CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

TENTATIVE ORDER No. R2-2017-0XXX

UPDATED SITE CLEANUP REQUIREMENTS and
RECISSION OF ORDER NO. 97-109 for:

SAFETY-KLEEN SYSTEMS, INC.

801 WHARF STREET
RICHMOND, CONTRA COSTA COUNTY

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

SITE LOCATION AND DESCRIPTION

1. Safety-Kleen Systems, Inc. (hereinafter called Safety-Kleen or the Discharger), owns and operates an aboveground bulk petroleum storage tank farm (hereinafter called the site). The site is located in the City of Richmond's inner harbor adjacent to the Santa Fe Channel, which is a tributary of the Richmond Harbor Channel, which flows into San Francisco Bay (Figure 1). The site is surrounded by commercial and industrial uses to the south and west, and by the Santa Fe Channel to the north and east. The site was owned by BP Lubricants USA, Inc. until August 5, 2016, when Safety-Kleen purchased the site.

PURPOSE OF ORDER

2. Pursuant to California Water Code (CWC) section (§) 13304, this Order requires the Discharger to perform site investigations and to continue monitoring implementation of corrective action measures at specified areas of the site. This Order accomplishes the following:

   - Rescinds and supersedes outdated Site Cleanup Requirements (SCRs);
   - Updates ownership information; and
   - Requires the Discharger to ensure that its monitoring programs are adequate to ensure that requirements of this Order are met, and that water quality is protected.

REGULATORY HISTORY

3. Historically, the Water Board has regulated the site under two different orders:
   a) Waste Discharge Requirements (WDR) Order No. 85-041, adopted on April 30, 1985, required Burmah-Castrol (the former owner) to:
      - Implement a remedial action plan to control and clean up groundwater containing oil and volatile organic compounds (VOCs) by pumping extraction wells;
      - Define the lateral and vertical extent of contaminated groundwater around monitoring wells BC-6 and BC-14;
      - Monitor and mitigate subsurface oil seeps to the Santa Fe Channel shoreline; and
      - Monitor groundwater wells at the site semi-annually.

   b) SCR Order No. 97-109, adopted on September 17, 1997, rescinded WDR No. 85-041. After adoption of Order No. 97-109, the site was formally transferred from the Department of

Toxic Substances Control (DTSC) to the Water Board. The SCR required Burmah-Castrol's successor, Castrol North America Automotive Inc., to remediate benzene in compliance monitoring well BC-14 and other upgradient, or point-of-compliance boundary monitoring wells where cleanup goals were exceeded. The SCR established Maximum Allowable Concentration Limits (MACLs) for three VOCs: benzene (71µg/l), vinyl chloride (525 µg/l), and 1,2-dichloroethane (1,2-DCA, 99 µg/l).

4. This Order rescinds and supersedes Order No. 97-109. All tasks, provisions, and specifications required by the previous Order have been satisfactorily completed.

5. The site discharges stormwater to the Santa Fe Channel through the National Pollutant Discharge Elimination System (NPDES) Industrial General Permit Number 2014-0057-DWQ (permit).

SITE DESCRIPTION AND HISTORY

6. The facility has been used for bulk petroleum storage since 1956. The facility, paved parking, and tank areas cover approximately seven acres, including the Lube Oil Packaging area. There are 68 above-ground petroleum storage tanks of various sizes, ranging from 35 to 10,000-barrel capacity, all with secondary containment systems. Petroleum materials arrive at the site via rail, tanker truck, or barge. The materials are unloaded and transferred to the storage tanks via a system of pipes and pumps. There is a containment pit beneath the railcar loading/unloading area to catch any spills (see Figure 2). The loading/unloading area for tanker trucks is bermed and graded, and the unloading dock for barges is equipped with a 300-foot long floating oil boom to contain any potential releases to the Santa Fe Channel. There are no buried piping installations used to transfer oil at the site, except for piping to the oil water separator for stormwater. All pipeline hose connections and hoses are inside areas with secondary containment.

7. Prior to World War II the site was a tidal marsh. During the War, Kaiser Steel dredged the area and built three shipways to manufacture Liberty Ships. After the War, the site was vacated by Kaiser Steel and acquired by Acheson, Topeka, and Santa Fe Railway, and the City of Richmond. Between 1950 and 1956, the former shipways were backfilled with imported soil. In 1956, the Bray Oil Company purchased the site and built a lube oil plant. In 1966, Bray built a marine terminal and assumed operations of the terminal in 1968. Between 1971 and 1982, Kodak leased part of the site for the storage and distribution of petrochemicals. In 1981 Burmah-Castrol Inc. (BCI) acquired Bray Oil Company and constructed a bulk oil storage and blending terminal. BCI changed its name twice during its tenure at the site, once in 1986 and again in 1994 to Castrol North America Automotive Inc. In 2000, BP Lubricants USA, Inc. purchased the site.

Geologic Setting

8. The site overlies former Bay channels and tidal mud flats. Above the Bay Mud is a heterogeneous fill consisting of clay, sand, and gravel deposits with some silt and clay interbedded. The upper two to five feet of fill consists of highly permeable sandy gravel or gravelly sand, with sandstone gravel up to 6 inches in diameter. Beneath the permeable layer is

a layer of Bay Mud 5-15 feet thick, which overlies a stiff to very stiff silty clay of very low permeability to depths of at least 45 feet below ground surface (the maximum depth drilled at the site).

9. Bedrock is assumed to be present approximately 200-300 feet beneath the fill and Bay Mud layers, and consists of Franciscan assemblage rock types. This bedrock forms the San Pablo Ridge to the west of the site.

Seismicity

10. The Hayward Fault is located approximately two miles east of the site and is zoned as an active fault along which displacement has occurred in the last 200 years. The fault has a predicted maximum credible earthquake of 7.1 on the Richter magnitude scale.

Hydrogeologic Setting

11. Groundwater is first encountered at depths of one to nine feet below ground surface (bgs). Shallow groundwater flows north/northeast toward the Santa Fe Channel. In west Richmond there are several water-bearing zones between depths of 100 and 300 feet; however, site-specific groundwater conditions below 45 feet bgs are unknown, as this is the maximum depth explored at the site.

12. The Santa Fe Channel was created by dredge-cutting through marshy swamp land in the early 1900s, and using material excavated from the Richmond harbor to fill the swamp. The dredge cut has been improved over the years to create the Santa Fe Channel.

STORMWATER AND WASTEWATER MANAGEMENT

13. The site operates an oil/water separator (OWS) located northeast of Tank Farm Area 2A (See Figure 2), near the railroad tracks. The OWS skims oil and other debris from stormwater from exposed process areas, yard areas, and the diked secondary containment areas. The water is then run through a zinc treatment system (ZTS, see below) before it is discharged to the Santa Fe Channel under the Industrial General NPDES permit.

14. All wastewater sources, such as process water and water used in hydrostatic tank testing, pass through the ZTS to ensure compliance with the City of Richmond's influent concentration limit. Since zinc is, or historically was, an additive to motor oil, the water that is used to perform hydrostatic tank testing may contain residual zinc. Stormwater and wastewater are stored in Tanks T-301 and/or T-110 prior to ZTS treatment then pumped to the sanitary sewer system, utilizing the required controls of the permit to discharge to the City of Richmond's wastewater treatment plant, or to the Santa Fe Channel under the permit. Accumulated oil from the OWS is pumped to Tank T-49 and is disposed under proper waste characterization.

    The ZTS is operated manually. If the collected, treated, and filtered water is from rainfall sources it must be discharged directly to the Bay, and must not be discharged to the City of Richmond sewer system. If the collected, treated, and filtered water is from hydrostatic testing or other industrial activities onsite, the water must be sent to the City of Richmond sewer system and must not be discharged to the Bay.

HISTORY OF SPILLS, RELEASES, AND CLEANUP ACTIONS

15. Between 1977 and 1984, multiple investigations were conducted at the site, which consistently identified hydrocarbons in soils and groundwater. Chlorinated VOCs such as 1,2-DCA, vinyl chloride, carbon tetrachloride, and chloroform were first detected in groundwater when monitoring wells were installed and sampled in the early 1980s.

    Specific areas of interest at the site can generally be divided into two areas: Areas of oil seepage into Santa Fe Chanel, and the rail tank car spill area.

    i) *Seeps to the Santa Fe Channel:* In 1977 the United States Coast Guard drilled 16 boreholes to collect soil and groundwater samples for hydrocarbon analysis. The results of the study indicated hydrocarbons were migrating toward the Santa Fe Channel. Between 1975 and 1978, Bray Oil Company constructed a concrete barrier wall, approximately 6 feet deep and 60 feet long along the shoreline to mitigate oil seepage into the Santa Fe Channel. Two monitoring wells (BC-3 and BC-8) were installed to monitor the effectiveness of the barrier wall. In 1980, shallow pits were excavated at either end of the barrier wall to intercept oily water seeping from the site. Both pits were backfilled in 1988 after they deteriorated and became safety hazards. In 1984, wells BC-3 and BC-8 were converted to extraction wells to enhance recovery of shoreline oil seeps. In 1997, the Water Board gave approval to stop groundwater extraction at these locations; however, Order No. 97-109 required that the shoreline be visually inspected for any seepage on a monthly basis through the wet months (November through April) each year, and that samples be collected and analyzed when there is sufficient flow (See Figure 3 for seep locations).

    ii) *Rail tank car spill area:* In 1984, an environmental investigation found elevated VOCs in soil and groundwater at the site. This pollution was apparently the result of spillage and/or improper oil and chemical handling practices by the former owners and reported by Burmah-Castrol. In 1995 and 1996, an extensive soil sampling investigation was conducted in the vicinity of wells BC-1 and BC-1D and along the railroad tracks at the southwest edge of the property. The primary VOCs detected in soil along the rail spur included 1,2-DCA, benzene, ethylbenzene and vinyl chloride. During the 1995 and 1996 detailed subsurface investigation, approximately 300 soil samples were collected in the area of proposed rail car containment structures. Analytical results indicated that in most of the soil samples 1,2-DCA was detected at concentrations less than 1 mg/kg. The highest 1,2-DCA concentrations detected in soil were 2,600 mg/kg at a depth of 10 feet bgs, and 2,500 mg/kg and 3,000 mg/kg at a depth of 11 feet bgs, respectively. As such, an excavation cleanup limit of 300 mg/kg was selected to ensure that any residual free-phase 1,2-DCA was removed. Additionally, an estimated 1,519 cubic yards of non-hazardous petroleum hydrocarbon impacted soil (i.e. overburden) was excavated and disposed offsite, and 390 cubic yards of 1,2-DCA-impacted soil was treated onsite using thermal desorption technology to remove concentrations above 1 mg/kg, then used to partially backfill the excavation.

    The rail car containment area was designed with vaults capable of containing the contents of the site's largest rail car, with a safety factor adequate to handle simultaneous

runoff from a large storm event. The system is designed to contain product. In the event of a spill or a large storm water event, the product or rain water is removed from the containment structure and manually pumped through piping to the existing oil/water separator and storm water treatment system. A low permeability and chemical-resistant liner was also placed above each of the deep containment excavations at approximately seven to eight feet bgs to reduce to potential for infiltration of rain water. See Figure 3 for excavation areas.

16. In 1991 a deed restriction was recorded to prohibit construction and/or soil management within the 50-foot radii of monitoring wells BC-1, which had elevated concentrations of 1,2-DCA, and BC-14, which had elevated levels of benzene. The deed restriction identified two areas at the site where no construction or soil management could occur without DTSC approval. Order No. 97-109 required remediation of benzene in the vicinity of BC-14, which is a point of compliance well, and a subsequent effectiveness evaluation. In 1998, oxygenation was started in an effort to remediate benzene in shallow groundwater through aerobic biodegradation. In 2000, the oxygenation ceased after benzene concentrations dropped below the MACL of 71 µg/l.

17. In October 2013, Stantec submitted a Review of Previous Risk Assessment and Updated Screening Level Human Health and Ecological Risk Assessment. The document was amended in April 2014 to remove the ecological risk portion. It was decided that a separate document would be prepared to address oil seeps to the Santa Fe Channel, and would assess any potential impacts to ecological receptors. Water Board staff concurred with Stantec's June 2014 report and recommendation for No Further Action for VOCs in soil.

MONITORING PROGRAMS

18. Order No. 97-109 established a Discharge Monitoring Program (DMP) that included 14 groundwater monitoring wells. In 2002 the DMP was modified to:

    - Discontinue analyzing VOCs in 5 groundwater monitoring wells;
    - Abandon 3 groundwater monitoring wells; and
    - Reduce groundwater elevation measurement from semi-annually to annually.

    Currently there are 11 groundwater monitoring wells (BC-1A, BC-1D, BC-3, BC-6, BC-8 through BC-11, BC-14, BC-14B, and BC-17) that are gauged and sampled semi-annually in the first and third quarters of each year. Groundwater samples are analyzed for petroleum and VOCs. Monitoring and sampling locations are shown on Figure 3.

19. Seven seep locations along the Santa Fe Channel are visually inspected for any oil seeps at low tide on a monthly basis during the wet months of November through April. When observed flow from the seeps exceeds 1 liter/minute, they are sampled and analyzed for VOCs and total petroleum hydrocarbons.

BASIN PLAN

20. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. It designates beneficial uses and water

quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and the U.S. EPA, where required.

BENEFICIAL USES AND SOURCES OF DRINKING WATER

21. Antidegradation Policy: The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, which requires that existing water quality be maintained unless degradation is justified based on specific findings. State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to the Discharger and requires attainment of background levels of water quality or the highest level of water quality that is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background shall be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. These SCRs comply with the Antidegradation Policy because they do not authorize further degradation of water quality at the site and require attainment of risk-based cleanup levels that are consistent with the maximum benefit to the people of the state, will not adversely impact beneficial uses, and will not result in exceedances of water quality objectives.

22. State Water Board Resolution No. 88-63: The Basin Plan provides that all groundwater in the Region is considered suitable, or potentially suitable, for municipal or domestic water supply and that, in making any exceptions, the Water Board will consider the criteria referenced in State Water Board Resolution No. 88-63, "Sources of Drinking Water," where:

    i) The total dissolved solids (TDS) exceed 3,000 mg/l (5,000 μS/cm, electrical conductivity), and it is not reasonably expected by the Water Board that the groundwater could supply a public water system, or
    ii) There is contamination, either by natural processes or human activity (unrelated to the specific pollution incident), that cannot reasonably be treated for domestic use using best management practices or best economically achievable treatment practices, or
    iii) The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day (gpd).

23. The site is located within the East Bay Plain Sub-Basin. Groundwater production occurs in the southern portion of the Basin only. A study done by Weiss Associates in 1984 found that potable water occurs below a depth of 100 feet in this part of Richmond. Two deeper groundwater wells (BC-6A and BC-1B) were installed between 32 and 45 feet bgs to evaluate water chemistry, hydraulic conductivity (K values), and well yield. The TDS values ranged from 58,582 to 67,396 mg/L, K values ranged from 10^{-2} to 10^{-4}, and pump tests indicate the well yield ranges from 475 to 720 gpd; however, the shallower wells (installed to depths of 20 feet bgs or less) dewatered quickly and recovered slowly. Recent TDS data was collected on June 1, 2017 from five groundwater wells on site. The results ranged from 1,220 to 8,850 mg/L, with the average among the five wells being 4,348 mg/L. There is no historical, existing, or planned use of groundwater (shallow or deep) as a source of drinking water or other use at the site.

24. The existing beneficial uses of surface water in the San Francisco Bay are:

    a. Commercial and sport fishing
    b. Shellfish harvesting
    c. Estuarine habitat
    d. Fish migration
    e. Preservation of rare and endangered species
    f. Fish spawning
    g. Wildlife habitat
    h. Water contact recreation
    i. Non-contact water recreation
    j. Industrial service supply
    k. Industrial process supply
    l. Navigation

CLEANUP AUTHORITY

25. California Water Code section 13304 requires any person who has discharged or discharges waste into waters of the State in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the State Water Resources Control Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into waters of the State and creates, or threatens to create, a condition of pollution or nuisance, upon order of the Regional Water Board, to clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

26. California Water Code section 13267 requires any person who proposes to discharge, is or is suspected of having discharged, or has discharged waste that could affect the quality of the waters of the state to furnish monitoring or technical reports, provided that the burden of preparing the reports bears a reasonable relationship to the need for the reports and the benefits to be obtained.

27. State Water Board Resolution No. 92-49: State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under California Water Code Section 13304," establishes policies and procedures to be used by the Water Board when:

    - Determining when a person is required to investigate, cleanup, or abate a discharge;
    - Concurring with a discharger's selection of cost-effective investigation and remedial measures;
    - Overseeing implementation of investigation and remedial measures; and
    - Determining schedules for investigation and remedial measures.

    This Order implements and is consistent with Resolution No. 92-49.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

28. Issuance of this Order is an action to enforce the laws and regulations administered by the Water Board and for the protection of the environment. As such, this action is categorically exempt from CEQA (Public Resources Code section 21000 *et seq*.), pursuant to section 15321, subdivision (a)(2), of title 14 of the California Code of Regulations. This Order requires continued monitoring and preparation of work plans and reports that do not have the potential for significant impacts on the environment. Monitoring activities will result in negligible direct or indirect changes to the physical environment, such as the collection of small groundwater samples from existing wells, and the submittal of plans and reports will not have any effect on the physical environment. As such, the general rule that the California Environmental Quality Act (CEQA) only applies to projects that have the potential for causing a significant effect on the environment (the "common sense" exemption) applies, and no environmental document needs to be prepared in connection with the adoption of this Order [Cal. Code Regs., title 14, §15061(b)(3)]. When a specific cleanup proposal is submitted to the Executive Officer for approval, such proposal must and will be evaluated under CEQA prior to approval. Conducting a CEQA analysis before such plans are submitted, however, would be premature and speculative.

NOTICE AND MEETING

29. The Water Board has notified the Discharger and interested agencies and persons of its intent to issue this Order and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and comments.

30. The Water Board, at a public meeting, heard and considered all comments pertaining to this issuance of Site Cleanup Requirements.

IT IS HEREBY ORDERED, pursuant to CWC section 13304 and 13267, that the Discharger (or its agents, successors, or assignees) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner that will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Migration of pollutants through subsurface transport to waters of the State is prohibited**.**

3. There shall be no discharge of wastes or hazardous substances to surface waters except as permitted under the site's current NPDES permit.

4. Activities associated with the subsurface investigation and cleanup that will cause significant adverse migration of wastes or hazardous substances are prohibited.

5. The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in CWC section 13050(m).

6. The Discharger shall not cause the following conditions to exist in waters of the State at any place beyond the influence of the groundwater extraction trenches or other approved treatment systems:

   a. Surface Waters

      i. Floating, suspended, or deposited macroscopic particulate matter or foam;
      ii. Bottom deposits or aquatic growth;
      iii. Adversely altered temperature, turbidity, or apparent color beyond natural background levels;
      iv. Visible, floating, suspended or deposited oil or other products of petroleum origin; or
      v. Toxic or other deleterious substances to be present in concentrations or quantities that may cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

   b. Groundwater

      i. Further degradation of groundwater quality and/or substantial worsening of existing groundwater impacts; and
      ii. Subsurface migration of pollutants from the Discharger's operations to waters of the State.

B. TASKS

ALL REQUIRED SUBMITTALS MUST BE ACCEPTABLE TO THE EXECUTIVE OFFICER (SEE PROVISION C.1 - *COMPLIANCE*)

Study Toxicity of Oil Seeps to the Santa Fe Channel

1. The Discharger shall evaluate the risk to ecological receptors from oil seeps discharging to surface water in the Santa Fe Channel. The Discharger shall prepare a work plan acceptable to the Executive Officer that evaluates the toxicity of the oil seeps and, if found to be toxic per the Basin Plan's narrative water quality objective, present preliminary options to eliminate or treat the seeps prior to discharge to the Santa Fe Channel. Upon completion of the evaluation, a Risk Management Plan shall be submitted to present the findings and make any necessary recommendations, as required by Task 4 below.

   COMPLIANCE DATE: November 15, 2017

Update Water Quality Protection Standards (WQPS)

2. The Discharger shall update existing WQPS in accordance with either federal or state regulations or guidelines, or with technically-justified site-specific standards, acceptable to the Executive Officer. The WQPS shall consist of the list of constituents of concern, the concentration limits, the Points of Compliance, and all Monitoring Points.

   COMPLIANCE DATE: January 15, 2018

Update Groundwater Self-Monitoring Program (SMP)

3. The Discharger shall evaluate the current groundwater monitoring well network, and determine its adequacy in monitoring site conditions. Seep sampling locations and frequency shall also be evaluated for efficacy. The updated SMP shall propose any necessary updates to incorporate new or abandoned/destroyed groundwater monitoring wells, and/or sampling parameters/frequency. All sampling protocols and reporting requirements shall be consistent with those described in Attachment A. As part of the update, all historic monitoring well data (from at least the most recent five-year period) shall be evaluated, a determination made about adequacy of the number of point of compliance wells, and compliance timelines added for any future corrective action that may be needed.

   COMPLIANCE DATE: January 15, 2018

Prepare a Risk Management Plan (RMP)

4. The Discharger shall submit a RMP, acceptable to the Executive Officer, which summarizes all remedial actions completed at the site; describes the extent of any remaining contamination left in place; and describes how the risks associated with the remaining contamination will be addressed/managed in the future. The technical report shall include an evaluation of the effectiveness of all remedies implemented at the Site to date in order to contain and/or cleanup soil and groundwater contamination. At a minimum, demonstration of remedial action effectiveness shall be based on adequately measured soil and water quality parameters, including contaminant concentrations and water levels, and on appropriately calculated hydraulic, pressure, and chemical gradients, as necessary. The remedial action effectiveness evaluation shall also address the following:

   a) Summary of effectiveness in controlling contaminant migration and protecting human health and the environment;
   b) Comparison of contaminant concentration trends with cleanup standards;
   c) Remediation performance data, if remediation is deemed necessary;
   d) Summary of additional investigations (including results), as needed; and
   e) Additional remedial actions proposed to meet cleanup standards (if applicable) including a time schedule for implementing such actions.

   The RMP shall include a visual presentation of the full current extent of groundwater impacts, in excess of established cleanup standards, using posted contaminant concentrations next to each well or point where measured. For remediation by natural attenuation, which relies on intrinsic biodegradation, remedial action effectiveness shall be based on established spatial and temporal trends of contaminant concentrations and indicator parameters. At a minimum, indicator parameters for intrinsic biodegradation in groundwater (aerobic and anaerobic) shall include dissolved oxygen, nitrate, sulfate, ferrous iron, methane, carbon dioxide, oxygen-reduction (redox) potential, Total Kjeldahl Nitrogen, phosphate, and pH. The following data presentation methods shall be used to demonstrate spatial and temporal trends of contaminant concentrations and indicator parameters:

   a) Figures showing the current and historic extent of contamination;

b) Graphs showing current and historic contaminant concentrations and water levels versus time in the direction of groundwater flow and at plume boundaries;
c) Graphs showing current and historic contaminant concentrations versus distance in the direction of groundwater flow;
d) Figures showing the current and historic spatial distribution of indicator parameters for intrinsic biodegradation;
e) Graphs showing current and historic indicator parameter concentrations versus time in the direction of groundwater flow and at plume boundaries; and
f) Graphs showing current and historic indicator parameter concentrations versus distance in the direction of groundwater flow.

In addition, the RMP shall estimate the time to reach cleanup standards in groundwater, both onsite and offsite, using regression analysis of temporal contaminant concentration trends. The evaluation must evaluate whether other feasible and implementable remedial methods might significantly accelerate the attainment of cleanup standards.

COMPLIANCE DATE: August 15, 2018

Spill Reporting and Documentation of Cleanup

5. The Discharger shall notify the Water Board of any reportable quantity of lubricant, or any other product stored and used onsite, that is either spilled or leaked to any unlined ground surface (i.e., any surface not protected by a barrier which is impermeable to petroleum products or other constituents which may cause adverse water quality impacts). Verbal notification shall be provided within one working day of discovery of the spill and shall be followed by a written description to include the nature, location and volume of the spill, and the total area and/or soil volume affected. In addition, the written report shall include a map that identifies the location of the spill and photographic documentation of the spill area before and after cleanup.

   COMPLIANCE DATE: Verbal notification within 24 hours after discovery written notification within five working days after discovery.

C. PROVISIONS

1. Compliance: The Discharger shall comply immediately, or as prescribed by the time schedule contained herein, with all Prohibitions, Tasks, and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these Site Cleanup Requirements. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of this Order by the Water Board.

2. Authority to Request Technical Reports: All technical and monitoring reports required by this Order are requested pursuant to CWC § 13267. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to CWC § 13268.

3. All technical reports submitted pursuant to this Order shall be prepared under the supervision of, and signed by, a California-registered civil engineer or a California-registered professional geologist.

4. Modifications to Self-Monitoring Program: At any time, the Discharger may file a written request (including supporting documentation) with the Executive Officer, proposing modifications to the attached Self-Monitoring Program (SMP). If the proposed modifications are acceptable, the Executive Officer may issue a letter of approval that incorporates the proposed revisions into the SMP.

5. Modifications to Remedial Action Plan: The Discharger shall notify and obtain approval from the Executive Officer at least 60 days prior to implementing any proposed major modifications to any approved Remedial Action Plan, Implementation Schedule, or remediation system. The notification shall include the rationale for any proposed modification.

6. Delayed Compliance: If the Discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the tasks, the Discharger shall promptly notify the Executive Officer of the delay and reason for the delay, and the Water Board may consider revisions to this Order.

7. Operation and Maintenance (O&M): The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order.

8. Availability: A copy of this Order shall be maintained by the Discharger and shall be made available by the Discharger to all employees or contractors performing work necessary to comply with the tasks set forth in this Order.

9. Change in Ownership: In the event of any change in control or ownership of the site presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Water Board upon a final change in ownership.

   COMPLIANCE DATE: 30 days after a change in site control or ownership

10. Stormwater: The Discharger shall comply with the provisions of the site's current NPDES permit for the management, monitoring, and discharge of stormwater and wastewater effluent.

11. Reporting of Hazardous Substance Release: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it probably will be discharged in or on any waters of the State, the Discharger shall:

    a. Report such discharge to the following:

i. The Water Board by calling (510) 622-2369 during regular office hours (Monday through Friday, 8 a.m. – 5 p.m.); and to

ii. The California Emergency Management Agency at (800) 852-7550.

b. A written report shall be filed with the Water Board within five working days. The report shall describe:

i. The nature of the waste or pollutant.
ii. The estimated quantity involved.
iii. The duration of the incident.
iv. The cause of the release.
v. The estimated size of the affected area, and nature of the effect.
vi. The corrective actions taken or planned and a schedule of those measures.
vii. The persons/agencies notified.

This reporting is in addition to any reporting to the California Emergency Management Agency that is required pursuant to the Health and Safety Code.

12. Contractor/Consultant Qualifications: All technical documents shall be signed by and stamped with the seal of a California professional geologist, or a California registered civil engineer.

13. Lab Qualifications: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Water Board using approved U.S. EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Water Board review. This provision does not apply to analyses that can only reasonably be performed onsite (e.g., temperature).

14. Document Distribution: Copies of all correspondence, technical reports, and other documents submitted in compliance with this Order shall be provided to the Water Board.

15. Submittal Revisions: Where the Discharger becomes aware of a material error in fact or omission in any report previously submitted to the Water Board, it shall promptly submit such facts or information. [CWC sections 13260 and 13267]

16. Severability: Provisions of this Order are severable. If any provisions of this Order are found invalid, the remainder of these Requirements shall not be affected. [CWC 9213]

17. GeoTracker Requirements: The State Water Board has adopted regulations requiring electronic report and data-submittal to GeoTracker. The text of the regulations can be found at the following URL:

http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/index.shtml

Parties responsible for cleanup of pollution at sites overseen by the Water Board are required to submit the following information electronically to GeoTracker:

a. Groundwater analytical data;
b. Surveyed locations of monitoring wells;

c. Boring logs describing monitoring well construction; and
d. Portable data format (PDF) copies of all reports (the document in its entirety [signature pages, text, figures, tables, etc.] must be saved as a single PDF file).

Note that the Discharger is still responsible for submitting one hard copy of all reports pursuant to this Order, unless otherwise agreed upon. The Water Board may require direct submittal of electronic reports and correspondence in addition to the State Water Board's GeoTracker requirements.

18. Entry and Inspection: The Discharger shall allow the Water Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

    a. Enter upon the Discharger's premises where a regulated site or activity is located or conducted, or where records must be kept under the conditions of this Order;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
    d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the CWC, any substances or parameters at any location.

19. Maintenance of Records: The Discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer. Records of monitoring information shall include:

    a. The date, exact place, and time of sampling or measurements;
    b. The individuals who performed the sampling or measurements;
    c. The date(s) analyses were performed;
    d. The individuals who performed the analyses;
    e. The analytical techniques or method used; and
    f. The results of such analyses.

20. Report Certification: All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:

    a. For a corporation – by a principal executive officer or the level of vice president.
    b. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
    c. For a municipality, State, federal, or other public agency – by either a principal executive officer or ranking elected official.

    A duly authorized representative of a person designated in this provision may sign documents if all of the following are met:

a. The authorization is made in writing by a person described in paragraph (a) of this provision;
b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated site or activity; and
c. The written authorization is submitted to the Executive Officer.

Any person signing a document under this Provision shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment." [CWC § 13263, 13267, and 13268]

21. Cost Recovery: The Discharger (as applicable) shall be liable, pursuant to CWC section 13304 and Health and Safety Code section 25270.9 to the Water Board for all reasonable costs actually incurred by the 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 Order. If the site addressed by this Order is enrolled in a State Water Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the Discharger (as applicable) over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program**.**

22. Periodic Site Cleanup Requirements (SCR) Order Review: The Water Board will review this Order periodically and may revise it when necessary. The Discharger (as applicable) may request revisions and upon review the Executive Officer may recommend that the Water Board revise these requirements.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on XXXXXX.

_____
Bruce H. Wolfe
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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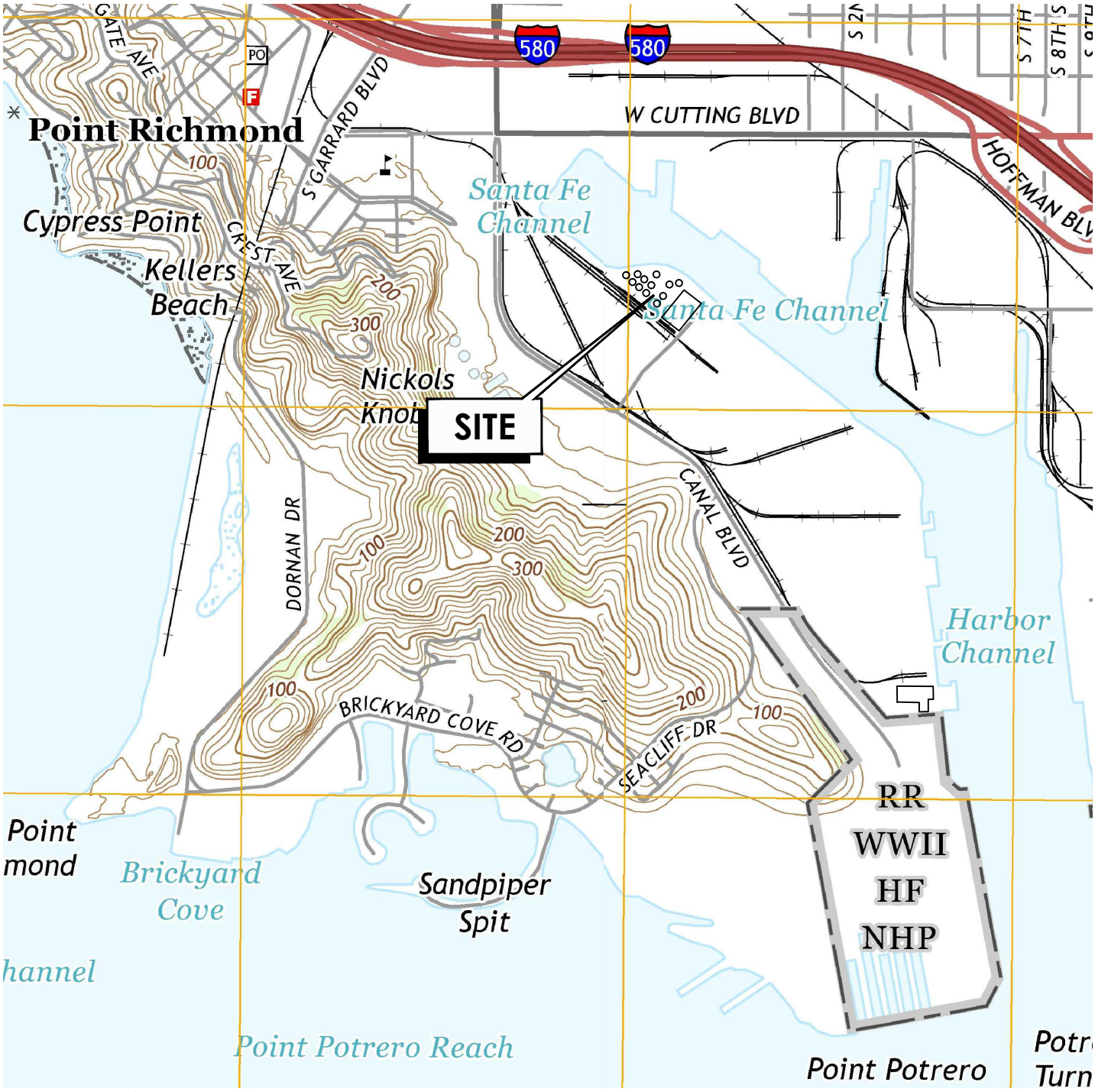
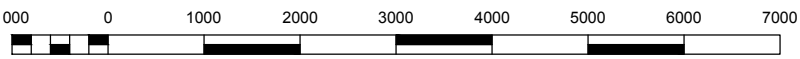
Figures:

Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Detailed Site Plan

Attachment: Self-Monitoring and Reporting Program, Order No. R2-2017-0XXX



CALIFORNIA



REFERENCE: USGS 7.5 MINUTE QUADRANGLES;
SAN QUENTIN, CALIFORNIA; 2015 AND RICHMOND, CALIFORNIA; 2015

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FOR:			FIGURE:
SAFETY-KLEEN RICHMOND LUBRICANTS 801 WHARF STREET RICHMOND, CALIFORNIA		SITE LOCATION MAP	1
JOB NUMBER: 185703500	DRAWN BY: JRO	CHECKED BY: RC/BH	APPROVED BY: JSA	DATE: 11/11/16

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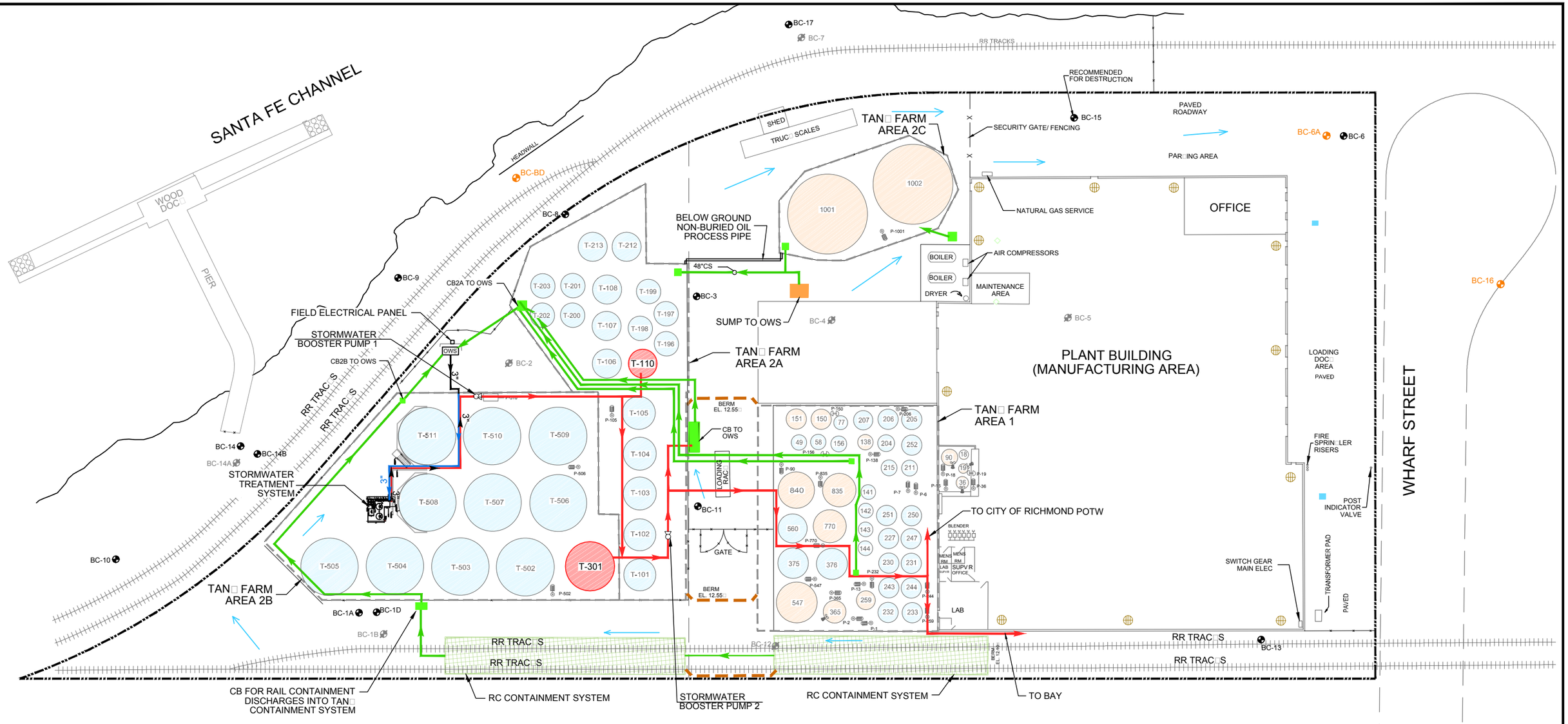

LEGEND:

- APPROXIMATE MONITORING WELL LOCATION
- APPROXIMATE DESTROYED MONITORING WELL LOCATION
- NON-PROCESS AREA STORM DRAINS WHICH DRAIN TO WHARF STREET
- PROCESS AREA STORM DRAINS WITH NORMALLY OPEN VALVES
- SUMP TO OIL/WATER SEPARATOR
- RAILCAR CONTAINMENT SYSTEM, CONSTRUCTED IN 1996
- TANK FARM BERM
- BERM
- ROOF DRAIN
- WATER TANK
- HEATED TANK
- NON-HEATED TANK
- APPROXIMATE MONITORING WELL LOCATION PREVIOUSLY APPROVED FOR DESTRUCTION
- SURFACE FLOW DIRECTION
- STORMWATER / WASTEWATER PIPING
- FULLY TREATED WATER PIPING
- PARTIALLY TREATED WATER PIPING

CP - CORRUGATED PIPE
CB - CATCH BASIN
CS - CARBON STEEL PIPE
OWS - OIL/WATER SEPARATOR
POTW - PUBLICLY OWNED TREATMENT WORKS
RC - RAIL CAR
RR - RAILROAD

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FOR:
SAFETY-KLEEN RICHMOND LUBRICANTS
801 WHARF STREET
RICHMOND, CALIFORNIA

SITE PLAN

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703500	JRO	RC/BH	JSA	04/11/17

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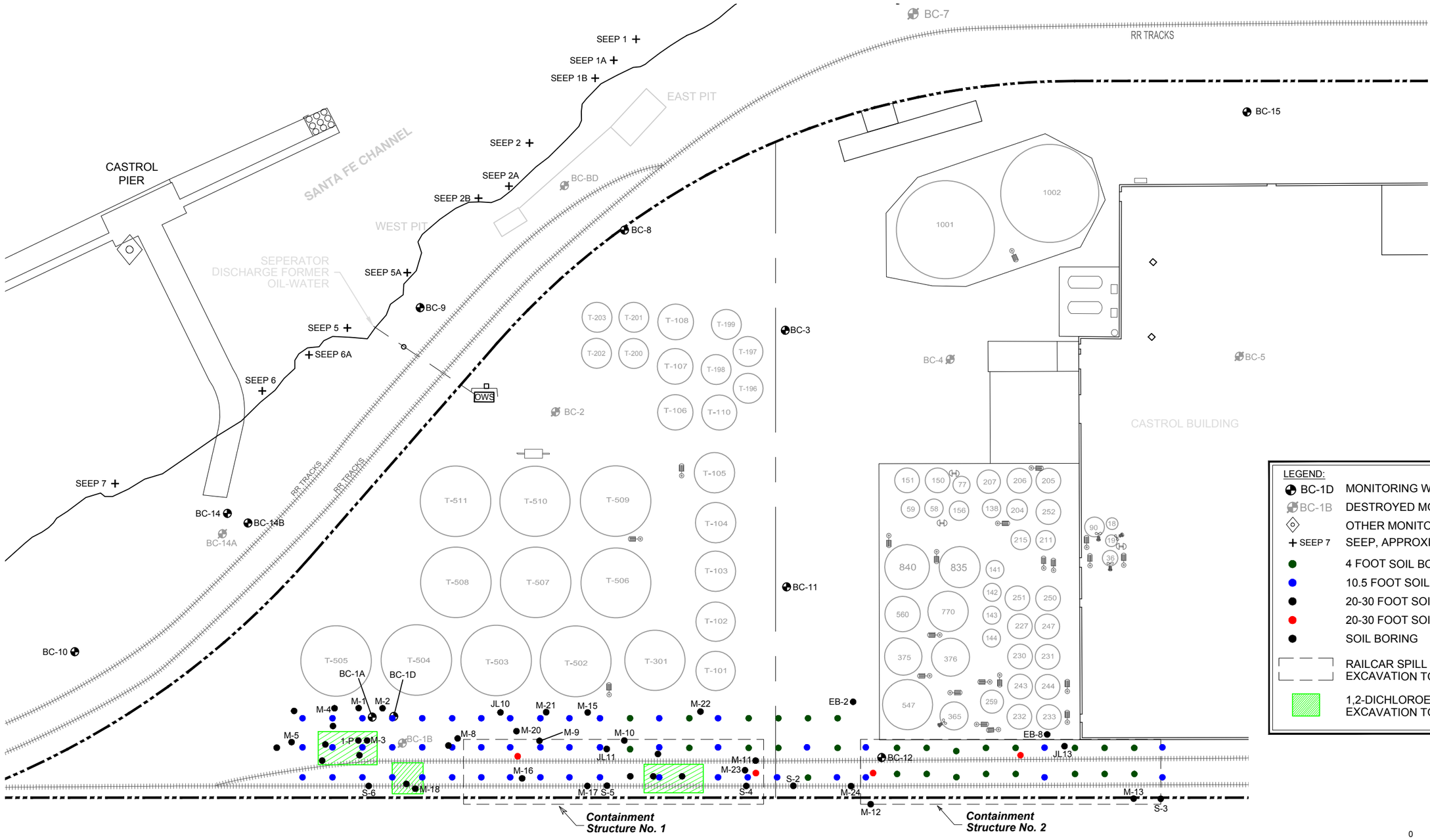

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FOR:
SAFETY-KLEEN RICHMOND LUBRICANTS
801 WHARF STREET
RICHMOND, CALIFORNIA

DETAILED SITE PLAN

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703500	JRO	RC/BH	JSA	11/11/16

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING AND REPORTING PROGRAM for:

SAFETY-KLEEN SYSTEMS, INC.
801 WHARF STREET
RICHMOND, CONTRA COSTA COUNTY

TENTATIVE ORDER NO. R2-2017-0XXX

1. **Authority and Purpose:** The Board requires the technical reports specified in this Self-Monitoring Program (SMP) pursuant to CWC sections 13267 and 13304. This SMP is intended to document compliance with Site Cleanup Requirements Order No. R2-2017-0XXX (SCR).

2. **Monitoring Requirements:** The Discharger shall perform groundwater and seep monitoring (water level measurement, observations, and analytical sampling) according to the updated SMP (as required by Task 3 of the SCR), which will specify monitoring location identifications, frequencies, parameters, and analytes. Current monitoring locations are shown on Figure SMP-1. The Discharger shall sample any new monitoring wells quarterly for at least one year, and analyze groundwater samples from new wells for the same constituents as the existing wells.

3. **Reporting Requirements:** The Discharger shall submit self-monitoring reports (SMRs) to Regional Water Board staff in accordance with the following schedule. Reports due at the same time may be combined into one report for convenience as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable.

Reporting Frequency	Report Due Dates
Semi-Annual	February 15, August 15

At a minimum, each SMR shall include the following information:

a. **Transmittal Letter:** A cover letter transmitting the essential information shall be included with each SMR. The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall also certify the completion of all monitoring requirements. The letter shall be signed by the Discharger's principal executive officer, or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the SMR is true and correct to the best of the official's knowledge.

b. **Graphic Presentation:** The following maps, figures, and graphs (if applicable) shall be included in each SMR to visually present data collected pursuant to this SMP:

(1) Plan-view maps showing all monitoring and sampling locations, surface water bodies, and the Site's boundaries;

(2) Groundwater elevation/piezometric surface contour maps for each groundwater-bearing zone of interest showing calculated groundwater gradients and flow directions under/around the Site, based upon the past and present water level elevations and pertinent visual observations;
(3) Post-plot maps with analyte concentration posted adjacent to each sampling location and/or iso-concentration contour maps displaying analyte concentrations and sample locations;
(4) Concentration versus time graphs for key sampling parameters for select sampling locations; and
(5) Any other maps, figures, photographs, cross-sections, graphs, and charts necessary to visually demonstrate the appropriateness and effectiveness of sampling, monitoring, characterization, investigation, or remediation activities relative to the goals of this SMP.

c. **Tabular Presentation:** The following data (if applicable) shall be presented in tabular form and included in each SMR to show a chronological history and allow quick and easy reference:

(1) Well/seep designations
(2) Well/seep location coordinates (latitude and longitude)
(3) Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, and screen interval elevation)
(4) Groundwater depths
(5) Groundwater elevations
(6) Horizontal groundwater gradients
(7) Vertical groundwater gradients (including comparison wells from different zones) when appropriate
(8) Separate-phase hydrocarbon product elevations and thicknesses
(9) Current and historical (at least the past 5 years) analytical results (including analytical method and detection limits for each constituent)

d. **Discussion:** Discussion of the following information, based on field and laboratory data results, shall be provided in each SMR:

(1) Data Interpretations
(2) Conclusions
(3) Recommendations
(4) Newly implemented or planned investigations & remedial measures
(5) Data anomalies
(6) Variations from protocols
(7) Condition of wells
(8) Explanation why monitoring could not be performed at any required location

e. **Appendices:** The following information shall be provided as appendices in electronic format (PDF format). Hard copies of the following information should be submitted only if requested by Regional Water Board staff:

(1) New boring and well logs
(2) Method and time of water level measurements (field data sheets)

(3) Purging methods and results including the type of pump used; pump placement in the well; pumping rate; equipment and methods used to monitor field pH, temperature, and conductivity; calibration of the field equipment; pH, temperature, conductivity, and turbidity measurements; and method of disposing of the purge water
(4) Sampling procedures; field, trip, and equipment blanks; number and description of duplicate samples; type of sample containers and preservatives used; the date and time of sampling; the name of the person actually taking the samples; and any other relevant observations
(5) Documentation of laboratory results, analytical methods, detection limits, and Quality Assurance/Quality Control (QA/QC) procedures for the required sampling.

4. Violation Reports: If the Discharger violates requirements in the Site Cleanup Requirements, then the Discharger shall notify Regional Water Board staff by telephone as soon as practicable once the Discharger has knowledge of the violation. Where the violation causes or threatens to cause immediate and substantial harm to water quality, the Regional Board may require the Discharger to submit a separate technical report on the violation within five working days of telephone notification.

5. Other Reports: The Discharger shall notify the Regional Water Board in writing prior to any Site activities, such as construction or underground or aboveground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

6. Record Keeping: The Discharger or its agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of five years after origination and shall make them available to the Regional Water Board upon request.

7. SMP Revisions: Revisions to this SMP may be ordered by the Executive Officer, either on his/her own initiative or at the request of the Discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

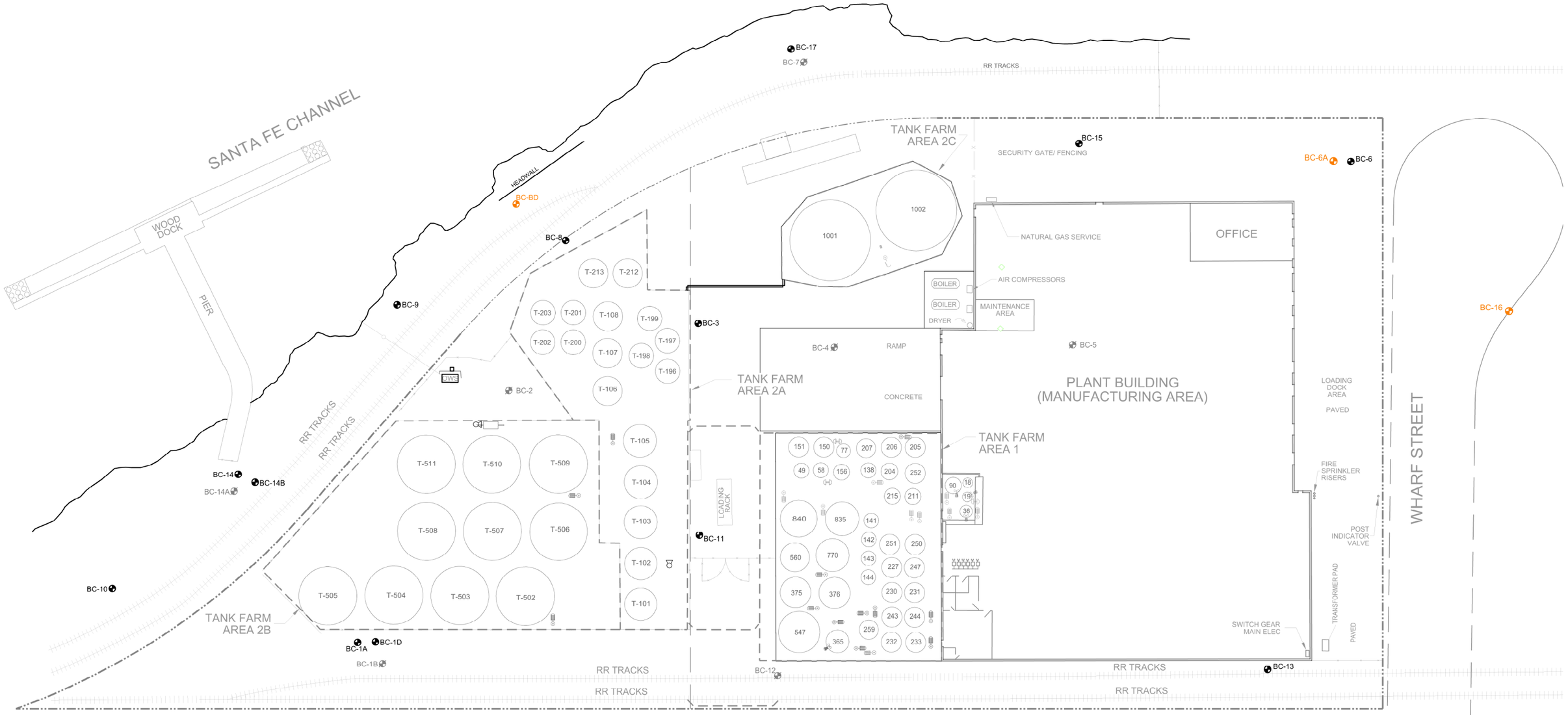
8. Electronic Reporting: All SMRs submitted pursuant to this SMP shall be submitted as electronic files in PDF format. The Regional Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Regional Water Board's office. PDF files can be created by converting the original electronic file format (e.g., Microsoft Word) and/or by scanning printed text, figures and tables.

Upon request by Regional Water Board staff, monitoring results, including water level measurements, sample analytical results, coordinates, elevations, etc., shall be provided electronically in Microsoft Excel® or similar spreadsheet format. This format facilitates data computations and/or plotting that Regional Water Board staff may undertake during their review. Data tables submitted in electronic spreadsheet format will not be included in the case file for public review as long as a PDF version is included.

All electronic files shall be submitted via the Regional Water Board's Geotracker website (http://geotracker.waterboards.ca.gov). Files may additionally be sent via email (only if the file size is less than 6 MB). Email notification should be provided to Regional Water Board staff whenever a file is uploaded to Geotracker.

Maintenance of Written Records: The Discharger shall maintain information required pursuant to this SMP for at least five years. The five-year period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Water Board.

Attachments: Figure SMP-1



LEGEND:

- APPROXIMATE MONITORING WELL LOCATION
- APPROXIMATE DESTROYED MONITORING WELL LOCATION

Stantec

FOR:				FIGURE:
SAFETY-KLEEN RICHMOND LUBRICANTS 801 WHARF STREET RICHMOND, CALIFORNIA		CURRENT MONITORING CONDITIONS		SMP-1
JOB NUMBER: 185703500	DRAWN BY: JRO	CHECKED BY: BH	APPROVED BY: JSA	DATE: 06/26/17

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