

# **INFORMATION SHEET**

**TENTATIVE GENERAL ORDER NO. R9-2012-0001, WASTE DISCHARGE  
REQUIREMENTS FOR THE MAINTENANCE AND MONITORING OF  
CLOSED, ABANDONED, OR INACTIVE NONHAZARDOUS  
SOLID WASTE UNITS WITHIN THE SAN DIEGO REGION**

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**TENTATIVE MONITORING AND REPORTING PROGRAM NO. R9-2012-0002  
FOR THE MAINTENANCE AND MONITORING OF CLOSED, ABANDONED,  
OR INACTIVE NONHAZARDOUS SOLID WASTE UNITS  
WITHIN THE SAN DIEGO REGION**

**AND**

**TENTATIVE GENERAL ORDER NO. R9-2012-0003, WASTE DISCHARGE  
REQUIREMENTS FOR THE MAINTENANCE OF CLOSED,  
ABANDONED, OR INACTIVE BURN SITES  
WITHIN THE SAN DIEGO REGION**

## **PART I: PURPOSE**

The purpose of tentative General Orders Nos. R9-2012-0001 and R9-2012-0003 (hereinafter Orders) and tentative Monitoring and Reporting Program (M&RP) No. R9-2012-0002 is to provide a standard set of requirements for the maintenance of closed, abandoned, or inactive nonhazardous solid waste units and burn sites (CAI Units and CAI Burn Sites) for the protection of water quality and beneficial uses. The Orders supercede waste discharge requirements (WDR) General Order No. 97-11 and the associated M&RP. General Order No. 97-11 was issued under California Code of Regulations (CCR) Title 23, Chapter 15, the former State regulations governing waste management units, and established general maintenance and monitoring requirements for Closed, Abandoned, or Inactive nonhazardous solid waste management units (CAI Units) and burn sites (CAI Burn Sites). The Orders incorporate current regulations found in CCR Title 27, provide consistency with other WDRs issued by the San Diego Water Board, update the enrollment process, and provide performance-based requirements for site maintenance. Separate general orders for CAI Units and CAI Burn Sites were prepared in accordance with Water Code section 13263(i). Tentative Order No. R9-2012-0001 requires groundwater and surface water monitoring for CAI Units pursuant to CCR Title 27 in accordance with tentative M&RP No. R9-2012-0002.

## **PART II: INTRODUCTION AND BACKGROUND**

### **A. INTRODUCTION**

This Information Sheet summarizes the facts and technical analyses relied upon by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) in developing the findings, discharge specifications, and monitoring and reporting requirements for tentative General Order No. R9-2012-0001, *Waste Discharge Requirements for the Maintenance and Monitoring of Closed, Abandoned, or Inactive Nonhazardous Solid Waste Units within the San Diego Region*, tentative Monitoring and Reporting Program No. R9-2012-0002, *Monitoring and Reporting Program for the Maintenance and Monitoring of Closed, Abandoned, or Inactive Nonhazardous Solid waste Management Units within the San Diego Region*, and tentative General Order No. R9-2012-0003, *Waste Discharge Requirements for the Maintenance of Closed, Abandoned, or Inactive Burn Sites within the San Diego Region*.

This Information Sheet also contains background information regarding the issuance of WDRs and the M&RP for regulating CAI Units and Burn Sites, and provides justification for the enhancement of site maintenance and monitoring specifications that have been incorporated into the WDRs and M&RP in order to comply with current landfill regulations found in CCR Title 27.

### **B. BACKGROUND**

Nonhazardous solid waste management units and burn sites have been regulated in the State of California since the 1960s. In the 1970s, CCR Title 23, Chapter 15 was promulgated and later revised to provide regulatory oversight for waste management units. In 1984, the State Legislature passed a law requiring the testing of water and air media at all known solid waste disposal facilities (Chapter 15, Statutes of 1984). The law added section 13273 to the Water Code requiring the State Water Resources Control Board (State Water Board) to rank all known solid waste disposal facilities based on their probable threat to water quality. The law further required the owners and/or operators (Dischargers) of these facilities to complete and submit a solid waste assessment test (SWAT) report to the appropriate Regional Water Board. Each Regional Water Board then reviewed the reports to determine whether the facilities had leaked and impacted water quality. The results of the SWAT reports indicated that the majority of known waste management units (392 of 544) had leaked waste constituents into groundwater, impacting water quality and threatening beneficial uses. CAI Units that do not have SWAT Reports are likely to have leaked waste constituents to groundwater in proportion to the rate (72 percent) demonstrated by the statewide SWAT program. The SWAT results also indicated that CAI

Burn Sites are mainly composed of residual ash and other materials that are not easily combustible (i.e. glass, porcelain, and some metals).

Typically, the residual ash contains high concentrations of metals and dioxins, and may also contain other constituents of concern (such as pesticides, furans) in concentrations that may leach into groundwater or surface waters under certain conditions. Because the organic component of the waste was burned away during operation, CAI Burn Sites typically do not produce landfill gases and leachate. As part of the SWAT investigation, Dischargers responsible for CAI Burn Sites were required to complete four quarters of groundwater and surface water monitoring (when applicable) to determine whether the CAI Burn Site had impacted water quality. Through this investigation it was determined that CAI Burn Sites do not pose a significant threat to water quality and to do not warrant further groundwater monitoring.

In 1997, new regulations<sup>1</sup> were promulgated, incorporating and rescinding those requirements contained within CCR Title 23, Chapter 15. The new regulations, found in CCR Title 27, largely focus on solid waste facilities which continued to operate, or began operations after November 27, 1984. However, CCR Title 27 does contain regulatory requirements pertaining to site maintenance, monitoring, and reporting at solid waste facilities which were closed, abandoned, or inactive on or before November 27, 1984 (i.e., CAI Units and Burn Sites).

### **PART III: TENTATIVE GENERAL ORDER NO. R9-2012-0001 FOR CAI UNITS**

#### **A. PURPOSE**

The purpose of tentative General Order No. R9-2012-0001 is to stipulate standard maintenance and reporting requirements for CAI Units, as previously established under General Order No. 97-11, and provide consistency with current landfill regulations. Because regulations<sup>2</sup> do not require CAI Units to be closed, it is essential that the interim cover systems be maintained to prevent the degradation of water quality and impairment of beneficial uses.

#### **B. LEGAL BASIS FOR ISSUING GENERAL WDRS**

CCR Title 27 establishes minimum requirements for the treatment, storage, processing, and disposal of solid waste. In combination with the authority granted under Water Code section 13263, the Regional Water Boards have the discretion to determine whether or not facilities should be regulated under WDRs

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<sup>1</sup> Cal. Code Regs., tit. 27, div. 2, subds. 1: Consolidated Regulations for Treatment, Storage, Processing or Disposal of Solid Waste.

<sup>2</sup> Cal Code Regs., tit. 27, §20080(d)

and required to monitor groundwater and surface waters (when applicable) through monitoring and reporting programs. These facilities should be regulated through the issuance of general WDRs because the facilities proposed to be enrolled in this Order are inactive (i.e., no longer receiving waste and not formally closed), do not have final cover systems, and pose an ongoing threat to water quality and beneficial uses.

The Water Code<sup>3</sup> authorizes Regional Water Boards to issue general WDRs for categories of discharges if the Board finds or determines that all of the following criteria apply to the discharges in that category:

- 1) The discharges are produced by the same or similar operations.
- 2) The discharges involve the same or similar types of waste.
- 3) The discharges require the same or similar treatment standards.
- 4) The discharges are more appropriately regulated under general discharge requirements than individual requirements.

The facilities proposed for enrollment in this Order meet the above criteria because (1) they are all unlined waste management units that ceased operation prior to November 27, 1984; (2) they all contain non-hazardous wastes; (3) they do not have final cover systems, but are required to be maintained to protect human health and the environment; and (4) if regulated individually, they would have nearly identical WDRs, containing the same or similar maintenance specifications.

### **C. NEED FOR UPDATED REQUIREMENTS**

Water Code section 13263 requires the Water Boards to issue waste discharge requirements (WDRs) to regulate any proposed or existing discharges of waste to land. In accordance with the Water Code, the WDRs shall implement any relevant water quality control plans that have been adopted and shall take into consideration of the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of section 13241. Furthermore, Water Code section 13263(e) states that all requirements shall be reviewed periodically and updated as needed.

The State Water Board's Administrative Procedures Manual (Manual) provides a schedule for the review and update of WDRs. According to the Manual, WDRs should be reviewed and updated, if necessary, every five, ten, or fifteen years, depending on the threat to water quality and complexity ranking given to a site. The CAI Units enrolled in Tentative Order No. R9-2012-0001 are ranked as "1B" for threat and complexity, meaning that every five to ten years the San Diego

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<sup>3</sup> Wat.Code, §13263(i)

Water Board should review the Order and make any needed changes. In 2003, the San Diego Water Board adopted Addendum No. 3 to General Order No. 97-11, stipulating that those pertinent sections of CCR Title 23, Chapter 15 relating to discharges of non-hazardous waste to landfills were replaced by CCR Title 27, which is the current body of regulations governing the discharge of wastes to land. In 2011 the San Diego Water Board reviewed General Order No. 97-11 as amended, and decided to issue updated waste discharge requirements for CAI Units and Burn Sites rather than amend the General Order for a seventh time. Orders Nos. R9-2012-0001 and R9-2012-0003 provide clarity by consolidating all of the provisions and discharge requirements found in General Order No. 97-11, as amended, brings the requirements into compliance with current landfill regulations, adds language regarding the enrollment procedures, delegates authority to the Executive Officer for enrolling or terminating the enrollment of a Discharger, terminates enrollment under the Statewide General Industrial Storm Water Permit, and requires all Dischargers of CAI Units or Burn Sites enrolled in the Orders to self-certify annually that their site is well maintained and ready for the rainy season. Further, all CAI Units to be enrolled in Order No. R9-2012-0001, except for CAI Units that have been issued an individual M&RP, must comply with M&RP No. R9-2012-0002, which implements the monitoring requirements found in CCR Title 27. The issuance of a stand-alone monitoring and reporting program allows for minor changes to be made to the M&RP by the Executive Officer, rather than needing to go before the Board for consideration.

CAI Units enrolled under Tentative Order No. R9-2012-0001 pose a continued risk to water quality, albeit a lower risk than active or recently closed landfills, and therefore must implement the minimum monitoring and reporting requirements found in CCR Title 27. The requirements specified in M&RP No. R9-2012-0002 are the minimum requirements found in CCR Title 27. For those sites with significant impacts to water quality (i.e., a release that has impacted beneficial uses or is above an MCL), more stringent monitoring and reporting requirements have been issued through a site-specific corrective action monitoring and reporting program. The lowest threat sites (i.e. CAI Burn Sites) are no longer required to implement a groundwater monitoring program.

CAI Units proposed for enrollment in this Order are currently regulated by General Order No. 97-11. General Order No. 97-11 established general maintenance and monitoring requirements for both CAI Units and CAI burn sites under the authority of the former State regulations<sup>4</sup> governing waste management units. Tentative General Order No. R9-2012-0001 incorporates current regulatory requirements (CCR Title 27), provides consistency with other WDRs issued by the San Diego Water Board, updates the enrollment process by delegating authority to the Executive Officer to enroll or terminate the enrollment

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<sup>4</sup> Cal. Code Regs., tit. 23, Chap. 15

of Dischargers, provides performance-based requirements, provides regulation of CAI Units and CAI burn sites under separate Orders in accordance with the Water Code<sup>5</sup> and requires groundwater and surface water monitoring (when applicable) in accordance with CCR Title 27. General WDRs allow the San Diego Water Board to more effectively and efficiently regulate the maintenance and monitoring of CAI Units by reducing the amount of staff time extended preparing and considering individual WDRs.

#### **D. WHO SHOULD BE ENROLLED**

A Discharger is defined as "...any person who discharges waste which could affect the quality of waters of the State, and includes any person who owns a waste management unit (Unit) or who is responsible for the operation of a Unit..."<sup>6</sup> CCR Title 27 further defines an operator as "...the landowner or other person who through a lease, franchise agreement or other arrangement with the landowner becomes legally responsible to the State for including, but not limited to, the following requirements for a solid waste facility or disposal site:

- (A) Obtaining a solid waste facility permit;
- (B) Complying with all applicable federal, State and local requirements;
- (C) The physical operation of the facility or site; and
- (D) Closing and maintaining the site during the post-closure maintenance period."

The definition provided in the regulations is broad and provides the Regional Water Boards with the flexibility to hold at least one party responsible for compliance with WDRs for CAI Units. In the past, it has been the practice of the San Diego Water Board to only enroll the primary owner or operator when one can be identified, or both. Secondarily responsible parties such as a property owner would only be held responsible if the facility owner or operator could not be found. Each CAI Unit or Burn Site will be evaluated on an individual basis to determine the appropriate party(ies) responsible party(ies) for compliance with the tentative General Order. **Appendix I** provides a list of the facilities and Dischargers to be automatically enrolled in the Orders.

#### **E. ENROLLMENT PROCEDURES**

Dischargers whose CAI Units are currently enrolled in General Order No. 97-11 are automatically enrolled in and subject to the requirements of this Order. Dischargers automatically enrolled in this Order shall receive a Notice of Enrollment (NOE) from the San Diego Water Board following adoption of this Order.

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<sup>5</sup> Wat. Code §13263(i)

<sup>6</sup> Cal.Code Regs., tit. 27, §20164

Dischargers whose CAI Units are currently regulated by individual WDRs may also request to have their facilities enrolled in tentative General Order No. R9-2012-0001. The request must be made in writing to the Executive Officer, and include a technical analysis describing the Discharger's justification or rationale for enrollment of the facility in the Order. Dischargers must demonstrate in the technical analysis that their facility meets the criteria for enrollment in the Order, and that the discharge specifications contained in the Order, would be fully protective of water quality and beneficial uses. The technical analysis should also include a discussion, if applicable, of any corrective action measures (including monitored natural attenuation) currently implemented at the CAI Unit. Based on the information provided, the San Diego Water Board will determine that either (a) the CAI Unit in question meets the criteria for enrollment in the Order and the associated Monitoring and Reporting Program (M&RP No. R9-2012-0002); (b) the CAI Unit in questions meets the criteria for enrollment in the Order, but site conditions warrant the issuance of a site-specific M&RP for corrective actions, or (c) the CAI Unit does not meet the criteria for enrollment and must continue to be regulated by individual WDRs.

If the San Diego Water Board determines that the CAI Units meets the criteria for enrollment in the Order and M&RP No. R9-2012-0002, and site conditions do not warrant a site-specific M&RP, an NOE will be issued to the Discharger and the individual WDRs rescinded at the earliest possible date. In the event the San Diego Water Board determines that the CAI Unit meets the criteria for enrollment in the Order but requires an individual corrective action M&RP, then the Discharger will be enrolled in the Order and issued both the NOE and an individual M&RP simultaneously, and the individual WDRs rescinded at the earliest possible date. Should the San Diego Water Board determine that the site does not meet the criteria for enrollment in the Order, the Discharger will be notified, in writing, of the decision and the rationale for denying the request for enrollment.

The San Diego Water Board has the authority to terminate the enrollment of any CAI Unit from the Order, if warranted by site-specific conditions. The following represent examples of situations where the San Diego Water Board might determine that termination of enrollment is necessary:

- 1) The CAI Unit is clean closed in accordance with CCR Title 27;
- 2) The CAI Unit is formally closed by the Discharger;
- 3) The Discharger requests termination of enrollment in favor of individual WDRs; and
- 4) The CAI Unit experiences a new release, is in chronic violation of waste discharge requirements, or has other site conditions that warrant regulation by individual WDRs.

In the event the San Diego Water Board decides to terminate the enrollment of a CAI Unit from the Order, the Discharger will be notified in writing, and the San Diego Water Board will begin the process of drafting individual WDRs as appropriate. The requirements contained within the Order will remain effective until individual WDRs are adopted by the San Diego Water Board.

## **F. ANNUAL FEES**

Pursuant to the Water Code,<sup>7</sup> Dischargers responsible for facilities enrolled in this Order will be required to pay an annual fee in accordance with the fee schedule found in State regulations,<sup>8</sup> which provide the basis for ranking facilities according to their threat to water quality and complexity. Because each of the CAI Units enrolled in this Order is unique and located in a different hydrologic basin with different water quality objectives and beneficial uses, the San Diego Water Board ranked each of the CAI Units enrolled in General Order No. 97-11 and assessed the corresponding annual fee. This rankings were be based on the definitions set forth in CCR Title 23, section 2200.

As part of the process to modify waste discharge requirements for CAI Units and Burn Sites, the San Diego Water Board verified the threat and complexity ranking of each facility proposed for enrollment in the tentative Orders. As these definitions are revised by the State Water Board, or as conditions at the site change, the San Diego Water Board will reevaluate the threat and complexity ranking of each site and notify the Discharger of any change made to their site ranking.

## **G. STORM WATER MANAGEMENT**

Management of storm water run-on and run-off at CAI Units is very important for the protection of water quality and the environment. To illustrate the need for proper storm water management and control measures, **Appendicies II and III** provide excerpts from recent Executive Officer Reports which document the impacts former waste disposal sites can have on the environment when not properly managed. Appendix II describes the Laguna Beach Burn Dump Site, a recently discovered former burn site, privately owned and operated in the 1950s through the 1970s. When staff visited the site in October 2012, debris was observed throughout the side slopes and tributary to Laguna Canyon Creek, an impaired water body for toxicity listed on the Clean Water Act Section 303d List of Impaired Water Bodies. Appendix III documents erosion and storm water management problems associated with an inactive landfill located at Marine Corps Base Miramar.

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<sup>7</sup> Wat. Code, §13260, et seq.

<sup>8</sup> Cal. Code Regs., tit. 23, §2200 et seq.

As CAI Units are no longer actively receiving wastes nor producing industrial discharges, regulating discharges related to storm water run-on or run-off through WDRs is appropriate. Therefore, CAI Units enrolled in this Order are no longer required to concurrently enroll in State Water Board Order No. 97-03-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*.

CAI Units must be adequately protected against washout, erosion of wastes, and the erosion of cover materials. CAI Units must also be equipped with drainage systems designed to handle the rainfall from a 100-year, 24-hour storm event. Updated conditions and controls have been added to Tentative Order No. R9-2012-0001 to help ensure that Dischargers will implement adequate best management practices (BMPs) for storm water conveyance, and erosion and drainage controls. A variety of approaches may be taken to implement effective BMPs for the long-term control of surface water runoff and erosion of the landfill cover. Dischargers will be responsible for implementing any necessary erosion control measures, and the completion of all construction, maintenance, or repairs of erosion and drainage control features at their facilities. Proper construction and routine maintenance of these features is necessary to prevent erosion, ponding, flooding, or to prevent surface drainage from contacting or percolating through wastes. Effective BMPs need to be implemented on a site-by-site basis to address site-specific concerns, and be in place prior to the beginning of the rainy season (October 1<sup>st</sup>). To ensure that Dischargers implement adequate storm water controls, the Order requires Dischargers to document all site maintenance activities, including the implementation of BMPs, construction, and repair activities in the *Site Conditions Certification Report*, due by October 30<sup>th</sup> of each year.

## **H. CAI UNIT MAINTENANCE SPECIFICATIONS**

The characteristics of municipal solid wastes are significantly modified as a result of burial in a landfill and the passage of time. Most municipal solid waste landfills are expected to contain wastes with general characteristics that progress through several phases of maturation and degradation over time. CAI Units commonly contain significant concentrations of moisture and organic (decomposable) materials that are essential precursors to processes normally associated with the formation of leachate and landfill gas generation. In addition, the exact quantities or volumes of hazardous materials that may have been emplaced in CAI Units is typically unknown or not known with certainty.

As a result, CAI Units may be expected to generate significant volumes of leachate and landfill gas. CAI Units are not equipped with leachate collection systems and most do not have landfill gas collection systems. Under such conditions, the processes of waste degradation may result in impacts to water

quality and create a condition of pollution or nuisance in water resources. These conclusions are based on the observations made during the statewide SWAT Program, and the experiences of the San Diego Water Board staff in regulating CAI Units within the San Diego Region.

Because CAI Units are not equipped with systems to collect leachate and landfill gas, waste discharge specifications for the overall maintenance of these facilities is essential. CAI Units have interim cover systems, which should be designed to minimize infiltration of liquids through wastes, and maintained to minimize erosion and remain functional during storm events.

## **J. CLEAN CLOSURE SPECIFICATIONS**

This section of the Order is needed to provide Dischargers with the applicable requirements for clean closure found in CCR Title 27. The purpose of clean closure is to render a CAI Unit no longer capable of posing a threat to water quality and beneficial uses. CCR Title 27, section 21090(f) provides specific guidelines for clean closure of all waste management facilities (i.e., waste management units, burn sites, waste piles, etc.). By providing these requirements in the Order, Dischargers are fully informed of what must be accomplished before their site can be designated clean closed. Upon the completion of clean closure activities and a determination by the San Diego Water Board that the CAI Unit no longer poses a threat to water quality, the CAI Unit's enrollment in tentative General Order No. R9-2012-0001 will be terminated.

## **K. REPORTING REQUIREMENTS**

As stated above, CAI Units enrolled in this Order will no longer be required to obtain concurrent enrollment in the State's Industrial Storm water General permit.<sup>9</sup> In order for the San Diego Water Board to ensure that CAI Units are maintained in accordance with this Order and that Dischargers are implementing appropriate BMPs, a *Site Conditions Certification Report* (Report) is needed on an annual basis, demonstrating the site is in compliance. The Report will replace the *Storm Water Pollution Prevention Plan (SWPPP)* currently required under the Industrial Storm Water General Permit. The Report will provide site-specific information, including site maps and a description of the processes used to maintain, monitor, and inspect the CAI Unit, and will be signed under penalty of perjury. If the Discharger becomes aware that site conditions indicate non-compliance with this Order, the Discharger is required to notify the San Diego Water Board, complete repairs at the CAI Unit, and submit a *CAI Unit Site*

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<sup>9</sup> State Water Board Order No. 97-03-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*.

*Conditions Re-Certification Report* documenting the measures implemented to bring the CAI Unit into compliance with this Order.

## **PART IV: TENTATIVE MONITORING AND REPORTING PROGRAM NO. R9-2012-0002**

### **A. PURPOSE**

CCR Title 27, section 20080(g) authorizes Regional Water Boards to issue monitoring and reporting requirements to CAI Units if site conditions indicate that water quality has been impaired and beneficial uses impacted by a CAI Unit. Because most CAI Units have had past releases, this Order requires groundwater monitoring at all enrolled facilities. Monitoring and Reporting Program No. R9-2012-0002 (M&RP) was prepared to provide a standard set of monitoring and reporting requirements for CAI Units enrolled in tentative General Order No. R9-2012-0001. The M&RP is consistent with CCR Title 27, sections 20385 and 20420, et seq., and requires Dischargers to monitor in a manner that provides the earliest possible detection of a new release, and to track known releases from CAI Units. The M&RP provides the minimum monitoring requirements found in CCR Title 27. When site conditions warrant that further evaluation or corrective action is necessary due to changing site conditions (i.e., a new release, landfill gas issues, etc.), a CAI Unit may continue to be regulated by general WDRs, though the site may be issued a separate site-specific corrective action monitoring and reporting program.

### **B. DETECTION MONITORING PROGRAM**

State regulations<sup>10</sup> provide for three possible levels of monitoring; 1) detection, 2) evaluation, and 3) corrective action groundwater monitoring at landfills. The CAI Units enrolled in this M&RP will be required to implement a detection monitoring program, which is designed to identify new releases from the CAI Unit (Detection Mode monitoring) and to monitor trends in known releases (Tracking Mode monitoring), to determine whether more aggressive corrective actions or the issuance of an individual M&RP may be warranted. Detection monitoring requires Dischargers to have

- 1) a sufficient number of background monitoring wells to determine the quality of water upgradient of the CAI Unit;
- 2) a sufficient number of down-gradient monitoring wells, at appropriate locations, to provide the earliest possible detection of a release and to yield groundwater samples from all potentially impacted water bodies;

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<sup>10</sup> Cal Code Regs., tit. 27, §§ 20380, 20385 et seq.

- 3) a list of constituents of concern, identifying those constituents, if any, that have been released from the CAI Unit and detected in groundwater;
- 4) a background value for each monitoring parameter, including general chemistry and constituents of concern; and,
- 5) a statistical test method that includes a procedure for verifying whether there is statistically significant evidence of a release from the site.

Dischargers are further required to complete routine monitoring and to provide the results of this monitoring to the appropriate Regional Water Board for review and consideration.

As stated above, there are two modes that Dischargers will use to monitor groundwater in a detection monitoring program. If a known release has been observed for a given monitoring parameter (MPar) in a given monitoring well, that "well/MPar" pair should be monitored in Tracking Mode. All other well/MPar pairs should be monitored in detection mode. To identify new releases, detailed statistical analyses are required for the well/MPar pairs in Detection Mode. To monitor trends in known releases, plots of concentration versus time are required for well/MPar pairs in Tracking Mode. The detailed statistical analysis required for well/MPar pairs in Detection Mode is the primary difference between this order and the monitoring and reporting program of General Order No. 97-11. A flow chart summarizing the statistical analysis is provided as Appendix 4.

### **C. COMPARISON TO BACKGROUND**

The statistical evaluations prescribed in this M&RP are designed to identify releases of landfill constituents significantly greater than background, as required by Title 27. Concentration limits greater than background may only be established if the San Diego Water Board finds that it is technologically or economically infeasible to achieve background water quality based on a consideration of the factors listed in Title 27, section 20400(c). Evaluation of concentration limits greater than background must be based on site-specific conditions and are not appropriate for a general order. If dischargers wish to establish concentration limits greater than background for their facilities, a site specific monitoring and reporting program should be established.

### **D. COMPLIANCE REPORTING**

The required content of the annual reports is specified in Part I of the M&RP. The specifications represent the minimum information to be provided by Dischargers to satisfy the requirements for monitoring and reporting at CAI Units. The Order specifies particular formats for some of the required information to facilitate staff review. For example, plotting multiple monitoring parameters on the same plot allows quick visual comparison of parent compounds and

degradation products (i.e., tetrachloroethylene, trichloroethylene, and vinyl chloride). Further, use of a semi-log plot allows constituents with varying concentrations to be plotted on the same axis. Exponential decay will appear as straight lines on a semi-log plot, allowing a visual assessment of natural attenuation.

## **E. STANDARD MONITORING PROVISIONS**

The standard monitoring provisions prescribed in Part II of the M&RP include the quality assurance requirements previously contained in General Order No. 97-11 (Requirement A.7), and the generally accepted practices for sample collection, data analysis, and data reporting. The data packages that have been submitted for the facilities enrolled in General Order No. 97-11 meet the requirements of this section. This section is not intended to require more rigorous quality assurance protocols, rather it is intended to merely document the standard used in the analysis.

## **F. STATISTICAL ANALYSIS**

Part III of the M&RP details the statistical analytical methods that should be applied at the facilities. For well/MPar pairs in detection mode, the statistical analysis is required to determine whether a release has occurred from the CAI Unit. For monitoring parameters that are commonly detected in background (such as chloride, sulfide and total dissolved solids) intra-well prediction limits should be used to identify a significant increase above background. For monitoring parameters that are rarely detected in background, the California Non-Statistical Data Analysis Method in Section B should be followed. Retests are part of both methods to minimize the likelihood of false positives (concluding that a release has occurred when, in fact, the measured concentrations represent natural fluctuation), while still allowing a reasonable likelihood of detecting an actual release. The retesting strategy required meets the performance criteria in Title 27, section 20415(e)(9).

The specifications for the statistical analysis in the tentative M&RP are more prescriptive than the requirements found in CCR Title 27. CCR Title 27 provides alternative methods for completing the statistical analysis required for groundwater monitoring programs, however, in order to create a uniform approach to statistically analyze groundwater data, the tentative M&RP requires the Dischargers of CAI Units to conduct their analyses using intra-well prediction limits. The San Diego Water Board will consider the use of alternative statistical methods if the Discharger provides a demonstration that the alternative method will provide the earliest possible detection of a release, consistent with CCR Title 27 requirements. The M&RP prescribes specific information to be presented in the annual reports. While CCR Title 27 does allow alternatives, the San Diego Water Board is attempting to standardize report submittals, so that all

Dischargers with sites enrolled in the M&RP will present the data uniformly, in a format that facilitates review by the San Diego Water Board.

This section allows the Dischargers to propose alternate statistical data analysis methods. The San Diego Water Board will consider proposed alternatives if they are consistent with the requirements of Title 27 and provide at least the same level of information as required by the regulations.

#### **G. FIVE YEAR CONSTITUENTS OF CONCERN SCAN**

The scan of all possible constituents of concern (COCs) known to be associated with landfills was not previously included in General Order No. 97-11, but has been added to comply with Title 27 section 20420(g). CCR Title 27, section 20420(g) requires a COC scan to be performed every five years; however, the list of analytes to be included in the scan is not stipulated. Code of Federal Regulations (CFR) Title 40, Part 258 specifies that landfills which received waste after October 1991 must analyze for all constituents found in Appendix II of these regulations. As these are CAI Units and stopped received waste well before the cutoff date for applicability, Dischargers responsible for these sites are not required to complete an Appendix II scan. Dischargers will however, continue to be required to scan for all volatile organic compounds (VOCs) for all sampling events, which is consistent with the sampling and analysis protocols required under General Order No. 97-11.

#### **H. CONTINGENCY REPORTING**

Part IV provides the course of action to be followed if a measurably significant release is identified at the CAI Unit. The reporting requirements and timeframes as specified in State regulations<sup>11</sup> require the Dischargers to notify the San Diego Water Board immediately, and to begin an evaluation, including a retest and statistical analysis (if necessary), of the potential release from the CAI Unit. The protocols provided in the M&RP are consistent with the requirements found in CCR Title 27, section 20425, which requires the Dischargers to submit a proposed evaluation monitoring program and engineering feasibility study within 90 days of determination that a release has occurred. In this type of case, the CAI Unit would be issued a site-specific M&RP for corrective action monitoring.

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<sup>11</sup> Cal Code Regs., tit. 27, §§ 20420(j) and (k)

## **PART V: TENTATIVE GENERAL ORDER NO. R9-2012-0003 FOR CAI BURN SITES**

### **A. PURPOSE**

The purpose of tentative General Order No. R9-2012-0003 (Order) is to stipulate standard maintenance and reporting requirements for CAI Burn Sites, as previously established in General Order No. 97-11, and provide consistency with current landfill regulations. Because CAI Burn Sites are not required to formally close in accordance with current regulatory standards, it is essential that the interim cover systems are maintained to prevent the degradation of water quality and impairment of beneficial uses.

### **B. LEGAL BASIS FOR ISSUING GENERAL WDRs**

As with CAI Units, the Regional Water Boards have been given the authority to issue WDRs when there is evidence that CAI Burn Sites pose a potential threat to water quality and beneficial uses. A CAI Burn Site is a location where solid wastes were burned at low temperatures and the residual burn ash and debris have been stockpiled or landfilled. CAI Burn Sites commonly contain little (if any) biodegradable organic material because of the combustion of solid waste materials, and because of the age of the facilities. Burn Sites were phased out in the early 1970s in response to federal and State air quality legislation. Most burn sites in the San Diego Region ceased operations prior to the development and promulgation of regulations addressing the closure of waste disposal facilities, and therefore meet the definition of a CAI Burn Site.

It is important to note that not all CAI Burn Sites located within the San Diego Region are proposed for regulation by this Order. There are three agencies that have the legal authority to regulate CAI Burn Sites: the Regional Water Boards, the California Department of Toxic Substances Control (DTSC), and the California Department of Resources Recycling and Recovery (CalRecycle). Each agency may provide regulatory oversight to a CAI Burn Site, depending on site conditions.

CAI Burn Sites under the purview of the Regional Water Boards are required to comply with the requirements contained within CCR Title 27 (non-hazardous wastes) and CCR Title 23, Chapter 15 (hazardous wastes). For these facilities, the primary concern is the protection of water quality and beneficial uses. Regional Water Boards are authorized to regulate CAI Burn Sites regardless of whether the waste stream has been classified as hazardous or non-hazardous waste, through the above-referenced regulations. A Regional Water Board's

involvement at a CAI Burn Site however, is often dependent on the position held by other regulatory agencies that may have a vested interest in the site.

If a waste classification analysis determines that the CAI Burn Site contains hazardous wastes and the potential threat at that site is predominantly to human health rather than water quality, the Regional Water Boards will typically defer oversight to DTSC. DTSC's primary concern is the protection of public health. DTSC has the authority to regulate hazardous wastes that are classified as either California or Resource Conservation Recovery Act (RCRA) hazardous waste through CCR Title 22. DTSC does not typically become involved at CAI Burn Sites that contain non-hazardous wastes.

CalRecycle is the parent agency of the Local Enforcement Agencies (LEAs). Within the San Diego Region, there are four LEAs – the City of San Diego, the County of Riverside, the County of Orange, and the County of San Diego. Together, they provide local oversight to CCR Title 27 landfills, CAI Units, and CAI Burn Sites. CalRecycle and the LEA's primary concern is for the protection of human health and their authority to regulate CAI Burn Sites is found within Public Resources Code section 44100. Solid waste, as defined in the Public Resource Code,<sup>12</sup> does not, however, include hazardous waste regulated by Chapter 7.6 of the Health and Safety Code. Therefore, in accordance with the Public Resource Code, when a waste stream is classified as a California or RCRA hazardous waste, CalRecycle does not have the authority to regulate the site, even if the waste stream was originally derived from a solid waste. Under these conditions, lead oversight would be provided by either a Regional Water Board or DTSC, depending on the primary threat from the CAI Burn Site.

### **C. THE NEED TO ISSUE SEPARATE WDRS**

The purpose of issuing a separate Order for CAI Burn Sites is two-fold. First, in order to issue general WDRs, the waste stream and resulting site must meet the four criteria prescribed in Water Code section 13263(i) as shown in Part II.B above. The waste stream produced at burn sites is considerably different than the waste streams produced at CAI Units. Burn sites are produced through the open burning of waste, resulting in a waste stream containing elevated concentrations of heavy metals, dioxins, and sometimes furans in residual ash and soils, as well as ceramics, glass, and sometimes metals that do not melt or disintegrate during burning. This waste stream does not typically contain the decomposable wastes that produce significant quantities of leachate and/or landfill gas. According to the results of the SWAT Program, CAI Burn Sites pose a lower threat to water quality and beneficial uses as long as they are well maintained and the waste is sufficiently contained.

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<sup>12</sup> Pub. Res. Code, §40191

The second reason for a separate Order is that Dischargers of CAI Burn Sites do not monitor groundwater or surface waters for potential releases, which is required for facilities regulated by the tentative General Order for CAI Units. Not requiring monitoring for CAI Burn Sites is justified by the SWAT Program results as well as the past experience of the San Diego Water Board in regulating CAI Burn Sites. As stated above, CAI Burn Sites do not contain significant amounts of decomposable wastes and therefore produce little to no leachate and landfill gas. In some cases however, the concentrations of residual wastes may be designated as “hazardous wastes” as defined in CCR Title 22, Division 4.5, and may become soluble, leaching into underlying groundwater under acidic conditions. In the absence of a determination by DTSC or a certification by the Discharger that wastes have been characterized as hazardous in accordance with CCR Title 22, the San Diego Water Board classifies these waste streams as “designated wastes,” pursuant to the definition found in the Water Code,<sup>13</sup> in terms of threat to water quality. The San Diego Water Board’s past experiences with CAI Burn Sites support the conclusion that historical discharges of burn ash do not pose significant threats to water quality as long as the wastes are properly contained and the cover system is maintained to prevent erosion, and exposure and/or transport of wastes offsite.

#### **D. DISCHARGE SPECIFICATIONS**

The remainder of tentative General Order No. R9-2012-0003 parallels the maintenance specifications found in the tentative General Order for CAI Units. CAI Burn Sites are required to maintain the cover system in a manner that is protective of water quality and beneficial uses. The discharge specifications are performance based, allowing the Discharger to demonstrate that the measures implemented at their CAI Burn Site regarding cover maintenance, erosion and drainage controls, stockpile management, and water use, are protective of groundwater and surface water resources within the vicinity of the site. Similar to the tentative General Order for CAI Units, this Order provides Dischargers with the procedures to request enrollment of a newly discovered or existing CAI Burn Site, as well as procedures for clean closing a CAI Burn Site if necessary.

Dischargers enrolled in this Order are also required to submit an annual *Site Conditions Certification Report*, demonstrating that their CAI Burn Site conditions and cover system are protective of water quality and beneficial uses.

### **PART VI: SUMMARY**

CAI Units and Burn Sites within the San Diego Region are currently regulated by WDR General Order No. 97-11. Tentative General Orders Nos. R9-2012-0001 and R9-2012-0003 are intended to provide a standard set of requirements for the

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<sup>13</sup> Wat.Code, §13173.

maintenance of CAI Units and Burn Sites for the protection of water quality and beneficial uses. Tentative General Order No. R9-2012-0001 also requires that Dischargers participate in a standard detection monitoring and reporting program, by complying with the requirements prescribed in tentative M&RP No. R9-2012-0002, unless site conditions warrant the issuance of a site-specific monitoring program. The Orders proposed for adoption will supersede and replace General Order No. 97-11, incorporate current regulatory standards and practices, streamline the enrollment process, and provide a more efficient mechanism for the San Diego Water Board to regulate CAI Units and Burn Sites.

# Appendix I to Information Sheet

## CAI Units and Burn Sites within the San Diego Region

<b>Facility Name</b>	<b>Property Owner</b>	<b>Facility Operator</b>	<b>Named Discharger(s)</b>
Alpine Burn Site	County of San Diego	County of San Diego DPW	County of San Diego DPW
Arizona Street Landfill	City of San Diego	City of San Diego DPW	City of San Diego DPW
Bell Junior High Landfill	San Diego Unified School District	County of San Diego DPW	County of San Diego DPW San Diego Unified School District
Bradley Park Landfill	City of San Marcos	County of San Diego DPW	City of San Marcos
Cactus Park	County of San Diego	County of San Diego DPW	County of San Diego DPW
Encinitas Landfill	County of San Diego	County of San Diego DPW	County of San Diego DPW
Gillespie Landfill	County of San Diego	County of San Diego DPW	County of San Diego DPW
Golf Course Landfill	Department of the Navy	Department of the Navy	Department of the Navy
Hillsborough Landfill	County of San Diego	County of San Diego DPW	County of San Diego DPW
Maxson Street Landfill	City of Oceanside	City of Oceanside DPW	City of Oceanside DPW
Mission Bay Landfill	City of San Diego	City of San Diego	City of San Diego
NTC Landfill	Department of the Navy	Department of the Navy	Department of the Navy
Paradise Hills Park Landfill	City of San Diego	County of San Diego DPW	City of San Diego County of San Diego DPW
Rainbow Canyon Landfill	333 Trust	Unknown	333 Trust
San Pasqual Burn Site	County of San Diego	County of San Diego DPW	County of San Diego DPW
South Chollas Landfill	City of San Diego	City of San Diego	City of San Diego
Spanish Bight Landfill	Department of the Navy	Department of the Navy	Department of the Navy

# Appendix II to Information Sheet

## Part B – Significant Regional Water Quality Issues

### 1. Laguna Beach Burn Dump Site

*Staff Contact: Amy Grove*

The City of Laguna Beach (City) recently notified the San Diego Water Board that wastes from a legacy burn dump site located on City property were exposed, eroded, and redeposited on residential properties and in Laguna Canyon Creek last winter following heavy rain events. The Laguna Beach Burn Site (or Site) is located in a ravine tributary to Laguna Canyon Creek, and was an unpermitted, privately owned and operated burn dump for residential household and agricultural waste from the early 1950s until 1972. According to the City, it was unaware of the burn dump's existence when it purchased the property in 1991.

The City reported that torrential rains in the early hours of December 22, 2010 generated a significant volume of storm water runoff in the ravine traversing the Site. The runoff scoured the banks of the ravine, and transported a substantial volume of burn ash (the byproduct of the open burning of waste), waste debris, and contaminated soils throughout the length of the ravine, and onto downstream residential properties. The affected residential property owners conducted some cleanup to remove debris and sediment from their properties. Additionally, property owners constructed a retaining wall in an attempt to prevent burn site wastes from washing onto their properties. The amount of trash and contaminants transported to Laguna Canyon Creek has not yet been determined.

In the spring of 2011, the City completed a preliminary site investigation to assess the nature and extent of the burn site waste materials and contaminated soils, and to evaluate the potential human health risks and environmental impacts associated with the Site. Preliminary site investigation results indicate the presence of heavy metals, dioxins, organochlorine pesticides (i.e., DDE, DDT), and polynuclear aromatic hydrocarbons in sediment samples collected from the stream and from downstream impacted residential properties. Some of the same pollutants have been detected in historical samples collected from Laguna Canyon Creek. Laguna Canyon Creek is listed on the 2010 Clean Water Act Section 303(d) List of Water Quality Limited Segments as impaired for toxicity and sediment toxicity from an unknown source.

In anticipation of the upcoming rainy season, staff from the Land Discharge Unit are working with the Orange County Health Care Agency, the Department of Fish and Game, Department of Toxic Substances Control, the Army Corps of Engineers, and the City to develop interim measures that can be implemented immediately to prevent further erosion, transportation, and deposition of burn ash and contaminated soils onto residential properties and into Laguna Canyon Creek. Concurrently, staff is also coordinating with all stakeholders to develop long-term options for stabilizing and regulating the site, and to develop cleanup goals for the mitigation of impacts to human health and the environment.



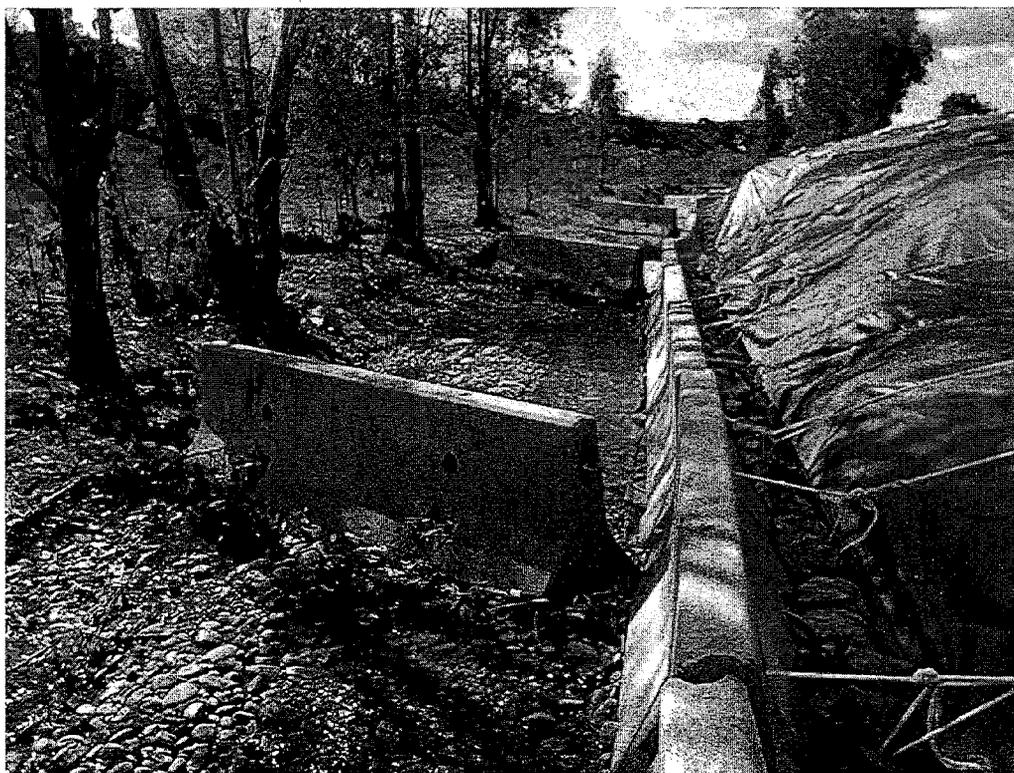
# Appendix III to Information Sheet

### 3. Waste Containment for an Inactive Landfill at Marine Corps Air Station Miramar

*Staff Contact: Beatrice Griffey*

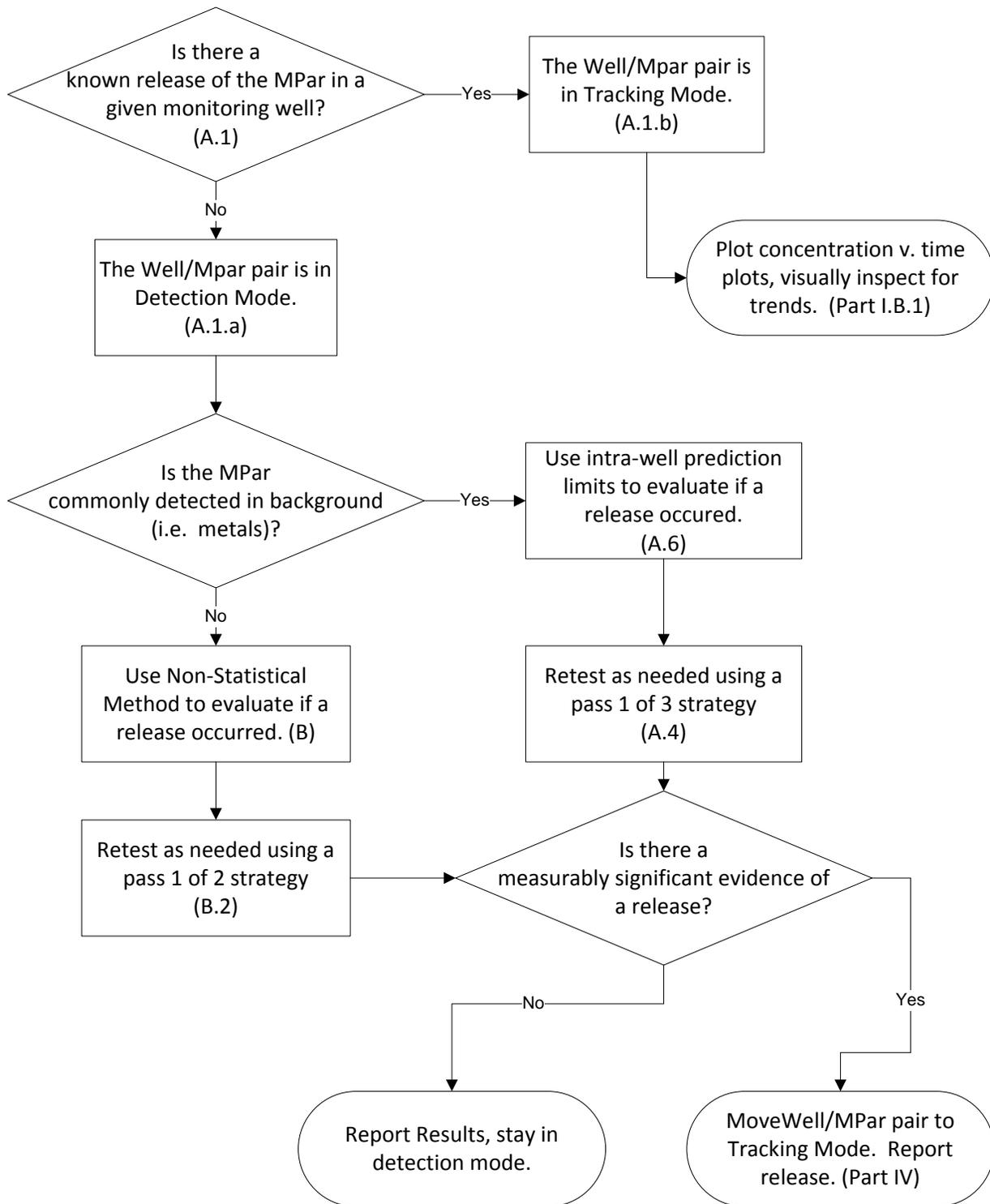
This fall, the Department of the Navy and the Marine Corps expedited a project to protect the existing cover on an inactive landfill at Marine Corps Air Station Miramar for the upcoming rainy season. With the coordinated efforts of San Diego Water Board Cleanup and Storm Water staffs, the Navy and Marine Corps identified and installed temporary best management practices (BMPs) to limit erosion and contain the wastes at the facility. As shown in below, a plastic membrane cover was installed to contain the waste, and was anchored with rock bags and tie-down ropes attached to concrete K-rails. The K-rails, at the foot of the slope and at angles to the slope, also help deflect storm water flow away from the landfill.

The inactive landfill is located within San Clemente Canyon and is immediately adjacent to an ephemeral creek. The site received approximately 95,000 cubic yards of wastes from the 1940's until 1974 including construction demolition debris, ash wastes, 55-gallon drums, metals, organochlorine pesticides, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and dioxin/furans. Historically, the 5.9 acre landfill was periodically eroded and solid wastes were transported downstream by storm water during significant precipitation events. Site visits by staff following two separate rain events confirmed the temporary BMPs are performing well as shown below. Following this rainy season, the Navy and Marine Corps plan to install an engineered cover and BMPs to permanently prevent erosion and contain the wastes.



# Appendix 4 to Information Sheet

## Appendix 4. Flow Chart for Statistical Analysis Under Monitoring and Reporting Program Order No. R9-2012-0002



Note: References in parentheses refer to Part III of Order No. R9-2012-0002 unless otherwise indicated.