second event, then sampling must be conducted during non-rain events in the wet weather season.

d. Protocols: Protocols for mass loading sampling and analysis must be SWAMP comparable. At a minimum, analytical methods, target reporting limits, and data reporting formats should be SWAMP comparable. If the mass loading sampling and analysis are determined to be impracticable with the SWAMP standards, the Copermittees must provide explanation and discussion to this effect in the Receiving Waters and MS4 Discharge Monitoring Annual Report. Wet weather samples may be time-weighted composites, collected for the duration of the entire runoff event, where practical, consistent with methods used by the Copermittees during for the Receiving Waters Monitoring Program conducted for Regional Board Order No. R9-2002-01. Where such monitoring is not practical, such as for large watersheds with significant groundwater recharge flows, composites must be collected at a minimum during the first 3 hours of flow. Dry weather event sampling may be time-weighted composites composed of 24 discrete hourly samples, whereby the mass loads of pollutants are calculated as the product of the composite sample concentration and the total volume of water discharged past the monitoring point during the time of

sample collection.

(1) Automatic samplers must be used to collect samples from mass loading stations.
(2) Grab samples must be analyzed for temperature, pH, specific conductance, biochemical oxygen demand, oil and grease, total coliform, fecal coliform, enterococcus and for total petroleum hydrocarbons whenever a sheen is observed.

e. Copermittees must measure or estimate flow rates and volumes for each mass loading station sampling event in order to determine mass loadings of pollutants. Data from nearby USGS gauging stations may be utilized, or flow rates may be estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), Section 3.2.1.

f. In the event that the required number of events is not sampled during one monitoring year at any given station, the Copermittees must submit, with the subsequent Receiving Waters Monitoring Annual Report, a written explanation for a lack of sampling data, including streamflow data from the nearest USGS gauging station.

g. The following constituents must be analyzed for each monitoring event at each station:

Table 1. Analytical Testing for Mass Loading, Urban Stream Bioassessment, and Ambient Coastal Receiving Waters Stations

Conventionals, Nutrients, Hydrocarbons	**Pesticides**	**Metals (Total and Dissolved)**	**Bacteriological**
• Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • pH • Specific Conductance • Temperature • Dissolved Oxygen • Total Phosphorus • Dissolved Phosphorus • Nitrite° • Nitrate° • Total Kjeldahl Nitrogen • Ammonia	Diazinon Chlorpyrifos *Malathion* *Carbamates** *Pyrethroids**	Arsenic Cadmium Chromium Copper Lead Nickel Selenium Zinc	Total Coliform Fecal Coliform Enterococcus

• Biological Oxygen Demand, 5-day • Chemical Oxygen Demand • Total Organic Carbon • Dissolved Organic Carbon • Methylene Blue Active Substances • Oil and Grease			
° Nitrate and nitrate may be combined and reported as nitrate + nitrite. * Carbamate and Pyrethroid pesticides must initially be monitored in Prima Deshecha and Segunda Deshecha watersheds. If carbamate and/or pyrethroid pesticides are found to correlate with observed acute or chronic toxicity, then that pesticide must be added to all stations displaying toxicity.			

h. Toxicity testing must be conducted for each monitoring event at each station according to the following Table 2:

Table 2. Toxicity Testing for Mass Loading, Urban Stream Bioassessment, and Ambient Coastal Receiving Waters Stations

Program Component	***Dry Weather Flows***		***Storm Water Flows***	
	Freshwater Organisms	**Estuarine & Marine Organisms**	**Freshwater Organisms**	**Estuarine & Marine Organisms**
Mass Loading	2 chronic 2 acute	1 chronic**	2 acute	2 chronic 1 acute
Urban Stream Bioassessment	2 chronic* 2 acute*	n/a	n/a	n/a
Ambient Coastal Receiving Waters	n/a	2 chronic 1 acute	n/a	2 chronic 1 acute
Sediment Toxicity Special Study	1 chronic 1 acute 1	n/a	n/a	n/a

Table Notes
* Urban Stream Bioassessment on Aliso Creek must also include use of *Pimephales promelas* (fathead minnow) for chronic and acute toxicity testing.
** Dry weather toxicity monitoring at a mass loading station may be omitted if either (a) the channel flows are diverted year-round in dry weather conditions to the sanitary sewer for treatment; or (b) dry weather toxicity with marine species is occurring at an Ambient Coastal Waters Receiving station where that channel reaches the Pacific Ocean.

Species Notes:
1. Freshwater acute toxicity testing must include *Hyalella azteca*.

2. Acute toxicity for may be determined during the course of chronic toxicity monitoring per U.S. EPA protocols. 3. *Americamysis bahia* may be used as a marine test organism if *Holmesimysis costata* cannot reasonably be obtained. The use of, and justification for, of *A. bahia* must be clearly reported in each Monitoring Report.

i. The presence of acute toxicity must be determined in accordance with USEPA protocol (EPA-821-R-02-012). The presence of chronic freshwater toxicity must be determined in accordance with USEPA protocol (EPA-821-R-02-013). The presence of chronic marine toxicity must be determined in accordance with USEPA guidance EPA 600/R95/136, except for chronic mysid tests that must be conducted in accordance with USEPA protocol EPA-821-R-02-014.

2. Urban Stream Bioassessment (BA) Monitoring

Copermittees must conduct Urban Stream Bioassessment Monitoring using a triad of indicators to assess the condition of biological communities in freshwater, urban receiving waters.

a. Locations: At a minimum, the program shall consist of station identification, sampling, monitoring, and analysis of data for six bioassessment stations in order to determine the biological and physical integrity of urban streams within the County of Orange. At least one urban bioassessment station shall be located within each watershed management area. In addition to the urban stream bioassessment stations, three reference bioassessment stations shall be identified, sampled, monitored, and analyzed. Locations of reference stations must be identified according to protocols outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.[2]

b. Frequency: Bioassessment stations which have year round flow conditions must be monitored in May or June (to represent the influence of wet weather on the communities) and September or October (to represent the influence of dry weather flows on the communities). Copermittees shall determine when the annual sampling for stations with year round flow will occur in accordance with the purposes of sampling, as outlined in Secion I of

[2] Ode, et al. 2005. "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams." Environmental Management. Vol. 35, No. 1, pp. 1-13.

Attachment E. Those stations that do not have year round flow shall continue to be monitored twice per year. The timing of monitoring of bioassessment stations must coincide with dry weather monitoring of mass loading stations and Inland Aquatic Habitat stations.

c. Parameters / Methods: The triad of indicators for urban stream bioassessment monitoring must include bioassessment, aquatic chemistry, and aqueous toxicity.

(1) Aquatic chemistry and aqueous toxicity must be conducted using the same parameters and methods as the mass loading station monitoring, with the addition of pyrethroid pesticides.

(2) Bioassessment analysis procedures must include calculation of the Index of Biotic Integrity (IBI) for benthic macroinvertebrates for all bioassessment stations, as outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.

(3) Monitoring of bioassessment stations must be conducted according to bioassessment procedures developed by the Surface Water Ambient Monitoring Program (SWAMP), as amended. [3]

(4) Monitoring of bioassessment stations must incorporate assessment of algae in addition to macroinvertebrates, using the USEPA's 1999 Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers[4] and SWAMP's Incorporating bioassessment using freshwater algae into California's Surface Water Ambient Monitoring Program (SWAMP)[5]. Assessment of freshwater algae must include algal taxonomic composition (diatoms and soft algae) and algal biomass. Future bioassessment shall incorporate algal IBI scores, when developed.

---

[3] Ode, P.R.. 2007. Standard operating procedures for collecting macroinvertebrate samples and associated physical and chemical data for ambient bioassessments in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 001.

[4] USEPA, 1999. *Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers*. EPA-841-B-99-002.

[5] Fetscher, E. A., and K. McLaughlin. 2008. Incorporating bioassessment using freshwater algae into California's Surface Water Ambient Monitoring Program (SWAMP). Southern California Coastal Water Research Project. Costa Mesa, CA

d. A qualified professional environmental laboratory must perform all sampling, laboratory, quality assurance, and analytical procedures.

3. FOLLOW-UP ANALYSIS AND ACTIONS

When results from the required monitoring indicate MS4 discharge induced degradation at a mass loading station, bioassessment, or dry weather discharge station, Copermittees within the watershed must evaluate the extent and causes of MS4 discharge pollution in receiving waters and prioritize and implement management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) must be conducted to determine the cause of toxicity as outlined in Table 3 below. Other follow-up activities, which must be conducted by the Copermittees, are also identified in Table 3. Once the cause of toxicity has been identified by a TIE, the Copermittees must perform source identification projects as needed and implement the measures necessary to reduce or eliminate the pollutant discharges and abate the sources causing the toxicity.

Table 3. Triad Approach to Determining Follow-Up Actions[6]

	Chemistry	Toxicity	Benthic Alteration	Example Conclusions	Possible Actions or Decisions
1.	Exceedance of water quality objectives	Evidence of toxicity	Indications of alteration	Strong evidence of pollution-induced degradation	Use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a high priority
2.	No persistent exceedances of water quality objectives	No evidence of toxicity	No indications of alteration	No evidence of current pollution-induced degradation Potentially harmful pollutants not yet concentrated enough to cause visible impact	No immediate action necessary Conduct periodic broad scans for new and/or potentially harmful pollutants
3.	Exceedance of water quality objectives	No evidence of toxicity	No indications of alteration	Contaminants are not bioavailable Test organisms not sensitive to problem pollutants	TIE would not provide useful information with no evidence of toxicity Continue monitoring for toxic and benthic impacts Initiate upstream source identification as a low priority Consider whether different or additional test organisms should be evaluated
4.	No persistent exceedances of water quality objectives	Evidence of toxicity	No indications of alteration	Unmeasured contaminant(s) or conditions have the potential to cause degradation Pollutant causing toxicity at very low levels	Recheck chemical analyses; verify toxicity test results Consider additional advanced chemical analyses Use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a medium priority
5.	No persistent exceedances of water quality objectives	No evidence of toxicity	Indications of alteration	Alteration may not be due to toxic contamination Test organisms not sensitive to problem pollutants	No action necessary due to toxic chemicals Initiate upstream source identification (for physical sources) as a high priority Consider whether different or additional test organisms should be evaluated
6.	Exceedance of water quality objectives	Evidence of toxicity	No indications of alteration	Toxic contaminants are bioavailable, but in situ effects are not demonstrable Benthic analysis not sensitive enough to detect impact Potentially harmful pollutants not yet concentrated enough to change community	Determine if chemical and toxicity tests indicate persistent degradation Recheck benthic analyses; consider additional data analyses If recheck indicates benthic alteration, perform TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a high priority If recheck shows no effect, use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a medium priority
7.	No persistent exceedances of water quality objectives	Evidence of toxicity	Indications of alteration	Unmeasured toxic contaminants are causing degradation Pollutant causing toxicity at very low levels Benthic impact due to habitat disturbance, not toxicity	Recheck chemical analyses and consider additional advanced analyses Use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a high priority Consider potential role of physical habitat disturbance
8.	Exceedance of water quality objectives	No evidence of toxicity	Indications of alteration	Test organisms not sensitive to problem pollutants Benthic impact due to habitat disturbance, not toxicity	TIE would not provide useful information with no evidence of toxicity Initiate upstream source identification as a high priority Consider whether different or additional test organisms should be evaluated Consider potential role of physical habitat disturbance

4. AMBIENT COASTAL RECEIVING WATERS MONITORING (ACRW)

Copermittees must continue to conduct the Ambient Coastal Receiving Waters Monitoring (ACRW) program to assess the impact of MS4 discharge to ecologically-sensitive coastal areas by analyzing water chemistry and aqueous toxicity in both dry and wet weather and the magnitude of storm water discharge plumes to these areas. Copermittees must prioritize locations for further study and conduct special investigations.

[6] Orange County Storm Water Program, 2006. Report of Waste Discharge (San Diego Region), Section 11.

a. Locations: Copermittees must assess the existing Ambient Coastal Receiving Waters Monitoring (ACRW) stations to determine whether all ecologically-sensitive areas are represented. Stations must be established within all Areas of Special Biological Significance (ASBS) and Marine Life Refuges that receive significant MS4 discharges.

   (1) Dana Point Harbor must continue to be monitored. ACRW monitoring in Dana Point Harbor may be suspended as long as the Harbor is being monitored pursuant to the Regional Harbor Monitoring Program[7] and follow-up investigations are conducted when appropriate based on guidance from the Storm Water Monitoring Coalition.

b. Parameters: Aquatic chemistry and aqueous toxicity must be conducted using the same parameters and methods as the mass loading station monitoring.

c. ACRW monitoring must be concurrent with the mass loading station monitoring whenever feasible.

d. Special investigations Ambient Coastal Receiving Waters: Special investigations must be designed and conducted to most effectively answer each of questions 1-5 of section I.B above, with an emphasis on answering question 4.

5. REGIONAL MONITORING PROGRAMS

a. Regional Bacteria Monitoring

   The Copermittees shall participate in the development and implementation of monitoring for the collaborative regional bacteria monitoring program. It is expected that the regional monitoring will allow for a more effective and efficient bacteria monitoring program. The regional monitoring plan must be submitted to the Executive Officer for review and approval. Documentation of participation and monitoring shall be included in the annual report.

[7] On July 24, 2003, the Regional Board required the County of Orange to participate in an Investigative Order to comprehensively assess the receiving water conditions of Dana Point Harbor. The Regional Harbor Monitoring Program is described in the *Regional Technical Report: Harbor Monitoring Program for San Diego Region San Diego Bay, Mission Bay, Oceanside Harbor, and Dana Point Harbor,* MEC Analytical Systems and Brock Bernstein, February 2004.

b. Regional Monitoring Programs

The Regional Board recognizes the importance and advantages of participation by Copermittees in Regional Monitoring Programs. As such, the Copermittees may propose participation in additional regional monitoring programs to supplement and/or replace existing monitoring requirements. The regional monitoring plan must be submitted to the Executive Officer for review and approval. Documentation of participation and monitoring shall be included in the annual report.

B. Wet Weather MS4 Discharge Monitoring

Each Copermittee must collaborate with the other Copermittees to develop, conduct, and report on a year-round watershed based Wet Weather MS4 Discharge Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to meet the goals and answer the questions listed in section I above. The monitoring program must include the following components;

1. MS4 OUTFALL MONITORING

The Copermittees must collaborate to develop and implement a monitoring program to characterize pollutant discharges from MS4 outfalls in each watershed during wet weather. The program must include rationale and criteria for selection of outfalls to be monitored. The program must, at a minimum, include collection of samples for those pollutants causing or contributing to violations of water quality standards within the watershed. This monitoring program must be implemented within each watershed and must begin no later than the 2010-2011 monitoring year.

a. The program must comply with Section D of the Order for Storm Water Action Levels (SALs). Samples must be collected during the first 24 hours of the storm water discharge or for the entire storm water discharge if it is less than 24 hours.

1. Grab samples may be utilized only for pH, indicator bacteria, DO, temperature and hardness.

2. All other constituents must be sampled using 24 hour composite samples or for the entire storm water discharge if the storm event is less than 24 hours.

b. Sampling to compare MS4 outfall discharges with total metal SALs must include a measurement of receiving water hardness at each outfall. If a total metal concentration exceeds a SAL, that concentration must be compared to the California Toxic Rule criteria and the USEPA 1 hour maximum concentration for the detected level of receiving water hardness associated with that sample. If it is determined that the sample's total metal concentration for that specific pollutant exceeds the SAL but does not exceed the applicable 1 hour criteria for the measured level of hardness, then the SAL shall be considered not exceeded for that measurement.

2. SOURCE IDENTIFICATION MONITORING

The Copermittees must collaborate to develop and implement a monitoring program to identify sources of pollutants causing the priority water quality problems within each watershed. The monitoring program must include focused monitoring which moves upstream into each watershed as necessary to identify sources. This monitoring program must be implemented within each watershed and must begin no later than the 2010-2011 monitoring year.

C. Dry Weather Non-Storm Water Effluent Limitations

Each Copermittee must collaborate with the other Copermittees to conduct, and report on a year-round watershed based Dry Weather Non-storm Water MS4 Discharge Monitoring Program. The monitoring program implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to assess compliance with numeric effluent limitations in section C of this Order, adopted dry weather Total Maximum Daily Loads Waste Load Allocations and assessment of the contribution of dry weather flows to 303(d) listed impairments. The monitoring program must include the following components;

Each Copermittee's program must be designed to determine levels of pollutants in effluent discharges from the MS4 into receiving waters. Each Copermittee must conduct the following dry weather field screening and analytical monitoring tasks:

a. Dry Weather Non-storm Water Effluent Analytical Monitoring Stations

(1) Stations must be all major outfalls. Other outfall points (or any other point of access such as manholes) identified by the Copermittees as potential high risk sources of polluted effluent shall be sampled.

(2) Each Copermittee must clearly identify each dry weather effluent analytical monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Non-storm Water Effluent Analytical Stations Map.

b. Develop Dry Weather Non-storm Water Effluent Analytical Monitoring Procedures

Each Copermittee must develop and/or update written procedures for effluent analytical monitoring (these procedures must be consistent with 40 CFR part 136), including field observations, monitoring, and analyses to be conducted. At a minimum, the procedures must meet the following guidelines and criteria:

(1) Determining Sampling Frequency: Effluent analytical monitoring must be conducted at major outfalls and identified stations. The Copermittees must sample a representative number of major outfalls and identified stations. The sampling must be done to assess compliance with dry weather non-storm water numeric effluent limitations pursuant to section C of this Order. All monitoring conducted must be preceded by a minimum of 72 hours of dry weather.

(2) If ponded MS4 discharge is observed at a monitoring station, make observations and collect at least one (1) grab sample. If flow is evident a 1 hour composite sample may be taken. Record flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate).

(3) Effluent samples shall undergo analytical laboratory analysis for constituents in: *Table 1. Analytical Testing for Mass Loading, Urban Stream Bioassessment, and Ambient Coastal Receiving Waters Stations* and for those constituents with effluent limitations under Section C of this Order. Effluent samples must also under analysis for Chloride, Sulfate and Total Dissolved

Solids.

(4) If the station is dry (no flowing or ponded MS4 discharge), make and record all applicable observations.

(5) Develop and/or update criteria for dry weather non-storm water effluent analytical monitoring results where exceedances are detected and eliminate the source causing the exceedance of the criteria:

(a) Criteria must include numeric limitations in Section C of this Order.
(b) Criteria must include evaluation of LC_{50} levels for toxicity to appropriate test organisms

(6) Develop and/or update procedures for source identification follow up investigations in the event of exceedance of dry weather non-storm water effluent analytical monitoring result criteria. These procedures must be consistent with procedures required in section F.4.d and F.4.e. of this Order.

(7) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures must be consistent with each Copermittees' Illicit Discharge and Elimination component of its Jurisdictional Runoff Management Plan as discussed in section F.4 and F.4.e. of this Order.

c. Conduct Dry Weather Non-storm Water Effluent Analytical Monitoring

The Copermittees must commence implementation of dry weather effluent analytical monitoring under the requirements of this Order no later than the 3rd year following adoption of this Order. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and sections F.4.d and F.4.e of Order No. R9-2009-0002.

Until the dry weather non-storm water effluent analytical monitoring program is implemented under the requirements of this Order, each Copermittee must continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2002-01, with the addition of

the following:

(1) The Copermittees must choose a subset of major outfalls and identified stations that discharge to the surf zone. Non-storm water effluent from these stations must be sampled in years 1 and 2 following adoption of this Order. Analysis of samples must include Indicator Bacteria, Turbidity, pH, and Metals (see Table 1). Sampling may be done in conjunction with Ambient Coastal Receiving Waters Monitoring. A discharge to a surf zone occurs when the non-storm water discharge point from the MS4 discharges:

(a) Directly into the ocean in a wave induced area subject to long-shore conditions; or
(b) Across a primarily sandy substrate beach and subsequently directly into a wave induced area subject to long-shore conditions;

D. Special Studies

1. Aliso Creek bacteria investigation: Each Copermittee within the Aliso Creek watershed must implement the Aliso Creek 13225 Directive Revised Monitoring Program Design – Integration with NPDES Program8 (December 2004). The Copermittees must include that monitoring program into the overall monitoring and reporting program.

2. The Copermittees must conduct special studies, including any monitoring required for TMDL development and implementation, as directed by the Executive Officer.

3. Stormwater Monitoring Coalition Regional Monitoring of Southern California's Coastal Watersheds:

   The Copermittees must implement the monitoring program developed by the Stormwater Monitoring Coalition for Regional Monitoring of the Southern California's Coastal Watersheds within the San Juan Hydrologic Unit. Each Copermittee must evaluate the results of the

[8] On October 12, 2005, the Regional Board accepted the revised Aliso Creek watershed bacteria monitoring plan proposal from the MS4 Copermittees. The Regional Board concluded that the scope of the current bacteria monitoring in the watershed was no longer warranted and that the proposed changes would constitute an effective interim program until adoption in the future of a Total Maximum Daily Load, requiring a bacteria reduction and assessment program for the watershed. In addition, the Regional Board recognized that as a result of reduced monitoring costs, the municipalities expect to direct additional resources toward implementation of management practices to reduce indicator bacteria and pathogens.

monitoring program within and downstream of its jurisdiction and integrate the results into program assessments and modifications.

4. Sediment Toxicity Study

   Copermittees must develop, submit to the Regional Board for review, and implement an approved special study which will investigate the toxicity of sediment in urban streams. The Study must be submitted within 24 months of adoption of Order R9-2009-0002. After Regional Board review, the Sediment Toxicity Study must be implemented in conjunction with the Urban Stream Bioassesment Monitoring and, at a minimum, contain the following:

   a. Locations: At a minimum, 4 bioassessment locations must be sampled, including 1 reference site.

   b. Frequency: At a minimum, sampling must occur once per year at each site for at least 2 years. Sampling must be done in conjunction with the bioassessment sampling required under Section II.A.2 of the Monitoring and Reporting Program of this Order.

   c. Parameters/Methods: At a minimum, sediment toxicity analysis shall include the measurement of metals, pyrethroids and organochlorine pesticides. Analysis must include estimates of bioavailability based upon sediment grain size, organic carbon and receiving water temperature. Acute and chronic toxicity testing must be done using Hyalella azteca in accordance with Table 2.

   d. Results: Results and a Discussion shall be included in the Monitoring Annual Report. The Discussion must include an assessment of the relationship between observed IBI scores under Section II.A.2 and all variables measured.

5. Trash and Litter Impairment Investigation

   Copermittees must develop and implement a special investigation beginning no later than 2 years following the adoption of this Order to assess trash (including litter) as a pollutant within receiving waters on a watershed based scale. Litter is defined in California Government Code 68055.1g as “litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or container constructed of steel, aluminum, glass, paper, plastic and other natural and synthetic ,materials, thrown

or deposited on lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing." A lead Copermittee may be selected for each watershed, and will be responsible for the following:

a. Locations: The lead Copermittee will identify suitable sampling locations within each watershed.

b. Frequency: Trash at each location shall be monitored a minimum of twice during the wet season following a qualified monitoring storm event (minimum of 0.1 inches preceded by 72 hours of dry weather) and twice during the dry season.

c. Protocol: The lead Copermittee for each watershed shall use the Final Monitoring Workplan for the Assessment of Trash in San Diego County Watersheds and A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region to develop a monitoring protocol for each Watershed. The draft monitoring protocol, including sampling locations and frequency, shall be submitted to the Regional Board for review no later than 365 days following the adoption of this Order. Although sampling must occur on a watershed basis, a County-wide protocol may be developed that incorporates each individual watershed.

d. Results and Discussion from the Trash and Litter Impairment Study shall be included in the Monitoring Annual Report.

E. Monitoring Provisions

All monitoring activities must meet the following requirements:

1. Where procedures are not otherwise specified in this Receiving Waters Monitoring and Reporting Program, sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (SWRCB).

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

3. The Copermittees must retain records of all monitoring information,

including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and must be extended during the course of any unresolved litigation regarding this discharge. [40 CFR 122.41(j)(2), CWC section 13383(a)]

4. Records of monitoring information must include [40 CFR 122.41(j)(3)]:

   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

5. All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this Receiving Waters Monitoring and Reporting Program or approved by the Executive Officer [40 CFR 122.41(j)(4)].

6. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order must, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two 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 122.41(j)(5)]

7. Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean unless otherwise specified in this Receiving Waters Monitoring and Reporting Program. [40 CFR 122.41(l)(4)(iii)]

8. All chemical, bacteriological, and toxicity analyses must be conducted at a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.

9. For priority toxic pollutants that are identified in the California Toxics

Rule (CTR) (65 Fed. Reg. 31682), the Copermittees must instruct its laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee can demonstrate that a particular 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 (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 SIP. The Copermittee must submit documentation from the laboratory to the Regional Board for approval prior to raising the ML for any priority toxic pollutant.

10. The Regional Board Executive Officer or the Regional Board may make revisions to this Receiving Waters and MS4 Discharge Monitoring and Reporting Program at any time during the term of Order No. R9-2009-002 and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

11. 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 permit, including monitoring reports or reports of compliance or non-compliance must, 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 122.41(k)(2)]

12. Monitoring must be conducted according the USEPA test procedures approved under 40 CFR 136, “Guidelines Establishing Test Procedures for Analysis of Pollutants under the Clean Water Act” as amended, unless other test procedures have been specified in this Receiving Waters and MS4 Discharge Monitoring and Reporting Program, in Order No. R9-2009-002, or by the Executive Officer.

13. If the discharger monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring must be included in the calculation and reporting of the data submitted in the reports requested by the Regional Board. [40 CFR 122.41(l)(4)(ii)]

III. REPORTING PROGRAM

A. Monitoring Reporting

1. Planned Monitoring Program: The Principal Copermittee must submit a description of the Receiving Waters and MS4 Discharge Monitoring Program to be implemented for every monitoring year. The submittals must begin on September 1, 2010, and continue every year thereafter. The submittals must describe all monitoring to be conducted during the upcoming monitoring year. For example, the September 1, 2010. submittal must describe the monitoring to be conducted from October 1, 2009 through September 30, 2010.

2. Monitoring Annual Report: The Principal Copermittee must submit the Receiving Waters and MS4 Discharge Monitoring Annual Report to the Regional Board on October 1 of each year, beginning on October 1, 2010. Receiving Waters and MS4 Discharge Monitoring Annual Reports must meet the following requirements:

   a. Annual monitoring reports must include the data/results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each monitoring program component.

   b. Annual monitoring reports must include a watershed-based analysis of the findings of each monitoring program component. Each watershed-based analysis must include:

      (1) Identification and prioritization of water quality problems within each watershed.
      (2) Identification and description of the nature and magnitude of potential sources of the water quality problems within each watershed.
      (3) Exhibition of pollutant load and concentration increases or decreases at each mass loading and temporary watershed assessment station.
      (4) Evaluation of pollutant loads and concentrations at mass loading and temporary watershed assessment stations with respect to land use, population, sources, and other characteristics of watersheds using tools such as multiple linear regression, factor analysis, and cluster analysis.
      (5) Identification of links between source activities/conditions and observed receiving water impacts.

(6) Identification of recommended future monitoring to identify and address sources of water quality problems.
(7) Results and discussion of any TIE conducted, together with actions that will be implemented to reduce the discharge of pollutants and abate the sources causing the toxicity.

c. Aliso Creek Bacteria Investigation: Annual monitoring reports for the Aliso Creek Bacteria Investigation must contain the following information:

(1) Water quality data and assessment. The report must contain all data collected and an assessment of compliance with applicable water quality standards for each monitoring station;

(2) Program Assessment. A description and assessment of each municipality's program implemented within the high-priority storm drain locations to reduce storm water discharges of indicator fecal bacteria/pathogens. Water quality monitoring alone is not sufficient to assess progress of the municipal programs. Municipalities must demonstrate each year that their programs are effective and resulting in a reduction of bacteria sources.

(a) For structural and nonstructural management practices implemented, the assessment must contain a description of the practice, capital and maintenance costs, expectations for effectiveness, date implemented, and any observed results.

(b) For structural and nonstructural management practices implemented, the assessment must contain a description of the practice, capital and maintenance costs, expectations for effectiveness, date implemented, and any observed results

d. Annual monitoring reports must include discussions for each watershed which answer each of the management questions listed in section I.B of this Receiving Waters Monitoring and Reporting Program.

e. Annual monitoring reports must identify how each of the goals listed in section I.A of this Receiving Waters Monitoring and Reporting Program has been addressed by the Copermittees' monitoring.

f. Annual monitoring reports must include identification and analysis of any long-term trends in storm water or receiving water quality.

Trend analysis must use nonparametric approaches, such as the Mann-Kendall test, including exogenous variables in a multiple regression model, and/or using a seasonal nonparametric trend model, where applicable.

g. Annual monitoring reports must provide an estimation of total pollutant loads (wet weather loads plus dry weather loads) due to MS4 Discharge for each of the watersheds specified in Table 3 of Order No. R9-2009-0002.

h. Annual monitoring reports must, for each monitoring program component listed above, include an assessment of compliance with applicable water quality standards.

i. Annual monitoring reports must describe monitoring station locations by latitude and longitude coordinates, frequency of sampling, quality assurance/quality control procedures, and sampling and analysis protocols.

j. Annual monitoring reports must use a standard report format and must include the following:

(1) A stand alone comprehensive executive summary addressing all sections of the monitoring report;
(2) Comprehensive interpretations and conclusions; and
(3) Recommendations for future actions.

k. All monitoring reports submitted to the Principal Copermittee or the Regional Board must contain the certified perjury statement described in Attachment B of this Order No. R9-2009-0002.

l. Annual monitoring reports must be reviewed prior to submittal to the Regional Board by a committee of the Copermittees (consisting of no less than three members).

m. Annual monitoring reports must be submitted in both electronic and paper formats. Electronic formats must be CEDEN or SWAMP-uploadable.[9]

3. The Principal Copermittee must submit by July 1, 2010, a detailed description of the monitoring programs to be implemented under requirement II.B.1 of Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-002. The description must

[9] For updates to the SWAMP templates and formats, see http://www.waterboards.ca.gov/swamp.

identify and provide the rationale for the constituents monitored, locations of monitoring, frequency of monitoring, and analyses to be conducted with the data generated.

4. Monitoring programs and reports must comply with section II.D of Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-002 and Attachment B of Order No. R9-2009-002.

5. Following completion of an annual cycle of monitoring in October, the Copermittees must make the monitoring data and results available to the Regional Board at the Regional Board's request.

B. Interim Reporting Requirements

For the October 2009 to October 2010 monitoring period, the Principal Copermittee must submit the Receiving Waters Monitoring Annual Report by January 31, 2011. The Receiving Waters Monitoring Annual Report must address the monitoring conducted to comply with the requirements of Order No. 2002-001.

Attachment F

SOURCE DATA

I. STORM WATER ACTION LEVELS

N02+NO3 (mg/l)	Phosphorous Total (mg/l)	Cadmium Total (ug/l)	Copper Total (ug/l)	Lead Total (ug/l)	Nickel Total (ug/l)	Zinc Total (ug/l)	Turbidity (NTU)
4.70	7.90	9.80	800.00	660.00	120.00	22500.00	10
4.20	7.19	6.00	340.00	620.00	110.00	18000.00	15
3.90	4.96	6.00	320.00	540.00	100.00	11000.00	15
3.90	4.50	6.00	270.00	520.00	100.00	9970.00	16
3.60	4.40	6.00	244.00	460.00	95.00	9100.00	22
3.60	4.24	6.00	230.00	450.00	89.00	8800.00	23
3.60	2.59	5.30	220.00	450.00	87.00	6500.00	23
3.50	2.59	5.00	220.00	440.00	84.00	5500.00	24
3.30	2.50	4.10	210.00	430.00	81.00	5000.00	24
3.30	2.50	4.00	210.00	400.00	75.00	4900.00	30
3.10	2.50	4.00	209.00	380.00	71.00	4600.00	31
3.00	2.27	4.00	209.00	360.00	69.00	4300.00	33
2.96	2.00	4.00	200.00	350.00	68.00	3800.00	36
2.90	2.00	4.00	200.00	330.00	68.00	3800.00	36
2.70	2.00	4.00	200.00	320.00	64.00	3400.00	39
2.70	2.00	3.90	200.00	320.00	63.00	3390.00	40
2.60	1.90	3.80	200.00	320.00	60.00	3100.00	45
2.60	1.90	3.40	180.00	310.00	60.00	2500.00	50
2.60	1.80	3.40	180.00	310.00	59.00	2200.00	50
2.50	1.80	3.20	166.00	310.00	59.00	2100.00	60
2.50	1.70	3.10	163.00	310.00	58.00	1829.00	61
2.32	1.70	3.00	160.00	300.00	54.00	1700.00	62
2.30	1.70	3.00	150.00	290.00	54.00	1500.00	65
2.20	1.60	3.00	140.00	280.00	54.00	1400.00	65
2.20	1.60	3.00	140.00	270.00	54.00	1300.00	66
2.10	1.60	3.00	140.00	270.00	53.00	1300.00	69
2.10	1.53	3.00	140.00	270.00	53.00	1285.00	70
2.10	1.50	3.00	140.00	270.00	52.00	1200.00	72
2.10	1.50	3.00	130.00	260.00	52.00	1100.00	80
2.00	1.47	3.00	130.00	260.00	47.00	1054.00	84
2.00	1.46	3.00	128.00	250.00	47.00	1000.00	97
2.00	1.40	3.00	120.00	250.00	45.00	980.00	111
2.00	1.40	3.00	120.00	250.00	44.00	960.00	140
1.90	1.40	3.00	120.00	245.00	44.00	850.00	151
1.90	1.30	2.90	120.00	230.00	42.00	850.00	157
1.90	1.30	2.80	120.00	230.00	42.00	850.00	590
1.90	1.30	2.70	111.00	225.00	40.00	850.00	
1.90	1.30	2.60	111.00	220.00	39.00	840.00	
1.80	1.30	2.50	110.00	220.00	36.00	780.00	
1.80	1.30	2.40	110.00	210.00	35.00	768.00	
1.70	1.24	2.40	110.00	210.00	35.00	760.00	
1.70	1.20	2.30	110.00	200.00	34.00	750.00	

1.70	1.20	2.20	110.00	200.00	33.00	740.00	
1.70	1.20	2.10	110.00	190.00	33.00	740.00	
1.70	1.20	2.00	100.00	190.00	33.00	730.00	
1.70	1.10	2.00	100.00	190.00	33.00	720.00	
1.70	1.10	2.00	100.00	190.00	32.00	710.00	
1.60	1.10	2.00	100.00	170.00	32.00	710.00	
1.60	1.10	2.00	100.00	170.00	32.00	700.00	
1.60	1.06	2.00	100.00	170.00	32.00	700.00	
1.60	1.00	2.00	99.00	160.00	32.00	690.00	
1.60	0.96	2.00	94.00	160.00	30.00	690.00	
1.60	0.96	2.00	91.00	150.00	29.00	680.00	
1.60	0.94	2.00	91.00	150.00	28.00	680.00	
1.53	0.94	2.00	90.00	150.00	27.00	670.00	
1.50	0.92	2.00	90.00	150.00	27.00	660.00	
1.50	0.91	2.00	89.00	150.00	27.00	660.00	
1.50	0.85	2.00	87.00	140.00	27.00	660.00	
1.50	0.85	2.00	87.00	140.00	27.00	650.00	
1.50	0.85	2.00	84.00	140.00	26.00	630.00	
1.50	0.83	2.00	83.00	130.00	26.00	610.00	
1.40	0.83	2.00	82.00	130.00	25.00	610.00	
1.40	0.83	2.00	81.00	130.00	24.50	597.00	
1.40	0.81	2.00	81.00	130.00	24.00	590.00	
1.40	0.81	2.00	77.00	130.00	24.00	590.00	
1.40	0.81	2.00	77.00	123.00	24.00	576.00	
1.40	0.80	2.00	76.00	120.00	24.00	570.00	
1.40	0.80	2.00	74.00	120.00	23.00	570.00	
1.32	0.78	2.00	72.00	120.00	23.00	560.00	
1.30	0.78	1.90	72.00	120.00	23.00	560.00	
1.30	0.77	1.90	72.00	120.00	23.00	540.00	
1.30	0.77	1.90	72.00	115.00	23.00	540.00	
1.30	0.76	1.80	72.00	110.00	23.00	520.00	
1.30	0.76	1.80	71.00	110.00	22.00	520.00	
1.30	0.75	1.80	70.00	110.00	22.00	520.00	
1.30	0.75	1.70	70.00	110.00	22.00	510.00	
1.29	0.75	1.60	67.00	102.00	22.00	500.00	
1.20	0.74	1.60	66.00	100.00	21.00	500.00	
1.20	0.73	1.60	66.00	100.00	21.00	490.00	
1.20	0.72	1.60	66.00	100.00	21.00	480.00	
1.20	0.72	1.60	65.00	100.00	21.00	475.00	
1.20	0.72	1.60	65.00	100.00	21.00	470.00	
1.20	0.71	1.50	63.00	99.00	20.00	470.00	
1.20	0.71	1.50	63.00	97.00	20.00	462.00	
1.20	0.69	1.40	62.00	97.00	20.00	460.00	
1.20	0.68	1.30	62.00	97.00	19.00	460.00	
1.20	0.68	1.30	60.00	95.00	19.00	450.00	
1.20	0.68	1.20	60.00	91.00	19.00	440.00	
1.10	0.68	1.20	59.00	90.00	19.00	440.00	
1.10	0.68	1.20	56.59	90.00	19.00	440.00	

1.10	0.67	1.20	55.00	87.00	19.00	430.00	
1.10	0.66	1.10	55.00	86.00	19.00	430.00	
1.10	0.66	1.10	54.00	86.00	19.00	430.00	
1.10	0.65	1.10	54.00	84.00	18.40	420.00	
1.10	0.65	1.10	54.00	82.00	18.00	420.00	
1.10	0.65	1.10	53.00	82.00	18.00	410.00	
1.10	0.65	1.00	53.00	81.00	18.00	409.00	
1.00	0.63	1.00	52.00	78.00	18.00	400.00	
1.00	0.62	1.00	51.00	78.00	18.00	400.00	
1.00	0.61	1.00	50.00	78.00	17.00	400.00	
1.00	0.60	1.00	50.00	77.00	16.00	390.00	
1.00	0.60	1.00	50.00	76.00	16.00	390.00	
1.00	0.59	1.00	50.00	76.00	15.40	390.00	
0.99	0.57	1.00	50.00	69.00	15.00	390.00	
0.99	0.57	1.00	50.00	69.00	15.00	390.00	
0.98	0.56	1.00	50.00	67.00	15.00	370.00	
0.97	0.56	1.00	50.00	66.00	15.00	370.00	
0.96	0.55	1.00	49.00	66.00	14.00	370.00	
0.96	0.55	1.00	49.00	66.00	14.00	360.00	
0.95	0.55	1.00	49.00	65.00	14.00	360.00	
0.95	0.53	1.00	48.00	64.00	14.00	360.00	
0.93	0.53	1.00	48.00	61.00	14.00	360.00	
0.93	0.53	1.00	47.00	57.00	14.00	350.00	
0.93	0.52	1.00	46.08	57.00	14.00	350.00	
0.93	0.52	1.00	46.00	56.00	14.00	350.00	
0.92	0.52	1.00	46.00	56.00	13.00	340.00	
0.90	0.52	1.00	44.25	53.00	13.00	340.00	
0.88	0.51	1.00	44.00	53.00	13.00	340.00	
0.87	0.51	1.00	44.00	52.60	13.00	340.00	
0.86	0.50	1.00	44.00	52.00	13.00	340.00	
0.85	0.49	1.00	44.00	51.00	13.00	340.00	
0.84	0.49	1.00	43.00	51.00	13.00	334.00	
0.83	0.48	1.00	43.00	50.00	13.00	330.00	
0.81	0.48	1.00	43.00	50.00	13.00	330.00	
0.81	0.48	1.00	42.00	50.00	12.02	330.00	
0.80	0.47	1.00	42.00	50.00	12.00	330.00	
0.80	0.47	1.00	42.00	50.00	12.00	330.00	
0.78	0.47	1.00	41.00	50.00	12.00	330.00	
0.78	0.46	1.00	40.00	50.00	12.00	330.00	
0.77	0.46	1.00	40.00	50.00	12.00	320.00	
0.77	0.46	1.00	40.00	50.00	12.00	320.00	
0.77	0.45	1.00	40.00	50.00	11.40	320.00	
0.74	0.45	1.00	40.00	50.00	11.00	320.00	
0.73	0.44	1.00	39.00	49.00	11.00	310.00	
0.72	0.44	1.00	39.00	47.00	11.00	310.00	
0.69	0.44	1.00	39.00	46.00	11.00	310.00	
0.69	0.44	1.00	39.00	46.00	11.00	308.00	
0.69	0.44	1.00	39.00	44.00	11.00	300.00	

0.67	0.44	1.00	39.00	44.00	11.00	300.00	
0.67	0.44	1.00	37.00	43.00	11.00	300.00	
0.66	0.43	1.00	37.00	42.00	11.00	300.00	
0.66	0.42	1.00	37.00	41.00	10.50	290.00	
0.65	0.42	1.00	37.00	41.00	10.20	285.00	
0.63	0.41	1.00	37.00	41.00	10.20	280.00	
0.62	0.41	1.00	36.00	41.00	10.10	280.00	
0.62	0.41	1.00	36.00	41.00	10.00	280.00	
0.62	0.40	1.00	36.00	40.10	10.00	280.00	
0.60	0.40	1.00	36.00	40.00	10.00	280.00	
0.59	0.40	1.00	35.00	39.30	10.00	280.00	
0.59	0.40	1.00	35.00	39.00	10.00	280.00	
0.58	0.40	1.00	34.00	39.00	10.00	280.00	
0.57	0.40	1.00	34.00	39.00	10.00	280.00	
0.57	0.40	1.00	33.40	38.00	10.00	270.00	
0.55	0.40	1.00	33.00	38.00	10.00	270.00	
0.52	0.40	1.00	33.00	38.00	10.00	270.00	
0.50	0.40	1.00	33.00	37.00	9.70	270.00	
0.50	0.39	1.00	33.00	36.00	9.30	270.00	
0.46	0.39	1.00	33.00	36.00	9.20	270.00	
0.42	0.39	1.00	32.26	36.00	9.03	260.00	
0.42	0.38	1.00	32.01	36.00	9.00	260.00	
0.35	0.38	1.00	32.00	35.00	9.00	260.00	
0.10	0.38	1.00	32.00	34.00	9.00	260.00	
0.06	0.37	1.00	32.00	34.00	9.00	260.00	
	0.36	1.00	32.00	33.00	9.00	250.00	
	0.36	1.00	32.00	33.00	8.90	250.00	
	0.36	1.00	32.00	33.00	8.79	250.00	
	0.36	1.00	31.00	33.00	8.60	250.00	
	0.35	1.00	31.00	32.00	8.50	247.00	
	0.35	1.00	31.00	32.00	8.50	242.13	
	0.35	1.00	31.00	31.94	8.47	240.00	
	0.35	1.00	30.00	30.00	8.26	240.00	
	0.34	1.00	30.00	30.00	8.00	240.00	
	0.34	1.00	30.00	30.00	8.00	240.00	
	0.34	1.00	30.00	30.00	8.00	240.00	
	0.34	1.00	30.00	30.00	8.00	230.00	
	0.34	1.00	29.00	30.00	8.00	230.00	
	0.34	1.00	29.00	30.00	8.00	220.00	
	0.33	1.00	28.00	29.00	8.00	220.00	
	0.33	1.00	28.00	29.00	8.00	220.00	
	0.33	0.98	28.00	29.00	8.00	210.00	
	0.33	0.94	28.00	29.00	8.00	210.00	
	0.33	0.94	27.19	28.00	8.00	210.00	
	0.33	0.92	27.00	28.00	7.80	210.00	
	0.32	0.90	27.00	28.00	7.70	210.00	
	0.32	0.90	27.00	27.00	7.60	210.00	
	0.32	0.86	26.00	27.00	7.60	210.00	

	0.32	0.80	26.00	26.31	7.42	205.00	
	0.32	0.80	26.00	26.00	7.40	202.79	
	0.31	0.71	25.00	26.00	7.31	202.00	
	0.31	0.70	25.00	25.00	7.20	200.00	
	0.30	0.70	25.00	25.00	7.10	200.00	
	0.30	0.60	24.00	25.00	7.00	200.00	
	0.30	0.60	24.00	24.60	7.00	200.00	
	0.30	0.59	23.00	24.00	6.90	200.00	
	0.30	0.59	23.00	24.00	6.70	200.00	
	0.30	0.52	23.00	24.00	6.00	200.00	
	0.30	0.50	23.00	24.00	6.00	194.49	
	0.29	0.50	23.00	23.00	6.00	190.00	
	0.29	0.50	22.00	23.00	6.00	190.00	
	0.29	0.50	22.00	23.00	6.00	190.00	
	0.29	0.50	21.00	23.00	6.00	190.00	
	0.29	0.50	21.00	23.00	6.00	184.13	
	0.29	0.50	21.00	23.00	6.00	180.00	
	0.28	0.50	21.00	22.20	6.00	180.00	
	0.28	0.50	20.36	22.00	5.92	180.00	
	0.28	0.50	20.00	22.00	5.90	180.00	
	0.27	0.50	20.00	22.00	5.40	180.00	
	0.27	0.50	20.00	22.00	5.13	180.00	
	0.27	0.50	20.00	21.20	5.10	180.00	
	0.26	0.50	20.00	21.10	5.00	170.00	
	0.26	0.40	19.00	21.00	5.00	170.00	
	0.26	0.40	19.00	20.00	5.00	170.00	
	0.26	0.40	18.00	19.10	5.00	170.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	17.00	18.50	5.00	160.00	
	0.25	0.30	17.00	18.00	5.00	160.00	
	0.24	0.20	17.00	18.00	5.00	160.00	
	0.24	0.20	17.00	18.00	5.00	160.00	
	0.24	0.20	17.00	18.00	5.00	160.00	
	0.23	0.04	17.00	17.00	4.80	160.00	
	0.23		17.00	17.00	4.74	150.00	
	0.23		17.00	17.00	4.70	150.00	
	0.23		17.00	17.00	4.60	150.00	
	0.22		16.00	17.00	4.55	150.00	
	0.22		16.00	17.00	4.38	150.00	
	0.22		16.00	17.00	4.16	146.00	
	0.22		16.00	17.00	4.00	145.00	
	0.22		16.00	17.00	4.00	140.00	
	0.22		15.00	16.90	4.00	140.00	
	0.22		15.00	16.00	3.64	140.00	
	0.21		15.00	15.00	3.60	140.00	

	0.21		15.00	15.00	3.50	140.00	
	0.21		15.00	15.00	3.00	140.00	
	0.21		14.50	15.00	3.00	140.00	
	0.21		14.00	15.00	2.80	140.00	
	0.21		14.00	14.00	2.00	140.00	
	0.20		14.00	14.00	1.00	140.00	
	0.20		14.00	14.00	1.00	136.55	
	0.20		14.00	13.00		135.60	
	0.20		14.00	13.00		130.00	
	0.20		13.00	13.00		130.00	
	0.20		13.00	13.00		130.00	
	0.20		13.00	13.00		130.00	
	0.20		13.00	12.00		130.00	
	0.20		13.00	12.00		130.00	
	0.19		13.00	12.00		130.00	
	0.19		12.00	12.00		127.00	
	0.19		12.00	12.00		124.00	
	0.19		12.00	12.00		122.05	
	0.19		12.00	11.00		120.00	
	0.19		11.00	11.00		120.00	
	0.19		11.00	11.00		120.00	
	0.18		10.00	10.00		120.00	
	0.18		10.00	10.00		112.11	
	0.18		10.00	10.00		110.00	
	0.18		10.00	10.00		110.00	
	0.18		9.60	10.00		110.00	
	0.18		9.60	10.00		110.00	
	0.17		9.10	10.00		110.00	
	0.17		9.10	10.00		110.00	
	0.17		9.00	10.00		110.00	
	0.17		8.30	9.60		110.00	
	0.17		8.20	9.40		110.00	
	0.16		8.00	9.10		108.00	
	0.15		8.00	9.00		100.00	
	0.15		7.70	9.00		100.00	
	0.15		7.70	9.00		100.00	
	0.15		7.00	9.00		100.00	
	0.15		7.00	8.00		100.00	
	0.15		6.80	8.00		100.00	
	0.14		6.80	8.00		99.00	
	0.14		6.80	8.00		98.00	
	0.14		6.50	8.00		97.00	
	0.14		6.50	8.00		93.40	
	0.14		6.30	8.00		92.00	
	0.14		6.30	7.60		92.00	
	0.14		6.10	7.50		90.00	
	0.13		5.60	7.00		90.00	
	0.13		5.40	7.00		90.00	

	0.13		5.20	6.00		86.00	
	0.13		5.00	6.00		83.00	
	0.13		4.90	6.00		81.00	
	0.12		4.50	5.90		81.00	
	0.12		4.10	5.80		80.00	
	0.12		4.10	5.40		80.00	
	0.11		3.90	5.00		80.00	
	0.11		3.40	5.00		80.00	
	0.11		2.60	5.00		80.00	
	0.11		2.60	5.00		79.00	
	0.10		2.60	5.00		73.00	
	0.10		2.30	5.00		72.00	
	0.10		2.00	4.80		70.00	
	0.10		2.00	4.80		70.00	
	0.09		1.70	4.70		70.00	
	0.08		1.50	4.60		70.00	
	0.06		1.50	4.00		64.00	
	0.03		1.50	4.00		63.00	
			1.40	3.80		61.00	
			1.40	3.00		60.00	
				3.00		56.00	
				2.30		44.00	
				2.00		40.00	
				1.60		37.00	
						35.00	
						30.00	
						26.00	
						24.00	
						20.00	
						10.00	
						5.00	

II. NON-STORM WATER NUMERIC EFFLUENT LIMITATIONS

Site	Chromium	Nickel	Copper	Zinc	Silver	Cadmium	Lead	Total Coliform	Fecal Coliform	Enterococcus	Dissolved Oxygen	pH	Turbidity	Nitrate as N	Surfactsnats (MBAS)	Reactive Phosphorous
	µg/L							CFU/100mL			mg/L		NTU	mg/L		
AVJ01P26	<8.00	4.7	7.3	230	<2.00	<1.00	<2.00	41,000	21,000	5,100	7.92	7.5	12.2	3.9	0.4	2.88
AVJ01P26	<8.00	5.4	11	22	<2.00	<1.00	<2.00	30,000	21,000	45,000	9.73	7.52	2.79	8.3	0.3	2.98
AVJ01P26	<8.00	<4.00	13	45	<2.00	<1.00	<2.00	10,300	8,200	8,400	4.3	8.3	2.8	2.8		1.11
AVJ01P26	<8.00	5.6	8.3	44	<2.00	<1.00	<2.00	44,000	19,400	18,400	8.04	7.91	6.02	2.9		2.55
AVJ01P26	<8.00	32	39	140	<2.00	1.4	7.5	67,000	46,000	32,000	7.76	7.72	9.24	2.7		1.88
AVJ01P26	1.1	6.7	8	28	<0.50	0.51	<0.50	330,000	22,000	24,000	6.48	8.17	2.53	3.9	0.1	1.72
AVJ01P26	2.3	8.3	7.3	25	0.79	2	1.6	410,000	20,000	16,000	7.85	7.82	6.03	5.6	<0.05	2.87
AVJ01P26	<0.50	4.2	2.5	9.6	<0.50	<0.50	<0.50	130,000	21,000	6,000	7.8	7.85	2.5	4.1	<0.04	1.96
AVJ01P26	0.89	7	8.5	28	<0.50	<0.50	<0.50	NR	NR	NR	7.76	7.78	4.26	8.6	0.17	3.87
AVJ01P26	<0.50	5.3	5.1	21	<0.50	<0.50	<0.50	160,000	38,000	11,000	5.83	7.55	2.36	4.4	0.14	4.33
AVJ01P26	<0.50	4.3	7.8	11	<0.50	<0.50	<0.50	25,000	6,000	22,000	7.15	8	40.4	3.6	0.11	1.98
AVJ01P26	0.66	3.2	6.7	14	<0.50	<0.50	<0.50	28,000	3,100	760	9.51	8.07	3.91	5.4	0.05	2.79
AVJ01P26	<0.50	3.9	6.3	23	<0.50	1.2	<0.50	57,000	3,000	3,600	6.45	8.03	3.31	5.6	0.07	3.26
AVJ01P26	<0.50	4.1	3.6	17	<0.50	<0.50	<0.50	150,000	11,000	11,000	6.59	8.07	6.06	6.7	0.1	3.3
AVJ01P26	<0.50	3	4.3	25	<0.50	<0.50	<0.50	>24,000	220	2,500	8.48	7.95	3.25	5.3	0.23	1.67
AVJ01P26	0.54	3.4	23	15	<0.50	<0.50	<0.50	44,000	7,100	14,700	8.85	8.01	3.02	4.1	0.11	1.82
AVJ01P26	<0.50	4.6	4.4	12	<0.50	<0.50	<0.50	>45,000	10,000	30,000	11.45	7.87	4.36	5.9	0.1	2.7
AVJ01P26	0.57	4.9	3.3	16	<0.50	<0.50	<0.50	56,000	4,100	10,800	8.55	8.03	3.09	11.3	0.1	3.67
AVJ01P27	<8.00	8.5	7.4	55	<2.00	1.8	<2.00				10.67	7.85	23.7	7.6	0.3	4.03
AVJ01P27	<8.00	6.2	14	50	<2.00	1.8	<2.00	89,000	67,000	36,000	8.55	8.08	12.4	6	0.1	3.15
AVJ01P27	<8.00	6	7.7	46	<2.00	1.5	<2.00	88,000	31,000	71,000	7.38	6.97	7.72	8.5	0.15	3.14

AVJ01P27	<8.00	6.9	8.5	44	<2.00	1.5	<2.00	107,000	48,000	8,600	8.65	7.68	14.3	1.5	0.12	0.58
AVJ01P27	<8.00	7	10	130	<2.00	1.5	<2.00	80,000	31,000	33,000	4.73	7.66	11.5	1.9	3.34	2.5
AVJ01P27	<40.00	<20.00	27	91	<10.00	<5.00	<10.00	147,000	104,000	128,000	7.6	7.7	10.8	0.6		<0.06
AVJ01P27	<8.00	19	40	130	<2.00	2.1	<2.00	>200,000	>200,000	50,000	6.88	7.55	11.2	5.6		2.12
AVJ01P27	<8.00	5.2	7.9	47	<2.00	<1.00	<2.00	54,000	44,000	31,000	6.94	7.51	18.7	8.8		3.87
AVJ01P27	<8.00	29	39	130	<2.00	1.5	5.3	53,000	36,000	12,600	12.2	7.5	10.6	5.1		1.31
AVJ01P27	<8.00	28	38	74	<2.00	<1.00	<2.00	148,000	69,000	13,200	7.05	8.27	7.03	5.8	<0.05	2.34
AVJ01P27	2	18	5.6	18	<0.50	1.8	<0.50	350,000	9,000	23,000	5.9	7.9	3.77	6.6	0.2	1.78
AVJ01P27	1.1	11	6	24	<0.50	0.83	<0.50	430,000	>120,000	13,000	8	7.27	4.22	6.2	0.06	2.22
AVJ01P27	2.2	15	16	42	<0.50	2.3	2.8	410,000	120,000	59,000	7.3	7.43	18.9	5.1	0.06	5.3
AVJ01P27	0.94	9.2	4.7	21	<0.50	0.72	<0.50	250,000	58,000	22,000	7.89	7.6	4.33	7.9	<0.05	2.75
AVJ01P27	<0.50	8.5	3.4	23	<0.50	0.77	<0.50	120,000	82,000	20,000	6.68	7.72	3.5	8.2	<0.05	4.27
AVJ01P27	1.6	13	7.1	26	<0.50	1.2	<0.50	73,000	47,000	4,600	9.42	7.61	3.15	7.2	0.06	2.44
AVJ01P27	0.65	8.4	7.6	27	<0.50	0.82	<0.50	150,000	600	6,800	9.1	7.7	5.48	4.8	0.15	2.36
AVJ01P27	0.63	11	4.9	32	<0.50	0.86	<0.50	160,000	70,000	28,000	6.89	7.47	4.47	6.8	0.13	3.85
AVJ01P27	0.97	8.9	5.5	46	<0.50	0.71	<0.50	46,000	11,000	7,000	6.88	7.49	7.25	7.4	0.12	7.55
AVJ01P27	<0.50	5.7	2.6	10	<0.50	<0.50	<0.50	60,000	27,000	19,000	0	7.94	19.6	5.7	0.35	3.04
AVJ01P27	1	8.1	7.1	26	<0.50	1.5	<0.50	86,000	32,000	6,700	8.63	7.62	16.1	8.6	0.08	4.81
AVJ01P27	0.9	6	5.5	19	<0.50	0.84	<0.50	64,000	3,200	1,000	8.15	7.91	6.64	7.6	0.07	3.49
AVJ01P27	0.85	7.2	6.3	51	<0.50	0.87	<0.50	730,000	120,000	230,000	6.03	7.78	15.4	4.9	0.75	3.29
AVJ01P27	0.5	4.1	1.9	4.6	<0.50	<0.50	<0.50	34,000	5,800	5,500	6.17	7.79	7.1	3.5	0.05	1.78
AVJ01P27	<0.50	4.6	1.8	5.7	<0.50	<0.50	<0.50	190,000	7,600	7,000	0	8.25	5.35	4	0.05	2.39
AVJ01P27	1.1	7.3	3.5	15	<0.50	0.87	<0.50	90,000	20,000	10,700	9.61	7.76	4.79	7.2	1.05	2.17
AVJ01P27	1.1	11	5.4	20	<0.50	1.1	<0.50	>96,000	5,200	6,800	8.16	7.91	4.77	11.5	0.1	3.15
AVJ01P27	0.71	7.4	2.9	16	<0.50	0.56	<0.50	>84,000	11,000	29,000	6.09	7.89	5.25	7.9	0.1	2.78
AVJ01P27	0.87	8.8	3.1	8.4	<0.50	0.51	<0.50	>50,000	9,000	7,400	5.36	7.51	4.24	6.1	0.12	3.03
AVJ01P27	0.73	6.9	3	8.2	<0.50	<0.50	<0.50	70,000	3,800	9,100	5.94	7.85	7.92	7.8	0.1	2.18
AVJ01P27	0.72	7.4	4.7	16	<0.50	0.69	<0.50	72,000	6,800	16,700	8.63	7.76	5.53	8	0.1	3.92
AVJ01P27											8.66	7.71	6.33	11.7	0.1	4.03
AVJ01P28	<8.00	9.1	9.8	79	<2.00	<1.00	<2.00				5.14	7.89	22.3	4.6	0.6	3.54
AVJ01P28	<8.00	7.7	19	78	<2.00	<1.00	<2.00	83,000	26,000	6,600	7.22	7.97	7.98	6.5	0.5	4.3

AVJ01P28	<8.00	6.8	8.8	44	<2.00	<1.00	<2.00	94,000	44,000	52,000	8.1	7.11	9.69	8.4	0.35	3.81
AVJ01P28	<8.00	9.5	13	54	<2.00	<1.00	<2.00	119,000	31,000	23,000	10.7	7.89	24.2	2	0.26	0.87
AVJ01P28	<8.00	7.8	9.5	49	<2.00	<1.00	<2.00	101,000	33,000	26,000	4.76	7.98	15.3	2.2	0.5	1.12
AVJ01P28																
AVJ01P28	<8.00	11	12	140	<2.00	<1.00	<2.00	181,000	104,000	48,000	3.06	7.37		5.8	0.65	3.29
AVJ01P28	<8.00	8.9	10	95	<2.00	<1.00	<2.00	>200,000	>200,000	36,000	3.95	7.56	11.1	5.4	0.4	5.34
AVJ01P28																
AVJ01P28	<8.00	10	6.5	55	<2.00	<1.00	<2.00	<200,000	76,000	<200,000	8.63	7.78	20.7	7.4	0.07	5.16
AVJ01P28	<8.00	23	58	98	<2.00	<1.00	<2.00	<200,000	<200,000	44,000	7.05	8.15	67.6	6	0.2	3.44
AVJ01P28	<8.00	9.9	17	52	<2.00	<1.00	<2.00	<200,000	<200,000	54,000	5.09	8.32	27	7.3	0.26	4.84
AVJ01P28	0.52	9.1	11	34	<0.50	0.59	<0.50	>1,200,000	>120,000	15,000	4.58	7.6	4.8	5.4	1	4.91
AVJ01P28	<0.50	11	25	34	<0.50	<0.50	<0.50	840,000	>120,000	8,000	4.51	7.19	5.4	6.3	0.1	4.07
AVJ01P28	0.57	15	6.7	30	<0.50	3.1	0.92	660,000	60,000	13,000	4.91	7.49	5.54	6.6	0.06	4.92
AVJ01P28	<0.50	8.8	6.2	24	<0.50	<0.50	<0.50	>120,000	330,000	29,000	3.62	7.52	8.71	7.2	0.17	5.73
AVJ01P28	<0.50	9.3	8	50	<0.50	0.64	<0.50	770,000	260,000	250,000	7.03	7.75	18.1	8.4	0.12	4.5
AVJ01P28	0.59	13	9.8	47	<0.50	0.83	<0.50	1,010,000	530,000	3,800	4.61	7.63	9.01	5.6	0.4	4.98
AVJ01P28	<0.50	13	8.8	45	<0.50	0.83	<0.50	1,300,000	10,000	19,000	3.55	7.5	9.76	7.2	0.4	5.6
AVJ01P28	0.92	13	9.9	56	<0.50	0.67	<0.50	1,040,000	330,000	63,000	5.6	7.45	12.9	7.8	0.13	7.75
AVJ01P28	0.71	9.2	8.9	39	<0.50	0.57	<0.50	>1,200,000	290,000	8,000	3.13	7.6	10.2	4.8	0.17	5.36
AVJ01P28	<0.50	9	7.7	26	<0.50	0.86	<0.50	770,000	76,000	15,000	0	7.72	9.8	8.9	0.25	5.03
AVJ01P28	<0.50	8.8	11	44	<0.50	0.71	<0.50	530,000	21,000	8,200	5.9	7.62	14.5	9.3	0.45	6.58
AVJ01P28	1.5	11	16	34	<0.50	0.98	<0.50	320,000	11,000	1,700	8.35	7.97	5.96	10.8	3.6	4.26
AVJ01P28	0.51	14	8.6	27	<0.50	1	<0.50	800,000	30,000	16,000	8.01	7.98	11.9	9.2	0.45	3.19
AVJ01P28	<0.50	6.8	4.1	17	<0.50	<0.50	<0.50	310,000	7,000	2,500	7.19	7.87	23.1	7.4	0.15	3.89
AVJ01P28	<0.50	8.1	4.8	20	<0.50	<0.50	<0.50	910,000	38,000	6,000	0	7.87	63.3	9.4	0.3	4.2
AVJ01P28	1.1	11	22	22	<0.50	<0.50	<0.50	2,700,000	23,000	5,800	9.39	8.03	3.86	10.1	0.4	2.19
AVJ01P28	0.84	12	7.9	31	<0.50	0.72	<0.50	280,000	19,000	10,500	8.59	7.78	29.3	7.6	0.42	4.31
AVJ01P28	<0.50	8	5.9	18	<0.50	<0.50	<0.50	930,000	37,000	2,800	8.21	7.97	2.09	6.9	0.1	2.82
AVJ01P28	<0.50	2.7	2.1	7.6	<0.50	<0.50	<0.50	1,230,000	34,000	3,400	8.28	7.82	9.43	2.1	0.22	1.13
AVJ01P28	<0.50	7.8	5.1	20	<0.50	<0.50	<0.50	1,000,000	27,000	6,200	8.59	7.85	7.45	10	0.25	3.85
AVJ01P28								180,000	20,000	5,200	7.25	7.75	18.7	10	0.21	5.8
AVJ01P28											8	7.86	11.5	8.2	0.17	3.98

AVJ01P33	<8.00	6.1	3	15	<2.00	<1.00	<2.00	11,000	3,000	6,100	10.3	7.97	1.49	2.4	<0.05	2
AVJ01P33	<8.00	14	11	39	<2.00	1.5	<2.00	151,000	71,000	72,000	7.17	7.48	260	4.4	<0.05	9.84
AVJ01P33	<8.00	4.2	3.3	17	<2.00	<1.00	<2.00	37,000	14,600	9,700	8.65	7.33	1.81	3.8	<0.05	1.86
AVJ01P33	<8.00	9.1	6.8	69	<2.00	<1.00	<2.00	7,900	1,240	1,630	10.2	7.7	7.34	2.6		1.97
AVJ01P33	<8.00	9.2	15	160	<2.00	<1.00	2.4	199,000	177,000	29,000	8.22	8.38	17.2	8.3	1.4	2.59
AVJ01P33	<8.00	11	8	27	<2.00	<1.00	<2.00	86,000	67,000	123,000	10.23	8.47	1.85	2.3		2.17
AVJ01P33	<0.50	9.4	2.3	10	<0.50	<0.50	<0.50	43,000	3,800	7,000	9.34	7.84	4.75	3.8	0.08	1.91
AVJ01P33	1.7	6.3	15	8.9	<0.50	<0.50	<0.50	110,000	12,000	38,000	8.82	8.34	3.39	2.3	<0.05	2.53
AVJ01P33	<0.50	12	1.2	7.2	<0.50	<0.50	<0.50	19,000	4,300	600	9.36	8.24	0.7	3.3	<0.02	1.77
AVJ01P33	0.65	20	10	52	<0.50	1.2	<0.50	NR	NR	NR	8.65	7.89	6.01	10.3	0.1	13.35
AVJ01P33	<0.50	15	12	21	<0.50	1.1	<0.50	210,000	88,000	29,000	7.46	7.81	376	6.5	0.08	5.16
AVJ01P33	1.1	16	1.7	6.4	<0.50	0.92	<0.50	210,000	5,000	7,000	8.64	8.07	0.79	5.9	0.1	1.43
AVJ01P33	0.95	6.3	4.3	4.4	<0.50	<0.50	<0.50	2,200	400	4,300	10.19	8.3	2.7	4.9	0.07	1.48
AVJ01P33	0.64	14	2.3	6.8	<0.50	0.81	<0.50	33,000	2,700	6,500	7.32	8.21	1.01	5.4	0.05	1.93
AVJ01P33	<0.50	11	1.6	3.3	<0.50	<0.50	<0.50	12,000	1,700	900	8.64	8.19	0.47	5.6	0.05	1.59
AVJ01P33	0.58	4.8	3.5	12	<0.50	<0.50	<0.50	>4,800	160	1,000	10.02	8.16	3.76	3.9	0.1	1.42
AVJ01P33	1	7.5	2.4	11	<0.50	<0.50	<0.50	26,000	700	2,500	11.67	8.09	0.47	4	0.1	1.39
AVJ01P33	0.51	9.2	6	24	<0.50	3	<0.50	>135,000	36,000	7,400	11.04	7.66	2.48	4.7	0.1	6.15
AVJ01P33	0.68	5.8	3.8	7.1	<0.50	<0.50	<0.50	47,000	320	1,170	9.86	8.13	4.23	5.9	0.1	2.17
AVJ02P05	<8.00	6.2	50	120	<2.00	<1.00	3.4	17,650	6,850	20,600	9.21	8.17	3.35	2.1	0.15	0.96
AVJ02P05	<8.00	5.6	11	42	<2.00	<1.00	<2.00	82,000	17,000	33,000	9.2	7.57	15.7	9.1	<0.05	4.2
AVJ02P05	<8.00	<4.00	22	21	<2.00	<1.00	<2.00	92,000	31,000	38,000	9.22	7.54	9.45	4.2	0.65	1.17
AVJ02P05	<8.00	9.9	13	53	<2.00	<1.00	<2.00	38,000	15,800	12,800	9.18	8.23	2.49	7.2	<0.05	1.64
AVJ02P05	<8.00	8.8	14	67	<2.00	1	<2.00	>200,000	124,000	166,000	8.52	8.2	28.2	7.8	0.2	3.75
AVJ02P05	<8.00	12	8.6	40	<2.00	<1.00	<2.00	<200,000	<200,000	164,000	9.02	7.92	6.46	10.6	0.08	4.82
AVJ02P05	1	9.7	9.4	41	<0.50	<0.50	<0.50	50,000	9,000	9,000	9.8	7.85	1.25	4.4	0.06	0.61
AVJ02P05	0.65	8.8	9.1	32	<0.50	<0.50	<0.50	280,000	60,000	11,000	8.8	7.99	4.93	7.8	0.08	3.3
AVJ02P05	1.1	8.5	9	38	<0.50	<0.50	<0.50	22,000	20,000	6,300	8.9	7.9	0.9	5.5	<0.05	0.94
AVJ02P05	0.7	10	6.8	33	<0.50	<0.50	<0.50	NR	NR	NR	9.75	8.06	1.28	5.1	<0.05	0.95
AVJ02P05	0.6	6.3	9.1	29	<0.50	<0.50	<0.50	41,000	7,300	6,600	9.14	8.06	1.28	3.7	<0.05	3.06

AVJ02P05	1.3	3.4	5.9	29	<0.50	<0.50	<0.50	34,000	15,000	6,000	0	7.71	1.34	6.7	<0.01	1.04
AVJ02P05	1.1	8.7	9.4	96	<0.50	1.8	<0.50	9,300	1,300	11,000	9.66	8.04	3.44	7	0.05	3.59
AVJ02P05	1.5	5.8	9.6	36	<0.50	<0.50	<0.50	26,000	4,000	500	6.67	8.09	173	8.4	0.1	2.31
AVJ02P05	0.84	6.9	5.2	19	<0.50	1.2	<0.50	200,000	410,000	48,000	9.07	8.06	5.42	9.7	0.05	3.62
AVJ02P05	0.99	5.7	3.4	30	<0.50	<0.50	<0.50	>2,600	40	160	9.44	8.22	1.41	5.2	0.11	0.99
AVJ02P05	1.4	7.8	7.6	31	<0.50	0.57	<0.50	20,000	340	1,190	11.7	8.25	3.52	10	0.21	1.92
AVJ02P05	1.3	6.4	4.4	9.8	<0.50	0.84	<0.50	>43,000	430	6,200	12.63	7.68	33.8	10.8	0.22	2.03
AVJ02P05	1	5.7	14	28	<0.50	0.63	<0.50	47,000	4,100	15,000	9.87	8.07	6.34	5.1	0.1	0.9
COL02P50	<8.00	<4.00	2.8	55	<2.00	<1.00	<2.00	4,350	3,100	2,400	8.86	7.91	2.66	0.9	<0.05	2.24
COL02P50	<8.00	<4.00	<2.00	18	<2.00	<1.00	<2.00	620	130	280	6.92	7.5	2.24	1.1	<0.05	2.22
COL02P50	<8.00	<4.00	4.8	27	<2.00	<1.00	<2.00	1,490	130	870	6.93	7.07	7.38	1.2	<0.05	2.54
COL02P50	<8.00	5	<2.00	71	<2.00	<1.00	<2.00	530	380	590	8.84	7.55	1.02	1.1	0.13	1.48
COL02P50	<8.00	280	8.9	120	<2.00	88	<2.00	16,400	6,300	11,100	8.5	7.82	10.6	4	0.1	1.24
COL02P50																
COL02P50	<8.00	8.4	<2.00	38	<2.00	<1.00	<2.00	6,300	4,200	3,100	8.91	7.31	0.89	1.1		2.76
COL02P50	<0.50	12	0.97	6.6	<0.50	<0.50	<0.50	6,000	40	50	9.1	7.16	0.45	1.5	<0.05	0.89
COL02P50	<0.50	7.9	0.54	4.8	<0.50	<0.50	<0.50	4,500	20	90	8.39	7.31	0.63	1.9	<0.05	1.76
COL02P50	<0.50	7.5	0.59	4.7	<0.50	<0.50	<0.50	30	20	<10	8.87	7.27	0.4	1.2	<0.05	1.27
COL02P50	<0.50	12	0.8	7.4	<0.50	<0.50	<0.50	3,000	210	80	8.8	7.48	0.67	2.3	0.08	1.6
COL02P50	<0.50	11	<0.50	5.6	<0.50	<0.50	<0.50	190	60	140	10.14	7.19	1.51	1.4	0.1	2.55
COL02P50	<0.50	7.1	1.1	5.8	<0.50	<0.50	<0.50	8,000	600	400	8.52	7.7	0.78	1	0.13	1.48
COL02P50	<0.50	5.8	0.76	12	<0.50	<0.50	<0.50	280	10	<10	9.18	7.54	1.41	1.1	0.05	1.32
COL02P50	<0.50	5.7	1.2	8.6	<0.50	<0.50	<0.50	570	<10	200	8.3	7.67	1.01	1.4	0.05	1.39
COL02P50	<0.50	6	1	6.8	<0.50	<0.50	<0.50	2,300	200	500	8.23	7.65	0.78	1.3	0.05	1.61
COL02P50	<0.50	9.6	3.9	15	<0.50	0.83	<0.50	33,000	50	2,300	8.22	7.41	3.21	3.8	0.1	1.56
COL02P50	<0.50	7.1	2.2	8	<0.50	0.6	<0.50	>6,300	>380	840	9.22	8.04	0.92	2.5	0.12	1.3
COL02P50	<0.50	7.8	1.6	7	<0.50	<0.50	<0.50	>6,600	640	690	7.11	7.75	1.36	3.6	0.1	1.29
COL02P50	<0.50	5.7	1.9	9.2	<0.50	<0.50	<0.50	6,900	60	140	9.1	7.47	1.25	2.5	0.1	1.01
COL02P50											9.73	7.47	0.86	2.4	0.1	1.33
COL02P55	<8.00	61	4.1	33	<2.00	16	<2.00	27,000	18,000	13,000	7.38	8.09	3.98	1.7	<0.05	0.86

COL02P55	<8.00	230	5.9	75	<2.00	75	<2.00	18,700	3,600	5,800	6.86	8.2	8.05	5.2	<0.05	1.15
COL02P55	<8.00	290	4.3	87	<2.00	110	<2.00	6,800	4,100	5,400	7.52	7.42	4.92	6	<0.05	0.4
COL02P55	<8.00	210	5.2	120	<2.00	68	<2.00	16,800	3,900	10,400	9.59	7.95	15.9	3.9	<0.05	2.13
COL02P55	<8.00	6.6	3.2	35	<2.00	<1.00	<2.00	1,140	630	620	8.36	7.6	0.91	0.5	0.08	1.43
COL02P55																
COL02P55	0.61	210	4.8	73	<0.50	49	<0.50	470,000	43,000	113,000	6.83	7.65	15.6	3.8	0.12	1.84
COL02P55	<0.50	75	3.9	18	<0.50	18	<0.50	440,000	200,000	28,000	8.19	7.63	13.6	4	<0.05	2.01
COL02P55	<0.50	61	3.7	22	<0.50	12	<0.50	180,000	80,000	37,000	8.4	7.27	18.8	4.1	0.06	2.62
COL02P55	0.96	220	8.9	66	<0.50	61	<0.50	550,000	110,000	9,000	8.55	7.85	8.43	6.5	0.1	1.99
COL02P55	<0.50	88	6.5	39	<0.50	11	<0.50	640,000	26,000	47,000	6	7.5	8.57	4.6	0.18	2.74
COL02P55	0.63	71	5.1	30	<0.50	5.2	<0.50	67,000	27,000	16,000	7	7.8	5.46	4.5	0.18	2.43
COL02P55	0.51	140	8.1	59	<0.50	34	<0.50	260,000	16,000	11,000	6.24	7.62	7.73	3.8	0.14	1.6
COL02P55	<0.50	100	5.6	35	<0.50	13	<0.50	63,000	28,000	7,200	6.65	7.92	18.9	6.6	0.11	1.94
COL02P55	<0.50	69	4.5	24	<0.50	3.6	<0.50	80,000	30,000	26,000	6.01	8	12.2	4.2	0.05	2.28
COL02P55	<0.50	65	7.8	34	<0.50	4.6	<0.50	>143,000	3,000	23,000	7.2	7.57	14.2	5.1	0.12	2.7
COL02P55	<0.50	93	5	36	<0.50	8.6	<0.50	>86,000	2,100	10,700	6.62	8.04	5.16	5.3	0.12	0.91
COL02P55	<0.50	71	4.5	37	<0.50	3.9	<0.50	370,000	22,000	54,000	4.88	7.73	17.2	6.6	0.23	1.72
COL02P55	<0.50	100	4.8	53	<0.50	6.2	<0.50	76,000	>2,100	5,600	5.52	7.66	7.53	7.9	0.24	0.9
COL02P55											8.78	7.78	19.5	3.9	0.1	0.94
DPK01P04								>200,000	>200,000	35,000	9	7.93	6.91	3.3		0.95
DPK01P04	<8.00	98	7.4	58	<2.00	4.7	<2.00	86,000	16,000	89,000	9.01	7.85	6.57	3.2	0.1	1.65
DPK01P04	<0.50	100	45	35	<0.50	9.3	<0.50	240,000	74,000	11,600	5.91	7.96	8.74	3.5	0.07	1.43
DPK01P04	0.57	79	7.5	28	<0.50	4.5	<0.50	22,000	3,200	3,200	9.04	7.8	19.7	5.1	0.1	1.87
DPK01P04	<0.50	82	5.1	29	<0.50	3.7	<0.50	100,000	19,000	17,000	8.71	7.89	4.79	3.8	0.12	1.85
DPK01P04	3.8	59	7.2	45	<0.50	5.1	<0.50	420,000	690	5,000	8.43	7.83	4.74	24.3	0.11	3.06
DPK01P04	<0.50	93	8.6	32	<0.50	7.1	<0.50	1,200	270	150	9.47	7.53	4.24	3.8	0.14	3.12
DPK01P04	<0.50	90	9.1	26	<0.50	8.9	<0.50	30,000	6,900	9,000	8.45	7.79	6.2	4.2	0.08	1.65
DPK01P04	<0.50	140	5	130	<0.50	12	<0.50	34,000	14,000	5,800	9.39	7.92	5.55	3.4	0.12	1.45
DPK01P04	<0.50	88	9.1	36	<0.50	6.6	<0.50	49,000	11,000	17,000	8.89	7.89	3.47	3.5	0.1	1.76
DPK01P04	0.56	72	6.7	38	<0.50	3.3	<0.50	720,000	28,000	58,000	8.68	7.93	15.3	3.7	0.15	2.03
DPK01P04	0.5	86	7.5	33	<0.50	8.6	<0.50	>22,000	3,300	6,300	8.63	7.85	17.8	3.9	0.12	2.15

DPK01P04	<0.50	93	5.7	20	<0.50	1.4	<0.50	>28,000	1,800	3,300	9.66	8.21	5.2	4.1	0.1	1.06
DPK01P04	<0.50	83	4.6	15	<0.50	1.2	<0.50	86,000	7,400	20,000	8.24	7.94	7.69	4.5	0.1	0.93
DPK01P04											10.23	7.87	4.82	4.1	0.1	1.46
DPL01S02	<8.00	180	4.6	90	<2.00	13	<2.00	69,000	18,000	8,100	7.87	7.8	3.63	4.1	0.33	0.49
DPL01S02	<8.00	170	3	66	<2.00	20	<2.00	21,000	16,000	28,000	11.17	7.27	6.9	2.1	<0.05	<0.06
DPL01S02	<8.00	140	5	71	<2.00	6.5	<2.00	126,000	57,000	8,600	8.97	7.48	4.46	4.3	<0.05	0.24
DPL01S02	<8.00	140	4.7	63	<2.00	5.3	<2.00	46,000	23,000	33,000	4.59	7.58	3.74	1.5	0.18	0.08
DPL01S02	<8.00	170	3.2	100	<2.00	13	<2.00	73,000	22,000	47,000	9.02	7.55	3.63	4.1	0.3	0.29
DPL01S02	12	190	8.4	110	<2.00	12	4.5	10,600	6,300	4,300	13.36	7.75	2.32	4.7	0.08	0.34
DPL01S02	<8.00	150	5.5	92	<2.00	8.1	<2.00	28,000	20,000	12,400	8.08	7.77	2.94	3.8		0.44
DPL01S02	<8.00	160	10	56	<2.00	9.2	<2.00	2,900	2,200	810	11.34	7.66	2.82	4.7		0.28
DPL01S02	<8.00	250	3.7	68	<2.00	26	<2.00	4,600	3,300	4,100	14.7	7.8	2.1	5		0.4
DPL01S02	<8.00	220	2.9	88	<2.00	16	<2.00	76,000	44,000	66,000	13.1	7.9	2.7	5.4	0.1	0.45
DPL01S02	0.66	400	3.8	200	<0.50	48	<0.50	49,000	5,200	1,900	8.6	7.96	1.73	8	0.25	0.33
DPL01S02	0.71	510	6.4	220	<0.50	54	<0.50	120,000	20,000	1,400	8.54	8.27	2.26	9.9	0.09	0.39
DPL01S02	1.1	460	21	230	<0.50	54	<0.50	25,000	5,000	3,200	8.05	7.59	1.36	10.5	0.06	0.37
DPL01S02	0.74	410	4.2	160	<0.50	43	<0.50	33,000	17,000	2,600	8.47	7.75	1.88	9.4	0.1	0.31
DPL01S02	1.1	480	5.6	150	<0.50	34	<0.50	190,000	74,000	7,400	8.59	7.79	2	10.1	0.1	0.24
DPL01S02	0.64	470	4.4	210	<0.50	57	<0.50	3,200	1,190	560	10.27	7.66	1.06	9	0.07	0.27
DPL01S02	0.53	340	4.5	140	<0.50	34	<0.50	33,000	10,000	9,200	8.6	7.83	3.81	7.8	0.2	0.55
DPL01S02	0.75	260	3.9	84	<0.50	23	<0.50	32,000	40	2,300	7.98	7.9	1.46	6.3	0.07	0.45
DPL01S02	0.55	230	4.4	62	<0.50	19	<0.50	33,000	4,200	3,400	9.24	7.49	0.99	7.6	0.07	0.4
DPL01S02	0.66	360	6.7	110	<0.50	35	<0.50	>1,200,000	210,000	48,000	8.81	7.61	2.24	10.3	0.13	0.39
DPL01S02	0.73	300	4.4	140	<0.50	37	<0.50	77,000	5,500	600	9	7.87	1.38	8.8	0.15	0.51
DPL01S02	0.53	280	3.9	98	<0.50	33	<0.50	3,800	300	1,200	9.26	7.81	0.87	7.9	0.06	0.4
DPL01S02	0.51	230	3.1	71	<0.50	30	<0.50	7,500	500	1,400	8.89	7.42	1.33	7.2	0.1	0.32
DPL01S02	0.6	260	3	71	<0.50	35	<0.50	32,000	5,600	3,700	10.81	7.72	3.65	9.9	0.1	0.3
DPL01S02	0.62	320	3	98	<0.50	39	<0.50	42,000	5,200	1,900	8	7.81	1.17	11.1	0.05	0.42
DPL01S02	0.59	320	9.1	130	<0.50	40	<0.50	163,000	3,600	1,110	9.28	7.72	3.02	9.7	0.12	0.23
DPL01S02	0.56	340	3.4	140	<0.50	41	<0.50	36,000	490	860	6.63	8.03	2.77	8.8	0.1	0.3
DPL01S02	0.72	400	4.1	100	<0.50	14	<0.50	49,000	5,300	8,500	7.74	7.85	2.02	8.1	0.09	0.17

DPL01S02	<1.00	250	3	55	<1.00	5.7	<1.00	136,000	3,100	3,500	8.45	8.09	3	7.1	0.12	0.3
DPL01S02	0.52	210	3.7	60	<0.50	11	<0.50	78,000	4,100	3,700	8.09	8.31	2.77	7.8	0.1	0.3
DPL01S02	<1.00	310	5	130	<1.00	24	<1.00	31,000	4,400	3,100	7.96	7.75	2.25	8	0.11	0.3
DPL01S02	0.54	260	5.4	93	<1.00	30	<1.00	>7,500	220	470	9.44	7.73	2.52	7.3	0.1	0.32
DPL01S03	<8.00	5	5	82	<2.00	<1.00	<2.00	61,000	14,300	1,130	11.38	8.02	2.63	7.8	0.15	0.66
DPL01S03	<8.00	8.1	7.1	23	<2.00	<1.00	<2.00	30,000	22,000	42,000	7.93	8.22	3.37	6.1	<0.05	0.62
DPL01S03	<8.00	4.5	9.4	38	<2.00	<1.00	<2.00	19,900	10,500	14,900	1.13	8.25	4.29	2.1	0.19	0.11
DPL01S03	<8.00	5.9	3.4	17	<2.00	<1.00	<2.00	44,000	14,400	14,200	9.87	8.3	4.46	8.6	0.07	0.24
DPL01S03	<8.00	9.9	7.9	35	<2.00	<1.00	2.9	1,590	860	460	7.6	8.1	0.56	8.5	0.1	0.42
DPL01S03	<8.00	11	6.5	31	<2.00	<1.00	<2.00	21,400	16,000	6,300	8.37	8.19	1.79	7.8	<0.05	0.45
DPL01S03	<8.00	11	6.7	20	<2.00	<1.00	<2.00	6,300	4,400	1,670	11.33	7.95	2.84	7.6	0.1	0.2
DPL01S03	<8.00	13	3.3	<10.00	<2.00	<1.00	<2.00	14,200	11,000	5,500	15.2	8.4	2.9	7		0.47
DPL01S03	<8.00	14	4.2	22	<2.00	<1.00	<2.00	46,000	38,000	9,950	15.9	8.55	1.41	7.1	0.2	0.4
DPL01S03	1.2	24	3.1	7.5	<0.50	<0.50	1.6	27,000	6,300	2,100	8.69	8.23	0.66	13.3	<0.05	0.55
DPL01S03	<0.50	29	3.8	4.9	<0.50	<0.50	<0.50	20,000	10,000	3,000	9.41	7.65	1.03	12.7	0.1	0.28
DPL01S03	<0.50	26	4	12	<0.50	<0.50	<0.50	22,000	9,000	3,000	9.46	7.95	2.83	12.1	<0.05	0.47
DPL01S03	<0.50	13	7.6	12	<0.50	<0.50	<0.50	19,000	14,000	5,400	8.52	8.18	4.06	12.1	0.3	0.48
DPL01S03																
DPL01S03	<0.50	13	6.5	2.3	<0.50	<0.50	<0.50	4,000	3,200	480	8.94	8.13	0.8	13.1	<0.05	0.25
DPL01S03	<0.50	23	3.1	7.4	<0.50	<0.50	<0.50	8,400	5,300	560	9.4	8.07	3.53	11.4	<0.05	0.28
DPL01S03	<0.50	15	4.3	5	<0.50	<0.50	<0.50	8,600	6,000	2,300	9.95	8.07	1.67	8.5	<0.05	0.35
DPL01S03	<0.50	19	4	4.4	<0.50	<0.50	<0.50	21,000	100	360	7.72	7.98	1.4	11.8	0.13	0.4
DPL01S03	<0.50	4.7	3.5	2	<0.50	<0.50	<0.50	9,000	7,200	1,400	9.2	7.86	1.22	12.9	0.07	0.46
DPL01S03	0.94	17	9.4	5.2	<0.50	<0.50	<0.50	13,000	10,300	5,300	9.65	7.98	0.93	5.9	<0.05	0.39
DPL01S03	<0.50	8.5	3.2	5.6	<0.50	<0.50	<0.50	8,600	3,500	2,700	9.22	8.17	1.24	12.6	0.06	0.59
DPL01S03	<0.50	5.8	3.8	4.1	<0.50	<0.50	<0.50	9,000	6,100	690	9.25	8.19	4.41	12	0.07	0.61
DPL01S03	<0.50	5	3.7	4	<0.50	<0.50	<0.50	38,000	6,300	1,300	8.52	7.93	6.85	11.1	0.08	0.46
DPL01S03	<0.50	16	4.8	7.5	<0.50	<0.50	<0.50	56,000	23,000	5,400	10.55	8.15	7.51	10.7	0.1	0.44
DPL01S03	<0.50	5.9	2.1	2.2	<0.50	<0.50	<0.50	20,000	12,000	4,300	7.1	8.06	2.76	11.3	0.05	0.22
DPL01S03	<0.50	8.6	6.6	8.1	<0.50	<0.50	<0.50	48,000	8,400	3,300	9.9	8.23	1.61	12.5	0.12	0.49
DPL01S03	<0.50	6.9	3.8	2.9	<0.50	<0.50	<0.50	29,000	4,400	4,400	8.36	8.21	0.69	10.4	0.1	0.3

DPL01S03	0.82	8.5	8.3	6.8	<0.50	<0.50	<0.50	22,000	3,900	2,200	8.7	8.26	1.23	9.4	0.16	0.49
DPL01S03	<1.00	8	4.3	4.3	<1.00	<1.00	<1.00	>930,000	22,000	3,200	9.8	8.19	0.81	10.4	0.33	0.2
DPL01S03	<0.50	4.7	4.3	5.6	<0.50	<0.50	<0.50	32,000	7,000	4,900	9	8.12	3.02	14.3	0.1	0.59
DPL01S03	<0.50	4.3	6.1	6.6	<0.50	<0.50	<1.00	21,000	3,600	740	10.36	8.2	3.76	18.3	0.1	0.32
DPL01S03	<0.50	3.8	7.4	8.2	<0.50	<0.50	<1.00	5,200	350	220	11.73	8.08	2.88	8.3	0.1	0.38
DPL01SCWD	<0.50	130	5.1	28	<0.50	9.8	<0.50	550,000	>120,000	58,000	5.59	7.14	3.14	4.8	0.15	1.33
DPL01SCWD	<0.50	97	3.8	13	<0.50	12	<0.50	42,000	13,000	1,500	5.24	7.27	2.25	2.2	<0.05	0.93
DPL01SCWD	0.64	47	5.8	10	<0.50	3.7	<0.50	2,500	2,100	560	16.96	9.42	3.33	0.9	<0.05	0.08
DPL01SCWD	<0.50	59	6.5	8	<0.50	3.8	<0.50	22,000	9,000	2,700	7.8	7.79	6.46	4.6	0.06	2.73
DPL01SCWD	<0.50	63	4.9	13	<0.50	6.4	<0.50	260,000	113,000	7,200	6.3	8.31	3.6	2.8	<0.05	0.99
DPL01SCWD	0.53	230	4.4	39	<0.50	24	<0.50	25,000	14,000	450	6.75	7.55	2.18	3.7	0.07	0.6
DPL01SCWD	16	130	6.6	22	<0.50	16	<0.50	25,000	40	1,000	4.8	7.59	3.15	5.1	<0.05	0.94
DPL01SCWD	0.83	64	6.6	16	<0.50	5.6	<0.50	360,000	4,200	1,500	14.31	8.42	3.31	1.8	0.17	1.04
DPL01SCWD	<0.50	57	4.5	14	<0.50	2.7	<0.50	210,000	50,000	38,000		7.35	11.4	1.9	0.08	0.92
DPL01SCWD	<0.50	41	3.8	14	<0.50	2.6	<0.50	130,000	28,000	8,000	9.61	7.98	7.7	2.2	<0.05	0.85
DPL01SCWD	<0.50	96	4.4	25	<0.50	12	<0.50	29,000	2,700	3,600	3.03	7.93	2.01	3.9	1	0.69
DPL01SCWD	<0.50	87	3	20	<0.50	7.5	<0.50	31,000	1,200	3,100	7.85	7.85	2.76	2	0.07	0.95
DPL01SCWD	<0.50	85	3.1	17	<0.50	7.6	<0.50	160,000	6,100	16,000	0.2	7.87	1.92	2.8	0.06	1.62
DPL01SCWD	0.5	94	1.9	9.5	<0.50	1.6	<0.50	4,600	900	600	8.5	7.87	1.03	2.8	0.05	1.14
DPL01SCWD	<0.50	79	3.1	25	<0.50	6.8	<0.50	40,000	5,200	2,700	5.02	8	3.83	3.6	0.05	1.12
DPL01SCWD	<0.50	68	4.1	16	<0.50	6.5	<0.50	220,000	5,800	7,900	10.38	8.2	3.22	2.3	0.1	0.63
DPL01SCWD	0.56	89	4.5	24	<0.50	7.6	<0.50	89,000	8,000	5,600	13.23	8.18	4.39	2.6	0.22	0.84
DPL01SCWD	<0.50	76	5.2	12	<0.50	6.9	<0.50	>74,000	7,000	150	13.49	8.11	2.82	2.6	0.1	0.91
DPL01SCWD	<1.00	100	7.4	20	<0.50	8	<0.50	750,000	78,000	32,000	9.86	7.79	2.19	3.7	0.1	1.31
DPL01SCWD	<1.00	130	4.6	40	<1.00	20	<0.50	36,000	5,800	7,600	11.63	8.05	1.95	2.7	0.1	0.92
DPL01SCWD	<0.50	51	6.1	9.2	<0.50	3.6	<0.50	>183,000	>910	1,600	13.14	8.33	2.18	2	0.1	0.84
DPL01SCWD	<0.50	68	4.2	11	<0.50	8.1	<1.00	31,000	910	4,600	11.57	8.11	2.89	3.2	0.1	0.62
DPL01SCWD											9.81	8.07	1.41	2.3	0.1	0.76
DPM00P01	<8.00	130	12	79	<2.00	14	<2.00	14,000	12,400	11,400	9.46	7.71	56.5	3	0.17	2.74
DPM00P01	<8.00	160	14	84	<2.00	16	<2.00	12,200	2,350	6,100	9.53	7.76	10.2	3.1	<0.05	0.51

DPM00P01	<8.00	120	13	57	<2.00	14	<2.00	3,500	2,800	3,900	10.96	7.73	3.57	1.9	0.3	0.4
DPM00P01	<8.00	160	9.4	86	<2.00	15	<2.00	7,300	5,200	7,200	10.34	8.03	6.68	3	0.22	0.61
DPM00P01	<8.00	130	5.5	62	<2.00	12	<2.00	48,000	26,000	26,000	8.71	7.85	5.01	2.5	0.08	1.04
DPM00P01	<8.00	110	12	51	<2.00	9	<2.00	42,000	35,000	9,700	10.26	8.01	9.42	1.9		0.99
DPM00P01	<0.50	120	7.8	41	<0.50	11	<0.50	200,000	17,000	1,600	9.15	7.43	2.6	3.8	<0.05	0.62
DPM00P01	<0.50	110	5.3	31	<0.50	8.3	<0.50	12,100	6,000	1,300	9.35	7.82	3.61	6.1	<0.04	0.86
DPM00P01	<0.50	130	5.4	40	<0.50	13	<0.50	14,000	11,000	900	9.55	7.82	3.3	5.1	<0.05	0.64
DPM00P01	<0.50	130	6.7	42	<0.50	11	<0.50	110,000	2,200	6,000	10.51	7.8	11.3	3.6	0.2	0.84
DPM00P01	<0.50	100	6.7	34	<0.50	8.3	<0.50	50,000	2,300	7,000	9.24	7.67	5.41	4.5	0.12	0.82
DPM00P01	<0.50	120	6.8	34	<0.50	9.5	<0.50	21,000	9,300	9,100	9.5	7.86	5.26	3.2	0.06	0.7
DPM00P01	<0.50	100	7.7	41	<0.50	11	<0.50	3,600	1,100	1,400	9.41	7.94	204	3.8	0.07	0.92
DPM00P01	<0.50	140	5.3	50	<0.50	15	<0.50	53,000	4,400	9,400	7.17	7.78	13.6	5.1	0.08	1.11
DPM00P01	<0.50	79	5.1	29	<0.50	8.4	<0.50	380,000	89,000	>120,000	9.69	7.98	9.93	5	0.05	0.79
DPM00P01	<1.00	73	7.6	31	<0.50	5.2	<0.50	41,000	1,300	2,400	10.36	8.01	5.42	2.4	0.12	0.06
DPM00P01	<0.50	72	5.9	32	<1.00	6.8	<1.00	58,000	12,700	30,000	8.45	7.83	8.25	4.8	0.11	1.12
DPM00P01	<0.50	77	5.2	26	<0.50	6.1	<0.50	>85,000	17,000	24,000	20.19	7.77	7.37	3.1	0.18	0.59
DPM00P01											9.55	7.87	7.11	2.2	0.1	0.4
DPM00P05	<8.00	20	11	32	<2.00	<1.00	<2.00	1,700	265	2,500	23.65	9.01	3.14	0.3	0.14	0.21
DPM00P05	<8.00	15	8.7	51	<2.00	<1.00	<2.00	6,550	1,300	1,400	8.56	8.64	4.37	2.8	<0.05	0.44
DPM00P05	<8.00	10	9.3	13	<2.00	<1.00	<2.00	17,000	14,000	2,900		9.07	2.34	1.8	0.2	<0.06
DPM00P05																
DPM00P05	<8.00	18	3.7	42	<2.00	<1.00	<2.00	9,100	7,800	3,500	7.98	7.41	7.05	1.6	0.12	0.89
DPM00P05																
DPM00P05	<0.50	19	6.6	7.4	<0.50	<0.50	<0.50	17,000	600	1,600	16.82	8.22	1.67	1.6	0.09	0.29
DPM00P05	<0.50	21	6.1	8.1	<0.50	<0.50	<0.50	57,000	7,400	1,000	11.38	7.9	2.2	1.2	<0.03	0.39
DPM00P05	<0.50	19	2.7	7.4	<0.50	<0.50	<0.50	14,000	6,000	700	10.68	8.02	3.27	1.2	<0.05	0.59
DPM00P05	<0.50	25	4.9	11	<0.50	<0.50	<0.50	3,000	110	100	6.86	7.8	1.08	1.3	<0.05	0.27
DPM00P05	<0.50	20	3.8	5.4	<0.50	<0.50	<0.50	640	10	60	8.96	7.45	0.96	1	0.2	0.32
DPM00P05	<0.50	16	3.7	5.1	<0.50	<0.50	<0.50	6,300	3,700	1,800	9.74	7.8	0.56	1.4	0.14	0.29
DPM00P05	<0.50	12	11	5.1	<0.50	<0.50	<0.50	3,200	600	400	11.74	8.41	1.22	1.9	0.08	0.23
DPM00P05	<0.50	8.3	8.7	2.8	<0.50	<0.50	<0.50	6,000	<10	320	5.78	8.76	1.17	3.9	0.07	0.3

DPM00P05	<0.50	11	2.3	2.2	<0.50	<0.50	<0.50	19,000	4,700	4,300	10.13	8.05	2.32	1.3	0.07	0.25
DPM00P05	<1.00	24	7.6	5	<0.50	<0.50	<0.50	>560	100	170	12.3	8.29	2.85	2	0.13	0.3
DPM00P05	<0.50	11	2.6	5.9	<1.00	<1.00	<1.00	7,700	2,300	2,800	9.03	7.88	6.07	2.1	0.1	0.3
DPM00P05	<0.50	12	4.2	<2.00	<0.50	<0.50	<0.50	>15,000	20	20	16.11	8.11	12.7	2	0.1	0.3
DPM00P05	<0.50	13	9	5.9	<0.50	<0.50	<2.00	1,700	720	1,340	10.33	7.99	2.23	4.8	0.1	0.3
LBBLULGN	<0.50	5.2	3.3	3.6	<0.50	<0.50	<1.00	37,000	110	580	9.92	8.02	3.66	2	0.1	0.3
LBBLULGN	<0.50	3.5	4.3	2.5	<1.00	<1.00	<1.00	34,000	30	2,200	12.5	8.01	3.1	2	0.15	0.3
LBJ00P02	<8.00	13	4.9	29	<2.00	<1.00	<2.00	320	10	220	10.64	8.65	0.54	1.4	<0.05	0.5
LBJ00P02								630	630	2,410	10.3	8.05	2.1	1.5	<0.05	0.8
LBJ00P02	<8.00	13	6	27	<2.00	<1.00	<2.00	690	130	560	9.43	7.34	18.2	1.4	<0.05	0.72
LBJ00P02	<8.00	13	4.7	30	<2.00	<1.00	<2.00	30	10	20	9.89	8.25	0.34	1.4	<0.05	0.25
LBJ00P02	<8.00	11	3.9	26	<2.00	<1.00	<2.00	360	170	90	9.33	8.16	0.91	2.3		0.47
LBJ00P02	<8.00	11	<2.00	11	<2.00	<1.00	<2.00	1,620	310	350	7.17	7.76	10.3	0.7	0.1	0.7
LBJ00P02	0.67	15	3	16	<0.50	<0.50	<0.50	170	140	480	9.7	7.62	0.44	1.8	<0.05	0.36
LBJ00P02	0.56	14	2.3	10	<0.50	<0.50	<0.50	9,000	1,600	100	10.1	7.88	0.3	1.7	0.06	0.6
LBJ00P02	<0.50	14	2	6	<0.50	<0.50	<0.50	4,200	310	200	9.48	8.05	0.25	1.5	<0.05	0.51
LBJ00P02	0.52	15	2.5	7.2	<0.50	<0.50	<0.50	270	<10	10	9.65	8.12	0.19	1.8	<0.05	0.48
LBJ00P02	0.61	14	2.5	12	<0.50	<0.50	<0.50	16,000	6,000	9,000	10.09	7.93	0.19	0.8	0.1	0.4
LBJ00P02	0.61	12	3.8	7.1	<0.50	<0.50	<0.50	10,000	1,000	2,000	9.1	7.96	0.15	1.9	<0.05	0.49
LBJ00P02	<0.50	7.8	2.4	6.7	<0.50	<0.50	<0.50	2,400	2,000	100	11.39	8.22	0.7	0.9	0.09	0.63
LBJ00P02	1.9	8.2	2.4	12	<0.50	<0.50	<0.50	50,000	7,000	2,600	9.54	8.12	0.68	2.5	0.05	0.56
LBJ00P02	<0.50	6.5	1.5	27	<0.50	<0.50	<0.50	11,000	<10	200	10.3	8.15	0.54	0.8	0.05	0.58
LBJ00P02	<0.50	7.4	2.6	9	<0.50	<0.50	<0.50	>750	140	240	10.35	8.12	0.52	2.2	0.1	0.3
LBJ00P02	0.61	4.7	2.8	6.9	<0.50	<0.50	<0.50	2,700	9	490	10.55	8.34	0.3	2	0.1	0.34
LBJ00P02	0.61	4.4	2.9	8	<0.50	<0.50	<0.50	5,200	220	530	8.95	8.23	0.42	2	0.1	0.3
LBJ00P02											10.87	8.13	1.34	2	0.1	0.3
LBLCWI02	<0.50	2.5	2.3	4.7	<0.50	<0.50	<0.50	690	200	750	12.03	8.25	0.31	2	0.1	0.3
LBLCWI02	<0.50	2.6	3.4	3.5	<0.50	<0.50	<0.50	>5,800	200	2,500	11.07	8.14	0.63	2	0.1	0.3

LFJ01P01	<0.50	8.4	3.7	8.1	<0.50	<0.50	<0.50	140,000	10,000	7,400	8.53	7.5	0.58	8.7	<0.05	1.07
LFJ01P01	<0.50	15	3.7	14	<0.50	<0.50	<0.50	23,000	11,000	2,200	8.34	7.44	0.84	10.3	0.1	1.2
LFJ01P01	<0.50	8.5	2.2	6.2	<0.50	<0.50	<0.50	57,000	22,000	9,800	7.31	7.8	1.18	11.5	<0.05	1.08
LFJ01P01	<0.50	7.6	1.6	5.3	<0.50	<0.50	<0.50	86,000	16,000	7,900	6.16	7.76	2	10.1	<0.05	1.29
LFJ01P01	1.2	12	22	65	<0.50	<0.50	<0.50	110,000	12,000	11,000	5.26	8.01	5.1	11.9	0.16	1.14
LFJ01P01	<0.50	13	3.8	13	<0.50	<0.50	<0.50	6,700	3,300	2,500	12.35	7.86	3.64	9.7	<0.05	0.98
LFJ01P01	<0.50	3.5	2.6	12	<0.50	<0.50	<0.50	30,000	13,000	2,700	8.5	7.89	0.9	9.8	<0.05	1.2
LFJ01P01	<0.50	11	3.2	15	<0.50	<0.50	<0.50	49,000	44,000	7,000	7.65	7.68	1.49	8.1	<0.05	1.19
LFJ01P01	<0.50	2.7	4	15	<0.50	<0.50	<0.50	53,000	25,000	7,700	8.84	7.73	1.23	8	<0.05	0.9
LFJ01P01	<0.50	4.2	4.2	9.1	<0.50	<0.50	<0.50	97,000	33,000	39,000	7.14	7.98	5.94	8.5	0.08	1.21
LFJ01P01	0.64	2.3	6.3	8.2	<0.50	<0.50	<0.50	24,000	3,200	3,700	8.13	7.99	2.09	9.5	0.05	1.33
LFJ01P01	<0.50	2.1	1.6	6.3	<0.50	<0.50	<0.50	49,000	10,000	10,800	6.9	7.91	1.16	9.2	0.05	1.31
LFJ01P01	0.64	2.5	2.5	10	<0.50	<0.50	<0.50	50,000	13,000	7,000	7.67	7.89	1.46	9.1	0.37	1.97
LFJ01P01	<0.50	2.9	2.1	2.9	<0.50	<0.50	<0.50	39,000	16,000	20,000	7.39	8.01	2.85	8.1	0.05	1.37
LFJ01P01	<0.50	2.4	1.1	5.6	<0.50	<0.50	<0.50	41,000	63,000	3,800	6.29	7.8	2.95	10	0.1	2.16
LFJ01P01	0.53	4.2	3.1	10	<0.50	<0.50	<0.50	>30,000	10,000	44,000	9.04	8.11	2.57	11.6	0.1	2.15
LFJ01P01	<0.50	3.2	4.8	6.3	<0.50	<0.50	<0.50	34,000	7,400	4,600	8.26	8.09	0.96	9.2	0.11	1.02
LFJ01P01	<0.50	4	1.4	6.4	<0.50	<0.50	<0.50	19,000	6,700	3,400	8.17	8.02	1.31	8.1	0.1	1.23
LFJ01P01	<0.50	4.2	2.1	5.1	<0.50	<0.50	<0.50	27,000	12,000	6,300	7.48	7.74	1.41	7.8	0.1	1.38
LFJ01P01	<0.50	2.1	0.95	3.5	<0.50	<0.50	<0.50	61,000	14,000	4,100	8.01	7.7	0.94	10.1	0.1	1.37
LFJ01P01	<0.50	2	3.1	7.7	<0.50	<0.50	<0.50	>9,400	6,700	3,600	8.84	8.02	1.74	9.1	0.1	1.42
LFJ01P01	<0.50	1.7	1.8	5.8	<0.50	<0.50	<0.50	23,000	420	1,900	8.64	7.97	3.5	9.4	0.1	1.84
LFJ01P05	<8.00	9.2	23	65	<2.00	<1.00	2				7.83	8.25	12.2	0.5	1.3	4.47
LFJ01P05	<8.00	7.2	7.9	57	<2.00	<1.00	<2.00	3,600	1,800	5,400	9.13	7.31	14.6	0.4	1.6	3.98
LFJ01P05	<8.00	5.1	8	39	<2.00	<1.00	<2.00	34,000	21,000	110	8.39	7.61	5.47	1.1	0.25	3.24
LFJ01P05	<8.00	9.6	12	64	<2.00	<1.00	<2.00	46,000	5,000	470	8.83	8.11	10.4	0.9	0.35	1.41
LFJ01P05	<8.00	<4.00	4.5	34	<2.00	<1.00	<2.00	7,800	810	880	3.07	8.23	4.24	3.1	0.18	1.83
LFJ01P05																
LFJ01P05	<8.00	8.7	13	72	<2.00	<1.00	2.1	7,900	6,200	2,500	8	8.3	14.8	2.9	0.5	2.62
LFJ01P05																
LFJ01P05	<8.00	6.3	8.8	44	<2.00	<1.00	<2.00	59,000	44,000	5,900	8.27	8.15	8.2	1.7	0.2	2.33

LFJ01P05																
LFJ01P05	0.58	9.6	11	42	<0.50	<0.50	0.51	220,000	32,000	6,600	9.25	7.51	7.43	1.6	0.15	2.01
LFJ01P05	<0.50	5.8	5.9	47	<0.50	<0.50	0.56	410,000	140,000	14,000	8.1	8.03	1.91	1.9	0.22	1.87
LFJ01P05	<0.50	2.8	5.1	27	<0.50	<0.50	1.5	62,000	18,000	560	7.8	8.31	9.4	2.4	<0.05	0.63
LFJ01P05	0.52	5.4	11	45	<0.50	<0.50	0.79	830,000	42,000	19,000	13.79	8.01	8.77	2.7	<0.05	3.89
LFJ01P05	<0.50	12	3.5	15	<0.50	<0.50	<0.50	67,000	16,000	4,100	9.09	8.32	2.95	2	0.15	0.47
LFJ01P05	<0.50	4.6	5.4	41	<0.50	<0.50	0.52	>1,200,000	520,000	12,000	8.07	8.11	3.72	0.8	0.1	0.64
LFJ01P05	1.9	16	44	180	<0.50	<0.50	1.3	60,000	50,000	3,000	7.86	7.81	83.2	2.1	2.72	1.48
LFJ01P05	1.3	4.6	18	24	<0.50	<0.50	<0.50	380,000	52,000	10,200	8.93	8.35	4.56	1.3	0.15	3.33
LFJ01P05	0.84	4.2	17	52	<0.50	<0.50	1.6	240,000	22,000	29,000	8.75	8.36	5.9	1.3	0.1	11.68
LFJ01P05	9.1	8.9	27	50	<0.50	<0.50	1.2	420,000	10,000	120,000	7.46	8.12	6.99	1.7	0.36	2.74
LFJ01P05	0.79	4.2	15	120	<0.50	<0.50	3.1	840,000	44,000	17,000	8.62	8.29	7.13	2	0.15	4.18
LFJ01P05	1.2	12	13	80	<0.50	<0.50	0.82	>1,200,000	81,000	23,000	8.46	8.08	13.9	1.8	0.05	3.95
LFJ01P05	0.55	5.4	8	38	<0.50	<0.50	<0.50	46,000	22,000	2,600	9.25	8.13	5.34	3	0.15	2.16
LFJ01P05	0.82	6.3	10	42	<0.50	<0.50	0.62	64,000	1,320	3,600	9.45	8.33	3.65	2	0.45	1.29
LFJ01P05	0.67	5.1	15	84	<0.50	<0.50	0.7	340,000	35,000	47,000	9.83	8.24	7.88	2	0.1	3.23
LFJ01P05	0.82	5.2	12	55	<0.50	<0.50	0.69	>640,000	41,000	14,400	9.26	8.15	8.02	2	0.1	1.84
LFJ01P05	1.1	8.8	21	220	<0.50	0.63	4	>10,000,000	82,000	540,000	8.64	7.96	7.63	2	0.35	6.58
LFJ01P05	<0.50	2.8	4	18	<0.50	<0.50	<0.50	780,000	29,000	26,000	8.93	7.48	4.45	4	0.25	1.81
LFJ01P05	0.62	2.8	9.7	27	<0.50	<0.50	<0.50	3,900,000	80,000	11,100	8.61	8.13	15	2.6	0.16	1.47
LFJ01P05	<0.50	3	8.7	40	<0.50	<0.50	<0.50	8,000	130	2,500	11.51	8.3	4.96	2	0.16	0.9
LFJ01P05@RR	<0.50	5.4	3.3	13	<0.50	<0.50	<0.50	2,100,000	14,000	28,000	9.71	8.17	9.06	2	6.5	0.85
LFJ01P05@RR	<0.50	5.8	10	32	<0.50	<0.50	2	320,000	3,100	13,000	9.64	8.23	3.76	2	6	1.55
LFJ01P05@RR	<0.50	2.6	3.1	15	<0.50	<0.50	<0.50	>7,300	2,500	2,600	8.95	8.63	9.74	2	0.33	0.5
LFJ01P05@RR																
LFJ01P05@RR																
LFJ01P05@RR																
LFJ01P05@RR																
LFJ01P05@RR																
LFJ01P08	<8.00	8.6	15	78	<2.00	3.3	<2.00	39,000	16,000	36,750	7.7	8.1	5.68	2.6	0.15	5.42

LFJ01P08	<8.00	6.2	8.9	29	<2.00	2.9	<2.00	38,000	16,000	55,000	6.3	6.65	3.1	2	0.1	1.29
LFJ01P08	<8.00	6.2	6.7	30	<2.00	3.3	<2.00	88,000	14,000	1,540	8.89	7.43	3.81	1.9	<0.05	1.83
LFJ01P08	<8.00	4	6.8	44	<2.00	2.3	<2.00	NR	NR	NR	8.88	8	3.18	2	0.43	1.49
LFJ01P08	<8.00	5.4	8.2	29	<2.00	1.3	<2.00	65,000	56,000	43,000	8.99	8	5.73	1.4	1.7	1.19
LFJ01P08	<8.00	7.6	7	34	<2.00	1.8	<2.00	101,000	38,000	79,000	7.63	7.91	13.6	2.2	0.1	1.5
LFJ01P08	<0.50	12	6.2	8.9	<0.50	3.6	<0.50	100,000	29,000	4,500	9.47	7.61	1.14	1.6	0.09	0.78
LFJ01P08																
LFJ01P08	1.2	9.1	7	14	<0.50	1.8	<0.50	160,000	37,000	24,000	8.97	8.22	5.33	0.9	0.13	1.41
LFJ01P08	<0.50	12	5.7	24	<0.50	1.8	<0.50	300,000	90,000	>120,000	7.76	7.97	4.13	3.9	0.13	1.65
LFJ01P08	<0.50	8.8	3.8	5.6	<0.50	0.86	<0.50	210,000	26,000	21,000	6.94	8.02	6.3	1.4	0.07	1.21
LFJ01P08	<0.50	12	3.8	11	<0.50	2.1	<0.50	190,000	21,000	10,000	7.71	7.96	2.2	1.5	<0.05	0.96
LFJ01P08	43	12	10	3.6	<0.50	0.98	<0.50	340,000	60,000	52,000	8.52	9.02	10.7	0.9	0.13	0.36
LFJ01P08	1.3	6.3	8.6	14	<0.50	1.6	<0.50	69,000	68,000	11,000	7.73	7.83	1.81	1.7	0.8	1.03
LFJ01P08	0.75	11	5	8.3	<0.50	1.4	<0.50	44,000	25,000	8,000	7.63	7.76	2.27	1.6	0.11	2.37
LFJ01P08	0.61	4.7	8.3	9.3	<0.50	1.4	<0.50	30,000	29,000	13,000	8.53	8.09	7.1	1	0.1	1.5
LFJ01P08	0.61	4.6	6.3	20	<0.50	1.2	<0.50	160,000	32,000	25,000	7.86	8.01	10.5	0.9	0.4	1.08
LFJ01P08	<0.50	3.8	3.6	8.3	<0.50	0.69	<0.50	37,000	6,400	3,100	9.37	8.15	5.01	2	0.1	1.58
LFJ01P08	0.74	6.4	12	26	<0.50	1.4	<0.50	190,000	>44,000	8,700	8.42	8.14	4.04	2.9	0.45	2.21
LFJ01P08	<0.50	7.5	4.3	8.1	<0.50	0.75	<0.50	>91,000	18,000	10,600	8.47	8.07	4.21	2.8	0.1	0.87
LFJ01P08	0.67	5.7	2.7	7.9	<0.50	1.1	<0.50	800,000	61,000	9,500	12.11	8.09	3.11	2.3	0.3	1.23
LFJ01P08											9.47	8.17	2.79	2	0.12	1.09
LHJ04P04	<8.00	5.4	4.8	32	<2.00	<1.00	<2.00	8,500	1,800	6,900	8.79	7.76	2.51	1.7	0.1	0.91
LHJ04P04	<8.00	<4.00	6.7	16	<2.00	<1.00	<2.00	129,000	21,000	6,400	6.33	7.56	12.3	2.2	0.08	2.69
LHJ04P04	<8.00	<4.00	5.6	23	<2.00	<1.00	<2.00	43,000	21,000	32,000	7.82	7.21	4.07	2.2	<0.05	1.73
LHJ04P04	<8.00	9.4	6.2	45	<2.00	<1.00	<2.00	41,000	12,400	12,200	8.14	7.77	2.58	1.8	0.09	0.82
LHJ04P04	<8.00	7.7	5.2	51	<2.00	<1.00	4.9	59,000	27,000	9,250	7.54	7.8	3.77	2.8	0.1	1.21
LHJ04P04	<8.00	11	6	17	<2.00	<1.00	<2.00	59,000	45,000	26,000	8.45	7.35	15.3	2.5	0.09	1.19
LHJ04P04	1.2	15	4.1	6.9	<0.50	2.7	<0.50	22,000	900	5,400	10.96	7.61	1.93	2.6	0	0.96
LHJ04P04	<0.50	20	9.2	11	<0.50	<0.50	<0.50	690,000	83,000	22,000	8.85	7.31	3.58	1.6	0.08	0.93
LHJ04P04	1	18	6.2	15	<0.50	0.63	<0.50	190,000	29,000	11,000	8.49	7.56	6.28	2.8	0.07	1.17
LHJ04P04	<0.50	14	4.2	9.6	<0.50	<0.50	<0.50	230,000	140,000	15,000	8.31	7.82	2.48	2.3	0.08	1.24

LHJ04P04	<0.50	18	4	9.3	<0.50	<0.50	<0.50	130,000	68,000	7,400	8.3	7.5	2.1	2.3	<0.05	0.97
LHJ04P04	<0.50	18	3	11	<0.50	<0.50	<0.50	42,000	7,800	5,600	12.04	7.67	2.87	2.8	<0.05	1.39
LHJ04P04	0.72	9.9	14	48	<0.50	<0.50	2.6	400,000	20,000	16,000	8.9	7.68	14.4	2.3	0.2	1.09
LHJ04P04	0.66	5.9	11	26	<0.50	<0.50	<0.50	210,000	17,000	15,000	8.24	7.74	7.62	3.4	0.15	1.23
LHJ04P04	<0.50	3.9	4.9	8.2	<0.50	<0.50	<0.50	240,000	95,000	19,000	7.3	6.83	4.27	2.6	0.07	1.16
LHJ04P04	<0.50	8.2	3.7	7.4	<0.50	0.57	<0.50	260,000	100,000	8,100	11.98	7.65	3.77	3.2	0.12	1.48
LHJ04P04	<0.50	4.1	3.8	12	<0.50	0.64	<0.50	4,400	900	320	9.23	7.88	1.39	2.7	0.1	0.72
LHJ04P04	<0.50	5.3	4	6.4	<0.50	0.5	<0.50	33,000	5,700	8,900	8.7	7.78	1.77	2.8	0.06	1.14
LHJ04P04	<0.50	3.8	3.5	6.1	<0.50	<0.50	<0.50	47,000	16,000	13,000	8.19	7.91	3.05	2.7	0.05	1.82
LHJ04P04	<0.50	3.9	3.4	4.2	<0.50	<0.50	<0.50	31,000	26,000	15,000	8.35	7.83	3.5	2.2	0.15	1.2
LHJ04P04	<0.50	3.2	3.1	5.6	<0.50	<0.50	<0.50	200,000	37,000	45,000	8.85	7.86	4.35	1.2	0.05	1
LHJ04P04	<0.50	5.4	4.2	8.2	<0.50	<0.50	<0.50	>41,000	3,800	14,400	9.08	7.85	5.03	3.5	0.12	1.21
LHJ04P04	<0.50	5.1	3.4	6.6	<0.50	<0.50	<0.50	31,000	2,000	10,200			3.85	2.1	0.1	0.97
LHJ04P04	<0.50	5.6	3.7	9.5	<0.50	<0.50	<0.50	60,000	24,000	5,700	7.94	7.82	4.48	2	0.18	0.97
LHJ04P04	<0.50	5.2	3.7	5.5	<0.50	<0.50	<0.50	>55,000	18,000	28,000	9.9	7.92	2.21	2.6	0.1	0.76
LHJ04P04	<0.50	3	3	6.8	<0.50	<0.50	<0.50	78,000	28,000	25,000	8.22	7.73	10.1	2.6	0.1	1.31
LHJ04P04	<0.50	6.2	2.7	3.9	<0.50	<0.50	<0.50	23,000	2,900	4,800	9.55	7.87	6.3	2.5	0.1	0.78
LHJ04P04											9.93	7.84	10.8	2	0.1	0.85
LHJ05P01	<0.50	180	3.7	19	<0.50	17	<0.50	2,200	2,000	2,200	6.53	7.04	5.94	3.9	0.14	1.07
LHJ05P01	<0.50	180	3.9	16	<0.50	7.5	<0.50	180,000	7,000	7,000	5.89	7.22	5.52	3.9	0.18	1.93
LHJ05P01	<0.50	89	3.4	27	<0.50	3.5	<0.50	130,000	90,000	44,000	3.58	6.81	6.85	4.5	0.08	2.06
LHJ05P01	<0.50	120	2.8	15	<0.50	5.1	<0.50	310,000	110,000	1,130,000	6.78	6.81	2.9	2.3	0.11	2.14
LHJ05P01	<0.50	120	4.6	14	<0.50	3.8	<0.50	330,000	70,000	86,000	4.5	7.66	3.97	3.7	0.06	2.45
LHJ05P01	<0.50	170	2.8	7.5	<0.50	4.9	<0.50	14,000	6,000	15,000	4.8	6.88	0.36	3	0.05	0.78
LHJ05P01	<0.50	94	5.1	23	<0.50	7	<0.50	>1,200,000	>1,200,000	20,000	5.76	7.26	3.85	4.1	0.12	6.78
LHJ05P01	<0.50	87	2.7	12	<0.50	3.6	<0.50	170,000	50,000	10,700	5.73	7.2	4.55	3	0.2	2.27
LHJ05P01	<0.50	55	2.6	8.1	<0.50	2.5	<0.50	40,000	10,000	10,800	4.71	6.97	3.05	1.9	0.07	1.42
LHJ05P01	<0.50	88	2.5	13	<0.50	3.5	<0.50	230,000	28,000	28,000	3.83	7.58	5.62	4	0.12	2.62
LHJ05P01	<0.50	91	7.5	20	<0.50	7	<0.50	150,000	12,600	66,000	7.2	7.25	3.77	3.88	0.1	5.49
LHJ05P01	<0.50	140	1.8	4.8	<0.50	3.5	<0.50	53,000	800	42,000	2.36	7.14	3.37	2.5	0.1	0.87
LHJ05P01	<0.50	55	2.5	6	<0.50	2	<0.50	>93,000	16,000	41,000	4.82	7.54	2.19	2	0.1	1.54

LHJ05P01	<0.50	97	1.4	5.1	<0.50	2.3	<0.50	>55,000	5,800	10,800	4.93	7.65	5.04	3	0.1	0.99
LHJ05P01	<0.50	80	2	8.4	<0.50	3.3	<0.50	>107,000	18,000	24,000	4.82	6.82	4.28	3.1	0.1	1.66
LHJ05P01	<1.00	150	2.3	40	<1.00	3.9	<1.00	>11,900	690	2,600	4.29	6.93	1.81	2.8	0.1	0.61
LHJ05P01	<0.50	150	3	4.8	<0.50	6.3	<0.50	6,500	120	2,300	6.27	6.9	0.53	2	0.1	0.59
LHL04TBN1	<0.50	5.4	4.3	34	<0.50	<0.50	<0.50	12,000	5,000	1,000	8.7	7.65	1.7	1.6	0.06	0.94
LHL04TBN1	1.1	14	19	1200	<0.50	1.8	7.1	200,000	23,000	8,500	9.16	7.68	3.19	1.6	0.35	10.85
LHL04TBN1	<0.50	3	3	23	<0.50	<0.50	0.75	39,000	17,000	1,600	9.52	8.01	2.17	1.5	0.1	1.28
LHL04TBN1	<0.50	2.7	2.4	17	<0.50	<0.50	<0.50	90,000	88,000	2,700	8.59	8.01	1.2	0.9	<0.05	1.32
LHL04TBN1	<0.50	3	2.1	14	<0.50	<0.50	<0.50	83,000	69,000	1,300	9.24	8.32	1.2	1	<0.05	1.15
LHL04TBN1	<0.50	7.5	12	85	<0.50	<0.50	<0.50	51,000	9,000	410	12.33	8.14	4.88	3	<0.05	0.97
LHL04TBN1	<0.50	5.8	14	41	<0.50	<0.50	<0.50	21,000	4,200	90	9.54	8.06	3.74	3	0.24	1.12
LHL04TBN1	<0.50	4.9	5.6	39	<0.50	<0.50	<0.50	8,400	3,400	460	8.51	8.2	1.37	2.3	0.14	1.12
LHL04TBN1	<0.50	2.7	7.3	37	<0.50	<0.50	<0.50	3,800	2,400	260	8.85	7.02	2.51	1.8	0.23	0.83
LHL04TBN1	<0.50	2.2	4.8	21	<0.50	<0.50	<0.50	860,000	42,000	3,000	8.22	8.41	2.28	1.3	0.65	0.95
LHL04TBN1	1.1	3	12	23	<0.50	<0.50	<0.50	20,000	800	130	12.2	8.92	5.19	3.4	0.1	0.81
LHL04TBN1	<0.50	1.9	4.7	14	<0.50	<0.50	<0.50	7,800	280	300	9.42	8.24	4.26	2.6	0.09	0.78
LHL04TBN1	7.3	5.2	34	44	<0.50	<0.50	1.4	29,000	2,000	3,900	10.13	8.33	3.95	4.9	0.32	1.19
LHL04TBN1	<0.50	4.5	8.2	56	<0.50	<0.50	0.98	27,000	14,000	700	8.06	8.2	5.61	1.8	0.65	1.63
LHL04TBN1	1.2	4.1	12	35	<0.50	<0.50	0.89	36,000	10,000	2,800	8.5	8.2	5.01	2.2	0.15	1.42
LHL04TBN1	<0.50	3.3	9.5	51	<0.50	<0.50	<0.50	540,000	11,800	5,400	10.05	8.37	3.08	2.4	0.3	0.67
LHL04TBN1	<0.50	2.9	6.3	32	<0.50	<0.50	<0.50	113,000	3,400	3,300			1.99	2.9	0.15	1.07
LHL04TBN1	<0.50	3.5	6.8	44	<0.50	<0.50	<0.50	>36,000	7,000	3,400	8.45	8.13	2.38	2	0.25	0.74
LHL04TBN1	6.4	8.4	8.3	24	<0.50	<0.50	<0.50	>10,500	2,000	1,300	9.21	7.89	1.62	16.7	0.13	2.23
LHL04TBN1	<0.50	2	2.8	16	<0.50	<0.50	<0.50	42,000	8,600	3,900	8.02	7.98	4.72	2	0.15	0.92
LHL04TBN1	<0.50	3	7.2	33	<0.50	<0.50	<0.50	8,900	140	1,000	10.34	8.35	3.53	2.4	0.12	0.52
LHL04TBN1											9.68	8.3	3.84	2	0.11	0.68
LNJ03P01	<8.00	26	4.6	52	<2.00	3	<2.00	149,000	77,000	416,000	9.35	7.82	5.41	2.8	0.08	0.96
LNJ03P01	<8.00	20	21	38	<2.00	2.4	<2.00	12,250	3,950	8,300	8.15	7.62	3.96	2.5	0.15	2
LNJ03P01	<8.00	18	6.1	52	<2.00	3.2	<2.00	2,900	2,600	3,700	9.49	7.56	2.7	1.3	<0.05	0.3
LNJ03P01	<8.00	28	12	58	<2.00	3	<2.00	9,900	6,200	8,450		7.79	4.38	3.8		1.59

LNJ03P01	<8.00	25	9.4	32	<2.00	2.4	<2.00	133,000	106,000	13,000	7.7	7.61	4.09	2	0.28	1.39
LNJ03P01	<8.00	39	520	190	<2.00	16	<2.00	39,000	26,000	7,900	7.36	7.35	6.9	3.4		1.26
LNJ03P01	0.64	52	4.3	29	<0.50	5.9	<0.50	60,000	1,800	1,800	8.23	7.62	1.17	4	<0.05	0.69
LNJ03P01	0.95	42	4.9	26	<0.50	3.8	<0.50	17,000	33,000	2,500	8.21	7.45	2.31	4	0.07	1.7
LNJ03P01	<0.50	32	3.9	17	<0.50	2.6	<0.50	150,000	23,000	6,000	8.1	7.64	3.12	3.6	<0.05	1.31
LNJ03P01	0.53	39	5.4	23	<0.50	4.1	<0.50	54,000	11,200	8,800	8.1	7.36	1.86	3.8	0.07	1.36
LNJ03P01	0.52	25	3.1	16	<0.50	1.1	<0.50	55,000	27,000	7,900	6.93	7.27	3.18	5.2	0.07	2.93
LNJ03P01	0.52	22	2.8	8	<0.50	0.93	<0.50	14,000	8,200	2,200	8.15	7.73	1.23	2.7	<0.05	1.19
LNJ03P01	0.59	21	4.9	19	<0.50	3.2	<0.50	50,000	1,700	1,800	8.8	7.58	1.4	2.9	0.1	1.14
LNJ03P01	0.5	26	3	20	<0.50	1.7	<0.50	34,000	14,000	7,900	8.51	7.65	2.88	4.5	0.05	2.92
LNJ03P01	<0.50	35	3.1	25	<0.50	3.8	<0.50	40,000	3,000	7,300	10.47	7.59	1.6	3.9	0.05	1.19
LNJ03P01	<0.50	20	2.6	14	<0.50	1.7	<0.50	>9,400	3,300	3,700	8.21	7.72	1.75	3.2	0.1	1.21
LNJ03P01	<0.50	23	2.4	13	<0.50	2.1	<0.50	28,000	800	2,100	7.95	7.79	2.08	3.6	0.1	1.02
LNJ03P01	<0.50	21	1.9	19	<0.50	2	<0.50	26,000	360	800	13.54	7.66	2.08	4	0.1	1.47
LNJ03P01											11.29	7.92	5.85	2.6	0.33	0.74
LNJ03P04	<0.50	120	9.3	40	<0.50	14	<0.50	63,000	20,000	8,100	12.17	7.67	8.78	4.2	0.75	1.59
LNJ03P04	<0.50	130	5.1	79	<0.50	12	<0.50	720,000	460,000	43,000	6.45	6.62	4.95	4.8	0.19	1.74
LNJ03P04	0.8	19	6.1	16	<0.50	1.1	<0.50	220,000	68,000	33,000	8.69	7.44	5.67	6.2	<0.05	3.58
LNJ03P04	<0.50	65	4	11	<0.50	2.2	<0.50	98,000	71,000	35,000	7.66	7.69	3.52	2.3	0.08	1.3
LNJ03P04	<0.50	32	4.1	13	<0.50	1.5	<0.50	160,000	120,000	73,000	7	7.73	5	14.7	<0.05	2.93
LNJ03P04	0.63	80	19	79	<0.50	11	<0.50	83,000	19,000	105,000	8.52	7.56	10.8	6.2	0.05	2.59
LNJ03P04	<0.50	60	5.4	20	<0.50	2.2	<0.50	63,000	8,700	17,000	8.46	7.75	7.09	5	0.08	2.18
LNJ03P04	<0.50	43	4.4	15	<0.50	2.2	<0.50	150,000	57,000	23,000	7.72	7.88	7.03	2.3	0.18	2.61
LNJ03P04	<0.50	39	8	22	<0.50	4	<0.50	280,000	160,000	40,000	6.8	7.7	8.63	3.4	2.8	2.81
LNJ03P04	<0.50	34	3	13	<0.50	1.2	<0.50	42,000	13,000	5,000	7.56	7.94	8.97	4.6	0.07	3.59
LNJ03P04	<0.50	58	3.6	13	<0.50	2	<0.50	>940,000	12,700	7,000	8.26	7.83	8.1	3.4	0.12	1.4
LNJ03P04	<0.50	20	5.1	15	<0.50	2.2	<0.50	33,000	1,200	5,200	12.58	7.79	3.79	3.2	0.11	1.72
LNJ03P04	<0.50	41	3.7	9.9	<0.50	1	<0.50	>84,000	23,000	21,000	7.62	8.11	5.33	2.3	0.12	0.89
LNJ03P04	<0.50	25	3.3	6.3	<0.50	1.1	<0.50	>90,000	21,000	29,000	7.83	7.98	3.82	2.9	0.38	1.18
LNJ03P04	0.51	130	3.8	8.8	<0.50	0.79	<0.50	200,000	27,000	13,100	7.99	8.07	14.8	3.7	0.11	0.3
LNJ03P04	<0.50	49	5.8	17	<0.50	2	<0.50	>77,000	10,000	49,000	9.7	7.89	5.69	3	0.11	0.83

LNJ03P04	<0.50	77	3.7	9.9	<0.50	1.3	<0.50	68,000	7,800	62,000	9.3	7.81	4.56	3.9	0.1	0.84
LNJ03P05	<0.50	53	8.5	25	<0.50	3.7	<0.50	23,000	7,000	2,100	13.5	7.88	8.91	3.3	<0.05	0.67
LNJ03P05	<0.50	130	8.3	62	<0.50	6.9	<0.50	43,000	13,000	3,600	9.12	7.7	3.71	4	0.85	1.13
LNJ03P05	<0.50	78	6.5	26	<0.50	3.3	<0.50	68,000	67,000	25,000	9.41	7.8	3.07	3.3	0.08	0.92
LNJ03P05	0.58	73	7.8	34	<0.50	6	<0.50	330,000	140,000	45,000	7.88	7.7	4.01	2.2	0.1	1.1
LNJ03P05	<0.50	81	11	29	<0.50	4.1	<0.50	56,000	42,000	6,000	7.34	7.57	3.16	4.1	0.25	1.48
LNJ03P05	<0.50	97	7.9	54	<0.50	8.3	<0.50	43,000	13,000	10,000	9.92	7.86	8.3	1.6	0.05	0.9
LNJ03P05	<0.50	49	6.8	27	<0.50	2.9	<0.50	220,000	37,000	16,000	8.02	7.46	8.08	6.4	0.09	3.96
LNJ03P05	<0.50	41	4.6	17	<0.50	1.7	<0.50	63,000	4,900	11,000	8.02	7.84	13.7	2.9	0.05	1.31
LNJ03P05	<0.50	39	7	16	<0.50	2	<0.50	380,000	200,000	68,000	8.19	7.98	2.8	1.8	0.28	1.76
LNJ03P05	<0.50	40	4.3	15	<0.50	2	<0.50	49,000	8,000	8,000	8.07	7.52	2.56	2.6	0.05	2.05
LNJ03P05	<0.50	130	4.4	20	<0.50	1.2	<0.50	>32,000	5,300	5,600	9.37	7.31	8.23	4.2	0.17	0.46
LNJ03P05	<0.50	46	6.2	23	<0.50	2.9	<0.50	300,000	14,000	23,000	13.82	7.59	4.13	2.8	0.15	0.86
LNJ03P05	<0.50	38	9.3	15	<0.50	1.8	<0.50	33,000	7,200	22,000	8.2	7.77	15.4	2	0.72	0.89
LNJ03P05	<0.50	55	5.8	14	<0.50	1.7	<0.50	24,000	5,800	5,000	9.48	8.08	3.66	2	0.1	0.77
LNJ03P05	<0.50	81	7.1	20	<0.50	0.81	<0.50	37,000	10,000	9,800	8.93	8.06	5.38	2.6	0.18	0.66
LNJ03P05	<0.50	130	4.5	40	<0.50	8.1	<0.50	28,000	3,400	14,200	9.7	7.93	3.23	3.4	0.1	0.45
LNJ03P05	<0.50	170	4.1	53	<0.50	0.7	<0.50	22,000	1,700	8,400	10.33	7.82	14.4	3.7	0.11	0.33
LNJ03P13	<0.50	390	3.6	190	<0.50	47	<0.50	15,000	3,100	340	7.95	7.44	0.47	4.7	0.06	0.24
LNJ03P13	<0.50	260	2.8	120	<0.50	18	<0.50	34,000	3,400	1,500	6.69	7.11	0.49	6.7	<0.05	0.48
LNJ03P13	<0.50	180	2.9	63	<0.50	4.6	<0.50	19,000	12,000	4,700	7.69	7.25	1.1	5.3	<0.05	0.65
LNJ03P13	0.55	220	3	76	<0.50	7.5	<0.50	43,000	7,900	5,600	8.54	7.33	1.11	6.4	0.06	0.46
LNJ03P13	<0.50	160	3.2	57	<0.50	5.3	<0.50	36,000	13,000	2,000	6.01	7.62	0.71	5.5	0.1	0.35
LNJ03P13	<0.50	180	2.8	110	<0.50	13	<0.50	14,000	610	230	8.35	7.07	0.35	3.2	0.05	0.46
LNJ03P13	<0.50	170	3.1	97	<0.50	12	<0.50	8,200	220	2,800	6.58	7.37	0.71	6.1	0.05	0.48
LNJ03P13	<0.50	120	2.6	57	<0.50	12	<0.50	29,000	3,500	8,800	5.82	7.45	1.83	4.8	0.06	0.68
LNJ03P13	<0.50	120	2.5	52	<0.50	8	<0.50	24,000	9,000	11,000	6.27	7.58	1.26	4.9	0.1	0.66
LNJ03P13	<0.50	86	1.9	35	<0.50	4.4	<0.50	24,000	1,100	800	7.08	7.75	0.33	5	0.05	0.3
LNJ03P13	0.56	160	3.3	82	<0.50	17	<0.50	>158,000	>46,000	860	6.32	7.52	1.04	5.7	0.11	0.24
LNJ03P13	<0.50	120	2.3	63	<0.50	13	<0.50	30,000	460	2,900	8.18	7.32	0.86	5.1	0.12	0.45

LNJ03P13	<0.50	110	2.5	45	<0.50	9	<0.50	4,900	1,330	910	6.02	7.88	0.6	4.3	0.1	0.3
LNJ03P13	<0.50	100	2.7	37	<0.50	7.7	<0.50	15,000	420	1,320	7.26	7.74	0.6	3.1	0.1	0.32
LNJ03P13	<0.50	81	3.1	43	<0.50	7.7	<0.50	5,800	510	950	7.14	8.05	0.96	6.6	0.1	0.3
LNJ03P13	0.56	120	2.9	52	<0.50	9.5	<0.50				8.09	7.5	0.4	3.4	0.1	0.3
LNJ03P13								22,000	390	550	9.73	7.65	0.54	4.6	0.1	0.38
LNJ04@LPAZ	0.51	100	2.3	23	<0.50	1.6	<0.50	>40,000	8,400	5,700	8.42	7.51	6	4	0.1	0.57
LNJ04@LPAZ								37,000	5,100	5,500	5.74	7.19	5.02	4.2	0.1	0.83
LNJ04DSRP	<0.50	57	6.2	35	<0.50	9.4	<0.50	170	<9	50	5.83	7.42	5.74	4.9	0.1	5.55
LNJ04DSRP								32,000	1,000	2,300	6.83	7.66	3.61	4.5	0.1	0.8
LNK01P07	<8.00	5.4	9.1	33	<2.00	<1.00	<2.00	24,000	16,000	8,200	8.85	8.39	8.83	2.4	<0.05	1.67
LNK01P07	<8.00	7.7	12	36	<2.00	<1.00	<2.00	18,600	5,000	3,900	8.99	6.89	2.48	4	0.1	2.37
LNK01P07	<8.00	6	13	29	<2.00	<1.00	<2.00	25,000	16,300	54,000	8.33	7.23	6.17	3	<0.05	2.03
LNK01P07	<8.00	5.5	13	35	<2.00	<1.00	<2.00	54,000	30,000	16,100	8.52	7.8	5.07	3	0.13	1.77
LNK01P07	<8.00	6.8	12	70	<2.00	<1.00	<2.00	12,600	6,900	11,800	8.29	8.2	2.2	2.9	0.08	1.79
LNK01P07	<8.00	8.8	18	39	<2.00	<1.00	<2.00	67,000	52,000	7,700	7	7.8	15.5	3.4		2.78
LNK01P07	<0.50	7.8	11	15	<0.50	<0.50	<0.50	410,000	116,000	143,000	8.33	7.3	2.62	4.6	0.16	2.24
LNK01P07	<0.50	9.5	7.6	25	<0.50	<0.50	<0.50	440,000	>120,000	86,000	8.6	7.68	6.68	3.3	<0.05	4.8
LNK01P07	<0.50	8.4	6	11	<0.50	<0.50	<0.50	330,000	100,000	280,000	8.67	7.91	5.32	4.3	<0.05	2.5
LNK01P07	<0.50	9.8	6.9	21	<0.50	<0.50	<0.50	570,000	117,000	11,000	8.8	7.9	3.19	4.5	0.06	2.83
LNK01P07	<0.50	12	8.7	31	<0.50	<0.50	<0.50	110,000	14,000	23,000	8.73	7.61	6.88	5.3	0.08	3.84
LNK01P07	<0.50	18	5.7	16	<0.50	<0.50	<0.50	91,000	66,000	36,000	8.34	7.59	6.57	3.2	0.1	2.92
LNK01P07	<0.50	5.2	6.6	16	<0.50	<0.50	<0.50	32,000	21,000	7,400	9.31	7.9	5.85	6.3	0.06	3.56
LNK01P07	<0.50	6.2	6.1	10	<0.50	<0.50	<0.50	107,000	17,000	22,000	9.2	8.1	1.99	3.5	0.05	1.76
LNK01P07	<0.50	4.2	13	13	<0.50	<0.50	<0.50	160,000	50,000	29,000	8.24	8.04	5.92	2.9	0.05	2.49
LNK01P07	<0.50	5.3	5.8	13	<0.50	<0.50	<0.50	510,000	22,000	7,400	10.65	7.94	5.73	4.8	0.1	1.86
LNK01P07	<0.50	5.6	6.7	17	<0.50	<0.50	<0.50	190,000	22,000	28,000	8.36	7.98	2.7	3.8	0.11	2.12
LNK01P07	<0.50	5.7	13	17	<0.50	<0.50	0.93	135,000	>4,600	30,000	14.45	8.64	14	2.7	0.18	1.9
LNK01P07	<0.50	3.6	5.2	11	<0.50	<0.50	<0.50	>29,000	>450	6,500	10.11	7.94	5.09	3.7	0.1	1.61
LNK01P07											9.87	8.12	5.82	4.2	0.1	1.98

LNK01P08	<8.00	6	10	31	<2.00	<1.00	<2.00	69,000	5,000	4,500	9.2	8.25	6.47	2.3	<0.05	1.45
LNK01P08	<8.00	4.1	12	40	<2.00	<1.00	<2.00	129,000	940	102,000	8.91	6.97	2.02	5.5	<0.05	3.87
LNK01P08	<8.00	<4.00	10	23	<2.00	<1.00	<2.00	35,000	4,300	46,000	8.71	7.4	2.71	2.9	<0.05	1.15
LNK01P08	<8.00	6.6	10	39	<2.00	<1.00	<2.00	88,000	42,000	17,700	8.5	7.9	3.44	2.4	0.9	1.86
LNK01P08	<8.00	9.1	15	63	<2.00	<1.00	<2.00	20,450	12,200	5,600	7.98	8.13	2.36	2.9	0.13	1.51
LNK01P08	<8.00	11	7.8	27	<2.00	<1.00	<2.00	10,000	7,300	6,500	8	7.9	4.44	2.6		2.02
LNK01P08	<0.50	12	6.4	12	<0.50	<0.50	<0.50	540,000	63,000	22,000	9.16	7.64	3.62	2.8	0.19	1.16
LNK01P08	<0.50	13	10	23	<0.50	<0.50	0.78	300,000	>120,000	109,000	8.87	7.88	6.07	3.2	0.22	2.27
LNK01P08	<0.50	7.9	4.3	7.6	<0.50	<0.50	<0.50	200,000	130,000	20,000	8.91	8.02	3.93	2.8	<0.05	1.44
LNK01P08	<0.50	14	7.7	13	<0.50	<0.50	<0.50	370,000	63,000	12,000	8.95	7.96	3.13	2.8	0.19	1.36
LNK01P08	<0.50	14	5.2	7.9	<0.50	<0.50	<0.50	54,000	9,500	19,000	9.28	8	3.13	2.2	0.15	1.76
LNK01P08	0.7	15	13	22	<0.50	0.58	1.3	390,000	250,000	22,000	8.45	7.66	29.7	2.8	0.08	1.26
LNK01P08	<0.50	4.8	11	12	<0.50	<0.50	<0.50	18,000	11,500	6,200	9.63	8.01	2.72	4.1	0.06	2.58
LNK01P08	<0.50	5.2	5.8	11	<0.50	<0.50	<0.50	48,000	6,700	13,000	8.95	8.16	3.06	2.7	0.1	1.53
LNK01P08	<0.50	3.9	3.2	9.1	<0.50	<0.50	<0.50	50,000	19,000	11,000	8.7	8.07	2.83	2.5	0.05	1.73
LNK01P08	<0.50	4.9	3.4	9.5	<0.50	<0.50	<0.50	>34,000	4,800	11,900	11.57	8.09	3.7	4.4	0.1	1.25
LNK01P08	<0.50	4.6	5.1	7.7	<0.50	<0.50	<0.50	>79,000	16,000	24,000	8.96	8.07	2.2	2.6	0.1	1.02
LNK01P08	<0.50	4.8	4.1	7	<0.50	<0.50	<0.50	56,000	3,600	9,900	13.86	8.24	4	2	0.23	1.11
LNK01P08	<0.50	4.3	3.3	8.9	<0.50	<0.50	<0.50	>48,000	>900	8,400	10.32	8.03	2.36	3.1	0.1	1.24
LNK01P08											9.9	8.14	5.96	3.8	0.1	2.13
LNK01P09	<8.00	6.3	6.3	47	<2.00	<1.00	<2.00	740	<10	1,400	10.26	8.16	22.7	2.9	<0.05	1.37
LNK01P09	<8.00	4.1	7	34	<2.00	<1.00	<2.00	<10	<10	1,550	10.28	6.45	7.1	3.1	0.08	1.99
LNK01P09	<8.00	<4.00	10	33	<2.00	<1.00	<2.00	39,000	29,000	37,000	9.93	7.31	17.8	4.2	<0.05	2.02
LNK01P09	<8.00	7.5	5.4	41	<2.00	<1.00	<2.00	510	350	610	11	8	3.99	2.8	0.15	1.71
LNK01P09	<8.00	9.1	6.1	63	<2.00	<1.00	<2.00	610	510	460	8.77	8.08	3.88	1.4		1.56
LNK01P09	<8.00	8.5	14	32	<2.00	<1.00	<2.00	70,000	57,000	35,000	3.4	7	3.33	3.4	0.1	2.14
LNK01P09	<0.50	19	6.3	11	<0.50	<0.50	<0.50	33,000	200	420	9.42	7.53	1.67	4.5	0.08	1.63
LNK01P09	<0.50	13	4.1	13	<0.50	<0.50	<0.50	16,000	9,000	700	9.31	7.84	1.23	3.4	<0.05	1.41
LNK01P09	<0.50	15	4.7	12	<0.50	<0.50	<0.50	50,000	30,000	590	9.45	7.85	0.73	5.2	<0.05	2.36
LNK01P09	<0.50	24	3.7	11	<0.50	<0.50	<0.50	4,700	1,500	410	9.38	7.83	0.8	3.7	<0.05	1.62

LNK01P09	<0.50	23	4.1	12	<0.50	<0.50	<0.50	6,300	100	9,200	9.84	7.87	1.55	2.3	0.18	1.85
LNK01P09	<0.50	24	5.7	15	<0.50	1.1	<0.50	5,200	1,400	800	8.77	7.62	0.47	3.1	0.1	2.24
LNK01P09	<0.50	5	3.7	12	<0.50	<0.50	<0.50	1,300	180	500	9.94	7.83	0.6	3.4	0.06	2.19
LNK01P09	<0.50	4.8	2.8	8.3	<0.50	<0.50	<0.50	520	110	80	9.69	8	1.09	3.1	0.1	1.98
LNK01P09	<0.50	4.3	1.9	9.1	<0.50	<0.50	<0.50	700	400	700	10.06	7.98	0.52	2	0.05	2.39
LNK01P09	<0.50	6	2	6.7	<0.50	<0.50	<0.50	>480	<9	240	11.74	7.95	0.58	2	0.1	2.27
LNK01P09	<0.50	6.3	5.5	8.4	<0.50	<0.50	<0.50	2,100	60	320	9.69	7.94	0.71	2.2	0.1	2.19
LNK01P09	<0.50	6.6	1.7	6.8	<0.50	<0.50	<0.50	590	<9	230	15.81	8.06	1	2	0.11	1.98
LNK01P09	<0.50	4.7	3.3	8.5	<0.50	<0.50	<0.50	2,800	200	370	11.09	7.91	0.66	3	0.1	2.3
LNK01P09											10.32	7.97	0.59	2.7	0.1	2.95
LNL03P03	0.81	9.6	4.6	34	<0.50	<0.50	<0.50	80,000	10,000	2,900	7.56	7.55	1.19	2.4	0.17	<0.06
LNL03P03	<0.50	12	3.8	34	<0.50	<0.50	<0.50	38,000	8,000	4,700	9.21	7.6	1.76	3.7	<0.05	1.38
LNL03P03	<0.50	7.1	4.4	32	<0.50	<0.50	<0.50	200,000	38,000	13,000	7.73	7.94	2.93	1.8	0.12	1.47
LNL03P03	<0.50	12	2.8	26	<0.50	<0.50	<0.50	1,180,000	1,090,000	27,000	7.5	7.9	2.9	2.5	<0.05	1.25
LNL03P03	<0.50	19	4.6	49	<0.50	0.58	<0.50	460,000	74,000	40,000	8.6	7.95	4.5	6.7	0.23	4.01
LNL03P03	0.91	9.5	7	51	<0.50	<0.50	<0.50	19,000	1,600	720	9.67	7.92	4.03	4.5	0.07	4.89
LNL03P03	<0.50	8.5	6.8	50	<0.50	<0.50	<0.50	1,000	<10	90	8.3	7.67	4.3	5.7	0.11	14.5
LNL03P03	<0.50	9.9	4.6	53	<0.50	0.55	0.52	76,000	140	14,000	7.29	7.7	1.79	8.1	0.13	4.38
LNL03P03	<0.50	6.4	5.7	54	<0.50	0.56	<0.50	58,000	40,000	28,000	7.72	7.57	4.29	7	0.15	3.63
LNL03P03	<0.50	6.6	3.1	22	<0.50	<0.50	<0.50	59,000	20,000	13,000	0	7.95	5.4	5.3	0.1	2.78
LNL03P03	<0.50	8.3	11	76	<0.50	1.1	1.1	230,000	45,000	520	8.12	7.82	2.8	12	0.35	3.33
LNL03P03	0.72	8.4	12	88	<0.50	0.74	0.78	6,500	1,900	1,200	8.53	8.07	5.49	10	0.19	3.54
LNL03P03	<0.50	6.5	3.6	39	<0.50	<0.50	0.66	37,000	3,600	6,800	6.15	7.98	1.45	4.5	0.06	3.5
LNL03P03	<0.50	6.6	3.4	44	<0.50	<0.50	1	90,000	29,000	6,700	7.85	7.76	2.82	7.4	0.1	2.57
LNL03P03	<0.50	7.7	3.1	38	<0.50	<0.50	0.56	7,700	2,000	2,100	6.45	7.87	1.55	7	0.05	4.4
LNL03P03	<0.50	4.6	3.5	41	<0.50	<0.50	<0.50	>21,000	2,200	5,200	6.6	7.86	2.12	2.2	0.1	1.44
LNL03P03	<0.50	5.4	4.1	31	<0.50	<0.50	<0.50	>19,500	>380	2,800	10.15	7.94	4.25	2	0.11	0.93
LNL03P03	<0.50	4.8	2.4	12	<0.50	2.3	<0.50	122,000	10,000	3,200	12.13	8.13	3.78	2	0.12	1.49
LNL03P03	<0.50	15	3.3	14	<0.50	4.1	<0.50	56,000	25,000	31,000	4.76	7.87	1.98	4.5	0.1	3.19
LNL03P03	<0.50	8.8	4	21	<0.50	1.9	<0.50	58,000	9,400	10,400	8.06	8.2	2.14	6	0.1	5.21
LNL03P03	<0.50	7.9	5.3	48	<0.50	<0.50	<0.50	76,000	8,200	5,800	8.43	8.12	4.62	12.9	0.1	6.83

LNL03P03	<0.50	2.8	3.7	23	<0.50	<0.50	<0.50	42,000	1,700	4,300	10.27	8.1	3.66	5.1	0.1	2.29
LNL03P04	<8.00	8.1	4.6	21	<2.00	<1.00	<2.00	<10	<10	<10	11.87	8.06	0.87	1.3	<0.05	0.66
LNL03P04	<8.00	7.8	5.6	43	<2.00	<1.00	<2.00	8,600	3,100	860	13.99	7.46	1.77	<0.20	<0.05	1.39
LNL03P04	<8.00	6.3	6.4	23	<2.00	<1.00	<2.00	3,800	3,100	760	11.4	8.11	1.24	1.1	0.5	0.42
LNL03P04	<8.00	13	7.9	51	<2.00	<1.00	<2.00	4,000	2,100	1,610	9.24	8.09	1.28	1.9	<0.05	0.85
LNL03P04	<8.00	13	5.9	24	<2.00	<1.00	<2.00	450	260	1,200	10.99	8.39	1.77	2.1		1
LNL03P04	<8.00	15	5.2	31	<2.00	<1.00	<2.00	300	110	1,130	7.97	7.75	1.53	1.1		1.69
LNL03P04	<0.50	31	4.5	19	<0.50	1.3	<0.50	140,000	50,000	6,500	11.45	8.1	1.95	3.7	0.09	0.49
LNL03P04																
LNL03P04	<0.50	29	3.4	19	<0.50	1	<0.50	22,000	2,500	810	8.2	7.86	1.32	3.5	0.08	1.32
LNL03P04	<0.50	20	2.7	15	<0.50	0.63	<0.50	100,000	30,000	3,600	9.73	7.98	1.88	2.5	<0.05	1.64
LNL03P04	<0.50	31	3.5	20	<0.50	<0.50	<0.50	30,000	6,900	3,500	9.22	7.62	2.22	4.7	0.13	1.56
LNL03P04	<0.50	25	2.6	13	<0.50	0.54	<0.50	9,500	690	1,200	5.69	7.5	2.01	4.3	0.15	0.92
LNL03P04	<0.50	13	3.6	13	<0.50	<0.50	<0.50	9,000	1,300	1,000	6.03	7.61	2.18	3	0.07	1.35
LNL03P04	<0.50	12	4.7	26	<0.50	1.5	<0.50	6,100	320	870	9.64	7.93	1.91	5.4	0.09	3.45
LNL03P04	<0.50	13	6.2	20	<0.50	0.9	<0.50	400	<10	100	5.23	7.77	0.61	3.6	0.07	1.38
LNL03P04	<0.50	31	2	22	<0.50	0.77	<0.50	8,000	900	1,900	6.08	7.78	1.41	3.7	0.06	1.79
LNL03P04	<0.50	16	2.6	18	<0.50	<0.50	<0.50	74,000	380	5,200	5.38	7.49	6.62	3.2	0.11	1.31
LNL03P04	<0.50	10	2.6	9.4	<0.50	<0.50	<0.50	>21,000	640	2,000	7.15	7.93	2.46	2.8	0.1	1.11
LNL03P04	<0.50	10	3.6	7.3	<0.50	<0.50	<0.50	>10,700	830	4,100	6.82	8	14.4	2	0.12	0.78
LNL03P04	<0.50	15	7.8	69	<0.50	0.84	<0.50	>1,300	70	190	8.15	7.86	0.85	2.9	0.1	0.45
LNL03P06	<8.00	38	15	41	<2.00	2.6	<2.00	1,900	1,400	1,100	8.77	7.38	1.35	7.3	<0.05	1.27
LNL03P06	<8.00	42	19	51	<2.00	2.3	<2.00	9,300	6,300	2,600	8.95	6.99	2.04	6.9	0.1	1.53
LNL03P06	<8.00	19	6.4	17	<2.00	4.3	<2.00	62,000	28,000	22,000	8.48	8.14	4.36	0.7	<0.05	0.45
LNL03P06	<8.00	11	7.4	42	<2.00	<1.00	<2.00	1,210	440	450	7.52	7.52	1000	1.4	0.1	0.27
LNL03P06	<8.00	42	36	43	<2.00	3.2	<2.00	38,000	13,200	42,000	1.11	8.03	8.89	7.9	0.21	1.86
LNL03P06	<8.00	33	18	91	<2.00	2.4	<2.00	78,000	45,000	18,800	7.54	7.95	24.3		0.18	2.71
LNL03P06	<8.00	41	29	86	<2.00	4.2	<2.00	26,000	8,050	10,300	8.26	7.79	7.23	4.5		1.73
LNL03P06	<8.00	31	22	11	<2.00	<1.00	<2.00	36,000	26,000	6,500	8.33	7.4	3.43	4.7		1.43
LNL03P06	<8.00	18	11	27	<2.00	<1.00	<2.00	65,000	34,000	11,900	13.39	8.05	81.7	2.6	0.2	2.24

LNL03P06	<8.00	24	21	68	<2.00	1.2	<2.00	<200,000	<200,000	<200,000	12.85	8.19	15	7.3	1.3	4.79
LNL03P06	<0.50	110	8.1	72	<0.50	8.2	<0.50	30,000	310	5,400	8.66	7.85	3.48	6	<0.05	0.83
LNL03P06	<0.50	80	9.6	41	<0.50	5.2	<0.50	90,000	3,400	3,900	9.12	7.56	2.26	7.8	0.1	1.31
LNL03P06	3.1	16	6.1	80	0.98	3.9	2.9	9,000	3,100	430	9.15	8	616	3.1	0.15	0.45
LNL03P06	<0.50	44	7.1	26	<0.50	2.1	<0.50	120,000	80,000	11,000	8.4	8	3.27	7.5	0.07	1.58
LNL03P06	0.59	200	7.5	49	<0.50	4.9	<0.50	45,000	33,000	3,700	8.4	7.81	2.3	5.8	0.08	1.16
LNL03P06	<0.50	24	13	45	<0.50	1.9	<0.50	43,000	10,000	880	7.04	7.29	3.42	5.3	0.11	5.39
LNL03P06	1	34	21	190	<0.50	5.8	0.66	45,000	130	250	7.51	7.47	10.3	5.9	1.6	6.65
LNL03P06	<0.50	28	7.9	32	<0.50	2.3	<0.50	23,000	<10	320	6.5	7.42	3.06	8	<0.05	5.43
LNL03P06	1.6	16	9.2	45	<0.50	2.5	<0.50	4,200	160	800	7.4	7.56	3.34	9.4	0.11	5.08
LNL03P06	<0.50	24	6.3	26	<0.50	2.7	<0.50	23,000	<10	<10	0	7.8	1.39	5.9	<0.04	3.64
LNL03P06	<0.50	48	15	38	<0.50	3.1	<0.50	37,000	780	700	8.59	7.75	3.19	8.9	0.12	3.25
LNL03P06	<0.50	25	13	26	<0.50	1.7	<0.50	25,000	900	6,100	8.98	7.92	1.51	8.7	0.12	2.02
LNL03P06	<0.50	23	13	20	<0.50	0.87	<0.50	140,000	55,000	13,000	7.38	7.96	1.67	6.9	0.05	2.3
LNL03P06	<0.50	12	4.7	20	<0.50	0.79	<0.50	50,000	23,000	47,000	7.96	7.75	1.63	6.2	0.05	2.48
LNL03P06	<0.50	13	9	27	<0.50	0.94	<0.50	320,000	19,000	6,000	6.3	7.8	3.99	4.3	0.11	3.22
LNL03P06	<0.50	16	7.1	21	<0.50	1.1	<0.50	35,000	3,700	5,200	8.93	7.96	4.3	6.6	0.1	1.19
LNL03P06	<0.50	16	4.5	20	<0.50	1.3	<0.50	27,000	3,300	2,300	10.88	8.18	1.87	4.2	0.08	0.65
LNL03P06	<0.50	24	4.8	13	<0.50	0.74	<0.50	13,000	>3,300	2,200	12.36	8.12	2.41	3.2	0.1	0.83
LNL03P06	<0.50	84	4.7	20	<0.50	3.1	<0.50	>124,000	46,000	23,000	8.68	7.72	38	14.3	0.1	5.31
LNL03P06	<0.50	30	6.3	21	<0.50	1.8	<0.50	84,000	18,400	8,400	10.87	8.04	3.99	8.3	0.15	2.74
LNL03P06	<0.50	84	8.2	38	<0.50	3.7	<0.50	>64,000	3,300	12,500	8.45	7.92	2.87	13.8	0.1	1.32
LNL03P06	<0.50	110	7.8	64	<0.50	2	<0.50	34,000	1,800	3,300	10.29	7.98	2.42	13.5	0.1	1.92
LWI02P18	<0.50	2.1	5.6	7.7	<0.50	<0.50	<0.50	31,000	4,400	3,900	9.6	7.7	4.67	1.9	0.08	0.75
LWI02P18	<0.50	1.9	1.4	<2.00	<0.50	<0.50	<0.50	18,000	990	2,800	7.84	7.76	835	1.1	0.09	0.57
LWI02P18	<0.50	4	3.5	6.6	<0.50	<0.50	<0.50	40,000	6,000	4,900	0	7.88	9.22	1.2	0.08	1.52
LWI02P18	<0.50	3.7	2.5	3.2	<0.50	<0.50	<0.50	7,100	700	1,300	8.2	7.67	23.3	1.8	0.06	1.85
LWI02P18	<0.50	4.9	2.1	6.2	<0.50	<0.50	<0.50	36,000	8,300	6,500	5.84	7.87	25.9	1.3	0.12	1.6
LWI02P18	<0.50	3.9	4.2	9.5	<0.50	<0.50	<0.50	>9,500	140	8,000	9.87	7.82	3.73	2.3	0.15	0.36
LWI02P18	<0.50	3.8	1.4	5.6	<0.50	<0.50	<0.50	36,000	24,000	5,700	12.27	7.85	12.9	2	0.11	0.3
LWI02P18	<0.50	4.4	1.8	6.2	<0.50	<0.50	<0.50	9,700	860	3,700	7.06	7.88	13.7	2	0.1	0.34

LWI02P18	<0.50	5.1	3.5	8.9	<0.50	<0.50	<0.50	16,000	2,500	8,200	7.31	7.35	21	2	0.25	0.45
LWI02P18	<0.50	3.7	1	3.6	<0.50	<0.50	<0.50	26,000	620	3,200	11.8	7.66	22.8	2	0.1	0.41
LWI02P18	<0.50	2.9	3.9	5	<0.50	<0.50	<0.50	2,300	210	500	9.41	7.61	14.1	2	0.1	0.3
LWI02P18	<0.50	2.9	6.6	6.7	<0.50	<0.50	<0.50	21,000	1,600	5,700	10.2	7.76	17.9	2	0.21	0.3
LWJ01ASVM	<0.50	100	2.4	27	<0.50	32	<0.50	9,000	3,500	130	8.94	7.34	0.31	1	0.1	1.08
LWJ01ASVM																
LWJ01ASVM	<0.50	110	2.6	29	<0.50	14	<0.50	3,100	330	200	9.42	7.75	0.26	1.1	<0.05	0.99
LWJ01ASVM	<0.50	97	2.1	20	<0.50	15	<0.50	16,000	13,000	240	8.62	7.61	0.37	3.5	<0.05	1.15
LWJ01ASVM	<0.50	90	2.2	16	<0.50	11	<0.50	17,000	3,700	740	8.16	7.55	0.4	1.6	<0.05	1.19
LWJ01ASVM	<0.50	100	2.7	55	<0.50	16	<0.50	27,000	2,000	1,900	8.12	7.72	0.6	1.9	<0.05	1.08
LWJ01ASVM	<0.50	120	2.4	26	<0.50	23	<0.50	2,600	1,100	490	13.4	7.6	0.96	1.9	0.06	1.18
LWJ01ASVM	<0.50	110	2.3	18	<0.50	17	<0.50	2,600	130	460	9.26	7.72	0.44	1.5	0.08	1.53
LWJ01ASVM	<0.50	100	2.1	18	<0.50	17	<0.50	3,700	540	220	8.72	7.7	0.56	0.9	0.09	1.4
LWJ01ASVM	<0.50	100	2	17	<0.50	11	<0.50	8,200	2,800	170	9.75	7.33	0.33	1.7	<0.05	1.27
LWJ01ASVM	<0.50	85	2.9	11	<0.50	23	<0.50	5,000	<10	<10	8.72	7.76	0.29	1.4	<0.05	1.15
LWJ01ASVM	<0.50	67	3.4	16	<0.50	12	<0.50	1,600	200	140	13.37	7.92	0.27	1.3	0.12	1.2
LWJ01ASVM	<0.50	68	3	18	<0.50	10	<0.50	3,100	1,700	1,100	9.21	7.95	0.31	0.8	0.05	1.14
LWJ01ASVM	<0.50	56	0.98	13	<0.50	6.2	<0.50	5,600	2,000	1,300	8.09	7.78	0.66	0.7	0.05	1.3
LWJ01ASVM	<0.50	57	2.6	15	<0.50	2.4	<0.50	17,000	6,900	4,100	8.05	7.86	2.79	0.4	0.5	1.32
LWJ01ASVM	<0.50	54	0.95	7	<0.50	0.68	<0.50	2,800	400	300	8.5	7.84	0.76	0.6	0.05	1.24
LWJ01ASVM	<0.50	83	1.8	18	<0.50	5.9	<0.50	>21,000	900	14,400	9.47	7.94	3.68	2	0.1	1.22
LWJ01ASVM	<0.50	78	0.93	14	<0.50	2.2	<0.50	>940	<9	200	8.72	7.68	0.56	2	0.1	0.96
LWJ01ASVM	<0.50	77	2.1	16	<0.50	11	<0.50	>10,400	1,800	1,130	7.83	7.84	1.68	2	0.12	1.39
LWJ01ASVM	<0.50	83	1.7	10	<0.50	6.8	<0.50	>900	210	60	10.06	7.71	1.83	1	0.1	1.12
LWJ01ASVM	<0.50	68	2	17	<0.50	10	<0.50	4,100	440	520	7.63	7.75	0.69	2	0.1	1.25
LWJ01ASVM	<1.00	76	2.6	19	<1.00	6.3	<1.00	>1,220	250	540	10.04	7.84	0.64	2	0.1	0.83
LWJ01ASVM								2,200	240	280	11.95	7.87	0.77	2	0.1	0.98
MVJ01P03	<8.00	5.5	19	70	<2.00	<1.00	2.1	27,000	12,000	40,400	7.28	7.93	5.44	1	0.19	1.13
MVJ01P03	<8.00	<4.00	6.1	37	<2.00	<1.00	<2.00	25,000	6,000	15,400	9.5	7.21	1.68	0.9	0.14	1.77
MVJ01P03	<8.00	4	12	35	<2.00	<1.00	<2.00	60,000	43,000	16,100	1.35	7.86	1.66	1.1	0.33	0.48

MVJ01P03	<8.00	4.6	16	40	<2.00	<1.00	<2.00	18,600	5,200	70	6.57	7.35	3.66	1.5	0.1	1.45
MVJ01P03	<8.00	<4.00	17	34	<2.00	<1.00	<2.00	34,000	7,600	15,800	2.17	7.62	4.65	1.6	0.3	1.36
MVJ01P03	<8.00	4.5	6.6	45	<2.00	<1.00	<2.00	25,000	15,200	7,000	11.1	7.89	2.85	1.5	0.1	1.37
MVJ01P03	<8.00	6.6	9.7	47	<2.00	<1.00	<2.00	85,000	70,000	23,000	7.8	7.7	2.3	1.5	0.25	7.82
MVJ01P03	<8.00	7.9	39	53	<2.00	<1.00	<2.00	28,000	13,000	49,000	7.79	7.57	3.72	1.9		1.82
MVJ01P03	<8.00	13	38	40	<2.00	<1.00	<2.00	106,000	71,000	18,400	6.8	7.7	3.6	1.8	0.2	2.04
MVJ01P03	<8.00	7	16	30	<2.00	<1.00	<2.00	47,000	30,000	34,000	7.9	7.52	4.13	2.1	0.4	2.33
MVJ01P03	2.4	9.4	72	35	<0.50	<0.50	<0.50	77,000	21,000	27,000	11.4	7.46	36.1	2.6	0.02	1.11
MVJ01P03	<0.50	13	11	19	<0.50	<0.50	<0.50	320,000	56,000	19,000	7.79	7.01	1.47	1.9	0.27	1.38
MVJ01P03	1.7	15	14	27	<0.50	<0.50	<0.50	200,000	11,000	3,900	8.75	7.43	1.34	3.1	<0.05	1.4
MVJ01P03	<0.50	9.8	4.2	14	<0.50	<0.50	<0.50	80,000	62,000	19,000	7.57	7.52	1.66	2.1	0.07	1.37
MVJ01P03	<0.50	7.5	3.4	9.9	<0.50	<0.50	<0.50	54,000	33,000	5,900	7.24	7.44	24.7	2.1	0.18	1.45
MVJ01P03	1.1	16	7.8	21	<0.50	<0.50	<0.50	53,000	29,000	3,000	9.6	7.4	1.96	2.7	<0.05	1.02
MVJ01P03	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	<0.50	1,050,000	130,000	3,900	8.02	7.52	3.79	2.6	0.12	0.91
MVJ01P03	0.65	5.9	12	27	<0.50	<0.50	<0.50	230,000	13,000	37,000	7.27	7.47	2.29	1.9	0.14	1.37
MVJ01P03	0.52	4.9	9	15	<0.50	<0.50	<0.50	41,000	33,000	4,900	7.62	7.16	1.69	1.7	0.13	1.33
MVJ01P03	<0.50	11	7.5	17	<0.50	<0.50	<0.50	310,000	25,000	7,200	11.9	7.61	1.49	1.5	<0.05	1.29
MVJ01P03	0.53	4.4	17	22	<0.50	<0.50	<0.50	350,000	11,000	16,000	8.73	7.75	2.38	2	0.11	0.71
MVJ01P03	1.2	4.9	8.7	16	<0.50	<0.50	<0.50	5,800	1,000	15,000	8.11	7.6	2.15	1.8	0.13	1.22
MVJ01P03	<0.50	5.5	3.6	13	<0.50	<0.50	<0.50	>1,200,000	18,000	>120,000	5.79	7.77	675	1.9	0.32	1.38
MVJ01P03	<0.50	4.3	7.3	13	<0.50	<0.50	<0.50	110,000	18,000	11,000	7.67	7.74	1.95	2.1	0.37	1.48
MVJ01P03	<0.50	4.6	13	13	<0.50	<0.50	<0.50	50,000	28,000	7,700	7.59	7.73	1.95	1.6	0.12	1.38
MVJ01P03	<0.50	4.9	6.9	15	<0.50	<0.50	<0.50	32,000	3,800	4,200	8.78	7.52	1.66	2.7	0.43	2
MVJ01P03	<0.50	5.2	6.3	18	<0.50	<0.50	<0.50	>40,000	2,200	12,200	9.46	7.81	1.56	1.5	0.1	1.1
MVJ01P03	<0.50	5.8	4	15	<0.50	<0.50	<0.50	48,000	7,500	3,300	7.24	7.95	1.61	0.2	0.12	1.29
MVJ01P03	<0.50	6	6.2	25	<0.50	<0.50	<0.50	>121,000	29,000	13,700	8.68	7.41	5.29	2.5	0.27	1.43
MVJ01P03	<0.50	4.1	4.8	20	<0.50	<0.50	<0.50	102,000	15,000	10,000	10.78	8.15	3.86	2	0.14	1.29
MVJ01P03	0.56	5	6.7	17	<0.50	<0.50	<0.50	39,000	320	2,600	7.94	7.69	1.86	2	0.34	0.74
MVJ01P03	0.52	7.1	5.5	22	<0.50	<0.50	<0.50	29,000	870	7,400	8.77	7.5	1.72	2.1	0.1	1.6
MVJ01P03											8.78	7.94	1.7	2.2	0.33	1.4
MVJ07P02	<8.00	8	18	50	<2.00	<1.00	<2.00	2,180	1,260	750	12.66	7.9	195	2.1	<0.05	1.87

MVJ07P02	<8.00	12	6.7	57	<2.00	1.5	<2.00	52,000	27,000	48,000	6.12	7.73	12.5	1.7	<0.05	0.94
MVJ07P02	<8.00	4.9	8.9	50	<2.00	1.3	<2.00	10,500	8,700	9,500	8.35	7.97	11.3	0.7	0.32	0.74
MVJ07P02	<8.00	6.9	13	52	<2.00	<1.00	<2.00	13,600	2,400	6,200	11.84	8.13	3.38	3.3		2.05
MVJ07P02	<8.00	<4.00	12	34	<2.00	<1.00	<2.00	123,000	81,000	18,600	7.96	8.31	5.66	2.8	0.22	1.31
MVJ07P02	<8.00	13	79	380	<2.00	2	3.3	159,000	95,000	197,000	9.21	8.03	7.37	3.1	0.25	3.81
MVJ07P02	<0.50	6.9	6.8	15	<0.50	<0.50	<0.50	270,000	>120,000	5,900	8.91	7.74	1.86	3.7	0.13	1.44
MVJ07P02	<0.50	5.9	9	13	<0.50	<0.50	<0.50	20,000	9,000	11,000	8.7	7.89	1.75	2.2	<0.05	1.66
MVJ07P02	<0.50	7.6	4.9	54	<0.50	<0.50	<0.50	240,000	140,000	10,400	7.77	7.96	7.4	3	0.09	1.81
MVJ07P02	<0.50	4.5	9.4	23	<0.50	<0.50	<0.50	170,000	5,300	4,000	8.3	8.22	2.23	1.6	0.18	1.01
MVJ07P02	0.53	3.7	9.8	17	<0.50	<0.50	<0.50	46,000	30,000	8,200	8.36	7.94	8.31	1.4	0.08	1.35
MVJ07P02	0.64	5.8	14	19	<0.50	<0.50	<0.50	190,000	32,000	7,100	8.05	8.02	2.06	0.9	0.1	1.98
MVJ07P02	<0.50	5.3	8.9	15	<0.50	<0.50	<0.50	140,000	4,000	6,000	9.61	8.33	1.69	1.6	0.19	1.67
MVJ07P02	<0.50	5.3	8.6	35	<0.50	<0.50	<0.50	38,000	25,000	13,000	8.6	8.07	3.52	2.3	0.15	1.49
MVJ07P02	<0.50	6.3	8.4	27	<0.50	<0.50	<0.50	160,000	6,000	7,300	10.58	8.17	2.32	3.1	0.1	1.62
MVJ07P02	<0.50	3.8	7.6	11	<0.50	<0.50	<0.50	>72,000	22,000	9,600	5.77	8.1	2.17	2.2	0.16	1.44
MVJ07P02	<0.50	6.4	10	30	<0.50	<0.50	<0.50	52,000	21,000	9,500	7.41	8.17	4	2.1	0.28	1.1
MVJ07P02	<0.50	4.6	4.5	8.9	<0.50	<0.50	<0.50	>10,600	2,100	1,590	13.66	8.39	1.6	2.8	0.1	1.61
MVJ07P02											9.66	8.29	4.47	3.6	0.1	1.65
MVL02P14	<0.50	13	6.6	14	<0.50	1.4	<0.50	270,000	270,000	21,000	4.69	7.63	3.16	5.1	0.14	1.35
MVL02P14	<0.50	11	7.4	13	<0.50	1.9	<0.50	390,000	20,000	31,000	8.97	7.86	3.38	2.1	0.2	1.42
MVL02P14	<0.50	12	11	35	<0.50	1.3	<0.50	420,000	170,000	33,000	7.42	7.62	5.94	2.2	0.14	1.17
MVL02P14	<0.50	7.8	13	10	<0.50	1.6	<0.50	230,000	9,000	51,000		7.72	5.34	1.6	0.11	1.44
MVL02P14	<0.50	7.7	9	13	<0.50	1.1	<0.50	170,000	40,000	15,000	11.32	8.02	2.54	12.8	<0.05	1.22
MVL02P14	<0.50	4.2	6.9	8.5	<0.50	<0.50	<0.50	10,700	9,100	8,800	9.57	8.05	3.6	2.1	0.1	1.36
MVL02P14	<0.50	3.3	6.4	9.1	<0.50	<0.50	<0.50	270,000	4,500	21,000	8.85	8.05	2.97	1.5	0.09	1.52
MVL02P14	<0.50	3.5	5.6	7.1	<0.50	<0.50	<0.50	65,000	14,000	17,000	8.22	8.35	4.01	1.4	0.11	1.59
MVL02P14	<0.50	4	8.4	7.6	<0.50	<0.50	<0.50	190,000	16,000	28,000	8.27	8.21	4.75	1.7	0.1	1.81
MVL02P14	<0.50	3.4	4.8	7.6	<0.50	<0.50	<0.50	270,000	54,000	48,000	7.93	8.01	5.38	1.2	0.05	1.88
MVL02P14	<0.50	4.2	5.2	10	<0.50	0.57	<0.50	>64,000	11,500	7,000	9.3	8.2	6.53	2.3	0.08	1.05
MVL02P14	<0.50	3.7	4.7	8	<0.50	<0.50	<0.50	>35,000	5,300	12,900	5.19	8.08	2.76	2.1	0.11	0.81
MVL02P14	<0.50	3.8	5.4	7.6	<0.50	<0.50	<0.50	>84,000	32,000	10,000	8.86	8.37	3.92	2	0.12	1.02

MVL02P14	<0.50	5.3	4.6	6	<0.50	0.53	<0.50	>124,000	38,000	14,100	9.75	8.16	2.38	2.3	0.1	1.04
MVL02P14	<0.50	4.1	4.3	7.1	<0.50	<0.50	<0.50	150,000	84,000	71,000	11.64	8.02	90.7	2	0.15	1.2
MVL02P14	<0.50	4.3	6.8	9	<0.50	<0.50	<0.50	34,000	5,800	11,100	10.29	8.29	3.74	2.5	0.1	1.48
MVL02P14											9.38	8.13	3.09	1.9	0.1	1.05
MVL02P20	<8.00	<4.00	9	20	<2.00	<1.00	<2.00	400	155	190	10.73	8.57	9.64	1.8	0.06	1.21
MVL02P20	<8.00	<4.00	7.8	27	<2.00	<1.00	<2.00	8,100	3,400	6,600	9.79	7.37	3.45	1.3	0.07	1.4
MVL02P20	<8.00	4.3	15	27	<2.00	<1.00	<2.00	75,000	42,000	53,000	8.92	7.98	1.9	1	0.2	0.65
MVL02P20																
MVL02P20	<8.00	8.7	16	77	<2.00	<1.00	<2.00	52,000	28,000	42,000	9.12	8.24	6.94	0.9	0.4	1.31
MVL02P20	<8.00	4	9.1	35	<2.00	<1.00	<2.00	36,000	28,000	10,600	8.66	8.41	2.37	1.5	0.16	1.82
MVL02P20	<8.00	5.1	7.6	29	<2.00	<1.00	<2.00	88,000	58,000	9,850	9.13	8.14	4.95	1.7	0.1	1.7
MVL02P20	1.1	7.1	22	48	<0.50	0.5	0.8	280,000	>120,000	33,000	8.78	7.74	26.6	2.5	38.8	1.36
MVL02P20	<0.50	6.1	5	11	<0.50	<0.50	<0.50	340,000	47,000	12,000	8.63	8.23	1.72	3.5	<0.05	1.44
MVL02P20	<0.50	4.6	8.7	10	<0.50	<0.50	<0.50	120,000	75,000	21,000	8.89	7.89	2.5	2	<0.05	2.54
MVL02P20	0.62	5.3	9.7	15	<0.50	<0.50	<0.50	240,000	16,000	10,000	4.94	7.74	2.83	1.9	0.15	21.35
MVL02P20	<0.50	4	10	9.1	<0.50	<0.50	<0.50	40,000	5,700	7,600	9.7	7.99	2.8	2	0.12	1.25
MVL02P20	<0.50	3.7	6.7	9.3	<0.50	<0.50	<0.50	270,000	170,000	65,000		7.82	4.48	1	0.21	1.64
MVL02P20	<0.50	2	4.6	6.2	<0.50	<0.50	<0.50	5,800	3,700	8,800	10.91	8.27	2.86	2.2	0.06	1.06
MVL02P20	<0.50	2.3	7.9	11	<0.50	<0.50	<0.50	47,000	7,000	48,000	8.5	8.18	4.87	1.8	0.07	1.53
MVL02P20	<0.50	3	6.6	21	<0.50	<0.50	<0.50	250,000	10,000	11,200	9.48	8.38	3.36	1.3	0.25	1.26
MVL02P20	<0.50	3.7	7.9	32	<0.50	<0.50	<0.50	>45,000	4,100	12,000	9.28	8.22	2.7	2.6	0.22	1.27
MVL02P20	<0.50	2.7	8.1	15	<0.50	<0.50	<0.50	>98,000	49,000	23,000	9.27	8.24	2.71	3.5	0.1	2.11
MVL02P20	<0.50	2.7	6.7	8.5	<0.50	<0.50	<0.50	61,000	12,000	12,300	8.86	8.21	4.38	3	0.1	1.15
MVL02P20	<0.50	2.2	5.9	9.4	<0.50	<0.50	<0.50	3,100,000	8,000	102,000	9.78	8.19	3.43	2.1	0.13	0.92
MVL02P20											9.49	8.09	5.34	2.8	0.14	4.87
MVL03P09	<0.50	71	3.6	29	<0.50	18	<0.50	25,000	2,300	1,300	8.17	6.67	7.42	1.3	<0.05	1.07
MVL03P09	0.73	82	5.1	36	<0.50	19	<0.50	33,000	2,000	2,800	7.83	6.5	2.01	2.6	<0.05	1.17
MVL03P09	<0.50	130	4.8	45	<0.50	33	<0.50	28,000	16,000	700	7.48	6.82	1.96	<0.20	<0.05	0.79
MVL03P09	<0.50	97	3.3	40	<0.50	15	<0.50	47,000	35,000	5,400	6.91	6.74	5	2.4	<0.05	1.44
MVL03P09	<0.50	110	4.2	37	<0.50	29	<0.50	41,000	20,000	980	7.27	7.09	4.1	2.3	0.06	0.73

MVL03P09	<0.50	110	6	41	<0.50	26	<0.50	50,000	6,000	300	8.47	6.8	1.75	3.2	<0.05	0.86
MVL03P09	<0.50	87	5.2	49	<0.50	18	<0.50	170,000	30,000	26,000	8.07	6.97	12.3	2.9	<0.05	1.23
MVL03P09	<0.50	79	4.8	40	<0.50	24	<0.50	43,000	20,000	8,000	7.35	7.2	15.7	2.1	0.11	1.13
MVL03P09	0.68	62	11	31	<0.50	15	<0.50	80,000	40,000	12,000	6.98	6.59	15.8	3.2	0.09	1.62
MVL03P09	<0.50	98	3.9	37	<0.50	24	<0.50	41,000	29,000	4,200	13.68	7.43	3.71	3.3	0.12	0.93
MVL03P09	<0.50	100	5.1	45	<0.50	26	<0.50	55,000	1,900	1,070	7.37	6.8	3.93	2	0.05	1.28
MVL03P09	0.91	87	5	38	<0.50	23	<0.50	25,000	10,000	4,600	7.63	6.97	9.01	2.4	0.08	1.24
MVL03P09	<0.50	100	4.5	40	<0.50	26	<0.50	37,000	7,600	1,500	7.24	7.36	2.16	2.2	0.05	0.84
MVL03P09	<0.50	67	6.2	30	<0.50	16	<0.50	110,000	28,000	21,000	7.21	7.11	5.1	1.7	0.1	1.02
MVL03P09	<0.50	60	4.1	28	<0.50	16	<0.50	220,000	42,000	9,000	8.02	7.25	2.38	1.9	0.06	1.34
MVL03P09	<0.50	65	4.1	26	<0.50	17	<0.50	21,000	890	860	8.72	7.02	3.33	3.2	0.1	0.82
MVL03P09	<0.50	89	4.6	33	<0.50	22	<0.50	>4,600	370	1,900	8.67	6.98	2.83	2.8	0.11	0.65
MVL03P09	<0.50	28	2.1	16	<0.50	4.3	<0.50	>8,000	5,300	1,070	7.93	7.82	6.26	2.1	0.1	1.01
MVL03P09	<0.50	66	4.8	27	<0.50	15	<0.50	>116,000	54,000	11,000	8.75	6.98	3.67	2.8	0.1	0.85
MVL03P09	<0.50	64	3.5	32	<0.50	18	<0.50	20,000	3,000	4,100	12.38	7.4	3.44	2.2	0.1	0.77
MVL03P09	<0.50	99	4.5	35	<0.50	21	<0.50	>38,000	1,400	3,100	7.3	7.11	3.17	2.2	0.13	0.62
MVL03P09	<0.50	69	5.5	30	<0.50	15	<0.50	>55,000	2,900	6,600	8.21	7.13	9.75	2.6	0.1	1.04
MVL03P09											8.85	7.3	4.04	2.2	0.1	0.62
MVL03P11	<8.00	8.4	7.3	18	<2.00	1.1	<2.00	40	<10	<10	11.16	7.96	7.5	2.4	0.15	2.5
MVL03P11	<8.00	8.1	5.2	26	<2.00	1.6	<2.00	28,000	12,200	2,800	9.72	7.21	1.14	2.1	<0.05	1.23
MVL03P11	<8.00	6	9.4	23	<2.00	1.5	<2.00	62,000	48,000	7,800	3.05	8.26	1.11	0.5	0.28	0.28
MVL03P11	<8.00	10	7.7	41	<2.00	<1.00	<2.00	15,300	8,800	6,700	8.08	8.2	2.18	2	1.1	0.08
MVL03P11	<8.00	13	7.5	22	<2.00	1.1	<2.00	29,000	15,600	6,000	8.33	8.18	1.87	2.7	0.15	0.85
MVL03P11	<8.00	12	6.9	22	<2.00	1.1	<2.00	52,000	32,000	19,600	9.28	8.17	3.28	1.7	0.1	0.96
MVL03P11	<0.50	19	4	8.5	<0.50	0.71	<0.50	69,000	10,700	87,000	8.93	7.64	11.1	3.2	0.09	1.58
MVL03P11	<0.50	20	6.7	18	<0.50	1.3	<0.50	18,000	8,000	3,400	8.13	7.83	1.9	2.5	0.92	1.52
MVL03P11	<0.50	14	5.6	25	<0.50	0.76	0.5	330,000	150,000	>120,000	8.32	8.12	2.18	2.9	<0.05	1.67
MVL03P11	<0.50	28	18	33	<0.50	2.2	0.6	30,000	12,000	1,300	5.68	7.92	3.84	3.1	0.11	1.34
MVL03P11	<0.50	24	4.2	7.8	<0.50	0.94	<0.50	46,000	3,300	3,600	9.37	7.88	1.31	2.9	0.1	0.94
MVL03P11	<0.50	9.5	5.7	7.9	<0.50	0.69	<0.50	70,000	16,000	17,000	8.83	7.86	4.18	1.8	0.06	1.38
MVL03P11	<0.50	6.6	4.7	9.4	<0.50	0.58	<0.50	7,600	4,000	18,000	9.5	8.19	2.35	3.6	0.05	1.28

MVL03P11	2.8	5.3	5.8	6.9	<0.50	0.71	<0.50	23,000	2,100	4,400	8.41	8.14	3.33	2.4	0.1	1.02
MVL03P11	0.89	7.3	5.1	8.2	<0.50	<0.50	<0.50	56,000	11,000	3,500	9.03	8.19	12	1.8	0.05	0.99
MVL03P11	<0.50	9	5.6	14	<0.50	0.74	<0.50	>20,000	5,400	5,900	9.54	8.16	4.79	2.4	0.2	1.2
MVL03P11	<0.50	6	3.7	4.8	<0.50	0.66	<0.50	56,000	8,400	5,600	8.21	8.18	1.78	2	0.11	1.11
MVL03P11	<0.50	4.4	3.6	5.3	<0.50	<0.50	<0.50	46,000	6,600	10,100	11.65	8.6	2	2.2	0.1	0.93
MVL03P11											9.55	7.93	0.78	2.6	0.1	0.91
RSML02@AP	<0.50	3.7	1.9	7.2	<0.50	<0.50	<0.50	>68,000	4,800	10,000	9.01	8.02	1.59	2	0.1	1.59
RSML02@AP	<0.50	2.1	1.8	4.4	<0.50	<0.50	<0.50	27,000	2,000	9,400	9.77	8.09	5.85	2	0.1	0.61
RSML02@AP	<0.50	2.3	2.6	5.2	<0.50	<0.50	<0.50	>76,000	24,000	5,200	9.28	8.06	1.63	2	0.45	0.3
RSML02@AP	<0.50	4.5	2.9	14	<0.50	<0.50	<0.50	6,400,000	2,200,000	1,490,000	9.77	7.81	11.3	2.3	0.12	1.03
RSML02@AP	<0.50	6.8	2.4	5.6	<0.50	<0.50	<0.50	64,000	14,000	7,500	12.62	7.9	2.76	2	0.2	0.85
RSML02@AP	<0.50	5.7	2.3	5.7	<0.50	<0.50	<0.50	38,000	390	5,000	10.25	7.98	1.86	2	0.11	1.12
RSML02@AP											9.54	7.86	2.11	2	0.1	0.99
RSML02P25	<8.00	<4.00	9.3	27	<2.00	<1.00	<2.00	8,200	4,700	7,050	8.94	8.19	2.7	1.5	0.2	1.42
RSML02P25	<8.00	<4.00	3.3	35	<2.00	<1.00	<2.00	37,000	7,850	1,900	9.29	7.28	6.87	1.9	<0.05	1.31
RSML02P25	<8.00	<4.00	4.5	23	<2.00	<1.00	<2.00	36,000	22,000	66,000	9.57	7.95	3.47	1.4	0.07	0.35
RSML02P25	<8.00	<4.00	4.2	43	<2.00	<1.00	<2.00	34,000	27,000	11,000	9.26	8	2.98		<0.05	0.55
RSML02P25	<8.00	5.2	6.5	32	<2.00	<1.00	<2.00	42,000	19,800	21,000	9.51	7.94	2.89	1.5		1.43
RSML02P25	<8.00	4.8	3.2	25	<2.00	<1.00	<2.00	31,000	21,000	10,600	8.38	7.93	1.75	0.9		0.74
RSML02P25	<0.50	6.9	2.6	7.9	<0.50	<0.50	<0.50	45,000	15,000	3,800	9.67	7.5	1.62	2.3	<0.05	0.65
RSML02P25	<0.50	5.9	2.7	9.2	<0.50	<0.50	<0.50	41,000	8,000	6,300	8.89	8.02	2.92	3.1	<0.05	1.25
RSML02P25	<0.50	6.9	2.5	6.9	<0.50	<0.50	<0.50	130,000	23,000	5,000	8.75	7.96	1.6	2	<0.05	0.96
RSML02P25	<0.50	10	3.2	9.9	<0.50	<0.50	<0.50	50,000	12,000	530	8.86	7.87	1.28	2.5	0.07	0.79
RSML02P25	<0.50	9.6	3.6	16	<0.50	<0.50	<0.50	44,000	7,000	25,000	9.14	7.82	2.4	2	<0.05	1.56
RSML02P25	<0.50	2.2	4	7.7	<0.50	<0.50	<0.50	36,000	26,000	17,000	8.62	7.7	2.41	1.3	0.07	0.92
RSML02P25	<0.50	2.3	2.8	5	<0.50	<0.50	<0.50	48,000	17,000	5,800	9.81	7.9	1.64	2.1	0.05	1
RSML02P25	<0.50	2.3	3.3	4.8	<0.50	<0.50	<0.50	63,000	22,000	7,300	7.2	8.1	2.44	1.4	0.05	0.99
RSML02P25	<0.50	2.3	2.1	4.6	<0.50	<0.50	<0.50	51,000	32,000	10,000	8.81	8.01	2.11	4.1	0.05	1.93
RSML02P25	<0.50	3.3	3.7	7.1	<0.50	<0.50	<0.50	>9,000	1,700	3,100	9.37	7.97	1.25	2.1	0.1	0.83
RSML02P25	<0.50	2.6	2.8	4	<0.50	<0.50	<0.50	21,000	8,500	6,200	9.78	8.55	1.95	2	0.12	0.74

RSML02P25	<0.50	2.3	2.3	3.9	<0.50	<0.50	<0.50	>7,900	3,900	5,100	12.81	8.23	0.99	2	0.12	0.69
RSML02P25	<0.50	4.8	4	4	<0.50	<0.50	<0.50	>7,100	1,200	2,000	11.12	8.08	1.09	2	0.1	0.76
RSML02P28	<8.00	17	19	75	<2.00	<1.00	<2.00	10,000	5,600	5,150	8.55	8.23	25.8	1.1	0.3	0.85
RSML02P28	<8.00	17	19	75	<2.00	<1.00	<2.00	4,200	1,450	1,850	9.33	6.77	10.2	1.8	0.22	0.17
RSML02P28	<8.00	4.1	16	61	<2.00	<1.00	<2.00	37,000	2,800	7,600	8.81	7.85	5.22	1	0.45	0.23
RSML02P28	<8.00	6.1	15	63	<2.00	<1.00	<2.00	11,200	7,200	6,800	14	8.3	5.59	1.4	0.55	1.13
RSML02P28	<8.00	7.4	6.4	63	<2.00	<1.00	<2.00	6,400	1,460	3,400	9	7.96	42.8	1.8		0.97
RSML02P28																
RSML02P28	0.88	7.4	19	50	<0.50	<0.50	0.6	340,000	800	970	9.91	7.84	5.99	1.4	0.6	1.57
RSML02P28	<0.50	6	7.5	20	<0.50	<0.50	<0.50	31,000	21,000	1,500	9.08	8.05	2.3	2.1	0.08	1.38
RSML02P28	<0.50	4.1	2.6	13	<0.50	<0.50	<0.50	20,000	1,190	1,900	8.52	8.2	3.1	2	<0.05	0.55
RSML02P28	<0.50	3.3	2.4	17	<0.50	<0.50	<0.50	5,100	3,200	150	9.45	8.4	0.98	2	0.08	0.41
RSML02P28	0.52	8.9	21	120	<0.50	<0.50	<0.50	420,000	68,000	4,300	9.26	8.11	4.21	2.1	0.35	1.03
RSML02P28	3.8	1	6.6	4.7	<0.50	<0.50	<0.50	5,600	3,100	200	8.69	8.22	25.9	1.4	0.06	0.62
RSML02P28	<0.50	2	9.4	20	<0.50	<0.50	<0.50	400,000	27,000	52,000	9.97	8.97	5.18	2.7	0.06	1.76
RSML02P28	<0.50	1.5	7.1	12	<0.50	<0.50	<0.50	460,000	66,000	4,400	7.21	8.32	2.3	1.7	0.05	0.74
RSML02P28	<0.50	2.2	5.1	15	<0.50	<0.50	<0.50	16,000	3,000	1,400	9.04	8.4	1.09	2.3	0.05	0.94
RSML02P28	5.1	15	25	410	<0.50	<0.50	0.71	>38,000	4,400	6,400	9.83	8.46	8.75	2.4	0.42	6.3
RSML02P28	2	6.4	6.9	470	<0.50	<0.50	<0.50	>9,100,000	>8,400	240,000	8.63	8.29	11.9	3.6	0.43	0.54
RSML02P28																
RSML02P28	<0.50	3.7	6	15	<0.50	<0.50	<0.50	>11,800	1,100	2,100	11.6	8.45	1.78	2.7	0.1	0.72
RSML02P32	<8.00	<4.00	23	41	<2.00	<1.00	<2.00	29,000	18,000	24,800	6.91	7.98	5.89	3.6	<0.05	1.15
RSML02P32	<8.00	<4.00	22	34	<2.00	<1.00	<2.00	4,950	1,800	3,300	9.34	7.01	11.6	2.4	0.22	1.34
RSML02P32	<8.00	<4.00	11	24	<2.00	<1.00	<2.00	8,900	6,200	8,000	7.93	7.71	3.16	1.2	0.15	0.39
RSML02P32	<8.00	<4.00	6.7	70	<2.00	<1.00	<2.00	16,100	8,950	10,000	8.41	8.1	4.9	3.9	0.13	1.21
RSML02P32	<8.00	4.8	12	41	<2.00	<1.00	<2.00	31,000	24,000	50,000	9.21	8.02	1.93	3		1.68
RSML02P32	<8.00	5.4	9.4	31	<2.00	<1.00	<2.00	45,000	35,000	9,450	8.71	7.77	2.88	2.9		1.34
RSML02P32	<0.50	4.7	24	12	<0.50	<0.50	<0.50	52,000	40,000	1,900	9.44	7.36	2.82	4.6	0.07	0.96
RSML02P32	<0.50	3.9	5.3	21	<0.50	<0.50	<0.50	33,000	8,000	7,000	8.37	8.02	6.59	3.4	0.08	1.4
RSML02P32	<0.50	4.4	5.2	11	<0.50	<0.50	<0.50	20,000	8,600	6,500	8.42	7.92	1.6	3.1	<0.05	1.48

RSML02P32	0.59	5.9	9.9	18	<0.50	<0.50	<0.50	190,000	150,000	53,000	8.98	7.87	8.05	3.4	<0.05	0.97
RSML02P32	<0.50	5.6	15	20	<0.50	<0.50	<0.50	19,000	4,100	17,000	9.2	7.84	1.95	3.4	0.48	2.3
RSML02P32	<0.50	1.9	7.5	11	<0.50	<0.50	<0.50	58,000	25,000	43,000	8.57	7.79	2.85	2.7	0.1	29.9
RSML02P32	0.64	1.2	3.3	9.2	<0.50	<0.50	<0.50	6,100	4,400	1,220	9.65	8.16	0.61	2.9	0.08	0.8
RSML02P32	0.53	1.9	6.7	11	<0.50	<0.50	<0.50	680,000	580,000	86,000	6.98	8.07	6.56	1	0.06	3.77
RSML02P32	<0.50	1.3	3.8	10	<0.50	<0.50	<0.50	57,000	28,000	16,000	8.8	8.17	1.6	2.1	0.23	1.29
RSML02P32	2.1	2.2	3.6	15	<0.50	<0.50	<0.50	>12,600	4,400	5,800	10.23	8.23	1.98	3.2	0.1	0.89
RSML02P32	0.54	2.5	4.6	10	<0.50	<0.50	<0.50	28,000	8,800	8,600	8.79	8.11	1.59	3	0.1	0.83
RSML02P32	<0.50	2	4.4	6.1	<0.50	<0.50	<0.50	49,000	11,000	15,400	12.75	7.94	2.39	3.4	0.1	0.9
RSML02P32	<0.50	1.4	4.8	7.8	<0.50	<0.50	<0.50	27,000	3,000	11,000	9.65	8.19	1.85	2	0.1	0.76
RSML02P32											9.72	8.14	0.86	2.5	0.1	0.97
RSML02P45	<8.00	<4.00	10	36	<2.00	<1.00	<2.00	9,550	8,300	5,500	7.74	8.26	7.81	3.5	<0.05	1.33
RSML02P45	<8.00	<4.00	4.2	22	<2.00	<1.00	<2.00	2,900	2,700	6,550	7.18	6.9	4.17	4.5	<0.05	0.36
RSML02P45	<8.00	<4.00	4.9	27	<2.00	<1.00	<2.00	26,000	14,600	8,100	7.84	8.1	2.85	1	0.1	0.33
RSML02P45	<8.00	<4.00	4.3	34	<2.00	<1.00	<2.00	30,000	23,000	10,600	7.17	7.9	1.74	1.7		0.96
RSML02P45	<8.00	6.1	7.3	37	<2.00	<1.00	<2.00	7,800	6,300	6,600	9.15	8.13	3.56	2.9	<0.05	1.72
RSML02P45	<8.00	<4.00	3.6	26	<2.00	<1.00	<2.00	10,600	7,300	5,600	9.53	7.97	2.91	2.7		1.28
RSML02P45	<0.50	5.8	4.7	5.5	<0.50	<0.50	<0.50	41,000	9,300	10,000	7.57	7.88	10.4	2.6	0.13	0.77
RSML02P45	<0.50	4.5	9	14	<0.50	<0.50	<0.50	17,000	11,000	5,200	8.89	7.94	1.35	2.5	<0.05	1.47
RSML02P45	<0.50	4.6	3.5	7.7	<0.50	<0.50	<0.50	43,000	7,500	4,900	21.82	8.03	1.3	2.9	<0.05	1.14
RSML02P45	<0.50	5.5	4.7	9.6	<0.50	<0.50	<0.50	120,000	17,000	1,200	8.84	8.01	3.82	2.8	0.08	1.07
RSML02P45	<0.50	4.8	4.1	6.5	<0.50	<0.50	<0.50	40,000	15,000	5,400	9.17	8.08	2.81	2.9	0.11	1.35
RSML02P45	0.65	8	7.4	5.7	<0.50	<0.50	<0.50	39,000	8,000	12,000	8.1	7.85	3.57	1.5	0.7	2.38
RSML02P45	<0.50	1.3	2.5	7.2	<0.50	<0.50	<0.50	40,000	5,100	8,100	10.71	8.28	1.23	2.5	0.1	1
RSML02P45	<0.50	1.3	3	7.8	<0.50	<0.50	<0.50	61,000	5,200	3,900	9.43	8.22	1.98	2.1	0.1	0.96
RSML02P45	<0.50	1.4	2.4	4.3	<0.50	<0.50	<0.50	39,000	8,000	7,200			1.64	2	0.1	0.79
RSML02P45	<0.50	1.9	4.8	9.5	<0.50	<0.50	<0.50	>52,000	38,000	88,000	11.34	8.33	3.56	2.4	0.2	1.01
RSML02P45	0.67	2.6	7.7	17	<0.50	<0.50	<0.50	>39,000	17,000	7,200	8.65	8.19	4.74	4.6	0.7	1.5
RSML02P45	<0.50	2.4	3.3	4.4	<0.50	<0.50	<0.50	>57,000	5,000	60,000	12.84	8.05	1.82	2.4	0.1	1.15
RSML02P45	<0.50	1.2	3.6	5.7	<0.50	<0.50	<0.50	46,000	2,700	9,300	9.82	8.22	1.73	2	0.1	0.45
RSML02P45											9.92	8.13	3.36	2.3	0.1	0.57

RSML11P02	<8.00	<4.00	26	58	<2.00	<1.00	<2.00	26,400	10,600	11,300	10.53	7.96	8.8	2.4	0.9	1.44
RSML11P02	<8.00	<4.00	9	42	<2.00	<1.00	<2.00	16,300	7,400	9,900	8.1	8.5	3.59	<0.20	<0.05	2.65
RSML11P02	<8.00	<4.00	8.2	22	<2.00	<1.00	<2.00	41,000	25,000	33,000	19.01	8.24	8.75	2	<0.05	1.73
RSML11P02	<8.00	<4.00	9.3	35	<2.00	<1.00	<2.00				8.36	8.23	2.13	2.9	0.08	1.44
RSML11P02	<8.00	<4.00	7.1	26	<2.00	<1.00	<2.00	42,000	7,900	28,000	8.37	8.04	5.22	2.8	0.15	1.4
RSML11P02	<8.00	5.5	7.6	39	<2.00	<1.00	<2.00	114,000	45,000	116,000	12	7.8	5.4	2.2	0.1	1.59
RSML11P02	0.59	6.1	17	19	<0.50	<0.50	<0.50	800,000	6,700	2,300	7.6	7.98	2.65	1.5	0.45	1.63
RSML11P02	<0.50	4.3	4.9	11	<0.50	<0.50	<0.50	240,000	210,000	44,000	9.4	7.94	4.17	2.2	<0.05	1.93
RSML11P02	<0.50	4	6.7	17	<0.50	<0.50	<0.50	300,000	130,000	34,000	9.03	8.15	4.6	2.2	0.1	1.56
RSML11P02	0.64	10	36	180	<0.50	<0.50	<0.50	330,000	65,000	42,000	8.63	7.94	8.49	3	<0.05	2.08
RSML11P02	<0.50	5.1	9.1	15	<0.50	<0.50	<0.50	360,000	120,000	20,000	9.13	8.09	5.54	1.9	0.25	1.89
RSML11P02	<0.50	6	4.6	12	<0.50	<0.50	<0.50	150,000	90,000	23,000	8.64	7.91	4.34	1.5	0.1	1.71
RSML11P02	<0.50	2.4	12	12	<0.50	<0.50	<0.50	38,000	4,300	8,300	9.43	8.2	11	2.9	0.13	1.13
RSML11P02	<0.50	1.9	5.5	11	<0.50	<0.50	<0.50	190,000	22,000	23,000	9.32	8.16	3.46	2.3	0.09	1.27
RSML11P02	<0.50	2.6	4.5	8.5	<0.50	<0.50	<0.50	70,000	26,000	32,000			3.98	2.7	0.25	1.91
RSML11P02	<0.50	2.6	5.6	17	<0.50	<0.50	<0.50	34,000	5,900	13,200	11.03	8.32	3.73	2.4	0.18	0.87
RSML11P02	<0.50	2.8	8.6	13	<0.50	<0.50	<0.50	380,000	110,000	500,000	8.61	8.2	3.14	2.4	0.11	1.21
RSML11P02	<0.50	2.5	3.1	7.4	<0.50	<0.50	<0.50	680,000	38,000	42,000	12.92	7.93	3.8	2.2	0.12	1.31
RSML11P02	<0.50	1.8	6.5	8.4	<0.50	<0.50	<0.50	33,000	2,400	23,000	9.74	8.2	3.21	2.1	0.1	0.87
RSML11P02											9.77	8.2	8.14	2	0.1	0.74
SCBS@M02	<8.00	41	62	220	<2.00	3.2	4.3	78,000	37,000	58,000	5.23	7.89	18.8	2.6	2.6	12.76
SCBS@M02	<8.00	18	3.9	30	<2.00	1.9	<2.00	62,000	14,000	4,300	5.32	7.32	8.13	3.2	0.12	1.26
SCBS@M02	<8.00	18	7.1	44	<2.00	<1.00	<2.00	<10	<10	<10	5.23	8	10.2	1.8	0.3	0.27
SCBS@M02	<8.00	21	9.1	27	<2.00	<1.00	<2.00	14,500	27,000	78,000	1.69	8.04	5	0.9	0.55	0.22
SCBS@M02	<8.00	19	18	52	<2.00	2.2	<2.00	166,000	46,000	119,000	1.75	8.01	10.6	0.8	1.35	0.86
SCBS@M02																
SCBS@M02	<8.00	21	8.4	62	<2.00	<1.00	<2.00	10,400	8,850	12,700	7.66	8.19	7.48	4.4	0.38	2.02
SCBS@M02	<8.00	20	9	39	<2.00	<1.00	<2.00	64,000	37,000	11,200	8.85	8.18	7.82	4.7	0.13	1.27
SCBS@M02	<8.00	26	13	97	<2.00	<1.00	<2.00	<200,000	<200,000	129,000	7.98	8.13	6.5	3	0.45	1.69
SCBS@M02	<8.00	29	10	15	<2.00	<1.00	<2.00	28,000	20,222	49,000	14.4	8.3	6.7	4.4	0.15	1.04

SCBS@M02	<8.00	31	5.2	16	<2.00	<1.00	<2.00	7,900	4,800	2,100	14	8.3	33.7	2.32	0.2	1.36
SCBS@M02	<0.50	71	5.9	28	<0.50	4.5	<0.50	38,000	30,000	3,000	7.73	8.03	2.03	3	<0.05	0.52
SCBS@M02	<0.50	86	4.6	11	<0.50	1.4	<0.50	370,000	47,000	9,400	8.9	7.53	1.7	5.1	0.14	0.55
SCBS@M02	0.89	36	7	4.2	<0.50	1.6	<0.50	200,000	150,000	4,200	9.05	8.03	1.52	2.9	0.29	0.51
SCBS@M02	<0.50	67	6.1	11	<0.50	2	<0.50	720,000	190,000	240	8.8	8.02	1.8	3.3	<0.05	0.43
SCBS@M02	<0.50	54	9.2	3	<0.50	1.3	<0.50	310,000	45,000	1,700	8.88	8.05	1.2	5	<0.05	0.44
SCBS@M02	<0.50	45	5.8	16	<0.50	1.9	<0.50	200,000	58,000	730	8.43	8.04	1.22	5.1	0.44	0.35
SCBS@M02	<0.50	39	4.4	9.6	<0.50	1.6	<0.50	76,000	42,000	2,200	9.03	7.97	1.44	3.9	0.12	0.62
SCBS@M02	1.3	49	17	20	<0.50	1.6	<0.50	160,000	10	18,300	7.44	8.08	5.91	3.5	0.32	1.01
SCBS@M02	<0.50	34	9.3	14	<0.50	1.4	<0.50	1,190,000	480,000	4,100	7.92	7.87	1.71	3.3	0.5	0.73
SCBS@M02	<0.50	37	5.8	4.8	<0.50	0.53	<0.50	87,000	12,000	9,600	9.98	7.81	3.75	2.2	0.15	0.5
SCBS@M02	0.53	14	18	17	<0.50	1.5	<0.50	>1,200,000	>1,200,000	640	7.94	8.12	6.12	5.8	0.65	2.32
SCBS@M02	1.1	30	67	130	<0.50	1.2	1.1	270,000	6,300	62,000	8.1	8.19	113	4.5	5.2	2.92
SCBS@M02	<0.50	13	5.4	6.2	<0.50	<0.50	<0.50	36,000	7,700	5,500	9.5	8.06	5.26	3.4	0.05	0.83
SCBS@M02	<0.50	16	4.6	7.8	<0.50	<0.50	<0.50	30,000	1,700	4,900	9.48	8.16	4.19	4	0.05	0.97
SCBS@M02	0.73	14	5.8	23	<0.50	<0.50	<0.50	240,000	2,900	3,800	6.65	8.05	4	4.2	0.15	0.43
SCBS@M02	<0.50	17	5.2	9.4	<0.50	0.92	<0.50	390,000	6,100	3,100	9.72	8.21	4.65	2.3	0.23	0.56
SCBS@M02	<0.50	8.8	3.4	4.4	<0.50	<0.50	<0.50	51,000	2,800	3,900	8.92	8.28	2.98	2.8	0.11	0.54
SCBS@M02	<2.50	11	4	<10.00	<2.50	<2.50	<2.50	9,600,000	43,000	7,800	9.16	8.03	20.5	5.1	1.05	0.74
SCBS@M02	<0.50	10	3.9	8.6	<0.50	<0.50	<1.00	31,000	2,700	1,140	12.22	8.06	2.6	5.7	0.33	0.69
SCBS@M02	<1.00	11	13	8.8	<1.00	<1.00	<0.50	640,000	46,000	84,000	13.94	8.16	21.9	4.7	0.15	0.95
SCBS@M02	<1.00	13	4.5	9.1	<1.00	<1.00	<2.50	116,000	>99	8,400	10.85	8.21	1.45	2.8	0.24	0.45
SCBS@M02	<0.50	9.9	7.8	23	<2.50	<2.50	<2.50	95,000	2,200	42,000	15.85	8.21	3.15	4.9	0.19	0.51
SCM00P03	<8.00	15	12	62	<2.00	<1.00	<2.00	89,000	42,000	10,800	13.6	8.19	2.77	0.4	0.65	0.27
SCM00P03																
SCM00P03	<8.00	18	6.5	39	<2.00	<1.00	<2.00				8.07	7.75		2.4	0.35	0.69
SCM00P03	<8.00	19	8.2	36	<2.00	<1.00	<2.00	27,000	17,800	1,400	4.18	7.58	1.6	2.1	0.15	0.74
SCM00P03	0.53	24	13	81	<0.50	0.54	<0.50	370,000	4,600	13,000	9.08	7.65	3.35	2.9	0.18	1.4
SCM00P03	0.58	39	8.6	6.2	<0.50	1.1	<0.50	15,000	2,400	800	12.17	8.27	2.01	0.4	<0.03	0.6
SCM00P03	0.85	18	23	66	<0.50	0.78	1.1	37,000	31,000	2,500	9.52	8.14	4.43	4.4	1.02	2.95
SCM00P03	0.79	38	11	20	<0.50	0.85	<0.50	3,200	600	2,000	13.92	8.27	16.1	1.3	0.08	0.67

SCM00P03	1	9.9	14	500	<0.50	<0.50	<0.50	>1,200,000	5,100	7,400	9.08	8.25	22.9	1.8	4.3	1.49
SCM00P03	1.8	15	8.9	77	<0.50	<0.50	<0.50	160,000	21,000	11,000	9.73	8.22	4.49	1.9	0.7	1.37
SCM00P03	<0.50	10	6.7	47	<0.50	0.63	<0.50	2,800	1,200	1,100	9.94	8.28	2.66	2.5	0.09	1.48
SCM00P03	<0.50	14	6.6	62	<0.50	3.5	<0.50	3,800	500	600	5.79	8.21	4.85	2.1	0.05	1.26
SCM00P03																
SCM00P03	<0.50	19	5.8	52	<0.50	0.73	<0.50	>2,400	110	590	10.85	8.14	0.33	2	0.11	0.53
SCM00P03	0.51	14	4.6	48	<1.00	<1.00	<1.00	49,000	>130	8,200	8.71	8.01	4.8	2.2	0.1	0.83
SCM00P03	<2.00	16	5.7	15	<0.50	<0.50	<0.50	27,000	240	3,400	13.51	7.66	15.6	3.6	0.12	0.76
SCM00P03											9.8	8.06	7	2	0.1	1.26
SCM02XXX	<8.00	760	<2.00	130	<2.00	54	<2.00	16,000	2,850	12,650	10.54	7.89	7.82	6.7	<0.05	0.3
SCM02XXX	120	9.8	9.6	50	<2.00	<1.00	<2.00	3,800	3,100	1,760	8.87	8.1	403	1.3	0.45	0.18
SCM02XXX	<8.00	14	7.4	160	<2.00	<1.00	<2.00	12,000	6,100	3,900	9.33	8.27	13.5	0.7	0.1	1.56
SCM02XXX	<8.00	25	13	54	<2.00	5.4	<2.00	77,000	67,000	4,700	7.02	7.38	3.44	3.1	1.5	2.49
SCM02XXX																
SCM02XXX	<8.00	12	7.8	<10.00	<2.00	<1.00	<2.00	111,000	85,000	17,200	9.14	8.1	62.1	1.5		2.33
SCM02XXX	0.82	22	6.1	4.5	<0.50	0.52	<0.50	22,000	5,200	13,000	7.23	8.3	7.13	3.5	<0.05	1.5
SCM02XXX	0.54	29	5.2	4.1	<0.50	<0.50	<0.50	65,000	27,000	5,700	9.75	8.05	46.9	1.7	<0.05	1.28
SCM02XXX	0.58	24	4	3.3	<0.50	0.52	<0.50	25,000	12,000	4,800	9.6	8.13	3.1	1.8	0.06	1.51
SCM02XXX	0.64	11	5.3	7.6	<0.50	<0.50	<0.50	5,900	3,600	530	9.49	8.14	16.9	1.8	0.35	0.79
SCM02XXX	<0.50	7.6	6.9	11	<0.50	<0.50	<0.50	630	270	400	9.26	8.14	16.1	1.9	0.08	1.64
SCM02XXX	<0.50	12	5.9	75	<0.50	<0.50	<0.50	52,000	2,900	3,000	8.34	8.02	16.1	4	0.06	1.67
SCM02XXX	0.55	16	4.6	6.8	<0.50	0.53	<0.50	15,000	9,000	4,900	10.34	8.26	5.17	2.8	0.09	1.23
SCM02XXX	0.69	14	4.9	7.9	<0.50	0.56	<0.50	37,000	930	2,000	7.45	8.19	3.95	3.1	0.05	1.39
SCM02XXX	<0.50	7.8	3.7	18	<0.50	<0.50	<0.50	150,000	22,000	39,000	6.5	7.8	3.51	11.2	0.07	2.35
SCM02XXX																
SCM02XXX	0.52	12	6.4	9.9	<0.50	0.57	<0.50	32,000	2,600	2,400	11.26	8.08	676	4	0.11	1.1
SCM02XXX	<0.50	9.9	5.4	15	<0.50	0.62	<0.50	>44,000	28,000	51,000	11.48	8.16	6.2	3.1	0.12	3.11
SCM02XXX	<0.50	11	4.2	8	<0.50	0.52	<0.50	33,000	5,300	9,200	15.27	8.23	6.93	4.1	0.1	1.77
SCM02XXX											11.16	7.92	2.36	2.8	0.1	1.64
SCM03P01	<8.00	22	8	35	<2.00	3.3	<2.00	94,000	56,000	2,950	7.86	7.44	17.6	2	<0.05	0.53

SCM03P01	<8.00	17	8.4	19	<2.00	2	<2.00	59,000	5,000	3,200	7.08	7.8	4.88	3.2	0.15	1.98
SCM03P01	<8.00	26	9.2	53	<2.00	4.3	<2.00	4,500	3,200	5,900	7.83	7.47	6.94	1.1	0.1	0.41
SCM03P01	<8.00	37	9.3	63	<2.00	8.8	<2.00	8,000	2,800	6,000	7.67	7.34	3.07	2.6		1.24
SCM03P01	<8.00	14	7	21	<2.00	<1.00	<2.00	84,000	49,000	58,000	9.34	8.3	4.79	1.5	0.1	1.24
SCM03P01	<8.00	30	9	54	<2.00	5.9	<2.00	3,200	1,400	1,080	6.53	7.33	1.59	2.5	0.1	1.53
SCM03P01	0.5	42	5.8	22	<0.50	6.6	<0.50	36,000	30,000	8,000	5.02	7.3	2.03	3.4	<0.05	1.14
SCM03P01	<0.50	42	6.9	26	<0.50	7.9	<0.50	180,000	190,000	13,800	6.56	7.17	2.13	3.2	<0.05	1.12
SCM03P01	<0.50	35	5.5	19	<0.50	6.6	<0.50	48,000	16,000	6,200	7.55	7.48	2.5	2.9	<0.05	1.36
SCM03P01	0.58	66	5.3	40	<0.50	15	<0.50	28,000	2,400	800	7.56	7.4	0.85	5.3	<0.03	1.02
SCM03P01	<0.50	59	6.7	46	<0.50	13	<0.50	1,080,000	570,000	>1,200,000	7.59	7.57	2.57	3.6	0.28	2.06
SCM03P01	<0.50	57	6.1	37	<0.50	12	<0.50	450,000	50,000	86,000	4.8	7.71	2.56	4.8	0.18	1.94
SCM03P01	<0.50	60	5.3	32	<0.50	13	<0.50	4,600	50,000	500	6.24	7.44	1.12	5	0.1	0.99
SCM03P01	<0.50	73	7	45	<0.50	16	<0.50	290,000	27,000	20,000	4.81	7.63	1.4	5.4	0.07	1.19
SCM03P01	<0.50	81	4.5	54	<0.50	21	<0.50	5,000	3,000	500	6.47	7.43	1.82	5.6	0.05	1.27
SCM03P01	<0.50	11	5.3	13	<0.50	1.3	<0.50	>35,000	6,400	10,800	8.96	7.65	2.35	5.2	0.17	1.17
SCM03P01	<0.50	26	3.9	15	<0.50	3.5	<0.50	20,000	3,600	3,100	8.57	7.96	2.12	3.7	0.1	1.61
SCM03P01	<0.50	24	2.1	21	<0.50	2.4	<0.50	>8,000	2,700	7,400	10.67	8.2	2.53	4.7	0.1	1.21
SCM03P01											7.54	6.96	5.1	5.6	0.14	1.35
SJCL01@CC	<8.00	<4.00	5	56	<2.00	<1.00	<2.00	2,070	725	580	10.88	8.41	2.4	0.8	<0.05	0.82
SJCL01@CC	<8.00	6.9	13	370	<2.00	<1.00	6.1	39,000	960	1,030	10.2	7.62	5.43	6.4	<0.05	1.22
SJCL01@CC	<8.00	<4.00	3.5	17	<2.00	<1.00	<2.00	1,130	980	960	8.69	7.82	1.14	1.7	<0.05	0.44
SJCL01@CC	<8.00	<4.00	12	42	<2.00	<1.00	<2.00	8,200	4,300	6,100	7.6	8.21	6.72	0.8	0.18	0.16
SJCL01@CC	<8.00	<4.00	2.2	15	<2.00	<1.00	<2.00	8,700	3,300	3,900	9.7	8.29	0.88	0.9	<0.05	0.17
SJCL01@CC	<8.00	5.3	12	80	<2.00	<1.00	2.2	79,000	72,000	2,800	10.23	8.51	3.05	1.2	0.24	1.43
SJCL01@CC	<8.00	6.2	10	88	<2.00	<1.00	<2.00	4,700	3,300	1,290	4.24	7.84	10.9	1.3	0.15	1.68
SJCL01@CC	<8.00	5.1	7.2	40	<2.00	<1.00	<2.00	11,400	8,900	1,210	9.51	8.36	1.95	0.8	0.15	1.03
SJCL01@CC	<8.00	23	9.2	37	<2.00	<1.00	<2.00	73,000	58,000	87,000	14.6	8.2	6.4		0.1	3.85
SJCL01@CC	<8.00	7.1	10	150	<2.00	<1.00	<2.00	62,000	50,000	53,000	13.8	8.6	15.9		0.9	3.87
SJCL01@CC	<0.50	4.4	5.5	28	<0.50	<0.50	<0.50	30,000	400	3,000	8.11	8.26	1.97	2.7	0.08	0.77
SJCL01@CC	<0.50	10	15	460	<0.50	0.62	3.7	820,000	>100,000	103,000	8.2	7.53	2.4	1.4	0.45	5.02
SJCL01@CC	1.5	5.1	3.6	60	0.72	1.1	1.4	>1,200,000	>120,000	>120,000	7.36	7.87	2.11	0.9	0.6	1.15

SJCL01@CC	<0.50	4.4	3.5	25	<0.50	<0.50	<0.50	40,000	18,000	6,000	8.41	8.28	1.08	4.7	0.11	1.83
SJCL01@CC	<0.50	5	4.5	55	<0.50	<0.50	<0.50	24,000	7,900	1,500	8.29	8.08	2.1	2.8	0.14	1.82
SJCL01@CC	<0.50	8.2	8.6	49	<0.50	<0.50	<0.50	600,000	110,000	3,400	10.25	8.08	1.93	3.3	0.5	1.14
SJCL01@CC	<0.50	5.5	7.8	39	<0.50	<0.50	<0.50	710,000	9,200	3,000	8.75	8.07	4.3	1.4	0.22	1.61
SJCL01@CC	<0.50	6.1	6.9	45	<0.50	<0.50	<0.50	39,000	<10	7,700	9.09	8.21	1.6	1.5	0.15	1.56
SJCL01@CC	<0.50	1.9	6	31	<0.50	<0.50	<0.50	24,000	5,000	4,300	9.1	7.88	1.58	1.7	0.22	1.45
SJCL01@CC	<0.50	1.3	4.1	14	<0.50	0.64	<0.50	<10	<10	<10	0	8.34	0.34	1.6	0.12	0.23
SJCL01@CC	1.1	2.4	8.2	35	<0.50	<0.50	<0.50	30,000	3,000	1,000	9.06	8.12	6.51	2.1	0.18	0.74
SJCL01@CC	<0.50	5.9	13	500	<0.50	0.67	5.2	14,000	1,500	6,200	8.81	8.14	1.22	0.8	0.48	2.71
SJCL01@CC	<0.50	3.2	10	47	<0.50	<0.50	0.53	22,000	4,200	15,000	7.5	8.37	1.61		0.27	1.33
SJCL01@CC	<0.50	3.2	5.4	43	<0.50	<0.50	<0.50	540,000	220,000	84,000	8.99	8.03	1.58	1.8	0.3	2
SJCL01@CC	1.3	4.4	7.3	43	<0.50	<0.50	3	800,000	210,000	18,000	8.04	8.17	13.3	1.2	0.45	2.19
SJCL01@CC	<0.50	4.1	6.1	39	<0.50	<0.50	<0.50	6,400	5,600	2,400	9.74	8.3	4.51	2.3	0.3	1.46
SJCL01@CC	<0.50	2.9	5.6	41	<0.50	<0.50	<0.50	40,000	8,600	7,400	10.67	8.33	2.74	0.2	0.25	1.04
SJCL01@CC	<0.50	5.9	7.9	250	<0.50	<0.50	2	166,000	98,000	145,000	12.7	8.2	2.8	2.4	0.83	1.9
SJCL01@CC	<0.50	3.5	4.8	41	<0.50	<0.50	<0.50	>7,800	3,100	4,000	11.05	8.29	2.81	2	0.12	0.73
SJCL01@CC	<0.50	4.3	6.8	44	<0.50	<0.50	<0.50	410,000	48,000	13,100	8.95	8.33	5.48	2.5	0.18	1.16
SJCL01@CC	<0.50	3.2	5.1	30	<0.50	<0.50	<0.50	79,000	25,000	51,000	9.66	8.25	2.95	2	0.14	1.09
SJCL01@CC	<0.50	6	8	100	<0.50	<0.50	<0.50	7,900,000	24,000	58,000	10.59	8.22	3.81	2	0.36	0.52
SJCL01P03	<8.00	<4.00	15	19	<2.00	<1.00	<2.00	29,000	17,000	13,750	8.62	8.28	3.96	6	<0.05	0.63
SJCL01P03	<8.00	<4.00	6.2	96	<2.00	<1.00	<2.00	24,000	6,550	5,450	8.23	8.02	9.74	2.8	<0.05	0.61
SJCL01P03	<8.00	<4.00	4.1	19	<2.00	<1.00	<2.00	7,100	6,200	6,500	8.47	8.33	2.43	7	<0.05	0.88
SJCL01P03	<8.00	8.2	5.8	44	<2.00	<1.00	<2.00	12,400	9,750	5,200	9.72	8.36	3.6	2.5	0.08	1.02
SJCL01P03	<8.00	6.6	7.5	75	<2.00	<1.00	<2.00	52,000	44,000	10,000	7.57	8.23	3.17	5.6	<0.05	1.03
SJCL01P03	<8.00	5.7	12	25	<2.00	<1.00	<2.00	15,200	11,600	17,000	10.32	8.01	7.03	5.6		1
SJCL01P03	<0.50	13	3.8	13	<0.50	0.9	<0.50	100,000	2,800	5,400	8.4	7.69	2.65	5.9	<0.05	0.63
SJCL01P03	<0.50	9.5	3.3	10	<0.50	<0.50	<0.50	53,000	17,000	17,000	8.17	8.05	7.92	4.6	<0.05	4.36
SJCL01P03								270,000	48,000	30,000	8.01	8.22	16.7	2.9	0.07	3.01
SJCL01P03	0.52	11	2.8	9.1	<0.50	<0.50	<0.50	66,000	11,700	3,400	8.68	8.18	1.7	4.3	0.08	<0.06
SJCL01P03	<0.50	8.5	4.6	9.2	<0.50	<0.50	<0.50	85,000	1,400	34,000	7.65	7.98	64.3	4.2	0.13	2.09
SJCL01P03	0.56	3.7	11	25	<0.50	<0.50	1.2	140,000	18,000	17,000	6.71	8.21	227	3.5	0.25	1.74

SJCL01P03	<0.50	2.3	3	10	<0.50	<0.50	<0.50	19,000	5,900	6,100	8.72	8.18	3.4	4	0.08	0.95
SJCL01P03	<0.50	3.6	2.2	6	<0.50	<0.50	<0.50	30,000	3,400	8,900	8.11	8.3	2.97	4.4	0.1	1.36
SJCL01P03	<0.50	3.2	3.4	13	<0.50	<0.50	<0.50	47,000	5,400	7,600	7.5	8.05	52.3	3.3	0.35	1.34
SJCL01P03	<0.50	3.5	6.2	11	<0.50	<0.50	<0.50	>34,000	3,500	7,600	8.14	8.12	2.24	4	0.12	0.69
SJCL01P03	<0.50	2.5	2.6	2.9	<0.50	<0.50	<0.50	41,000	5,600	6,400	8.18	8.54	3.24	2	0.1	0.47
SJCL01P03	0.5	4.8	2.9	5.6	<0.50	<0.50	<0.50	32,000	3,600	8,100	13.68	8.33	0.66	3.3	0.1	0.68
SJCL01P03											8.82	8.2	3.71	2	0.1	1.21
SJCL01S01	<0.50	5.3	3.6	7.7	<0.50	<0.50	<0.50	31,000	3,800	3,300	9.61	8.14	1.92	3.1	0.12	0.61
SJCL01S01	0.53	5.8	5.6	14	<0.50	1.3	<0.50	>5,100	220	780	9.29	8.09	3.06	3.9	0.12	0.87
SJCL01S01	<0.50	1.6	2.2	16	<0.50	<0.50	<0.50	3,700	210	9,400	11.06	7.98	1.94	2	0.1	0.3
SJCL01S01	<0.50	7.3	4	13	<0.50	<0.50	<0.50	>39,000	13,000	10,900	9.85	8.07	9.53	4.1	0.1	1.17
SJCL01S01	<0.50	6.4	2.9	4.8	<0.50	<0.50	<0.50	21,000	3,400	8,800	9.47	8.06	1.67	3.6	0.1	0.86
SJCL01S01	<0.50	6.9	4.2	5.1	<0.50	<0.50	<0.50	>5,900	100	600	10.29	8.24	2.23	3.2	0.1	0.92
SJCL01S01	<0.50	3.1	4.4	5.8	<0.50	<0.50	<1.00	38,000	330	1,860	13.2	8.12	2.95	4.2	0.1	1.61
SJCL01S01											10.32	8.06	3.16	3.7	0.1	0.99
SJCL01TBN1	<0.50	4.3	12	9.5	<0.50	<0.50	<0.50	100,000	8,000	4,000	7.78	9.07	7.38	1.9	0.2	1.23
SJCL01TBN1	<0.50	5.2	11	11	<0.50	<0.50	<0.50	220,000	14,000	26,000	8.49	7.71	6.12	2.6	0.2	2.38
SJCL01TBN1	0.76	4.6	15	11	<0.50	<0.50	<0.50	140,000	38,000	16,000	8.94	7.99	10	2	0.08	1.86
SJCL01TBN1	93	92	23	87	<0.50	25	26	NR	NR	NR	8.02	8.1	6.1	1	0.1	1.2
SJCL01TBN1	0.59	6.8	4.1	18	<0.50	<0.50	<0.50	62,000	38,000	38,000	8.86	8.04	3.3	1.6	0.35	1.9
SJCL01TBN1	0.54	5	11	8.5	<0.50	<0.50	<0.50	23,000	8,000	3,900	9.51	8	3.23	3.6	0.18	1.51
SJCL01TBN1	0.85	4.8	13	8	<0.50	<0.50	<0.50	280,000	480	56,000	10.75	8.46	4.86	5.1	0.1	3.43
SJCL01TBN1	0.63	6.4	16	19	<0.50	<0.50	<0.50	24,000	3,200	10,000	11.27	8.5	3.46	3.9	0.25	2.73
SJCL01TBN1	<0.50	2.1	13	8.8	<0.50	<0.50	<0.50	470,000	54,000	57,000	9.99	8.17	4.65	3.3	0.18	3.65
SJCL01TBN1	<0.50	2.9	8.1	5.7	<0.50	<0.50	<0.50	210,000	22,000	12,000	12.3	8.1	2.41	1.8	<0.05	1.3
SJCL01TBN1	0.61	3.1	20	13	<0.50	<0.50	<0.50	102,000	20,000	15,000	3.94	8.21	3.63	6.3	0.8	2.94
SJCL01TBN1	<0.50	1.4	20	5.1	<0.50	<0.50	<0.50	6,300	790	5,100	9.28	8.17	1.32	2.7	0.11	3.77
SJCL01TBN1	<0.50	2.1	9.6	5.5	<0.50	<0.50	<0.50	36,000	13,000	56,000	0.2	8.16	2.2	3.1	0.05	3.51
SJCL01TBN1	<0.50	1.7	8.4	4.4	<0.50	<0.50	<0.50	32,000	1,600	4,100	8.51	8.11	5.2	2.2	0.1	1.37
SJCL01TBN1	<0.50	2.4	7.9	9	<0.50	<0.50	<0.50	63,000	15,000	4,000	6.4	8.18	3.46	2.9	0.25	3.26

SJCL01TBN1																
SJCL01TBN1	<0.50	2.7	9.9	9.9	<0.50	<0.50	<0.50	28,000	2,400	9,700	8.84	8.04	1.63	3.2	0.1	1.03
SJCL01TBN1	<0.50	2.9	8.2	12	<0.50	<0.50	<0.50	>75,000	3,800	11,100	11.95	8.06	3.33	4.3	0.3	2.44
SJCL01TBN1																
SJCL01TBN1	<0.50	2.9	6	4.2	<0.50	<0.50	<0.50	163,000	9,700	6,700	7.01	8.13	6.43	2.3	0.1	1.37
SJCL01TBN1	<0.50	3.9	9.3	12	<0.50	<0.50	<0.50	>24,000	>230	20,000	7.86	7.98	4.69	3	0.33	1.6
SJCL01TBN1	0.88	2.3	8.9	11	<0.50	<0.50	<0.50	>69,000	4,300	14,500	9.68	8.04	4.53	2	0.56	2.41
SJCL01TBN1																
SJCL02P02	<8.00	4.9	8.5	36	<2.00	<1.00	<2.00	87,000	42,000	50,660	7.08	7.99	6.31	0.9	0.2	2.9
SJCL02P02	24	35	77	2900	<2.00	3.2	16	98,000	41,000	3,450	4.61	7.46	19.4	2.1	<0.05	2.01
SJCL02P02	<8.00	4.3	11	41	<2.00	<1.00	<2.00	81,000	36,000	66,000	7.46	7.5	3.76	2.9	0.17	1.43
SJCL02P02	<8.00	6.9	22	190	<2.00	<1.00	<2.00	18,500	12,600	8,450	7.27	7.95	2.89	1.3	0.16	1.81
SJCL02P02	<8.00	6.4	10	84	<2.00	<1.00	6.2	>200,000	110,000	76,000	6.56	8.05	3.96	0.8	0.33	2.25
SJCL02P02	<8.00	7.9	5.9	69	<2.00	<1.00	<2.00	<200,000	58,000	170,000	5.26	7.55	12.4	0.9	0.6	2.97
SJCL02P02	<0.50	10	7.6	17	<0.50	<0.50	<0.50	180,000	6,000	3,800	6.63	7.44	1.46	1.4	0.08	1.52
SJCL02P02																
SJCL02P02	<0.50	4.4	2.2	6	<0.50	<0.50	<0.50	200,000	47,000	7,900	7.07	8.02	16.7	1.8	<0.05	1.56
SJCL02P02	<0.50	6.4	5.9	9.8	<0.50	<0.50	<0.50	40,000	4,800	3,800	10.46	8.1	2.02	0.7	0.06	<0.06
SJCL02P02	<0.50	6.9	6.4	18	<0.50	<0.50	<0.50	45,000	720	6,900	6.72	7.99	1.78	3.7	0.17	2.11
SJCL02P02	<0.50	4.5	4.1	10	<0.50	<0.50	<0.50	53,000	10,000	11,000	6.22	8.04	6.2	0.9	0.4	1.53
SJCL02P02	<0.50	7	7.7	27	<0.50	<0.50	<0.50	160,000	80,000	48,000	9.3	8.03	4.65	1.2	0.15	2.58
SJCL02P02	0.86	5.6	13	29	<0.50	<0.50	0.5	43,000	1,100	5,900	6.43	8.03	5.66	4.7	0.32	3
SJCL02P02	<0.50	2.6	4.2	8.9	<0.50	<0.50	<0.50	170,000	48,000	30,000	6.88	8.1	4.78	3	0.8	1.85
SJCL02P02	<0.50	3.9	8	19	<0.50	<0.50	<0.50	>41,000	2,500	2,800	12.8	8.61	2.31	1.8	0.42	1.25
SJCL02P02	0.86	7.3	14	85	<0.50	<0.50	1.4	480,000	80,000	44,000	5.57	8.04	17.2	1.1	1.15	1.82
SJCL02P02	<0.50	2.8	1.8	11	<0.50	<0.50	<0.50	99,000	11,900	30,000	12.09	8.2	3.18	2	0.2	1.44
SJCL02P02											12.35	8.29	6.8	2	0.78	1.92