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Attorneys for Petitioner
ROHR, INC., a Delaware corporation

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of ROHR, INC., FOR REVIEW OF CLEANUP AND ABATEMENT ORDER NO. R9-2014-019 ISSUED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO REGION	**PETITION FOR REVIEW OF SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD CLEANUP AND ABATEMENT ORDER NO. R9-2014-019** **REQUEST TO HOLD PETITION IN ABEYANCE**

By this Petition, Rohr, Inc., a Delaware corporation ("Petitioner" or "Rohr"), seeks review of Cleanup and Abatement Order No. R9-2014-019 issued by the California Regional Water Quality Control Board for the San Diego Region ("SDRWQCB") concerning property formerly owned and occupied by Petitioner.

Petitioner requests that this Petition be held in abeyance pending submittal, review and approval by the SDRWQCB of the Remedial Action Plan (RAP) for groundwater required pursuant to Directive G of the Cleanup and Abatement Order.

I. NAME AND ADDRESS OF PETITIONER

Rohr, Inc.
850 Lagoon Drive
San Diego, CA 91910-2098

Petitioner may be contacted through the above-referenced counsel.

II. THE SPECIFIC ACTION OR INACTION FOR WHICH REVIEW BY THE STATE BOARD IS REQUESTED

Petitioner seeks review of Cleanup and Abatement Order No. R9-2014-019 issued by the California Regional Water Quality Control Board for the San Diego Region. A copy of CAO No. R9-2014-019 is attached as Exhibit A.

III. DATE ON WHICH THE SDRWQCB ACTED

June 24, 2014.

IV. STATEMENT OF THE REASONS THE ACTION OR FAILURE TO ACT WAS INAPPROPRIATE OR IMPROPER

Cleanup and Abatement Order No. R9-2014-019 ("CAO") pertains to the former south campus ("South Campus") of Rohr's Chula Vista aircraft manufacturing facility. The South Campus is now under the ownership of the Port of San Diego. Directive G of the CAO requires preparation of a Remedial Action Plan ("RAP") that addresses the groundwater impacts for the South Campus. The CAO states that "[a]ll cleanup activities associated with groundwater shall be completed no later than October 31, 2024." Directive Q of the CAO requires submittal of the Final Cleanup and Abatement Completion Report verifying completion of the groundwater RAP by December 31, 2024.

Petitioner is concerned about these requirements for a number of reasons. First, the cleanup activities to be implemented under the CAO are currently being evaluated but have not yet been defined and approved. The RAP (which is due on April 18, 2015, under Directive G of the CAO) will include a feasibility analysis evaluating whether or not it is technologically and economically feasible to clean up the impacted groundwater to background water quality conditions and, if not, will propose alternative cleanup levels less stringent than background that will comply with Resolution No. 92-49. The ultimate cleanup activities to be implemented will depend on the outcome of the feasibility analysis and the SDRWQCB's future decisions considering feasibility, cost, duration and other factors. Establishing a ten-year deadline for completion of all implementation activities prejudges the outcome of that process to some degree and limits Petitioner's opportunity to obtain approval of a cleanup program of longer duration that poses no greater threat to human health or the environment that a cleanup of shorter duration.

Second, depending upon how "all cleanup activities" is defined, it may result in a mandate that is effectively technically impossible to comply with. Groundwater remedial case histories for chlorinated-solvent plumes are well-established reflecting a consistent pattern of long-term remedial efforts. Long-term groundwater treatment, long-term monitoring, and well decommissioning are all potentially within the definition of "clean-up activities," yet cannot realistically be completed within ten years.

V. THE MANNER IN WHICH PETITIONER IS AGGRIEVED

See Section IV.

VI. SPECIFIC ACTION BY THE STATE OR REGIONAL BOARD WHICH PETITIONER REQUESTS

Petitioner proposes that the Cleanup and Abatement Order be modified as follows:

(1) Include a requirement that, following approval by the SDRWQCB of the proposed cleanup plan, a detailed implementation description and schedule be submitted to and approved by the SDRWQCB, including remedial goals with estimated schedules for completion of specific activities; and

(2) Direct that the individual activities described in the cleanup plan be implemented within a specified period and completed within the time frame set forth in the approved schedules, and that the Final Cleanup and Abatement Completion Report verifying completion of the groundwater RAP be submitted within a reasonable time frame following full implementation of the RAP.

This will allow Petitioner to propose cleanup measures that may require more than ten years to implement, and will allow for the flexibility to conduct and complete specific activities within defined periods (with longer-term activities, such as monitoring, to proceed over a longer period) rather than having a single deadline for completion of all activities and submittal of a completion report.

VII. STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION

Petitioner will provide a detailed statement of points and authorities in the event that, following submittal and review of the RAP, the SDRWQCB declines to approve the timeline proposed by Petitioner for implementation and of the groundwater remediation and submittal of the Final Cleanup and Abatement Completion Report

VIII. A STATEMENT THAT THE PETITION HAS BEEN SENT TO THE APPROPRIATE REGIONAL BOARD AND TO THE DISCHARGERS, IF NOT THE PETITIONER

A copy of this Petition has been sent to the Executive Officer of the SDRWQCB, together with counsel and staff.

IX. A STATEMENT THAT THE ISSUES RAISED IN THE PETITION WERE PRESENTED TO THE REGIONAL BOARD BEFORE THE REGIONAL BOARD, OR AN EXPLANATION OF WHY THE PETITIONER COULD NOT RAISE THOSE OBJECTIONS BEFORE THE REGIONAL BOARD

The Petition seeks review of a Cleanup and Abatement Order, which is a final administrative decision that requires no hearing, review or further action by the SDRWQCB. *Machado v. State Water Resources Control Board,* 90 Cal.App.4th 720, 725-728 (2001). Accordingly, there was no available administrative remedy or process, following issuance of the CAO, for presentation of further evidence or argument to the SDRWQCB regarding the issues raised by this Petition. The sole remedy is a petition to the State Water Resources Control Board.

In response to the Tentative Cleanup and Abatement Order that preceded the final CAO, Petitioner submitted formal comments, including an objection to the deadline in Directive G for completion of the groundwater remediation (which, in the Tentative Order, was October 30, 2020). A copy of Petitioner's comments is attached as Exhibit B. In response to these comments, the SDRWQCB made revisions in the final CAO, including extending the foregoing deadline to October 31, 2024, and adding that "an extension of time may be granted for good cause."

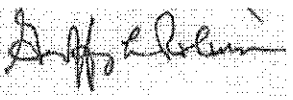
X. REQUEST THAT PETITION BE HELD IN ABEYANCE.

Petitioner requests that this Petition be held in abeyance by the State Board pending submittal, review and approval by the SDRWQCB of the groundwater RAP pursuant to Directive G of the CAO, currently due in April 2015. Petitioner has worked cooperatively with the

SDRWQCB regarding the investigation and remediation of the South Campus, and is optimistic that the issues presented by this Petition can be resolved in the context of review and approval of the RAP and accompanying implementation schedule.

DATED: July 23, 2014

PERKINS COIE LLP

By: 

Geoffrey L. Robinson
Attorneys for Petitioner, Rohr, Inc.

EXHIBIT A

TO PETITION FOR REVIEW

SCRWQCB CAO R-9-2014-0019

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

CLEANUP AND ABATEMENT ORDER NO. R9-2014-0019

AN ORDER DIRECTING ROHR AND GOODRICH CORPORATION TO CLEANUP AND ABATE THE EFFECTS OF WASTE AND SUBMIT TECHNICAL AND MONITORING REPORTS PERTAINING TO CORRECTIVE ACTIONS AT THE FORMER ROHR/GOODRICH SOUTH CAMPUS FACILITY, CHULA VISTA, SAN DIEGO COUNTY

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

1. **Cleanup and Abatement Order No. 98-08.** In 1998, the San Diego Water Board issued to Rohr, Inc., operating as BF Goodrich Aerospace Aerostructures Group, and its parent company, the BF Goodrich Company, Cleanup and Abatement Order (CAO) No. 98-08.[1] CAO No. R9-2014-0019 supplements the provisions of CAO No. 98-08. Except as superseded by the findings and directives set forth in this CAO, all of the previous findings and directives of CAO No. 98-08 remain in full force and effect. CAO No. 98-08 addresses the cleanup and abatement of wastes discharged at the property located at the foot of H Street in Chula Vista, California. The property consists of a North Campus Facility and a South Campus Facility (Figure 1). CAO No. 98-08 includes directives to (1) provide a site-wide environmental site assessment, (2) conduct a comprehensive storm water runoff sampling program, (3) conduct a comprehensive storm water conveyance system investigation, (4) perform a site-wide data compilation and evaluation, and (5) conduct interim remedial actions. The first four directives have been completed, and all subsequent activities have been conducted as interim remedial measures pursuant to the fifth directive (described in Finding 19 below).

2. **Scope of Cleanup and Abatement Order No.** R9-2014-0019. This CAO only addresses the cleanup and abatement of wastes discharged to land and groundwater from the former South Campus Facility.[2] The South Campus Site encompasses all on-site and off-site areas affected by waste

[1] Pursuant to Cleanup and Abatement Order No. 98-08, the Dischargers conducted site investigations, completed interim remedial actions, and submitted technical and monitoring reports described in the Technical Report.

[2] The South Campus Facility is comprised of Assessor's Parcel Numbers (APN) 571-330-2100, 760-235-6700, 571-330-1200, 571-330-2600, 760-235-5000, and 760-235-5500 and a portion of San Diego Unified Port District plat numbers 032-004, 032-005, and 031-018 (Figure 1).

discharges from the South Campus Facility. All wastes discharged to soil and groundwater at the South Campus Site must be identified and cleaned up, and the discharge of any wastes to San Diego Bay or other adjacent land or groundwater must be abated.

A subsequent investigative order will be necessary to characterize the types of wastes discharged from landside sources to the marine sediments in San Diego Bay, the extent of those wastes, and whether those wastes have resulted in sediment quality that does not meet the sediment quality objectives in the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality* (Bays and Estuaries Plan). Soil and groundwater must be cleaned up and waste discharges to San Diego Bay abated prior to conducting sediment assessment activities and potential remedial actions in San Diego Bay. This will prevent recontamination of the marine sediments in the bay. This CAO, once fully executed, is expected to prevent waste discharges from the South Campus Facility to San Diego Bay.

3. **Legal and Regulatory Authority.** This CAO conforms to and implements policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with Water Code section 13000) including but not limited to (1) sections 13267 and 13304; (2) applicable State and federal regulations; (3) all applicable provisions of statewide Water Quality Control Plans adopted by the State Water Resources Control Board (State Water Board) and the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) adopted by the San Diego Water Board including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board policies and regulations, including State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California;* Resolution No. 88-63, *Sources of Drinking Water;* and Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under California Water Code Section 13304;* applicable sections of California Code of Regulations (CCR) Title 23, and (5) relevant standards, criteria, and advisories adopted by other State and federal agencies.

4. **Persons Responsible for the Discharge of Waste.** Beginning in 1941, Rohr Aircraft Corporation manufactured structural and engine components for use in the aviation and aerospace industry at the foot of H Street in Chula Vista, California. The company incorporated in 1969 as Rohr Corporation and subsequently became Rohr Industries in 1971 and Rohr, Inc. in 1992. Following BF Goodrich Company's 1997 acquisition of Rohr, Inc., (see Finding 5, below), Rohr, Inc., continued operating as BF Goodrich Aerospace Aerostructures Group. Rohr, Inc., operating as BF Goodrich Aerospace Aerostructures Group, and Rohr, Inc.'s predecessors, including but not limited to Rohr Aircraft Corporation, Rohr Corporation and Rohr Industries, Inc. are hereinafter collectively referred to as "Rohr."

5. In 1997, BF Goodrich Company acquired Rohr, Inc., as a wholly-owned corporate subsidiary. In 2001, BF Goodrich Company changed its name to Goodrich Corporation. On July 26, 2012, United Technologies Corporation (UTC) acquired the stock of Goodrich Corporation. Goodrich Corporation is now a wholly-owned subsidiary of UTC. Following the transaction, Goodrich Corporation continues to exist as a corporate entity and all current Goodrich operating businesses continue to exist in the name of Goodrich or a Goodrich subsidiary.

6. Rohr and Goodrich Corporation are referred to collectively as "Dischargers" in this CAO.

7. **Unauthorized Discharge of Chemical Waste.** The property consists of a North Campus Facility and a South Campus Facility. The North Campus Facility is approximately 86 acres and is bounded by F & G Street Marsh to the north, Bay Boulevard to the east, Marina Parkway to the west, and the proposed extension of H Street to the south. The South Campus Facility is approximately 59 acres and is bounded by the proposed extension of H Street to the north, Bay Boulevard to the east, and Marina Parkway and a former wetlands drainage ditch (L-Ditch) to the southwest and west, respectively.

   In 1999, ownership of the property occupied by the South Campus Facility was transferred from Rohr to the San Diego Unified Port District (Port). In 2002, Rohr vacated the property and moved all manufacturing operations to the North Campus Facility. In 2007, the Port demolished all of the South Campus Facility buildings in preparation for redevelopment activities[3] with the exception of building foundations, slabs, pavement, and subsurface utilities.[4] Port staff is currently preparing plans for the next phase of demolition at the South Campus Facility for consideration and approval by the Board of Port Commissioners. The plans will occur in phases, which will include the removal of building slabs, roadways, pavements, and the entire storm water conveyance system (SWCS) including the 84-inch culvert that traverses the northern portion of the Facility. The SWCS consists of storm drain inlets, box drains, and laterals that drain storm water from the South Campus Facility to San Diego Bay

[3] The Chula Vista Bayfront Master Plan (CVBMP) is a joint master planning process of the Port and the City of Chula Vista. It incorporates a Conceptual Plan for the redevelopment of this land that relies on the Polanco Redevelopment Act and the California Land Reuse and Revitalization Act of 2004. The purpose of the project is to develop a master plan that transforms the Chula Vista waterfront into a resort and conference destination. The proposed land uses include mixed use office/commercial, recreation, hotel, residential, and cultural/retail (Figure 3). The California Coastal Commission approved the CVBMP on August 9, 2012.

[4] No residential uses are proposed on the former South Campus Facility. Residential uses are proposed on Parcels H-13 and H-14 (Figure 1).

through 3 major outfalls (Outfall Nos. 2, 3, and 4; Figure 2). Upon completion of the demolition, the South Campus Facility will be graded to allow storm water sheet flow to (1) discharge into the sand filter drainage trench (former L-Ditch), (2) discharge into the San Diego Gas & Electric power line easement where a future drainage project is being planned by Port staff, or (3) discharge into another conveyance system.

The types and levels of waste constituents found in the soil and groundwater at the South Campus Site are associated with the waste discharges from the historical manufacturing operations at the South Campus Facility. As such, they are wastes as defined in Water Code section 13050(d). These waste constituents consist of chlorinated solvents, metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs).[5] Over time, wastes discharged from the manufacturing operations into soil and groundwater at the South Campus Site caused violations of applicable water quality standards for groundwater. The discharges of wastes from the manufacturing operations to soil and groundwater, as well as continued migration of wastes in groundwater, have caused the concentrations of waste constituents in the groundwater to exceed applicable water quality objectives and have therefore created a condition of pollution in waters of the State as defined in Water Code section 13050(l). The adverse changes in groundwater quality caused by the waste discharges are a contributing cause of interference with the Municipal and Domestic Supply (MUN)[6] designated beneficial use, and are potentially injurious to the public health. This water quality condition caused by the discharge constitutes a nuisance condition because it potentially interferes with and complicates the use of groundwater for drinking water purposes, and may be considered an obstruction to the free use of property as provided in Water Code section 13050(m).

Furthermore, pathways exist through which waste constituents from the South Campus Facility could have potentially migrated to San Diego Bay. The SWCS at the South Campus Facility provided and continues to provide a direct pathway for waste constituents in sediments to be discharged into San Diego Bay via storm water flow. The groundwater flow system also provides a pathway for dissolved constituents in groundwater to be discharged into pore water in bay bottom sediments, and into the water column of San Diego Bay. Waste discharges to San

[5] "Waste" is very broadly defined in Water Code section 13050(d) and 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, processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

[6] See Basin Plan, page 2-3. The Basin Plan defines MUN as "uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."

Diego Bay via these pathways have the potential to cause a condition of pollution and/or nuisance in San Diego Bay pursuant to Water Code section 13050.

8. **Basis for Cleanup and Abatement Order.** Water Code section 13304 contains the authority for the San Diego Water Board to require cleanup and abatement of pollution caused by discharges of wastes. Water Code section 13304 requires a person to clean up waste or abate the effects of the waste discharge if so ordered by a regional water board in the event there has been a discharge in violation of waste discharge requirements, or if a person has caused or permitted waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State and creates or threatens to create a condition of pollution or nuisance. Therefore, based on the findings in this CAO the San Diego Water Board is authorized to order the Dischargers to cleanup and abate the effects of the waste discharge(s).

9. **Basis for Requiring Technical and Monitoring Reports.** Water Code section 13267 provides that the San Diego Water Board may require dischargers, past dischargers, or suspected past or present dischargers to furnish those technical or monitoring reports as the San Diego Water Board may specify, provided that the burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring the reports, the San Diego Water Board must provide the person with a written explanation with regard to the need for the reports, and identify the evidence that supports requiring that person to provide the reports.

10. **Need for and Benefit of Technical and Monitoring Reports.** Technical reports and Monitoring reports (in addition to those provided to date, as described in the Technical Report) are needed to provide information to the San Diego Water Board regarding (a) the nature and extent of the waste discharge, (b) the nature and extent of pollution conditions in State waters created by the discharge, (c) the threat to public health posed by the discharge, and (d) identification of appropriate site-specific cleanup and abatement measures. The reports will enable the San Diego Water Board to determine the vertical and lateral extent of the discharge, ascertain if the condition of pollution poses a threat to human health in the vicinity of the South Campus Site, and provide technical information to determine what cleanup and abatement measures are necessary to bring the South Campus Site into compliance with this CAO. Based on the nature and possible consequences of the discharge from the South Campus Facility, the Dischargers burden of providing the required reports, including the costs, bears a reasonable relationship to the need for the reports, and the benefits to be obtained from the reports.

11. **Cleanup Levels.** State Water Board Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges*

Under California Water Code Section 13304, sets forth the policies and procedures to be used during an investigation or cleanup of a discharge of waste and requires that cleanup levels be consistent with State Water Board Resolution No. 68-16, the *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Resolution No. 92-49 applies to the cleanup and abatement of the effects of waste discharges at the South Campus Site.

Resolution No. 92-49 requires that dischargers clean up and abate the effects of discharges in a manner which promotes the attainment of background water quality, or the best water quality which is reasonable if background water quality cannot be restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. Any alternative cleanup level greater than background must (1) be consistent with the maximum benefit to the people of the State; (2) not unreasonably affect present and anticipated beneficial use of waters of the State; and (3) not result in water quality less than that prescribed in the Basin Plan and applicable Water Quality Control Plans and Policies of the State Water Board.

12. **California Environmental Quality Act Compliance.** The issuance of this CAO is an enforcement action taken by a regulatory agency and is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to section 15321 (a) (2), Chapter 3, Title 14 of the CCR. Further, the San Diego Water Board finds with certainty that there is no possibility that adoption of this CAO will have a significant effect on the environment and is not subject to CEQA, pursuant to section 15061(b)(c), Chapter 3, Title 14 of the CCR. If the San Diego Water Board later determines that work proposed in the Remedial Action Plan may have a significant effect on the environment, the San Diego Water Board will evaluate whether additional CEQA compliance is necessary at that time and will require the Dischargers to provide adequate documentation to support compliance with CEQA.

13. **Qualified Professionals.** The Dischargers' reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation and cleanup and abatement activities. Professionals shall be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of licensed professionals.

14. **Cost Recovery.** Pursuant to Water Code section 13304, and consistent with other statutory and regulatory requirements, including but not limited to Water Code section 13365, the San Diego Water Board is entitled to, and will seek reimbursement for all reasonable costs actually incurred by

the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action required by this CAO.

HUMAN HEALTH RISKS

15. **Human Health Risks from Exposure to Wastes Discharged.** There are potential adverse health risks to humans during and after site redevelopment activities due to the wastes discharged to soil and groundwater from the South Campus Facility. Based on the results of the exposure area-specific risk assessment, there are potential cancer and non-cancer risks to the following receptors:[7]

- On-site construction worker during site redevelopment;
- On-site landscaper (including utility worker) after site redevelopment;
- On-site commercial/industrial worker after site redevelopment; and
- On-site hotel guest (including recreational user) after site redevelopment.

16. **Exposure Areas Posing Unacceptable Risk.** The exposure areas at the South Campus Site requiring remedial action to protect the on-site receptors identified in Finding 15 above are shown in Figure 4 and listed below.

Exposure Area	Location
EA-1	Northwest corner of the South Campus Site
EA-2	Salvage Yard
EA-3	Northern portion of Building 45
EA-4	Northern portion of Building 45
EA-5	Central portion of Building 45
EA-7	Central portion of Building 3
EA-8	Southern portion of Building 3
EA-9	Pretreatment Area
EA-10	West of Building 30
EA-11	Northern portion of Building 30
EA-12	Central portion of Building 30
EA-13	Southern portion of Building 30
EA-16	Chemical Storage Area

[7] There are no potential adverse health risks to the (1) off-site commercial worker prior to, during, and after site redevelopment, (2) off-site recreator in the Marina, and (3) hypothetical off-site, up-gradient municipal groundwater supply user. Also, there are no potential adverse health risks to future residents on Parcels H-13 and H-14 from inhalation of vapors in buildings due to possible subsurface vapor intrusion.

17. **Human Health Risk Drivers.** The chemicals of concern that are risk drivers in soil, groundwater, and soil gas are summarized below. These risk drivers exceed the cumulative incremental lifetime cancer risk (ILCR) and/or total noncancer hazard index (HI) thresholds at one or more of the exposure areas identified in Finding 16 above.

Soil	Groundwater	Soil Gas
1,1,1-TCA	1,1-DCE	1,1-DCA
1,1-DCA	carbon tetrachloride	1,1-DCE
2-butoanone (methyl ethyl ketone)	Chloroform	bromodichloromethane
PCB Aroclor 1248	cis-1,2-DCE	cis-1,2-DCE
PCB Aroclor 1254	hexavalent chromium	PCE
PCB Aroclor 1260	PCE	TCE
benzo(a)pyrene	TCE	vinyl chloride
benzo(b)fluoranthene	vinyl chloride	
Cadmium		
cis-1,2-DCE		
Copper		
hexavalent chromium		
indeno(1,2,3-cd)pyrene		
Lead		
Nickel		
PCE		
TCE		
vinyl chloride		
Xylenes		

ADDITIONAL ASSESSMENT

18. **Soil and Groundwater.** The South Campus Site has not been tested for the potential presence of elevated pesticide concentrations in soil and groundwater. Pesticides can pose potential adverse health risks to the following on-site receptors:

- On-site construction worker during site redevelopment;
- On-site landscaper (including utility worker) after site redevelopment;
- On-site commercial/industrial worker after site redevelopment; and
- On-site hotel guest (including recreational user) after site redevelopment.

Pesticides can also pose potential adverse risks to three target receptors in San Diego Bay: aquatic life – benthic community, aquatic-dependent wildlife, and humans. San Diego Bay beneficial uses applicable to each of these target receptors are shown in the table below.

Beneficial Uses	Target Receptors
Estuarine Habitat	Aquatic Life - Benthic Community
Marine Habitat	Aquatic Life - Benthic Community
Rare, Threatened, or Endangered Species	Aquatic-Dependent Wildlife
Wildlife Habitat	Aquatic-Dependent Wildlife
Commercial and Sport Fishing	Human Health
Shellfish Harvesting	Human Health

If elevated pesticide concentrations are present in soils beneath the South Campus Site, these impacted soils could have been discharged into San Diego Bay via the SWCS. A subsequent investigative order will be necessary to characterize the types of wastes discharged from landside sources to the marine sediments in San Diego Bay, the extent of those wastes, and whether those wastes have resulted in sediment quality that does not meet the sediment quality objectives in the Bays and Estuaries Plan.

ADDITIONAL REMEDIATION

19. **Soil.** Pursuant to Directive E of CAO No. 98-08, interim remedial actions have been initiated at the South Campus Site. Additional soil remedial actions are needed at the following specific Areas of Concern (AOCs; Figure 5):

    a. **Historical SWCS Outfalls.** Additional soil characterization and/or remediation is needed for two remaining areas with impacted soils adjacent to the L-Ditch. These areas are:

        i. Area near the historical SWCS outfall immediately south of former Building 30. This area is within the South Campus Exchange Parcel.[8]

        ii. Area near the historical SWCS outfall immediately south of former Building 42 where discolored soil and construction debris were observed during the excavations.

    b. **Source Areas.** Eight source areas were identified based on soil samples collected from borings during the 1999 site-wide investigation and the 2000 supplemental investigation. Two of eight source areas

[8] The South Campus Exchange Parcel is the portion of the South Campus Site subject to an exchange agreement between the San Diego Unified Port District and Pacifica Companies (Figure 9).

have not been excavated and must be addressed in the near future under the approved work plan: Building 45 - Boring 130 and Pretreatment Area – Boring 164.

c. **Soil Boring Locations.** Soil characterization and/or remediation is needed at the following historical soil boring locations: Borings 124, 141, DP-13, 159, 028, B58-SSW-05, B164W, B164S, B164E, 151, 076, 078, 080, and 077. These locations exceed the health-based remediation criteria developed for the Site.

20. **Groundwater.** Remedial actions are needed to restore groundwater quality to levels that support the designated beneficial uses of the groundwater underlying the South Campus Site (encompasses all on-site and off-site areas affected by waste discharges from the South Campus Facility) and San Diego Bay. Figures 6, 7, and 8 show TCE contours in Zone A, Upper Zone B, and Lower Zone B groundwater, respectively.

CONCRETE ASSESSMENT

21. **Limited Concrete Assessment.** The Port conducted limited sampling of the concrete surface, expansion joint material, and coating material throughout the former South Campus Facility. Samples were analyzed for metals and PCBs. Based on the analytical results, a number of samples had concentrations at hazardous or potentially hazardous waste levels as shown in the table below. Waste levels exceeding the Total Threshold Limit Concentration (TTLC) are classified as a hazardous waste under CCR Title 26. Waste levels less than the TTLC, but greater than 10 times the Soluble Threshold Limit Concentration (STLC) and/or 20 times the Toxicity Characteristic Leaching Procedure (TCLP) are potentially classified as a hazardous waste under CCR Title 26. Further testing is needed to determine final waste classification (Waste Extraction Test).

	Total # Samples	Hazardous Waste Samples	Potential Hazardous Waste Samples	Non-Hazardous Waste Samples
Concrete	86	5	33	48
Expansion Joint Material	30	7	20	3
Coating Material	17	8	2	7

22. **Additional Concrete Assessment.** The Port and the Dischargers submitted a work plan titled *"Revised In-Situ Concrete Characterization and Waste Profiling Work Plan"* to further characterize the concrete pavement throughout the former South Campus Facility. The sampling density is more focused in the South Campus Exchange Parcel and as

such, additional samples may be required to fully characterize the concrete pavement for the remainder of the South Campus Site. Pursuant to the work plan, the Dischargers will collect surface concrete samples and concrete core samples. All surface and concrete core samples will be (1) analyzed for metals, hexavalent chromium, PCBs, total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs), and (2) evaluated for waste characterization purposes for potential disposal at a permitted landfill.

23. **Waste in Concrete, Asphalt, and Joint Compound Material.** The types and levels of wastes found in the concrete, asphalt, and joint compound are associated with the waste discharges from historical manufacturing operations at the South Campus Facility. As such, they are wastes defined in Water Code section 13050(d). The San Diego Water Board is authorized to order the Dischargers to cleanup and abate the effects of wastes pursuant to Water Code section 13304.

In 2007, the Port demolished all of the South Campus facility buildings in preparation for redevelopment activities with the exception of the building foundations, slabs, pavement, and subsurface utilities. Since then, the wastes in concrete, asphalt, and joint compound material have been exposed to the environment. Pollutants in these media can be eroded and transported into San Diego Bay via the wind and/or storm water runoff. This discharge may adversely affect three target receptors in San Diego Bay: aquatic life- benthic community, aquatic-dependent wildlife, and humans. San Diego Bay beneficial uses applicable to each of these target receptors are shown in the table below.

Beneficial Uses	Target Receptors
Estuarine Habitat	Aquatic Life - Benthic Community
Marine Habitat	Aquatic Life - Benthic Community
Rare, Threatened, or Endangered Species	Aquatic-Dependent Wildlife
Wildlife Habitat	Aquatic-Dependent Wildlife
Commercial and Sport Fishing	Human Health
Shellfish Harvesting	Human Health

DEMOLITION ENVIRONMENTAL MONITORING

24. **Demolition Environmental Monitoring Plan.** The Dischargers submitted a report titled "Demolition Environmental Monitoring Plan" (DEMP) to screen for and respond to potential new environmental concerns (NECs) identified during pavement and foundation demolition and earthwork activities at the former South Campus Facility. The objectives of the Plan are to present the procedures to:

a. Screen exposed soils, removed concrete pavement, and excavated subsurface structures for potential NECs during demolition and earthwork activities;

b. Assess potential NECs, if identified, and evaluate whether soil or groundwater remediation may be warranted;

c. Delineate NECs and either excavate and dispose the soil off-site as a presumptive remedy if localized and small in volume, or document their location and evaluate remedial alternatives for the NECs in the feasibility study;

d. Evaluate reuse options for soil and demolition debris containing chemicals;

e. Characterize excavated soil, surface pavements, building foundations, other subsurface structures, and subsurface utilities for off-site disposal or on-site reuse;

f. Control and track movement and final disposition of excavated soil, surface pavements, building foundations, other subsurface structures, and subsurface utilities that have been exposed to chemicals and are reused on-site;

g. Protect existing environmental monitoring wells during demolition and initial subsurface utility installation activities;

h. Protect remaining soil remediation areas during pavement removal; and

i. Manage storm water at and around NECs

STORM WATER MANAGEMENT RESPONSIBILITIES

25. **Storm Water Management Responsibilities.** The Port is responsible for managing storm water as part of the demolition it undertakes. The Dischargers are also responsible for managing storm water as part of the cleanup until the wastes discharged from the South Campus Site are remediated.

a. The Port is enrolled in and is responsible for managing storm water in accordance with Order No. 2009-0009-DWQ, *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities;*

b. The Port is also responsible for managing storm water in accordance with Order No. R9-2013-0001, *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region;*

c. The Dischargers are also responsible for managing storm water for all known soil remediation areas that are identified in soil Remedial Action Plans (RAPs) for the South Campus Exchange Parcel and the remainder of the South Campus Site until the wastes are remediated; and

d. The Dischargers are also responsible for managing storm water for all NECs identified during pavement and foundation demolition and earthwork activities at the South Campus Site until the wastes are remediated.

DIRECTIVES

IT IS HEREBY ORDERED that, pursuant to sections 13267 and 13304 of the Water Code, the Dischargers shall comply with the following Directives:

A. **CLEANUP AND ABATE DISCHARGES.** Continue to take all corrective actions necessary to cleanup and abate the effects of the discharge in soil and groundwater beneath and adjacent to the South Campus Site in a manner that promotes attainment of background water quality unless the Dischargers determine that it is technologically or economically infeasible[9] to do so in the feasibility analysis required in Directives E, F, G, I, and J. This CAO may be amended if the San Diego Water Board agrees that it is not feasible to cleanup to background water quality conditions and that it is feasible to cleanup to alternative cleanup levels less stringent than background in compliance with State Water Board Resolution No. 92-49.

B. **SOIL AND GROUNDWATER CLEANUP LEVELS.** Cleanup and abate the effects of the discharge in soil and groundwater to the following background levels:

[9] Cal. Code Regs., title 23, section 2550.4(c).

Chemical Group	Chemical Constituents	Soil Cleanup Levels (mg/kg)	Groundwater Cleanup Levels (ug/L)
Organic Chemicals	All	Non-Detect[1]	Non-Detect[2]
Inorganic Chemicals	Antimony	8	23
	Arsenic	8	65
	Barium	152	634
	Beryllium	0.50	2
	Cadmium	5	5
	Chromium (hexavalent)	5.7	See Directive C
	Chromium (total)	38	19
	Cobalt	47	10
	Copper	20	16
	Lead	15	7
	Mercury	0.25	0.41
	Molybdenum	3	114
	Nickel	83	466
	Selenium	8	54
	Silver	10	23
	Thallium	2	9
	Vanadium	74	118
	Zinc	38	173

NOTES:

1. The detection limits for all organic chemicals in soil shall not exceed the U.S. EPA Region 9 Regional Screening Levels (RSLs)[10] and the San Francisco Water Board Environmental Screening Levels (ESLs)[11].

2. The detection limits for all organic chemicals in groundwater shall not exceed the Maximum Contaminant Levels (MCLs)[12].

C. **BACKGROUND CONCENTRATION OF HEXAVALENT CHROMIUM IN GROUNDWATER.** Determine the site-specific background concentration of hexavalent chromium in groundwater beneath the South Campus Site.

1. Directive M.1 requires the Dischargers to submit a Groundwater Monitoring Program (GMP) work plan. The GMP work plan must be

[10] http://www.epa.gov/region9/superfund/prg/
[11] California Regional Water Quality Control Board – San Francisco Region, 2008. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. Revised Dec 2013.
[12] Table 64444-A of Section 64444 of Title 22 of the California Code of Regulations.

received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on June 30, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. In addition to the information required in Directive M.1, the GMP work plan shall also include the following:

a. The groundwater monitoring well network to be sampled for hexavalent chromium, the sampling frequency, and the analytical method to be used.

b. The methods to be used to monitor, purge, and sample the wells for hexavalent chromium.

c. A map showing the location of the groundwater monitoring wells to be sampled for hexavalent chromium.

2. Submit a technical report that, at a minimum, (1) summarizes the groundwater elevation data, analytical results, and laboratory QA/QC issues (if any), (2) discusses the methodology used to determine the background concentration of hexavalent chromium in groundwater, and (3) proposes the site-specific background concentration. The report must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 pm on October 30, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO.

D. **PESTICIDES WORK PLAN FOR SOUTH CAMPUS SITE.** Prepare a work plan to screen for the potential presence of pesticides in soil and groundwater beneath the South Campus Site. The work plan must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 pm on June 30, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO.

1. The work plan shall, at a minimum, contain the following information:

a. Rationale for the soil and groundwater sampling locations.

b. A map showing the sampling locations.

c. Proposed pesticide analyses.

d. Field implementation schedule

2. Submit a technical report that, at a minimum, (1) summarizes the completed field activities, (2) compares the soil analytical results to the U.S. EPA Region 9 RSLs and Effects Range Median concentrations

(ERM),[13] (3) compares the groundwater analytical results to the MCLs, (4) presents the conclusions and recommendations, and (5) includes figures and analytical laboratory reports. The report must be received by the San Diego Water Board and uploaded into the Geotracker database **within 90 days** after approval of the Technical Work Plan for Pesticides Screening. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO.

E. **SOIL REMEDIAL ACTION PLAN FOR SOUTH CAMPUS EXCHANGE PARCEL.** Prepare a soil Remedial Action Plan (RAP) for the South Campus Exchange Parcel (Figure 9). The soil RAP must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 pm on June 30, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The soil RAP shall, at a minimum, contain the following information:

1. The latest Conceptual Site Model (CSM) that describes or depicts the characteristics of the South Campus Exchange Parcel and the processes by which wastes discharged to soil may move from sources to human and/or ecological receptors. The latest CSM shall, at a minimum, address the following:

   a. Chemical identification – what potential contaminants, if any, are present in the soil and soil gas at the South Campus Exchange Parcel?

   b. Source identification – where did the potential contamination originate?

   c. Identification of potential contaminant migration pathways – how might potential contamination move from sources to receptors? Are the pathways complete, potentially complete, or incomplete?

   d. Receptor identification – who or what might the potential contamination affect?

   e. Boundary – will the CSM be limited to an AOC(s) or the South Campus Exchange Parcel, and will it extend off-site?

2. All AOCs requiring remedial action at the South Campus Exchange Parcel. Currently, the AOCs include those identified in Finding 16 and Finding 19.a.i.

[13] National Oceanic and Atmospheric Administration. 1999. Sediment Quality Guidelines developed for the National Status and Trends Program. June 12.

3. A summary of the L-Ditch remediation activities provided in the L-Ditch Remediation Completion Report (dated April 2012).

4. A Feasibility Study (FS) to evaluate whether or not it is technologically and economically feasible to clean up the discharges in a manner that promotes attainment of background water quality conditions. If not, the FS shall propose alternative cleanup levels less stringent than background that comply with Resolution No. 92-49.

   The FS shall, at a minimum, address all AOCs in Directive E.2. and contain the following information:

   a. An evaluation of a range of remedial alternatives capable of effectively cleaning up the pollutant source(s) in soil and soil gas (unless soil gas is attributed to groundwater impacts in which case it will be addressed in the groundwater RAP), and preventing migration of pollutants to San Diego Bay. The types of remedial alternatives, or combinations thereof, that should be considered are:

      - Source removal and/or isolation;
      - In-place treatment of soil;
      - Excavation of soil or extraction of soil gas for on-site or off-site treatment; and
      - Excavation of soil for appropriate recycling, re-use, or disposal.

   b. An evaluation of the cost and effectiveness of each alternative for the remediation of the waste constituents to attain a level of soil[14] cleanup that results in either attainment of background water quality, or alternative cleanup levels approved by the San Diego Water Board.

   c. A recommended remedial alternative(s) for the cleanup and/or abatement of wastes discharged. The recommended alternative(s) must be capable of achieving the respective cleanup levels for all waste constituents at all monitoring points and throughout the zone affected by the waste constituents, including any portions thereof that extend beyond the property boundary.

[14] Pursuant to the Basin Plan (p. 4-105), alternative cleanup levels in soil shall be established to ensure that residual leachable/mobile pollutants will not cause, or threaten to cause, exceedances of background water quality or alternative cleanup levels approved by the San Diego Water Board, or be a threat to human health or the environment.

5. A detailed description of all activities planned to implement the recommended alternative(s) in the RAP and a schedule for their completion ("RAP Implementation Schedule").

F. **INDIVIDUAL SOIL REMEDIAL ACTION PLANS FOR SOUTH CAMPUS EXCHANGE PARCEL.** Prepare individual soil RAPs for all NECs identified during pavement and foundation demolition, and earthwork activities at the South Campus Exchange Parcel. Each individual soil RAP must be received by the San Diego Water Board and uploaded into the Geotracker database **within 90 days** after the NEC has been identified. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The individual soil RAPs shall, at a minimum, contain the following information:

1. An updated CSM if the NEC has altered the latest CSM in Directive E.1.

2. A summary of the field activities pertaining to the identification and delineation of the NEC.

3. An FS to evaluate whether or not it is technologically and economically feasible to clean up the discharges in a manner that promotes attainment of background water quality conditions.[15] If not, the FS shall propose alternative cleanup levels less stringent than background that comply with Resolution No. 92-49.

   The FS shall, at a minimum, address the NEC in Directive F.2 and contain the following information:

   a. An evaluation of a range of remedial alternatives capable of effectively cleaning up the pollutant source(s) in all soil and soil gas (unless soil gas is attributed to groundwater impacts in which case it will be addressed in the groundwater RAP) and preventing migration of pollutants to San Diego Bay. The types of remedial alternatives, or combinations thereof, that should be considered are:

      - Source removal and/or isolation;
      - In-place treatment of soil;
      - Excavation of soil or extraction of soil gas for on-site or off-site treatment; and
      - Excavation of soil for appropriate recycling, re-use, or disposal.

[15] An FS is not required if the Discharger determines that (1) cleanup to background is technologically and economically feasible, and (2) the NEC is less than 10 cubic yards.

b. An evaluation of the cost and effectiveness of each alternative for the remediation of the waste constituents to attain a level of soil[16] cleanup that results in either attainment of background water quality, or alternative cleanup levels approved by the San Diego Water Board.

c. A recommended remedial alternative(s) for the cleanup and/or abatement of wastes discharged. The recommended alternative(s) must be capable of achieving the respective cleanup levels for all waste constituents at all monitoring points and throughout the zone affected by the waste constituents, including any portions thereof that extend beyond the property boundary.

4. A detailed description of all activities planned to implement the recommended alternative(s) in the individual soil RAP and a schedule for their completion ("RAP Implementation Schedule").

G. **GROUNDWATER REMEDIAL ACTION PLAN FOR SOUTH CAMPUS SITE.** Prepare a RAP that addresses the groundwater impacts for the entire South Campus Site including any areas where the plume(s) extend beyond the property boundary. The RAP must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on April 18, 2015**. Requirements for uploading data and reports into Geotracker are in Directive S of this CAO. The RAP shall, at a minimum, contain the following information:

1. The latest CSM that describes or depicts the characteristics of the South Campus Site and the processes by which wastes discharged to groundwater may move from sources to human and/or ecological receptors. The latest CSM shall, at a minimum, address the following:

   a. Chemical identification – what potential contaminants, if any, are present in the groundwater at the South Campus Site?

   b. Source identification – where did the potential contamination originate?

   c. Identification of potential contaminant migration pathways – how might potential contamination move from sources to receptors? Are the pathways complete, potentially complete, or incomplete?

[16] Pursuant to the Basin Plan (p. 4-105), alternative cleanup levels in soil shall be established to ensure that residual leachable/mobile pollutants will not cause, or threaten to cause, exceedances of background water quality or alternative cleanup levels approved by the San Diego Water Board, or be a threat to human health or the environment.

d. Receptor identification – who or what might the potential contamination affect?

e. Boundary – will the CSM be limited to an AOC(s) or the South Campus Site, and will it extend off-site?

The San Diego Water Board shall be notified in writing on the intent to update the CSM resulting from further site and/or remedial investigations. All updated CSMs must be submitted in a technical memorandum to the San Diego Water Board no later than 30 days after notification.

2. An assessment of the Site that (1) summarizes the extent of all waste constituents in groundwater beneath and adjacent to the Site, and (2) summarizes the results of the pollutant concentrations above California Toxics Rule (CTR) water quality standards in the point-of-compliance wells located along the Chula Vista Marina's shoreline.

3. A Human Health Risk Assessment (HHRA) that summarizes the groundwater results of the site-wide risk assessment provided in the HHRA Report (revised April 26, 2012).

4. All impacted groundwater zones requiring remedial action to restore groundwater quality levels that (1) support the designated beneficial uses of the groundwater underlying the South Campus Site (encompasses all on-site and off-site areas affected by waste discharges from the South Campus Facility) and San Diego Bay, and (2) protect human health.

5. An FS to evaluate whether or not it is technologically and economically feasible to clean up the discharges in a manner that promotes attainment of background water quality conditions. If not, the FS shall propose alternative cleanup levels less stringent than background that comply with Resolution No. 92-49.

The FS shall, at a minimum, address all impacted groundwater zones in Directive G.4 and contain the following information:

a. An evaluation of a range of remedial alternatives capable of effectively cleaning up the pollutant source(s) in groundwater and preventing migration of pollutants to San Diego Bay. The types of remedial alternatives, or combinations thereof, that should be considered are:

- Source removal and/or isolation;
- In-place treatment of groundwater; and
- Extraction of groundwater for on-site or off-site treatment.

b. An evaluation of the cost and effectiveness of each alternative for the remediation of the waste constituents to attain a level of groundwater cleanup that results in either attainment of background water quality, or alternative cleanup levels approved by the San Diego Water Board.

c. A recommended remedial alternative(s) for the cleanup and/or abatement of wastes discharged. The recommended alternative(s) must be capable of achieving the respective cleanup levels for all waste constituents at all monitoring points and throughout the zone affected by the waste constituents, including any portions thereof that extend beyond the property boundary.

6. Detailed Implementation Description and Schedule. The RAP shall include a detailed description of all activities planned to implement the recommended alternative(s) in the RAP and a schedule for their completion ("RAP Implementation Schedule"). Implementation shall begin **30 days** after RAP approval from the San Diego Water Board and progress reports shall be included in the Groundwater Monitoring Reports required in Directive M.2. All cleanup activities associated with groundwater shall be completed no later than **October 31, 2024**, however, an extension of time may be granted for good cause.

H. **MANAGEMENT PLAN FOR WASTES IN CONCRETE, ASPHALT, AND JOINT COMPOUND MATERIAL AT SOUTH CAMPUS SITE.** Prepare and implement a management plan to prevent wastes in concrete, asphalt, and joint compound material from being eroded and transported to San Diego Bay via the wind and/or storm water runoff. The management plan shall be implemented until these materials are demolished and/or properly removed or reused. The management plan must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 pm on August 1, 2014**. Requirements for uploading data and reports into Geotracker are in Directive S of this CAO.

I. **SOIL REMEDIAL ACTION PLAN FOR SOUTH CAMPUS SITE.** Prepare a RAP that addresses all the soil AOCs and NECs (Directive H.3) for the remainder of the South Campus Site (excluding the South Campus Exchange Parcel; Figure 10). The RAP must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on April 21, 2017**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The RAP shall, at a minimum, contain the following information:

1. The latest CSM that describes or depicts the characteristics of the South Campus Site and the processes by which wastes discharged to soil may move from sources to human and/or ecological receptors. The latest CSM shall, at a minimum, address the following:

a. Chemical identification – what potential contaminants, if any, are present in the soil and soil gas at the South Campus Site?

b. Source identification – where did the potential contamination originate?

c. Identification of potential contaminant migration pathways – how might potential contamination move from sources to receptors? Are the pathways complete, potentially complete, or incomplete?

d. Receptor identification – who or what might the potential contamination affect?

e. Boundary – will the CSM be limited to an AOC(s) or the South Campus Site, and will it extend off-site?

The San Diego Water Board shall be notified in writing on the intent to update the CSM resulting from further site and/or remedial investigations. All updated CSMs must be submitted in a technical memorandum to the San Diego Water Board no later than 30 days after notification.

2. An assessment of the Site that summarizes the lateral and vertical extent of all waste constituents in soil beneath and adjacent to the Site.

3. A HHRA that summarizes the soil results of the site-wide risk assessment provided in the HHRA Report (revised April 26, 2012).

4. All soil AOCs requiring remedial action for the South Campus Site (excluding the South Campus Exchange Parcel). Currently, the soil AOCs include those identified in Finding 16 and Finding 19.a.ii.

5. All soil NECs identified during pavement and foundation demolition, and earthwork activities for the remainder of the South Campus Site (excluding the South Campus Exchange Parcel).

6. An FS to evaluate whether or not it is technologically and economically feasible to clean up the discharges in a manner that promotes attainment of background water quality conditions.[17] If not, the FS shall propose alternative cleanup levels less stringent than background that comply with Resolution No. 92-49.

The FS shall, at a minimum, address all AOCs and NECs in Directives

[17] An FS is not required if the Discharger determines that (1) cleanup to background is technologically and economically feasible, and (2) the NEC is less than 10 cubic yards.

I.4 and I.5, respectively, and contain the following information:

a. An evaluation of a range of remedial alternatives capable of effectively cleaning up the pollutant source(s) in soil and soil gas (unless soil gas is attributed to groundwater impacts in which case it will be addressed in the groundwater RAP), and preventing migration of pollutants to San Diego Bay. The types of remedial alternatives, or combinations thereof, that should be considered are:

- Source removal and/or isolation;
- In-place treatment of soil;
- Excavation of soil or extraction of soil gas for on-site or off-site treatment; and
- Excavation of soil for appropriate recycling, re-use, or disposal.

b. An evaluation of the cost and effectiveness of each alternative for the remediation of the waste constituents to attain a level of soil[18] cleanup that results in either attainment of background water quality, or alternative cleanup levels approved by the San Diego Water Board.

c. A recommended remedial alternative(s) for the cleanup and/or abatement of wastes discharged. The recommended alternative(s) must be capable of achieving the respective cleanup levels for all waste constituents at all monitoring points and throughout the zone affected by the waste constituents, including any portions thereof that extend beyond the property boundary.

7. Detailed Implementation Description and Schedule. The RAP shall include a detailed description of all activities planned to implement the recommended alternative(s) in the RAP and a schedule for their completion ("RAP Implementation Schedule"). All cleanup activities shall be completed no later than **April 19, 2019**.

J. **INDIVIDUAL SOIL REMEDIAL ACTION PLANS FOR SOUTH CAMPUS SITE.** Prepare individual soil RAPs for all NECs identified during pavement and foundation demolition, and earthwork activities for the remainder of the South Campus Site (excluding the South Campus Exchange Parcel; Figure 10). Each individual soil RAP must be received

[18] Pursuant to the Basin Plan (p. 4-105), alternative cleanup levels in soil shall be established to ensure that residual leachable/mobile pollutants will not cause, or threaten to cause, exceedances of background water quality or alternative cleanup levels approved by the San Diego Water Board, or be a threat to human health or the environment.

by the San Diego Water Board and uploaded into the Geotracker database **within 90 days** after the NEC has been identified. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The individual soil RAPs shall, at a minimum, contain the following information:

1. An updated CSM if the NEC has altered the latest CSM in Directive I.1.

2. A summary of the field activities pertaining to the identification and delineation of the NEC.

3. An FS to evaluate whether or not it is technologically and economically feasible to clean up the discharges in a manner that promotes attainment of background water quality conditions.[19] If not, the FS shall propose alternative cleanup levels less stringent than background that comply with Resolution No. 92-49.

   The FS shall, at a minimum, address the NEC in Directive J.2 and contain the following information:

   a. An evaluation of a range of remedial alternatives capable of effectively cleaning up the pollutant source(s) in all soil and soil gas (unless soil gas is attributed to groundwater impacts in which case it will be addressed in the groundwater RAP) and preventing migration of pollutants to San Diego Bay. The types of remedial alternatives, or combinations thereof, that should be considered are:

      - Source removal and/or isolation;
      - In-place treatment of soil;
      - Excavation of soil or extraction of soil gas for on-site or off-site treatment; and
      - Excavation of soil for appropriate recycling, re-use, or disposal.

   b. An evaluation of the cost and effectiveness of each alternative for the remediation of the waste constituents to attain a level of soil[20] cleanup that results in either attainment of background water

[19] An FS is not required if the Discharger determines that (1) cleanup to background is technologically and economically feasible, and (2) the NEC is less than 10 cubic yards.
[20] Pursuant to the Basin Plan (p. 4-105), alternative cleanup levels in soil shall be established to ensure that residual leachable/mobile pollutants will not cause, or threaten to cause, exceedances of background water quality or alternative cleanup levels approved by the San Diego Water Board, or be a threat to human health or the environment.

quality, or alternative cleanup levels approved by the San Diego Water Board.

c. A recommended remedial alternative(s) for the cleanup and/or abatement of wastes discharged. The recommended alternative(s) must be capable of achieving the respective cleanup levels for all waste constituents at all monitoring points and throughout the zone affected by the waste constituents, including any portions thereof that extend beyond the property boundary.

4. A detailed description of all activities planned to implement the recommended alternative(s) in the individual soil RAP and a schedule for their completion ("RAP Implementation Schedule").

K. **REMEDIAL ACTION PLAN IMPLEMENTATION.** Implement the RAPs as specified in the RAP Implementation Schedules required by Directives E.5, F.4, G.6, I.7, and J.4 unless otherwise directed in writing by the San Diego Water Board. The San Diego Water Board shall be notified in writing on the intent to begin implementing the RAPs and comply with any conditions set by the San Diego Water Board, including mitigation of adverse consequences from cleanup activities. Notification must be provided 10 calendar days prior to implementing the RAPs. RAP implementation activities shall be completed according to the RAP Implementation Schedules.

Upon approval of the RAP(s) prepare and submit RAP Implementation Progress Reports to the San Diego Water Board on a quarterly schedule as shown below. The first progress report shall be submitted after the first full quarter of RAP implementation by the due date for that quarterly monitoring period. The Progress Reports shall describe the remedial actions conducted, results, and conclusions. Supporting documentation such as the analytical laboratory reports and waste manifests shall also be included in the Progress Reports.

Monitoring Period	Due Date for Report (no later than 5:00 pm on)
First Quarter (Jan-Mar)	April 30
Second Quarter (Apr-Jun)	July 30
Third Quarter (July-Sept)	October 30
Fourth Quarter (Oct-Dec)	January 30

L. **MODIFY OR SUSPEND CLEANUP ACTIVITIES.** Modify or suspend cleanup activities only when directed to do so by the San Diego Water Board.

M. **GROUNDWATER MONITORING PROGRAM.** Continue to implement a Groundwater Monitoring Program (GMP). The purpose of the GMP is to

regularly assess progress toward and document achievement of cleanup levels, and to provide data to answer the following questions:

- Is the groundwater plume of each waste constituent decreasing in size and/or mass?
- Are the selected remedial action alternatives effectively removing waste constituents from the groundwater and are they capable of achieving background levels or any alternative cleanup levels approved by the San Diego Water Board?
- Have the beneficial uses of the groundwater been restored and have the cleanup levels approved by the San Diego Water Board been attained?
- Are human health and the environment protected from the wastes discharged from the South Campus Facility?

1. GMP Work Plan. Prepare a GMP work plan that describes the GMP and its implementation. The GMP work plan must be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on June 30, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The GMP work plan shall, at a minimum, contain the following information:

   a. The groundwater monitoring well network to be sampled, the sampling event frequency (e.g., semi-annual, annual), and the analytical methods to be used.

   b. The methods to be used to monitor, purge, and sample the wells.

   c. A map showing the location of the groundwater monitoring wells.

   d. A schedule for submittal of groundwater monitoring reports to the San Diego Water Board (required in Directive M.2).

2. GMP Monitoring Reports. Prepare and submit GMP monitoring reports. The reports must be received by the San Diego Water Board by the dates specified in Directive M.1.d and uploaded into the Geotracker database. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The reports shall, at a minimum, contain the following information:

   a. **Groundwater Elevations.** Groundwater data must be presented in tabular format with depth to groundwater (in feet below ground surface), top of casing elevations, groundwater level elevations, depths to the top of well screens, length of well screens and total depth for each well included in the monitoring program. A groundwater elevation map must be prepared for each monitored water-bearing zone with the groundwater flow direction and

calculated hydrologic gradients clearly indicated in the figures. A complete tabulation of historical groundwater level elevations must be included in each monitoring report.

b. **Reporting Analytical Groundwater Results.** All GMP monitoring reports must:

i. Present all groundwater sampling data in tabular format and compare the results to the MCLs. Isoconcentration maps must be prepared for constituents of concern for each monitored water-bearing zone, as appropriate. Plots must also be prepared for all constituents of concern at appropriate wells: (1) Time versus concentration plots that show groundwater elevations, and (2) Distance versus concentration plots. These plots must also indicate whether the data was collected during a low tide or high tide event.

ii. Provide a South Campus Site plot plan which clearly illustrates the locations of the monitoring wells, the former locations of industrial processes and equipment, former locations of liquid storage and conveyance systems, and buildings located on the property and immediately adjacent to the property lines of the South Campus Site.

iii. Provide a South Campus Site plot plan with the most recent concentrations of chemicals of concern.

iv. Provide a discussion and technical interpretations of the groundwater data, and describe any significant increases in pollutant concentrations since the last report, any measures proposed to address the increases, any changes to the CSM, and any conclusions and recommendations for future action with each report.

v. Describe analytical methods used, detection limits obtained for each reported constituent, and a summary of quality assurance/quality control (QA/QC) data.

vi. Describe sample collection protocol(s), describe how all wastes are managed at the South Campus Site, and include documentation of proper disposal of contaminated well purge water and/or soil cuttings removed from the South Campus Site.

vii. List historical groundwater sampling results in tabular form and include them in the last monitoring report each year.

c. **Remediation.** The report must include an estimate of the mass of contaminant(s) removed and/or volume of soil and groundwater treated. This estimate must be reported in a tabular format for each area of concern and for the South Campus Site as a whole. A tabulation of historical annual contaminant mass removal results and/or volume treated must be included in the last monitoring report each year.

3. **Record Keeping.** The Dischargers or their agent must retain data generated for the above reports, including laboratory results and QA/QC data, for a minimum of six years after origination and must make them available to the San Diego Water Board upon request.

4. **Groundwater Monitoring Program Revisions.** The Dischargers may request revisions to the GMP; however, the revisions may not be implemented until approved by the San Diego Water Board. Prior to making GMP revisions, the San Diego Water Board will consider the burden, including costs, of the groundwater monitoring reports relative to the benefits to be obtained from these reports.

N. **REVISED IN-SITU CONCRETE CHARACTERIZATION AND WASTE PROFILING WORK PLAN.**

1. Implement the work plan within 60 days after receiving approval by the San Diego Water Board.

2. Submit a technical report that, at a minimum, (1) summarizes the completed field activities, (2) identifies all concrete grids classified as a hazardous waste and non-hazardous waste for disposal at a permitted landfill, (3) identifies all concrete grids exceeding the soil background cleanup levels in Directive B, (4) presents the conclusions and disposal recommendations, and (5) includes figures and analytical laboratory reports.

   The technical report shall be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on October 17, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO.

O. **DEMOLITION ENVIRONMENTAL MONITORING PLAN AND IMPLEMENTATION.**

1. Notify the San Diego Water Board in writing on the intent to begin implementing the Demolition Environmental Monitoring Plan (DEMP). Notification must be provided 10 calendar days prior to implementing the DEMP.

2. Notify the San Diego Water Board immediately via phone and email when NECs are identified during demolition.

3. Prepare and submit technical memoranda that, at a minimum, (1) summarizes the identification, delineation, and remediation of each NEC, (2) displays the analytical data in tabular form, and (3) includes figures and the analytical laboratory reports. The technical memoranda for the South Campus Exchange Parcel shall be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on October 31, 2014**. The technical memoranda for the South Campus Site (excludes the South Campus Exchange Parcel) shall be received by the San Diego Water Board and uploaded into the Geotracker database **within 90 days** after receiving the final analytical laboratory reports. The San Diego Water Board shall be notified in writing upon receipt of the final analytical laboratory reports.

4. Prepare and submit progress reports detailing the DEMP investigations and/or DEMP remedial actions. The progress reports shall be submitted on a quarterly schedule as shown below. The first progress report shall be submitted after the first full quarter of DEMP implementation by the due date for that quarterly monitoring period. The DEMP progress reports shall discuss the work performed, results, and conclusions. Supporting documentation such as the analytical laboratory reports and waste manifests shall also be included in the DEMP progress reports.

Monitoring Period	Due Date for Report (no later than 5:00 pm on)
First Quarter (Jan-Mar)	April 30
Second Quarter (Apr-Jun)	July 30
Third Quarter (July-Sept)	October 30
Fourth Quarter (Oct-Dec)	January 30

P. **FINAL CLEANUP AND ABATEMENT COMPLETION REPORT FOR SOUTH CAMPUS EXCHANGE PARCEL.** Submit a final Cleanup and Abatement Completion Report verifying completion of the soil RAPs (Directives E and F) and any remedial actions conducted during demolition within the South Campus Exchange Parcel. The final Cleanup and Abatement Completion Report shall be received by the San Diego Water Board and uploaded into the Geotracker database **by 5:00 p.m. on November 14, 2014**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The report shall provide a demonstration that:

1. All corrective actions necessary to cleanup and abate the effects of the discharge in soil beneath and adjacent to the South Campus Exchange Parcel boundary have met the soil cleanup levels in Directive B; and

2. All soil gas concentrations remaining in soil (unless soil gas is attributed to groundwater impacts in which case it will be addressed in Directive Q) beneath and adjacent to the South Campus Exchange Parcel boundary are protective of human health .

Q. **FINAL CLEANUP AND ABATEMENT COMPLETION REPORT FOR SOUTH CAMPUS SITE.** Submit a final Cleanup and Abatement Completion Report verifying (1) completion of the groundwater RAP (Directive G), (2) completion of the soil RAPs (Directives I and J) and any remedial actions conducted during demolition of the South Campus Site, and (3) removal of any or all portions of the SWCS including the 84-inch reinforced concrete pipe culvert that traverses the northern portion of the South Campus Site. The final Cleanup and Abatement Completion Report shall be received by the San Diego Water Board and uploaded into the Geotracker database by **5:00 p.m. on December 31, 2024**. Requirements for uploading data and reports into Geotracker are in Directive T of this CAO. The report shall provide a demonstration that:

1. All corrective actions necessary to cleanup and abate the effects of the discharge in soil beneath and adjacent to the remainder of the South Campus Site (excluding the South Campus Exchange Parcel) have met the soil cleanup levels in Directive B;

2. All soil gas concentrations remaining in soil beneath and adjacent to the remainder of the South Campus Site (excluding the South Campus Exchange Parcel) are protective of human health;

3. All corrective actions necessary to cleanup and abate the effects of the discharge in groundwater beneath and adjacent to the entire South Campus Site have met the groundwater cleanup levels in Directive B; and

4. The residual pollutant concentrations in groundwater at the point-of-compliance wells located along the Chula Vista Marina's shoreline are protective of the three target receptors in San Diego Bay: aquatic life – benthic community, aquatic-dependent wildlife, and humans. San Diego Bay beneficial uses applicable to each of these target receptors are shown in the table below.

Beneficial Uses	Target Receptors
Estuarine Habitat	Aquatic Life - Benthic Community
Marine Habitat	Aquatic Life - Benthic Community
Rare, Threatened, or Endangered Species	Aquatic-Dependent Wildlife
Wildlife Habitat	Aquatic-Dependent Wildlife
Commercial and Sport Fishing	Human Health
Shellfish Harvesting	Human Health

Protection of the three target receptors shall be demonstrated by (1) comparing the residual pollutant concentrations to the CTR water quality standards, and (2) conducting a final groundwater chemical fate and transport model using the residual pollutant concentrations in groundwater after remediation.

R. **PENALTY OF PERJURY STATEMENT.** All reports must be signed by the Discharger's responsible corporate officer or its duly authorized representative, and must include the following statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

"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."

S. **DOCUMENT SUBMITTALS.** Unless otherwise notified by the San Diego Water Board, the Dischargers shall submit one electronic, searchable PDF copy of all documents required under this CAO to:

Executive Officer
California Regional Water Quality Control Board, San Diego Region
2375 Northside Drive, Suite 100 San Diego, California 92108-2700
Attn: Southern Cleanup Unit

Larger documents shall be divided into separate files at logical places in the report to keep the file sizes under 150 megabytes. The Discharger shall continue to provide a paper transmittal letter, a paper copy of all figures larger than 8.5 inches by 14 inches (legal size), and an electronic

copy (on a CD or other appropriate media) of all reports to the San Diego Water Board. All correspondence and documents submitted to the San Diego Water Board shall include the following Geotracker Site ID in the header or subject line:

SL209294204

T. **ELECTRONIC DATA SUBMITTALS.** The Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 and Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site after July 1, 2005. All information submitted to the San Diego Water Board in compliance with this CAO is required to be submitted electronically via the Internet into the Geotracker database http://geotracker.waterboards.ca.gov/ (Geotracker Site ID **SL209294204**). The electronic data shall be uploaded on or prior to the regulatory due dates set forth in the CAO or addenda thereto. To comply with these requirements, the Dischargers shall upload to the Geotracker database the following minimum information.

1. **Laboratory Analytical Data.** Analytical data (including geochemical data) for all soil, sediment, vapor, and water samples in Electronic Data File (EDF) format. Water, soil, and vapor data include analytical results of samples collected from: monitoring wells, boreholes, gas and vapor wells or other collection devices, surface water, groundwater, piezometers, stockpiles, and drinking water wells.

2. **Locational Data.** The latitude and longitude of any permanent monitoring well or soil vapor probe for which data is reported in EDF format, accurate to within 1 meter and referenced to a minimum of two reference points from the California Spatial Reference System (CSRS-H), if available.

3. **Monitoring Well Elevation Data.** The surveyed elevation relative to a geodetic datum of any permanent monitoring well. Elevation measurements to the top of groundwater well casings for all groundwater monitoring wells.

4. **Depth-to-Water Data.** Monitoring wells need to have the depth-to-water information reported whenever water data is collected, even if water samples are not actually collected during the sampling event.

5. **Monitoring Well Screen Intervals.** The depth to the top of the screened interval and the length of screened interval for any permanent monitoring well.

6. **Site Map.** Site map or maps which display discharge locations,[21] streets bordering the facility, and sampling locations for all soil, water, and vapor samples. The site map is a stand-alone document that may be submitted in various electronic formats.[22] A site map must also be uploaded to show the extent of Site-related chemical impacts in groundwater. An update to the site map may be uploaded at any time.

7. **Boring Logs.** Boring logs (in searchable PDF format) prepared by an appropriately licensed professional.

8. **Electronic Report.** A complete copy (in searchable PDF format) of all work plans, assessment, cleanup, and monitoring reports including the signed transmittal letters, professional certifications, and all data presented in the reports.

U. **VIOLATION REPORTS.** If the Dischargers violate any requirement of this CAO, then the Dischargers must notify the San Diego Water Board office by telephone and electronic mail as soon as practicable once the Dischargers have knowledge of the violation. The San Diego Water Board may, depending on violation severity, require the Dischargers to submit a separate technical report on the violation within five working days of telephone notification.

V. **OTHER REPORTS.** The Dischargers must notify the San Diego Water Board in writing prior to implementing any site activities that have the potential to cause further migration of contaminants or that would provide new opportunities for Site investigation.

W. **PROVISIONS**

1. **Waste Management.** The storage, handling, treatment, or disposal of soil containing waste or polluted groundwater must not create conditions of nuisance, as defined in Water Code section 13050(m). The Dischargers must properly manage, treat and dispose of wastes and polluted groundwater in accordance with applicable federal, State and local regulations.

2. **Good Operation and Maintenance.** The Dischargers must maintain in good working order and operate as efficiently as possible any monitoring system, Site or control system installed to achieve compliance with the requirements of this CAO.

[21] Areas related to discharge from former location(s) of: industrial processes and equipment, liquid storage and conveyance systems, and buildings located on the property and immediately adjacent to the property lines of the facility.
[22] Formats include .gif, .jpeg, .jpg, tiff, .tif, .pdf

3. **Contractor/Consultant Qualifications.** All reports, plans and documents required under this CAO shall be prepared under the direction of appropriately qualified professionals. A statement of qualifications and license numbers, if applicable, of the responsible lead professional and all professionals making significant and/or substantive contributions shall be included in the report submitted by the Dischargers. The lead professional performing engineering and geologic evaluations and judgments shall sign and affix their professional geologist or civil engineering registration stamp to all technical reports, plans or documents submitted the San Diego Water Board.

4. **Laboratory Qualifications.** All samples must be analyzed by California State certified laboratories using methods approved by the USEPA for the type of analysis to be performed. All laboratories must maintain QA/QC records for San Diego Water Board review.

5. **Laboratory Analytical Reports.** Any report presenting new analytical data is required to include the complete Laboratory Analytical Report(s). The Laboratory Analytical Report(s) must be signed by the laboratory director and contain:

   a. A complete sample analytical report,

   b. A complete laboratory QA/QC report,

   c. A discussion of the sample and QA/QC data, and

   d. A transmittal letter indicating whether or not all the analytical work was supervised by the director of the laboratory, and contain the following statement, "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services in accordance with current USEPA procedures."

6. **Reporting of Changed Owner or Operator.** Notify the San Diego Water Board of any changes in the Responsible Parties' facilities' occupancy or ownership associated with the property described in this Order. Regulations.

X. NOTIFICATIONS

1. **Cost Recovery.** Upon receipt of invoices, and in accordance with instructions therein, the Dischargers must reimburse the San Diego Water Board for all reasonable costs incurred by the San Diego Water Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this CAO.

2. **All Applicable Permits.** This CAO does not relieve the Dischargers of the responsibility of obtaining permits or other entitlements to perform necessary corrective action. This includes, but is not limited to, actions that are subject to local, State, and/or federal discretionary review and permitting.

3. **Enforcement Notification.** Failure to comply with requirements of this CAO may subject the Dischargers to further enforcement action, including but not limited to administrative enforcement orders requiring you to cease and desist from violations, imposition of administrative civil liability pursuant to Water Code sections 13268 and 13350 in an amount not to exceed $5,000 for each day in which the violation occurs. Failure to comply may also result in referral to the State Attorney General for injunctive relief and/or referral to the District Attorney for criminal prosecution.

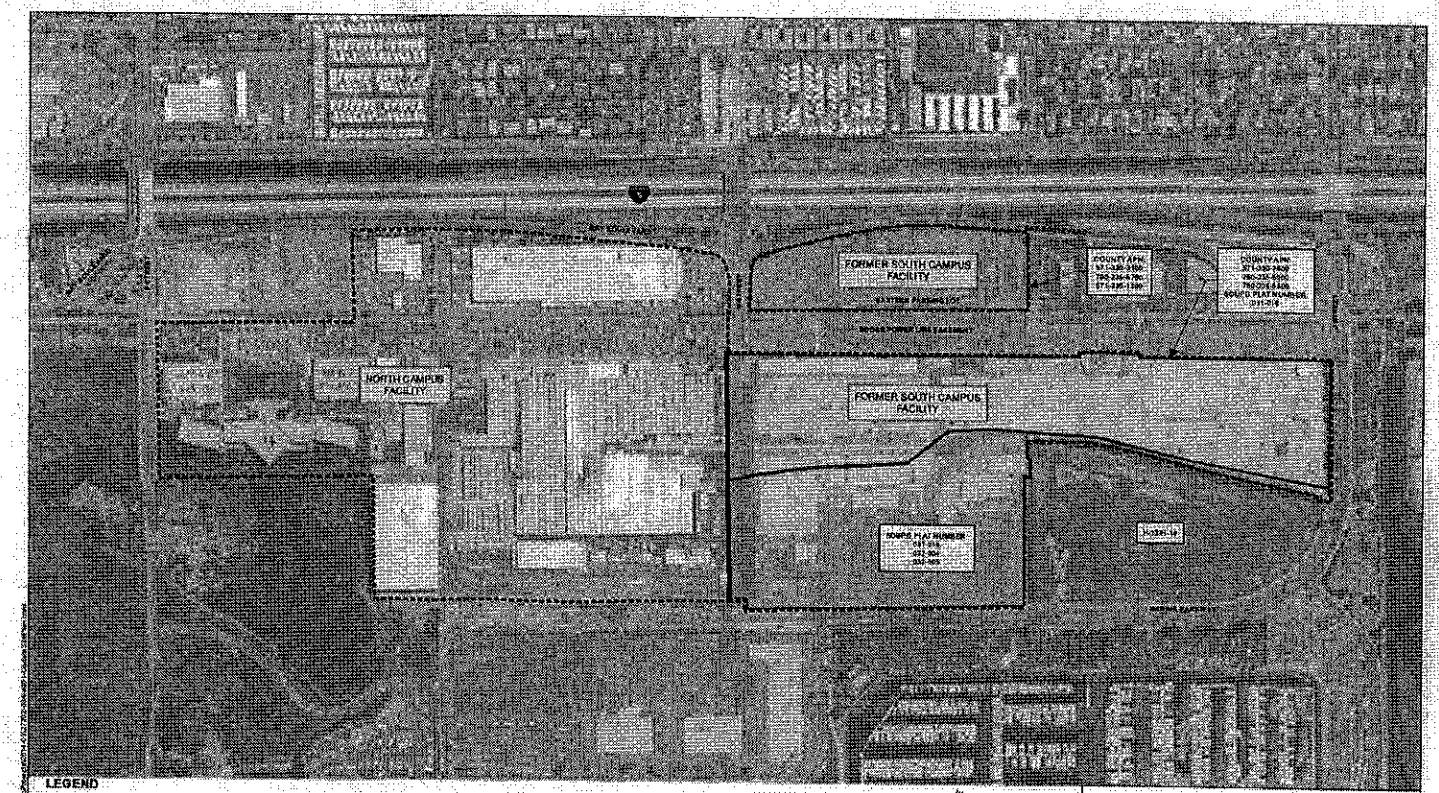
4. **Requesting Administrative Review by the State Water Board.** Any person affected by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with section 13320 of the Water Code and CCR Title 23 section 2050. The petition must be received by the State Water Board (Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812) within 30 calendar days of the date of this CAO. Copies of the law and regulations applicable to filing petitions will be provided upon request.

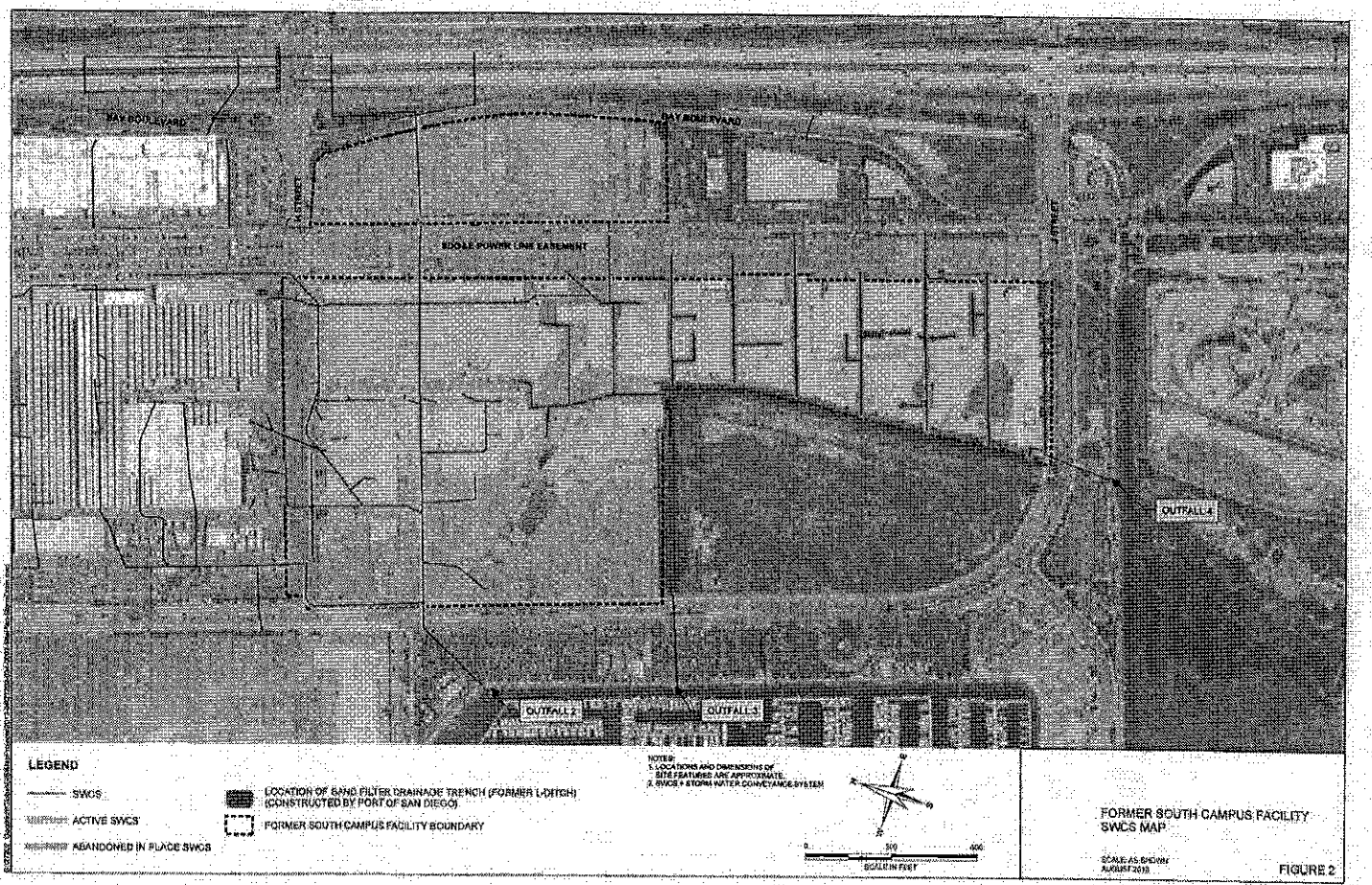
Ordered By _____ 24 June 2014
David W. Gibson Date
Executive Officer

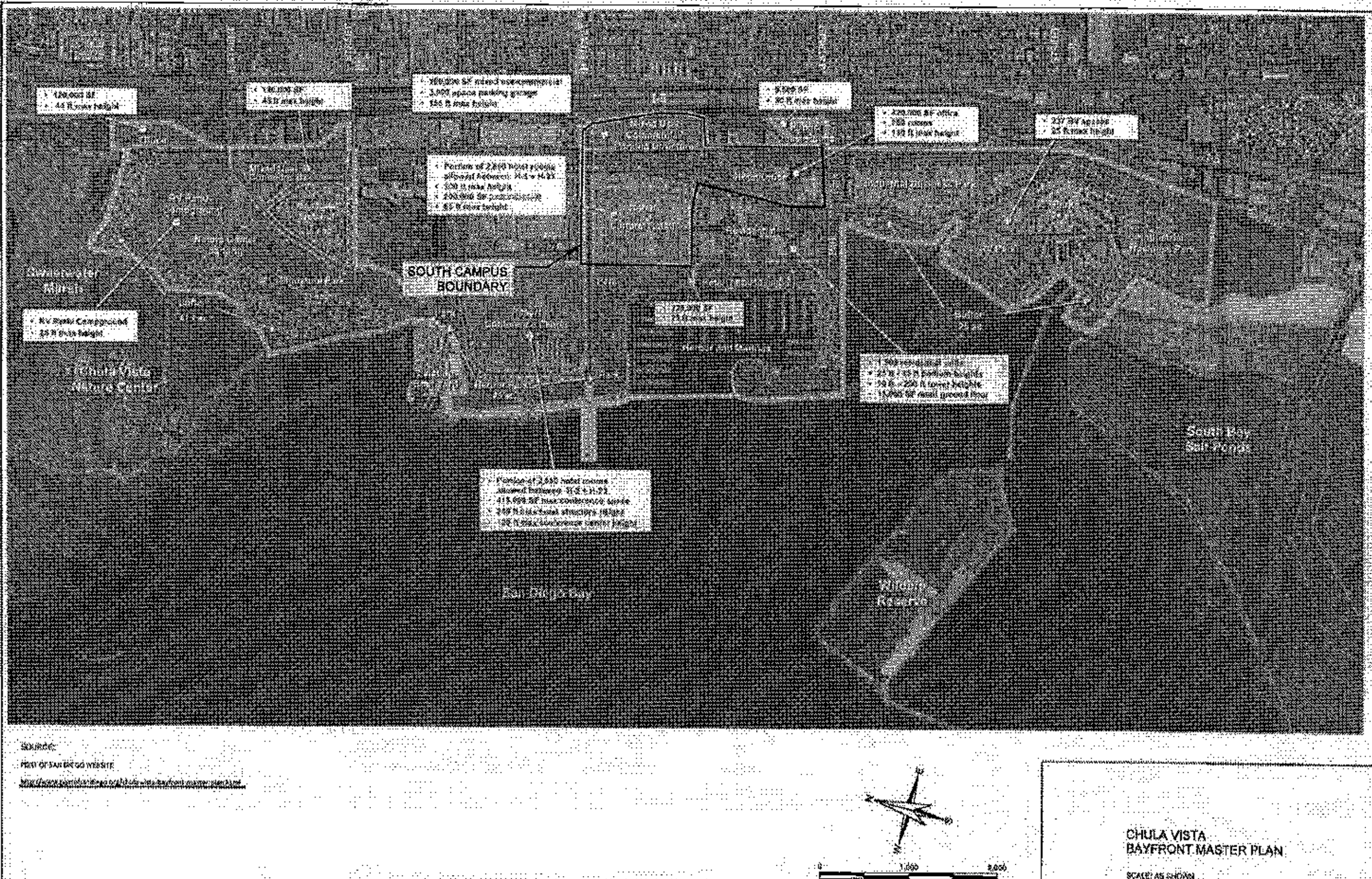
SUMMARY OF REQUIREMENTS AND DUE DATES

Directive	Requirement	Due Date
C.2	Technical Report for Site-Specific Background Concentration of Hexavalent Chromium in Groundwater	October 30, 2014
D.1	Technical Work Plan for Pesticides Screening	June 30, 2014
D.2	Pesticides Technical Report for South Campus Site	Within 90 days after approval of the Technical Work Plan for Pesticides Screening
E	Soil RAP for South Campus Exchange Parcel	June 30, 2014
F	Individual Soil RAPs for South Campus Exchange Parcel	Within 90 days after the NEC is identified
G	Groundwater RAP for South Campus Site	April 18, 2015
G.6	All Groundwater Cleanup Activities in the RAP Completed for South Campus Site	October 31, 2024
H	Management Plan for Wastes in Concrete, Asphalt, and Joint Compound Material at South Campus Site	August 1, 2014
I	Soil RAP for South Campus Site (excluding South Campus Exchange Parcel)	April 21, 2017
I.7	All Soil Cleanup Activities in the RAP Completed for South Campus Site (excluding South Campus Exchange Parcel)	April 19, 2019
J	Individual Soil RAPs for South Campus Site	Within 90 days after the NEC is identified
K	RAP Implementation Progress Reports	First Quarter – April 30 Second Quarter – July 30 Third Quarter – October 30 Fourth Quarter – January 30
M.1	GMP Work Plan	June 30, 2014
M.2	Groundwater Monitoring Reports	As specified in the Groundwater Monitoring Program Work Plan

Directive	Requirement	Due Date
N.2	Technical Report for Revised In-Situ Concrete Characterization and Waste Profiling	October 17, 2014
O.3	DEMP Technical Memoranda for South Campus Site	Within 90 days after receiving the final analytical laboratory reports. The San Diego Water Board shall be notified in writing upon receipt of the final analytical laboratory reports.
O.3	DEMP Technical Memoranda for South Campus Exchange Parcel	October 31, 2014
O.4	DEMP Technical Reports	First Quarter – April 30 Second Quarter – July 30 Third Quarter – October 30 Fourth Quarter – January 30
P	Final Cleanup and Abatement Completion Report for South Campus Exchange Parcel	November 14, 2014
Q	Final Cleanup and Abatement Completion Report for South Campus Site	December 31, 2024


FORMER SOUTH CAMPUS FACILITY
NORTH CAMPUS FACILITY
FORMER SOUTH CAMPUS FACILITY
LEGEND
FACILITY BOUNDARY
SDUPD PLAT BOUNDARY
APN BOUNDARY
NOTES:
1. LOCATIONS AND DIMENSIONS OF SITE FEATURES ARE APPROXIMATE.
2. SDUPD PROPERTY LINES SHOWN WHEN APN IS NOT ASSIGNED.
3. APN = ASSESSORS PARCEL NUMBER
4. SDUPD - SAN DIEGO UNIFIED PORT DISTRICT
0
400
800
SCALE IN FEET
NORTH CAMPUS FACILITY AND FORMER SOUTH CAMPUS FACILITY
SCALE: AS SHOWN
MAY 2014
FIGURE 1


BAY BOULEVARD
BAY BOULEVARD
EDDLE POWER LINE EASEMENT
OUTFALL 4
OUTFALL 2
OUTFALL 3
LEGEND
SWDS
ACTIVE SWDS
ABANDONED IN PLACE SWDS
LOCATION OF SAND FILTER DRAINAGE TRENCH (FORMER L-DITCH) (CONSTRUCTED BY PORT OF SAN DIEGO)
FORMER SOUTH CAMPUS FACILITY BOUNDARY
NOTES:
1. LOCATIONS AND DIMENSIONS OF SITE FEATURES ARE APPROXIMATE.
2. SWDS = STORM WATER CONVEYANCE SYSTEM
0
300
600
SCALE IN FEET
FORMER SOUTH CAMPUS FACILITY
SWDS MAP
SCALE AS SHOWN
AUGUST 2010
FIGURE 2



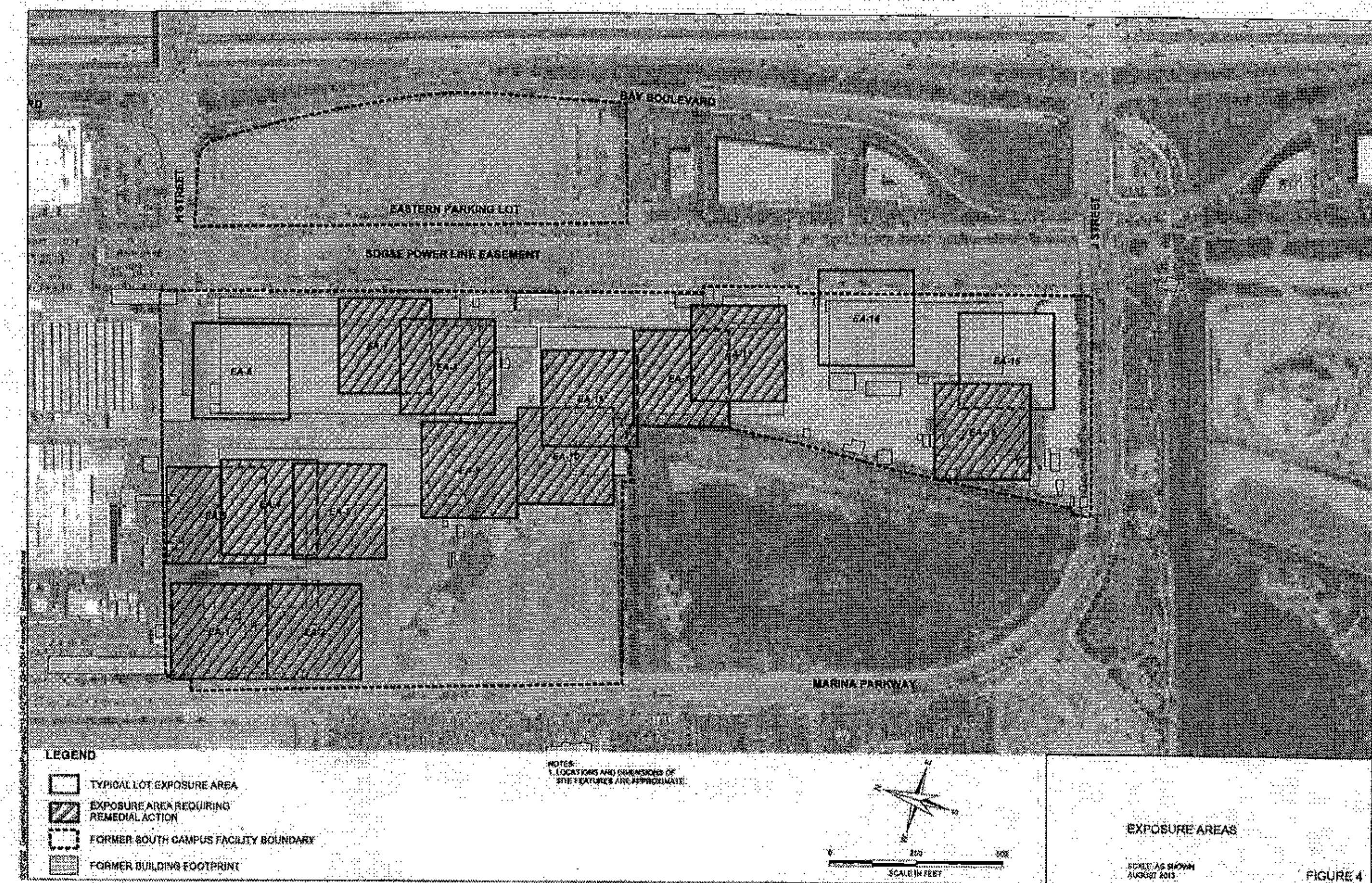
SOURCE:

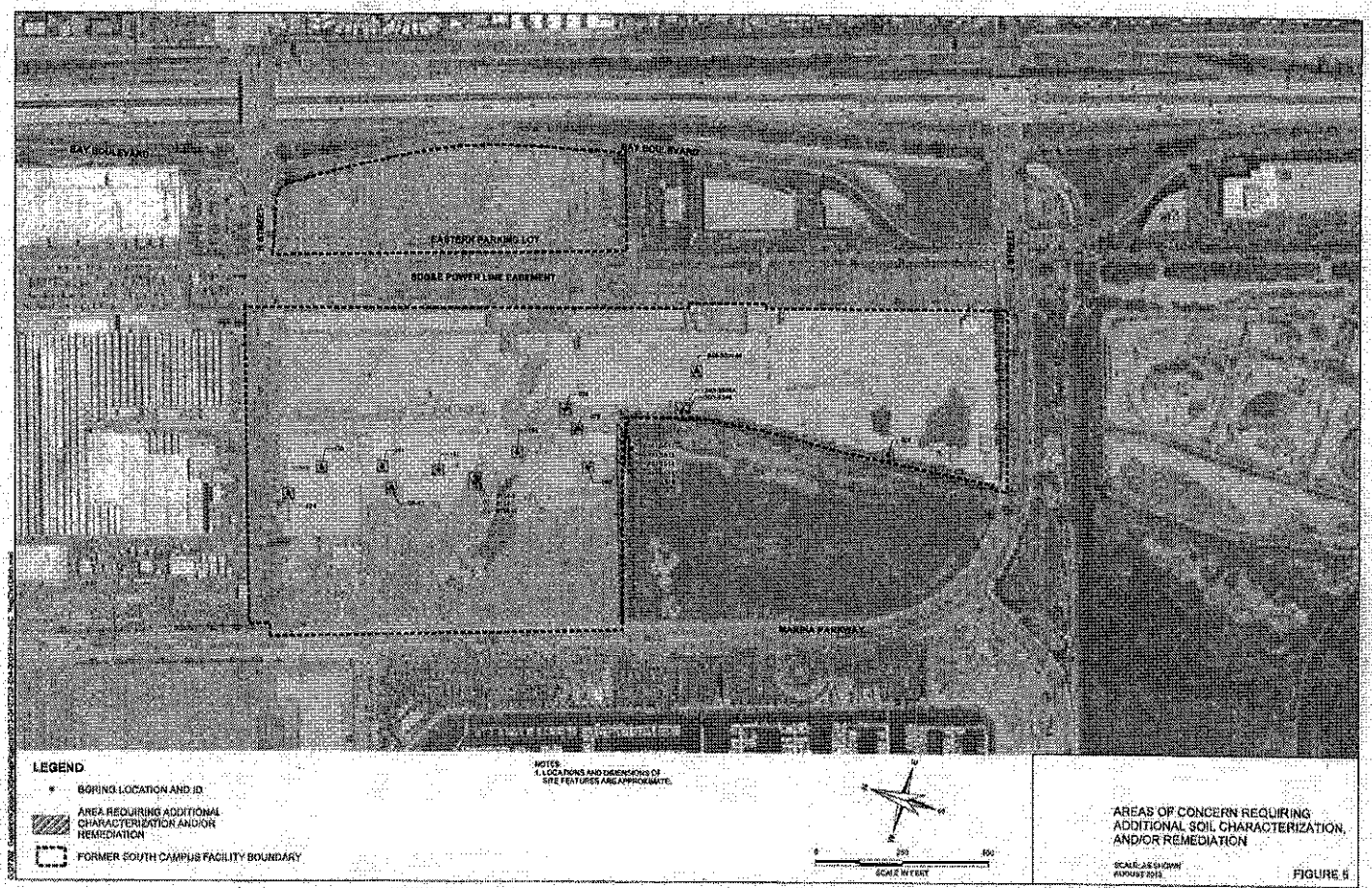
PORT OF SAN DIEGO WEBSITE

CHULA VISTA
BAYFRONT MASTER PLAN

SCALE: AS SHOWN
AUGUST 2013

FIGURE 3

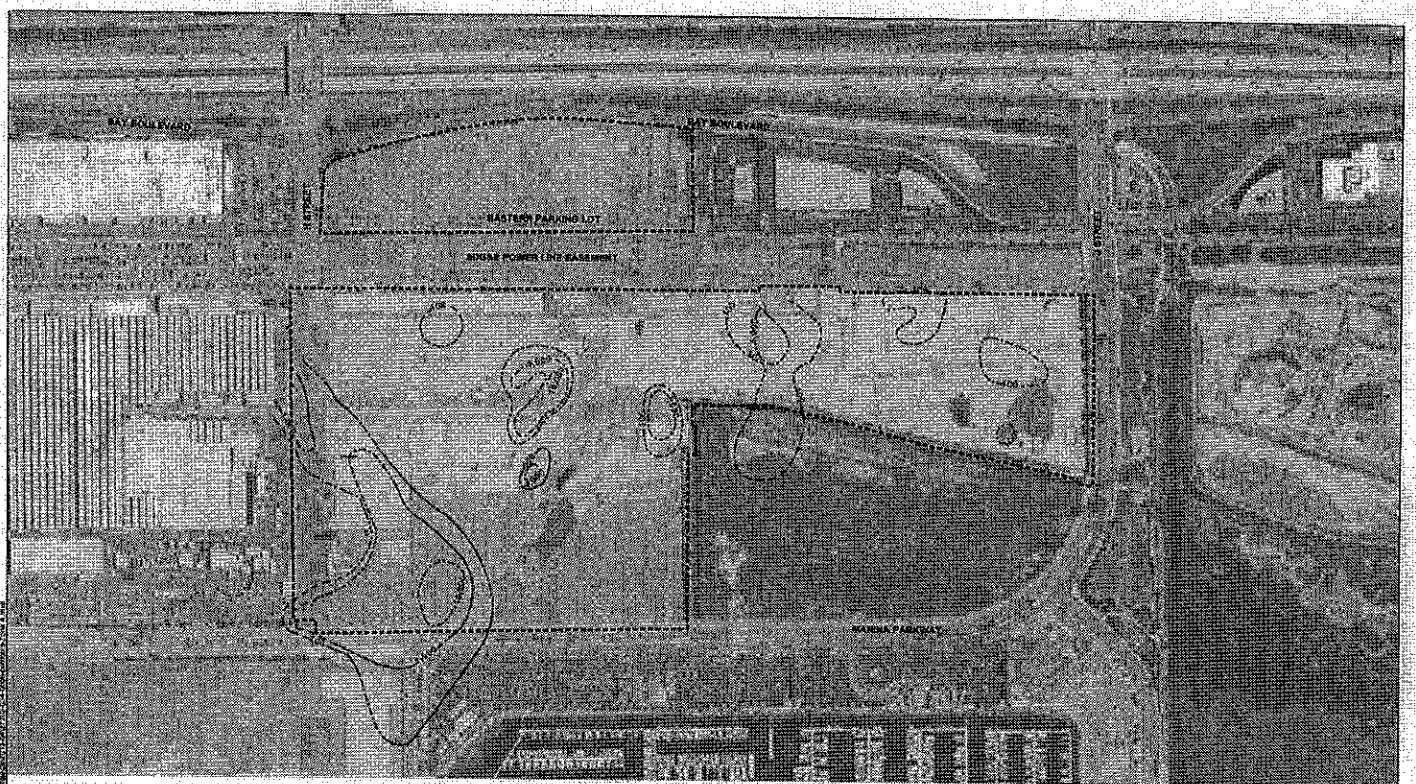

BAY BOULEVARD
H STREET
EASTERN PARKING LOT
SDG&E POWER LINE EASEMENT
J STREET
EA-14
EA-16
MARINA PARKWAY
LEGEND
TYPICAL LOT EXPOSURE AREA
EXPOSURE AREA REQUIRING REMEDIAL ACTION
FORMER SOUTH CAMPUS FACILITY BOUNDARY
FORMER BUILDING FOOTPRINT
NOTES:
1. LOCATIONS AND DIMENSIONS OF SITE FEATURES ARE APPROXIMATE.
SCALE IN FEET
EXPOSURE AREAS
SCALE: AS SHOWN
AUGUST 2013
FIGURE 4

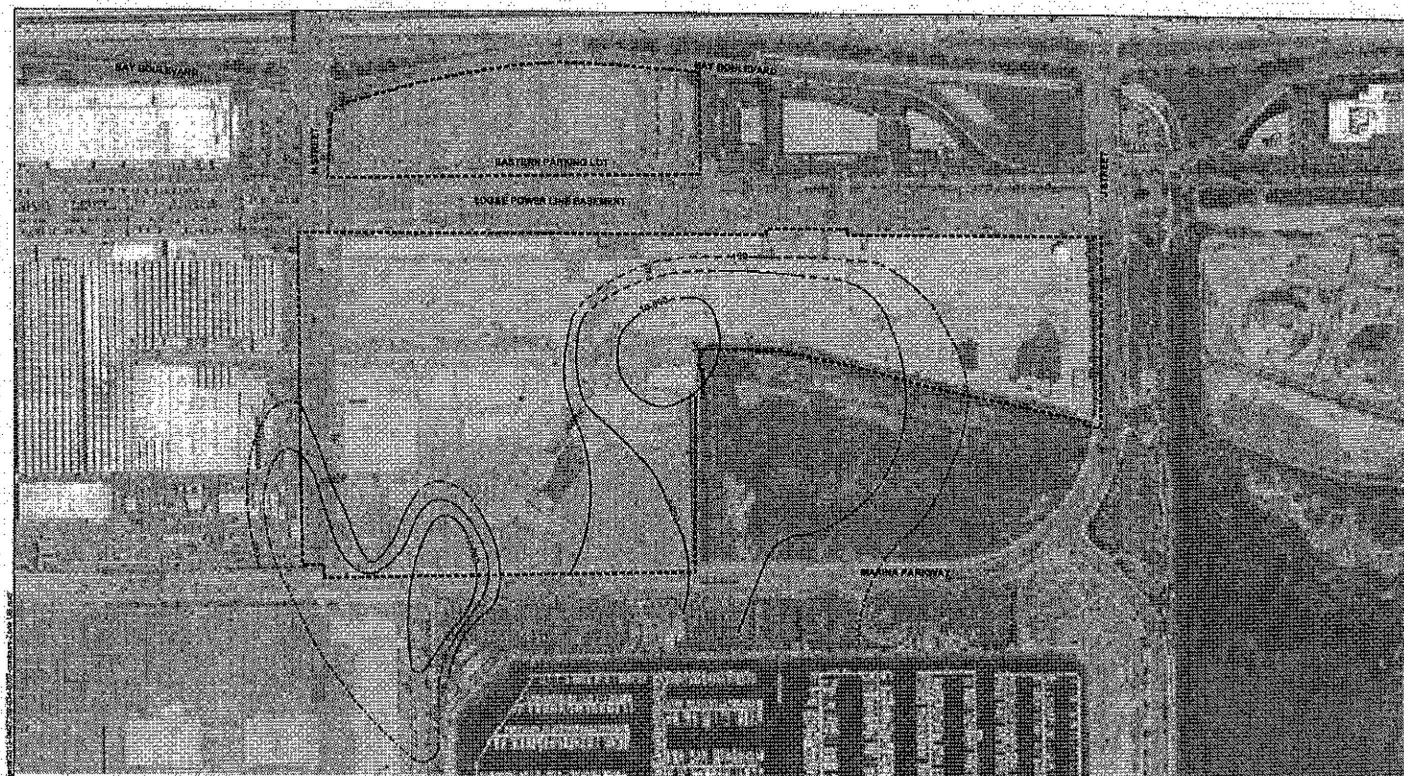


AREAS OF CONCERN REQUIRING ADDITIONAL SOIL CHARACTERIZATION, AND/OR REMEDIATION

SCALE: AS SHOWN
AUGUST 2015

FIGURE 5


BAY BOULEVARD
BAY BOULEVARD
EASTERN PARKING LOT
MARINA PARKWAY
LEGEND
TCE CONTOUR IN µg/L BASED ON MONITORING WELL DATA
INFERRED TCE CONTOUR IN µg/L ON GPT/DROPUNCH DATA AND/OR HISTORICAL MONITORING WELL DATA
INFERRED TCE CONTOUR IN µg/L BASED ON HISTORICAL SITE OPERATION
FORMER SOUTH CAMPUS FACILITY BOUNDARY
NOTES:
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L).
3. TRICHLOROETHYLENE (TCE) CONTOURS SHOWN AS AN EXAMPLE. OTHER CHEMICALS ARE PRESENT IN GROUNDWATER.
4. CONTOURS BROWN PUBLISHED IN 2006 REPORT TITLED "SITE CONCEPTUAL MODEL, SOUTH CAMPUS PROPERTY" (HALEY & ALDRICH).
5. CONTOURS DERIVED USING COMPOSITE DATA FROM MONITORING WELL DATA AND GPT/DROPUNCH DATA (1999, 2000, 2005, AND 2006).
6. HISTORICAL MAXIMUM CONCENTRATIONS USED AT THE MONITORING WELLS.
0
300
600
SCALE IN FEET
TCE CONTOURS IN ZONE A GROUNDWATER
SCALE: AS SHOWN
AUGUST 2012
FIGURE 6



LEGEND

TCE CONTOUR IN µg/L BASED ON MONITORING WELL DATA

INFERRED TCE CONTOUR IN µg/L ON CPT/DROPUNCH DATA AND/OR HISTORICAL MONITORING WELL DATA

INFERRED TCE CONTOUR IN µg/L BASED ON HISTORICAL SITE OPERATION

FORMER SOUTH CAMPUS FACILITY BOUNDARY

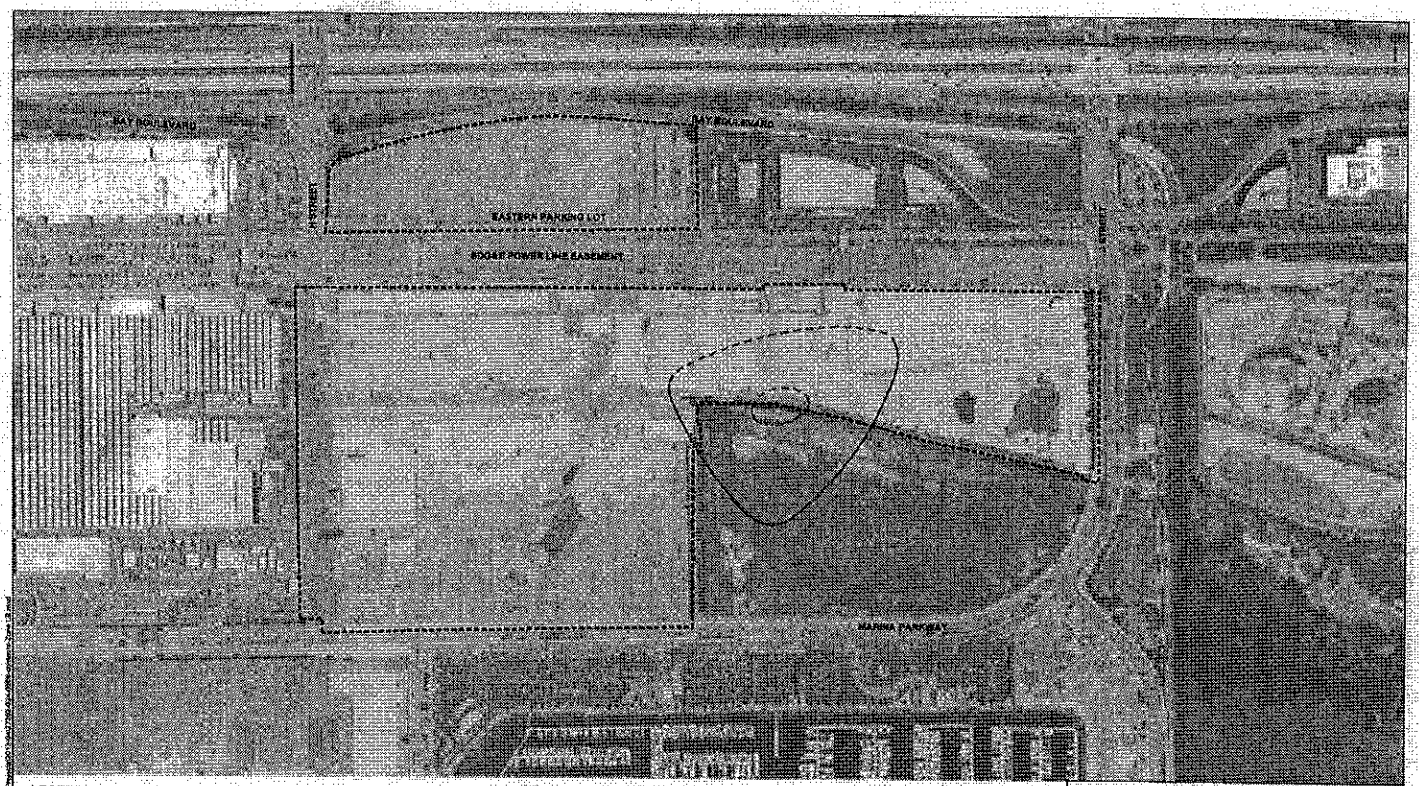
NOTES:
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L).
3. TRICHLOROETHYLENE (TCE) CONTOURS SHOWN AS AN EXAMPLE. OTHER CHEMICALS ARE PRESENT IN GROUNDWATER.
4. CONTOURS SHOWN PUBLISHED IN 2008 REPORT TITLED "SITE CONCEPTUAL MODEL, SOUTH CAMPUS PROPERTY" (HALEY & ALDRICH).
5. CONTOURS DERIVED USING COMPOSITE DATA FROM MONITORING WELL DATA AND CPT/HYDROPUNCH DATA (1999, 2000, 2005, AND 2006).
6. HISTORICAL MAXIMUM CONCENTRATIONS USED AT THE MONITORING WELLS.

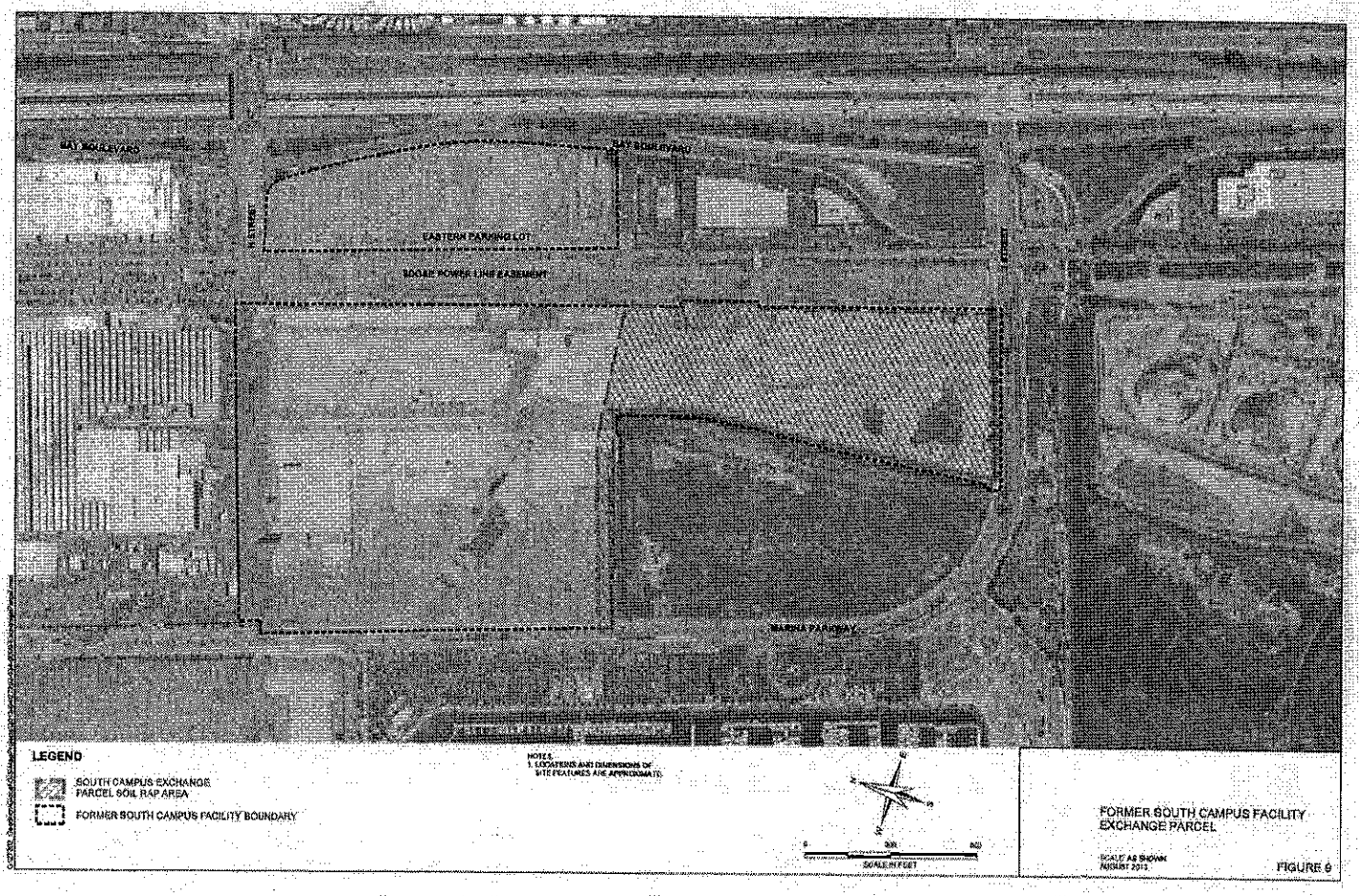
0 300 600
SCALE IN FEET

TCE CONTOURS IN
UPPER ZONE B GROUNDWATER

SCALE: AS SHOWN
AUGUST 2013

FIGURE 7


MAY BOULEVARD
MAY BOULEVARD
EASTERN PARKING LOT
EDISON POWER LINE EASEMENT
MARINA PARKWAY
LEGEND
TCE CONTOUR IN µg/L BASED ON MONITORING WELL DATA
INFERRED TCE CONTOUR IN µg/L ON GPT/DROPURGH DATA AND/OR HISTORICAL MONITORING WELL DATA
INFERRED TCE CONTOUR IN µg/L BASED ON HISTORICAL SITE OPERATION
FORMER SOUTH CAMPUS FACILITY BOUNDARY
NOTES:
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. CONCENTRATIONS ARE IN MICROGRAMS PER LITER (µg/L).
3. TRICHLOROETHYLENE (TCE) CONTOURS SHOWN AS AN EXAMPLE. OTHER CHEMICALS ARE PRESENT IN GROUNDWATER.
4. CONTOURS SHOWN PUBLISHED IN 2003 REPORT TITLED "SITE CONCEPTUAL MODEL, SOUTH CAMPUS PROPERTY" (HALEY & ALDRICH).
5. CONTOURS DERIVED USING COMPOSITE DATA FROM MONITORING WELL DATA AND GPT/DROPURGH DATA (1993, 2003, 2005, AND 2006).
6. HISTORICAL MAXIMUM CONCENTRATIONS USED AT THE MONITORING WELLS.
N
0
300
600
SCALE IN FEET
TCE CONTOURS IN LOWER ZONE B GROUNDWATER
SCALE: AS SHOWN
AUGUST 2013
FIGURE 8



FORMER SOUTH CAMPUS FACILITY
EXCHANGE PARCEL

SCALE AS SHOWN
NOVEMBER 2013

FIGURE 6

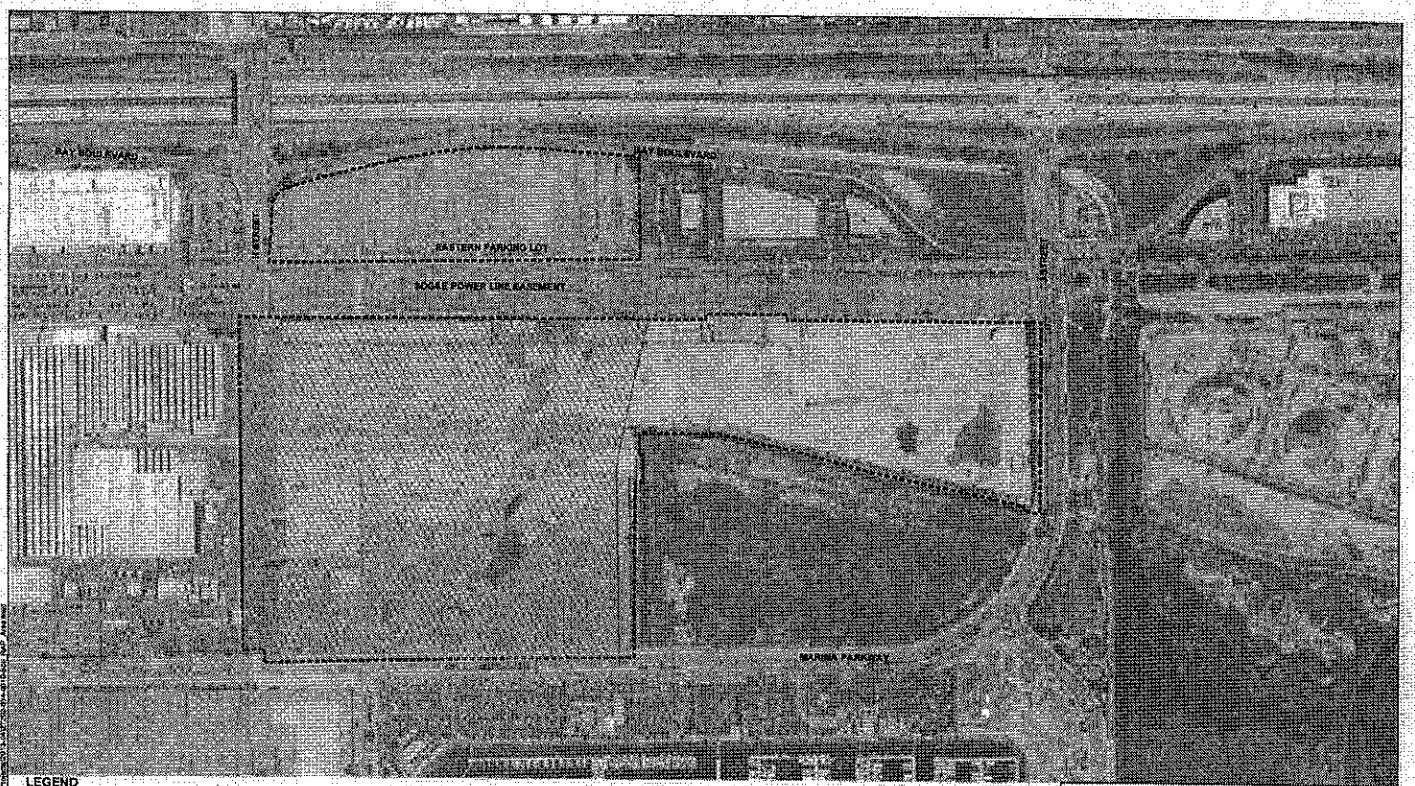

BAY BOULEVARD
BAY BOULEVARD
PATTERN PARKING LOT
SCALE POWER LINE EASEMENT
MARINA PARKWAY
LEGEND
SOIL AREA FOR REMAINDER OF SITE (EXCLUDES SOUTH CAMPUS EXCHANGE PARCEL; SEE FIGURE 9)
FORMER SOUTH CAMPUS FACILITY BOUNDARY
NOTES
1. LOCATIONS AND DIMENSIONS OF SITE FEATURES ARE APPROXIMATE.
N
W
E
S
0
500
1000
SCALE IN FEET
SOIL RAP AREA FOR REMAINDER OF FORMER SOUTH CAMPUS FACILITY
SCALE: AS SHOWN
AUGUST 2019
FIGURE 10

EXHIBIT B

TO PETITION FOR REVIEW

SCRWQCB CAO R-9-2014-0019

Perkins Coie

Geoffrey L. Robinson
PHONE: (415) 344-7174
FAX: (415) 344-7375
EMAIL: GRobinson@perkinscoie.com

Four Embarcadero Center, Suite 2400
San Francisco, California 94111-4131
PHONE: 415.344.7000
FAX: 415.344.7050
www.perkinscoie.com

April 11, 2014

VIA EMAIL AND FEDERAL EXPRESS

Tom Alo
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700

Re: Comments on Tentative Clean-up and Abatement Order No. No. R9-2014-019

Dear Mr. Alo:

On behalf of Rohr, Inc., we appreciate the opportunity to submit these comments to the California Regional Water Quality Control Board for the San Diego Region concerning Tentative Cleanup and Abatement Order No. R9-2014-019 ("Tentative Order"), as they relate to the former South Campus of Rohr's Chula Vista manufacturing facility. The Tentative Order effectively updates the CAO issued in 1998 with respect to the Chula Vista campus, but focuses only on the South Campus (now under the ownership of the Port of San Diego). As the Tentative Order reflects, significant investigation and interim remedial efforts have occurred over the past 15 years, and Rohr has worked, and will continue to work, collaboratively with the Port and Regional Board staff to implement necessary cleanup actions. In the same spirit, Rohr offers the following comments on, and requests the following revisions to, the Tentative Order.

Sections A through C include our comments on certain provisions or directives in the Tentative Order; Section D contains specific comments and proposed language changes.

A. Concrete Assessment.

As the Tentative Order observes, in 1999 ownership of the South Campus was transferred from Rohr to the Port of San Diego, and Rohr vacated the South Campus in 2002, leaving in place the buildings formerly used in its manufacturing and related operations. The buildings were in generally good condition, well-maintained and watertight. Since that time, Rohr has had no ownership, use or other interest in the buildings or associated structures, and no legal rights or responsibilities with respect to them – all such ownership rights and responsibilities were

transferred to and assumed by the Port. As the Tentative Order notes, in 2007, the Port, believing that redevelopment was imminent, demolished all of the South Campus buildings, leaving in place the building floor slabs and pavement, which have since been exposed to the elements.

The Tentative Order goes on to state that "[p]ollutants in these media [concrete, asphalt and joint compound material] can be eroded and transported into the storm drains via storm water runoff and discharge into the San Diego Bay." (¶ 23). It concludes that this "discharge may adversely affect target receptors in the San Diego Bay." Rohr is concerned by the implication that it is in some way responsible or liable for this discharge or its consequences. However, Rohr had no involvement in or responsibility for the decision to demolish the buildings and expose the floors. Nor does Rohr have responsibility for stormwater discharges from the South Campus, which are regulated through programs involving issuance of National Pollutant Discharge Elimination System permits under the federal Clean Water Act and Waste Discharge Requirements under California law by the State or Regional Boards. (Water Code § 13263). The Port is solely responsible for stormwater discharges from the South Campus and for ensuring that any associated permits or approvals are obtained and complied with. These implicate separate regulatory considerations from those involved in cleanup and abatement of soil and groundwater and, where applicable, should be taken up with the Port. Rohr therefore requests that the above discussion (in ¶ 23) be deleted from the Tentative Order.

The Tentative Order also alludes to the limited sampling the Port has conducted of the concrete surfaces and associated expansion joint material and coating material, and mentions that the Port and Rohr have submitted a work plan for, and are conducting, additional sampling "to further characterize the concrete pavement throughout the former South Campus Facility." Please note that this additional sampling and characterization is being conducted based on the Port's expressed desire to reuse some of the concrete as fill or similar purposes in conjunction with redevelopment of the property.

As with decisions regarding demolition of the South Campus buildings, Rohr has no responsibility for decisions about reuse of concrete or other materials in redevelopment. Rohr is cooperating with the Port's efforts to determine what materials can be reused onsite (and has agreed that the parties' joint consultant, Haley & Aldrich, will be used in that process). However, the Port, not Rohr is responsible for the demolition and disposition of the onsite materials. In the absence of the Port's desire to explore onsite reuse, the only testing that would be necessary for the concrete and asphalt would be whatever is required to identify potential land disposal limitations. Rohr accordingly requests that the discussion (in ¶¶ 21-22) and Directive N (regarding implementation of the work plan) be deleted from the Tentative Order. Additionally, references to the reuse options included in the Demolition Environmental Monitoring Plan ("DEMP") likewise relate to the Port's possible reuse of these materials in the context of future development and therefore do not seem appropriate in the Tentative Order.

B. Concrete and Asphalt Removal at South Campus Site.

Directive H of the Tentative Order requires that all "hazardous waste concrete, asphalt and joint compound materials" be removed from the South Campus site before implementation of the Remedial Action Plan for the soil (described in Directive I).[1]

Rohr has several concerns about this directive. Its effect would be to require that concrete, asphalt and joint material on the South Campus be removed before the April 2017 deadline for preparation of the soil and groundwater RAP for this property. Again, as discussed above, the concrete and joint material are part of the slab flooring of buildings on the South Campus that the Port elected to demolish in 2007. The responsibility for addressing potential impacts from the exposure of these materials therefore lies with the Port as the property owner. A directive to Rohr to remove part of these materials within the next year is not practical because Rohr does not own the site and cannot control the timing of removal of the asphalt and concrete. If the Port, for whatever reason, does not complete the demolition and removal of the asphalt/concrete well before the deadline for the RAP, Rohr will be unable to comply with the order and potentially subject to civil liability and penalties for violation of the order.

Directive H also adds materially to costs associated with demolition of the asphalt/concrete and remediation of the South Campus for several reasons. At present, it is contemplated that the asphalt/concrete will be demolished and removed in conjunction with redevelopment of the site. This is currently occurring on the "Exchange Parcel" because a specific development is proposed on that property, and the Port has a contractual obligation to deliver a cleared site to the developer by the end of the year. However, because there is currently no site-specific development proposal for the South Campus, it is highly unlikely that the demolition will have occurred before the April 2015 deadline for the RAP in the ordinary course.

The draft CAO currently requires remediation of the soil and groundwater to background conditions but provides, per Resolution No. 92-49, that Rohr may request alternative cleanup levels based on a demonstration that residual leachable/mobile pollutants will not result in exceedances of background water quality or pose a threat to human health or the environment or other risk-based remedial strategies. This step -- including preparation of a feasibility study -- should be conducted after the proposed development for the site has been identified so that the relevant exposure pathways and parameters can be evaluated and used to establish appropriate risk-based remediation standards.

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[1] We note that these materials do not themselves constitute a waste since they are not a discarded material (in any physical form, such as solid, liquid, semi-solid, or contained gas). 22 CCR §66261.2 (material is discarded if it is relinquished, recycled or inherently waste-like). These are construction materials that continue to be used for their intended purpose, and will only become a waste when the Port of San Diego elects to demolish and remove them.

Requiring assessment and remediation in the absence of a development proposal significantly diminishes the role of risk assessment in selection of remediation alternatives and hampers Rohr's ability to advocate, under Resolution 92-49, for clean-up levels derived on a site-specific basis using risk-based methodologies approved for use by Cal/EPA and acceptable to the RWQCB. For example, knowing where and what type of development and construction will occur on the site may allow Rohr to demonstrate that constituents can remain in the soil above background levels (e.g., beneath buildings, roadways or other paved areas) without posing a threat to human health or the groundwater, and can be effectively managed in place through combined use of engineered and institutional controls.

This is not a circumstance involving an abandoned piece of property with no foreseeable reuse. The South Campus is part of a comprehensive planned redevelopment under the Chula Vista Bayfront Master Plan. The southerly portion of this property (the Exchange Parcel) has an approved development project, and it is anticipated that RFQs and RFPs for development of the balance of South Campus will be issued by the Port next year. Given that this site will be developed in the foreseeable future, Rohr should have the opportunity to pursue approval of risk-based remediation goals, using appropriate risk assessment methodologies based on that proposed development, that are conservative and effective in protecting human health and the groundwater based on actual site use

Nor is this a circumstance in which Rohr has created or contributed to an imminent threat to human health or groundwater quality that necessitates early action. The exposure of the concrete flooring and associated joint material resulted from the Port's decision to demolish buildings several years ago. The Port – as owner of the property, including the buildings and associated slabs and foundations – has controlled and continues to control decisions about the use of the site and timing of redevelopment, and is responsible for stormwater discharge issues that result from those decisions. Concerns about runoff from the exposed surfaces should be addressed with the Port, and any interim measures necessary to protect resources should be implemented by the Port at its cost.

Requiring removal of portions of the concrete now, rather than when the site is cleared for development, will require duplicative mobilization by contractors and environmental consultants. Additionally, the asphalt/concrete now effectively caps the site, minimizing the risk of human exposure and of infiltration of precipitation or runoff that could cause leaching of chemicals into groundwater. Areas in which concrete and asphalt are removed early may need to be replaced with a temporary cap if removed substantially in advance of development, at additional cost.

For all of the foregoing reasons, Rohr requests that Directive H be deleted from the Tentative Order.

C. Directive G -- Groundwater RAP

Directive G of the Tentative Order requires preparation of a RAP that addresses the groundwater impacts for the entire South Campus site by April 18, 2015. It requires the RAP to include a detailed description of implementation activities and a schedule for their completion. It then provides that "[a]ll cleanup activities associated with groundwater *shall be completed* no later than October 30, 2020." (Emphasis added). Directive Q, in turn, requires submittal of the Final Cleanup and Abatement Completion Report verifying completion of the groundwater RAP by December 31, 2020.

Rohr is very concerned about these requirements for a number of reasons. First, the cleanup activities to be implemented are currently being assessed but have not yet been defined and approved. The RAP will include a feasibility analysis that will evaluate whether or not it is technologically and economically feasible to clean up the impacted groundwater to background water quality conditions and, if not, will propose alternative cleanup levels less stringent than background that will comply with Resolution No. 92-49. The ultimate cleanup activities to be implemented will depend on the outcome of the feasibility analysis and the Regional Board's future decisions considering feasibility, cost, duration and other factors. Establishing a five-year deadline for completion of all implementation activities prejudges the outcome of that process to some degree and limits Rohr's opportunity to obtain approval of a cleanup program of longer duration that poses no greater threat to human health or the environment that a cleanup of shorter duration.

Second, depending upon how "all cleanup activities" is defined; it may result in a mandate that is functionally and/or technically impossible to comply with. Groundwater remedial case histories for chlorinated-solvent plumes are well-established, reflecting a consistent pattern of long-term remedial efforts. Long-term groundwater treatment, long-term monitoring, and well decommissioning are all potentially within the definition of "clean-up activities," yet cannot realistically be completed within five years.

Rohr proposes instead that the Tentative Order:

> (1) include the requirement that, following approval by the Regional Board of the proposed cleanup plan, a detailed implementation description and schedule be submitted to and approved by the Board, including remedial goals with schedules for completion of specific activities; and
>
> (2) direct that the individual activities described in the plan be *implemented* within a specified period and completed within the time frame set forth in the approved schedules, and that the Final Cleanup and Abatement Completion Report verifying completion of the groundwater Remedial Action Plan be submitted as set forth in the schedules.

This will allow Rohr to propose cleanup measures that may require more than five years to implement, and will allow for the flexibility to conduct and complete specific activities within specific periods (with longer-term activities, such as monitoring, to proceed over a longer period) rather than having a single deadline for all activities to be completed.

D. Specific Comments.

Comment Number	Comment Reference		Comment
	Page	Reference	
1	4	line 3	Add "potentially" before "provided a direct pathway."
2	8	line 1	Replace "and" with "and/or."
3	9	Finding 19	Remove "L-Ditch Remediation". The two areas indicated below are on Exchange Parcel adjacent to L-Ditch but not part of L-Ditch remediation. These areas will be addressed as part of Exchange Parcel soil remediation.
4	10	item 19c	The sample from boring B58-SSW-05 was collected below groundwater and should not be identified as an area of concern for soil characterization. This was reported in the Haley & Aldrich report Titled "Supplemental Soil Assessment Data Summary Report, South Campus Property, Chula Vista, California," dated January 31, 2014. We request that this reference be removed from this section and from Figure 5.
5	14	C.1a and Summary of Due Dates	Groundwater was sampled for hexavalent chromium in October 2013. Based on a review of that data, it is recommended that groundwater be sampled again for the presence of hexavalent chromium during the 2014 groundwater sampling event. We request that the due date for the Technical Report for Site-Specific Background Concentration of Hexavalent Chromium in Groundwater be changed to 90 days after completion of the 2014 annual groundwater sampling event.

6	16 17 22 23	Directive E.4a Directive F.3.a Directive I.6.d Directive J.3.a Directive P.2	After "soil gas" add the text "...unless attributed to groundwater impacts." Soil gas that is attributed to soil impacts should be included in the RAP documents for soil remediation, and soil gas that is attributed to groundwater should be included in the RAP documents for groundwater remediation.
7	17	Directives F, I, and J	These directives require individual feasibility studies for each NEC identified during demolition monitoring. We request that this be modified to require an individual assessment report for each NEC greater than 10 cubic yards in volume identified during demolition monitoring, that shall be submitted prior to remediation of the NEC. A feasibility study for the NECs would be performed as part of a RAP addendum (for the Exchange Parcel), or included in the RAP for the South Campus excluding the Exchange Parcel.

* * *

Again, we appreciate the opportunity to submit these comments and look forward to discussing them with you further.

Sincerely,

Geoffrey L. Robinson

cc: Catherine Hagan, Esq.