CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2017-0125

WASTE DISCHARGE REQUIREMENTS

FOR
KEARNEY-NATIONAL INC. AND
EMPIRE REAL ESTATE

GROUNDWATER TREATMENT AND DISPOSAL SYSTEM
FORMER KEARNEY-KPF FACILITY
1624 EAST ALPINE AVENUE
STOCKTON, SAN JOAQUIN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board) finds that:

1. Kearney-National Inc. (Kearney) operates a groundwater treatment and disposal facility at its former Stockton manufacturing facility located at 1624 East Alpine Avenue, Stockton, identified by San Joaquin County Assessor's Parcel Number 117-080-06 (Site), as shown on Attachment A, which is attached hereto and made part of this Order by reference. The Site is currently owned by Empire Real Estate. Both Kearney and Empire Real Estate are responsible for compliance with this Order and are collectively referred to as the Discharger.

2. Discharges from the groundwater treatment and disposal facility are currently regulated by Waste Discharge Requirements (WDRs) Order No. 5-01-269; and monitoring of the Site is required pursuant to Monitoring and Reporting Program (MRP) 5-01-269, Revision 2; and revised MRP R5-2003-0838.

3. Waste disposal from the manufacturing process occurred in the central portion of the Site in surface impoundments, which caused soil and groundwater contamination with heavy metals, volatile organic compounds (VOCs), and standard minerals. In the past, groundwater concentrations of heavy metals, VOCs, electrical conductivity, and total dissolved solids have exceeded water quality objectives for chemical constituents and toxicity.

4. The Discharger closed the surface impoundments by excavating and disposing of contaminated soils. From January 1993 to October 1998, the Discharger operated a full-scale groundwater extraction and treatment system that consisted of one deep and five intermediate zone wells. Extracted groundwater was treated using an air stripping tower and liquid phase granular activated carbon (GAC). Treated water was discharged to the deep zone through injection well INJ-1. WDR Order No. 91-220, adopted by the Board on 22 November 1991, set waste discharge requirements (WDRs) for treated groundwater disposal.

5. In 1998, Kearney tested the groundwater for 1,4-dioxane and found up to 51 micrograms per liter (µg/L). Since the groundwater extraction and treatment system was not

designed to remove 1,4 dioxane, Kearney shut the system down in October 1998 to prevent re-injection of 1,4 dioxane into the groundwater.

6. On 7 December 2001, WDRs Order No. 5-01-269 was issued to the Discharger for an updated groundwater treatment and disposal system that could also remove 1,4-dioxane from the influent. WDRs Order No. 5-01-269 also rescinded WDRs Order No.91-220. Groundwater is extracted from various wells and treated by hydrogen peroxide injection and ultraviolet light (UV/OX) before discharge to the subsurface or a retention basin. Treatment via air stripping previously followed the UV/OX treatment but was removed as sampling showed that it was a redundant step. The air stripper remains onsite and ready for operation, if needed. The final treatment step of granular activated carbon was also removed from the treatment train but remains in place and ready for operation in the event that site conditions change. The groundwater extraction and disposal system is shown on Attachment B, which is attached hereto and made part of this Order by reference.

7. The Site has 48 monitoring wells, which have been sampled regularly as required by Monitoring and Reporting Program No. R5-2003-0838 to show treatment system effectiveness, plume capture, and plume cleanup. A new shallow zone well and new intermediate zone well are scheduled to be installed within the next year.

8. On 30 March 2017, Central Valley Water Board staff received a request from Kearney to update the WDRs and MRPs for the site. This Order and associated MRP update WDRs Order No. 5-01-267 and the system monitoring MRP No. 5-01-269, Revision 2 as well as the groundwater monitoring MRP No. R5-2003-0838. The primary changes to this order include an update of the facility description and site property owner name. Changes to the attached MRP include changes to the monitoring and reporting frequency and reporting dates and removal of total dissolved solids from the sample analyses. The updates are intended to be in line with the requirements of the 2017 DTSC Post-Closure Permit for the Site. DTSC has primary jurisdiction for this site and has established, as groundwater cleanup levels, Water Quality Protection Standard (WQPS) Concentration Limits (CL's) as defined in the 2017 DTSC Post Closure Permit.

9. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

10. Surface water drainage is to the San Joaquin River. The beneficial uses of the San Joaquin River are municipal and domestic supply; agricultural irrigation and stock watering supply; process and service industrial supply; contact recreation; other noncontact recreation; warm and cold freshwater habitat; warm and cold migration; warm water spawning; wildlife habitat; and navigation.

11. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND) and industrial process supply (PRO).

12. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.

13. At a minimum, the Basin Plan's narrative water quality objective for chemical constituents requires waters designated as supporting the MUN beneficial use to meet the maximum contaminant levels (MCLs) specified in Title 22 of the California Code of Regulations (Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

14. The narrative water quality objective for toxicity requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant or aquatic life associated with designated beneficial uses.

15. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numeric limits in order to implement the narrative objective.

16. In implementing water quality objectives in waste discharge requirements, the Basin Plan does not require improvement over naturally-occurring background conditions. For this site, the background concentrations are the detection limits, since these compounds are not present upgradient of the site.

17. The following numeric interpretations of the narrative toxicity and chemical constituents water quality objectives have been determined by the Board to ensure protection of beneficial uses due to discharges of VOCs:

Constituent	Numeric Interpretation of Objective	Reference
1,4-dioxane	1.3 µg/L	Cal/EPA Cancer Potency Factor as a Drinking Water Level*
1,1,1-trichloroethane	200 µg/L	California Primary Maximum Contaminant Level
1,1-dichloroethene	6.0 µg/L	California Primary Maximum Contaminant Level
Trichloroethene	1.7 µg/L	California Public Health Goal in Drinking Water
Tetrachloroethene	0.06 µg/L	California Public Health Goal in Drinking Water
1,1-dichloroethane	3.0 µg/L	California Public Health Goal in Drinking Water

*One-in-a-million Incremental Cancer Risk Estimate for Drinking Water

18. Effluent limits for the constituents of concern are set at the detection limit if the numeric interpretation of the narrative objective is less than the detection limit.

19. Surrounding land uses are agricultural, business, and residential.

20. State Water Resources Control Board Resolution 68-16, the Policy with Respect to Maintaining High Quality Waters of the State (*State Antidegradation Policy*) prohibits the Board from authorizing the degradation of high-quality water unless it has been shown that:

    a. The degradation will not unreasonably affect present and anticipated beneficial uses;

    b. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;

    c. The discharger employs best practicable treatment or control (BPTC) to minimize degradation; and

    d. The degradation is consistent with the maximum benefit to the people of the state.

    The limited degradation authorized by these waste discharge requirements is consistent with the *State Antidegradation Policy* because the limits imposed by these waste discharge requirements will ensure that the discharge will not result in water quality less than water quality objectives or unreasonably affect present affect present and anticipated beneficial uses, the Discharger is employing treatment technology that the Board finds to be BPTC of the wastes in its discharge to minimize degradation that may occur as a result of its discharge, and the limited degradation is of maximum benefit to people of the State because the purpose of the discharge is to implement the cleanup of groundwater pollution.

21. Water Code section 13267(b)(1) states:

    > In conducting an investigation … the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region … shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

    The technical reports required by this Order and the attached Monitoring and Reporting Program **R5-2017-0125** are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

22. All wastewater management systems at the facility have already been installed and are currently in use. This Order places additional requirements on the continued operation of the facility in order to ensure the protection of waters of the state. The issuance of this Order is therefore exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) in accordance with California Code of Regulations, title 14, section 15301, which exempts the “operation, repair,

maintenance, [and] permitting … of existing public or private structures, facilities, mechanical equipment, or topographical features" from environmental review.

23. Title 27 of the California Code of Regulations (Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste that generally require all wastes that have the potential to degrade water quality be placed in lined landfills. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to Title 27, section 20090(b), because:

    a. The Board is issuing waste discharge requirements,

    b. The discharge complies with the Basin Plan,

    c. The wastewater does not need to be managed as a hazardous waste.

24. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the Discharger or county pursuant to Water Code section 13801, apply to all monitoring wells.

25. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge.

26. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

27. Pursuant to California Water Code section 13263 (g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

IT IS HEREBY ORDERED that Orders No. 5-01-269; 5-01-269, Revision 2; and R5-2003-0838 are hereby rescinded, and that Kearney National Inc. and Empire Real Estate, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991, which are incorporated into this Order.]

A. Discharge Prohibitions

1. Discharge of treated groundwater to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as 'hazardous' as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

3. Discharge of treated groundwater at a location or in a manner different from that described in Finding No. 6 is prohibited.

4. Bypass of overflow of untreated or partially treated groundwater is prohibited.

5. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the Water Code section 13050.

B. Discharge Specifications

1. The Discharger shall operate all systems and equipment to maximize treatment of extracted groundwater and optimize the quality of the discharge.

2. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.

3. For operation of the treatment system, consisting of groundwater extraction from five wells, treatment with the UV/OX unit (and air stripper and GAC vessel, if needed) the Discharger shall comply with Discharge Specifications listed below.

   a. All extracted groundwater shall be treated by the treatment system and discharged to the storage tank, infiltration basin, and/or injection well.

   b. The discharge of treated groundwater to the injection well and infiltration basin shall not exceed their respective capacities.

   c. The Discharger shall operate the treatment system to maximize removal of constituents of concern.

   d. All treatment, transport, and disposal components (including pumping valves, liquid level controllers, pipelines, blowers, flow meters, pressure gauges, etc.) shall be inspected monthly.

   e. The system's automatic controls, including the alarm/notification and shutdown systems, shall be tested and certified operational on an annual basis.

4. Prior to injecting treated groundwater into shallow or intermediate monitoring wells or piezometers, potable water shall be injected into each well proposed as an injection well to establish the well's capacity. The Discharger shall inject potable water into each well at 50, 100, and 150 percent of the estimated well capacity. The injection at each flow rate must continue for a minimum of one hour. All leaks and/or malfunctions observed during the potable water test shall be corrected.

5. Collected screening, sludges, and other solids removed from liquid wastes shall be disposed of in a manner consistent with Chapter 15 of Division 3 of Title 23 of the California Code of Regulations and Subdivision 1 of Division 2 of Title 27.

6. The infiltration basin shall be managed to prevent breeding of mosquitoes. In particular,

   a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.

b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

7. The infiltration basin shall have sufficient storage capacity to accommodate allowable treated groundwater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter months. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

8. Freeboard in the infiltration basin shall never be less than two feet as measured from the water surface to the lowest point of overflow.

9. On or about 15 October of each year, available storage capacity in the infiltration basin shall at least equal the volume necessary to comply with Discharge Specifications B.7 and B.8.

C. Effluent Limitations

1. The effluent shall not have a pH of less than 6.5 or greater than 8.5.

2. The discharge of effluent in excess of the following limits is prohibited:

Constituent	Units	30-Day Average	Daily Maximum	Maximum Detection Limit[1]
1,4-dioxane	µg/L	1.0	2.0	1.0
1,1,1-trichloroethane	µg/L	0.5	1.0	0.5
1,1-dichloroethene	µg/L	0.5	1.0	0.5
Trichloroethene	µg/L	0.5	1.0	0.5
Tetrachloroethene	µg/L	0.5	1.0	0.5
1,1-dichloroethane	µg/L	0.5	1.0	0.5
Total Volatile Organic Compounds[2]	µg/L	1.0	2.0	0.5

3. If the target constituents are detected above the 30-day average concentration limits, the Discharger shall cease discharging and verify lamp performance, increase hydrogen peroxide dosage, and retest the effluent. During the retest, the Discharger shall direct the discharge to the infiltration basin. If the results of the retest show compliance with effluent limits, treatment system operations may resume.

D. Groundwater Limitations

1. The 2017 DTSC Post Closure Permit (Permit) for the Site promulgates Water Quality Protection Standard Concentration Limits (CLs) for constituents of concern at the Site.

2. Treatment system discharge, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than background water quality.

3. The treatment system discharge shall not cause the groundwater to contain concentrations of chemical constituents, including any amendments and by-products of any treatment process, in amounts above background.

E. Provisions

1. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

2. The Discharger shall comply with the attached MRP No. R5-2017-0125, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

3. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."

4. The Discharger shall use the best practicable cost-effective control technique(s) currently available to comply with discharge limits specified in this Order.

5. The Discharger shall notify the Central Valley Water Board and the DTSC within 24 hours of any spill of untreated water. This notification shall include the size and cause of the spill, any immediate damage to the environment, and the corrective/cleanup actions taken and/or proposed.

6. Prior to any modifications at the Site that would result in material change in the quality or quantity of wastes treated or discharged, or any material change in the location of discharge, the Discharger shall report all pertinent information in writing to the Central Valley Water Board for review and approval. WDRs may be revised prior to implementation of any modifications.

7. The Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.

8. Should any evaluation of the treatment process reveal adverse effects on groundwater quality or its beneficial uses, upon determination by the Executive Officer, the Discharger shall clean up and abate the effects of discharging any groundwater amendments, including extraction of any treatment by-products. The Discharger shall provide an alternate water supply for any municipal, domestic, industrial, or other water use well that is degraded above water quality objectives as a result of the treatment process.

9. The Discharger shall maintain records of all monitoring information including all calibration and maintenance records, 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 three years from the date of the sample, measurement, or report. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer.

10. 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 this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are to be installed by the Discharger when necessary to achieve compliance with the conditions of this Order.

11. Prior to any change in ownership or management of this operation, the Discharger shall transmit a copy of this Order to the succeeding Owner/Operator, and forward a copy of the transmittal letter and proof of transmittal to the Central Valley Water Board.

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

    a. Enter upon the premises regulated by the Central Valley Water Board, or the place where records must be kept under the conditions of this Order;

    b. Have access to and copy, at reasonable times, any records that shall 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 purpose of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at this Site.

13. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

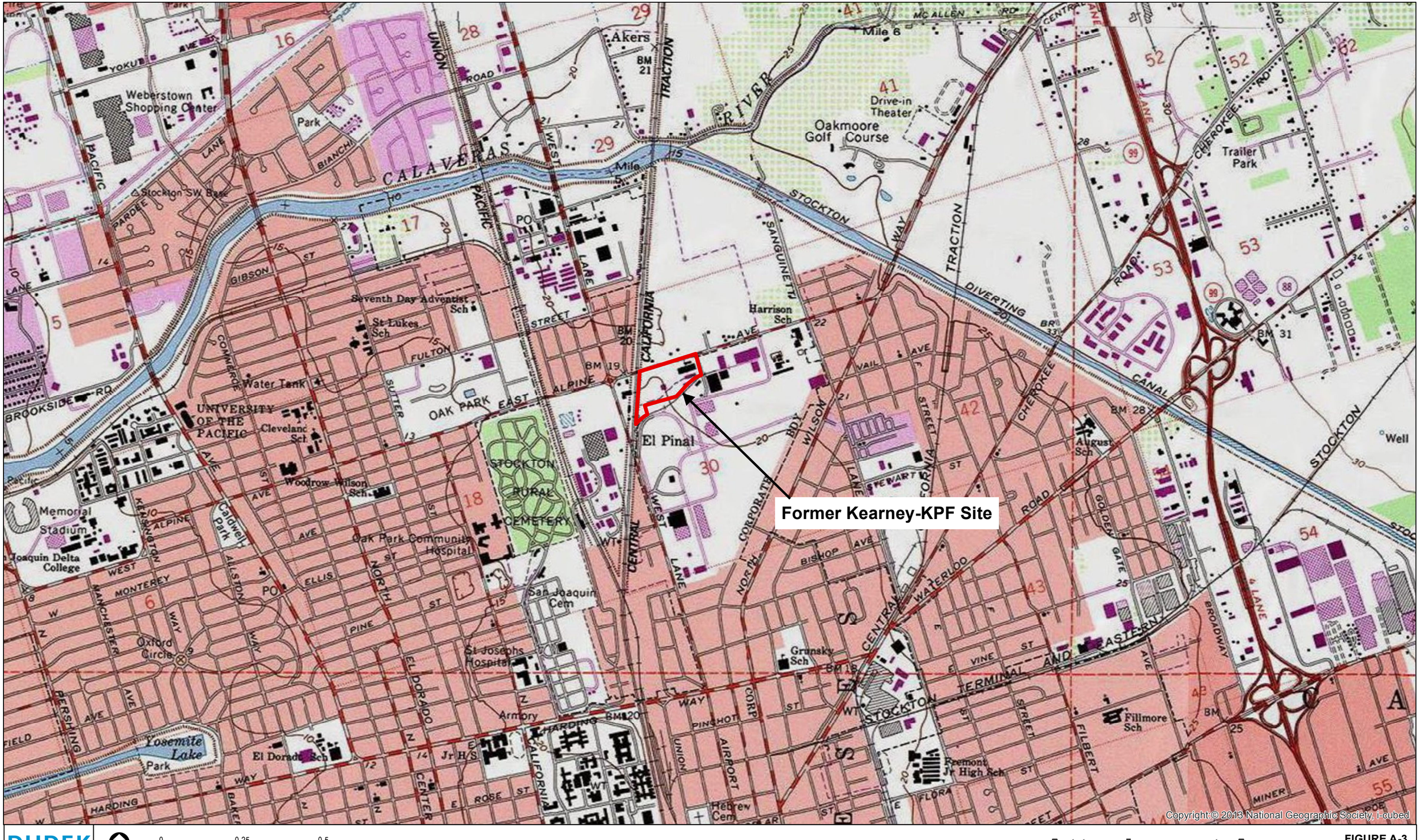
14. The Central Valley Water Board may review this Order periodically and may revise requirements when necessary.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 8 December 2017.

ORIGINAL SIGNED BY

PAMELA C. CREEDON, Executive Officer

Attachments
NC/SM: 12/11/17



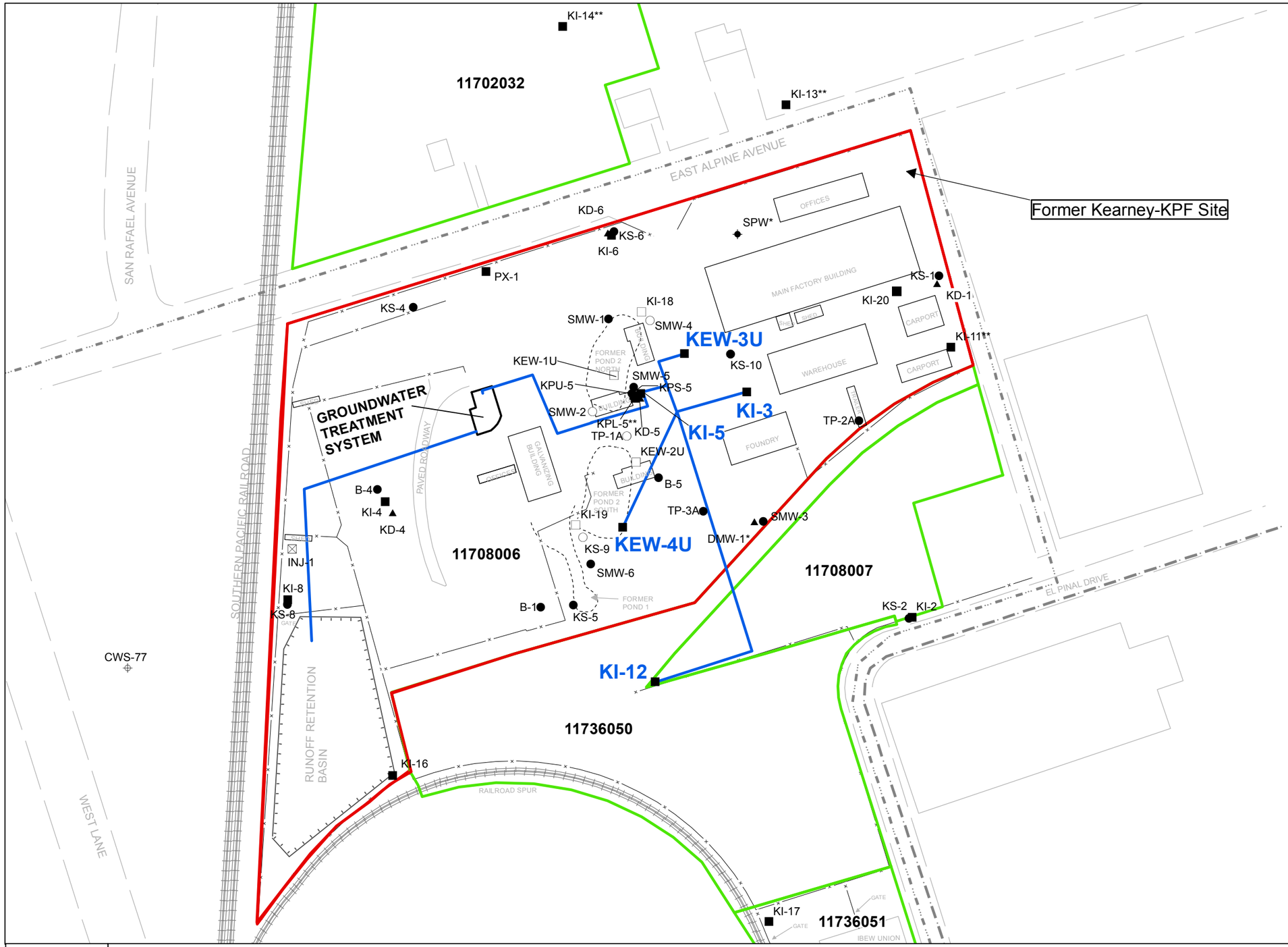
DUDEK

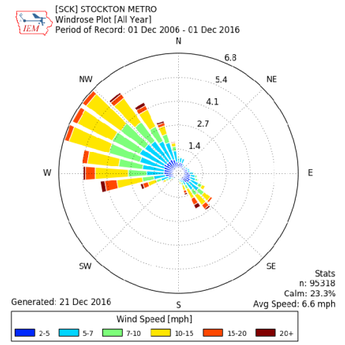
0 0.25 0.5 Miles

Attachment A

FIGURE A-3
VICINITY MAP

FORMER KEARNY - KPF FACILITY STOCKTON, CA





LEGEND

- Shallow POC Well
- Shallow Monitor Well
- Intermediate POC Well
- Intermediate Monitor Well
- Deep Monitor Well
- Injection Well
- California Water Service Well
- Production Well
- PipingSchematic
- Sewer
- Existing Storm Drain
- Fencing
- Former Ponds
- Former Kearney-KPF Site Boundary
- APNs of Off Site Wells
- **11708007** Assessor's Parcel Number
- * Well Partially Perforated in Lower Intermediate Zone
- ** Well Perforated in Lower Intermediate Zone
- **KI-3** Extraction Well

Note: Assessor's Parcel Numbers obtained from San Joaquin County Community Development Geographical Information Systems

DUDEK

0 75 150 Feet

FIGURE B-1a

Attachment B

MONITORING WELLS, EXTRACTION SYSTEM AND WINDROSE

FORMER KEARNY - KPF FACILITY STOCKTON, CA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2017-0125

CALIFORNIA WATER CODE SECTION 13267
FOR
KEARNEY-NATIONAL INC. AND
EMPIRE REAL ESTATE

GROUNDWATER TREATMENT AND DISPOSAL SYSTEM
FORMER KEARNEY-KPF FACILITY
1624 EAST ALPINE AVENUE
STOCKTON, SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring a groundwater remediation system. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. As appropriate, California Regional Water Quality Control Board, Central Valley Region staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

GROUNDWATER MONITORING

Monitoring wells associated with the Site Groundwater Treatment and Disposal System are shown on Attachment 1 and listed in Table 1 below. The groundwater monitoring program for these wells and any treatment system wells installed subsequent to the issuance of this MRP, shall follow the schedule below. Sample collection and analysis shall follow standard EPA protocol.

The monitoring wells, extraction wells and/or injection wells shall be sampled according to the schedule in Table 1 and the samples analyzed by the methods in Table 2, as follows:

Table 1: Sampling Schedule

	Well Number[1]	Frequency[2,3]
Shallow Zone	B-4	Biennial[4]
	KS-1	Biennial[4]
	KS-2	Biennial
	KS-6	Biennial[4]
	KS-10	Semi-Annual[2,5]
	SMW-1	Semi-Annual[4]
	SMW-2	Semi-Annual[4]
	SMW-4	Semi-Annual
	SMW-5	Semi-Annual
	TP-1A	Semi-Annual[4]
Intermediate Zone	KEW-3U	Semi-Annual
	KEW-4U	Semi-Annual
	KI-2	Biennial
	KI-4	Biennial
	KI-5	Semi-Annual
	KI-6	Biennial
	KI-12	Biennial
	KI-20	Biennial [2,5]

[1] Well numbers as shown on Attachment 1.
[2] New wells will initially be sampled quarterly for one year before switching to designated schedule.
[3] Constituent suite components listed in Table 2.
[4] The nature of the shallow unit is that certain wells are sometimes dry, especially during drought conditions, so sampling may not always be feasible at this well, which does not necessarily represent a breach of the monitoring plan.
[5] These wells have not yet been installed. If constituents of concern are below the Water Quality Protection Standard Concentration Limits as defined in the 2017 DTSC Post Closure Permit, the well will not be sampled.

Table 2: Analytical Methods

Constituent	Method[1]	Maximum Practical Quantitation Limit (µg/L)[2]
Volatile Organic Compounds	EPA 8260B	0.5
1,4-Dioxane	EPA 8270	1.0

[1] Or an equivalent EPA Method that achieves the maximum Practical Quantitation Limit.
[2] All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an estimated value.

In addition to the above sampling and analysis, field sampling and analysis shall be conducted each time a monitoring well or extraction well is sampled. The sampling and analysis of field parameters shall be as specified in Table 3.

Table 3: Field Sampling Requirements

Parameters	Units	Type of Sample
Groundwater Elevation	Feet, Mean Sea Level	Measurement
Electrical Conductivity	uhmos/cm	Grab
Dissolved Oxygen	mg/L	Grab
pH	pH Units (to 0.1 units)	Grab
Temperature	Degrees Celcius	Grab
Turbidity	NTU	Grab

All wells that are purged shall be purged until pH, temperature, conductivity and dissolved oxygen are within 10% of the previous value.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in item (b) of the “Reporting” section of this MRP.

GROUNDWATER TREATMENT AND DISPOSAL SYSTEM MONITORING

The effluent samples shall be collected from the exiting sample port of the final treatment vessel prior to discharge for the analyses as specified in Table 4.

Table 4: Effluent Monitoring

Constituent	Units	Type of Sample	Sampling Frequency
Volatile Organic Compounds[1]	µg/l	Grab	Monthly
1,4-Dioxane[2]	µg/l	Grab	Monthly
Electrical Conductivity (Field)	µmhos/cm	Grab	Monthly
pH (Field)	pH units	Grab	Monthly
Temperature (Field)	ºCelsius	Grab	Monthly
Total Volume of Water Treated	Gallons	Continuous	Monthly
Flow Rate at Time of Sampling	gpm	Grab	Monthly
Average Flow Rate (since last sampling)	gpm	Continuous	Monthly

[1] Volatile Organic Compounds shall be analyzed by US EPA Method 8260B.
[2] 1,4-Dioxane which shall be analyzed by US EPA Method 8270.

Monitoring during discharge of treated groundwater into the deep zone well INJ-1 and/or the infiltration basin shall be as specified in Table 5.

Table 5: Injection and Infiltration Monitoring

Constituent	Units	Type of Sample	Sampling Frequency
Total Volume of Water Injected	gallons	Continuous	Monthly
Injection Rate at Time of Sampling	gpm	Grab	Monthly
Average Injection Rate (since last sampling)	gpm	Continuous	Monthly
Pressure at Time of Sampling	psig	Grab	Monthly
Water Level after injection	0.01 feet msl	Grab	Monthly

The volume of extracted groundwater also shall be provided in quarterly monitoring reports as well as monthly reports. Sample collection and analysis shall follow standard EPA protocol. Extraction wells shall be monitored as specified in Table 6.

Table 6: Extraction Well Monitoring

Constituent	Units	Type of Sample	Sampling Frequency
Volatile Organic Compounds[1]	µg/l	Grab	Semi-Annual
1,4-Dioxane[2]	µg/l	Grab	Semi-Annual
Electrical Conductivity (Field)	µmhos/cm	Grab	Semi-Annual
pH (Field)	pH units	Grab	Semi-Annual
Temperature (Field)	°Celsius	Grab	Semi-Annual
Total Volume of Water Extracted	Gallons	Continuous	Monthly
Extraction Rate	Gpm	Grab	Monthly
Average Extraction Rate (since last sampling)	Gpm	Continuous	Monthly
Pressure	Psig	Grab	Monthly
Water Level	0.01 feet msl	Grab	Monthly

[1] Volatile Organic Compounds shall be analyzed by US EPA Method 8260B.
[2] 1,4-Dioxane which shall be analyzed by US EPA Method 8270.

REPORTING

When reporting the data, the Discharger shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order. In addition, the Discharger shall notify the Central Valley Water Board within 48 hours of any unscheduled shutdown of the groundwater extraction system. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall also be reported to the Central Valley Water Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional Civil Engineer or Geologist or their subordinate and signed by the registered professional.

The Discharger shall submit semi-annual electronic data reports, which conform to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30. The semi-annual reports shall be submitted electronically over the internet to the Geotracker database system by **1 March** and **1 September**, until such time as the Executive Officer determines that the reports are no longer necessary.

Each semi-annual report shall include the following minimum information:

(a) a description and discussion of the groundwater sampling event and results, including trends in the concentrations of pollutants and groundwater elevations in the wells, how and when samples were collected, and whether the pollutant plume(s) is delineated;

(b) field logs that contain, at a minimum, water quality parameters measured before, during, and after purging, method of purging, depth of water, volume of water purged, etc.;

(c) groundwater contour maps for all groundwater zones, if applicable;

(d) pollutant concentration maps for all groundwater zones, if applicable;

(e) a table showing well construction details such as well number, groundwater zone being monitored, coordinates (longitude and latitude), ground surface elevation, reference elevation, elevation of screen, elevation of bentonite, elevation of filter pack, and elevation of well bottom;

(f) a table showing historical lateral and vertical (if applicable) flow directions and gradients;

(g) cumulative data tables containing the water quality analytical results and depth to groundwater;

(h) a copy of the laboratory analytical data report;

(i) A discussion of the long-term trends in the concentrations of the pollutants in the groundwater monitoring wells;

(j) An analysis of whether the pollutant plume is being effectively treated;

(k) A description of all remedial activities conducted during the year, an analysis of their effectiveness in removing the pollutants, and plans to improve remediation system effectiveness;

(l) The status of any ongoing remediation, including an estimate of the cumulative mass of pollutant removed from or treated in the subsurface, system operating time, the effectiveness of the remediation system, and any field notes pertaining to the operation and maintenance of the system; and

(m)If applicable, the reasons for and duration of all interruptions in the operation of any remediation system, and actions planned or taken to correct and prevent interruptions.

A letter transmitting the monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

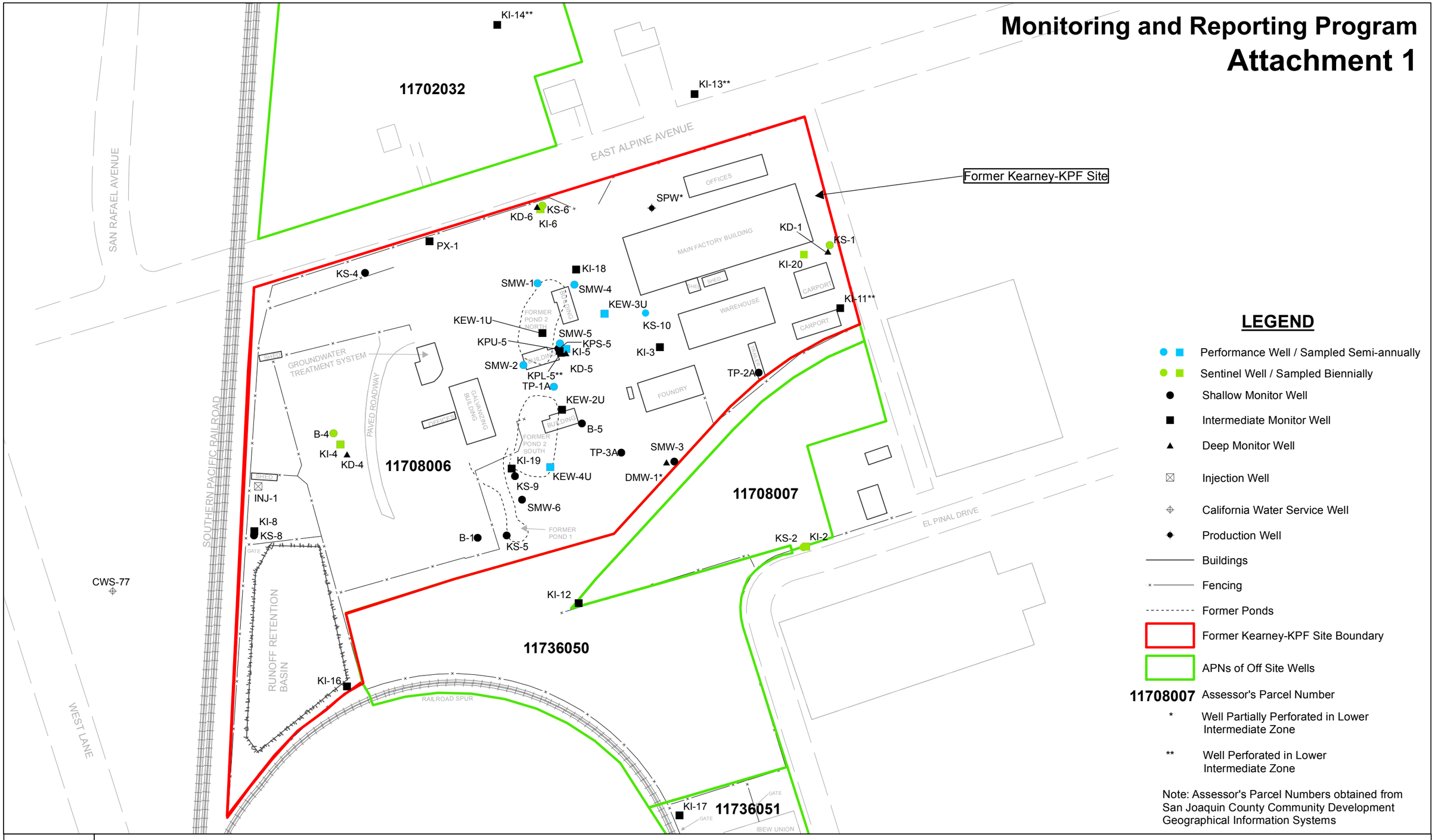
Ordered by: ***ORIGINAL SIGNED BY***

PAMELA C. CREEDON, Executive Officer

12/8/17

(Date)

Monitoring and Reporting Program
Attachment 1



LEGEND

- Performance Well / Sampled Semi-annually
- Sentinel Well / Sampled Biennially
- Shallow Monitor Well
- Intermediate Monitor Well
- Deep Monitor Well
- Injection Well
- California Water Service Well
- Production Well
- Buildings
- Fencing
- Former Ponds
- Former Kearney-KPF Site Boundary
- APNs of Off Site Wells
- **11708007** Assessor's Parcel Number
- * Well Partially Perforated in Lower Intermediate Zone
- ** Well Perforated in Lower Intermediate Zone

Note: Assessor's Parcel Numbers obtained from San Joaquin County Community Development Geographical Information Systems

DUDEK

FIGURE G-1g-A

Proposed Groundwater Monitoring Schedule During Containment Pumping

FORMER KEARNY - KPF FACILITY STOCKTON, CA

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2017-0125
KEARNEY-NATIONAL INC. AND EMPIRE REAL ESTATE
FORMER KEARNEY-KPF FACILITY, STOCKTON
GROUNDWATER TREATMENT AND DISPOSAL SYSTEM
SAN JOAQUIN COUNTY

The 12.6-acre former Kearney-KPF facility is located at 1624 East Alpine Avenue in Stockton. Beginning in 1951, the former Kearney-KPF facility manufactured high voltage switching devices for utility companies. Prior to 1986, liquid wastes containing dissolved chlorinated solvents were discharged to two topographic low spots on the property creating a condition of pollution or nuisance. In July 1982, Kearney notified the California Department of Health Services that an on-site evaporation pond contained wastes. In addition, a Hazardous Substance Storage Statement was submitted to the Regional Water Quality Control Board, reporting the existence of an unlined hazardous waste storage pond on site. In 1985, the Regional Water Quality Control Board requested a hydrogeological assessment report. Thus, site investigation began in 1986 with collection of soil and groundwater data. The topographic low spots or "ponds" were closed in 1991 by excavating and disposing of contaminated soils.

Since 1993, Kearney has been operating a groundwater extraction and treatment system that re-injects treated groundwater on-site under Waste Discharge Requirements (WDRs). WDRs Order No. 91-220 was replaced by WDRs Order No. 5-01-269 after 1,4-dioxane was discovered to be a site constituent of concern that had previously not been monitored. The groundwater treatment system was updated to treat 1,4-dioxane along with other volatile organic compounds.

In January 2003, the Department of Toxic Substances Control (DTSC) notified Kearney that they are the lead agency for the site. The DTSC incorporated WDR Order No. 5-01-269, MRP R5-2002-0829 and MRP 5-01-269, Rev. 2 into the 2004 Post Closure Permit for the site.

In March 2017, at the request of the DTSC, Kearney-National Inc. submitted a request to update the site WDRs and Monitoring and Reporting Programs to be consistent with the DTSC Post Closure Permit that Kearney is in the process of renewing. Changes to the WDRs include an update of the facility description and property owner name. Separate MRPs for groundwater monitoring and system effluent monitoring have been combined. Monitoring and reporting frequencies have been updated to be consistent with the DTSC Post Closure Permit. The main change in the operation of the groundwater extraction and treatment system is that it will be pulsed on and off to increase removal efficiency as site constituent concentrations have decreased with time.

The proposed Order prohibits the discharge of wastes in any manner other than that described in the Findings of the Order, including prohibiting discharge of waste to surface waters or discharge of hazardous waste.