
Habitat Mitigation Monitoring Plan

RIVERVIEW APARTMENTS PROJECT
PETALUMA, SONOMA COUNTY, CALIFORNIA

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WRA Project No. 18046



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1.0 INTRODUCTION

Baywood LLC, a California Limited Liability Company (Applicant) submits this Habitat Mitigation Monitoring Plan (HMMP) in support of an application for the United States Army Corps of Engineers (Corps) Section 404 Individual Permit (IP) and Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification for the Riverview Apartments Project (Project) in the City of Petaluma, Sonoma County, California (Figure 1).

The Project area is composed of one parcel within the Adobe Creek watershed and the greater Petaluma River watershed which is a portion of the San Pablo Bay watershed (HUC 18050002). The 14.45-acre vacant property is located at the southern terminus of Casa Grande Road and was the former site of a soap manufacturing company called Royal Tallow Soap. The proposed development is a high density residential apartment complex (Project).

Temporary and permanent impacts to wetlands will occur on-site and at a nearby mitigation area. On-site mitigation is proposed for temporary impacts that result to a portion of wetlands impacted by remediation of metal contaminated soil, and will result in direct replacement of wetlands habitat in the area where Project development will not occur once soil remediation activities are completed. Additional mitigation for 2:1 ratio replacement of wetlands will occur on a portion of former golf course (Adobe Golf Course) located north of the Project area along Adobe Creek (Figure 2).

The mitigation proposed has been planned to meet mitigation objectives and avoid impacts to other sensitive resources to the maximum extent feasible.

1.1 Responsible Parties

The Applicant is solely responsible for developing, implementing, maintaining, and the initial 5-year monitoring of the proposed creation and restoration activities associated with the Project. This includes land acquisition; property management; compliance with local, state, and federal laws and regulations; construction of capital improvements; police, and fire services; and self-governance, including public elections and taxation.

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This HMMP was prepared by WRA, Inc. (WRA). WRA has also prepared accompanying permit applications to fill wetlands that cannot be avoided by the Riverview Apartments Project.

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1.2 Project Description

The nature of activity of the Project is construction of residential apartments in Petaluma, CA. Residential housing is needed because of short supply of housing due to a growing local population and the loss of 6,000 homes in the Tubbs Fire and other North Bay fires of 2017 and 2018. The 14.45 acre vacant Project area, previously an industrial soap manufacturing site and waste transfer station, will be graded and improved for installation of basic utilities, access roadways, and all associated infrastructure to create a complex of 264 apartment units and auxiliary structures with 27 buildings. Remedial grading and cleanup of soils contaminated with toxic metals from activities prior to ownership of the land by the applicant will also be conducted. Development and remedial cleanup of heavy metal contaminated soils will result in unavoidable filling of 1.67 acres of existing jurisdictional area which consists of 0.49 ac from soil remediation and 1.18 ac from other fill. A portion (0.13 ac) of the soil remediation area wetlands are considered a temporary impact because they will be restored following soil remediation. The unavoidable wetlands loss will be mitigated very near to the Project area by creating wetlands upstream on Adobe Creek, approximately 1.9 miles northeast of the Project area. Adobe Creek flows to the Petaluma River just east of the Project site.

The Project has been designed to avoid or minimize impacts to sensitive habitats and species to the maximum extent possible. Although the Project will include some self-mitigation, mitigation tasks include the following:

- Recreate existing seasonal wetlands permanently impacted during the Project,
- Restore wetlands temporarily impacted by the Project
- Increase the amount of wetlands in the Adobe Creek-Petaluma River watershed
- Increase functions and values of wetlands

1.3 Project Objectives

The objective of this HMMP is to provide a comprehensive compensatory mitigation plan for impacts to 1.67 acres of jurisdictional area consisting of seasonal wetlands (1.66 ac) and linear concrete lined drainage swale (0.01 ac, 85 feet).

The primary objectives of this HMMP are to describe the creation and restoration activities designed to benefit existing habitats and to satisfy on-site mitigation for unavoidable permanent and temporary Project impacts to wetlands. The HMMP therefore addresses the estimated impacts of the proposed Project, the proposed creation and restoration goals and activities, creation and restoration implementation and planting plans, and maintenance and monitoring of the created habitats.

The HMMP has been designed with the following objectives:

- Increase the overall acreage of aquatic habitat in the Adobe Creek/Petaluma River watershed;
- Increase the functions and values of wetlands as compared to the existing wetlands habitat;
- Replace a portion of existing wetlands temporarily impacted by soil remediation in the existing location.

This document outlines performance criteria that generally follow Attachment 12505 (Table of Uniform Performance Standards for Compensatory Mitigation Requirements) set forth by the South Pacific Division of the Corps.

2.0 EXISTING BASELINE CONDITIONS

2.1 Baseline Condition of Development Project Area

The Project area is located at the terminus of Casa Grande Road, just south of State Highway 116, west of Adobe Creek, north of the Petaluma River, and east of Highway 101 (Figure 1). The Project area is located in the northwest quarter of the Petaluma River 7.5 minute USGS quadrangle. The 14.45-acre Project area, now vacant, was formerly the site of a soap factory facility, called Royal Tallow Soap, and other past uses. A portion of the property extending to the southwest leading to the Petaluma River was included in the previous Project environmental review documents, however this “panhandle” of land was dedicated to California State Lands Commission in 2017 and is considered to be avoided habitat, including the wetlands that are present. Other land use around the current Project area include Rocky Dog Park to the west, apartment housing to the north, a light industrial complex to the east, and open space to the south. A public footpath/trail on adjacent property parallels the eastern portion of the Project area boundary and continues south toward the Petaluma River along and through the dedicated panhandle area.

A portion of the Project area was likely within historic high intertidal salt marsh that was filled many decades ago and farmed for hay production before its use as an industrial facility beginning in 1941 (soap factory). Situated on a gently undulating low terrace adjacent to the Petaluma River, the current elevation is above 5 feet National Geodetic Vertical Datum and the slope is less than 2 percent. Vegetation is composed primarily of non-native, annual grasses and weedy forbs; the Project area receives no tidal action under current conditions.

The dominant plant community within the Project area is ruderal/non-native annual grassland. Also present is seasonal wetland, emergent freshwater marsh (cattail), and a drainage ditch classified as “other waters of the U.S.” by the Corps of Engineers. The ruderal/grassland vegetation occurs throughout the northern portion of the Project area; plants in this community include predominantly non-native species such as Italian ryegrass (*Festuca perennis* [*Lolium perenne*]), wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), ox-tongue (*Picris echioides*), broad-leaved pepperweed (*Lepidium latifolia*), canary grass (*Phalaris aquatica*), and curly dock. Within the Project area, seasonal wetland areas are vegetated by species such as ryegrass, rabbits-foot grass (*Polypogon monspeliensis*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), swamp timothy (*Crypsis schoenoides*), hyssop (*Lythrum hyssopifolia*), and tall flatsedge (*Cyperus eragrostis*). A small pocket of freshwater marsh dominated by cattail (*Typha latifolia*) occurred in the western portion of the property near the boundary with the adjacent dog park. A predominantly unvegetated drainage channel was present on the western Project area boundary at the access driveway into the property from Casa Grande Road. This concrete feature and culvert conveys runoff during winter storms and likely from nuisance water generated from surrounding developments during other times of the year.

2.2 Description of Development Project Jurisdictional Areas

A biological resources assessment for the Project area was conducted by WRA, Inc. (WRA) in 2008 and again on May 14, 2018. A formal wetland delineation for the Project area was conducted by WRA, Inc. (WRA) on April 28 and May 2, 2008. The results were provided to and reviewed by the Corps whom issued a Preliminary Jurisdictional Determination (PJD) on March 2, 2009 (SPN-

2008-00283-N). The PJD was reapproved on January 29, 2015 (SPN-2008-00283) which identified 7.19 ac of tidal, freshwater emergent, and seasonal wetlands and 0.12 ac of unvegetated other waters of the U.S. for a total of 7.31 ac of jurisdictional aquatic resources area. The Project proponent decided early in the planning process to avoid wetlands as much as possible, and acted to dedicate on October 13, 2017 the southern panhandle area of the Project to State Lands Commission. Dedicating the land covering approximately 5.95 ac avoided and preserved 5.15 ac of wetlands and other waters of the U.S., representing over 70 percent of the total amount of existing jurisdictional features on the original property.

The Project area includes a total of 2.15 acres of jurisdictional area consisting of 2.14 ac of seasonal wetlands throughout the Project and 0.01 ac (85 linear feet) of concrete lined channel in the northwest corner. These features are likely also Waters of the State and therefore jurisdictional by the RWQCB. Of the 2.15 ac of existing jurisdictional area within the Project area, 1.67 ac is expected to be impacted, including 1.54 ac of permanent fill for development and/or contaminated soil remediation and 0.13 ac of temporary impact for a portion of contaminated soil remediation where the existing seasonal wetland will be restored once the remediation is completed.

2.3 Mitigation Area Baseline Conditions

The proposed site for wetlands compensatory mitigation is on a portion of a former golf course in southeast Petaluma that is situated approximately 1.9 miles northeast of the Project area. The mitigation area covers approximately eleven acres and is property owned by the project proponent (Applicant)

The soil type within the proposed mitigation area is Clear Lake clay which is the same soil type as that at the Project area. Clear Lake clay soil is known for easy and successful creation of seasonal wetlands due to its high clay content and ability to seal once wetted. These soil properties will result in creation of seasonal wetlands with high probability for initial success and long term sustainability.

Land use surrounding the proposed mitigation area consists of some existing development, but is open space for the most part. East of the mitigation site is a power substation facility, and although it is developed it is a relatively low use area with an existing row of mature trees planted along the boundary with the mitigation area. Adobe Creek is immediately adjacent along the northwest with continuing open space to the north, northwest, and southwest, except for existing Adobe Road to the north and Casa Grande Road to the west, both two lane roadways. Additional former golf course lies to the south and no future use of this property has been determined at this time.

The mitigation area is currently dominated by upland, non-native grasses which have colonized and grown since golf course maintenance and irrigation ceased in 2017. These species include grasses, such as ripgut grass (*Bromus diandrus*) and wild oat (*Avena barbata*), and forbs, such as bristly ox tongue (*Picris echioides*) and mustard (*Brassica nigra*). Two established coast live oak trees (*Quercus agrifolia*) present in the center of the mitigation area cannot be avoided by the wetlands creation plan, however it is anticipated that oak and other native trees will be planted in upland areas of the resulting final mitigation plan. No wetlands currently exist within the selected mitigation area (WRA 2020, Appendix A), however a portion of an artificial reservoir, a non-jurisdictional golf course water feature and irrigation water storage sourced from a well, is located in the southwest portion of the mitigation area. It will not be considered as part of the mitigation and will be avoided by the grading needed to complete the created mitigation wetlands.

3.0 PROPOSED PROJECT ACTIVITIES

The Overall Purpose and goal of the Project is to provide housing for the burgeoning demand in Petaluma and Sonoma County caused by a growing population and loss of housing caused by wildfires in 2017 and 2018. Some wetlands will unavoidably need to be filled in order to fulfil the Overall Project Purpose, however, a substantial amount of existing wetlands on the original property were recognized in the early design by the applicant that should be avoided and preserved. The southern portion of the property, a triangular shaped panhandle area covering 5.95 ac that had 5.15 ac of existing wetlands was subsequently dedicated as open space to the State Lands Commission, thus avoiding and preserving the wetlands. Within the Project development area covering 14.45 ac of land, another 0.49 ac of existing wetlands on the southeastern and southwestern corners were avoided by project design. The final design of the Preferred Project avoided as much existing wetlands habitat as practicable that would still allow fulfilling the Overall Project Purpose (Alternatives Analysis, WRA 2019).

3.1 Description of Proposed Activities

The Applicant proposes to develop an existing ruderal parcel located at the western terminus of Casa Grande Road into a High Density Residential apartment complex, similar to apartment complexes of nearby parcels. The proposed Project will mitigate for unavoidable impacts to wetlands by creating seasonal wetlands along Adobe Creek approximately 1.9 miles northeast of the Project and restoring wetlands impacted by remediating contaminated soil on the Project area. A lower reach of Adobe Creek flows near the eastern boundary of the Project area and into the Petaluma River. Construction activities entail goat grazing removal of vegetation with some mechanical vegetation removal, followed by grading and surcharging of the Project area. Following initial grading and surcharging activities, the construction will begin for the building of structures, driveways, and parking, likely in 2020. The Project is to begin construction in 2020 during the dry season.

Unavoidable permanent impacts to 1.53 acres of seasonal wetlands and 0.01 ac (85 feet) of concrete lined ditch/culvert will occur during grading and surcharging activities and another 0.13 ac of existing wetlands will be temporarily impacted but restored following contaminated soil remediation activities. Wetlands will be created to replace impacted wetlands at a minimum ratio of 2:1 (2:1 mitigation ratio determined by the Corps mitigation calculator, Appendix B). Existing wetlands to be avoided will be protected during construction activities, such as from staging areas, surcharging or stockpiling with orange construction fencing. Avoidance and minimization measures will be utilized during construction activities to prevent impacts to sensitive resources. Additionally, all temporary staging and storage areas for equipment, materials, fuels, lubricants and solvents, will be located outside of the existing wetlands.

3.2 Project Activity Impacts and Compensatory Mitigation

Project impacts to jurisdictional features are summarized below in Table 1. The grading and development of the structures and roads within the Project area will result in permanent impacts to 1.51 ac of jurisdictional area. The existing seasonal wetlands and concrete lined ditch that will be impacted were determined to be low-quality habitat, having been created by uneven site grading on former industrial facility and waste transfer station land and with vegetation dominated by non-native, invasive FAC to FACW herbs such as Italian rye grass, and fiddle dock. Impacts to these features will be recreated on a nearby mitigation site along Adobe Creek at a 2:1 mitigation ratio. Another 0.13 ac of temporary impacts to seasonal wetlands by remediation of metal contaminated soil will be mitigated onsite by restoration once soil remediation is completed

and an additional 0.13 ac will be created at Adobe Creek for a total 2:1 mitigation ratio (Table 1). A detailed description of the impacts and mitigation of wetlands is provided in Section 4.0.

Table 1. Project Impacts to Jurisdictional Features and Mitigation. All numbers in acres* and (linear feet).

Feature	Section 404/401 Jurisdictional Areas			
	Temporary Impacts	Mitigation for Temporary Impacts	Permanent Impacts	Mitigation for Permanent Impacts
Seasonal Wetland Project Area	0.13		1.53	
Linear Concrete Lined Ditch			0.01 (85)	
IMPACTS TOTAL	1.67 (85)			
Seasonal Wetland Project Area		0.13		
Seasonal Wetland Adobe Creek		0.13		3.07
Linear Swale Adobe Creek				0.01 (85)
MITIGATION SUBTOTAL		0.26		3.08 (85)
OVERALL MITIGATION REQUIRED	3.34 (85)			

*rounded to nearest 0.01 ac

3.3 Compensatory Mitigation Watershed Approach

The goal of the watershed approach to compensatory mitigation (33 CFR 332.3(c)/40 CFR 230.93(c)) is to “maintain and improve the quality and quantity of aquatic resources in a watershed through strategic selection of mitigation sites”. The proposed permittee responsible mitigation meets this goal by creating wetlands that are adjacent to Adobe Creek, a perennial stream and riparian habitat, which will create a natural habitat complex with mutual augmentation of functions and values between the stream/riparian area and the adjacent seasonal wetlands and open space uplands. Specifically, the mitigation wetlands will make improvements to the local Adobe Creek watershed by:

- intercepting surface runoff and removing or retaining inorganic nutrients and transforming organic wastes
- intercepting and retaining suspended sediments
- detaining surface runoff for flood attenuation
- retaining water for infiltration into groundwater reserves that will improve summer base flow in Adobe Creek and augment the local aquifer
- creating and enhancement of wildlife habitat, including aquatic (steelhead) and terrestrial species (California red-legged frog)

The resulting mitigation wetlands will be in a protected setting and managed in perpetuity. The mitigation site is located in an open space area adjacent to Adobe Creek. Details of the protective mechanism will be determined and provided to interested agencies for review and approval prior to authorization of permits or certifications.

A Petaluma Watershed Enhancement Plan (Enhancement Plan) was prepared in 1998 and a draft update in 2013 (Sonoma RCD). The Enhancement Plan includes the Adobe Creek sub-watershed with highest ranked stressors identified as urban and rural caused increase in water pollution, changes to floodplain connectivity, wetlands degradation, and residential and agricultural water use as impairment to flow. Dairies, particularly in the upstream portions of the watershed, were an identified concern for water quality impacts. A 1000-ft section along the creek at the golf course was described as the only substantial remaining riparian habitat below Adobe Road, and planting projects by Casa Grande High School (part of the fish hatchery program) are improving segments, including the segment by the former golf course where the wetlands mitigation site is proposed. Adobe Creek is also described as having the highest steelhead counts of local creeks and Chinook salmon have also been observed. Recommendations of the Enhancement Plan for watershed enhancement include erosion control and increasing summertime flow, both of which would be supported by creation of the mitigation wetlands by the functions the wetlands will provide, as listed above. This mitigation would be welcomed for its position in the Adobe Creek watershed and the benefits it will provide, and is needed as part of the watershed enhancement plan in the local area watershed instead of shifting to a location far removed which would result by purchase of mitigation bank credits. A map showing the Adobe Creek watershed, the position of proposed wetlands mitigation area in the watershed, and location of the proposed Riverview Apartments Project is provided in Figure 3.

4.0 WETLAND CREATION WORKPLAN

Wetland creation construction at the Adobe Creek former golf course site will be scheduled concurrently with Project construction grading and surcharging. Restoration of wetlands temporarily impacted because of contaminated soil remediation will be conducted following completion of remediation as described separately in Appendix C. Planting of the created wetlands will occur in the late fall to take advantage of winter rains and increase opportunities for plant establishment. If planting occurs prior to the fall, installed plants will be irrigated to increase probability of proper establishment. A person qualified in wetland restoration will monitor construction of the wetland creation to ensure specifications in the final detailed construction drawings are met.

Seasonal wetland depressions will be created to compensate for impacted wetlands at the Project within a parcel designated as onsite mitigation located 1.9 miles northeast of the Project, adjacent to Adobe Creek (mitigation area); lower Adobe Creek flows past the Project to the east until it reaches the Petaluma River. The mitigation area is within a portion of former golf course that was surveyed by biologists in 2018-2019 and where no existing jurisdictional wetlands were determined to be present (WRA 2020, Appendix A). A portion of a man-made golf course artificially created water feature is located in the western portion of the mitigation area is not a part of the wetland mitigation.

The geographic boundaries of the project are shown in Figure 2 which also shows a proposed grading plan to create wetlands, including elevations and slopes of the substrate.

Construction methods will require use of earth moving equipment, such as dozers and excavators, to move soil and contour the mitigation area to create depressions that will hold water from direct rainfall and localized runoff from surrounding mitigation area uplands. Because the native soil type of the area is Clear Lake clay, creating depressions that will hold water is expected to be highly successful.

Implementation of wetlands construction will be during dry months of the year and is expected to require a few months to complete. Working during the dry months will allow easier construction activity and prevent sediment runoff from leaving the mitigation area work site.

The mitigation wetlands are designed to receive water from direct precipitation and from localized runoff from surrounding uplands areas. There will be no connection to receive water from Adobe Creek. With the presence of native Clear Lake clay soils and an average of 25 inches of rainfall annually in the Petaluma area, inundation of the wetlands to hold water 6-12 inches deep for several weeks is expected.

Vegetating the created wetlands will be accomplished by a combination of applying wetland species seed and live plantings. Once final grading is completed, seed will be applied toward the fall season prior to when rain begin. Once rain is received and soil begins to be moistened, live plugs of native wetlands species will be installed in areas of each mitigation wetland depression. The types of species may include meadow barley (*Hordeum brachyantherum*), spike rush (*Eleocharis* sp.), iris-leaved rush (*Juncus xiphioides*), and other suitable species (See Table 2 and Table 3 below).

Control of invasive exotic plant species as noted by Cal-IPC, will be by establishing a cover of native grasses and forbs in wetlands and uplands areas by seeding to discourage invasive non-native plants. Other control will be by mowing invasive non-natives at the appropriate time of season to prevent seed production. In extreme cases of weed invasion, approved herbicides may be needed and applied by a licensed pesticide applicator on a case by case basis.

The Clear Lake clay soil that is native throughout the mitigation area is not expected to need management. Clear Lake clay is noted for its ability to hold water for creation of seasonal wetlands once winter rains begin and the soil swells and seals.

Given that management actions have been designed to ensure appropriate wetland hydrology and native wetland plant establishment on Clear Lake clay soil, the creation of 3.01 acre of seasonal wetland habitat and 0.01 ac (85 feet) of seasonal swale will replace impacted wetlands. Replacement is expected to exceed the aquatic functions and values of the jurisdictional areas impacted within the Project area and has a high probability of success due to the presence of native Clear Lake clay soil. An additional 0.13 ac of seasonal wetland will be created at Adobe Creek mitigation area along with the 0.13 ac restored at the development site to replace seasonal wetland impacted by contaminated soil remediation. The combined total of these components is 3.34 acres of mitigation (Table 1). The compensatory mitigation area at Adobe Creek was established per the approved CEQA negative declaration and using the Corps' mitigation ratio calculator which yielded a 2:1 mitigation to impact ratio (Appendix B).

Additional work plan details are provided in sections below.

4.1 Mitigation Site Selection

Selection of the wetland mitigation area was considered at a former golf course in southeast Petaluma that is situated approximately 1.9 miles northeast of the Project area. Elements considered for the appropriateness of the site for wetlands mitigation included the location for improved wetlands functions and values, conditions that would enhance habitat, soil type that would support wetland creation and sustainability, and contribute positively to the overall watershed. The property is owned by the project proponent.

The soil type within the mitigation area is Clear Lake clay which is the same soil type as that at the Project area. Clear Lake clay soil is known for easy and successful creation of seasonal wetlands due to its high clay content and ability to seal once wetted. These soil properties will result in easy creation of seasonal wetlands with high probability for initial success and long term sustainability.

Initially the project proponent considered mitigation bank credits for wetlands impacts, however the lack of such credits was found not to be available and continue to be unavailable in the quantity needed to fulfill mitigation requirements. Next proposed was to create wetlands at a central area of a former golf course owned by the project proponent. Upon initial observation it was evident it was relatively isolated and there was no connectivity to other habitat. However, the area in the northern portion of the old golf course adjacent to Adobe Creek was ultimately selected because of its superior location adjacent to Adobe Creek. The mitigation area will provide permanent widening of the corridor along the creek which flows through predominantly open agricultural lands to the north. East of the mitigation site is a power substation facility, and although it is developed it is a relatively low use area with an existing row of mature trees planted along the boundary; this developed area would not cause much disturbance to the mitigation site.

With the similar soils and proximity to the same stream (Adobe Creek is only 0.13 mile east of the project) in the watershed is expected to provide mutual, complimentary benefits for both habitats and result in a higher functional value for both the created wetlands and the riparian habitat of Adobe Creek. Moreover, the mitigation will contribute positively to attributes of the watershed (see Section 3.3).

The mitigation area is currently dominated by upland, non-native grasses which have colonized and grown since golf course maintenance and irrigation ceased in the northern portion of the golf course in 2017. No wetlands currently exist within the selected mitigation area (WRA 2020), however a portion of an artificial reservoir, a non-jurisdictional golf course water feature and irrigation water storage reservoir, extends into the southwest portion of the mitigation area. It will not be considered as part of the mitigation and will be avoided by the grading needed to complete the created mitigation wetlands. The 3.5 acres of proposed wetlands created will cover approximately 32% of the 11 acre site.

Additional mitigation for temporary impacts to wetlands related to heavy metal soil remediation on the project site will be provided once soil remediation is completed. The impacted wetlands will be restored in their same location and will be of the same type, seasonal wetlands.

4.2 Soils of Created Wetlands

The mapped soil series for the mitigation area is Clear Lake clay, sandy substratum, 0 to 2 percent slopes, and based on a survey of the area and observation of deep and wide soil cracks of dried soil surface, it is assumed that grading for the former golf course was within the native soil type which is still present. Clear Lake clay soils are known for their excellent wetland creation properties due to slow water infiltration properties, and grading to create wetlands will focus on creating deep native soil clay bottoms in wetland depressions to ensure water holding capability. With this condition and the approximately 25 inches of average annual rainfall received in the Petaluma area, the probability for creating successful mitigation wetlands is high. All soil graded for mitigation activity will be the native soil within the mitigation area and no additional soil is expected to be imported.

4.3 Grading Plan

The wetland creation will be implemented by grading the mitigation area to the elevations appropriate for wetland formation at the site. A conceptual plan for the creation and restoration areas has been developed to create up to 3.5 ac of created seasonal wetlands at the Adobe Creek mitigation area (Figure 2). However, only 3.08 ac of this amount will be needed to complete the 2:1 mitigation ratio to compensate for Project wetlands impacts (Table 1) with 0.13 ac being mitigated at the development site when contaminated soil remediation is completed and an additional 0.13 ac of mitigation at the Adobe Mitigation site for a total of 3.34 ac of mitigation. The remaining 0.16 ac of created wetlands at Adobe Creek will be in reserve if a portion of the created mitigation wetlands do not meet performance criteria. Equipment used for grading and creating the seasonal wetlands may include standard construction equipment such as dozer, excavator/backhoe, and a front-end loader. Only the appropriate size of equipment suited for construction work and to the site will be used. Of course, erosion control measures such as biodegradable straw wattles, hay bales, silt fencing and other typical materials will be used and implemented at all times during construction work that will conform to accepted BMPs according to the storm water plan.

In addition to created seasonal wetlands, a linear wetland swale will be created between two seasonal wetlands to compensate for impacts to a linear concrete feature in the northwest corner of the Project development site. The swale will be approximately 85 feet long and overflow water from the higher elevation wetland will flow through it to the lower created wetland. In general, excess overflow from the created seasonal wetlands, if any, will sheet flow across adjacent uplands and may reach Adobe Creek at various locations.

Soil grading is expected to balance cut/fill within the mitigation area, however any excess soil excavated from the upland areas will be removed from the mitigation area and used or stockpiled in uplands area in another portion of the former golf course property owned by the project proponent

4.4 Created Wetland Hydrology

The created wetland habitat will be graded to the elevations appropriate for wetland formation and sustainability within the mitigation area. The proposed seasonal wetland creation areas will be excavated to a depth sufficient to inundate for sufficient duration to support a seasonal wetland community, making sure that an adequate depth clay bottom is present. Surface runoff from local uplands around the created wetlands will provide water to the created areas during rain events, in addition to the precipitation that falls directly into the wetlands; the Petaluma area receives approximately 25 inches per year on average.

4.5 Planting Plan

The entire mitigation area is currently non-native grassland upland area with the exception of a portion of a man-made golf course water feature in the western portion which is not part of the mitigation plan and will not be affected by grading of the created wetlands. Habitat within the mitigation area currently is predominantly non-native grasses and forbs as it was highly altered and maintained by irrigation (which has long been discontinued) for the purposes for a golf course use. These non-native annual grasses have become ubiquitous throughout California such that they are considered to be part of the naturalized landscape. Therefore, plants considered by the California Invasive Plant Council (Cal-IPC) Inventory List (2019) as "Moderate," such as non-native annual grasses, are expected to be present following restoration plant installation due to their prolific nature in adjacent lands, and would be impractical to eradicate.

Creation activities will involve the planting of native vegetation known to locally establish successfully within wetlands and freshwater marsh. Plant materials proposed include seeds and container plants of native grasses and forbs.

Plants expected to grow in the created wetlands after restoration will consist of native and non-native vegetation characteristic of the area, with native seasonal wetland plant species similar to those found in similar habitats in the region. Suitable habitat for these species is expected to be present within the created wetlands following grading to an elevation appropriate for the site. Plants expected to grow in upland areas after restoration will consist of a mix of native and non-native species that may be managed only by occasional mowing to reduce wild fire hazard, as needed.

A detailed plan providing planting specifics including species, seed rate, size, and live plant installation spacing will be prepared for agency approval, along with construction drawings, if conceptual mitigation plans are approved. The plant material type, size, and spacing will be planned to encourage quick establishment of native wetland species and discourage colonization by highly invasive species, exclusive of invasive annual grasses and forbs found currently in the vicinity that are ubiquitous to the naturalized California landscape. Species are expected to spread vegetatively and by seed once planted. Additionally, planting quantities will also be determined as planting plan details are finalized but will be sufficient to ensure the successful establishment of the seasonal wetlands.

The overarching goal of planting is to establish coverage of hydrophytic vegetation within the created wetlands. Some planted species may not establish and/or may be outcompeted by other species. Replacement plant materials, if needed, would include those species that have been most successful in initial establishment. Habitat-specific planting requirements are discussed in further detail below but are subject to change based on availability of seed and other plan propagules. Table 2 and Table 3 provide a list of potential native wetland plants to be used within the wetland and marsh habitats.

Table 2. Proposed Plant Palette Seed Mix.

Scientific Name	Common Name
SEASONAL WETLANDS	
<i>Eleocharis macrostachya</i>	spike rush
<i>Elymus triticoides</i>	wild rye
<i>Hordeum brachyantherum</i>	meadow barley
<i>Juncus xiphioides</i>	Iris-leaved rush

Table 3. Proposed Container Plant Palette.

Scientific Name	Common Name	Container Size	On-Center Spacing (feet)
SEASONAL WETLANDS			
<i>Carex barbarae</i>	valley sedge	plugs	3
<i>Eleocharis macrostachya</i>	spike rush	plugs	3

<i>Juncus patens</i>	grey rush	1-gal	1-2

The created seasonal wetland areas may be irrigated on an as-needed basis, such as during winter drought periods after initial planting. The seasonal wetlands will be excavated to a depth to provide adequate inundation for habitat establishment during average rainfall years. However, plantings may require irrigation during winter drought periods if seasonal precipitation is not adequate for plant survival and establishment. If irrigated, plantings will only be irrigated until they become established and are self-sufficient. Irrigation will be provided by an automated irrigation system as needed and may extend into a second season depending on climate conditions. Irrigation needs will be monitored by conducting site visits during suspected drought periods.

4.6 Maintenance Specifications

Maintenance activities in the mitigation area will occur during the five-year monitoring period (see Section 5.2 Monitoring) following planting and will include the following tasks as needed:

- (1) erosion control and repair should an extreme storm event occur;
- (2) maintenance of water control structures, such as weirs
- (3) inspection for signs of vandalism or other disturbance of the creation and restoration area by people that will jeopardize mitigation success;
- (4) inspections for colonization of problematic non-native plants and action to control their spread. Removal of non-native species in the mitigation area will be conducted as needed and recommended in the annual Monitoring Report (see Section 7.2 below). Removal of non-native species may be conducted by a qualified wetland plant biologist or by Project proponent maintenance personnel as directed by a qualified wetland plant biologist.

4.7 As-Built Conditions

A letter report outlining the as-built conditions of the mitigation area will be prepared and submitted to the RWQCB and Corps, and other interested agencies within 45 days of creation and mitigation planting plan implementation. The report shall document construction activities, report final impact acreages, provide final drawings of construction for the mitigation area, and include before and after photographs.

4.8 Land Encumbrance

The mitigation area is privately-owned by the Applicant. Once the mitigation site has completed habitat establishment and met performance requirements, the Applicant will prepare and record a "Land Protection Instrument" (LPI) according to provisions of the Compensatory Mitigation Site Protection Instrument Handbook (Corps 2016). The Applicant has successfully implemented LPIs for mitigation properties in Sonoma County, similar to the example attached as Appendix D but modified specifically to the wetlands mitigation site. The final terms of an LPI will be agreeable between the Applicant and interested agencies.

4.9 Mitigation Construction Financial Surety

Creation of the mitigation wetlands, implementation of planting, and maintenance and monitoring during a 5-year establishment and monitoring period, along with development of the Project, will be the financial responsibility of the Applicant, Baywood LLC. The Applicant will pursue either a performance bond or obtain a letter of credit from a financial institution to ensure that the mitigation will be completed if/when existing wetlands habitat is impacted. Once a final design of the mitigation site is completed, an opinion of cost of implementing the plan will be prepared for agency review prior to final permit authorization.

5.0 SUCCESS CRITERIA AND MONITORING

5.1 Success Criteria

Monitoring of the created wetlands within the mitigation area will occur annually with milestones established for years 1, 3, and 5. Monitoring will be conducted in the late spring beginning after one full rainy season following construction and planting of created wetlands. Data will be collected during each monitoring visit for each created wetland during and following the rainy season to assess the successful creation of wetland hydrology and establishment of appropriate native vegetation within these habitats.

Prior to the commencement of Year 1 monitoring, reference sites will be selected from undisturbed locations in the vicinity of the mitigation area, if practicable, which adequately represent the target vegetation and hydrology for these communities. Baseline data of the reference sites will be recorded and used for comparison with the yearly success criteria outlined in Table 4. Potential reference sites have been located nearby, approximately 0.5 mile southwest of the proposed mitigation site. These reference site wetlands are former mitigation wetlands created and functioning since approximately 2003 and consist of various conditions ranging from homogeneous cover by one hydrophytic plant species, to a mix of several hydrophytic species, to a mix of plants that marginally meet wetlands hydrophytic plant presence. Additional data on reference sites for approval of a reference site wetland will be prepared prior to final approval of this HMMP.

Methods to evaluate the performance of success criteria of the created wetlands monitoring in the mitigation area will be developed prior to creation and/or restoration.

Monitoring will be performed by a qualified wetland biologist with experience in created and restored wetland monitoring. The monitoring will measure and evaluate changes in functional condition as a result of specific habitat restoration interventions. A reference site will also be selected prior to monitoring and will be used for comparison with mitigation wetlands, mainly to confirm capability for created wetlands to meet performance criteria in absence of drought or during above average rainfall years. The criteria that will be used to determine the success of the HMMP are described in three milestone years detailed below.

Year 1

- Terrestrial invasive plants on the California Invasive Plant Council (Cal-IPC) High list will not exceed densities that adversely affect created wetlands functions and values.
- Structural patch types within the created wetlands will be observed and documented.

- Species richness will result from structural patch types expected to be created during construction and differences in basin shape. However, high relative cover, compared to other species, by one or more native species will be considered acceptable.
- Natural recruitment by species (i.e., species not planted/seeded), including low percent cover or individual plants, observed during monitoring to be reported in monitoring reports.
- The created wetlands will be inundated and/or have saturated soils for the required term (14 consecutive days) during the rainy season under average to above average rainfall to meet requirements of wetland hydrology in the Corps of Engineers wetlands delineation manual or at least 75% of reference wetland hydrology.
- Vegetation percent cover in the created wetland areas will be encouraged to develop high percent cover after planting in the first year.

Table 4. Summary of Wetland Monitoring and Success Criteria

Success Criteria	Methods	Year 1	Year 3	Year 5
Hydrology – Duration of Surface Saturation/Inundation	Visual assessment; photo-monitoring	Minimum 14 consecutive days of surface saturation or inundation to meet wetlands conditions according to the Corps of Engineers wetlands delineation manual; at least 75% of reference wetland hydrology		
Structural Diversity	Construction randomness	Basin shape (shallow to deeper), grading tolerance differences during construction, and other randomness within seven separate created wetlands will result in varying structural diversity; at least 75% of reference wetland structural diversity		
Soils – Hydric Soil Indicators	Soil sampling for hydric soil indicators	Meets Corps of Engineers wetlands delineation manual criteria for functioning hydric soil		
Vegetation – Dominance of Hydrophytes	Random quadrat sampling; Site-wide photo-monitoring	-	Wetland vegetation will meet the Corps 50/20 dominance rule, at a minimum and will be expected to be at least 75% of reference wetland conditions	
Vegetation – Dominance of Natives	Random quadrat sampling; Site-wide photo-monitoring		Native and naturalized target plant species in the herb strata \geq 35% average absolute cover by Year 3 and at least 75% of reference wetland by Year 5	
Vegetation – Dominance of Exotics	Random quadrat sampling; Site-wide photo-monitoring	Terrestrial invasive plants on the California Invasive Plant Council (Cal-IPC) High list will not exceed density that will adversely affect wetlands functions and values within the created wetlands.		

Year 3

- Terrestrial invasive plants on the California Invasive Plant Council (Cal-IPC) High list will not exceed densities that adversely affect created wetlands functions and values.
- Species richness will result from structural patch types created during construction and differences in basin shape. However, high relative cover, compared to other species, by one or more native species will be considered acceptable.
- Natural recruitment by species, including low percent cover or individual plants, observed during monitoring will be reported in monitoring reports.
- The created wetlands will be inundated and/or saturated for 14 consecutive days during the rainy season under average to above average rainfall to meet requirements of wetland hydrology in the Corps of Engineers wetlands delineation manual or at least 75% of reference wetland hydrology.
- Vegetation percent cover in the created wetlands should meet a minimum of the Corps 50/20 rule for hydrophytic vegetation and average at least 35 percent absolute cover of the appropriate target native plant species and showing progress toward reaching 75% of reference wetland percent cover by Year 5.

Year 5

- Terrestrial invasive plants on the California Invasive Plant Council (Cal-IPC) High list will not exceed densities that adversely affect created wetlands functions and values.
- Species richness will result from structural patch types created during construction and differences in basin shape. However, high relative cover, compared to other species, by one or more native species will be considered acceptable.
- Natural recruitment by species, including low percent cover or individual plants, observed during monitoring will be reported in monitoring reports.
- The created wetlands will be inundated and/or saturated for 14 consecutive days during the rainy season under average to above average rainfall to meet requirements of wetland hydrology in the Corps of Engineers wetlands delineation manual or at least 75% of reference wetland hydrology.
- Vegetation percent cover in the created wetlands should meet a minimum of the Corps 50/20 rule for hydrophytic vegetation and at least 75% percent absolute cover of the reference wetland.

Monitoring will consist of annual site visits during each monitoring year to inspect conditions and take annual photographs to ensure that the created wetland habitats are making progress toward meeting the performance criteria established. Section 7 provides additional detail about reporting.

5.2 Monitoring

Monitoring will be conducted annually for a 5 year period to determine progress of wetlands establishment and reaching performance criteria by the end of the monitoring period. If performance criteria is not met within the 5 years, monitoring will continue until performance is met.

5.2.1 Methods

Hydrology

Each year of the monitoring period, hydrology of the created and reference wetlands habitat will be monitored by tracking storm events and rainfall received to determine when the created wetlands are likely to be functioning hydrologically and meeting performance criteria. Monitoring will continue in this manner during the rainy season until it is determined that wetland hydrology is met or not. Based on methodologies outlined in the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Corps. Manual)* (Corps 2008), the wetlands will be monitored to ensure that soils are either inundated (visual observation of ponding) or saturated within the root zone (12 inches from the soil surface) for the required term. Photographs will be taken as necessary to document hydrologic conditions within the created wetlands.

Vegetation

Vegetation monitoring involves two components: (1) estimation of overall plant cover and (2) surveying for the presence of invasive plant species (ranked as Cal-IPC “High”).

The overall plant establishment within the created wetlands and established plants within reference wetland will be estimated by determining percent plant cover using transects and quadrat sampling. Transects will be established within each created wetland feature and located to capture different hydrologic regimes in structural patch types, such as being placed across the wetland from edge to edge or edge to lowest point. Plant species percent cover will be measured using percent cover classes identified in *Wetland Indicators: A Guide to Wetland Identification, Delineation, Classification, and Mapping* (Tiner 1999) within a 0.5 square meter quadrat within every detectable shift in plant community or every 10 meters along the transect, which ever will best document and describe plant community and species results. These data will be analyzed to assess whether vegetation coverage is meeting the performance criteria goals outlined in Section 5.1. Photographs will be taken at established photo-points during the vegetation monitoring visit each monitoring year for year-to-year comparison. Monitoring will be conducted at the end of the growing season for wetland plant species, typically late spring (May or June).

Results of the vegetation sampling will be used to compare plant establishment with specific vegetative performance criteria outlined in Section 5.1. Specifically, the created wetlands should have native and naturalized seasonal wetland plant as dominant species. In addition, at the end of five years, vegetation cover will be examined in the created wetlands to determine if Corps’ wetland criteria of greater than 50 percent of the dominant plant species being classified as OBL, FACW, or FAC was met and at least comparable to 75% of the reference wetland.

Surveying for the presence of invasive exotic plant species within the created wetlands will occur during the vegetation monitoring visit. The entirety of each wetland will be inspected and locations of Cal-IPC “High” plants (exclusive of non-native grasses) will be mapped. The species will be controlled if observed in excess of what would adversely affect wetland functioning (e.g., 10

percent absolute cover of the wetland feature). Control by removal using hand methods will be the preferred method, however, if severe outbreaks occur the use of an herbicide approved for use in wetlands may be used.

Soils

Soil profiles will be examined following methodologies within the Corps of Engineers wetlands delineation manual to confirm development of hydric soil conditions. This may be represented by redoximorphic features such as oxidized rhizospheres, gleying, or mottling or by the fact that hydric functioning of soil will be met when wetland hydrology criteria are determined to be present. Sampling points will reflect a range of hydrologic conditions within the wetland; from the lowest points to the edge of the wetland. Any sedimentation or erosion occurring will also be noted, and remediation measures will be recommended if problems become severe.

5.2.2 Monitoring Schedule

Monitoring of the created wetlands will occur over a period of 5 years, beginning with the first season following wetland construction and planting, to document habitat development and determine if performance criteria are being met. Full monitoring and reporting will be conducted in milestone years 1, 3, and 5, however annual site inspection and reporting will also occur in years 2 and 4.

6.0 MAINTENANCE DURING MONITORING PERIOD

6.1 Maintenance Activities

6.1.1 Contingency Measures/Adaptive Management

If annual or final success criteria are not met, the Applicant will prepare an analysis of the cause(s) of failure and, if determined necessary by the agencies and the Applicant, propose remedial action (adaptive management) for approval. An adaptive management program will consist of reviewing progress made toward meeting performance criteria annually, particularly toward meeting each of the 3 milestone years performance, and, if needed, preparing a plan to correct any deficiencies that are identified. A prepared adaptive management plan will be submitted to agencies for review and approval and will include descriptions of the issue or problem, how the issue or problem will be solved and implemented, and what is the expected outcome of the action. The Applicant will be responsible at that time for reasonably funding the contingency/adaptive management procedures necessary for successful completion of the mitigation project.

6.1.2 Pest Species Control

After construction, weed maintenance will focus on invasive species with a Cal-IPC rating of High. If needed, the preferred method of weed control/removal will be by using hand methods, however, if severe outbreaks occur the use of an herbicide approved for use in wetlands may be needed. Control and method used will be reported in annual reports.

Surveying for the presence of invasive exotic plant species will occur during the spring or summer monitoring visits and other periodic site visits, such as concurrently with vegetation monitoring. Recommendations for controlling invasives will be made based on need determined during observations.

6.1.3 Maintenance Activity Financial Surety

Maintenance of created wetlands for five years will be financially supported by the Project proponent, Baywood LLC. Maintenance will include periodic inspections and vegetation maintenance. Once a full design of the mitigation site is completed, an opinion of cost needed to support maintenance will be prepared for agency review.

7.0 MONITORING REPORTS

7.1 As-Built Report

A letter report outlining the as-built conditions of the post-construction mitigation area will be prepared and submitted to the Corps and other interested agencies within 45 days of completion of creation and restoration planting plan implementation.

7.2 Annual Reports

Annual reports will be prepared that discuss monitoring methodology and results. Reports may be prepared by qualified Applicant staff or consultants. Full annual reports will be provided for each milestone monitoring years in 1, 3, and 5, which will be submitted to the Corps and other interested agencies by December 31st of each monitoring year. Brief memorandums may be submitted for any monitoring conducted in years 2 and 4. If created habitats within the mitigation area demonstrate that they are successfully meeting established performance criteria early into the monitoring period, the Applicant may request early signoff from the Corps. A qualified biologist with experience in biological monitoring will supervise the report preparation. These reports will assess progress in meeting success criteria and identify any problems with flooding, sedimentation, vandalism, and/or other general causes of poor survival or wetland degradation. If necessary, recommendations or improvements will be made to ensure the success criteria will be met during the monitoring period.

7.3 Notification of Completion

Upon completion of five years of monitoring, a final report will be sent to the Corps of Engineers, RWQCB, and other interested agencies detailing the results of the final year of monitoring. If the created wetlands have met the success criteria outlined in Section 5.0 by or before the end of the five-year period, then the proposed action in the final report will be for no further action. If the created wetlands have not met the success criteria outlined in Section 5.0 by the end of the five-year period, then the final report may recommend additional corrective measures and/or extending the monitoring period. When the created wetlands have met the success criteria outlined in Section 5.0 or revised criteria agreed to by the regulatory agencies, the Applicant will submit a signed Notice of Completion to the Corps, RWQCB, and other interested agencies to confirm successful completion of the creation and restoration effort.

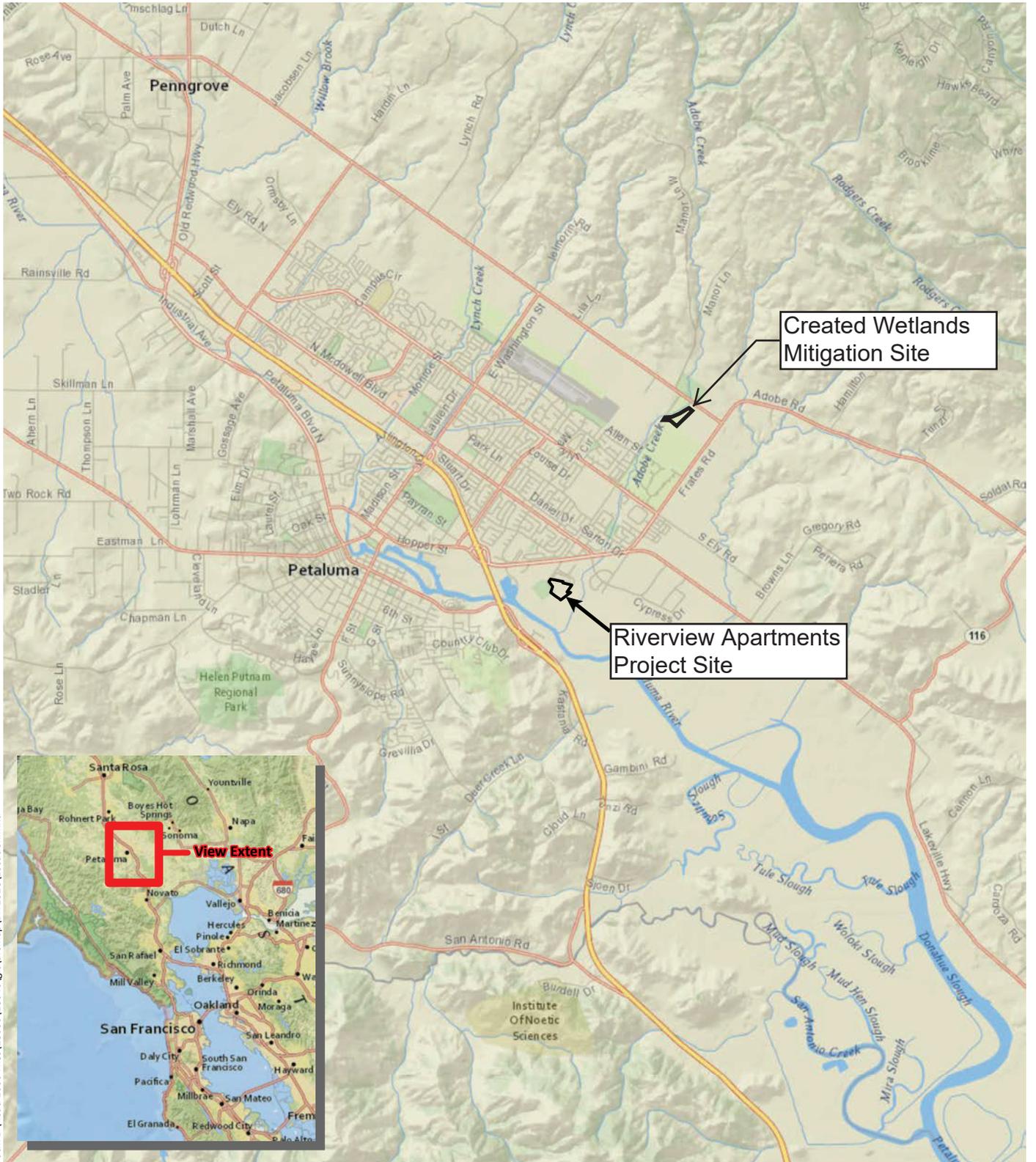
8.0 ADAPTIVE LONG-TERM MANAGEMENT PLAN

The land manager/conservation easement holder, once it is determined what entity that will be, will be responsible for long-term management of the created wetlands. A long-term management and maintenance plan will be developed with the chosen land manager which will require approval by interested regulatory agencies. Examples of maintenance activities may include but are not limited to replanting, if needed, invasive species control to ensure the continual functionality of

the created wetlands functions and values, maintenance of fences and gates, if applicable, and other items. Funding for implementing the long-term management plan will be by a non-wasting endowment provided by the Project proponent, Baywood LLC.

9.0 REFERENCES

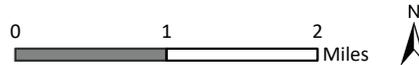
- [Cal-IPC] California Invasive Plant Council. 2019. California Invasive Plant Inventory Database. Online at: <http://www.cal-ipc.org/paf/>
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2016. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 41: 1-42.
- Sonoma RCD (Resource Conservation District). 2013. Draft Petaluma Watershed Enhancement Plan. Sonoma Resource Conservation District.
- U.S. Geological Survey (USGS). 1954 (Photorevised 1980). Cotati, California. 7.5-minute quadrangle topographic map.
- WRA. 2020. Wetland Delineation of Adobe Creek Mitigation Site. WRA, Inc., San Rafael, CA.



Sources: National Geographic, WRA | Prepared By: mrochelle

Figure 1. Location of Riverview Apartments Project and Wetlands Mitigation Site at former Adobe Golf Course

Baywood LLC
Petaluma, California



LEGEND

--- APPROXIMATE MITIGATION AREA BOUNDARY (11.2 ACRES)

-105- EXISTING CONTOUR

-105- PROPOSED CONTOUR

----- LIMIT OF GRADE

PROPOSED SEASONAL WETLAND MITIGATION AREA (3.5 ACRES)

← PROPOSED WETLAND SWALE

FEMA FLOOD BOUNDARY

SONOMA COUNTY RIPARIAN CORRIDOR (APPROX. LIMITS)

SONOMA COUNTY SCENIC RESOURCES (APPROX. LIMITS)

NOTES:

1. TOPOGRAPHIC SURVEY PERFORMED BY STEVEN J. LAFRANCHI & ASSOCIATES, INC. IN APRIL 2019.
2. VERTICAL DATUM: NAVD 88

**Proposed
Seasonal Wetland
Mitigation Concept Plan**

Lands of Baywood, LLC

Petaluma, California

August 2019

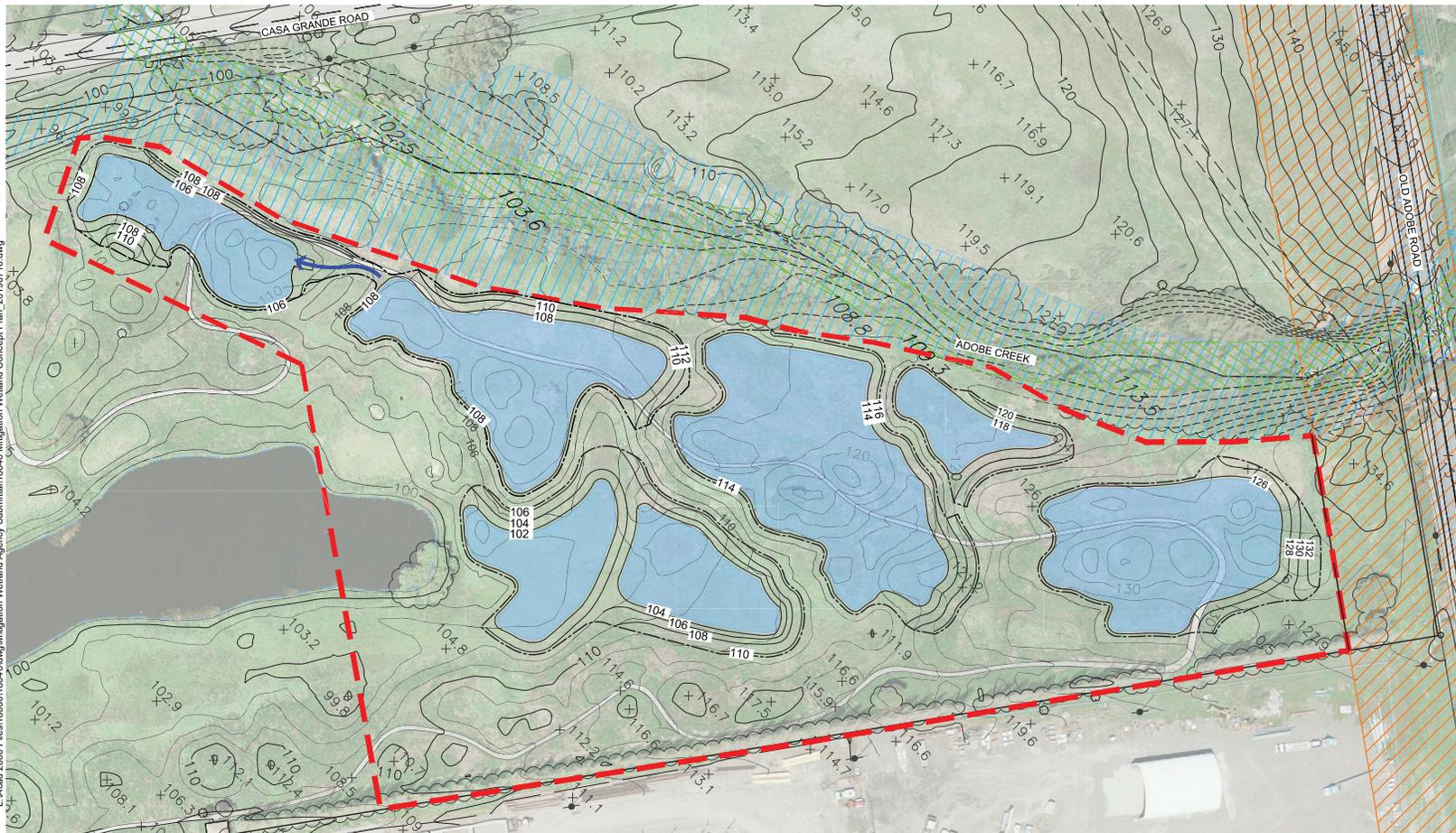
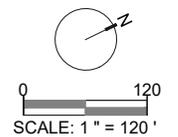


Figure 2. Concept grading plan for wetlands mitigation creation at the former Adobe Creek Golf Course. A total of approximately 3.5 acres will be created adjacent to Adobe Creek.



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Sources: Source | Prepared By: imorken, 8/27/2019

Adobe Creek 2007

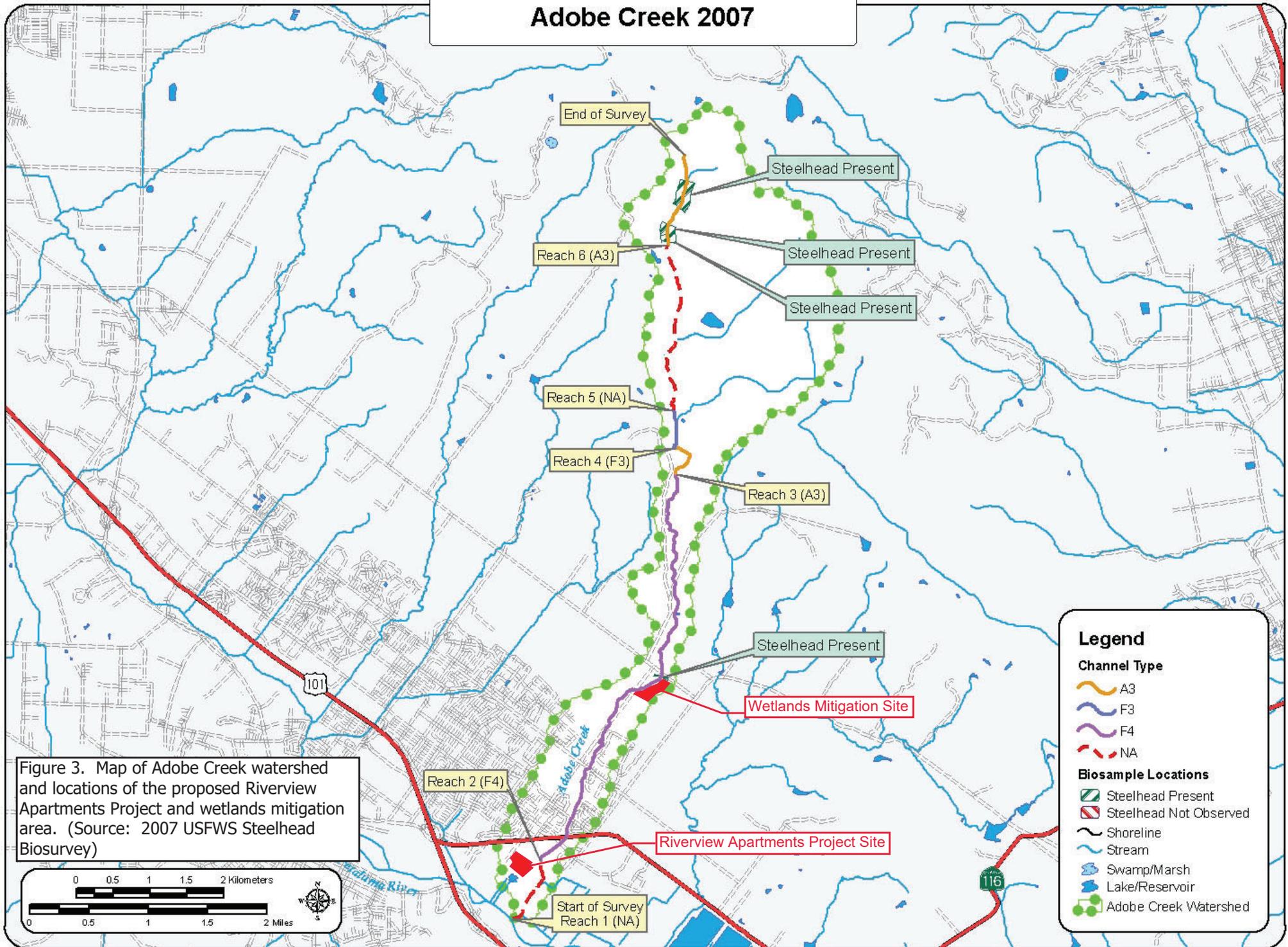
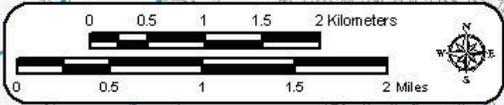


Figure 3. Map of Adobe Creek watershed and locations of the proposed Riverview Apartments Project and wetlands mitigation area. (Source: 2007 USFWS Steelhead Biosurvey)



APPENDIX A – Wetland Delineation, Adobe Creek Mitigation Site

Jurisdictional Wetlands Delineation Proposed Adobe Creek Golf Course Wetlands Mitigation Area Riverview Apartments Project, Petaluma, CA

To: Bryan Matsumoto, Corps of Engineers

From: Douglas Spicher, WRA, Inc.

Cc:

Date: May 8, 2020

WRA, Inc. submits this jurisdictional wetlands delineation for the portion of the former Adobe Creek Golf Course (Figure 1) that is proposed to be used for creation of mitigation seasonal wetlands for the Riverview Apartments Project in Petaluma, CA.

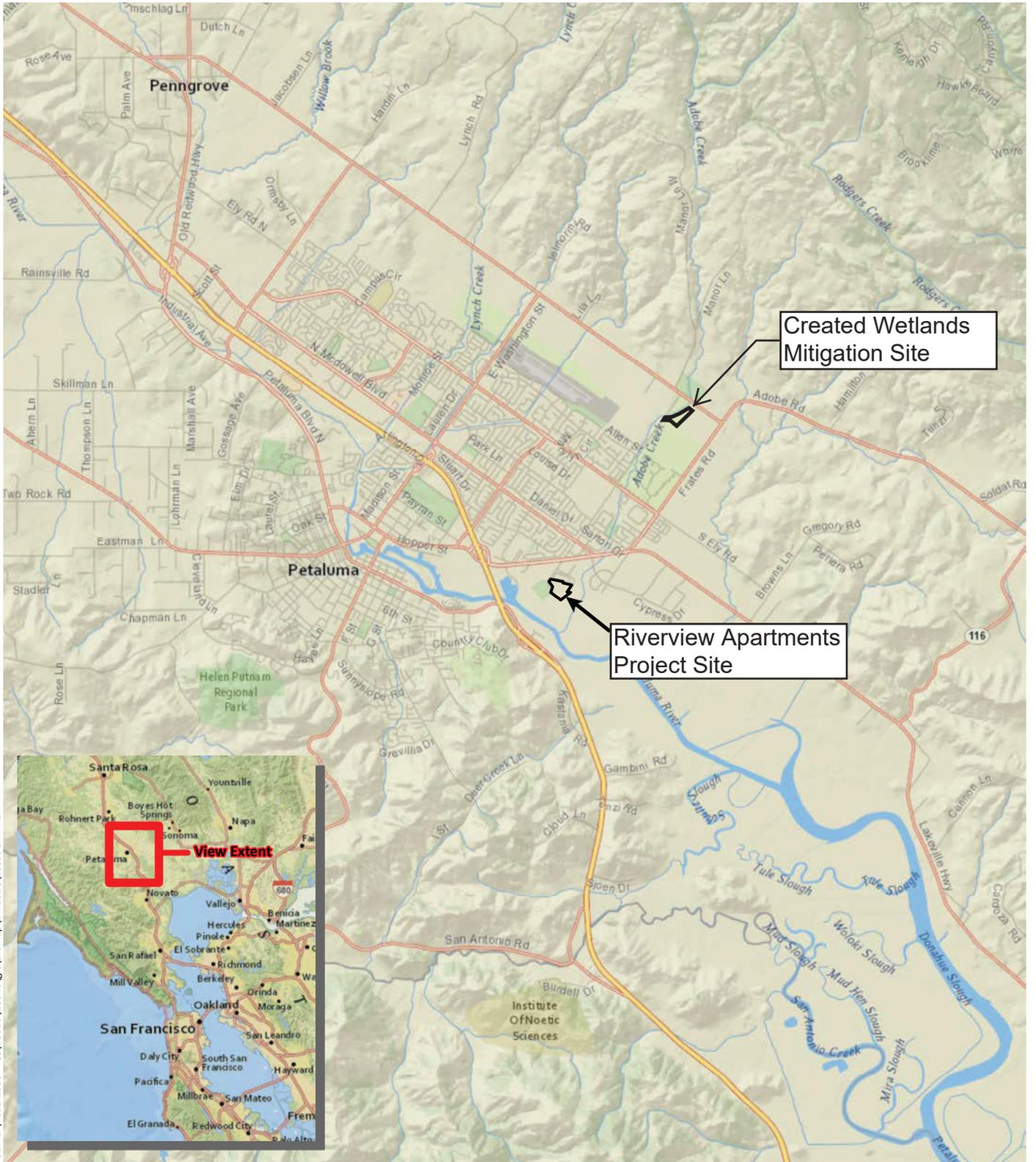
Existing Conditions

The former Adobe Creek Golf Course was created in 1990 and was graded with rolling topography mixed with level golf course play areas, access, and infrastructure. Except for an artificially created reservoir constructed as a golf course amenity and for irrigation water storage, the grading created positive drainage in all other areas such that no areas of the golf course were inundated or remained saturated during the winter or during artificial irrigation through the late spring, summer, and fall months. The northern portion of the golf course ceased operations in 2017 and irrigation of golf course fairways, greens, and roughs was suspended, including within the mitigation area. However, water level has continued to be maintained in the reservoir by input from pumped well water in order to continue irrigation of the southern portion of the golf course which remains maintained. No areas of wetland vegetation had developed within the mitigation area after irrigation ceased as observed during a site inspection of the mitigation area in August 2019 (see attached photographs). The only wetland vegetation observed within the boundary of the mitigation area was the fringe of alkali bulrush (*Bolboschoenus maritimus*) and groupings of hardstem bulrush (*Schoenoplectus acutus*) around the perimeter shoreline of the artificial reservoir.

Artificial Reservoir Creation and Continuing Management

The artificial reservoir was constructed as an amenity and for irrigation water storage for the Adobe Creek Golf Course that was created in 1990. A 1954 USGS topographic map (Photorevised 1980) shows no pre-existence of the reservoir prior or as of 1980 (Figure 2). The reservoir has no natural inlet or outlet and was managed and maintained by input of water from a well and pump system. This management of artificial conditions continues today as it did in the past when the entire golf course was in operation, and continues as a source from which irrigation water is still used on the southern portion of the golf course property (Figure 3).

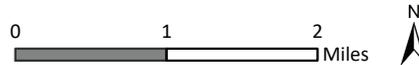
Because of its artificial creation and continuing management as an irrigation water source, the reservoir is not considered to be a jurisdictional feature. There are no plans to change the use or configuration of the reservoir in the foreseeable future.



Sources: National Geographic, WRA | Prepared By: mrochelle

Figure 1. Location of Riverview Apartments Project and Wetlands Mitigation Site at former Adobe Golf Course

Baywood LLC
Petaluma, California



Proposed Adobe Creek Golf Course Wetlands Mitigation Area

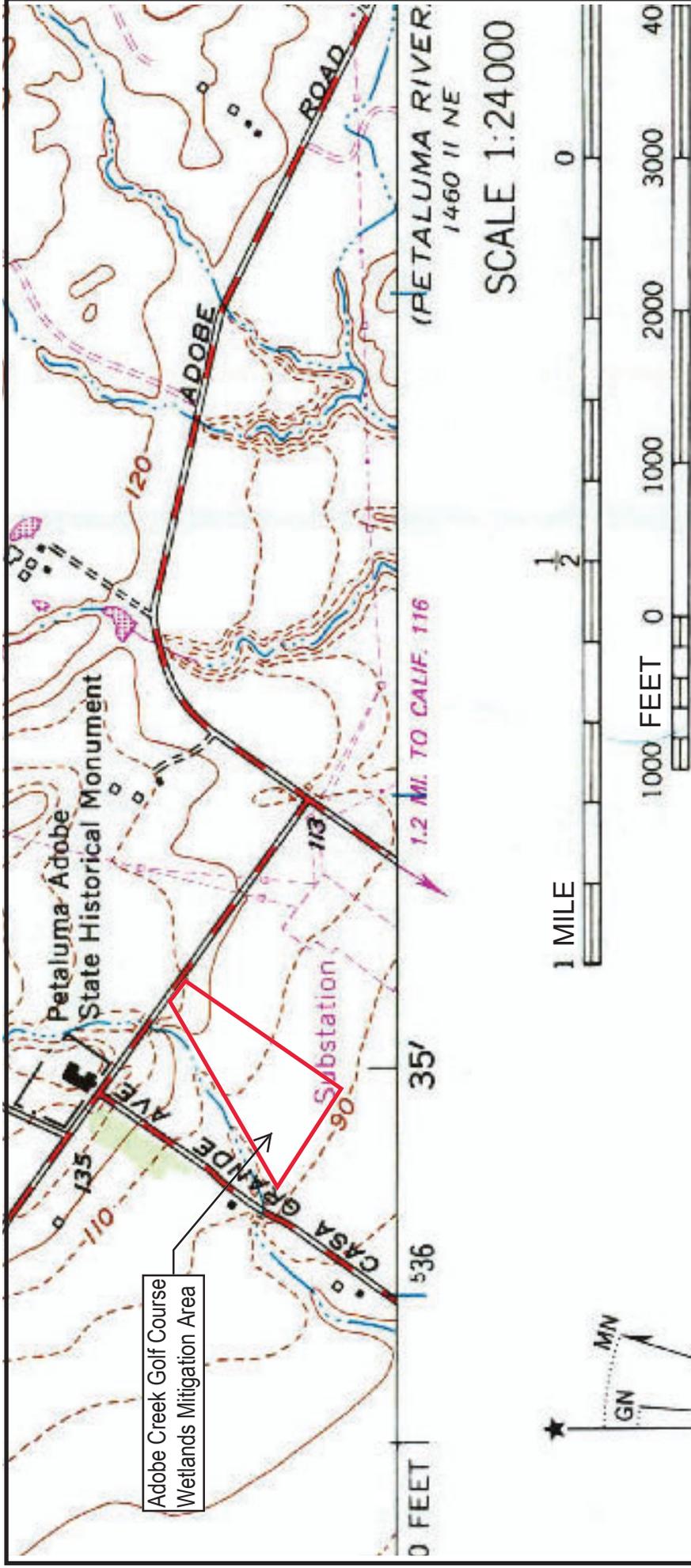


Figure 2. 1954 USGS topographic map photorevised in 1980 shows no pond feature within the proposed mitigation area. The pond feature in the present day landscape was artificially created as a golf course amenity when the course was constructed in 1990.



Fallbrook Ln

Casa Grande Rd

Mand

Adobe Creek

Artificially Created Water Feature and Irrigation Water Storage Reservoir

Proposed Wetlands Mitigation Site

Location of the well and pump for irrigation water.

Portion of the Adobe Golf Course remains and requires irrigation pumped from the artificial reservoir.

Northern Portion of Adobe Golf Course Closed 2017

Old Adobe Rd

Figure 3. Adobe Golf Course as it appears in 2019. The northern portion ceased operation while the southern portion remains and requires irrigation from the artificially created water storage reservoir.



APPENDIX B – Wetlands Mitigation Ratio Calculator Results

Attachment 12501.6 - SPD Mitigation Ratio Setting Checklist (See 12501-SPD for Revisions Sheet)

1	Date: 00283 Impact Site Name: Riverview Apartments Impact Cowardin or HGM type: Palustrine, seasonal flooding	SPL-2013-NNN ORM Resource Type: Non-tidal wetlands Impact area: 1.67 acres	Project Manager: B. Matsum Hydrology:	
	Column A Mitigation Site Name: Adobe Creek Mitigation Type: Creation, establishment ORM Resource Type: Non-tidal wetlands Cowardin/HGM type: Palustrine, seasonal Hydrology: Seasonal flooding	Column B Mitigation Site Name: Mitigation Type: ORM Resource Type: Cowardin/HGM type: Hydrology:	Column C Mitigation Site Name: Mitigation Type: ORM Resource Type: Cowardin/HGM type: Hydrology:	
2.a	Qualitative impact-mitigation comparison: Starting ratio: 1.0 : 1.0 Ratio adjustment: -0.5 Baseline ratio: 1.00 : 1.50 PM justification: see Table	Starting ratio: 1.0 : 1.0 Ratio adjustment: Baseline ratio: 1.00 : 1.00 PM justification: see Table	Starting ratio: 1.0 : 1.0 Ratio adjustment: Baseline ratio: 1.00 : 1.00 PM justification: see Table 1	
2.b	Quantitative impact-mitigation comparison: Ratio adjustment from BAMI procedure (attached):	Ratio adjustment from BAMI procedure (attached):	Ratio adjustment from BAMI procedure (attached):	
2.c	Preservation (Table 2, step A) Baseline ratio: : 1.00	Baseline ratio: : 1.00	Baseline ratio: : 1.00	
3	Preservation (Table 2, step E) Ratio adjustment:	Ratio adjustment:	Ratio adjustment:	
4	Mitigation site location: Ratio adjustment: 0.25 PM justification: Same watershed, upstream along Adobe Creek, which flows past the impact site to the east.	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
5	Net loss of aquatic resource surface area: Ratio adjustment: 0 PM justification: creation/establishment	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
6	Type conversion: Ratio adjustment: 0 PM justification: created wetlands will be the same type as impacted	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
7	Risk and uncertainty: Ratio adjustment: 0.5 PM justification: 0.3 for reputable proponent sponsored mitigation, 0.2 for re-grading former golf course on clay soil	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
8	Temporal loss: Ratio adjustment: 1.25 PM justification: seasonal wetland habitat will quickly become established	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	
9	Final mitigation ratio(s): Baseline ratio from 2.a, b or c: 1.00 : 1.50 Total adjustments (3-8): 2.00 Final ratio: 2.00 : 1.00 Proposed impact (total): 1.67 acres 0 linear feet to Resource type: 0 Cowardin or HGM: Palustrine, seasonal Hydrology: 0 Required Mitigation*: 3.34 acres 0.0 linear feet of Resource type: Non-tidal wetlands Cowardin or HGM: Palustrine, seasonal Hydrology: Seasonal flooding Proposed Mitigation**: acres linear feet Impact Unmitigated: % acres Additional PM comments:	Baseline ratio from 2.a, b or c: 0.00 : 1.00 Total adjustments (3-8): 0.00 Final ratio: 0.00 : 1.00 Remaining impact: acres #VALUE! linear feet to Resource type: 0 Cowardin or HGM: Palustrine, seasonal Hydrology: 0 Required Mitigation*: #VALUE! acres #VALUE! linear feet of Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Proposed Mitigation**: acres linear feet Impact Unmitigated: % acres Additional PM comments:	Baseline ratio from 2.a, b or c: 0.00 : 1.00 Total adjustments (3-8): 0.00 Final ratio: 0.00 : 1.00 Remaining impact (acres): acres Remaining impact (linear feet): #VALUE! linear feet to Resource type: 0 Cowardin or HGM: Palustrine, seasonal Hydrology: 0 Required Mitigation: #VALUE! acres #VALUE! linear feet of Resource type: 0 Cowardin or HGM: 0 Hydrology: 0 Proposed Mitigation**: acres linear feet Impact Unmitigated: % acres Additional PM comments:	
10	Final compensatory mitigation requirements: Final requirement is for			

*At PM's discretion, if applicant's proposed mitigation is less than checklist requirement and additional mitigation type(s) proposed, complete additional columns as needed.
**Only enter proposed mitigation into spreadsheet if accepting applicant's lower (than required ratio) proposal.

Table 1: Qualitative comparison of functions (functional loss vs. gain) (instructions at bottom).

Functions (Column A)	Impact site	Mitigation site
Short- or long-term surface water storage	Surface storage is short, low	Surface storage will be longer (moderate to high) due to deeper depressions created in clay soil
Subsurface water storage	Subsurface storage low/ less important due to proximity to tidal influence.	Subsurface freshwater storage important/high because higher in the watershed.
Moderation of groundwater flow or discharge	Low	Low
Dissipation of energy	Low	Low
Cycling of nutrients	Nutrient cycling is moderate to high	Nutrient cycling expected to be moderate to high
Removal of elements and compounds	Soil contaminants currently retained (high), to be remediated	If opportunity exists, elements and compounds will be removed (moderate to high)
Retention of particulates	Particle retention moderate to high	Particle retention will be moderate to high
Export of organic carbon	Carbon export moderate	Carbon export moderate to high
Maintenance of plant and animal communities	Moderate	High

Function (Column B)	Impact site	Mitigation site
Short- or long-term surface water storage		
Subsurface water storage		
Moderation of groundwater flow or discharge		
Dissipation of energy		
Cycling of nutrients		
Removal of elements and compounds		
Retention of particulates		
Export of organic carbon		

Adjustment: -0.5

PM Justification: Created wetlands adjacent to Adobe Creek, and these two habitat types will augment each other resulting in a higher functional gain than if separate; creation will be on Clear Lake clay soils which are reliable and have high success for establishing seasonal wetlands habitat.

Adjustment:

PM Justification:

APPENDIX C – Restoration Plan of Wetlands Affected by Contaminated Soil Remediation

Riverview Apartments Onsite Wetlands Restoration Plan

1.0 INTRODUCTION

This Temporary Impacted Wetlands Restoration Plan (TIWRP) describes the plan to restore 0.13 ac of seasonal wetlands habitat temporarily impacted as a result of remediation of contaminated soils present in some locations of the Riverview Apartments Project (Project). The restoration project will remove the contaminated soil that resulted from historic industrial uses of the property, replace with clean soil, regrade to restore contours to create wetlands, and revegetate the wetland. This plan is an appendix to the created wetland habitat mitigation monitoring plan (HMMP) for the Riverview Apartments project, and is intended to provide a concise description of the onsite restoration after contaminated soil is remediated and how it will be implemented.

1.1 Responsible Parties

The applicant is: Baywood, LLC
414 Aviation Blvd.
Santa Rosa, CA 95403
Contact: Patrick Imbimbo
Phone: (707) 578-5344

The applicant's designated agent and preparer of this plan:

WRA, Inc.
5341 Old Redwood Highway, STE 310
Petaluma, CA 94954
Contact: Doug Spicher
Phone: (707) 238-5673

2.0 PROJECT DESCRIPTION

2.1 Location of Project

The location of the TIWRP is within the Riverview Apartments Project located at the southern terminus of Casa Grande Road in Petaluma, CA (Figure 1). The TIWRP lies along the western side of the Project in existing seasonal wetlands, which are adjacent to other soil remediation areas that include other seasonal wetlands and uplands (Figure 2), and would not be impacted by the Project were it not for required remediation of contaminated soils (Figure 3).

2.2 Brief Summary of Overall Project

An area of existing seasonal wetlands covering 0.13 acres will be temporarily impacted because of the contaminated soil remediation. Contaminated soils will be removed and disposed of under a separate soil remediation plan, and once that is completed clean soil will be imported as substrate for the wetland restoration. The imported soil will be graded and contoured to match site conditions prior to remediation. Once grading is completed, the restoration site will be planted with native wetland plants by seed. Monitoring of the restoration is expected to occur for a five year period following planting to monitor success of the restoration.

3.0 EXISTING CONDITIONS OF RESTORATION SITE

3.1 Remediation Area Seasonal Wetlands

The wetlands that will be subject to restoration because of temporary impacts caused by contaminated soil remediation are within a seasonal wetland depression that is adjacent to a drainage that receives runoff from the north, including off of Casa Grande Road. Seasonal direct rainfall and runoff from adjacent areas are the regular sources of water for the seasonal wetland which usually dries by late spring and remains dry until rainfall begins the next fall. Additional water source may be from the adjacent drainage during periods of high flow that may overtop the low berm between the seasonal wetland and the drainage.

Existing vegetation in the seasonal wetland consists of non-native wetland classified plants such as pepperweed (*Lepidium latifolium*) and Italian rye-grass (*Festuca perennis*) mixed with non-native non-wetland classified plants, such as wild radish (*Raphanus sativa*), storksbill (*Geranium dissectum*), and morning glory (*Convolvulus arvensis*).

The functions and values of the existing seasonal wetland were evaluated. A wetland function may be of value defined as “worthwhile, beneficial, or desirable”. The functions and values of the existing seasonal wetland under existing conditions and expected following restoration include:

Wetland Function	Value Before Remediation	Value After Restoration	Increased Value After Restoration (Yes, No, Equal)
Ground Water Recharge	Low – wetland is at low elevation near tidal salt water influence	Low – wetland is at low elevation near tidal salt water influence	Equal
Ground Water Discharge	Low – no discharge expected	Low – no discharge expected	Equal
Floodflow Alteration	Moderate – provides some flood protection for immediate local vacant property	Moderate to High – will provide flood protection to new adjacent residential development	Equal to Yes
Sediment Stabilization	Moderate – wetland is offset from direct water flow and has gradual, <1% slope changes; vegetation stabilizes any sediment from adjacent channel overflows	Moderate to High - wetland will be offset from direct water flow and will have gradual, <1% slope changes; vegetation will stabilize sediment from adjacent channel occasional overflows and protect the slope of the development pad	Equal to Yes
Sediment/toxicant Retention	High – wetland now retains heavy metal contaminants that will be removed by soil remediation	High – restored wetland will act to retain toxicants that may be received from occasional adjacent channel overflows	Equal to Yes
Nutrient Removal/Transformation	Moderate – nutrients are removed or transformed under existing wetland conditions	Moderate – nutrients will be removed or transformed after wetland conditions are restored	Equal

Production Export	Moderate – primary production occurs under existing wetland conditions, an outlet to downstream areas is not well defined	Moderate – primary production will continue under existing wetland conditions, but may be increased by native plants, and outlet to downstream areas may be enhanced	Equal to Yes
Wildlife Diversity/Abundance	Moderate – some use of wetland by wildlife likely occurs and is relatively protected by the vacant land, use may not be beneficial to wildlife because of contaminated soils	Moderate – some use of wetland by wildlife will likely occur and will be relatively protected by back side of development at higher elevation, beneficial use by wildlife will increase because of replaced clean soils	Equal to Yes
Aquatic Diversity/Abundance	Moderate – some use of wetland by aquatic life likely occurs and is relatively protected by the vacant land, use may not be beneficial to aquatic life because of contaminated soils	Moderate – beneficial use of wetland by aquatic life will likely increase because of replaced clean soils, the back side of development will provide protection	Equal to Yes
Recreation	Low – the site is not accessible to the public	Low – access to the wetland will not be provided when the new development is completed	Equal
Uniqueness/Heritage	Moderate – Seasonal wetlands occur along the Petaluma River corridor	Moderate – seasonal wetlands will continue to exist in preserved areas along the Petaluma River; impacted wetland will be restored and seasonal wetlands impacts replaced/created at 2:1 ratio in the Adobe Creek watershed	Equal to Yes

4.0 RESTORATION IMPLEMENTATION PLAN

4.1 Site Preparation

4.1.1 Remediation of Contaminated Soils

Contaminated soils will be excavated by a combination of construction equipment, removed from the Project site, and disposed of properly according to the soil remediation plan. Clean soil will then be imported to replace the excavated soil and graded to match contours that existed prior to soil excavation to make a substrate that can be planted and seeded with native wetland plants.

4.1.2 Impacts Minimization Measures

Prior to excavation of the contaminated soils, wetlands adjacent to contamination that are not subject to the remediation process will be protected by installation of construction fencing. This will prevent equipment from inadvertently accessing or disturbing wetlands not intended to be

disturbed. Soil excavation in the remediation area will occur during the dry season when the soils may still be moist but are not expected to be inundated or saturated. This will prevent sediment runoff during excavation and allow time to re-vegetate the clean imported soil once it is placed. In addition, BMPs that will control potential erosion and sediment runoff will be implemented and monitored during and after remediation.

4.2 Planting Plan

The planting plan for the restoration project will help to promote the successful development of seasonal wetlands habitat. The restoration area will be planted with native wetland plant species that will include a mix of grasses, such as meadow barley (*Hordeum brachyantherum*) and forbs (see Table 1). Other native wetland plants in the swale are expected to rapidly colonize the restoration area naturally. Under appropriate hydrologic conditions, planted live propagules and native colonizers will vegetate the restoration area. Active planting will be conducted in the fall when seasonal rain is expected to begin.

The restoration program will include the following measures:

- The restoration site will be prepared for seeding and planting in August or September. During late October through November (depending on annual climatic conditions), seed will be planted in the restoration site. Regionally appropriate species as shown in Table 1 below. Other regionally-appropriate native grasses such as red fescue (*Festuca rubra*), California oat grass (*Danthonia californica*), and meadow barley (*Hordeum brachyantherum*) will also be included in the seed mix. A planting palette of potential species is presented in Table 1, however the actual seed mix will depend on seed availability.
- Seed application rates are recommended in Table 1.
- Biodegradable erosion control blanketing will be used as part of regular BMPs.
- A temporary irrigation system will be installed or available as backup to water the restoration area should a drought period occur during the normal winter season. Irrigation is not intended to be used during normal summer drought periods.

Table 1. Potential Planting Palette for Wetlands Restoration Area

Species	Common Name	Seeding Rate (lbs/acre)
<i>Danthonia californica</i>	California oatgrass	2.0
<i>Hordeum brachyantherum</i>	Meadow barley	2.0
<i>Festuca rubra</i>	Red fescue	1.0
<i>Juncus effusus</i>	Common rush	1.0
<i>Cyperus eragrostis</i>	Tall flatsedge	0.5
<i>Sisyrinchium bellum</i>	Blue eyed grass	1.5

4.3 Implementation Schedule

Soil remediation and restoration grading activities will be completed within the dry summer or fall season of 2020. Planting will follow as soon after grading is completed as possible when soil is moistened and initial wet season rainfall is expected to begin, such as late October or November. Soil moisture will be monitored during first and second year establishment period to determine if conditions are adequate for plant growth and success; no issues are expected since the restoration is within a wetland depression area. Monitoring of the restoration area will be conducted beginning the spring season following plant installation, and will continue for a total of five years according to the performance criteria presented below.

5.0 MONITORING AND PERFORMANCE CRITERIA

Monitoring will be conducted for the first winter following grading and planting to determine that the wetland remains stable and is not eroding and that plants are establishing and growing.

5.1 Performance Criteria

Success of the proposed restoration will require the successful establishment of native grasses and forbs and control of any noxious weed species that may invade the temporarily disturbed soils in and around the restoration area. Annual success criteria, presented below, will be evaluated during annual monitoring visits, to ensure that protective measures and maintenance are being performed and that native plants are established and likely to persist beyond the monitoring period.

Year 1

- Restoration area will have an average absolute cover of native grasses and forbs equivalent to at least 20 percent of pre-disturbance absolute cover in the impacted area.
- Restoration area will have a species richness of at least 50 percent of the plant species originally planted.
- Invasive species from the California Invasive Plant Council's (Cal-IPC) "High" or "Moderate" lists (Cal-IPC 2020) will not become established to the degree that they jeopardize establishment of native species. Efforts will be made to minimize impacts from invasive species and recommendations for control will be provided in the annual monitoring report.
- Wetland restoration area will remain stable with no visible signs of excessive erosion.

Year 3

- Restoration area will have an average absolute cover of native grasses and forbs equivalent to at least 40 percent of pre-disturbance absolute cover in the impacted area.

- Restoration area will have a species richness of at least 40 percent of the plant species originally planted.
- Invasive species from the California Invasive Plant Council's (Cal-IPC) "High" or "Moderate" lists (Cal-IPC 2020) will not become established to the degree that they jeopardize establishment of native species. Efforts will be made to minimize impacts from invasive species and recommendations for control will be provided in the annual monitoring report.
- Wetland restoration area will remain stable with no visible signs of excessive erosion.

Year 5

- Restoration area will have an average absolute cover of native grasses and forbs equivalent to at least 50 percent of pre-disturbance absolute cover in the impacted area.
- Restoration area will have a species richness of at least 30 percent of the plant species originally planted.
- Invasive species from the California Invasive Plant Council's (Cal-IPC) "High" or "Moderate" lists (Cal-IPC 2020) will not become established to the degree that they jeopardize establishment of native species. Efforts will be made to minimize impacts from invasive species and recommendations for control will be provided in the annual monitoring report.
- Wetland restoration area will remain stable with no visible signs of excessive erosion during the 5 year monitoring period.

Restoration efforts shall continue until final (Year 5) performance criteria are met. In the event that final performance criteria are not met by the end of Year 5, a contingency plan, including remediation efforts, will be put into place until final performance criteria are met.

5.2 Monitoring Methods

Survival of planted wetland species, soil stability, and invasive species prevalence will be monitored annually in late spring or summer for five years. Additional monitoring of wetland stability will occur following substantial storms during the first winter after grading is completed.

5.2.2 Vegetation

Vegetation monitoring involves assessing the initial growth and survival of native plants in the wetland restoration area, describing plant growth and health, and surveying for the presence of invasive species.

During the monitoring period, overall native plant establishment will be examined by monitoring plant percent cover and species occurrence within the restoration area. Plant percent cover estimates and species occurrence will be determined by visual estimates by a qualified botanist. Photographs will be taken at selected photo points during the vegetation monitoring visit to be

included in the monitoring reports.

Survival of the planted wetland species within the restoration area will be assessed six months after planting and in summer the first year. If the cover goal of 20 percent in the first year is not being achieved, a qualified biologist will evaluate potential reasons why and make recommendations for remedy which could include re-seeding for the following season with the same or a different plant palette, applying irrigation (which will be made available in case of winter-spring drought), or other reasons.

Surveying for the presence of invasive exotic plant species on the CallPC List within wetland restoration area will occur in conjunction with any monitoring visits. Control of exotic plants will be recommended if these species reach or exceed densities that would negatively impact the developing wetland habitat.

5.3 Reporting

Annual site visits will be made each of the 5 monitoring years with notes of observations recorded, however reports that describe the monitoring methodology and discuss results will be prepared for years one, three, and five. The reports will include assessment of the restoration project and identify any problems with wetland plant survival or growth and invasive plant species, and will also include assessment of flooding, erosion, sedimentation, and vandalism. If necessary, recommendations to improve success of the restoration will be made in each annual report. Monitoring will be conducted and a report prepared by a qualified biologist with experience in wetland restoration monitoring.

5.4 Schedule

Vegetation monitoring will occur when wetland plants have developed sufficiently to determine vigor in the first six months and one year after being planted. Subsequent assessments will follow in summer of each of the monitoring years. Annual reports will be prepared and submitted to agencies by November 30 of each monitoring year.

6.0 MAINTENANCE

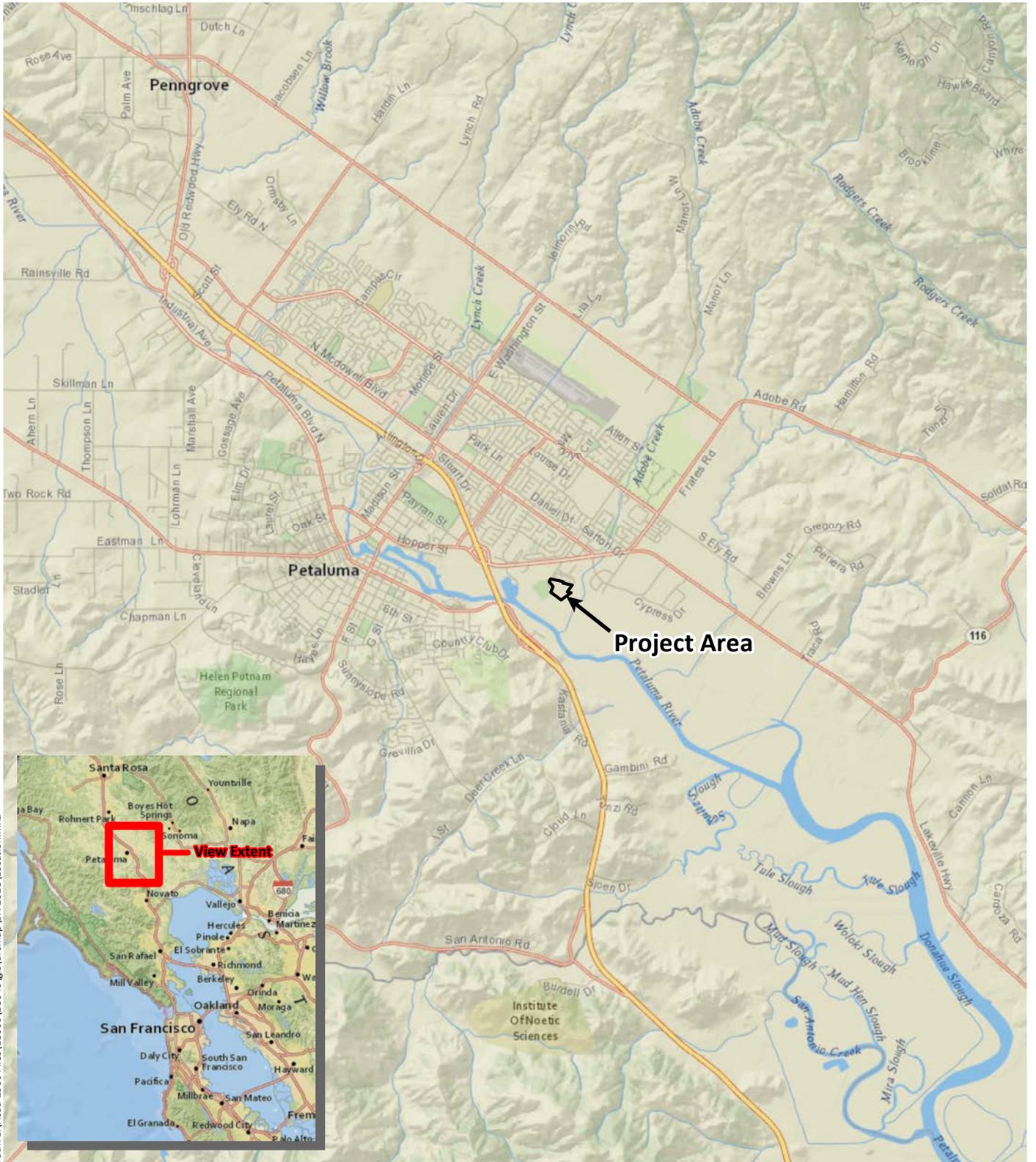
An important element of a mitigation plan is to create, to the extent possible, habitats that are self-sustaining and maintenance-free over the long term. Initially, maintenance may be necessary to ensure success, but a properly planned and graded wetland area will eventually develop and not require maintenance. Maintenance activities in the restoration area may include: (1) erosion control and repair on side banks and bottom should an extreme storm event occur in the first season after planting; (2) inspections for colonization by non-native plants and actions to control them; and (3) inspection of soil moisture and application of adequate irrigation to maintain installed plants (only during first year after plant installation, if needed at all).

6.1 Sedimentation and Erosion

If excessive erosion and or sedimentation in the restored wetland is observed during monitoring visits, measures to correct the problem by best means possible will be developed and recommended which could entail additional BMPs or minor remedial grading. Agencies will be notified if such corrective work will be performed.

6.2 Weed Control

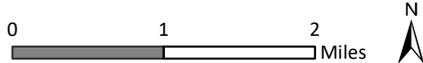
On an as-needed basis, the following invasive species shall be controlled to ensure that they do not become established in the wetland restoration areas: Himalayan blackberry (*Rubus armeniacus*), pepperweed, and other weed species on site that are listed on the CallIPC "High Invasiveness" List that may be detected. If present within the wetland restoration area, appropriate weed control methods such as hand removal, weed whacking, or water soluble herbicide approved for use in or near aquatic environments will be implemented to prevent weeds from having a significant impact on the ecological functioning of the restoration area. Weeding will be conducted under the supervision of a qualified biologist.



Sources: National Geographic, WRA | Prepared By: mrochelle, 10/22/2019

Figure 1. Project Area Location Map

Riverview Apartments Project
 Petaluma, California



Riverview Apartments Project On-site Wetland Restoration Following Contaminated Soil Remediation

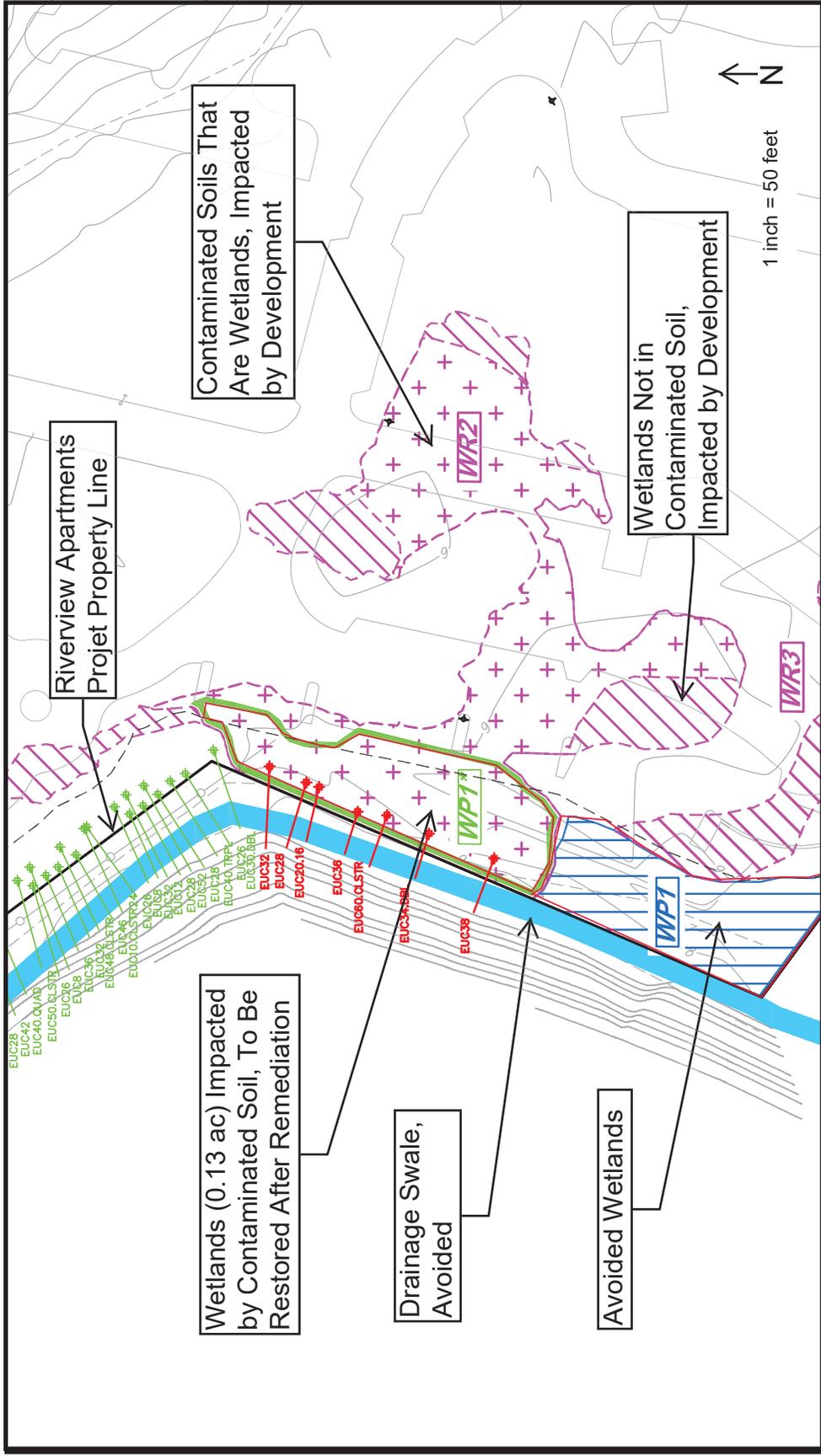


Figure 2. Map showing the existing seasonal wetland (0.13 ac) that will be impacted by remediation of contaminated soil and restored following remediation.

Riverview Apartments Project

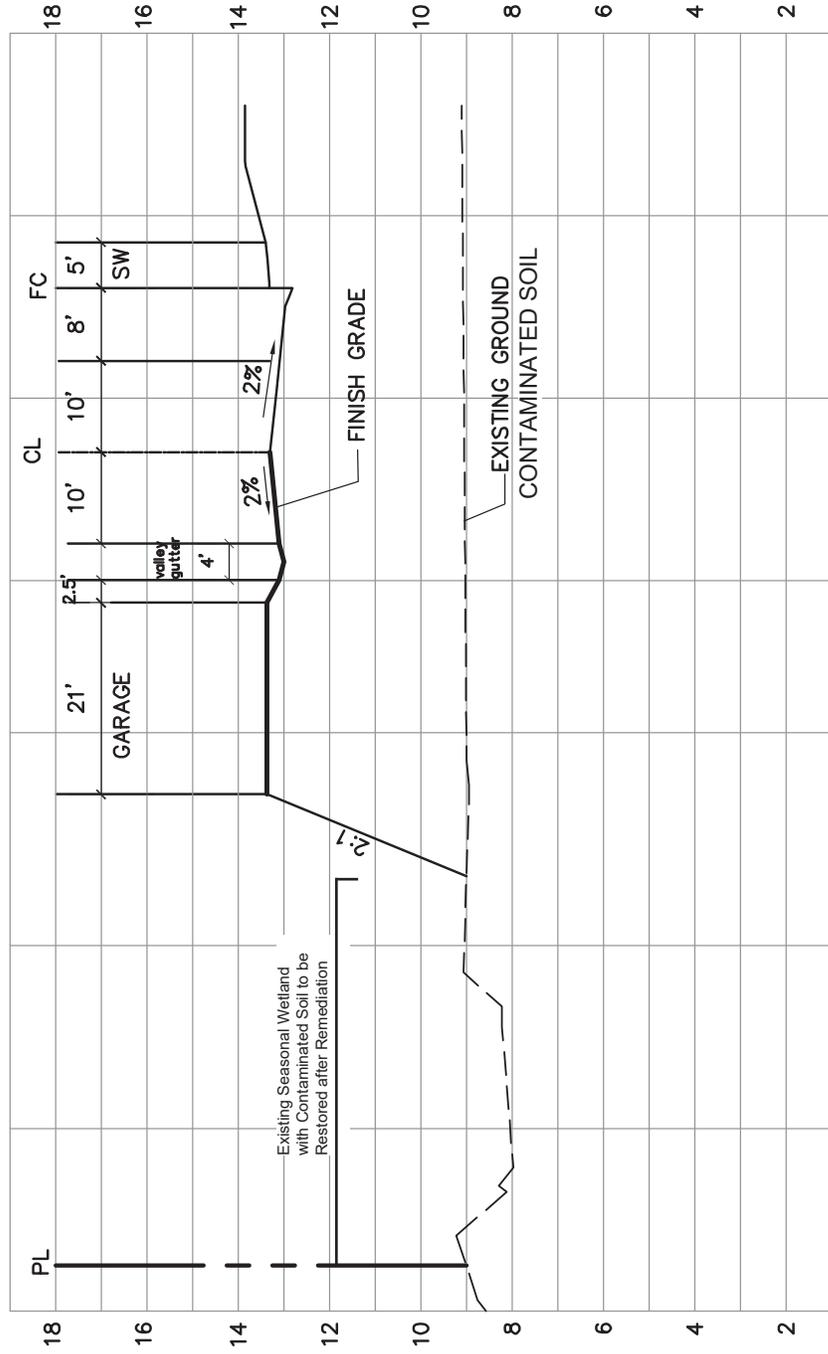


Figure 3. Typical x-section at Riverview Apartments Project showing the portion of the seasonal wetland to be impacted by remediation of contaminated soil and then to be restored to seasonal wetland after remediation is completed. The seasonal wetland would have been avoided by the Project were it not for the contaminated soil.

APPENDIX D - Land Protection Instrument Example

RECORDING REQUESTED BY:

Airport Business Center

RETURN TO:

**Airport Business Center
414 Aviation Boulevard
Santa Rosa, CA 95403-1069
Attn: Larry L. Wasem**

APN 059-430-001 and 059-430-002

SPACE ABOVE THIS LINE FOR RECORDER'S USE

LAND PROTECTION INSTRUMENT

This Land Protection Instrument ("LPI") has been executed as of _____, 2020, by Airport Business Center, a California limited partnership ("Declarant"), with respect to that certain real property containing approximately 6.73 acres located in the unincorporated area, County of Sonoma, State of California, more particularly described in Exhibit "A" attached hereto and incorporated herein by this reference (the "Property") consisting of Lot 1 as more particularly described therein ("Lot 1") and Lot 2 as more particularly described therein ("Lot 2").

RECITALS

A. Declarant is the sole owner in fee simple of the Property. Pursuant to the terms of this LPI, Declarant desires to protect a portion of the Property more particularly described in Exhibit "B" and Exhibit "C" attached hereto and incorporated herein by this reference (the "Restricted Area") and further shown on Exhibit "B-1" and Exhibit "C-1" attached hereto and incorporated herein by this reference.

B. This LPI is being executed, delivered and recorded in the Official Records of Sonoma County ("Official Records") as part of the ABC Phase VI Subdivision ("Project") and to satisfy certain permit conditions imposed by the County of Sonoma, California ("County"), the California Regional Water Quality Control Board, North Coast Region ("NCRWQCB") and the San Francisco District of the United States Corps of Engineers, Department of the Army ("USACE")(said agencies are collectively referred to herein as the "Approving Agencies"), requiring the permanent preservation and management of the Restricted Area for open space and stream and riparian habitat purposes as part of the Project, as set forth in the following documents (collectively, the "ABC Phase VI Subdivision Project Approval Documents"):

(i) Resolution No. 07-018, A Resolution of the Planning Commission of the County of Sonoma Adopting a Mitigated Negative Declaration and Approving the Subdivision of 24.51 Acres of Vacant Industrial Land (MSJ00-0007), dated June 21, 2007, requested by Brelje & Race/Seastack Enterprises LLC resulting in the Final Map for Lots 1-7 as numbered and designated upon the Map of Tract No 1063 Airport Business Center Phase VI Subdivision, recorded July 2, 2018, in Book 796 of Maps pages 44-48, Sonoma County Records; and

(ii) In the Matter of Water Quality Certification for Seastack Enterprises, Seastack Development Project, WDID 1B09033WNSO, dated as of June 14, 2010, issued by the NCRWQCB ("WDID 1B09033WNSO"); and

(iii) Permit No. _____, from the United States Army Corps of Engineers for a Clean Water Act Section 404 Nationwide Permit No. 39 (File No. _____), issued on _____, 2020 to Airport Business Center; and

(iv) California Department of Fish and Game, Lake and Streamed Alteration Agreement No. _____ (File No. 1600-_____) issued on _____, 2020 to Airport Business Center.

C. This LPI imposes limitations in the form of a restriction or covenant, executed by the owner of the land, that is binding upon successive owners of such land, and that has as its purpose retaining land predominantly in its natural or open space condition.

D. The Restricted Area possesses open space and stream and riparian habitat values (the "Conservation Values").

AGREEMENTS

NOW, THEREFORE, in consideration of the above and mutual covenants, terms, conditions and Restrictions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and pursuant to the laws of the State of California, Declarant hereby declares that the Restricted Area, and every part thereof or interest therein, is now held and shall hereafter, in perpetuity, be held, managed, occupied, transferred, sold, leased, and conveyed subject to the Restrictions (collectively, the "Restrictions") set forth herein. The Restrictions shall burden and run with the Restricted Area, and every part thereof or interest therein, and shall be binding on all persons or entities having or acquiring any right, title or interest in the Restricted Area, or any part thereof. The Restrictions are intended to be a covenant running with the land in accordance with California Civil Code Section 1461 et seq. Notwithstanding anything to the contrary contained herein, this LPI and the Restrictions contained herein shall have no effect whatsoever on any of the Property other than the Restricted Area and this LPI does not grant or otherwise provide for access or secondary easements over the balance of the Property in favor of the Restricted Area or in favor of any party.

1. Purposes. The purposes of the Restrictions are to ensure that the existing Conservation Values of the Restricted Area will be forever protected by preventing any use of the Restricted Area that would significantly impair or interfere with the Conservation Values (the "Purposes").

2. Prohibited Uses. Any activity on or use of the Restricted Area inconsistent with the Purposes of the Restrictions is prohibited. Without limiting the generality of the foregoing, Declarant, and its personal representatives, heirs, successors, assigns, employees, agents, lessees, licensees and invitees are expressly prohibited from doing or permitting any of the following uses and activities on the Restricted Area, unless, and only to the extent that, a generally prohibited activity is necessary to preserve and protect the Restricted Area's Conservation Values:

2.1. Use of off-road vehicles and use of any other motorized vehicles, except as necessary to maintain or for the benefit of the Conservation Values (e.g., mowing) and including the construction and maintenance of bio-retention swale and storm drain system within the Restricted Area;

2.2. Grazing and agricultural activity of any kind, except for those grazing and/or other agricultural practices and uses that are implemented for the benefit of the Conservation Values;

2.3. Any recreational or other use involving dogs;

2.4. Commercial or industrial uses;

2.5. Construction, reconstruction or placement of any building, or any other structure or improvement of any kind, except bio-retention swale and storm drain system within the Restricted Area; provided, however, landscape features, pedestrian pathways and similar pedestrian uses are expressly permitted;

2.6. Depositing or accumulation of soil, trash, ashes, refuse, waste, bio-solids or any other materials;

2.7. Planting, introduction or dispersal of non-native or exotic plant or animal species;

2.8. Filling, dumping, excavating, draining, dredging, mining, drilling, removing or exploring for or extraction of minerals, loam, soil, sands, gravel, rocks or other material on or below the surface of the Restricted Area, and granting or authorizing any surface entry for any of these purposes;

2.9. Altering the surface or general topography of the Restricted Area, except as necessary to maintain existing utilities, and/or to construct and maintain of bio-retention swale and storm drain system, and/or to accommodate existing easements, including building of roads, paving or otherwise covering the Restricted Area with concrete, asphalt, or any other impervious material;

2.10. Removing, destroying, or cutting of native trees, shrubs or other vegetation, except as required for fire breaks, flood control, maintenance of existing utilities, foot trails, or roads, prevention or treatment of disease, utility line clearance, control of non-native or exotic plants, or maintenance of bio-retention swale and storm drain system;

2.11. Manipulating, impounding or altering any natural water course, body of water or water circulation on the Restricted Area, and activities or uses detrimental to water quality, including but not limited to, degradation or pollution of any surface or sub-surface waters, except as required for the construction and maintenance of bio-retention swale and storm drain system; and

2.12. Transferring or abandoning any water or air rights necessary to protect, sustain, maintain or restore the Conservation Values.

3. Maintenance. As soon as possible given weather and other constraints after recordation of this LPI, Declarant will complete in the Restricted Area grading and replanting as depicted on Exhibit "D" attached hereto and incorporated herein by this reference and as generally described in Paragraph 4 of WDID 1B09033WNSO. Declarant and its successors will thereafter manage and monitor the Restricted Area in accordance with said Paragraph 4 of WDID 1B09033WNSO. Declarant and its successors agree to monitor the Restricted Area and to include photos of the revegetated

areas and include survival rates and a narrative summary of the status of the restoration area to NCRWQCB one (1) year from the date of recordation of this LPI in the Official Records of Sonoma County (the "Date of Recordation"), and on the anniversary of the Date of Recordation for the next four (4) years thereafter (all such dates have six (6) months of flexibility to accommodate weather and other conditions).

4. Declarant's Reserved Rights. Declarant reserves to itself, and to its personal representatives, heirs, successors, and assigns, all rights accruing from its ownership of the Restricted Area, including the right to engage in or to permit or invite others to engage in all uses of the Restricted Area that are not expressly prohibited or limited by, and are consistent with, the Purposes of the Restrictions and the terms and conditions of this LPI. In the event Declarant or Declarant's successors desire to establish a trail or pathway in the Restricted Area for use by Declarant's guests or invitees, Declarant agrees that: (i) any such trail or pathway would not be paved and would be constructed so as to minimize any negative effect on the Conservation Values, and (ii) Declarant would be allowed but not required to place signage in the Restricted Area that would provide visitors with educational information regarding the Restricted Area and/or the Conservation Values.

5. Required Notice to Future Lessees and Licensees. Any lease, license, easement, or other use agreement subsequently entered into or made with respect to any portion of the Restricted Area, whether written or oral, shall contain an express provision informing the lessee, tenant, licensee or other contracting party of the Restrictions and this LPI and shall require such lessee, tenant, licensee or other contracting party to comply with all such Restrictions and the terms of this LPI throughout the term of such lease, license or rental or use agreement.

6. Right of Inspection. The Approving Agencies, through their employees and representatives, shall each be entitled to enter upon the Restricted Area on an annual basis for the limited purpose of confirming compliance with the terms and conditions contained in this LPI. Prior to any such entry for inspection purposes, the Approving Agency exercising such inspection rights shall provide fourteen (14) days written notice to Declarant or subsequent fee title owner, and Declarant or the subsequent fee title owner shall have the right, through their employees and representatives, to accompany and observe such inspections. If the Approving Agency conducting such annual inspection, or such entity's employees or agents, prepare any reports, diagrams, charts, graphs, photographs, audio or visual recordings or other writings as a result of such inspections, copies of such LPIs and recordings shall be provided promptly to Declarant or the subsequent fee title owner. The Approving Agency conducting such inspection, or such entity's employees or agents, shall agree to hold harmless Declarant or the subsequent fee title owner, and their officers, directors, agents, employees, invitees (each of which is an indemnitee) from and against any and all claims, losses, damages, demands, liabilities, suits, costs, expenses (including attorneys' fees), penalties, judgments, or obligations whatsoever for or in connection with injury (including death) or damage to any person or the loss or damage of property to whomsoever belonging or pecuniary or monetary loss which Declarant or the subsequent fee title owner may sustain, incur, or suffer as a result of entry and activities upon the Restricted Area pursuant to the rights granted under this paragraph, or resulting from, arising out of, or in any way related to activity conducted by or the omission of such inspecting entity, unless the injury or damage resulted from the sole negligence or the intentional and willful misconduct of the Declarant or the subsequent fee title owner, or their officers, directors, agents or employees.

7. Remedies. If an Approving Agency determines there is a violation of the terms of this LPI, written notice of such violation and a demand for corrective action sufficient to cure the violation shall be given to Declarant or the subsequent fee title owner. If Declarant or the subsequent fee title owner fails to cure the violation within fifteen (15) days after receipt of written notice and demand, or if the cure reasonably requires more than fifteen (15) days to complete and Declarant or the subsequent fee title owner fails to begin the cure within such fifteen (15) day period or fails to continue diligently to complete the cure, the Approving Agency providing the notice may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this LPI, to recover any damages to which notifying agency may be entitled for such violation or for any injury to the Conservation Values, to enjoin the violation, ex parte as necessary, by temporary or permanent injunction without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies, or for other equitable relief, including, but not limited to, the restoration of the Restricted Area to the condition in which it existed prior to any such violation or injury.

7.1. Costs of Enforcement. Should proceedings be brought to enforce or interpret any of the terms of this LPI, the prevailing party in any such proceedings shall be entitled to recover from the non-prevailing party its costs and expenses, including reasonable attorneys' and experts' fees and costs.

7.2. Enforcement Discretion. Enforcement of the terms of this LPI shall be at the respective discretion of the Approving Agencies, and any forbearance by any such party to exercise its rights under this LPI in the event of any breach of any term of this LPI shall not be deemed or construed to be a waiver by such entity of such term or of any subsequent breach of the same or any other term of this LPI or of any of such entity's rights under this LPI. No delay or omission by Approving Agencies in the exercise of any right or remedy upon any breach shall impair such right or remedy or be construed as a waiver.

7.3. Acts Beyond Declarant's or Subsequent Fee Title Owner's Control. Nothing contained in this LPI shall be construed to, or shall entitle, the Approving Agencies to bring any action against the Declarant or subsequent fee title owner for any injury to or change in the Restricted Area resulting from: (i) any natural cause beyond the Declarant's or subsequent fee title owner's control, including, but not limited to, fire, flood, storm, and earth movement, or any prudent action taken by the Declarant or subsequent fee title owner under emergency conditions to prevent, abate, or mitigate significant injury to the Restricted Area resulting from such causes; or (ii) acts by the Approving Agencies or any of their employees or agents.

8. Public Access. Nothing contained in this LPI shall give or grant to the public a right to enter upon or use the Restricted Area or any portion thereof where no such right existed in the public immediately prior to execution and recordation of this LPI. The right of the public or any person to make any use whatsoever of the Restricted Area or any portion thereof (other than any use expressly allowed by a written or recorded map, agreement, deed or dedication) is by permission, and subject to control, of owner: Section 813, Civil Code.

9. Liberal Construction. It is the intention of Declarant that the Purposes of the Restrictions shall be carried out in perpetuity. Liberal construction is expressly required for purposes of effectuating this LPI in perpetuity, notwithstanding economic hardship or changed conditions of any kind.

10. Notices. Any notice, demand, request, consent, approval, or communication that Declarant or the Approving Agencies desires or is required to give to the others shall be in writing and be served personally or sent by recognized overnight courier that guarantees next-day delivery or by first class mail, postage fully prepaid, addressed as follows:

<u>To Declarant:</u>	<u>To COUNTY:</u>	<u>To NCRWQCB:</u>	<u>To USACE:</u>
Airport Business Center	County of Sonoma	North Coast Regional Water	U.S. Army Corps of Engineers
414 Aviation Boulevard	575 Administration Drive	Quality Control Board	Regulatory Division
Santa Rosa, CA 95404-5968	Suite 104A	5550 Skylane Blvd., Suite A	450 Golden Gate Avenue
Attn: Larry L. Wasem	Santa Rosa, CA 95403-2815	Santa Rosa, CA 95403-1072	San Francisco, CA 94102-3406
	Attn: County Administrator	Attn: Executive Director	Attn: Chief

or to such other address as any of the above entities shall designate by written notice to the others. Notice shall be deemed effective upon delivery in the case of personal delivery or delivery by overnight courier or, in the case of delivery by first class mail, five (5) days after deposit into the United States mail.

11. Amendment. This LPI may not be amended, modified or otherwise changed in any manner, except by a written amendment executed by Declarant or subsequent fee title owner, or Declarant's or subsequent fee title owner's successors in interest, and approved in advance by the Approving Agencies. Any such amendment shall be consistent with the Purposes of the Restrictions and shall not affect the perpetual duration of this LPI. Any such amendment must be in writing, must refer to this LPI by reference to its recordation data, must be approved by the Approving Agencies, and must be recorded in the Official Records.

12. Controlling Law. The interpretation and performance of this LPI shall be governed by the laws of the State of California, disregarding the conflicts of law principles of such state, and by applicable Federal law.

13. Severability. If a court of competent jurisdiction voids or invalidates on its face any provision of this LPI, such action shall not affect the remainder of this LPI. If a court of competent jurisdiction voids or invalidates the application of any provision of this LPI to a person or circumstance, such action shall not affect the application of the provision to other persons or circumstances.

IN WITNESS WHEREOF Declarant has executed this LPI on the day and year first above written.

AIRPORT BUSINESS CENTER,
a California limited partnership

By: _____
LARRY L. WASEM,
Managing General Partner

Lists of Exhibits:

Exhibit "A" – Legal Description of the Property

Exhibit "B" – Legal Description of the Lot 1 Restricted Area

Exhibit "B-1" – Map of the Lot 1 Restricted Area

Exhibit "C" – Legal Description of the Lot 2 Restricted Area

Exhibit "C-1" – Map of the Lot 2 Restricted Area

Exhibit "D" – Schematic Planting Plan - Redwood Creek Restoration (WRA Environmental Consultants, June 2019, Page 29 of 32)

A notary public or other officer completing this certificate only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF SONOMA

} SS

On _____, 2020, before me, _____,
Notary Public, personally appeared Larry L. Wasem, who proved to me on the
basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed
to the within instrument and acknowledged to me that he/~~she/they~~ executed the
same in his/~~her/their~~ authorized capacity(ies), and that by his/~~her/their~~ signature(s)
on the instrument the person(s), or the entity upon behalf of which the person(s)
acted, executed the instrument.

Executed under PENALTY OF PERJURY under the laws of the State of California
that the foregoing paragraph is true and correct. WITNESS my hand and official
seal.

(this area for official notarial seal)

Notary's Signature _____

EXHIBIT "A"

Legal Description of the Property

All that real property situated in the County of Sonoma, State of California, and being a portion of the Tract No. 1063 Airport Business Center Phase VI Subdivision, as described by Deed recorded as Document Number 2017-069811, Official Records of Sonoma County, described as follows:

Lot 1 as numbered and designated upon the Map of Tract No. 1063 Airport Business Center Phase VI Subdivision, recorded July 2, 2018, in Book 796 of Maps pages 44-48, Sonoma County Records.
APN 059-430-001

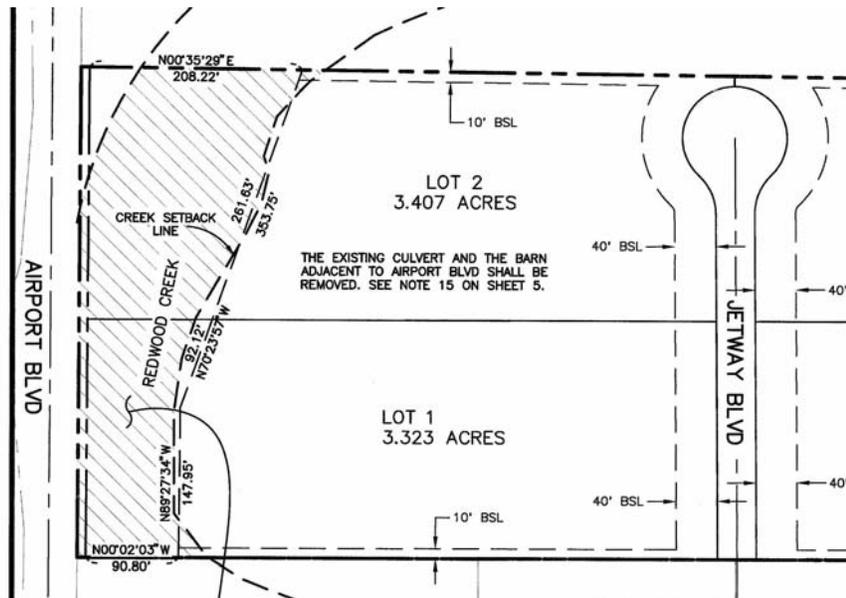
Lot 2 as numbered and designated upon the Map of Tract No. 1063 Airport Business Center Phase VI Subdivision, recorded July 2, 2018, in Book 796 of Maps pages 44-48, Sonoma County Records.
APN 059-430-002

APN's: 059-430-001 and 059-430-002

Date: April 16, 2020

Prepared by: Brelje & Race, Consulting Engineers

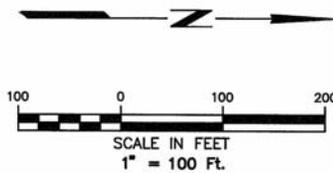
Job No.: 2350.08



**SUPPLEMENTAL SHEET
TRACT NO 1063
AIRPORT BUSINESS CENTER
PHASE VI SUBDIVISION**

BEING THE LANDS OF AIRPORT BUSINESS CENTER, A CALIFORNIA LIMITED PARTNERSHIP AS DESCRIBED IN DOCUMENT NUMBER 2016-075996, OFFICIAL RECORDS OF SONOMA COUNTY.

LYING WITHIN SECTION 30, TOWNSHIP 8 NORTH, RANGE 8 WEST, M.D.M.
COUNTY OF SONOMA, STATE OF CALIFORNIA
7 LOTS (23.178 AC.), AIRPORT BLVD (0.093 AC.),
JET WAY AND AVIATION BLVD (0.988 AC.)
24.259 ACRES TOTAL



Brelje & Race
CONSULTING ENGINEERS
475 Aviation Blvd. • Suite 120 • Santa Rosa, CA 95403 • 707.521.5222
www.brce.com

MARCH 2018

M/S 00-0007
APN 059-271-004, 059-271-045

SHEET 4 OF 5
JOB NO 2350.02

EXHIBIT "B"

Legal Description of the Lot 1 Restricted Area

All that real property situated in the County of Sonoma, State of California, and being a portion of the lands of Airport Business Center, as described by Deed recorded as Document Number 2016-075996, Official Records of Sonoma County, described as follows:

Commencing at the southern terminus of the common line of Lot 1 and Lot 2 as shown on that certain map entitled "Tract No. 1063 Airport Business Center Phase VI Subdivision" filed in Book 796 of Maps pages 44 through 48, Sonoma County Records; thence along said common line North 0°02'33" West 11.00 feet to the true point of beginning; thence along said common line North 0°02'33" West 64.68 feet; thence leaving said common line South 78°22'28" East 107.56 feet; thence South 89°41'04" East 18.46 feet; thence South 00°18'56" West 47.08 feet; thence North 89°41'04" West 112.90 feet; thence North 44°41'04" West 4.95 feet; thence North 89°41'04" West 7.14 feet to the point of beginning.

Containing an area of 6,902 square feet more or less.

Basis of bearings: South 89°41'04" East 576.29 feet between found Airport Boulevard centerline monuments as shown on the Record of Survey filed in Book 453 of Maps page 2, Sonoma County Records.

APN: 059-430-001

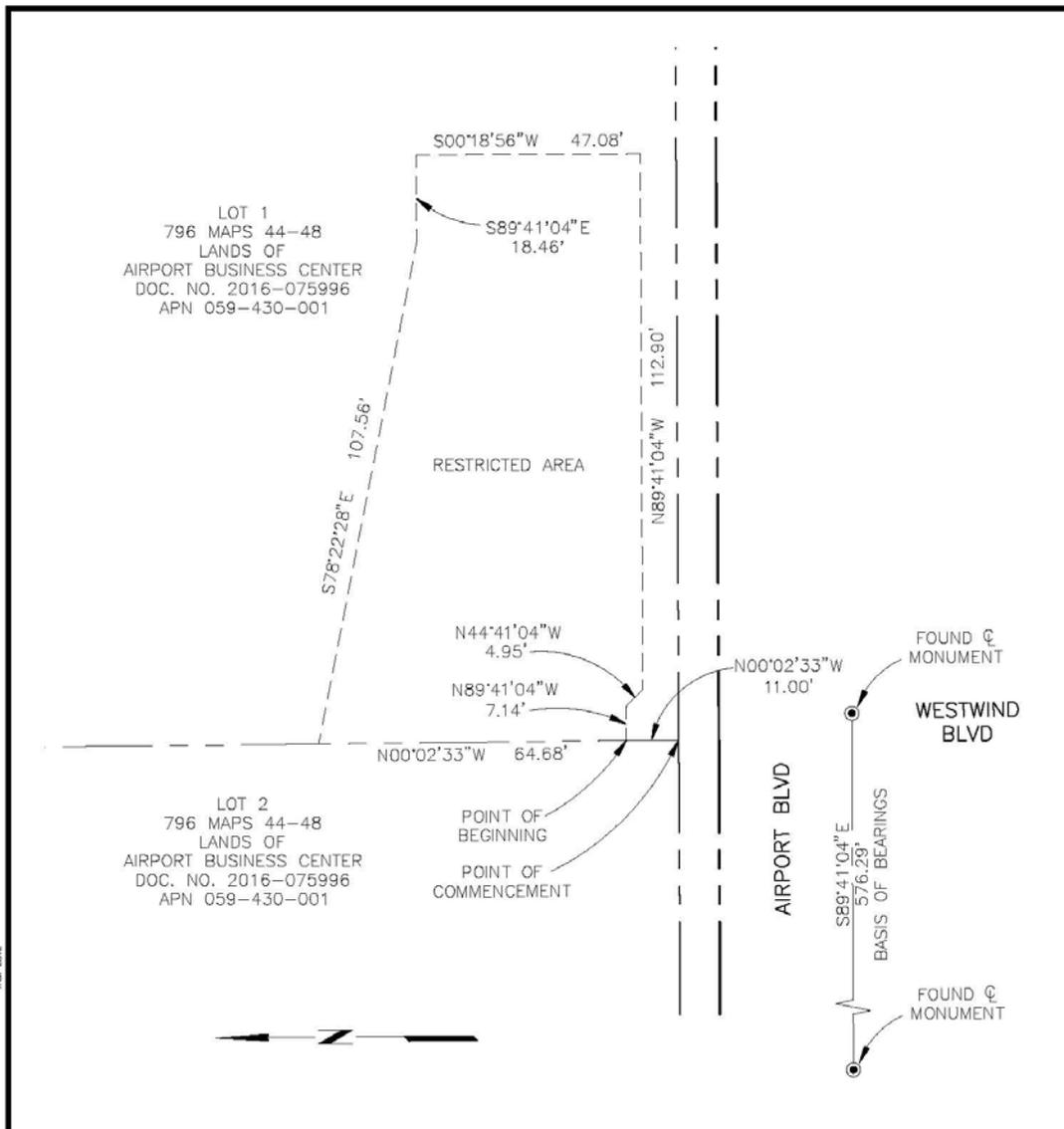
Date: April 17, 2020

Prepared by: Brelje & Race, Consulting Engineers

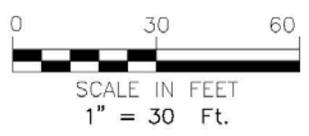
Job No.: 2350.08

EXHIBIT "B-1"

Map of the Lot 1 Restricted Area



THIS EXHIBIT IS FOR GRAPHIC PURPOSES ONLY. ANY ERRORS OR OMISSIONS ON THIS EXHIBIT SHALL NOT AFFECT THE DEED DESCRIPTION.



JOHN SIDNEY LOCEY RCE 31909

RESTRICTED AREA

OWNER: AIRPORT BUSINESS CENTER
414 AVIATION BLVD.
SANTA ROSA, CA 95403

DOC NO. 2016-075996 APN 059-430-001

PREPARED BY

Brelje & Race
CONSULTING ENGINEERS

2350.08

EXHIBIT "C"

Legal Description of the Lot 2 Restricted Area

All that real property situated in the County of Sonoma, State of California, and being a portion of the lands of Airport Business Center, as described by Deed recorded as Document Number 2016-075996, Official Records of Sonoma County, described as follows:

Commencing at the southern terminus of the common line of Lot 1 and Lot 2 as shown on that certain map entitled "Tract No. 1063 Airport Business Center Phase VI Subdivision" filed in Book 796 of Maps pages 44 through 48, Sonoma County Records; thence along said common line North 0°02'33" West 11.00 feet to the true point of beginning; thence along said common line North 0°02'33" West 64.68 feet; thence leaving said common line North 74°19'35" West 144.07 feet; thence South 35°01'14" West 108.61 feet; thence South 00°18'56" West 17.05 feet thence South 89°41'04" East 87.33 feet; thence North 45°18'56" East 4.95 feet thence South 89°41'04" East 110.33 feet to the point of beginning.

Containing an area of 15,558 square feet more or less.

Basis of bearings: South 89°41'04" East 576.29 feet between found Airport Boulevard centerline monuments as shown on the Record of Survey filed in book 453 of Maps page 2, Sonoma County Records.

APN: 059-430-002

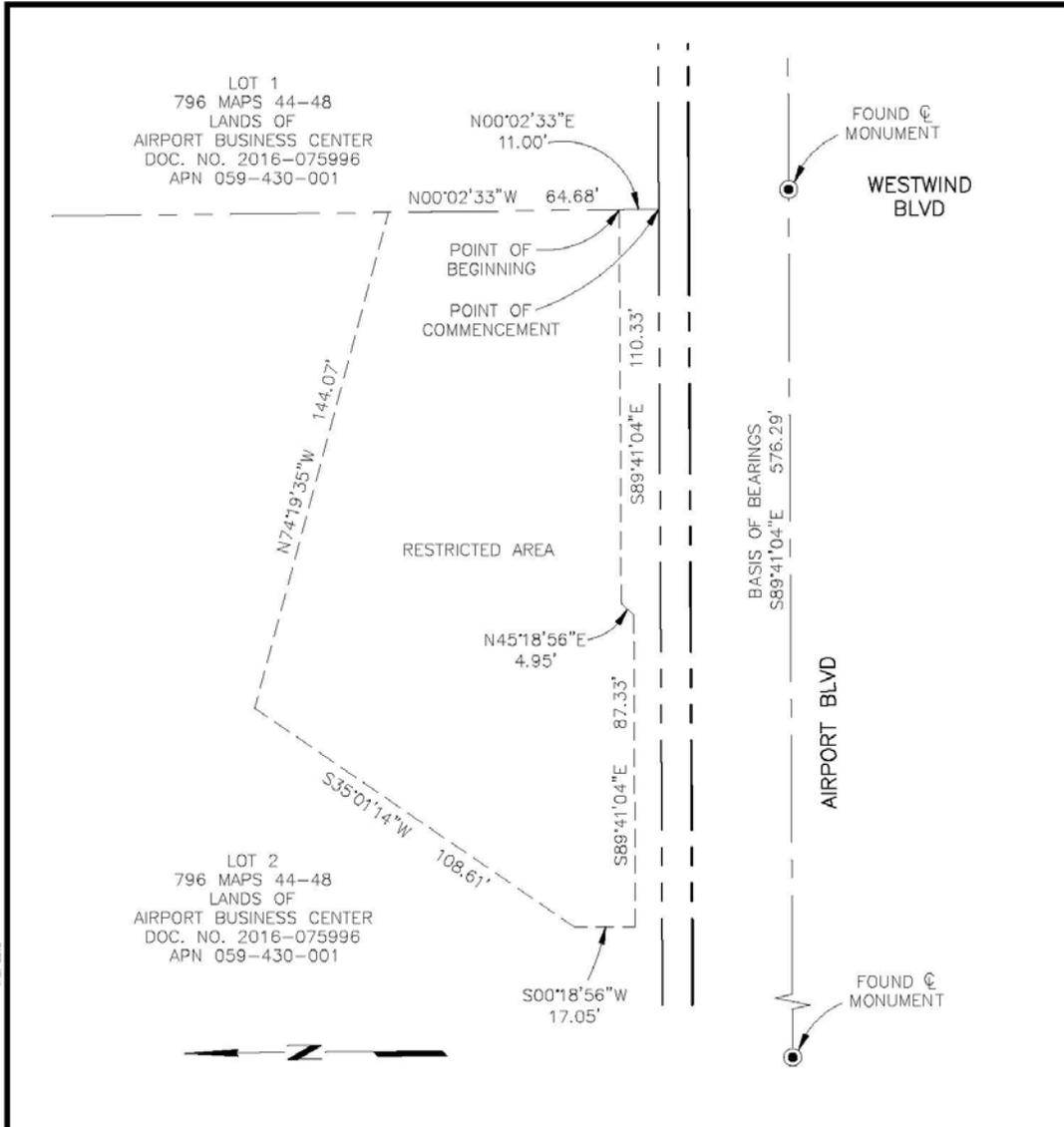
Date: April 17, 2020

Prepared by: Brelje & Race, Consulting Engineers

Job No.: 2350.08

EXHIBIT "C-1"

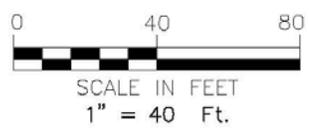
Map of the Lot 2 Restricted Area



TAB: LOT2

04-17-20 newerr0_133501.mxd\13350108.RSHT B-1.dwg

THIS EXHIBIT IS FOR GRAPHIC PURPOSES ONLY. ANY ERRORS OR OMISSIONS ON THIS EXHIBIT SHALL NOT AFFECT THE DEED DESCRIPTION.



JOHN SIDNEY LOCEY RCE 31909

RESTRICTED AREA

OWNER: AIRPORT BUSINESS CENTER
414 AVIATION BLVD.
SANTA ROSA, CA 95403

DOC NO. 2016-075996 APN 059-430-002

PREPARED BY

Brelje & Race
CONSULTING ENGINEERS
275 Mendocino Blvd., Suite 100 • Santa Rosa, CA 95403 • 707-571-9332
www.brelje.com

2350.08

