CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2014-0007

SITE CLEANUP REQUIREMENTS for:

MARINWOOD PLAZA, LLC

for the property located at:

187 MARINWOOD AVENUE
MARINWOOD, MARIN COUNTY

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

1. **Site Location**: The dry cleaning business Prosperity Cleaners was formerly located at 187 Marinwood Avenue in Marinwood Plaza, north of the City of San Rafael (Site, see Figure 1). Marinwood Plaza occupies a commercially-zoned property at the southeast corner of the intersection of Marinwood Avenue and Miller Creek Road and between Marinwood Avenue on the west and Highway 101 on the east. The property is comprised of four parcels totaling about five acres: 164-47-64, 164-47-65, 164-47-69, and 164-47-70. The areas to the north and west of the Site are single-family residential housing, and another commercial parcel borders the Site to the south.

Marinwood Plaza was developed in 1962 and is configured as a linear strip mall occupied by a neighborhood grocery store and several other smaller tenant spaces. There are currently two occupied tenant spaces in Marinwood Plaza: Savemore Liquors and the grocery store. The rear section of Savemore Liquors is directly adjacent to the former Prosperity Cleaners' location. A gasoline station previously occupied the vacant lot at the northern end of the property.

2. **Site History**: Marinwood Plaza has been owned by Marinwood Plaza, LLC, since 2003. It was previously wholly owned by Hoytt Enterprises, which now is a part owner of Marinwood Plaza, LLC. The former Prosperity Cleaners used the dry cleaning chemical tetrachloroethene (PCE) in its daily operations and conducted dry cleaning at the Site for approximately 15 years, from 1990 to 2005. In August 2007, a discharge of PCE to soil and groundwater from dry cleaning operations was documented during a Phase II environmental assessment at the Site. This discharge was reported to the Regional Water Board in January 2008, which required the property owner to conduct environmental investigations at the Site. Marinwood Plaza, LLC, has continued to work with the Regional Water Board to characterize the extent of the contaminant discharge and implement interim remedial measures.

3. **Named Discharger**: Marinwood Plaza, LLC, is named as a discharger because it is the current owner of the Site and owned the property during the time of the PCE discharge by Prosperity Cleaners, had knowledge of the discharge or the activities that caused the discharge, and had the legal ability to prevent the discharge. Marinwood Plaza, LLC, is the owner of a property where there is an ongoing discharge of pollutants, it has knowledge of the discharge or the activities that caused the discharge, and it has the legal ability to control the discharge. Marinwood Plaza, LLC, has accepted responsibility for the discharge of contaminants.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the Site where it entered or could have entered waters of the State, the Regional Water Board will consider adding those parties' names to this Order.

4. **Regulatory Status:** The Site is currently not subject to a Regional Water Board order. However, the Site has been the subject of multiple Water Code section 13267 directive letters since 2008.

5. **Site Hydrogeology:** The Site is within the Miller Creek watershed, and the modern channel of Miller Creek is approximately 150 feet from the southern boundary of the Site. The Site is located near the center of an eastward-sloping stream valley that drains to San Pablo Bay via Miller Creek and surface runoff. The Site is underlain by about 50 to 60 feet of silt, sand, and gravel deposited by a meandering ancestral Miller Creek over fractured bedrock of the Franciscan Complex. Borings advanced at and near the Site indicate that these stream deposits are variable in texture both laterally and vertically and generally become coarser with depth.

Unconfined groundwater is first encountered at approximately 6 to 9 feet below ground surface (bgs) in late winter and several feet lower in late fall. Groundwater present in deeper permeable strata appears to be semi-confined or confined by overlying finer-grained strata. Groundwater recharge in this area occurs by surface infiltration in unpaved areas and through the channel of Miller Creek, and it flows eastward beneath the Site toward San Pablo Bay. There are several domestic wells in the vicinity of the Site, but most are upgradient to the west. The closest downgradient active domestic well is approximately 1,000 feet east of the Site.

6. **Remedial Investigation**: Several onsite and offsite investigations have occurred since PCE was detected in August 2007. These investigations documented two contaminant source areas onsite: 1) beneath the former Prosperity Cleaners building where the dry cleaning machinery was previously located; and 2) along the eastern boundary of the Site adjacent to the southbound onramp to Highway 101, termed the "eastern hot spot" by Marinwood Plaza, LLC. PCE, and its breakdown products trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), trans-1,2-dichloroethylene (trans-1,2-DCE), and vinyl chloride have been reported above the Regional Water Board's Environmental Screening Levels (ESLs) in soil, soil gas, indoor air samples, and groundwater at and downgradient of the Site.

In 2007, Marinwood Plaza, LLC, installed five shallow groundwater monitoring wells at the Site, and these wells have been monitored nine times since October of that year. Analytical results reported for groundwater samples collected from these wells in August 2013 are listed below:

Analyte	Maximum Detected Concentration (µg/L)	MCL (µg/L)
PCE	47	5
TCE	15	5
cis-1,2-DCE	21	6
trans-1,2-DCE	0.8	10
vinyl chloride	6.7	0.5

Currently, the vertical and lateral extent of contamination in groundwater has not been delineated. An offsite groundwater investigation was conducted by Marinwood Plaza, LLC, in October 2013 to determine if contaminants had migrated downgradient from the Site in groundwater. Analytical results for grab groundwater samples collected at eight locations along the eastern margin of Highway 101 indicate that PCE is present in groundwater above Maximum Contaminant Levels (MCLs) for drinking water at two of these locations. Marinwood Plaza, LLC, has sampled the water in Miller Creek, and the analytical results indicate that this stream has not been impacted by contamination at the Site.

PCE and its breakdown products have been reported in soil samples from borings beneath the floor of the former Prosperity Cleaners and in the "eastern hot spot" area. In June 2010, a soil sample collected at 1 foot bgs beneath the floor of the building was reported to contain 12 milligrams per kilogram (mg/k) of PCE. The soil sample collected from 15 feet bgs from the same boring contained 5.2 mg/k of PCE. Cis-1,2-DCE concentrations in soil beneath the building were also elevated. Soil samples from borings in the "eastern hot spot" area contained concentrations of PCE up to 4.0 mg/k, and elevated concentrations of cis-1,2-DCE and vinyl chloride. These results exceed both commercial and residential ESLs.

Marinwood Plaza, LLC, conducted a soil vapor survey at the Site in 2008 that detected PCE, TCE, and related compounds in the subsurface. In 2011, it installed six soil gas wells and has sampled these wells quarterly since September of that year. Analytical results for soil gas samples collected from these wells in January 2013 were reported to contain PCE at concentrations up to 680,000 micrograms per cubic meter (µg/m^3), TCE up to 21,000 µg/m^3, cis-1,2-DCE up to 260,000 µg/m^3, trans-1,2-DCE up to 12,000 µg/m^3, and vinyl chloride up to 350 µg/m^3. These results exceed the both commercial and residential ESLs and serve to confirm the general location of the two contaminant source areas.

PCE has consistently been reported in indoor air samples from inside the liquor store at the Site at concentrations exceeding the residential and commercial ESLs. Interim remedial measures implemented by Marinwood Plaza, LLC, have reduced the indoor air concentration of PCE from 85 µg/m^3 in 2009, to 2.4 µg/m^3 in 2012. However, the most recent reported concentration still exceeds both commercial and residential ESLs for this compound.

7. **Interim Remedial Measures**: Oxidizing liquid was injected into shallow soil beneath the dry cleaner building and at the "eastern hot spot" area near the Highway 101 onramp in April and

May 2011. In August 2011, a bioremediation injection program was initiated at the "eastern hot spot" area to promote the breakdown of contaminants in soil to non-hazardous compounds. Subsequent groundwater samples collected from two of the monitoring wells onsite suggest these procedures may have degraded some percentage of the PCE present to the breakdown products TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride.

To reduce the concentration of contaminants migrating as vapor into the adjoining liquor store, the rear storeroom floor of the store was sealed and fans were installed in the store to increase air circulation. These measures have significantly reduced the concentrations of contaminants measured in indoor air, as noted in Finding 6.

Additional interim remedial measures may need to be implemented to reduce the threat to water quality, public health, and the environment posed by the discharge of waste and to provide a technical basis for selecting and designing final remedial measures.

8. **Adjacent Sites**: There are two nearby Underground Storage Tank cleanup sites, which are both closed cases. The Chevron gas station at 100 Marinwood Avenue is an operating facility. The former Unocal gas station at 101 Marinwood Avenue no longer exists, and that site has been remediated. There is no indication that the chemicals of concern at the Site came from either of these two gas station facilities.

9. **Screening Level Risk Assessment**: A screening-level evaluation was carried out to evaluate potential human health and environmental concerns related to identified soil and groundwater impacts. Chemicals evaluated in the risk evaluation include PCE, TCE, DCE, and vinyl chloride, the primary chemicals of concern identified at the Site.

a. **Screening Levels:** As part of the assessment, site data were compared to ESLs compiled by Regional Water Board staff. The presence of chemicals at concentrations above the ESLs indicates that additional evaluation of potential threats to human health and the environment is warranted. Screening levels for groundwater address the following environmental concerns: 1) drinking water impacts (toxicity and taste and odor), 2) impacts to indoor air, and 3) migration and impacts to aquatic habitats. Screening levels for soil address: 1) direct exposure, 2) leaching to groundwater, and 3) nuisance issues. Screening levels for soil gas address impacts to indoor air. Chemical-specific screening levels for other human health concerns (i.e., indoor-air and direct-exposure) are based on a target excess cancer risk of $1x10^{-6}$ for carcinogens and a target Hazard Quotient of 1.0 for non-carcinogens. Groundwater screening levels for the protection of aquatic habitats are based on promulgated surface water standards (or equivalent). Soil screening levels for potential leaching concerns are intended to prevent impacts to groundwater above target groundwater goals (e.g., drinking water standards). Soil screening levels for nuisance concerns are intended to address potential odor and other aesthetic issues.

b. **Assessment Results:**

Media / Constituent	Result of Screening Assessment*					
	Human health – direct contact	Leaching to ground-water	Indoor air	Aquatic life	Drinking water	Nuisance
Soil:						
PCE	X	X	X			X
TCE	X	X	X			X
cis-1,2-DCE	X	X	X			X
trans-1,2-DCE	X	X	X			X
Indoor Air:						
PCE	X		X			X
TCE						
cis-1,2-DCE						
trans-1,2-DCE						
vinyl chloride						
Soil Gas:						
PCE			X			X
TCE			X			X
cis-1,2,-DCE						X
trans-1,2-DCE						X
vinyl chloride			X			X
Groundwater:						
PCE	X		X	X	X	X
TCE	X		X	X	X	X
cis-1,2-DCE	X				X	X
trans-1,2-DCE	X				X	X
vinyl chloride	X		X		X	X

* Note: an "X" indicates that ESL for that particular concern was exceeded

c. **Conclusions:** The contaminants exceeding these screening level values should be addressed using site-specific risk assessment, remediation, risk management, or some combination of these elements.

10. Remedial Action Plan: A remedial action plan is needed to propose work that is necessary to eliminate unacceptable threats to human health and the environment.

11. Basis for Cleanup Levels

a. **General**: State Water Resources Control Board (State Water Board) Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California,"

applies to this discharge and requires the highest water quality consistent with the maximum benefit of the people.

State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304," applies to this discharge. It requires cleanup and abatement of the effects of discharges in a manner that promotes attainment of either background water quality levels or the best water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels less stringent than background must 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. This Order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

b. **Beneficial Uses**: The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Regional 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 Regional Water Board and approved by the State Water Board, Office of Administrative Law, and U.S. EPA, where required.

Regional Water Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels. Groundwater underlying and adjacent to the Site qualifies as a potential source of drinking water.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the Site:

- Municipal and domestic water supply
- Industrial process water supply
- Industrial service water supply
- Agricultural water supply
- Freshwater replenishment to surface waters

Currently groundwater is not used at the Site. Groundwater pumped from a well on a nearby property downgradient of the Site is used for domestic and agricultural purposes.

The existing and potential beneficial uses of water in Miller Creek include the following:

- Groundwater recharge for domestic and agricultural supply
- Wildlife habitat
- Cold freshwater and warm freshwater habitat
- Fish migration and spawning

- Estuarine habitat

c. **Basis for Groundwater Cleanup Levels**: The groundwater cleanup levels for the Site are based on applicable water quality objectives and are the more stringent of U.S. EPA and California primary maximum contaminant levels (MCLs). Cleanup to these levels will protect beneficial uses of groundwater and will result in acceptable residual risk to humans.

d. **Basis for Soil Cleanup Levels**: The soil cleanup levels for the Site are intended to prevent leaching of contaminants to groundwater and will result in acceptable residual risk to humans and ecological receptors.

e. **Basis for Soil Gas Cleanup Levels**: The soil gas cleanup levels for the Site are intended to prevent vapor intrusion into occupied buildings and will result in acceptable residual risk to humans.

f. **Basis for Indoor Air Cleanup Levels:** The indoor air cleanup levels for the Site are intended to prevent unhealthy levels of VOCs in indoor air as a result of vapor intrusion.

g. **Other:** The remedial action plan may propose revised cleanup levels for Regional Water Board consideration.

12. **Future Changes to Cleanup Levels**: The goal of the remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the Site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this Site may not be possible. If full restoration of beneficial uses is not technologically or economically achievable within a reasonable period of time, then the discharger may request modification to the cleanup levels or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup levels can be achieved, the Regional Water Board may require further cleanup actions.

13. **Risk Management**: The Regional Water Board considers the following human health risks to be acceptable at remediation sites: a cumulative hazard index of 1.0 or less for non-carcinogens and a cumulative excess cancer risk of 10^{-6} to 10^{-4} or less for carcinogens. The screening level evaluation for this Site found contamination-related risks in excess of these acceptable levels. Active remediation is anticipated to reduce these risks over time. However, risk management measures are needed at the Site during and following active remediation to assure protection of human health. Risk management measures include engineering controls (such as engineered caps, vapor barriers, or wellhead treatment) and institutional controls (such as deed restrictions that prohibit or restrict certain land uses).

The following risk management measures are needed at the Site:

a. During remediation: Continued operation and possible enhancement of vapor intrusion mitigation measures at the liquor store.

b. Post remediation: A deed restriction that, at a minimum, notifies future owners of any residual sub-surface contamination and prohibits the use of groundwater beneath the Site as a source of drinking water until cleanup levels are met.

c. Other: The remedial action plan may propose revised risk management measures for Regional Water Board consideration.

14. **Basis for 13304 Order**: Water Code section 13304 authorizes the Regional Water Board to issue orders requiring a discharger to cleanup and abate waste where the discharger has caused or permitted 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.

15. **Cost Recovery**: Pursuant to Water Code section 13304, the discharger is hereby notified that the Regional Water Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional 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.

16. **California Safe Drinking Water Policy:** It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

17. **CEQA**: This action is an order to enforce the laws and regulations administered by the Regional Water Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to section 15321 of the Resources Agency Guidelines.

18. **Notification**: The Regional Water Board has notified the discharger and all interested agencies and persons of its intent under Water Code section 13304 to issue a Cleanup and Abatement Order for the discharge and has provided them with an opportunity to submit their written comments.

19. **Public Hearing**: The Regional Water Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to sections 13267 and 13304 of the Water Code, that the discharger (or its agents, successors, or assigns) shall clean up 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. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

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

B. CLEANUP LEVELS

These cleanup levels may be amended by the Regional Water Board in the future based on the draft remedial action plan (RAP).

1. **Groundwater Cleanup Levels**: The following groundwater cleanup levels shall be met in all wells identified in the attached Self-Monitoring Program, in any impacted supply wells, and in any additional monitoring wells that may be installed as part of this Order:

Constituent	Level (µg/L)	Basis
Tetrachloroethene (PCE)	5	Drinking water MCL
Trichloroethene (TCE)	5	Drinking water MCL
cis-1,2-Dichloroethene (DCE)	6	Drinking water MCL
trans-1,2-DCE	10	Drinking water MCL
Vinyl chloride	0.5	Drinking water MCL

µg/L = microgram per liter

2. **Soil Cleanup Levels**: The following soil cleanup levels shall be met in all onsite soil:

Constituent	Level (mg/kg)	Basis
PCE	0.70	Leaching to groundwater
TCE	0.46	Leaching to groundwater
cis-1,2-DCE	0.19	Leaching to groundwater
trans-1,2-DCE	0.67	Leaching to groundwater

mg/kg = milligram per kilogram

3. **Soil Gas Cleanup Levels:** The following soil gas cleanup levels shall be met in all onsite vadose-zone soil:

Constituent	Commercial or Industrial Level ($\mu g/m^3$)	Residential Level ($\mu g/m^3$)	Basis
PCE	2,100	210	Vapor intrusion
TCE	3,000	300	Vapor intrusion
trans-1,2-DCE	26,000	3,100	Vapor intrusion
Vinyl chloride	160	16	Vapor intrusion

$\mu g/m^3$ = microgram per cubic meter

4. **Indoor Air Cleanup Levels**: The following indoor air cleanup levels shall be met in occupied on-site buildings:

Constituent	Commercial or Industrial Level ($\mu g/m^3$)	Residential Level ($\mu g/m^3$)	Basis
PCE	2.1	0.41	Inhalation
TCE	3.0	0.59	Inhalation
trans-1,2-DCE	260	63	Inhalation
Vinyl chloride	0.16	0.031	Inhalation

$\mu g/m^3$ = microgram per cubic meter

C. **TASKS**

1. EASTERN HOT SPOT REMEDIAL INVESTIGATION REPORT

COMPLIANCE DATE: March 31, 2014

Submit a report acceptable to the Executive Officer assessing the effectiveness of interim remedial measures in the eastern hot spot area.

2. OFFSITE REMEDIAL INVESTIGATION WORKPLAN

COMPLIANCE DATE: April 25, 2014

Submit a workplan acceptable to the Executive Officer to define the vertical and lateral extent of groundwater pollution offsite and assess the potential for contaminants to impact offsite domestic or agricultural wells. The workplan shall specify investigation methods and a proposed time schedule. Work may be phased to allow the investigation to proceed efficiently, provided that this does not delay compliance.

3. OFFSITE REMEDIAL INVESTIGATION REPORT

COMPLIANCE DATE: 120 days following Executive Officer approval of the Task 2 Workplan, or 90 days following completion of required access agreement(s), whichever is later

Submit an offsite remedial investigation report acceptable to the Executive Officer documenting completion of the offsite investigation. The technical report shall delineate the vertical and lateral extent of the contaminants of concern in groundwater and include an assessment of the potential for contaminants to impact offsite domestic or agricultural wells.

4. INTERIM REMEDIAL ACTION WORKPLAN

COMPLIANCE DATE: 45 days following Executive Officer requirement letter

Submit a workplan acceptable to the Executive Officer to evaluate interim remedial action alternatives for soil, soil vapor, and groundwater contamination and recommend alternatives for implementation onsite and/or offsite. The workplan shall specify a proposed time schedule for implementation of interim remedial actions. The Executive Officer will require this workplan if site contamination poses a potential threat to human health (e.g., indoor air concentrations are above ESLs for the contaminants of concern) or if contaminants in offsite groundwater pose a potential threat to or impact an offsite domestic or agricultural well.

5. COMPLETION OF INTERIM REMEDIAL ACTIONS

COMPLIANCE DATE: 120 days following Executive Officer approval of Task 4 workplan

Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in the Task 4 workplan. For ongoing actions, such as soil vapor extraction, groundwater extraction, or mitigation of impacts to an offsite domestic or agricultural well, the report shall document start-up, monitoring, and ongoing operations as opposed to completion.

6. REMEDIAL ACTION PLAN

COMPLIANCE DATE: 180 days after final approval by Marin County of entitlement to develop the Site (e.g., development agreement) or January 1, 2016, whichever is earlier

Submit a technical report acceptable to the Executive Officer containing:

a. Summary of the remedial investigations
b. Risk evaluation for onsite and offsite receptors
c. Evaluation of the interim remedial actions implemented
d. Feasibility study evaluating alternative final remedial actions
e. Recommended final remedial actions and cleanup levels
f. Proposed risk management plan

g. Implementation tasks and time schedule

The remedial action plan must propose remedial work that has a high probability of eliminating unacceptable threats to human health and restoring beneficial uses of water in a reasonable time, with "reasonable time" based on the severity of impact to the beneficial use. The Executive Officer will consider the success of the interim remedial actions in reducing the potential threat to human health and groundwater resources when evaluating the proposed remedial action schedule.

Item 6.d shall include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items 6.a through d should be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. § 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code section 25356.1(c), and State Water Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304").

7. REMEDIAL ACTION PLAN COMPLETION REPORT

COMPLIANCE DATE: Consistent with the schedule in the Task 6 Remedial Action Plan as approved by the Executive Officer.

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 6 remedial action plan. For ongoing actions, such as soil vapor extraction or groundwater extraction, the report shall document system start-up and monitoring (as opposed to completion) and shall present initial results on system effectiveness (e.g., capture zone or area of influence). Proposals for further system expansion or modification may be included in annual reports (see attached Self-Monitoring Program).

8. PROPOSED DEED RESTRICTION

COMPLIANCE DATE: 60 days following Executive Officer approval of Task 7 remedial action completion report

Submit a proposed deed restriction acceptable to the Executive Officer that limits onsite occupants' exposure to site contaminants to acceptable levels. The proposed deed restriction shall prohibit the use of groundwater beneath the Site as a source of drinking water until cleanup levels are met. The proposed deed restriction shall incorporate by reference a risk management plan (Task 6f). The proposed deed restriction shall name the Regional Water Board as a beneficiary and shall anticipate that the Regional Water Board will be a signatory. The Executive Officer will only require submittal of a proposed deed restriction if it is part of the remedy in the approved Remedial Action Plan.

9. RECORDATION OF DEED RESTRICTION

COMPLIANCE DATE: 60 days after Executive Officer approval of the proposed deed restriction

Submit a technical report acceptable to the Executive Officer documenting that the deed restriction has been duly signed by all parties and has been recorded with the Marin County Recorder. The report shall include a copy of the recorded deed restriction.

10. RISK MANAGEMENT PLAN IMPLEMENTATION REPORT

COMPLIANCE DATE: 60 days after required by Executive Officer and every 12 months thereafter

Submit a technical report acceptable to the Executive Officer documenting implementation of the Risk Management Plan over the previous 12-month period ending on June 30 of each year. The report shall include a detailed comparison of Risk Management Plan elements and implementation actions taken. The report shall provide a detailed discussion of any instances of implementation actions falling short of Risk Management Plan requirements, including an assessment of any potential human health or environmental effects resulting from these shortfalls. The report may be combined with a self-monitoring report, provided that the report title clearly indicates the scope of the report. The report may propose changes to the Risk Management Plan, although those changes shall not take effect until approved by the Regional Water Board or the Executive Officer. The Executive Officer will only require submittal of a risk management implementation report if it is part of the remedy in the approved Remedial Action Plan.

11. FIVE-YEAR STATUS REPORT

COMPLIANCE DATE: June 30, 2018, and every five years thereafter

Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved remedial action plan. The report shall include:

a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment;
b. Comparison of contaminant concentration trends with cleanup levels;
c. Comparison of anticipated versus actual costs of cleanup activities;
d. Performance data (e.g., groundwater volume extracted, chemical mass removed, mass removed per million gallons extracted);
e. Cost effectiveness data (e.g., cost per pound of contaminant removed);
f. Summary of additional investigations (including results) and significant modifications to remediation systems; and
g. Additional remedial actions proposed to meet cleanup levels (if applicable) including time schedule.

If cleanup levels have not been met and are not projected to be met within a reasonable time, the report shall assess the technical practicability of meeting cleanup levels and may propose an alternative cleanup strategy.

12. PROPOSED CURTAILMENT

COMPLIANCE DATE: 60 days prior to proposed curtailment

Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes system closure (e.g., well abandonment), system suspension (e.g., cease extraction but wells retained), and significant system modification (e.g., major reduction in extraction rates, closure of individual extraction wells within extraction network). The report shall include the rationale for curtailment. Proposals for final closure shall demonstrate that cleanup levels have been met, contaminant concentrations are known and stable, and contaminant migration potential is minimal.

13. IMPLEMENTATION OF CURTAILMENT

COMPLIANCE DATE: 60 days after Executive Officer approval of proposed curtailment

Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in Task 12.

14. DELAYED COMPLIANCE: If the discharger is delayed, interrupted, or prevented from meeting the deadlines specified above, it shall promptly notify the Executive Officer, and the Regional Water Board or Executive Officer may consider revising the deadlines in this Order.

D. **PROVISIONS**

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in Water Code section 13050(m).

2. **Good O&M**: The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The discharger shall be liable, pursuant to Water Code section 13304, to the Regional Water Board for all reasonable costs actually incurred by the Regional 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 over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records**: In accordance with Water Code section 13267(c), the discharger shall permit the Regional Water Board or its authorized representative:
   a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
   b. Access to copy any records required to be kept under the requirements of this Order.
   c. Inspection of any monitoring or remediation facilities installed in response to this Order.
   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

5. **Self-Monitoring Program**: The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.

6. **Consultant Qualifications**: All technical documents shall be signed by and stamped with the seal of a California registered geologist or a California registered civil engineer.

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

8. **Document Distribution**: An electronic and paper version of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the Regional Water Board, and electronic copies shall be provided to the following agencies. The Executive Officer may modify this distribution list as needed:

   Marin County Public Health Department

   Electronic copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be uploaded to the State Water Board's GeoTracker database within five business days after submittal to the Regional Water Board. Guidance for electronic information submittal is available at:

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

9. **Reporting of Changed Owner or Operator**: The discharger shall file a technical report on any changes in contact information, site occupancy, management, or ownership associated with the property described in this Order.

10. **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 is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Water Board by calling (510) 622-2369.

A written report shall be filed with the Regional Water Board within five working days. The report shall describe: the specific location of the release, nature of the hazardous substance, estimated quantity released, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified and the time and date they were notified.

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

11. **Periodic SCR Review**: The Regional Water Board will review this Order periodically and may revise it when necessary.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 12, 2014.

Digitally signed by Bruce H. Wolfe
DN: cn=Bruce H. Wolfe, o=SWRCB, ou=Region 2, email=bwolfe@waterboards.ca.gov, c=US
Date: 2014.02.18 16:13:02 -08'00'

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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Attachments: Site Map (Figure 1)
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM for:

MARINWOOD PLAZA, LLC

for the property located at:

187 MARINWOOD AVENUE
MARINWOOD, MARIN COUNTY

1. **Authority and Purpose**: The Regional Water Board requires the technical reports identified in this Self-Monitoring Program (SMP) pursuant to Water Code sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Regional Water Board Order No. R2-2014-0007.

2. **Groundwater Monitoring**: The discharger shall measure groundwater elevations quarterly in all monitoring wells and piezometers, and shall collect and analyze representative samples of groundwater according to the following table:

Well #	Sampling Frequency	Analyses
MW-1	Q	NS
MW-2	Q	8260B
MW-3	Q	8260B
MW-4	Q	8260B
MW-5	Q	8260B

Key: Q = Quarterly; SA = Semi-Annually; 8260B = U.S. EPA Method 8260B or equivalent; NS = monitoring only; no sample analysis required

The discharger shall measure groundwater level and sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The discharger may propose changes in the above sampling program; any proposed changes are subject to Executive Officer approval.

3. **Soil Gas and Indoor Air Monitoring:** The discharger shall collect and analyze representative samples quarterly from all soil gas and indoor air monitoring locations according to the following table:

Sampling Location	Sampling Frequency	Analyses
SVM-1	Q	TO-15
SVM-2	Q	TO-15
SVM-3	Q	TO-15
SVM-4	Q	TO-15
SVM-5	Q	TO-15

SVM-6	Q	TO-15
Liquor store - front	Q	TO-15
Liquor store - back	Q	TO-15

Key: Q = Quarterly TO-15 = U.S. EPA Method TO-15 or equivalent
SA = Semi-Annually NS = field monitoring only; no sample analysis required

4. **Quarterly Monitoring Reports**: The discharger shall submit quarterly monitoring reports to the Regional Water Board no later than 30 days following the end of the quarter (e.g., report for first quarter of each calendar year is due April 30). The first quarterly monitoring report shall be due on July 30, 2014. The reports shall include:

   a. Transmittal Letter: The transmittal letter shall discuss any problems or violations during the reporting period and actions taken or planned to correct the problem. 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 report is true and correct to the best of the official's knowledge.

   b. Groundwater Elevations: Groundwater elevation data shall be presented in tabular form, and a groundwater elevation contour map should be prepared for each monitored water-bearing zone. A line graph showing historical groundwater elevations for each well shall be included in the fourth quarterly report each year.

   c. Groundwater, Soil Gas, and Indoor Air Analyses: Groundwater, soil gas, and indoor air sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for the key contaminants of concern for the vadose zone and each monitored water-bearing zone, as appropriate. The report shall indicate the analytical methods used, detection limits obtained for each reported constituent, and a summary of QA/QC data. A line graph showing historical groundwater, soil gas, and indoor air sampling results for each sampling location shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report and any measures proposed to address the increases. Laboratory data sheets need not be included in the hard copy of the report submitted to the Regional Water Board. Laboratory data sheets should be included in electronic copies of the report submitted to the Regional Water Board and uploaded to the Geotracker database.

   d. Groundwater Extraction: If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the Site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g., soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.

   e. Status Report: The quarterly report shall describe relevant work completed during the reporting period (e.g., site investigation, interim remedial measures) and work planned for the following quarter.

5. **Violation Reports**: If the discharger violates requirements in this Order, then the discharger shall notify the Regional Water Board office by telephone and email as soon as practicable once the discharger has knowledge of the violation. Regional Water Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of notification.

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

7. **Record Keeping**: The discharger or its agent shall retain all data generated for the above reports, including chain-of-custody records, laboratory results, and QA/QC data, for a minimum of six years after origination and shall make them available to the Regional Water Board upon request.

8. **SMP Revisions**: Revisions to the Self-Monitoring Program 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.