2/6/2020

Conditional Use Permit Amendment Application
Alterations to Marin Jewish Community Campus

prepared for
County of Marin Planning Department

herman coliver locus architecture

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I. Statement of Campus Purpose

The Marin Jewish Community Campus ("the Campus") is comprised of three Jewish institutions: Congregation Rodef Sholom; the Osher Marin Jewish Community Center; and Brandeis Marin Day School. The three religious and cultural institutions—which we refer to as the "Campus Partners"—have created a unique environment that is the heart of Jewish life in Marin County. In addition to serving religious needs, these institutions also provide important resources for the greater Marin community.

In broad terms, the Campus does the following:

- Builds lasting Jewish identity for Marin County's Jewish population, inspiring a deep commitment to Judaism and its practices, and anchoring the expression of Jewish life in Marin County.

- Offers an inclusive approach to Jewish life, celebrating diverse forms of Judaism, Jewish expression, and the families that create them.

- Celebrates Jewish life, including the practice and teaching of Judaism, Jewish education, Jewish cultural expression, and a holistic approach to physical and spiritual wellness.

- Views the interfaith character of most Marin County Jewish households as an opportunity for innovation regarding the meaning and purpose of Judaism and Jewish life in the 21st century.

- Serves as both a destination for Judaism and Jewish life as well as a gateway for Jews to engage in Jewish involvement elsewhere in Marin, the region, and beyond.

- Serves as a unique community gathering place that is an inclusive environment for all faiths and backgrounds seeking to build cross cultural understanding.

II. Land Use Background

The Marin Jewish Community Campus ("the Campus") is a non-profit community organization that includes Congregation Rodef Sholom, Brandeis Marin Day School, and Osher Marin Jewish Community Center. (The three entities are referred to collectively herein as "the Campus Partners.") The Campus is developed on approximately 13-acres located at 170, 180, 200, and 210 North San Pedro Road, in unincorporated San Rafael, California. The majority of the current land uses have existed on the site, in some form, since the early 1960s, but have expanded several times since then, most notably in the late 1980s, when most of the structures currently on the site were initially constructed.

In 1987, the County granted a Use Permit for the Campus development and land uses on approximately 11.22 acres of land including five (5) Assessor's Parcels as follows:

APNs 180-281-12, 20, 21, 34 and 35 located at 170, 180 & 200 North San Pedro Road.

In 2006, the Campus acquired an additional property (APN 180-281-25) coterminous with the eastern boundary of the existing campus. The additional property located at 210 North San Pedro Road is approximately 1.67 acres. It was previously referred to as the "California Teachers Association" (CTA) property and presently is known as the JCC Annex.

The six (6) total Campus Assessors parcels lack uniform land use designations and zoning in the current Countywide Plan. The various land use designations and current applicable zoning districts for the Campus properties are set forth below:

Countywide Plan Land Use and Density Designations:

- SF5 (Single Family Residential, 2-4 units per acre)
- SF6 (Single Family Residential, 4-7 units per acre)
- OC (Office Commercial/Mixed Use)
- PR/RUG overlay (Planned Residential, 1 unit per 1-10 acres with Ridge and Upland Greenbelt Overlay)

Zoning Districts (multiple districts apply)**:**

- A-2: (Limited Agriculture, 2 dus per 1 acre)
- R-A: B-2 (Residential, Agricultural, 10,000 sq. ft. minimum lot size)
- AP (Administrative Professional Office, 30% FAR)
- RMP (Residential Multiple Planned District)

TABLE #1

APN	Area Acres	Zoning
180-281-34	2.94	R-A: B-2 (1 du per 10,000 sq. ft.)
180-281-35	1.98	R-A: B-2 (1 du per 10,000 sq. ft.)
180-281-12	.41	R-A: B-2 (1 du per 10,000 sq. ft.)
180-281-21	2.40	A2 (2 du per 1 acre
180-281-20	3.59	RMP 1 (1 du per 1 acre)
180-281-25	1.67	AP (Multi/SF 30% FAR)
Total Land Area	**12.99 Acres**	**Various**

III. The Campus Partners Are Willing To Engage In The Use Permit Amendment and Design Review Process To Facilitate A Comprehensive Land Use Entitlement Update

The Countywide Plan land use designations for the property are a diverse mix. The zoning districts permit a mix of land use opportunities, and various development standards apply to the Campus property ownerships. In 1987, the Campus Partners and the County recognized that a Use Permit was an appropriate entitlement to establish a comprehensive future land use and facilities development plan for the property. Accordingly, in 1987 the County granted a Use Permit to allow religious, recreational, and educational facilities to be constructed and occupied. It is now the primary goal of the Campus to redevelop the campus facilities. The centerpiece of this application is the proposed replacement of the nearly 60-year-old synagogue structure with a beautiful new temple to be located in the existing footprint of the current building. A landscaped courtyard will create an inviting entryway that will be enjoyed by users of all three facilities. In addition, the Osher Marin Jewish Community Center intends to replace its existing indoor warm water therapy pool with a modernized therapy pool in the same location, and will

add a new “family fun” pool that will replace an existing tot wading pool. The new pool is not expected to materially increase membership or traffic to the Jewish Community Campus. Instead, the families who currently share the therapy and lap pools will now have their own pool to separately enjoy. Brandeis Marin has designed improvements to the school building that will substantially enhance the learning environment, including a new math and science classroom geared to the STEM curriculum.

Descriptions of each of the major campus facility improvements are set forth below with additional information provided in the accompanying plans.

An exploratory pre-application filed in early 2018 contemplated additional uses: a new middle school and senior housing. Those items, however, have been removed from this application. Because there is no change in land use being requested, there is some question whether the Campus Partners actually require an amended Use Permit at this time. Regardless, the Campus Partners are prepared to enter the Use Permit amendment process in good faith to update terms of the land use entitlements. Accordingly, the Campus Partners look forward to working with the County staff, greater community, and decision makers to reach a successful outcome.

Congregation Rodef Sholom

When construction of Congregation Rodef Sholom (CRS) on the Campus was completed in 1962, it was the spiritual home for 300 families. Today, the CRS community has grown to roughly 1,100 diverse households, while its building has remained, for the most part, unchanged. The synagogue requires re-imagined and distinct spaces to support its multi-generational, spiritual, social, educational, and social justice mission.

The plan is to demolish and reconstruct the synagogue to better serve the current community. (See Table #1 below) The existing 13,850 square foot one-story synagogue will be removed and replaced with a new 23,539 square foot building. The new building footprint is planned in the same location as the existing building and the additional square footage is created in a second story. The proposed sanctuary height (46.0 ft) is roughly 3 feet above the existing sanctuary dome (43 ft). The reconstruction includes a new lobby, sanctuary, social hall and kitchen, offices, and meeting spaces, landscaped outdoor courtyard and patios.

Osher Marin JCC Aquatic Center

The "JCC," established in 1948, moved to North San Pedro Road in 1967. It was expanded in 1989, renovated in 2006, and has grown from a membership of just a few hundred the year it was founded, to 890 households in 1989, and to more than 3,000 member households today. The Osher Marin JCC Aquatic Center improvements include replacing and remodeling the existing 1,875 square foot indoor pool and replacing it with a 2,175 square foot indoor pool in the same location. As the number of senior members has increased, the demand has grown for a warm therapy pool dedicated exclusively for use by seniors, which has limited opportunities for youth swimming lessons and family "free swim.” Accordingly, the 491 square foot outdoor tot pool will be demolished and replaced with a new 2,900 square foot family fun pool. The plan also includes a new 78 square foot outdoor spa, splash pad, and replacement pool decking. New pool mechanical building and changing rooms will be constructed. The indoor pool improvements are focused on supporting ongoing youth swimming lessons and senior therapy. The existing outdoor pool remains and will continue to provide adult lap swimming. The new outdoor pool is designed to move children and family users out of the existing indoor and outdoor lap pools. The new

outdoor pool is forecast to result in some future growth in use, however, that is not expected to be significant because of the limited seasonal use which is May through September.

Brandeis Marin

Brandeis Marin's K-8 school was established on the Campus in 1978. In 2015, the school re-organized and it is growing under new leadership, with enrollment increasing from 153 students in 2015 to 178 students today. Over the next three to five years, the school expects to grow organically from its current enrollment to its former peak enrollment of approximately 214 students (see Table #1, below). Over the next five to seven years, the school has identified opportunities to expand its current capacity to approximately 250 students.

Brandeis Marin School alterations are planned to reconfigure the interior of the existing campus building to provide new classroom configurations, improved library facility and more functional staff and administrative office space. The plan includes the addition of approximately 2,074 square feet of floor space for three new "STEM" classrooms to be located in current attic building volume located above the existing one-story south wing of the building. Building upgrades include window replacement, new exterior siding, and sunshades. HVAC and electrical upgrades and new handicapped accessible restrooms on the second floor are planned to meet current health, safety, and accessibility requirements.

Osher Marin JCC Early Childhood Education

The JCC's Early Childhood Education (ECE) Building requires significant interior renovation and minor exterior alterations, including a small front addition (700 s.f.) to enhance its learning environment. A new entry and lobby addition will provide much needed interior space for an expanded teaching kitchen, art area, gallery, and classroom, as well as administration wing reconfigurations to improve office space for caregivers and administrators. Classrooms will be fitted with folding glass walls and new projecting shade canopies to foster an indoor-outdoor learning experience. Outdoor play spaces will be renovated (in place) to support an evolving constructivist and emergent preschool curriculum.

OMJCC Early Childhood Education building interior alterations are planned to provide more functional classroom spaces for pre-school children. The interior renovations include a teaching kitchen, new restroom facilities, and improved office space for care giving and administration staff. Exterior changes include improving the stairway entry canopy, new skylight, replacement of existing windows with exterior glass nana wall systems, and new textile shade structures to facilitate indoor-outdoor experimental learning. The improvements are provided to improve security, safety, indoor-outdoor healthy play areas, and provide for adequate restroom facilities sized for small children.

IV. Marin Jewish Community Campus Engagement Has Grown

In the past 29 years, Marin Jewish Community Campus engagement has increased significantly at the same time the building facilities have aged.

Each of the three (3) Campus Partners have specific land and building improvement needs and uses that they require to continue to serve their mission of community service combined with the pursuit and expression of the religious beliefs of their members, students, and congregants. A

proposed campus improvement plan and land use program for the next 20-year period is described below.

TABLE #1
Campus Partners' Membership Comparisons

Institution	1989	Peak	2020
Congregation Rodef Sholom	*339	*1,120	*1,100
Osher Marin Jewish Community Center	*890	*3,200	*3,048
Brandeis Marin Day School	**107	**214	**250

* *households*
** *students*

TABLE #2
Current and Proposed Building Square Footages

Campus Partner	Current	Proposed Sq. Ft.
Congregation Rodef Sholom	13,850	23,539
Osher Marin Jewish Community Center	56,924	58,895
Brandeis Marin Day School	20,083	22,157
Osher Marin JCC Early Childhood Education	8,310	9,010
Osher Marin JCC Annex	6,677	6,677
TOTAL	**105,844**	**120,278**

The included Existing & Proposed Site Plans (Exhibit A) along with the attached Drawings provide additional detail regarding the building footprints, square footages and occupancy. See Drawings prepared by Herman Coliver Locus Architecture, ELS Architecture and Urban Design, CSW St2 Engineering, and KPFF Engineering dated February 10, 2020, “Alterations to Marin Jewish Community Campus”.

TABLE #3
Historic Approvals, Existing Conditions and Proposed Conditions Tables: are included on sheet "G0.1C General Information and Project Comparison Tables" in the Drawings.

TABLE #4
Campus Use Tabulation: Sheet G0.1D in the Drawings provides a detailed “Campus Use Tabulation – Existing and Proposed.” The tables provide details for the present day “All Users Combined” for months, days, times of day, and number of visitors. The “Projected Usage – All Users Combined” provides by month, day, and times the projected usage of the campus facilities with the building and grounds alterations identified above. Additionally, the plan Sheet G0.1D provides “Monthly Events” and “Annual Events” tables to provide the current operations and “Projected Usage – Monthly Events” and “Projected Usage Annual Events” summaries**.**

V. Traffic Management Tools

Congregation Rodef Sholom (CRS) Ride Share Program: The synagogue has purchased a software program called Map Point that allows congregants to identify the homes of all other congregants.

In this way, congregants who are interested in carpooling are made aware of others who live in their neighborhood. Congregants can create lists filtered down to within one half mile of their homes. The congregants then contact their neighbors on their own to request or offer a ride. There also is a staff member assigned to coordinate rides. If a congregant wants to come to services and for whatever reason does not want to drive or is unable to do so, then the office will make the call on their behalf to schedule their ride.

Congregation Rodef Sholom New Off-Site Program

This year, classrooms are rented on Monday afternoons at the Mill Valley Community Center for fourth through sixth grade religious school students who live in southern Marin. Previously, those students would come to the Campus on Thursday afternoons between 4:00 and 6:00 pm. Thus, by offering this class off-site, CRS is further reducing the afternoon traffic coming to the main Campus. There are currently 20 students currently enrolled for this year at the southern Marin site.

Osher Marin Jewish Community Center (JCC)

The JCC has personnel dedicated to Facilities and Traffic Operations Management (FTOM). This staff person works with all three Campus Partners to actively reduce Campus traffic and congestion on North San Pedro Rd.

Bike and Transit Ridership Increases

The FTOM staff is assigned to create an ongoing promotional campaign to encourage all Campus users to bike and ride public transportation including the SMART train, buses, and shuttles provided by the Campus. The FTOM staff's promotional efforts include postings on Campus websites, social media, a weekly Eblast newsletter, and additional ride and promotion boards around the Campus. Usage of bike racks, public transit, and shuttles is monitored and recorded daily.

JCC Carpool Encouragement

The JCC continually encourages its new and existing staff to carpool to work.

Brandeis Marin Van Program

In August 2011, Brandeis Marin began offering bus service, operated by CYO Transportation, for students living in San Francisco and Southern Marin as a way to minimize traffic and provide a service to Brandeis families. In 2017, the school terminated the contract with CYO Transportation and purchased its own 10-person passenger van, later expanding its fleet to 4 vans. The 4 vans travel the following routes:

Route 1 – Departs from Strawberry Village in Mill Valley at approximately 6:30 am, arriving at school at approximately 6:50 am. The van then makes a second trip departing from the Mill Valley Community Center in Mill Valley at approximately 7:30 am, arriving at school at approximately 7:50 am.

Route 2 – Departs from the corner of 8th & Cabrillo in San Francisco at approximately 7:00 am, then stops at the San Francisco Jewish Community Center at approximately 7:10 am, then at Congregation Beth Shalom at approximately 7:20 am, then at Strawberry Village in Mill Valley at approximately 7:35 am, and arrives at school at approximately 7:50 am.

Route 3 – Departs from CVS Pharmacy in Tiburon at approximately 7:25 am, stops at Strawberry Village in Mill Valley at approximately 7:35 am, and arrives at school at approximately 7:50 am.

Route 4 – Departs from Telegraph Avenue in Oakland at approximately 6:40am, arrives at North Berkeley BART at approximately 7:05am, arrives at 2187 Meeker Avenue, Richmond at approximately 7:15am and arrives at school at approximately 7:55am.

Each van holds nine students, and three of the four vans currently are full. Families can register to use the van one-way or both ways each day. The school intends to expand its van operations in the coming years with additional vans and routes as necessary.

Brandeis Marin Carpool Program
Parents are reminded and encouraged to carpool throughout the year. The school has a carpool program in place but intends to make it even more robust. Currently, a Brandeis Marin staff member connects each newly enrolled student's family to other Brandeis families by region and neighborhood and encourages carpooling.

VI. Parking Management Tools

Currently all staff are required to register their vehicles with FTOM staff and display at all times an issued parking sticker while at work. The current agreement for the Rectory Lot at 160 North San Pedro Road for Campus employee parking spaces includes 34 of the 38 lined spaces; 27 full size and 11 compact. Spillover staff parking is available pursuant to a verbal agreement with the Mormon Church with 40 additional spaces. Additionally, the Marin School campus provides staff parking for up to 50 additional spaces.

The JCC plans to renew and extend existing parking agreements with the Mormon Church and Marin School to add more parking spaces to the current lot counts to serve event parking needs. Formal agreements with details are pending final approval by the three parties.

Safe Routes to School

The Campus Partners have been and will continue to be committed to working with their immediate neighbors and the surrounding community to improve safety for children walking, biking, or driving to and from school.

On –Site Parking Improvements to Parking

In 2006, the Campus acquired an additional property (APN 180-281-25) coterminous with the eastern boundary of the existing campus. The additional property located at 210 North San Pedro Road is approximately 1.67 acres and currently is referred to as the "California Teachers Association" (CTA) property or JCC Annex. The subject property provides 43 additional parking spaces for the Campus Partners, in addition to the existing 210 parking spaces located on the Campus property at 200 North San Pedro Road. Accordingly, the current

parking on-site for the Campus partners totals 253 spaces.

VII. Summary Goals and Objectives

With this application, the Campus Partners seek approval to permit specific building and grounds alterations and building additions to support a lasting Jewish identity for Marin County's Jewish population, inspiring a deep commitment to Judaism and its practices, and anchoring the expression of Jewish life in Marin County.

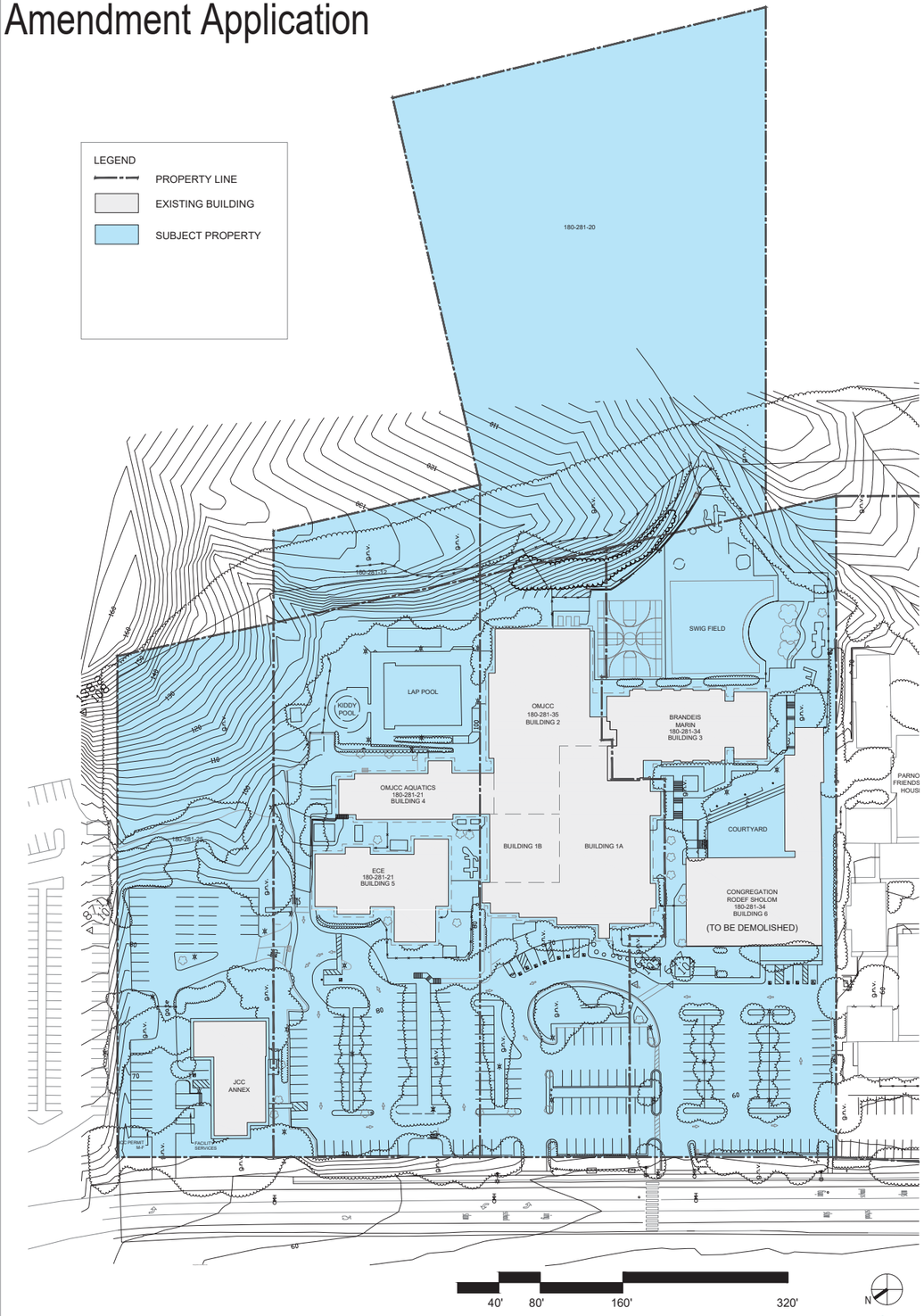
The Campus Partners are committed to the following objectives;

- Offering an inclusive approach to Jewish life, celebrating diverse forms of Judaism, Jewish expression, and the families that create them.
- Celebrating Jewish life, including the practice and teaching of Judaism, Jewish education, Jewish cultural expression, and a holistic approach to physical and spiritual wellness.
- Supporting views of the interfaith character of most Marin County Jewish households and providing an opportunity for innovation regarding the meaning and purpose of Judaism and Jewish life in the 21st century.
- Serving as both a destination for Judaism and Jewish life as well as a gateway for Jews to engage in Jewish involvement elsewhere in Marin, the region, and beyond.
- Welcoming of all faiths and backgrounds to foster cross-cultural understanding and support.

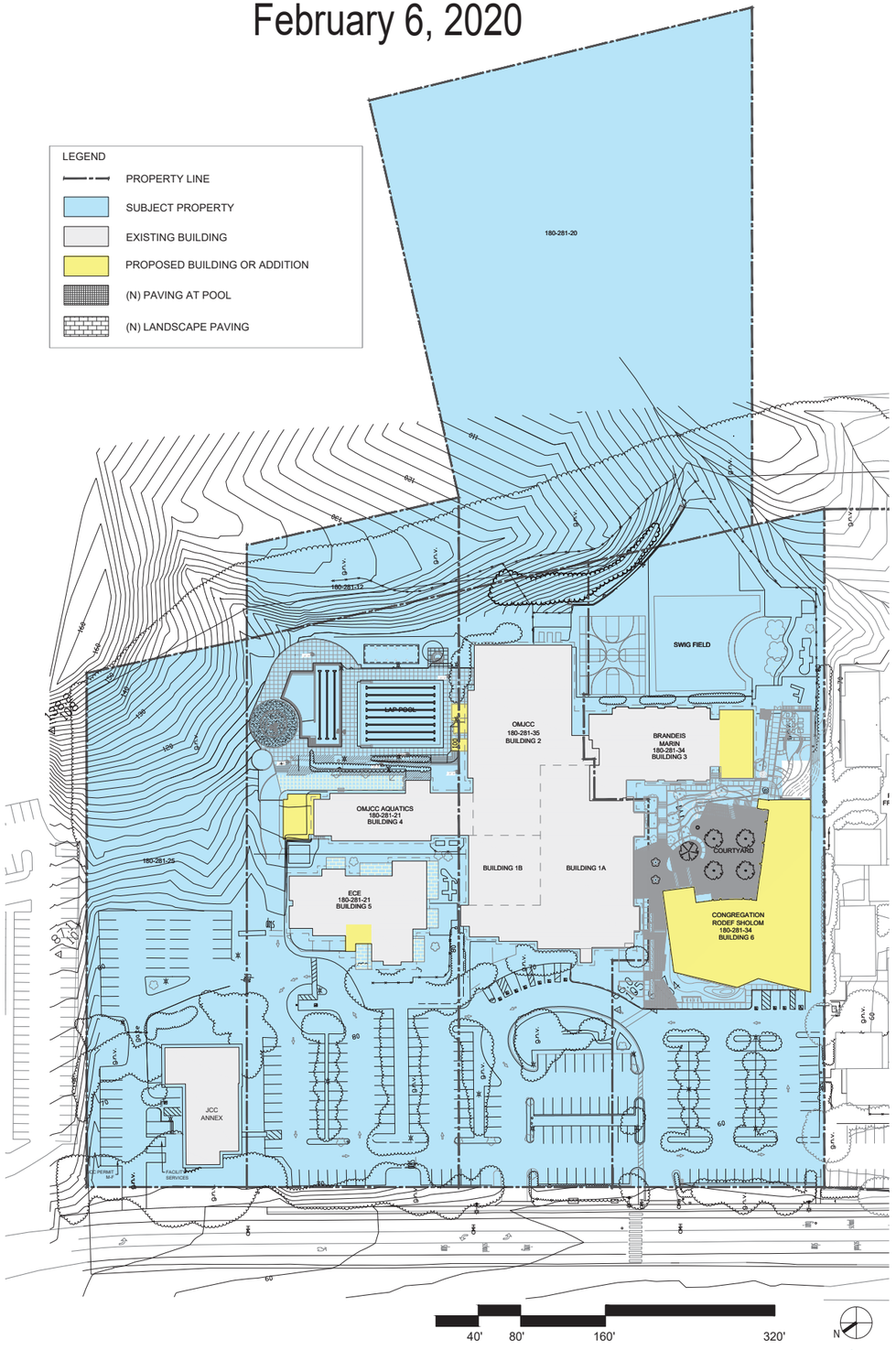
Conditional Use Permit Amendment Application

MARIN JEWISH COMMUNITY CAMPUS
February 6, 2020

EXHIBIT A



1 EXISTING SITE PLAN



2 PROPOSED SITE PLAN

architecture

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EXHIBIT B

Arborist Report

170 N. San Pedro Road
Marin County, CA

PREPARED FOR
Congregation Rodef Sholom
170 N. San Pedro Road
San Rafael, CA 94903

PREPARED BY:
HortScience | Bartlett Consulting
325 Ray St.
Pleasanton, CA 94566

June 20, 2018

HORT SCIENCE
BARTLETT CONSULTING

Arborist Report
170 N. San Pedro Road
Marin County, CA

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Arborist Report
170 N. San Pedro Road
Marin County, CA

Executive Summary

Congregation Rodef Sholom is planning to re-develop part of their property in Marin County, CA. Trees were assessed on June 5, 2018. The assessment included all trees 6" and greater in diameter, located within and adjacent to the project area.

Sixty-three (63) trees representing 20 species were evaluated (Table 1). For all species combined, trees were evenly split between good (32%), fair (35%) and poor (33%) condition. Eight street trees (#5-12) were included in the assessment, and four off-site trees (#60-63) had canopies over the project area.

The Marin County Tree Preservation Ordinance, Municipal Code Chapter 22.27 defines trunk diameters and species that are considered *Protected* and *Heritage* on private property. All street trees are owned by the County. Coast live oak #25 is *Protected*, and trees #5-12 are street trees. These nine trees cannot be removed without a permit.

Based on my evaluation of the plans:

- Fifty-two (52) trees will be removed (one Protected and eight street trees)
- Eleven (11) trees will be preserved (none protected)

The project area will be totally demolished, the parking lot will have pipelines intersecting it and the street trees along N. San Pedro Road will be demolished for temporary access and to connect pipelines. Impacts to trees being preserved can be minimized by following the **Tree Preservation Guidelines**.

Introduction and Overview

Congregation Rodef Sholom is planning to re-develop part of their property in Marin County, CA. Currently the project area consists of a large building with associated parking lot and a tiered landscaped courtyard. HortScience | Bartlett Consulting was asked to prepare an **Arborist Report** for the site as part of the application to the City of Marin County.

This report provides the following information:

1. Assessment of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
2. Evaluation of the impacts to trees based on development plans.
3. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Tree Assessment Methods

Trees were assessed on June 5, 2018. The assessment included all trees 6" and greater in diameter, located within and adjacent to the project area. Off-site trees with canopies extending over the property line were included in the assessment and viewed from the subject property. The assessment procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging each tree with an identifying number and recording its location on a map; off-site trees were not tagged;
3. Measuring the trunk diameter at a point 54" above grade; for off-site trees diameters were estimated.

4. Evaluating the health and structural condition using a scale of 1 – 5 based on a visual inspection from the ground:

   5 - A healthy, vigorous tree, reasonably free of signs and symptom of disease, with good structure and form typical of the species.
   4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
   3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
   2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
   1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.

5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

   High: Trees with good health and structural stability that have the potential for longevity at the site.

   Moderate: Trees with somewhat declining health and/or structural defects that can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'high' category.

   Low: Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes and generally are unsuited for use areas.

Description of Trees

Sixty-three (63) trees representing 20 species were evaluated (Table 1). For all species combined, trees were evenly split between good (32%), fair (35%) and poor (33%) condition. Eight street trees (#5-12) were included in the assessment, and four off-site trees (#60-63) had canopies over the project area. Descriptions of each tree are found in the ***Tree Assessment***, and approximate locations are plotted on the ***Tree Assessment Plan*** (see Exhibits).

Table 1. Condition ratings and frequency of occurrence of trees
170 N. San Pedro Road, Marin County, CA

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Carob	*Ceratonia siliqua*	-	1	1	**2**
Chitalpa	x *Chitalpa tashkentensis*	-	-	1	**1**
Raywood ash	*Fraxinus angustifolia* 'Raywood'	4	4	-	**8**
Crape myrtle	*Lagerstroemia indica*	1	-	4	**5**
Mayten	*Maytenus boaria*	2	3	-	**5**
Cajeput	*Melaleuca quinquenervia*	1	-	-	**1**
Myoporum	*Myoporum laetum*	2	-	-	**2**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Olive	*Olea europaea*	2	5	-	**7**
Aleppo pine	*Pinus halepensis*	-	-	2	**2**
Monterey pine	*Pinus radiata*	3	-	-	**3**
London plane	*Platanus* x *hispanica*	1	-	5	**6**
Cherry	*Prunus avium*	-	3	-	**3**
Purpleleaf plum	*Prunus cerasifera*	-	2	-	**2**
Plum	*Prunus domestica*	1	-	-	**1**
Almond	*Prunus dulcis*	-	1	-	**1**
Japanese flowering cherry	*Prunus serrulata*	1	1	-	**2**
Callery pear	*Pyrus calleryana*	3	-	4	**7**
Coast live oak	*Quercus agrifolia*	-	-	1	**1**
Red oak	*Quercus rubra*	-	2	1	**3**
California pepper	*Schinus molle*	-	-	1	**1**
Total		**21**	**22**	**20**	**63**

The most common species assessed was Raywood ash (8 trees, 13% of the population). The ashes varied from fair (4 trees) to poor (4 trees) condition with no trees in good condition. They were young (6” trunk diameter) to semi-mature (11” trunk diameter) with an average trunk diameter of 9”. Five of the Raywood ashes were street trees (Photo 1), and three were growing in the parking lot.

Seven callery pears were included in the assessment (11% of the population). The pears were in good (4 trees) or poor (3 trees) condition with no trees in fair condition. They ranged in development from young (6” trunk diameter) to semi-mature (13” trunk diameter) with an average trunk diameter of 8”. The pears in the courtyard area were lining a walkway, growing in small cutouts in the concrete (Photo 2).

Seven olives were included in the assessment (11% of the population). The olives were in fair (5 trees) to poor (2 trees) condition with no trees in good condition. The olives were mostly multi-stemmed below 54”. A declining olive (#47) was a central landscape piece near the entrance of the property (Photo 3).

Six London planes were included in the assessment (10% of the population). The London planes were in good condition (5 trees) with one tree in poor condition and none in fair condition. The planes were young with trunk diameters of 6 or 7” except for #26 which was 13” in diameter. Four of the small, healthy London planes (#15-18) were growing in small islands in the parking lot.

Five maytens were growing on the upper level of the tiered courtyard (8% of population). The maytens were in fair (3 trees) to poor (2 trees) condition with no trees in good condition. They were relatively young with trunk diameters ranging between 6 and 9”.

Five crape myrtles were growing in the courtyard (8% of population). Four crape myrtles were in good condition, and one was in poor condition. The crape myrtles were relatively young with trunk diameters ranging between 6 and 8" in diameter.

The remaining 14 species were represented by three trees or fewer. Of these trees, the most notable were:

- Coast live oak #25 was in good condition and had a 17" trunk diameter (Photo 4). This is the only native tree included in the assessment.
- California pepper #5 was the largest (20" trunk diameter) street tree and was in good condition (Photo 5).
- Red oaks #46, 50 and 51 were attractive trees planted too close to the main building (Photo 6).
- Monterey pines #1-3 were growing at the edge of the parking lot and had poor form and structure (Photo 7). The top of all three trees had been removed.
- Aleppo pines #28 and 55 were the largest trees assessed with trunk diameters of 30 and 32" respectively.

The Marin County Tree Preservation Ordinance, Municipal Code Chapter 22.27 defines trunk diameters and species that are considered *Protected* and *Heritage* on private property. All street trees are owned by the County. Coast live oak #25 is *Protected*, and trees #5-12 are street trees. These nine trees cannot be removed without a permit. Tree protection status is identified in the ***Tree Assessment Forms*** (see attachments).

Photo 1 – Raywood ashes #6 and 7 were street trees growing near N. San Pedro Road.

Photo 2 – Callery pears #30 and 41 were good young trees in small cut outs in the concrete of the courtyard.

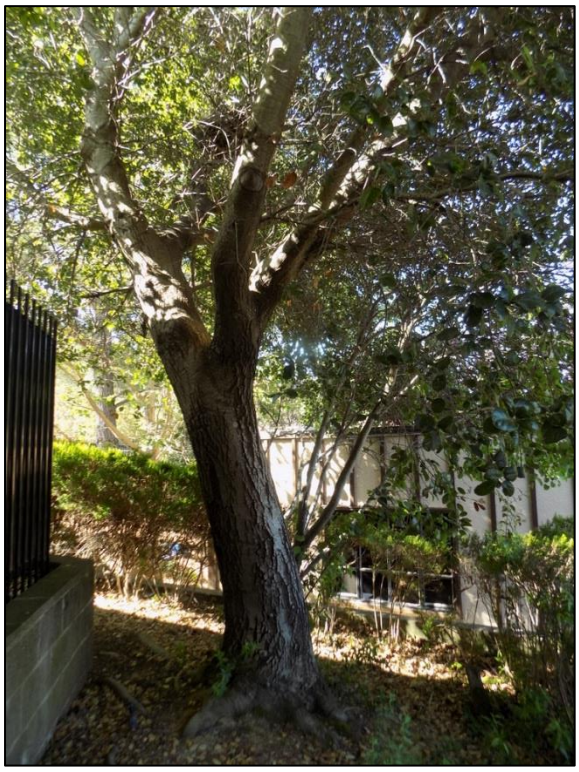



Photo 3 (upper left) – Olive #47 was in poor condition and in a focal point of the landscape, adjacent to the main entrance.
Photo 4 (upper right) – Coast live oak #25 was in good condition and was the only native tree included in the assessment.

Photo 5 (lower left) – California pepper #5 was the largest and healthiest street tree growing along N. San Pedro Road.
Photo 6 (lower right) – Red oaks #51, 50 and 46 (left to right) were growing close to the building and had lush, attractive crowns.

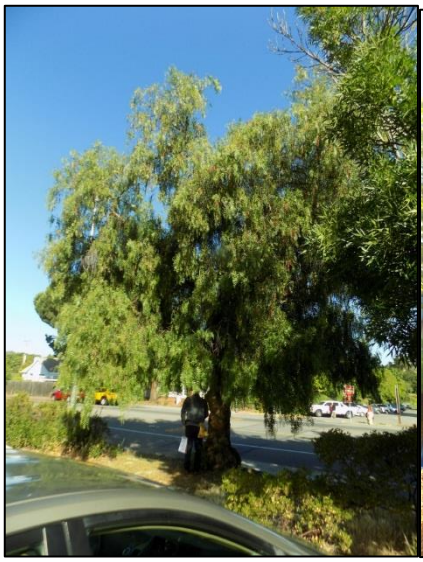



Photo 7 – Monterey pines #1-3 had lost their tops and were in poor condition.

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees. For example, Callery pear #53 was mostly dead and should be removed regardless of construction impact.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. For example, Monterey pines #1-3 had lost their top which increases the likelihood of future failures.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. For instance, coast live oaks are more tolerant of root pruning than Monterey pine.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Species invasiveness**
  Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database http://www.cal-ipc.org/plants/inventory/ lists species identified as being invasive. The part of Marin County is part of the Central West Floristic Province. California pepper, purpleleaf plum and olive are listed as limited invasiveness, and myoporum is listed as moderate invasiveness.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see ***Tree Assessment*** in Exhibits, and Table 2). We consider trees with high suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Table 2. Tree suitability for preservation
170 N. San Pedro Road, Marin County, CA

High	These are trees with good health and structural stability that have the potential for longevity at the site. Thirteen (13) trees had high suitability for preservation.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the "high" category. Seventeen (17) trees had moderate suitability for preservation.
Low	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Thirty-three (33) trees had low suitability for preservation.

Evaluation of Impacts and Recommendations

The *Tree Assessment* was the reference point for tree health, condition, and suitability for preservation. I used the *Civil Site Schematic Improvements* plan created by kpff dated May 10, 2018 to estimate impacts to trees. The plan includes a main project area which will be totally demolished as well as several water lines traversing the parking lot and an area of demolition for temporary access. Surveyed trunk locations were overlaid with development plans.

The disposition of each tree is shown in Table 3. Based on my evaluation of the plans:

- Fifty-two (52) trees will be removed (one Protected and eight street trees)
- Eleven (11) trees will be preserved (none protected)

The tree impacts can be divided into three areas. The project area will be totally demolished, the parking lot will have pipelines intersecting it and the street trees along N. San Pedro Road will be demolished for temporary access and to connect pipelines.

The project area covers the bulk of the site. Thirty-nine (39) trees will be removed during the demolition of the site. Five trees (#51 and 60-63) are outside of the project area but have crown extending into the project area. I expect these trees to be impacted (root and crown pruning) however, impacts will likely be within the tolerance of the tree.

The parking lot will have pipelines installed between areas where trees are planted. These pipelines should not impact the trees in the parking lot. There are five trees (#1-4 and 19) that are in poor condition, and I recommend that they are removed and replaced. Impacts to trees being preserved can be minimized by following the **Tree Preservation Guidelines** (below).

The area with street trees along N. San Pedro Road will have several pipelines connecting to existing infrastructure near street trees. A note on the plan states “Assume demolition, temporary improvements, and reconstruction of this area for temporary construction access.” I do not know the extents of impacts in this area, I assume that all trees in this area will be removed. Some require removal from pipeline connections and some are in poor condition as well.

Table 3. Tree disposition
170 N. San Pedro Road, Marin County, CA

Tag #	Species	Protected	Disposition	Comment
1	Monterey pine	No	Remove	Poor condition
2	Monterey pine	No	Remove	Poor condition
3	Monterey pine	No	Remove	Poor condition
4	Plum	No	Remove	Poor condition
5	California pepper	Street tree	Remove	5 feet from 6" SS
6	Raywood ash	Street tree	Remove	5 feet from 1.5" water supply
7	Raywood ash	Street tree	Remove	4 feet from 3" water supply
8	Carob	Street tree	Remove	9 feet from 3" water supply
9	Carob	Street tree	Remove	16 feet from 8" fire water line
10	Raywood ash	Street tree	Remove	15 feet from 8" fire water line
11	Raywood ash	Street tree	Remove	Adjacent to 8" fire water line
12	Raywood ash	Street tree	Remove	15 feet from 8" fire water line
13	Raywood ash	No	Preserve	5 feet from 3" water line
14	Raywood ash	No	Preserve	17 feet from 3" water line
15	London plane	No	Preserve	15 feet from 8" fire water line
16	London plane	No	Preserve	20 feet from sanitary sewer line
17	London plane	No	Preserve	20 feet from sanitary sewer line
18	London plane	No	Preserve	20 feet from sanitary sewer line
19	Raywood ash	No	Remove	Poor condition
20	Mayten	No	Remove	Within project area
21	Mayten	No	Remove	Within project area
22	Mayten	No	Remove	Within project area
23	Mayten	No	Remove	Within project area
24	Mayten	No	Remove	Within project area

Tag #	Species	Protected	Disposition	Comment
25	Coast live oak	Protected	Remove	Within project area
26	London plane	No	Remove	Within project area
27	London plane	No	Remove	Within project area
28	Aleppo pine	No	Remove	Within project area
29	Almond	No	Remove	Within project area
30	Cajeput	No	Remove	Within project area
31	Olive	No	Remove	Within project area
32	Olive	No	Remove	Within project area
33	Olive	No	Remove	Within project area
34	Olive	No	Remove	Within project area
35	Crape myrtle	No	Remove	Within project area
36	Olive	No	Remove	Within project area
37	Olive	No	Remove	Within project area
38	Crape myrtle	No	Remove	Within project area
39	Crape myrtle	No	Remove	Within project area
40	Callery pear	No	Remove	Within project area
41	Callery pear	No	Remove	Within project area
42	Callery pear	No	Remove	Within project area
43	Callery pear	No	Remove	Within project area
44	Crape myrtle	No	Remove	Within project area
45	Crape myrtle	No	Remove	Within project area
46	Red oak	No	Remove	Within project area
47	Olive	No	Remove	Within project area
48	Japanese flowering cherry	No	Remove	Within project area
49	Japanese flowering cherry	No	Remove	Within project area
50	Red oak	No	Remove	Within project area
51	Red oak	No	Preserve	5-10 feet from project area
52	Callery pear	No	Remove	Within project area
53	Callery pear	No	Remove	Within project area
54	Callery pear	No	Remove	Within project area
55	Aleppo pine	No	Remove	Within project area
56	Purpleleaf plum	No	Remove	Within project area
57	Purpleleaf plum	No	Remove	Within project area
58	Myoporum	No	Remove	Within project area
59	Myoporum	No	Remove	Within project area
60	Chitalpa	No	Preserve	6 feet from project area
61	Cherry	No	Preserve	3 feet from project area
62	Cherry	No	Preserve	3 feet from project area
63	Cherry	No	Preserve	3 feet from project area

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken, and the construction methods. Coordinating any construction activity inside the **TREE PROTECTION ZONE** can minimize these impacts.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Tree Protection Zone

1. **A TREE PROTECTION ZONE** shall be identified for each tree to be preserved. Table 4 are recommended Tree Protection Zones listed in feet radius.

Table 4. Tree Protection Zones
170 N. San Pedro Road, Marin County, CA

Tag #	Species	Tree Protection Zone (radius)
13	Raywood ash	5 feet
14	Raywood ash	10 feet
15	London plane	10 feet
16	London plane	10 feet
17	London plane	10 feet
18	London plane	10 feet
51	Red oak	10 feet
60	Chitalpa	5 feet
61	Cherry	5 feet
62	Cherry	5 feet
63	Cherry	5 feet

2. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link with posts sunk into the ground or equivalent as approved by the City.
3. Fences must be installed prior to beginning demolition and must remain until construction is complete.
4. No grading, excavation, construction or storage or dumping of materials shall occur within the **TREE PROTECTION ZONE**.
5. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.

Design recommendations

1. Any changes to the plans affecting the trees should be reviewed by the consulting arborist with regard to tree impacts. These include, but are not limited to, site plans, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans, and demolition plans.

2. Plan for tree preservation by designing adequate space around trees to be preserved. This is the **TREE PROTECTION ZONE:** No grading, excavation, construction or storage of materials should occur within that zone. Route underground services including utilities, sub-drains, water or sewer around the **TREE PROTECTION ZONE**.
3. Consider the vertical clearance requirements near trees during design. Avoid designs that would require pruning more than 20% of a tree's canopy.
4. All plans affecting trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, demolition plans, grading plans, drainage plans, utility plans, and landscape and irrigation plans.
5. **TREE PROTECTION ZONE** shall be the sizes listed in Table 4. No grading, excavation, construction or storage of materials shall occur within that zone. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.
6. Irrigation systems must be designed so that no trenching severs roots larger than 1" in diameter will occur within the **TREE PROTECTION ZONE**.
7. **Tree Preservation Guidelines** prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
8. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
9. Do not lime the subsoil within 50' of any tree. Lime is toxic to tree roots.
10. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.
11. Ensure adequate but not excessive water is supplied to trees; in most cases occasional irrigation will be required. Avoid directing runoff toward trees.

Pre-demolition and pre-construction treatments and recommendations

1. The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas, and tree protection measures.
2. Fence all trees to be retained to completely enclose the Tree Protection Zone prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link. Fences are to remain until all grading and construction is completed. The Tree Protection Zones radii are listed in Table 4.
3. Apply and maintain 4-6" wood chip mulch within the **TREE PROTECTION ZONE**. Keep the mulch 2' from the base of tree trunks.
4. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
5. Fences are to remain until all grading and construction is completed. Where demolition must occur close to trees, such as removing curb and pavement, install trunk protection devices such as winding silt sock wattling around trunks or stacking hay bales around tree trunks.
6. Prune trees to be preserved to clean the crown of dead branches 1" and larger in diameter, raise canopies as needed for construction activities.
    a. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of

Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).

b. The Consulting Arborist will provide pruning specifications prior to site demolition.

c. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.

d. While in the tree the arborist shall perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.

7. Tree(s) to be removed that have branches extending into the canopy of tree(s) or located within the **TREE PROTECTION ZONE** of tree(s) to remain shall be removed by a Certified Arborist or Certified Tree Worker and not by the demolition contractor. The Certified Arborist or Certified Tree Worker shall remove the trees in a manner that causes no damage to the tree(s) and understory to remain. Stumps shall be ground below grade.

8. Trees to be removed shall be felled so as to fall away from **TREE PROTECTION ZONE** and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the trees, or grinding the stump below ground.

9. All down brush and trees shall be removed from the **TREE PROTECTION ZONE** either by hand, or with equipment sitting outside the **TREE PROTECTION ZONE**. Extraction shall occur by lifting the material out, not by skidding across the ground. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE**

10. Structures and underground features to be removed within the **TREE PROTECTION ZONE** shall use equipment that will minimize damage to trees above and below ground, and operate from outside the **TREE PROTECTION ZONE**. Tie back branches and wrap trunks with protective materials to protect from injury as directed by the Project arborist. The Project arborist shall be on-site during all operations within the **TREE PROTECTION ZONE** to monitor demolition activity.

11. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Recommendations for tree protection during construction

1. Any approved grading, construction, demolition or other work within the **TREE PROTECTION ZONE** should be monitored by the Consulting Arborist.

2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.

3. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.

4. Construction trailers, traffic and storage areas must remain outside **TREE PROTECTION ZONE** at all times.

5. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Project Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots larger than 2” in diameter should be avoided.

6. If roots 2" and greater in diameter are encountered during site work and must be cut to complete the construction, the Project Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
7. Any brush clearing required within the **TREE PROTECTION ZONE** shall be accomplished with hand-operated equipment.
8. All down brush and trees shall be removed from the **TREE PROTECTION ZONE** either by hand, or with equipment sitting outside the **TREE PROTECTION ZONE**. Extraction shall occur by lifting the material out, not by skidding across the ground.
9. Prior to grading or trenching, trees may require root pruning outside the **TREE PROTECTION ZONE.** Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Project Arborist.
10. Spoil from trench, footing, utility or other excavation shall not be placed within the **TREE PROTECTION ZONE**, neither temporarily nor permanently.
11. All grading within the dripline of trees shall be done using the smallest equipment possible. The equipment shall operate perpendicular to the tree and operate from outside the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.
12. All trees shall be irrigated on a schedule to be determined by the Consulting Arborist (every 3 to 6 weeks is typical). Each irrigation shall wet the soil within the **TREE PROTECTION ZONE** to a depth of 30".
13. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
14. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
15. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.
16. Trees that accumulate a sufficient quantity of dust on their leaves, limbs and trunk as judged by the Consulting Arborist shall be spray-washed at the direction of the Project Arborist.

Maintenance of impacted trees

Our procedures included assessing trees for observable defects in structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

Preserved trees will experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority.

If you have any questions about my observations or recommendations, please contact me.

HortScience | Bartlett Consulting

Ryan Gilpin, M.S.
Certified Arborist #WE-10268A

Exhibits

Tree Assessment Map

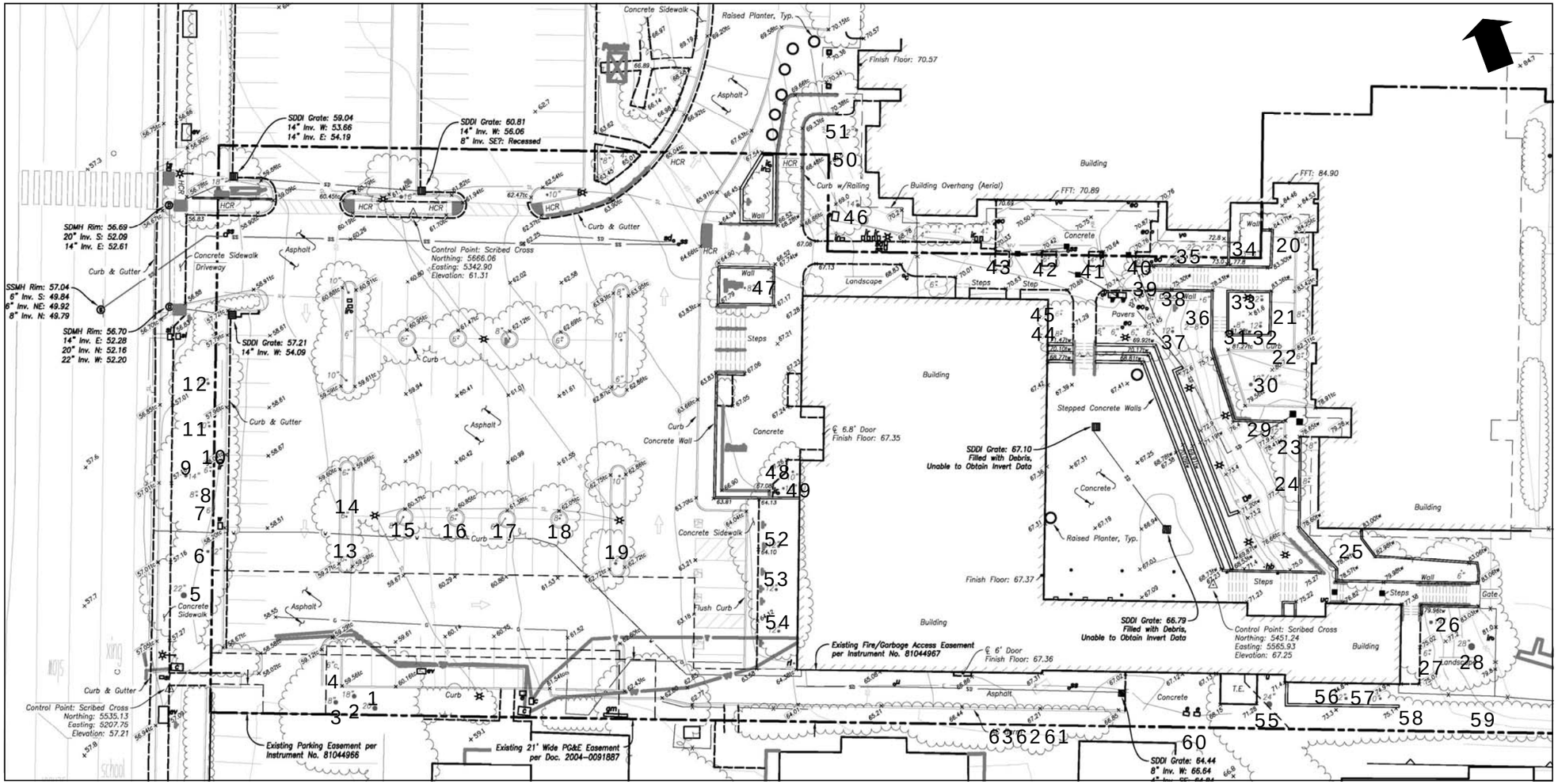
Tree Assessment

Tree Assessment Plan

170 N. San Pedro Road
San Rafael, CA

Prepared for:
Congregation Rodef Sholom
San Rafael, CA

June 2018



No Scale

Notes:

- Base map provided by: Mountain Pacific Surveys Fairfield, CA
- Numbered tree locations are approximate.

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Tree Assessment

170 N. San Pedro Road
Marin County
June 5, 2018

HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Crown Radius (in feet)			
							North	East	South	West
1	Monterey pine	24	No	2	Low	Multiple trunks arise from 20 feet; lost top; leaning south; dense chaotic crown.	15	15	25	25
2	Monterey pine	19	No	2	Low	Multiple trunks arise from 20 feet; lost top; leaning north; dense chaotic crown.	30	15	10	25
3	Monterey pine	22	No	2	Low	Multiple trunks arise from 20 feet; lost top; leaning south; dense chaotic crown; girdling root.	20	30	30	10
4	Plum	5,5,4,4,4	No	2	Low	Multiple trunks arise from base; decay at base; scale; black sooty mold.	15	10	5	10
5	California pepper	20	Street tree	4	High	Street tree; broken branch on street side; codominant trunks arise from 10 feet; swollen base; minor circling roots.	15	15	15	15
6	Raywood ash	11	Street tree	3	Low	Street tree; heavy lean to north; sunsclad buried root collar; multiple attachments at 5 ft; significant deadwood.	10	20	5	15
7	Raywood ash	7	Street tree	3	Low	Street tree; buried root collar; multiple attachments at 6 ft; significant deadwood; crown one sided south suppressed by #8.	10	15	10	5
8	Carob	10	Street tree	3	Moderate	Street tree; large buttress development; unbalanced crown to south.	15	15	15	15
9	Carob	13	Street tree	4	Moderate	Street tree; multiple trunks arise from 6 feet.	5	10	5	0
10	Raywood ash	6	Street tree	2	Low	Street tree; buried root crown; fully included sunsclad.	20	15	15	20
11	Raywood ash	11	Street tree	1	Low	Street tree; significant major deadwood; multiple trunks arise from 6 feet.	10	15	15	15
12	Raywood ash	11	Street tree	2	Low	Street tree; significant major deadwood; multiple trunks arise from 6 feet.	15	15	10	15
13	Raywood ash	6	No	3	Low	Parking lot island; small crown; codominant trunks arise from 6 feet.	5	8	5	5
14	Raywood ash	8	No	3	Moderate	Parking lot island; small crown; multiple trunks arise from 6 feet; minor dieback.	10	10	10	10
15	London plane	7	No	4	Moderate	Parking lot island; slightly thin crown; low vigor; powdery mildew.	15	15	15	15
16	London plane	6	No	4	Moderate	Parking lot island; slightly thin crown; low vigor; powdery mildew.	15	15	15	15
17	London plane	7	No	4	Moderate	Parking lot island; slightly thin crown; low vigor; powdery mildew.	15	15	15	15
18	London plane	7	No	4	Moderate	Parking lot island; slightly thin crown; low vigor; powdery mildew.	15	15	15	15
19	Raywood ash	11	No	1	Low	Parking lot island; leaning west; half of crown dead; severe sunscald.	10	10	15	15
20	Mayten	9	No	3	Low	Narrow crown against building; 2 foot seam at lower trunk; lion tailed.	25	5	15	10
21	Mayten	9	No	2	Low	Narrow crown against building; 4 foot seam at lower trunk with decay; lion tailed; dead top.	10	0	10	5
22	Mayten	6	No	3	Low	Codominant trunks arise from 6 feet; roots growing over root barrier; small; dense crown.	5	5	10	5

Tree Assessment

170 N. San Pedro Road
Marin County
June 5, 2018

HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Crown Radius (in feet)			
							North	East	South	West
23	Mayten	7	No	2	Low	Multiple trunks arise from 8 feet; lower trunk in shrubs; seam with decay along lower trunk; small crown; dieback.	15	5	15	5
24	Mayten	8	No	3	Moderate	Codominant trunks arise from 7 feet; lower trunk in shrubs; small dense crown.	10	5	10	10
25	Coast live oak	17	Yes	4	High	Codominant trunks arise from 7 feet; growing on slope; dense crown.	10	25	25	25
26	London plane	13	No	4	High	Good form and structure; slightly thin crown.	35	20	15	30
27	London plane	6	No	1	Low	Tall narrow dying tree.	5	10	5	10
28	Aleppo pine	30	No	5	Moderate	Good form and structure; good vigor;.	40	40	40	40
29	Almond	7,5,5,4,3,3	No	3	Low	Multiple trunks arise from base; pruned hashly; epicormic growth; crown one sided south.	5	5	20	20
30	Cajeput	13,11	No	2	Low	Codominant trunks arise from base; 6 inch girdling root with bleeding wound; minor dieback; sapsucker wells.	20	25	15	20
31	Olive	7	No	2	Low	Poor form and structure; narrow upright form; crook in trunk at 4 feet.	15	10	10	0
32	Olive	8,6	No	3	Low	Codominant trunks arise from 3 feet with included bark; narrow upright sinuous form.	0	10	20	15
33	Olive	11	No	3	Moderate	Multiple trunks arise from 6 feet; upright narrow form; lion tailed.	0	10	20	15
34	Olive	9,9,8	No	3	Moderate	Multiple trunks arise from base; growing on slope; narrow upright form; lion tailed.	20	10	20	20
35	Crape myrtle	8	No	5	High	Multiple trunks arise from 10 feet; base shaped crown; nice tree.	20	20	20	20
36	Olive	8,7	No	3	Low	Codominant trunks arise from base; narrow upright form; lion tailed.	5	5	15	10
37	Olive	10	No	3	Low	Codominant trunks arise from 8 feet; bowed south; narrow form.	5	5	20	10
38	Crape myrtle	6	No	2	Low	Multiple trunks arise from 8 feet; half of crown dead; trunk wounds.	5	5	5	10
39	Crape myrtle	7	No	4	Moderate	Multiple trunks arise from 8 feet; vase shaped crown; trunk wounds.	15	15	5	15
40	Callery pear	6	No	4	High	Good young tree; in 3x3 cut out.	5	5	5	5
41	Callery pear	6	No	4	High	Good young tree; in 3x3 cut out.	5	5	5	5
42	Callery pear	6	No	4	High	Good young tree; in 3x3 cut out.	5	5	5	5
43	Callery pear	6	No	4	High	Good young tree; in 3x3 cut out.	5	5	5	5
44	Crape myrtle	7	No	4	High	Multiple trunks arise from 8 feet; vase shaped crown.	10	15	15	15
45	Crape myrtle	7	No	4	High	Multiple trunks arise from 8 feet; vase shaped crown.	15	15	10	15
46	Red oak	14	No	5	High	Nice tree; base 10 feet from building.	25	25	25	25
47	Olive	8,8,7,6,6,5,4	No	2	Low	Multiple trunks arise from base; much of all stems dead.	10	10	10	10
48	Japanese flowering cherry	9	No	1	Low	Mostly dead.	10	0	5	5

Tree Assessment

170 N. San Pedro Road
Marin County
June 5, 2018

HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Crown Radius (in feet)			
							North	East	South	West
49	Japanese flowering cherry	9	No	3	Low	Small crown; significant dieback; low vigor.	5	5	5	10
50	Red oak	11	No	3	Low	Strong central leader; crooked top because planted under eve of building.	15	15	15	30
51	Red oak	11	No	3	Low	Strong central leader; bowed top because planted under eve of building.	15	15	15	30
52	Callery pear	12	No	2	Low	Multiple trunks arise from 8 feet with tear out wound with decay; thin upper crown; declining.	15	15	15	15
53	Callery pear	10	No	1	Low	All but dead.	15	15	15	15
54	Callery pear	13	No	2	Low	Multiple trunks arise from 8 feet with tear out wound with decay; healthy crpwn; fire blight.	15	15	15	15
55	Aleppo pine	32	No	4	High	Strong central leader; sinuous upper trunk; dense crown; 12 inch root cut.	30	30	30	30
56	Purpleleaf plum	7,6,5,4,3	No	3	Moderate	Codominant trunks arise from 1 foot; vase shaped crown; dieback.	5	10	10	10
57	Purpleleaf plum	6,5,4,4	No	3	Moderate	Codominant trunks arise from 1 foot; vase shaped crown; dieback.	5	5	10	5
58	Myoporum	6,4,4	No	1	Low	Dying.	5	5	5	5
59	Myoporum	8,7,4	No	1	Low	Dying.	5	5	5	5
60	Chitalpa	10	No	4	High	Off-site; base 6 feet from curb; crown overhangs curb by 8 feet.	8	-	-	-
61	Cherry	10	No	3	Moderate	Off-site; base 3 feet from fence, crown overhangs fence by 2 feet.	2	-	-	-
62	Cherry	10	No	3	Moderate	Off-site; base 3 feet from fence, crown overhangs fence by 2 feet.	2	-	-	-
63	Cherry	10	No	3	Moderate	Off-site; base 3 feet from fence, crown overhangs fence by 2 feet.	2	-	-	-

EXHIBIT C

BIOLOGICAL RESOURCES ANALYSIS
MARIN JEWISH COMMUNITY CENTER PROJECT
COUNTY OF MARIN, CALIFORNIA

Prepared for

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1. INTRODUCTION

Monk & Associates, Inc. (M&A) has prepared this Biological Resources Analysis for the Marin Jewish Community Center Project site (hereafter, the project site) located in the County of Marin, California (Figures 1 and 2). The purpose of our analysis is to provide a description of existing biological resources on the project site and to identify potentially significant impacts that could occur to sensitive biological resources from re-development of the pool facility on this property, as illustrated in Attachment A.

Biological resources include common plant and animal species, and special-status plants and animals as designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), and other resource organizations including the California Native Plant Society (CNPS). Biological resources also include waters of the United States and State, as regulated by the U.S. Army Corps of Engineers (Corps), California Regional Water Quality Control Board (RWQCB), and CDFW. It is important to note that our analysis includes an assessment of regulated waters but does not provide the level of detail required for a formal delineation of "waters of the U.S." suitable for submittal to the Corps, the regulatory agency that defines waters of the U.S.

This report is in response to items requested from the County of Marin Planning Division in a letter dated March 27, 2019 (Project ID No. P2365), specifically the items listed below:

- In conformance with submittal checklist item 1G, all-natural features, such as rock outcrops, ridgelines, wetlands, creeks (flow line and top of bank), ponds, water bodies, and all existing significant vegetation, including significant vegetation to be removed as part of the project, must be shown.

- In conformance with submittal checklist item 33, please prepare and submit a biological site assessment, prepared by a qualified biologist, which provides evidence regarding the presence of sensitive biological resources, determine the property's habitat value relative to any special status species, and provide conclusions regarding how the project may affect those resources. Stream channels, tops of banks, and edges of riparian vegetation and any Stream Conservation Areas or stream buffer areas must be clearly mapped.

- In conformance with submittal checklist item 1H, the plans must show the creek bank contours (intermittent and ephemeral mapped for this site), approximate centerline of the creek, the low flow channel, and top and toe of both banks of the creek. Indicate and dimension the drainage setback line. Refer to Marin County Code § 24.04.560.

- In addition, review of the County's geographical information system indicates that the subject property is traversed by an intermittent stream (identified as Armory Creek, affecting APNs 180- 281-20 and -34) and may also support ephemeral streams (affecting APNs 180-281-34, -21, and -25). Within the City-

Centered Corridor, Marin Countywide Plan policies call for a either a 20-foot or 50-foot wide Stream Conservation Area buffer zone, depending on the stream type, to be established between the top of stream banks and proposed development. An ephemeral stream is subject to Stream Conservation Area policies if it supports over 100 feet of riparian vegetation and/or supports special-status species and/or a sensitive natural community (a minimum 20-foot setback is required for ephemeral streams that do not meet these criteria).

2. PROPERTY LOCATION AND SETTING

The project site is located at 170, 180, 200, and 210 North San Pedro Road in San Rafael, California (Figures 1 and 2). The project site is bordered to the southwest by a 72-unit apartment complex, to west and northwest by North San Pedro Road, the Venetia Valley School, and surrounding single-family residences, to the northeast by a church and associated parking lots and, to the east and southeast by undeveloped oak woodland. The overall parcel is approximately 12.86 acres and currently supports the Osher Marin Jewish Community Center. Figures 2 and 3 provide aerial photographs of the project site and illustrate the land use surrounding the project site.

3. ASSESSOR'S PARCEL NUMBER (APN)

APNs: 180-281-12, 20, 21, 25, 34, and 35

4. PROJECT DESCRIPTION

The proposed project is a re-development project and involves renovation of the community center's existing pools located in the northeast corner of the property (see Figure 3 and Attachment A). All currently existing undeveloped areas in the east-southeastern portion of the project site will remain and will not be affected by this re-development proposal.

5. ANALYSIS METHODS

Prior to preparing this Biological Resources Analysis, M&A researched the most recent version of the CDFW's Natural Diversity Database (CNDDB) (RareFind 5 application). The application (CNDDB 2019) for historic and recent records of special-status plant and animal species (that is, threatened, endangered, rare) known to occur in the region of the project site. All special-status species records were compiled in tables. M&A examined all known record locations for special-status species to determine if special-status species could occur on the project site or within an area of affect.

M&A biologists, Ms. Hope Kingma and Mr. Jesse Reebs, conducted a general survey of the project site on August 1, 2019 to record biological resources and to assess the likelihood of resource agency regulated areas on the project site. The survey involved searching all habitats on the site and recording all plant and wildlife species observed. M&A cross-referenced the habitats found on the project site against the habitat requirements of local or regionally known special-status species to determine if the proposed project could directly or indirectly impact such species.

M&A's site evaluation included a cursory examination of the site to determine if there could be potential areas within the project site that would be regulated as waters of the United States and/or State; however, the level of analysis was not sufficient for a preliminary wetlands investigation report suitable for submittal to the Corps. In addition, as requested by the County of Marin, stream channels, tops of banks, and edges of riparian vegetation and Stream Conservation Areas or stream buffer areas were mapped in the field using a GPS, as illustrated on Exhibits A-1 and A-2. The results of our literature research and field reconnaissance are provided in the sections below.

6. RESULTS OF RESEARCH AND PROJECT SITE ANALYSES

6.1 Topography and Hydrology

The project site is relatively flat, sloping gently east to west. An intermittent creek, identified as Armory Creek by the County of Marin's Planning Division, runs through the northern portion of the project site. Within the project site, Armory Creek is confined to a narrow, steep-banked channel with an average width of three feet and an average depth of four feet below top-of-bank. This drainage feature runs underground in three locations via 24-inch reinforced concrete pipes (RCP) and is bordered by asphalt roadways and parking lots (Exhibits A-1 and A-2).

6.2 Plant Communities and Associated Wildlife Habitats

A complete list of plant species observed on the project site is presented in Table 1. Nomenclature used for plant names follows *The Jepson Manual* Second Edition (Baldwin 2012) and changes made to this manual as published on the Jepson Interchange Project website (http://ucjeps.berkeley.edu/interchange/index.html). Table 2 is a list of wildlife species observed on the project site. Nomenclature for wildlife follows the CDFW's *Complete list of amphibian, reptile, bird, and mammal species in California* (2016) and any changes made to species nomenclature as published in scientific journals since the publication of the CDFW's list.

6.2.1 ANTHROPOGENIC COMMUNITY: LANDSCAPED

The project site consists of the Osher Marin Jewish Community Center, a complex of buildings with associated asphalt parking lots and landscaping trees and shrubs (Figure 3). The borders of the parking lots and buildings support numerous non-native trees, as well as several native landscaping tree and shrub species. Non-native species include Deodar cedar (*Cedrus deodara*), liquidambar (*Liquidambar styraciflua*), acacia (*Acacia* sp.), cotoneaster (*Cotoneaster* sp.), and English ivy (*Hedera helix*). Native species include coast live oak (*Quercus agrifolia* var. *agrifolia*), valley oak (*Quercus lobata*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), and toyon (*Heteromeles arbutifolia*).

The project site's landscaping trees provide perching and nesting habitat for urban-adapted passerine birds (perching birds) such as the Anna's hummingbird (*Calypte anna*), oak titmouse (*Baeolophus inornatus*), and chestnut-backed chickadee (*Poecile rufescens*). Similarly, the buildings provide nesting ledges for mourning dove (*Zenaida macroura*) and black phoebe (*Sayornis nigricans*). While there is little opportunity for terrestrial mammals to reside onsite, it can be expected that urban-adapted wildlife species such as raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*) would forage on the

project site, specifically on the eastern boundary where the property abuts undeveloped oak woodland habitat.

6.2.2 RUDERAL HERBACEOUS

The project site has a limited amount of ruderal herbaceous habitat along the northern project boundary. Ruderal (weedy) communities are assemblages of plants that thrive in waste areas, roadsides, and other sites that have been disturbed by human activity. Typically, hardpacked soils of roadsides, parking lots, industrial areas, and construction sites support communities of ruderal species. Ruderal vegetation is adapted to high levels of disturbance and persists almost indefinitely in areas with continuous disturbance.

The ruderal habitat on the northern portion of the project site occurs on the perimeter of the parking lot behind 210 North San Pedro Road. Vegetation within the ruderal habitat is dominated by non-native grasses and forbs such as ripgut grass (*Bromus diandrus*), stinkwort (*Dittrichia graveolens),* Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), rough cat's-ear (*Hypochaeris radicata*), and French broom (*Genista monspessulana*).

Ruderal habitats typically provide suitable environments for common animals that are adapted to living in association with humans. Common wildlife species associated with ruderal communities include raccoon, Botta's pocket gopher (*Thomomys bottae*), western fence lizard (*Sceloporus occidentalis*), American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), and house finch (*Haemorhous mexicanus*).

6.2.3 RIPARIAN WOODLAND

A narrow band of riparian woodland grows along the intermittent creek, Armory Creek, on the project site. Some of these trees are naturally occurring and some were planted for landscaping. Trees that comprise this community onsite consist of native valley oak, California bay, and coast live oak, and non-native Deodar cedar and liquidambar. The shrub stratum along the creek is dominated by the native shrubs toyon and poison-oak (*Toxicodendron diversilobum*), and the herbaceous stratum is comprised of non-native grasses and forbs similar to the adjacent ruderal herbaceous area described above. The creek channel supports wetland herbaceous species such as rabbit's foot grass (*Polypogon monspeliensis*), tall flatsedge (*Cyperus eragrostis*), hairy willow-herb (*Epilobium ciliatum*), and rush (*Juncus* sp.).

Riparian trees provide nesting opportunities for resident birds and resting/stopover opportunities for migratory bird species. Birds expected or observed in the riparian corridor onsite include northern flicker (*Colaptes aura*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), California scrub jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), yellow-rumped warbler (*Setophaga coronata*), dark-eyed junco (*Junco hyemalis*), California towhee (*Pipilo crissalis*), and chestnut-backed chickadee. The common, western gray squirrel (*Sciurus griseus*) will frequent the oak trees in search of acorns and will make leaf nests in the trees' branches.

Since the riparian habitat onsite is limited to a narrow band of trees next to a routinely maintained community center (e.g., leaf blowing, pruning, and mulching occurs on a regular basis), there is

little ground-level cover or refugia for terrestrial amphibians that are typically found in riparian woodlands. Species diversity is limited in this urban setting. The drainage onsite is highly ephemeral, only flowing for short periods after larger storm events. When the drainage is flowing it provides a water source for common, urban-adapted wildlife such as the raccoon and Virginia opossum, and the occasional Sierran treefrog (*Pseudacris sierra*) which may move up or downstream during the winter months.

6.3 Wildlife Corridors

Wildlife corridors are linear and/or regional habitats that provide connectivity to other natural vegetation communities within a landscape fractured by urbanization and other development. Wildlife corridors have several functions: 1) they provide avenues along which wide-ranging animals can travel, migrate, and breed, allowing genetic interchange to occur; 2) populations can move in response to environmental changes and natural disasters; and 3) individuals can recolonize habitats from which populations have been locally extirpated (Beier and Loe 1992). All three of these functions can be met if both regional and local wildlife corridors are accessible to wildlife. Regional wildlife corridors provide foraging, breeding, and retreat areas for migrating, dispersing, immigrating, and emigrating wildlife populations. Local wildlife corridors also provide access routes to food, cover, and water resources within restricted habitats.

The project site is situated next to an extensive area of undeveloped lands immediately to the south (Figure 2). Re-development of the project site will not affect the movement of wildlife on these adjacent undeveloped lands or interfere with the movement of native wildlife on this already developed project site. The project site is already developed and confined to the west and northwest by North San Pedro Road, a busy thoroughfare that provides access to the surrounding residential and commercial areas, to the southwest by a large apartment complex, and to the northeast by a church. Thus, wildlife currently does not have a regional migratory corridor to or through this developed property.

As discussed above, a narrow band of riparian woodland occurs along Armory Creek through the northern portion of the project site and undeveloped oak woodland occurs due east. These habitats provide important avian habitat that is used seasonally by migrants and year-round by resident birds; these functions will remain unaffected by the re-development project. *The project as currently proposed would not adversely impact wildlife movement corridors.*

7. SPECIAL-STATUS SPECIES DEFINITION

7.1 Definitions

For purposes of this analysis, special-status species are plants and animals that are legally protected under the California and Federal Endangered Species Acts (CESA and FESA, respectively) or other regulations, and species that are considered rare by the scientific community (for example, the CNPS). Special-status species are defined as:

- plants and animals that are listed or proposed for listing as threatened or endangered under the CESA (Fish and Game Code §2050 *et seq.*; 14 CCR §670.1 *et seq.*) or the

FESA (50 CFR 17.12 for plants; 50 CFR 17.11 for animals; various notices in the Federal Register [FR] for proposed species);

- plants and animals that are candidates for possible future listing as threatened or endangered under the FESA (50 CFR 17; FR Vol. 64, No. 205, pages 57533-57547, October 25, 1999); and under the CESA (California Fish and Game Code §2068);

- plants and animals that meet the definition of endangered, rare, or threatened under the California Environmental Quality Act (CEQA) (14 CCR §15380) that may include species not found on either State or Federal Endangered Species lists;

- Plants occurring on Ranks 1A, 1B, 2A, 2B, 3, and 4 of CNPS' electronic *Inventory* (CNPS 2001). The CDFW recognizes that Ranks 1A, 1B, 2A and 2B of the CNPS inventory contain plants that, in the majority of cases, would qualify for state listing, and the CDFW requests their inclusion in EIRs. Plants occurring on CNPS Ranks 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information (more on CNPS Rank species below);

- migratory nongame birds of management concern listed by U.S. Fish and Wildlife Service (Migratory Nongame Birds of Management Concern in the United States: The list 1995; Office of Migratory Bird Management; Washington D.C.; Sept. 1995);

- animals that are designated as "species of special concern" by the CDFW (2019);

- Animal species that are "fully protected" in California (Fish and Game Codes 3511, 4700, 5050, and 5515).

- Bat Species that are designated on the Western Bat Working Group's (WBWG) Regional Bat Species Priority Matrix as: "RED OR HIGH." This priority is justified by the WBWG as follows: "Based on available information on distribution, status, ecology, and known threats, this designation should result in these bat species being considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment."

In the paragraphs below we provide further definitions of legal status as they pertain to the special-status species discussed in this report or in the attached tables.

Federal Endangered or Threatened Species. A species listed as Endangered or Threatened under the FESA is protected from unauthorized "take" (that is, harass, harm, pursue, hunt, shoot, trap) of that species. If it is necessary to take a federally-listed Endangered or Threatened species as

part of an otherwise lawful activity, it would be necessary to receive permission from the USFWS prior to initiating the take.

State Threatened Species. A species listed as Threatened under the CESA (§2050 of California Fish and Game Code) is protected from unauthorized "take" (that is, harass, pursue, hunt, shoot, trap) of that species. If it is necessary to "take" a state-listed Threatened species as part of an otherwise lawful activity, it would be necessary to receive permission from the CDFW prior to initiating the "take."

California Species of Special Concern. These are species in which their California breeding populations are seriously declining and extirpation from all or a portion of their range is possible. This designation affords no legally mandated protection; however, pursuant to the CEQA Guidelines (14 CCR §15380), some species of special concern could be considered "rare." Pursuant to its rarity status, any unmitigated impacts to rare species could be considered a "significant effect on the environment" (§15382). Thus, species of special concern must be considered in any project that will, or is currently, undergoing CEQA review, and/or that must obtain an environmental permit(s) from a public agency.

CNPS Rank Species. The CNPS maintains an "Inventory" of special status plant species. This inventory has four lists of plants with varying rarity. These lists are: Rank 1, Rank 2, Rank 3, and Rank 4. Although plants on these lists have no formal legal protection (unless they are also state or federal listed species), the CDFW requests the inclusion of Rank 1 species in environmental documents. In addition, other state and local agencies may request the inclusion of species on other lists as well. The Rank 1 and 2 species are defined below:

- Rank 1A: Presumed extinct in California;
- Rank 1B: Rare, threatened, or endangered in California and elsewhere;
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere;
- Rank 2B: Rare, threatened, or endangered in California, but more common elsewhere.

All of the plants constituting Rank 1B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the Fish and Game Code and are eligible for state listing (CNPS 2001). Rank 2 species are rare in California, but more common elsewhere. Ranks 3 and 4 contain species about which there is some concern and are reviewed by the CDFW and maintained on "watch lists."

Additionally, in 2006 CNPS updated their lists to include "threat code extensions" for each list. For example, Rank 1B species would now be categorized as Rank 1B.1, Rank 1B.2, or Rank 1B.3. These threat codes are defined as follows:

- .1 is considered "seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)";
- .2 is "fairly endangered in California (20-80% of occurrences threatened)";
- .3 is "not very endangered in California (less than 20% of occurrences threatened or no current threats known)."

Under the CEQA review process only CNPS Rank 1 and 2 species are considered since these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts to Rank 3 and 4 species are not regarded as significant pursuant to CEQA.

Fully Protected Birds. Fully protected birds, such as the white-tailed kite and golden eagle, are protected under California Fish and Game Code (§3511). Fully protected birds may not be "taken" or possessed (i.e., kept in captivity) at any time.

7.2 Potential Special-Status Plants on the Project Site

Figure 4 provides a graphical illustration of the known CNDDB records for special-status plant species within three miles of the project site and helps readers visually understand the number of sensitive species that occur in the vicinity. No special-status plants have been mapped on or adjacent the project site. However, according to the CDFW's CNDDB, a total of seven (7) special-status plant species are known to occur in the region of the project site (Table 3). These plants occur in specialized habitats such as coastal salt marsh and swamp, chaparral, coastal prairie, and valley and foothill grassland which are not present on the project site. The portion of the project site where re-development will occur is already developed with little native or naturalized habitat present. The plant communities that are present onsite within this existing developed footprint have been disturbed by current land uses and do not provide suitable habitat for special-status plant species. Thus, no impacts to special-status plants are expected from re-development of the project site.

7.3 Potential Special-Status Animals on the Project Site

Figure 4 provides a graphical illustration of the known CNDDB records for special-status wildlife species within three miles of the project site and helps readers visually understand the number of sensitive species that occur in the vicinity of the project site. No special-status animal records have ever been mapped on or adjacent to the project site. However, a total of 12 special-status animal species are known to occur in the region (Table 4). As this is a re-development project on a property already developed with a community center with pools and associated asphalt parking lots and landscaped areas, none of the special-status animals known from the region would be found on the project site. Thus, no impacts to special-status wildlife are expected from implementation of the current re-development proposal for the proposed project.

8. REGULATORY FRAMEWORK FOR NATIVE WILDLIFE, FISH, AND PLANTS

This section provides a discussion of those laws and regulations that are in place to protect native wildlife, fish, and plants. Under each law its relevance to the proposed project is discussed.

8.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) forms the basis for the federal protection of threatened or endangered plants, insects, fish and wildlife. FESA contains four main elements, they are as follows:

Section 4 (16 USCA §1533): Species listing, Critical Habitat Designation, and Recovery Planning: outlines the procedure for listing endangered plants and wildlife.

Section 7 (§1536): Federal Consultation Requirement: imposes limits on the actions of federal agencies that might impact listed species.

Section 9 (§1538): Prohibition on Take: prohibits the "taking" of a listed species by anyone, including private individuals, and State and local agencies.

Section 10: Exceptions to the Take Prohibition: non-federal agencies can obtain an incidental take permit through approval of a Habitat Conservation Plan.

In the case of salt water fish and other marine organisms, the requirements of FESA are enforced by the NMFS. The USFWS enforces all other cases. Below, Sections 9, 7, and 10 of FESA are discussed since they are the sections most relevant to the proposed project.

Section 9 of FESA as amended, prohibits the "take" of any fish or wildlife species listed under FESA as endangered. Under Federal regulation, "take" of fish or wildlife species listed as threatened is also prohibited unless otherwise specifically authorized by regulation. "Take," as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" includes not only the direct taking of a species itself, but the destruction or modification of the species' habitat resulting in the potential injury of the species. As such, "harm" is further defined to mean "an act which actually kills or injures wildlife; such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR 17.3). A December 2001 decision by the 9th Circuit Court of Appeals (Arizona Cattle Growers' Association, Jeff Menges, vs. the U.S. Fish and Wildlife Service and Bureau of Land Management, and the Southwest Center for Biological Diversity) ruled that the USFWS must show that a threatened or endangered species is present on a project site and that it would be taken by the project activities. According to this ruling, the USFWS can no longer require mitigation based on the probability that the species could use the site. Rather they must show that it is "reasonably certain to occur."

Section 9 applies to any person, corporation, federal agency, or any local or State agency. If "take" of a listed species (other than a plant species) is necessary to complete an otherwise lawful activity, this triggers the need to obtain an "incidental take permit" either through a Section 7 Consultation as discussed further below (for federal actions or private actions that are permitted or funded by a federal agency such as the Corps), or through Section 10 of FESA which requires preparation of a Habitat Conservation Plan (HCP) (for state and local agencies, or individuals, and projects without a federal "nexus"; for example, projects that do not need a Corps permit).

Section 7(a)(2) of the Act requires that each federal agency consult with the USFWS to ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat for listed species. Critical habitat designations mean: (1) specific areas within a geographic region currently occupied by a listed species, on which are found those physical or biological features that are essential to the conservation of a listed species and that may require special management considerations or protection; and (2) specific areas outside the

geographical area occupied by a listed species that are determined essential for the conservation of the species.

The Section 7 consultation process only applies to actions taken by federal agencies that are considering authorizing discretionary projects. Section 7 is by and between the NMFS and/or the USFWS and the federal agency contemplating a discretionary approval (that is, the federal "action agency," for example, the Corps or the Federal Highway Administration). Private parties, cities, counties, etc. (i.e., applicants) may participate in the Section 7 consultation *at the discretion of the federal agencies conducting the Section 7 consultation*. The Section 7 consultation process is triggered by a determination of the "action agency" – that is, the federal agency that is carrying out, funding, or approving a project – that the project "may affect" a listed species or critical habitat. If an action is likely to adversely affect a listed species or designated critical habitat, formal consultation between the nexus agency and the USFWS/NMFS is required. As part of the formal consultation, the USFWS/NMFS may resolve any issues informally with the nexus agency or may prepare a formal Biological Opinion assessing whether the proposed action would be likely to result in "jeopardy" to a listed species or if it could adversely modify designated critical habitat. If the USFWS/NMFS prepares a Biological Opinion, it will contain either a "jeopardy" or "non-jeopardy" decision. If the USFWS/NMFS concludes that a proposed project would result in adverse modification of critical habitat or would jeopardize the continued existence of a federally-listed species (that is, it will issue a jeopardy decision), the nexus federal agency would be most unlikely to authorize its discretionary permit. If the USFWS/NMFS prepares a "non-jeopardy" Biological Opinion, the nexus federal agency may authorize the discretionary permit making all conditions of the Biological Opinion conditions of its discretionary permit. A non-jeopardy Biological Opinion constitutes an "incidental take" permit that allows applicants to "take" federally-listed species while otherwise carrying out legally sanctioned projects.

For non-federal entities, for example private parties, cities, and counties that are proposing a project that might result in incidental take, Section 10 provides the mechanism for obtaining that take authorization. Under Section 10 of FESA, for the applicant to obtain an "incidental take permit," the applicant is required to submit a "conservation plan" to the USFWS or NMFS that specifies the impacts that are likely to result to federally-listed species, and the measures the applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement those steps. Conservation plans under FESA have come to be known as "habitat conservation plans" or "HCPs" for short. The terms incidental take permit, Section 10 permit, and Section 10(a)(1)(B) permit are used interchangeably by the USFWS. Section 10(a)(2)(B) of FESA provides statutory criteria that must be satisfied before an incidental take permit can be issued.

8.1.1 Responsible Agency

FESA gives regulatory authority to the USFWS for federally-listed terrestrial species and non-anadromous fish. The NMFS has regulatory authority over federally-listed marine mammals and anadromous fish.

8.1.2 APPLICABILITY TO THE PROPOSED PROJECT

The project site is not located within mapped critical habitat. Additionally, no federally listed endangered or threatened species would be affected by the proposed project as this is a re-development project with minimal effects on the native landscape. Due to Armory Creek's highly ephemeral flows, it is dry during much of the year except after larger storm events, then only flows for a few days before going dry again. The channel's soils are highly permeable and do not perch water. There are no flows or pools that would support fisheries habitat. Similarly, due to this drainage's highly ephemeral nature, shallow depth, short reaches of daylight on the project site outside of concrete pipes, and finally, the absence of associated aquatic/emergent vegetation (it is a mostly barren channel), it does not provide habitat for federally-listed fish or amphibians such as the California red-legged frog (*Rana draytonii*). As such, an "incidental take" permit pursuant to Sections 7 or 10 of FESA is not required for the current re-development proposal of this project site.

8.2 Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

8.2.1 APPLICABILITY TO THE PROPOSED PROJECT

The trees and shrubs on and adjacent to the project site provide suitable nesting habitat for raptors and common passerine birds. All migratory birds, including many common passerine birds (perching birds), that likely nest onsite would be protected pursuant to the Migratory Bird Treaty Act. If there is no direct mortality of species protected pursuant to this Act caused by re-development of the site, there should be no constraints to the project. To comply with the Migratory Bird Treaty Act, all active nest sites would have to be avoided while such birds were nesting. Upon completion of nesting, the project could commence as otherwise planned. Please review specific requirements for avoidance of nest sites for potentially occurring species in the Impacts and Mitigations section below.

8.3 California Endangered Species Act

8.3.1 SECTION 2081 OF THE CALIFORNIA ENDANGERED SPECIES ACT

In 1984, the state legislated the CESA (Fish and Game Code §2050). The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would impact threatened or endangered species if reasonable and prudent alternatives are available. Because CESA does not have a provision for "harm" (see discussion of FESA, above), CDFW considerations pursuant to CESA are limited to those actions that would result in the direct take of a listed species.

If the CDFW determines that a proposed project could impact a state-listed threatened or endangered species, the CDFW will provide recommendations for "reasonable and prudent"

project alternatives. The CEQA lead agency can only approve a project if these alternatives are implemented, unless it finds that the project's benefits clearly outweigh the costs, reasonable mitigation measures are adopted, there has been no "irreversible or irretrievable" commitment of resources made in the interim, and the resulting project would not result in the extinction of the species. In addition, if there would be impacts to threatened or endangered species, the lead agency typically requires project applicants to demonstrate that they have acquired "incidental take" permits from the CDFW and/or USFWS (if it is a federally-listed species) prior to allowing/permitting impacts to such species.

If proposed projects would result in impacts to a state-listed species, an "incidental take" permit pursuant to §2081 of the Fish and Game Code would be necessary (versus a federal incidental take permit for federally-listed species). The CDFW will issue an incidental take permit only if:

1) The authorized take is incidental to an otherwise lawful activity;
2) the impacts of the authorized take are minimized and fully mitigated;
3) measures required to minimize and fully mitigate the impacts of the authorized take:
    a) are roughly proportional in extent to the impact of the taking on the species;
    b) maintain the project applicant's objectives to the greatest extent possible; and,
    c) capable of successful implementation; and,
4) adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with, and the effectiveness of, the measures.

If an applicant is preparing an HCP as part of the federal 10(a) permit process, the HCP might be incorporated into the §2081 permit if it meets the substantive criteria of §2081(b). To ensure that an HCP meets the mitigation and monitoring standards in Section 2081(b), an applicant should involve CDFW staff in development of the HCP. If a final Biological Opinion (federal action) has been issued for the project pursuant to Section 7 of the federal Endangered Species Act, it might also be incorporated into the §2081 permit if it meets the standards of §2081(b).

No §2081 permit may authorize the take of a species for which the Legislature has imposed strict prohibitions on all forms of "take." These species are listed in several statutes that identify "fully protected" species and "specified birds." *See* Fish and Game Code §§ 3505, 3511, 4700, 5050, 5515, and 5517. If a project is planned in an area where a "fully protected" species or a "specified bird" occurs, an applicant must design the project to avoid all take.

Fish and Game Code §2080.1 allows an applicant who has obtained a "non-jeopardy" federal Biological Opinion pursuant to Section 7 of the FESA, or who has received a federal 10(a) permit (federal incidental take permit) pursuant to the FESA, to submit the federal opinion or permit to CDFW for a determination as to whether the federal document is "consistent" with CESA. If after 30 days the CDFW determines that the federal incidental take permit is consistent with state law, and that all state-listed species under consideration have been considered in the federal Biological Opinion, then no further permit or consultation is required under CESA for the project. However, if the CDFW determines that the federal opinion or permit is not consistent with CESA, or that there are state-listed species that were not considered in the federal Biological Opinion, then the applicant must apply for a state CESA permit under Section 2081(b). Section 2081(b) is of no use if an affected species is state-listed, but not federally-listed.

State and federal incidental take permits are issued on a discretionary basis and are typically only authorized if applicants are able to demonstrate that impacts to the listed species in question are unavoidable and can be mitigated to an extent that the reviewing agency can conclude that the proposed impacts would not jeopardize the continued existence of the listed species under review. Typically, if there would be impacts to a listed species, mitigation that includes habitat avoidance, preservation, and creation of endangered species habitat is necessary to demonstrate that projects would not threaten the continued existence of a species. In addition, management endowment fees are usually collected as part of the agreement for the incidental take permit(s). The endowment is used to manage any lands set-aside to protect listed species, and for biological mitigation monitoring of these lands over (typically) a five-year period.

8.3.2 Applicability to The Proposed Project

The project site does not support any state-listed animal or plant species. No habitat occurs on the project site that could support state-listed species. The project site is an existing development with multiple buildings, paved parking lots, driveways, and associated landscaping trees and shrubs. Therefore, under the current re-development proposal, there would be no impacts to state-listed plant or animal species. Consequently, an "incidental take permit" pursuant to Section 2081 of the Fish and Game Code is not required for the project.

8.4 California Fish and Game Code § 3503, 3503.5, 3511, and 3513

California Fish and Game Code §3503, 3503.5, 3511, and 3513 prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered "take." Such a take would also violate federal law protecting migratory birds (Migratory Bird Treaty Act).

All raptors (that is, hawks, eagles, owls) their nests, eggs, and young are protected under California Fish and Game Code (§3503.5). Additionally, "fully protected" birds, such as the white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (§3511). "Fully protected" birds may not be taken or possessed (that is, kept in captivity) at any time.

8.4.1 Applicability to the Proposed Project

If the current re-development project would result in tree removal, earth-work, or construction during the nesting season (February 1 through August 31), preconstruction surveys for nesting birds (passerines, for example) would have to be conducted to ensure that there is no direct take of nesting birds including their eggs or young. Any active nests that were found during preconstruction surveys would have to be avoided by the project. To protect nesting birds, suitable non-disturbance buffers would have to be established by a qualified biologist around nest sites until the nesting cycle is complete. More specifics on the size of buffers are provided below in the Impacts and Mitigations section.

8.5 City of San Rafael General Plan 2020

8.5.1 CON-6. CREEK AND DRAINAGEWAY SETBACKS

The City of San Rafael General Plan 2020 requires development-free setbacks, except for specific access points as approved per policy CON-7 (Public Access to Creeks), from existing creeks and drainageways that will maintain the functions and resulting values of these habitats. Appropriate erosion control and roadway crossings may encroach into the development setback. In the absence of vegetation, promote new growth of natural habitat.

a. Creek Setback. Maintain a minimum 25-foot development-free setback from the top of creek banks for all new development (including, but not limited to, paving and structures), except for Miller Creek and its tributaries, where a minimum 50-foot setback shall be maintained. Setbacks up to 100 feet may be required on lots or development projects two or more acres in size where development review determines a wider setback is needed to maintain functions and resulting habitat values and in areas where high quality riparian habitat exists. The City may waive this requirement for minor encroachments if it can be demonstrated that the proposed setback adequately protects the functions of the creek to the maximum extent feasible and resulting values to the satisfaction of the City after review by the appropriate regulatory agencies.

8.5.1.1 Applicability to the Proposed Project

The proposed project is a re-development project and involves renovation of the community center's pools, which will occur adjacent to Armory Creek where an existing pool complex already exists; therefore, a 25-foot development-free setback for all new development, as defined in CON-6(a) of the General Plan, does not apply to this a *re-development project*.

8.5.2 CON-8B. TREE RETENTION

Retain trees along creeks, where possible, for preservation of riparian habitat and to inhibit growth of algae.

8.5.2.1 Applicability to the Proposed Project

As proposed, the re-development project will involve removal of four trees, three of which are considered riparian trees along Armory Creek (see Attachment B: Landscape Plan). As such, the proposed project will require a Tree Removal Permit from the County of Marin (or the City of San Rafael), as the trees do not qualify for an exemption under Section 22.62.040 of the Marin County Code. The applicant proposes mitigation for tree removal via onsite replacement tree plantings, as described in Section 13 below.

8.5.3 CON-11. WILDLIFE CORRIDORS

Preserve and protect areas that function as wildlife corridors, particularly those areas that provide natural connections permitting wildlife movement between designated sensitive habitats.

8.5.3.1 Applicability to the Proposed Project

The proposed project will not interfere with the movement of native wildlife. The project site is currently developed and does not provide a regional wildlife corridor. Any wildlife residing in the undeveloped lands located to the east do not depend on the project site as a movement corridor since movement is truncated by the existing development and surrounding heavily trafficked roads. A narrow band of riparian woodland occurs along Armory Creek through the northern portion of the project site. This onsite community provides important avian habitat that is used seasonally by migrants and year-round by resident birds; these functions will remain unaffected by the proposed re-development project. The project as currently proposed would not adversely impact wildlife movement corridors.

8.6 Marin Countywide Plan

8.6.1 BIO-4.1 Restrict Land Use in Stream Conservation Areas

A Stream Conservation Area is established to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat values along streams. Development shall be set back to protect the stream and provide an upland buffer, which is important to protect significant resources that may be present and provides a transitional protection zone. Best management practices (BMPs) shall be adhered to in all designated Stream Conservation Areas. BMPs are also strongly encouraged in ephemeral streams not defined as Stream Conservation Areas.

Exceptions to full compliance with all Stream Conservation Area criteria and standards may be allowed only if the following is true:

1. A parcel falls entirely within the Stream Conservation Area(s); or

2. Development on the parcel entirely outside the Stream Conservation Area(s) either is infeasible or would have greater impacts on water quality, wildlife habitat, other sensitive biological resources, or other environmental constraints than development within the Stream Conservation Area(s).

Stream Conservation Areas are designated along perennial, intermittent, and ephemeral streams as defined in the Countywide Plan Glossary. Regardless of parcel size, a site assessment is required where incursion into a Stream Conservation Area is proposed or where full compliance with all Stream Conservation Area criteria would not be met. An ephemeral stream is subject to the Stream Conservation Area policies if it: (a) supports riparian vegetation for a length of 100 feet or more, and/or (b) supports special-status species and/or a sensitive natural community type, such as native grasslands, regardless of the extent of riparian vegetation associated with the stream. For those ephemeral streams that do not meet these criteria, a minimum 20-foot development setback should be required.

Stream Conservation Areas consist of the watercourse itself between the tops of the banks and a strip of land extending laterally outward from the top of both banks to the widths defined below (see Figure 2-2). The Stream Conservation Area encompasses any jurisdictional wetland or

unvegetated other waters within the stream channel, together with the adjacent uplands, and supersedes setback standards defined for WCAs. Human-made flood control channels under tidal influence are subject to the Bayland Conservation policies. The following criteria shall be used to evaluate proposed development projects that may impact riparian areas: City-Centered Corridor:

- For parcels more than 2 acres in size, provide a minimum 100-foot development setback on each side of the top of bank.

- For parcels between 2 and 0.5 acres in size, provide a minimum 50-foot development setback on each side of the top of bank.

- For parcels less than 0.5-acre in size, provide a minimum 20-foot development setback. The developed portion(s) of parcels (less than 0.5-acre in size) located behind an existing authorized flood control levee or dike are not subject to a development setback.

- Regardless of parcel size, an additional buffer may be required based on the results of a site assessment. A site assessment may be required to confirm the avoidance of woody riparian vegetation and to consider site constraints, presence of other sensitive biological resources, options for alternative mitigation, and determination of the precise setback. Site assessments will be required and conducted pursuant to Program BIO-4.g, Require Site Assessment.

8.6.2 Applicability to the Proposed Project

The segment of Armory Creek within the property boundaries that is adjacent to the proposed project would likely be subject to the Stream Conservation Area policies stated above. A minimum 20-foot development setback would be required, as defined in BIO-4.1.

As proposed, the pool renovation portion of the project may encroach upon the 20-foot development setback (Attachments A and B). If the project encroaches within the required set-back, the applicant may be required to modify the site plan to remain outside the setback or could request a variance or exception for the required set-back for the proposed project. It is important to note this project is a re-development project and the majority of area subject to disturbance is either already developed or otherwise anthropogenic (e.g., landscaped, regularly disturbed).

8.7 Native Tree Protection and Preservation Ordinance (Chapter 22.27 of the Marin County Code)

Protected Trees shall not be removed except in compliance with Section 22.62.050 (Exemptions), and as provided for in Chapter 22.62 (Tree Removal Permits) of the Marin County Code. When trees are removed and/or management plans are prepared in compliance with this Chapter, the County's Oak Woodland Management Guidelines provided by the Agency should be taken into consideration.

In order to mitigate for any trees removed under the provisions of this Chapter, the Director may require one or more of the following:

A. Establishment and maintenance of replacement trees in conformance with Countywide Plan policies, the Landscaping Objectives identified in section 22.26.040 of this Development Code, the Single-Family Residential Design Guidelines, and/or the vegetation management requirements of the Marin County Fire Department or local Fire Protection District, as applicable.
B. For large properties, a management plan which designates areas of the property for preservation of stands of trees or saplings and replacement plantings as required.
C. Removal of invasive exotic species.
D. Posting of a bond to cover the cost of an inspection to ensure success of measures described above.

In the event that tree planting on the site is not feasible or appropriate, the Director may require in lieu of planting on the specific property, the payment of money in the amount of $500.00 per replacement tree to be deposited into the Tree Preservation Fund managed by the Marin County Parks and Open Space Department for planting, maintenance, and management of trees and other vegetation.

8.7.1 Applicability to the Proposed Project

As currently planned, the proposed project will impact four (4) native coast live oak trees (Attachment B). Per the County's Native Tree Protection and Preservation Ordinance, a coast live oak tree greater 6 inches at diameter at breast height (DBH) but less than 18 inches qualifies as a Protected Tree. A coast live oak tree greater than 18 inches DBH qualifies as a Heritage Tree. As shown on Attachment B, the applicant proposes to mitigate for impacts to these native coast live oak trees via onsite replacement at a 4:1 (replacement to impacts) ratio for Heritage Tree impacts and 2:1 (replacement to impacts) ratio for Protected Tree impacts, as follows:

Table 1. Onsite Replacement Tree Mitigation Plan

Impact	Mitigation (Replacement Planting)
27-inch coast live oak (Heritage Tree)	Replace with four (4) 24-inch box coast live oak trees
16-inch coast live oak (Protected Tree)	Replace with two (2) 24-inch box coast live oak trees
15-inch coast live oak (Protected Tree)	Replace with two (2) 24-inch box coast live oak trees
10-inch coast live oak (Protected Tree)	Replace with two (2) 24-inch box coast live oak trees

Native tree removal and work within native tree driplines would need to be evaluated by the County's staff pursuant to the Native Tree Protection and Preservation Ordinance (Chapter 22.27 of the Marin County Code). Any tree permit approved for the proposed project would include conditions of approval for the restitution of any tree approved to be removed, protection of remaining trees where work may occur within the driplines of the trees, and any other protection measures prescribed by the project's arborist. See the Impacts and Mitigation Measures section for details.

9. REGULATORY REQUIREMENTS PERTAINING TO WATERS OF THE UNITED STATES AND STATE

This section presents an overview of the criteria used by the Corps, the RWQCB, the State Water Resources Control Board (SWRCB), and the CDFW to determine those areas within a project area that would be subject to their regulation.

9.1 U.S. Army Corps of Engineers Jurisdiction and Permitting

9.1.1 Section 404 of the Clean Water Act

Congress enacted the Clean Water Act "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C. §1251(a)). Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the Corps regulates the disposal of dredged or fill material into "waters of the United States" (33 CFR Parts 328 through 330). This requires project applicants to obtain authorization from the Corps prior to discharging dredged or fill materials into any water of the United States.

In the Federal Register "waters of the United States" are defined as, "...all interstate waters including interstate wetlands...intrastate lakes, rivers, streams (including intermittent streams), wetlands, [and] natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce..." (33 CFR Section 328.3).

Limits of Corps' jurisdiction:

(a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)

(b) Tidal Waters of the United States. The landward limits of jurisdiction in tidal waters:

(1) Extends to the high tide line, or
(2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

(c) Non-Tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:

(1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
(2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
(3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Section 404 jurisdiction in "other waters" such as lakes, ponds, and streams, extends to the upward limit of the ordinary high-water mark (OHWM) or the upward extent of any adjacent wetland. The OHWM on a non-tidal water is:

- the "line on shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR Section 328.3[e]).

Wetlands are defined as: "...those areas that are inundated or saturated by surface or ground water at a frequency and duration to support a prevalence of vegetation adapted for life in saturated soil conditions" (33 CFR Section 328.8 [b]). Wetlands usually must possess hydrophytic vegetation (i.e., plants adapted to inundated or saturated conditions), wetland hydrology (e.g., topographic low areas, exposed water tables, stream channels), and hydric soils (i.e., soils that are periodically or permanently saturated, inundated or flooded) to be regulated by the Corps pursuant to Section 404 of the Clean Water Act.

9.1.1.1 Clean Water Rule 2015

In 2015, the Environmental Protection Agency (EPA) and the Corps published the Clean Water Rule (Rule): Definition of ''Waters of the United States''; Final Rule which defines the scope of waters protected under the Clean Water Act. This Final Rule was published in light of the statute, science, Supreme Court decisions in *U.S.* v. *Riverside Bayview Homes, Solid Waste Agency of Northern Cook County* v. *U.S. Army Corps of Engineers (SWANCC),* and *Rapanos* v. *United States (Rapanos)*, and the agencies' experience and technical expertise. The Rule reflects consideration of the extensive public comments received on the proposed rule. The Rule was stayed in federal court shortly after it was adopted in 2015. In August 2018, the stay was lifted and the Rule became effective once again and remains in effect today. The Rule ensures protection for the nation's public health and aquatic resources and increases Clean Water Act program predictability and consistency by clarifying the scope of "waters of the United States" protected under the Act.

The Rule only protects waters that have been historically covered by the Clean Water Act. A tributary, or upstream water, must show physical features of flowing water – a bed, bank, and OHWM – to warrant protection. The Rule provides protection for headwaters that have these features and have a significant connection to downstream waters. Adjacent waters are defined by three qualifying circumstances established by the Rule. These can include wetlands, ponds, impoundments, and lakes which can impact the chemical, biological or physical integrity of neighboring waters. All existing exclusions from longstanding agency practices are officially established for the first time. Waters used in normal agricultural, ranching, or silvicultural activities, as well as certain defined ditches, prior converted cropland, and waste treatment systems continue to be excluded from Clean Water Act protection.

9.1.1.2 Permitting Corps Jurisdictional Areas

To remain in compliance with Section 404 of the Clean Water Act, project proponents and property owners (applicants) are required to be permitted by the Corps prior to discharging or otherwise impacting waters of the United States. In many cases, the Corps must visit a proposed project area (to conduct a "jurisdictional determination") to confirm the extent of area falling under their jurisdiction prior to authorizing any permit for that project area. Typically, at the time

the jurisdictional determination is conducted, applicants (or their representative) will discuss the appropriate permit application that would be filed with the Corps for permitting the proposed impact(s) to "waters of the United States."

Pursuant to Section 404, the Corps normally provides two alternatives for permitting impacts to the type of waters of the United States found in the project area. The first alternative would be to use Nationwide Permit(s) (NWP). The second alternative is to apply to the Corps for an Individual Permit (33 CFR Section 235.5(2)(b)). The application process for Individual Permits is extensive and includes public interest review procedures (i.e., public notice and receipt of public comments) and must contain an "alternatives analysis" that is prepared pursuant to Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)). The alternatives analysis is also typically reviewed by the federal EPA and thus brings another resource agency into the permitting framework. Both the Corps and EPA take the initial viewpoint that there are practical alternatives to the proposed project if there would be impacts to waters of the U.S., and the proposed permitted action is not a water dependent project (e.g., a pier or a dredging project). Alternative analyses therefore must provide convincing reasons that the proposed permitted impacts are unavoidable. Individual Permits may be available for use in the event that discharges into regulated waters fail to meet conditions of NWP(s).

NWPs are a type of general permit administered by the Corps and issued on a nationwide basis that authorize minor activities that affect Corps regulated waters. Under NWP, if certain conditions are met, the specified activities can take place without the need for an individual or regional permit from the Corps (33 CFR, Section 235.5[c][2]). In order to use NWP(s), a project must meet 27 general nationwide permit conditions, and all specific conditions pertaining to the NWP being used (as presented at 33 CFR Section 330, Appendices A and C). It is also important to note that pursuant to 33 CFR Section 330.4(e), there may be special regional conditions or modifications to NWPs that could have relevance to individual proposed projects. Finally, pursuant to 33 CFR Section 330.6(a), Nationwide permittees may, and in some cases must, request from the Corps confirmation that an activity complies with the terms and conditions of the NWP intended for use (*i.e.,* must receive "verification" from the Corps).

Prior to finalizing design plans, the applicant needs to be aware that the Corps maintains a policy of "no net loss" of wetlands (waters of the United States) from project area development. Therefore, it is incumbent upon applicants that propose to impact Corps regulated areas to submit a mitigation plan that demonstrates that impacted regulated areas would be recreated (*i.e.,* impacts would be mitigated). Typically, the Corps requires mitigation to be "in-kind" (i.e., seasonal wetlands would be filled, mitigation would include seasonal wetland mitigation), and at a minimum of a 1:1 replacement ratio (i.e., one acre or fraction there of recreated for each acre or fraction thereof lost). Often a 2:1 replacement ratio is required if the Permittee is responsible for the mitigation. In some cases, the Corps allows "out-of-kind" mitigation if the compensation site has greater value than the impacted site. Finally, there are many Corps approved wetland mitigation banks where wetland mitigation credits can be purchased by applicants to meet mitigation compensation requirements. Mitigation banks have defined service areas and the Corps may only allow their use when a project would have minimal impacts to wetlands.

9.1.2 APPLICABILITY TO THE PROPOSED PROJECT

Armory Creek bisects the northern portion of the project site. This drainage meets the criteria to be classified as a "water of the United States" pursuant to Section 404 of the Clean Water Act and falling under the Corps' Clean Water Act jurisdiction. No other areas on the project site were found to support wetlands or other waters subject to the Corps' Clean Water Act jurisdiction. Under the current re-development proposal, the proposed project would not result in impacts to Corps' jurisdiction; hence, prior authorization from the Corps would not be required for this project.

9.2 California Regional Water Quality Control Board (RWQCB)

9.2.1 SECTION 401 OF THE CLEAN WATER ACT

The SWRCB and RWQCB regulate activities in "waters of the State" (which includes wetlands) through Section 401 of the Clean Water Act. While the Corps administers a permitting program that authorizes impacts to waters of the United States, including wetlands and other waters, any Corps permit authorized for a proposed project would be inoperative unless it is an NWP that has been certified for use in California by the SWRCB, or if the RWQCB has issued a project specific certification of water quality. Certification of NWPs requires a finding by the SWRCB that the activities permitted by the NWP will not violate water quality standards individually or cumulatively over the term of the permit (the term is typically for five years). Certification must be consistent with the requirements of the federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State. Any denied (i.e., not certified) NWPs, and all Individual Corps permits, would require a project specific RWQCB certification of water quality. Where a project will result in dredge or fill of non-federal waters of the State, the RWQCB will authorize those fills through waste discharge requirements issued under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a state-level definition of "wetlands,' which definition is broader than the federal definition in that unvegetated areas may be considered a wetland water of the State. As a part of the same policy, the Water Board adopted permit procedures and standards governing the discharge of dredged or fill material into wetlands and other waters of the State. The policy includes, among other things, requirements for analyses to identify the least environmentally damaging practicable alternative (LEDPA) and compensatory mitigation standards including a minimum 1:1 ratio for wetlands and streams, and full functional replacement of all waters on top of this minimum where applicable. The policy, which will govern both Section 401 certifications and WDRs, is scheduled to become effective nine months following the completion of review by the California Office of Administrative Law.

9.2.2 APPLICABILITY TO THE PROPOSED PROJECT

Armory Creek bisects the northern portion of the project site. This drainage would meet the criteria to be classified as a "water of the State" pursuant to Section 401 of the Clean Water Act and thus, would be subject to the RWQCB's jurisdiction. No other areas on the project site were found to support wetlands or other waters subject to the RWQCB's Clean Water Act jurisdiction. Under the current re-development proposal, there are no plans to impact Clean Water Act

jurisdictional areas; hence, Section 401 Clean Water Act "certification of water quality" (i.e., a permit) from the RWQCB is not necessary for this project.

9.2.3 PORTER-COLOGNE WATER QUALITY CONTROL ACT

The uncontrolled discharge of pollutants into impaired water bodies is considered particularly detrimental. According to the EPA, sediment is one of the most widespread pollutants contaminating U.S. rivers and streams. Sediment runoff from construction sites is 10 to 20 times greater than from agricultural lands and 1,000 to 2,000 times greater than from forest lands. Consequently, the discharge of stormwater from large construction sites is regulated by the RWQCB under the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act.

The Porter-Cologne Water Quality Control Act, Water Code § 13260, requires that "any person discharging waste, or proposing to discharge waste, that could affect the waters of the State to file a report of discharge" with the RWQCB through an application for waste discharge (Water Code Section 13260(a)(1). The term "waters of the State" is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (Water Code § 13050(e)). It should be noted that pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB also regulates "isolated wetlands," or those wetlands considered to be outside of the Corps' jurisdiction pursuant to the SWANCC decision (see Corps Section above).

The RWQCB generally considers filling in waters of the State to constitute "pollution." Pollution is defined as an alteration of the quality of the waters of the state by waste that unreasonably affects its beneficial uses (Water Code §13050(1)). The RWQCB litmus test for determining if a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act is if the action could result in any "threat" to water quality.

The RWQCB requires complete pre- and post-development BMPs on any portion of the project site that is developed. This means that a water quality treatment plan for the pre- and post-developed project site must be prepared and implemented. Preconstruction requirements must be consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES). That is, a *Stormwater Pollution Prevention Plan* (SWPPP) must be developed prior to the time that a site is graded (see NPDES section below). In addition, a post construction BMPs plan, or a Stormwater Management Plan (SWMP) must be developed and incorporated into any site development plan.

9.2.4 APPLICABILITY TO THE PROPOSED PROJECT

Since any "threat" to water quality could conceivably be regulated pursuant to the Porter-Cologne Water Quality Control Act, care will be required when constructing the proposed project to be sure that adequate pre-and post-construction BMPs are incorporated into the project implementation plans.

10. STATE WATER RESOURCES CONTROL BOARD (SWRCB)/RWQCB – STORM WATER MANAGEMENT

10.1 Construction General Permit

While federal Clean Water Act NPDES regulations allow two permitting options for construction related stormwater discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide Construction General Permit at this time that will apply to all stormwater discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (CalTrans).

The Construction General Permit requires all dischargers where construction activity disturbs greater than one acre of land or those sites less than one acre that are part of a common plan of development or sale that disturbs more than one acre of land surface to:

1. Develop and implement a SWPPP which specifies BMPs that will prevent all construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off site into receiving waters.

2. Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation. Achieve quantitatively-defined (i.e., numeric) pollutant-specific discharge standards, and conduct much more rigorous monitoring based on the project's projected risk level.

3. Perform inspections of all BMPs.

This Construction General Permit is implemented and enforced by the nine RWQCBs. It is also enforceable through citizens' suits and represents a dramatic shift in the State Water Board's approach to regulating new and re-development sites, imposing new affirmative duties and fixed standards on builders and developers.

Types of Construction Activity Covered by the Construction General Permit

- clearing,
- grading,
- disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre or more of total land area.

Construction activity that results in soil disturbances to a smaller area would still be subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses greater than one acre of soil disturbance, or if there is significant water quality impairment resulting from the activity.

Construction activity does not include:

- routine maintenance to maintain original line and grade,

- hydraulic capacity, or original purpose of the facility,
- nor does it include emergency construction activities required to protect public health and safety.

The Construction General Permit includes several "post-construction" requirements. These requirements entail that site designs provide no net increase in overall site runoff and match pre-project hydrology by maintaining runoff volume and drainage concentrations. To achieve the required results where impervious surfaces such as roofs and paved surfaces are being increased, developers must implement non-structural off-setting BMPs, such as landform grading, site design BMPs, and distributed structural BMPs (bioretention cells, rain gardens, and rain cisterns). This "runoff reduction" approach is essentially a State Water Board-imposed regulatory requirement to implement Low Impact Development ("LID") design features. Volume that cannot be addressed using non-structural BMPs must be captured in structural BMPs that are approved by the RWQCB.

Improving the quality of site runoff is necessary to improve water quality in impaired and threatened streams, rivers, and lakes (that is, water bodies on the EPA's 303(d) list). The RWQCB prioritizes the water bodies on the 303(d) list according to potential impacts to beneficial uses. Beneficial uses can include a wide range of uses, such as nautical navigation; wildlife habitat; fish spawning and migration; commercial fishing, including shellfish harvesting; recreation, including swimming, surfing, fishing, boating, beachcombing, and more; water supply for domestic consumption or industrial processes; and groundwater recharge, among other uses. The State is required to develop action plans and establish Total Maximum Daily Loads (TMDLs) to improve water quality within these impaired water bodies. The TMDL is the quantity of a pollutant that can be safely assimilated by a water body without violating the applicable water quality standards.

Pursuant to the Clean Water Act, the RWQCB regulates construction discharges under the NPDES. The project sponsor of construction or other activities that disturb more than 1 acre of land must obtain coverage under NPDES Construction General Permit Order 2009-0009-DWQ, administered by the RWQCB[1].

10.1.1 APPLICABILITY TO THE PROPOSED PROJECT

To obtain coverage under the SWRCB administered Construction General Permit, the applicant (typically through its civil engineer) must electronically file a number of permit-related compliance documents (Permit Registration Documents (PRDs), including a Notice of Intent (NOI), a risk assessment, site map, signed certification, SWPPP, Notice of Termination (NOT), NAL exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the RWQCB's Stormwater Multi-Application

[1] CGP Order 2009-0009-DWQ remains in effect, but has been amended by CGP Order 2009-0014-DWQ, effective February 14, 2011, and CGP Order 2009-0016-DWQ, effective July 17, 2012. The first amendment merely provided additional clarification to Order 2009-0009-DWQ, while Order 2009-0016-DWQ eliminated numeric effluent limits on pH and turbidity (except in the case of active treatment systems), in response to a legal challenge to the original order.

Report Tracking System (SMARTS). (QSDs are typically civil engineers, professional hydrologists, engineering geologists, or landscape architects.) Once filed, these documents become immediately available to the public for review and comment. At a minimum, the SWPPP shall identify BMPs for implementation during project construction that are in accordance with the applicable guidance and procedures contained in the California Stormwater Quality Association's *California Stormwater Best Management Practices Handbook* (2015).

10.2 RWQCB Municipal Storm Water Permitting Programs

The federal Clean Water Act was amended in 1987 to address urban stormwater runoff pollution of the nation's waters. In 1990, the EPA promulgated rules establishing Phase 1 of the NPDES stormwater program. The Phase 1 program for Municipal Separate Storm Sewer System (MS4s) requires operators that serve populations of 100,000 or greater to implement a stormwater management program to control polluted discharges from these MS4s. While Phase 1 of the municipal stormwater program has focused on large urban areas, Phase 2 of the municipal stormwater program was promulgated by the EPA for smaller urban areas including non-traditional Small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes.

MS4 permits require the discharger (or dischargers that are permitted by the MS4 permittees) to develop and implement a SWMP with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring, though small municipalities are not.

10.2.1 NPDES C.3 Requirements

The NPDES C.3 requirements went into effect for any project (public or private) that is "deemed complete" by the City or County (Lead Agency) on or after February 15, 2005, and which will result in the creation or replacement (other than normal maintenance) of at least 10,000 square feet of impervious surface area (roofs, streets, patios, parking lots, etc. Provision C.3 requires the onsite treatment of stormwater prior to its discharge into downstream receiving waters. Note that these requirements are in addition to the existing NPDES requirements for erosion and sedimentation controls during project construction that are typically addressed through acquisition of coverage under the SWRCB administered Construction General Permit. The C.3 requirements are typically required to be implemented by MS4 permittees (and their constituencies).

Projects subject to Provision C3 must include the capture and onsite treatment of all stormwater from the site prior to its discharge, including rainwater falling on building rooftops. Project applicants are required to implement appropriate source control and site design measures and to design and implement stormwater treatment measures in order to reduce the discharge of stormwater pollutants to the *maximum extent practicable.* While the Clean Water Act does not define "maximum extent practicable," the Stormwater Quality Management Plans required as a

condition of the municipal NPDES permits identify control measures (i.e., BMPs) and, where applicable, performance standards, to establish the level of effort required to satisfy the maximum extent practicable criterion. It is ultimately up to the professional judgment of the reviewing municipal staff in the individual jurisdictions to determine whether a project's proposed stormwater controls will satisfy the maximum extent practicable criterion. However, there are numeric criteria used to ensure that treatment BMPs have been adequately sized to accommodate and treat a site's stormwater. The C3 requirements are quite extensive, and their complete explanation is not provided here. However, the following are minimums that should be understood and adhered to:

- The applicant must provide a detailed and realistic site design *and impervious surface area calculations*. This site design *and calculations* will be used by the Lead Agency (County or City) to determine/*verify* the amount of impervious surface area that is being created or replaced. It should include all proposed buildings, roads, walkways, parking lots, landscape areas, etc., that are being created or re-developed. If large (greater than 10,000 square feet) lots are being created an effort will need to be made to determine the total impervious surface area that could be created on that parcel. For example, if only a portion of the lot is shown as a "building envelope" then the lead agency will need to consider that a driveway will have to be constructed to access the envelope and that the envelope will then be developed as shown. If the C.3 thresholds are met (creation/re-development of 10,000 square feet of impervious surface area), a Stormwater Control Plan (SWCP) (if required by the Lead Agency, or whatever steps for compliance with Provision C3 are required locally) must accompany the application.

- If a SWCP is required by the Lead Agency for the project it must be stamped by a Licensed Civil Engineer, Architect, or Landscape Architect.

10.2.2 Applicability to the Proposed Project

The Water Board issued county-wide municipal stormwater permits in the early 1990s to operators of MS4s. On November 19, 2015, the Water Board re-issued these county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit to regulate stormwater discharges from municipalities and local agencies. Permittees in the San Francisco Bay area are included in a Municipal Regional Permit (MRP), issued to 76 cities, counties and flood control districts in 2009 and revised in 2015. Each of the Permittee's must file an Annual Report that is comprised of three parts: regional, countywide, and individual. Some requirements of the MRP are being implemented by the Bay Area Stormwater Management Agencies Association (BASMAA) on behalf of all the MRP Permittees. Other elements are being implemented collaboratively by the Permittees through their respective countywide programs. As such, BASMAA and the countywide programs have submitted Annual Report elements on the regional and countywide collaborative tasks, respectively, on behalf of the MRP Permittees and the individual MRP Permittees have also submitted Annual Report elements on the Permit Provisions they have implemented individually.

It is the applicant's responsibility to ensure that the project civil engineer prepares all required Storm Water Planning documents for submittal to the County of Marin to comply with its MS4 permit requirements. In addition, if the project includes a requirement to obtain a Clean Water Act Section 401 permit from the RWQCB, the Storm Water Management Plan (or equivalent plan) must be submitted to the RWQCB with the application package submitted for acquisition of a Section 401 permit (aka "water quality certification"). Under the currently proposed project design, there is no need to apply for a Section 401 permit.

10.3 California Department of Fish and Wildlife Protections

10.3.1 Section 1602 of California Fish and Game Code

Pursuant to Section 1602 of the California Fish and Game Code: "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, unless all of the following occur:

(1) CDFW receives written notification regarding the activity in the manner prescribed by CDFW. The notification shall include, but is not limited to, all of the following:
   (A) A detailed description of the project's location and a map.
   (B) The name, if any, of the river, stream, or lake affected.
   (C) A detailed project description, including, but not limited to, construction plans and drawings, if applicable.
   (D) A copy of any document prepared pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.
   (E) A copy of any other applicable local, state, or federal permit or agreement already issued.
   (F) Any other information required by CDFW" (Fish & Game Code 2014).

Please see Section 1602 of the current California Fish and Game Code for further details.

Please also note that while not stated in the regulations above, the CDFW typically considers its jurisdiction to include riparian vegetation (that is, the trees and bushes growing along the stream). Thus, any proposed activity in a natural stream channel that would substantially adversely affect an existing fish and/or wildlife resource, including its riparian vegetation, would require entering into a Streambed Alteration Agreement (SBAA) with the CDFW prior to commencing with work in the stream. However, prior to authorizing such permits, the CDFW typically reviews an analysis of the expected biological impacts, any proposed mitigation plans that would be implemented to offset biological impacts and engineering and erosion control plans.

10.3.2 Applicability to The Proposed Project

As proposed, the re-development project would not impact the bed, bank, or channel of Armory Creek that bisects the northern portion of the project site. However, the pool renovation portion of the project will impact riparian vegetation associated with Armory Creek (see Exhibit A, Attachments A and B); therefore, an SBAA from the CDFW will likely be required for the re-

development project. As detailed above, the applicant proposes to mitigate for impacts to these native trees via onsite replacement at a 4:1 (replacement to impacts) ratio for Heritage Tree impacts and 2:1 (replacement to impacts) ratio for Protected Tree impacts (see Attachment B), which will most likely satisfy any mitigation requirements stipulated by the CDFW in the SBAA. Any conditions stipulated in the project's issued SBAA should also become County Conditions of Project Approval (COAs).

11. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REGULATIONS

A CEQA lead agency must determine if a proposed activity constitutes a project requiring further review pursuant to the CEQA. Pursuant to CEQA, a lead agency would have to determine if there could be significant adverse impacts to the environment from a proposed project. Typically, if within the city limits, the city would be the CEQA lead agency. If a discretionary permit (i.e., conditional use permit) would be required for a project (e.g. an occupancy permit must be issued), the lead agency typically must determine if there could be significant environmental impacts. This is usually accomplished by an "Initial Study." If there could be significant environmental impacts, the lead agency must determine an appropriate level of environmental review prior to approving and/or otherwise permitting the impacts. In some cases, there are "Categorical Exemptions" that apply to the proposed activity; thus, the activity is exempt from CEQA. The Categorical Exemptions are provided in CEQA. There are also Statutory Exemptions in CEQA that must be investigated for any proposed project. If the project is not exempt from CEQA, the lowest level of review typically reserved for projects with no significant effects on the environment would be for the lead agency to prepare a "Negative Declaration." If a proposed project would have only minimal impacts that can be mitigated to a level of no significance pursuant to the CEQA, then a "Mitigated Negative Declaration" (MND) is typically prepared by the lead agency. Finally, those projects that may have significant effects on the environment, or that have impacts that can't be mitigated to a level considered less than significant pursuant to the CEQA, typically must be reviewed via an Environmental Impact Report (EIR). All CEQA review documents are subject to public circulation, and comment periods.

Section 15380 of CEQA defines "endangered" species as those whose survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. "Rare" species are defined by CEQA as those who are in such low numbers that they could become endangered if their environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in FESA. The CEQA Guidelines also state that a project will normally have a significant effect on the environment if it will "substantially affect a rare or endangered species of animal or plant or the habitat of the species." The significance of impacts to a species under CEQA, therefore, must be based on analyzing actual rarity and threat of extinction to that species despite its legal status or lack thereof.

11.1.1 APPLICABILITY TO THE PROPOSED PROJECT

This report has been prepared as a Biology section that is suitable for incorporation by the CEQA lead agency (in this case County of Marin) into a CEQA review document such as an MND or an

EIR. This document addresses potential impacts to species that would be defined as endangered or rare pursuant to Section 15380 of the CEQA.

12. IMPACTS ANALYSIS

Below the criteria used in assessing impacts to Biological Resources is presented.

12.1 Significance Criteria

A significant impact is determined using CEQA and CEQA Guidelines. Pursuant to CEQA §21068, a significant effect on the environment means a substantial, or potentially substantial, adverse change in the environment. Pursuant to CEQA Guideline §15382, a significant effect on the environment is further defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. Other Federal, State, and local agencies' considerations and regulations are also used in the evaluation of significance of proposed actions.

Direct and indirect adverse impacts to biological resources are classified as "significant," "potentially significant," or "less than significant." Biological resources are broken down into four categories: vegetation, wildlife, threatened and endangered species, and regulated "waters of the United States" and/or stream channels.

12.1.1 THRESHOLDS OF SIGNIFICANCE

12.1.1.1 Plants, Wildlife, Waters

In accordance with Appendix G (Environmental Checklist Form) of the CEQA Guidelines, implementing the project would have a significant biological impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

- Have a substantial adverse effect on federally protected "wetlands" as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

12.1.1.2 Waters of the United States and State.

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), the Corps regulates the discharge of dredged or fill material into waters of the United States, which includes wetlands, as discussed in the bulleted item above, and also includes "other waters" (stream channels, rivers) (33 CFR Parts 328 through 330). Substantial impacts to Corps regulated areas on a project site would be considered a significant adverse impact. Similarly, pursuant to Section 401 of the Clean Water Act, and to the Porter-Cologne Water Quality Control Act, the RWQCB regulates impacts to waters of the state. Thus, substantial impacts to RWQCB regulated areas on a project site would also be considered a significant adverse impact.

12.1.1.3 Stream Channels

Pursuant to Section 1602 of the California Fish and Game Code, the CDFW regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream which the CDFW typically considers to include riparian vegetation. Any proposed activity that would result in substantial modifications to a natural stream channel would be considered a significant adverse impact.

13. IMPACT ASSESSMENT AND PROPOSED MITIGATION

In this section we discuss potential impacts to nesting birds, trees, and CDFW protected drainages/riparian vegetation. The impact is followed with a mitigation prescription that when implemented would reduce impacts to the greatest extent possible. This impact analysis is based on the site plans prepared by ELS Architecture & Urban Design on February 28, 2019 (Attachments A and B).

13.1 Impact BIO-1. Development of the Project Could Have a Potentially Significant Adverse Impact on Nesting Birds (Potentially Significant).

Red-tailed hawk (*Buteo jamaicensis*), sharp-shinned hawk (*Accipiter striatus*), and red-shouldered hawks (*Buteo lineatus*) are all known from the area and could nest on the project site. Common song birds (passerine birds) could also nest on the project site. All of these birds are protected under the Migratory Bird Treaty Act (50 CFR 10.13) and the California Fish and Game Code sections that protect nesting birds, their eggs and young (Sections 3503, 3503.5). Any project-related impacts to these species would be considered a significant adverse impact. Potential impacts to these species from the proposed project include disturbance to nesting birds and possibly death of adults and/or young. In the absence of survey results, it must be concluded that impacts to nesting raptors and song birds from the proposed project would be a *potentially significant impact pursuant to CEQA.*

This impact could be mitigated to a level considered less than significant.

13.2 Mitigation Measure BIO-1. Mitigation for Potential Impacts to Nesting Birds.

To avoid impacts to nesting birds, a nesting survey shall be conducted within 15 days of commencing with construction work or tree removal, if this work would commence between February 1 and August 31. The nesting survey should include an examination of the buildings and all trees onsite and within 200 feet of the entire project site (i.e., within a zone of influence of nesting birds). The zone of influence includes those areas outside the project site where birds could be disturbed by earth-moving vibrations and/or other construction-related noise.

If birds are identified nesting on or within the zone of influence of the construction project, a qualified biologist shall establish a temporary protective nest buffer around the nest(s). The nest buffer should be staked with orange construction fencing. The buffer must be of sufficient size to protect the nesting site from construction-related disturbance and shall be established by a qualified ornithologist or biologist with extensive experience working with nesting birds near and on construction sites. Typically, adequate nesting buffers are 50 feet from the nest site or nest tree dripline for small birds and up to 300 feet for sensitive nesting birds that include several raptor species known the region of the project site.

No construction or earth-moving activity shall occur within any established nest protection buffer prior to September 1, unless it is determined by a qualified ornithologist/biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July. This date can be significantly earlier or later and would have to be determined by the qualified biologist. At the end of the nesting cycle, as determined by a qualified biologist, the temporary nesting buffers may be removed, and construction may commence in established nesting buffers without further regard for the nest site.

Implementation of these mitigation measures would reduce impacts to nesting birds to a level regarded as less than significant.

13.3 Impact BIO-2. Development of the Project Could Have a Potentially Significant Adverse Impact on Protected Trees (Potentially Significant).

Trees located within the Stream Conservation Areas, or that otherwise qualify as a "Protected Tree" or "Heritage Tree" in accordance with the Native Tree Protection and Preservation Ordinance (Chapter 26.62 of the Marin County Code), would require acquisition of a Tree Removal Permit if they do not qualify for an exemption under Section 22.62.040 (Exemptions). As currently planned, the proposed project will impact four (4) native coast live oak trees: one (1) which would be classified as a Heritage Tree and three (3) as County Protected Trees (Attachment B). Removal of protected trees and heritage trees without prior County approval is a *significant impact pursuant to CEQA.*

This impact could be mitigated to a level considered less than significant.

13.4 Mitigation Measure BIO-2. Mitigation for Potential Impacts to Protected Trees.

As currently planned, the proposed project will impact four native coast live oak trees which are protected under County ordinance (Attachment B). As such, compliance with the Native Tree Protection and Preservation Ordinance is required and a Tree Removal Permit must be acquired. As shown on Table 1 above, the applicant proposes to mitigate for impacts to these native trees via onsite replacement at a 4:1 (replacement to impacts) ratio for Heritage Tree impacts and 2:1 (replacement to impacts) ratio for Protected Tree impacts.

The Tree Removal Permit must include a landscaping/vegetation management plan that identifies the trees proposed for removal, and proposed replacement trees. As a standard practice to maintain consistency with the Marin Countywide Plan, the Landscaping Objectives identified in Section 22.26.040 of the Marin County Development Code, the Single-Family Residential Design Guidelines, and the vegetation management requirements of the Marin County Fire Department or local Fire Protection District, the County may impose requirements including but not limited to the following:

- Replacement of trees at a ratio of three new, appropriately sized and installed trees for each tree designated to be removed;
- For large properties, a management plan which designates areas of the property for preservation of stands of trees or saplings and replacement plantings as required;
- Removal of invasive exotic species.

In the event that tree planting on the site is not feasible or appropriate, the Director may require in lieu of planting on the specific property, the payment of money in the amount of $500.00 per replacement tree to be deposited into the Tree Preservation Fund managed by the Marin County Parks and Open Space Department for planting, maintenance, and management of trees and other vegetation.

Implementation of these mitigation measures would reduce impacts to protected trees to a level regarded as less than significant.

13.5 Impact BIO-3. Development of the Project Could Have a Potentially Significant Adverse Impact on Stream Conservation Areas (Potentially Significant).

The segment of Armory Creek within the property boundaries that is adjacent to the proposed project would likely be subject to the County's Stream Conservation Area policies. As such, a minimum 20-foot development setback would be required, as defined in BIO-4.1 (Restrict Land Use in Stream Conservation Areas) of the Marin Countywide Plan.

As proposed, the pool renovation portion of the re-development project may encroach upon the 20-foot development setback (Attachments A and B). If the project encroaches within the required setback, the applicant may be required to modify the site plan to remain outside the setback or could request a variance or exception for the required setback for the proposed project. It is important to note, this project is a re-development project and the majority of area subject to disturbance is either already developed or otherwise anthropogenic (e.g., landscaped, regularly disturbed).

Impacts within the development setback of a Stream Conservation Area without prior County approval is a *significant impact pursuant to CEQA.*

This impact could be mitigated to a level considered less than significant.

13.6 Mitigation Measure BIO-3. Compliance with Marin Countywide Plan BIO-4.1 Restrict Land Use in Stream Conservation Areas.

If the proposed re-development project cannot implement and adhere to a 20-foot buffer and still achieve its objectives, it shall be necessary for the applicant to consult with Marin County Planning to mitigate for a reduced buffer, likely via implementation of additional Best Management Practices and acquisition of a setback variance from the County.

Implementation of this mitigation measure would reduce impacts to Stream Conservation Areas to a level regarded as less than significant.

13.7 Impact BIO-4. Compliance with Section 1602 of California Fish and Game Code

CDFW has jurisdiction over the bed, bank, or channel of Armory Creek on the project site, as well as the riparian canopy of Armory Creek pursuant to Section 1602 of the California Fish and Game Code. Although the project as proposed would not impact the bed, bank, or channel of Armory Creek, the pool renovation portion of the project will impact the creek's riparian canopy (see Exhibit A, Attachments A and B). Accordingly, a Section 1602 permit application must be prepared by the applicant and submitted to the CDFW with a tree planting mitigation plan. Impacts to CDFW jurisdiction without prior approval is a *significant impact pursuant to CEQA*.

This impact could be mitigated to a level considered less than significant.

13.8 Mitigation Measure BIO-4. Compliance with Section 1602 of California Fish and Game Code

It is likely that the CDFW will require tree replacement mitigation compensation as a condition of the Section 1602 Streambed Alteration Agreement. As detailed above, to comply with the County of Marin's mitigation requirements, the applicant proposes to mitigate for impacts to four native trees (three of which occur within Armory Creek's riparian canopy) via onsite replacement at a 4:1 (replacement to impacts) ratio for Heritage Tree impacts and 2:1 (replacement to impacts) ratio for Protected Tree impacts (see Attachment B). This tree replacement mitigation proposal to compensate for the project's minor encroachments into the riparian canopy will likely satisfy mitigation requirements stipulated by the CDFW in the Streambed Alteration Agreement. Replacement trees, to the extent possible and in consideration of the overall project site aesthetics, should be planted near Armory Creek to contribute to the existing riparian canopy associated with this creek. Any other conditions in the CDFW's issued Section 1602 Agreement shall also become a condition of the project stipulated in the project's Conditions of Approval.

Implementation of these mitigation measures would reduce the project's impact to CDFW Section 1602 jurisdiction y to a level regarded as less than significant pursuant to CEQA.

14. LITERATURE CITED

Baldwin D.H, Goldman D.H., Keil D.J., Patterson R, Rosatti T.J., Wilken D.H. (ed.). 2012. The Jepson Manual Vascular Plants of California: Second Edition. University of California Press, Berkeley. 1568 pps.

Beier, P. and S. Loe. 1992. "In my experience.." a checklist for evaluating impacts to wildlife movement corridors. Wildlife Society Bulletin Vol. 20(4): 6.

CDFW (California Department of Fish and Wildlife). 2016. Complete list of amphibian, reptile, bird and mammal species in California. Published September 2008; updated May 2016.

CDFW (California Department of Fish and Wildlife). 2018. Protocols for surveying and evaluating impacts to special-status native plant populations and sensitive natural communities. State of California. California Natural Resources Agency. Department of Fish and Wildlife. March 20, 2018. 12 pps.

CNDDB (California Natural Diversity Data Base). 2019. RareFind 5. Computer printout for special-status species within a 3-mile radius of the project site. California Natural Heritage Division, California Department of Fish and Wildlife, Sacramento, CA.

CNPS (California Native Plant Society). 2001. Inventory of rare and endangered plants of California (sixth edition). Rare plant scientific advisory committee, David P. Tibor, convening editor. California Native Plant Society. Sacramento, CA. x+338 pps.

Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, MS.

Hickman, J. (ed.). 1993. The Jepson manual: higher plants of California. University of California Press, Berkeley. 1400 pp.

Holland, V.L. & D.J. Keil. 1995. California vegetation. Kendall/Hunt Publishing Company.

USFWS (U.S. Fish & Wildlife Service). 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed Proposed and Candidate Plants. January 2000.

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Figure 1. Marin Jewish Community Campus Project Site
Regional Map
San Rafael, California

County: Marin
Map Preparation Date: May 30, 2019

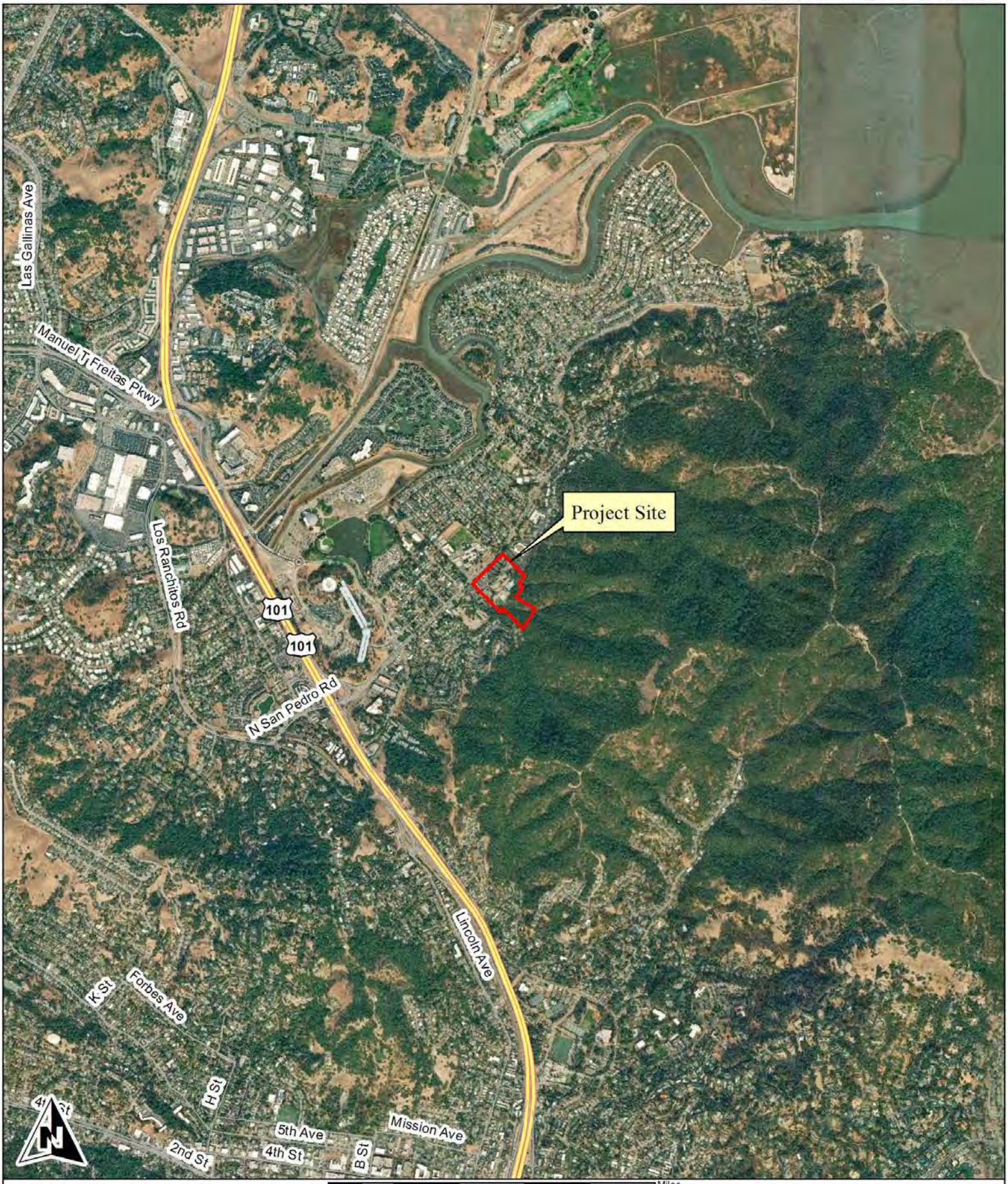

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Figure 2. Marin Jewish Community Campus
Project Site Location Map
San Rafael, California

37.6999847 -122.522752
Land Grant
7.5-Minute Novato & San Rafael quadrangles
Aerial Photograph Source: ESRI
Map Preparation Date: May 30, 2019

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Figure 3. Aerial Photograph of the
Marin Jewish Community Campus Project Site
San Rafael, California

Aerial Photograph Source: ESRI
Map Preparation Date: May 30, 2019

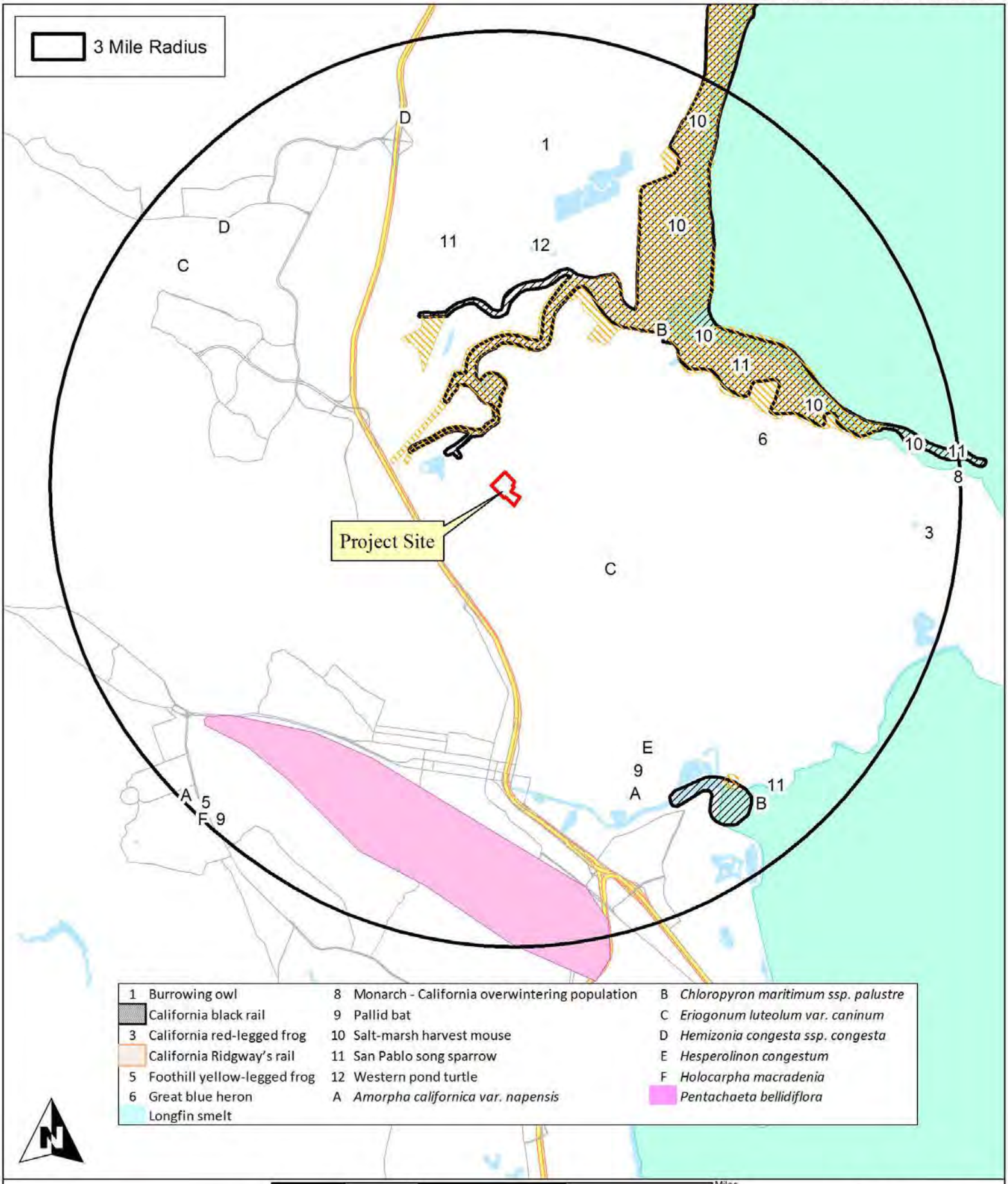

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Figure 4. CNDDB Records for Special-Status Species Within 3 Miles of the Marin Jewish Community Campus Project Site

Map Preparation Date: July 31, 2019
3-Mile Radius
Source: CDFW, California Natural Diversity Data Base, 2019

Table 1

Plants Species Observed on the Marin Jewish Community Project Site

Gymnosperms	
Pinaceae	
**Cedrus deodara*	Deodar cedar
Angiosperms - Dicots	
Aizoaceae	
**Carpobrotus edulis*	Fig-marigold
Anacardiaceae	
Toxicodendron diversilobum	Poison-oak
Araliaceae	
**Hedera helix*	English ivy
Asteraceae	
Baccharis pilularis subsp. pilularis	Baccharis
**Carduus pycnocephalus subsp. pycnocephalus*	Italian thistle
**Dittrichia graveolens*	Stinkwort
Erigeron canadensis	Horseweed
**Hypochaeris radicata*	Rough cat's-ear
Caprifoliaceae	
Lonicera sp.	Honeysuckle
Ericaceae	
Arctostaphylos sp.	Manzanita
Fabaceae	
**Acacia sp.*	Acacia
**Genista monspessulana*	French broom
Fagaceae	
Quercus agrifolia var. agrifolia	Coast live oak
Quercus lobata	Valley oak
Hamamelidaceae	
**Liquidambar styraciflua*	Liquidambar
Lauraceae	
Umbellularia californica	California bay
Onagraceae	
Epilobium ciliatum	Hairy willow-herb
Rosaceae	
**Cotoneaster sp.*	Cotoneaster
Heteromeles arbutifolia	Toyon
**Rubus armeniacus*	Himalayan blackberry
Sapindaceae	
Aesculus californica	California buckeye

* Indicates a non-native species

Table 1

Plants Species Observed on the Marin Jewish Community Project Site

Angiosperms -Monocots

Cyperaceae

Cyperus eragrostis	Tall flatsedge

Juncaceae

Juncus sp.	Rush

Poaceae

**Briza maxima*	Rattlesnake grass
**Briza minor*	Small quaking grass
**Bromus diandrus*	Ripgut grass
**Polypogon monspeliensis*	Annual beard grass

* Indicates a non-native species

Table 2
Wildlife Species Observed on the Marin Jewish Community Project Site

Birds	
Eurasian collared-dove	*Streptopelia decaocto*
Anna's hummingbird	*Calypte anna*
American crow	*Corvus brachyrhynchos*
Chestnut-backed chickadee	*Poecile rufescens*
Oak titmouse	*Baeolophus inornatus*
Bewick's wren	*Thryomanes bewickii*
California towhee	*Pipilo crissalis*
Mammals	
Botta's pocket gopher	*Thomomys bottae*
Dusky-footed woodrat	*Neotoma fuscipes*

Table 3

Special-Status Plant Species Known to Occur within 3 Miles of the Marin Jewish Community Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Asteraceae					
Hemizonia congesta congesta White seaside tarplant	Fed: - State: - CNPS: Rank 1B.2	April-November	Valley and foothill grassland. 20 to 560 meters. Clay soils	Closest known occurrence is approximately 2.5 miles northnorthwest of the project site in 1994 (CNDDB Occurrence No. 6).	None. No suitable habitat occurs on the project site.
Holocarpha macradenia Santa Cruz tarplant	Fed: FT State: CE CNPS: Rank 1B.1	June-October	Coastal prairie; valley and foothill grassland; [often clay].	Closest known occurrence is approximately 3.0 miles southwest of the project site in 1883 (CNDDB Occurrence No. 25).	None. No suitable habitat occurs on the project site.
Pentachaeta bellidiflora White-rayed pentachaeta	Fed: FE State: CE CNPS: Rank 1B	March-May	Valley and foothill grassland (often serpentinite).	Closest known occurrence is approximately 2.4 miles south of the project sitein 1946 (CNDDB Occurrence No. 3).	None. No suitable habitat occurs on the project site.
Fabaceae					
Amorpha californica napensis Napa false indigo	Fed: - State: - CNPS: Rank 1B.2	April-July	Broadleaved upland forest (openings); chaparral, cismontane woodland. 150-2000 m.	Closest known occurrence is approximately 2.0 miles southsoutheast of the project site in 1875 (CNDDB Occurrence No. 72).	None. No suitable habitat occurs on the project site.
Linaceae					
Hesperolinon congestum Marin dwarf flax	Fed: FT State: CT CNPS: Rank 1B.1	April-July	Chaparral; valley and foothill woodland; [serpentinite].	Closest known occurrence is approximately 2.0 miles southeast of the project site in 1880s (CNDDB Occurrence No. 11).	None. No suitable habitat occurs on the project site.

Table 3

Special-Status Plant Species Known to Occur within 3 Miles of the Marin Jewish Community Project Site

Family Taxon Common Name	Status*	Flowering Period	Habitat	Area Locations	Probability on Project Site
Orobanchaceae					
Chloropyron maritimum palustre Point Reyes salty bird's-beak	Fed: - State: - CNPS: Rank 1B.2	June-October	Marshes and swamps (coastal salt).	Closest known occurrence is approximately 1.5 miles northeast of the project site in 1984 (CNDDB Occurrence No. 9).	None. No suitable habitat occurs on the project site, none found in 1990.
Polygonaceae					
Eriogonum luteolum caninum Tiburon buckwheat	Fed: - State: - CNPS: Rank 1B.2	June-September	Chaparral; coastal prairie; valley and foothill grassland; [serpentinite].	Closest known occurrence is approximately 0.9 miles southeast of the project site in 1945 (CNDDB Occurrence No. 14).	None. No suitable habitat occurs on the project site.

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CC - California Candidate
CSC - California Species of Special Concern

CNPS:
Rank 1A - Presumed extinct in California
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 1B.1 - Seriously endangered in California (over 80% occurrences threatened/ high degree and immediacy of threat)
Rank 1B.2 - Fairly endangered in California (20-80% occurrences threatened)
Rank 1B.3 - Not very endangered in California (<20% of occurrences threatened or no current threats known)

CNPS Continued:
Rank 2 - Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 2A - Extirpated in California, common elsewhere
Rank 2B.1 - Seriously endangered in California, but more common elsewhere
Rank 2B.2 - Fairly endangered in California, but more common elsewhere
Rank 2B.3 - Not very endangered in California, but more common elsewhere
Rank 3 - Plants about which we need more information (Review List)
Rank 3.1 - Plants about which we need more information (Review List) Seriously endangered in California
Rank 3.2 - Plants about which we need more information (Review List) Fairly endangered in California
Rank 4 - Plants of limited distribution - a watch list

Table 4

Special-Status Wildlife Species Known to Occur Within 3 Miles of the Marin Jewish Community Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Insects				
Monarch butterfly *Danaus plexippus*	Fed: - State: - Other:	Winters in tall trees along the coast. Prefers eucalyptus, Monterey pine, and Monterey cypress.	Closest record located approximately 3.0 miles east of the project site in 1991 (Occurrence No. 20).	None. No suitable habitat on project site.
Fish				
Longfin smelt *Spirinichus thaleichthys*	Fed: -- State: CT Other:	Endemic to the Sacramento-San Joaquin River system. Inhabits open waters in the Delta and Suisun Bay. After spawning, larvae are carried downstream to brackish nursery areas.	Closest record located approximately 3.0 miles northeast of the project site (Occurrence No. 24).	None. No suitable habitat on project site.
Amphibians				
California red-legged frog *Rana draytonii*	Fed: FT State: CSC Other:	Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	Closest record located approximately 2.8 miles east of the project site in 2000 (Occurrence No. 1430).	None. No rookery observed on project site.
Foothill yellow-legged frog *Rana boylii*	Fed: -- State: CC Other:	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	Closest record located approximately 2.9 miles southwest of the project site in 1913 (Occurrence No. 2368).	None. No suitable habitat. Listed as extirpated in Marin County on CNDDB.

Table 4

Special-Status Wildlife Species Known to Occur Within 3 Miles of the Marin Jewish Community Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
Reptiles				
Western pond turtle ** *Emys marmorata*	Fed: - State: CSC Other:	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying. Occurs in the Central Valley and Contra Costa County.	Closest record located approximately 1.6 miles north of the project site in 2017 (Occurrence No. 1486).	None. No suitable habitat on project site.
Birds				
Great blue heron *Ardea herodias*	Fed: - State: - Other:	Colonial nester in tall trees near foraging areas, such as marshes, lake margins, tidal-flats, rivers, and streams. Also forages in open fields and cropland.	Closest record located approximately 1.7 miles westnorthwest of the project site in 1982 (Occurrence No. 23).	None. No rookery observed on project site.
California black rail *Laterallus jamaicensis coturniculus*	Fed: -- State: CT Other:	Inhabits salt marshes bordering larger bays. Prefers tidal salt marshes of pickleweed.	Closest record located approximately 0.3 miles N of the project site in 2011 (Occurrence No. 314).	None. No rookery observed on project site.
California Ridgway's rail *Rallus obsoletus obsoletus*	Fed: FE State: CE Other:	Inhabits salt water and brackish marshes with tidal sloughs in San Francisco Bay. Prefers dense pickleweed for cover, but forages for invertebrates along mud-bottomed sloughs.	Closest record located approximately 1.9 miles northeast of the project site (Occurrence No. 62).	None. No rookery observed on project site.
Western burrowing owl *Athene cunicularia hypugaea*	Fed: -- State: CSC Other:	Found in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Closest record located approximately 2.3 miles north of the project site in 1984 (Occurrence No. 45).	None. No rookery observed on project site.

Table 4

Special-Status Wildlife Species Known to Occur Within 3 Miles of the Marin Jewish Community Project Site

Species	*Status	Habitat	Closest Locations	Probability on Project Site
San Pablo song sparrow *Melospiza melodia samuelis*	Fed: -- State: CSC Other:	More properly known as Samuels Song Sparrow. Resident of salt marshes along the north side of San Francisco and San Pablo Bays. Inhabits tidal sloughs in the California marshes; nests in grindelia bordering slough channels.	Closest record located approximately 1.7 miles northnorthwest of the project site in 1919 (Occurrence No. 36).	None. No suitable habitat on project site.
Mammals				
Pallid bat *Antrozous pallidus*	Fed: - State: CSC Other:	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in dry habitats with rocky areas for roosting. Roosts in caves, crevices, mines, and occasionally hollow trees. Night roosts in open areas such as porches and open buildings.	Closest record located approximately 2.0 miles southsoutheast of the project site in 1891 (Occurrence No. 205).	None. No suitable habitat on project site.
Salt marsh harvest mouse *Reithrodontomys raviventris*	Fed: FE State: CE Other:	Inhabits saline marshes in the San Francisco Estuary. Prefers pickleweed marshes. Requires higher areas for escaping high water.	Closest record located approximately 1.9 miles northeast of the project site (Occurrence No. 30).	None. No suitable habitat on project site.

***Status**

Federal:	State:
FE - Federal Endangered	CE - California Endangered
FT - Federal Threatened	CT - California Threatened
FPE - Federal Proposed Endangered	CR - California Rare
FPT - Federal Proposed Threatened	CC - California Candidate
FC - Federal Candidate	CSC - California Species of Special Concern
FPD - Federally Proposed for delisting	FP - Fully Protected
	WL - Watch List. Not protected pursuant to CEQA

**The USFWS hopes to finish a 12-month finding for western pond turtle in 2021 but until formally listed, it is not afforded the protections of FESA.

Monk & Associates
Environmental Consultants
1136 Saranap Avenue, Suite Q
Walnut Creek, California 94595
(925) 947-4867

Exhibit A-1. Regulatory Agency Constraints
Marin Jewish Community Campus Project Site
San Rafael, California

Aerial Photograph Source: Google Earth
Map Preparation Date: August 14, 2019

Monk & Associates
Environmental Consultants
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Walnut Creek, California 94595
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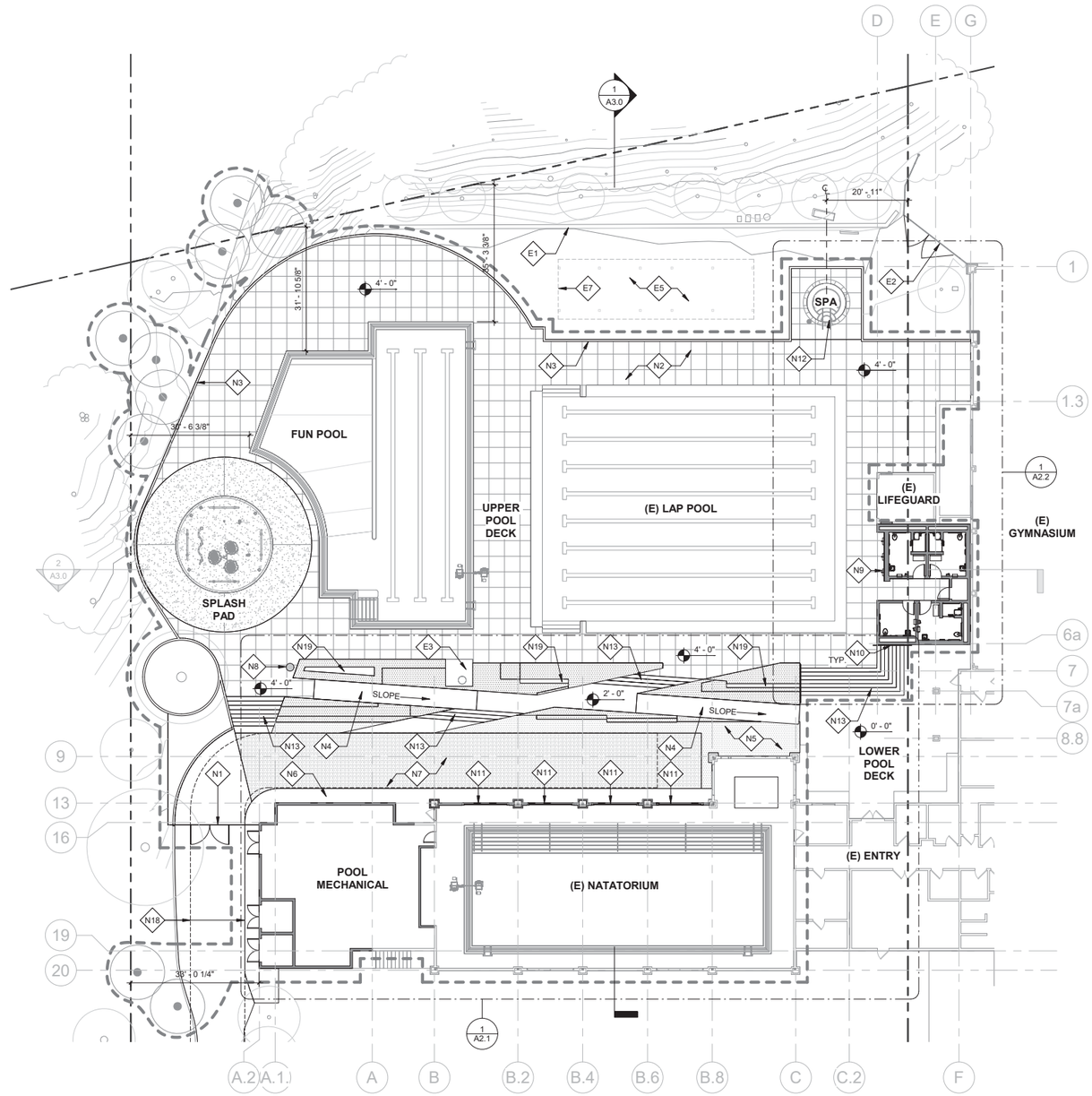
Exhibit A-2. Regulatory Agency Constraints
Armory Creek Within Project Limits (~75 Lin. Ft.)
Marin Jewish Community Campus Project Site

Aerial Photograph Source: ESRI
Map Preparation Date: August 14, 2019



1 SITE PLAN
1/16" = 1'-0"

GENERAL NOTES

1. EL. +0'-0" = 48.25'

2. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS INCLUDING DIMENSIONS AND ELEVATIONS NOTED IN DRAWINGS TO ENSURE CONFORMANCE WITH DRAWINGS.

3. ALL CUTTING & PATCHING OF EXISTING FINISHES THAT ARE TO REMAIN REQUIRE PRIOR APPROVAL & ARE TO BE COORDINATED WITH THE CONTRACTOR.

4. PROTECT ALL EXISTING FINISHES TO REMAIN.

KEYNOTES - SITE PLAN

- E1 EXISTING WOOD RETAINING WALL
- E2 EXISTING GATE
- E3 EXISTING BALANCE TANK
- E4 EXISTING WINDOW TO REMAIN
- E5 EXISTING LAWN AND LANDSCAPING
- E6 EXISTING SPA TO BE REFINISHED
- E7 EXISTING SHADE STRUCTURE
- N1 FENCE AND GATE
- N2 CONCRETE POOL DECK
- N3 CONCRETE RETAINING WALL
- N4 SLOPED WALKWAY
- N5 LANDSCAPING, SEE LANDSCAPE DRAWINGS
- N6 CONCRETE WALKWAY
- N7 GRASS PAVER SYSTEM (TURF-BLOCK), SEE LANDSCAPE DRAWINGS
- N8 FREESTANDING OUTDOOR SHOWER
- N9 EXTERIOR WALL MOUNTED SHOWERS
- N10 STAINLESS STEEL HANDRAIL
- N11 OVERHEAD COUNTERWEIGHT PIVOT DOOR WITH GLASS PANELS
- N12 OUTDOOR SPA
- N13 CONCRETE SITE STAIRS
- N18 FIRE ACCESS
- N19 CONCRETE BENCH, SEE LANDSCAPE DRAWINGS

LEGEND

- NEW DOOR
- EXISTING DOOR
- NEW WALL
- EXISTING WALL
- SCOPE OF WORK
- PROPERTY LINE
- EXTENT OF PROPOSED ADDITION

KEY PLAN:

PROJECT TEAM:

CIVIL ENGINEER:
CSW | ST2
45 Leveroni Court
Novato, CA 94949
P: (415) 883-9850

LANDSCAPE ARCHITECT:
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2200 Bridgeway
Sausalito, CA 94965
P: (415) 332-5100

STRUCTURAL ENGINEER:
ZFA STRUCTURAL ENGINEERS
1212 Fourth Street, Suite 2
Santa Rosa, CA 95404
P: (707) 526-0992

MEP:
INTEGRAL GROUP
427 13th Street
Oakland, CA 94612
P: (510) 663-2070

AQUATICS:
AQUATIC DESIGN GROUP
2226 Faraday Avenue
Carlsbad, CA 92008
P: (760) 438-8400

STAMP:

NOT FOR CONSTRUCTION

REVISION

NO.	REVISION	DATE

PROJECT NUMBER: 201813

PROJECT TITLE:
OSHER MARIN JCC - AQUATICS

200 N SAN PEDRO ROAD
SAN RAFAEL, CA 94903

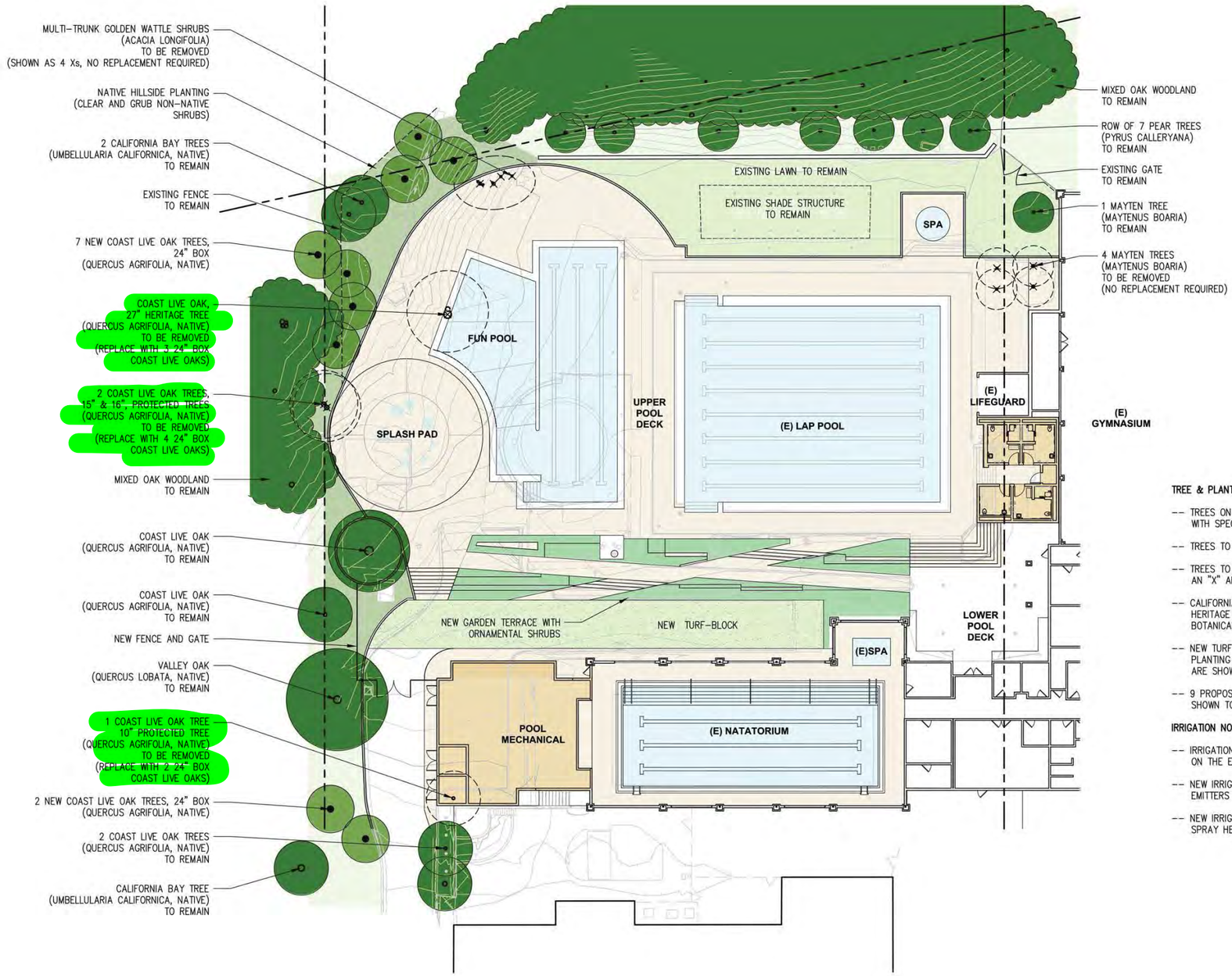
ISSUE:
CONDITIONAL USE PERMIT AMENDMENT APPLICATION

02/28/2019

SHEET TITLE:
SITE PLAN

els
architecture+
urban design
2040 Addison Street | Berkeley, CA 94704
P: 510.549.2929

SHEET NUMBER:
A1.0



TREE & PLANTING NOTES:

-- TREES ON THE PROJECT SITE ARE SHOWN WITH SPECIES NOTED

-- TREES TO REMAIN ARE COLORED

-- TREES TO BE REMOVED ARE INDICATED WITH AN "X" AND ARE NOT COLORED

-- CALIFORNIA NATIVE TREES, PROTECTED AND HERITAGE TREES ARE NOTED AFTER THE BOTANICAL NAME

-- NEW TURF BLOCK, ORNAMENTAL SHRUB PLANTING AND NATIVE HILLSIDE PLANTING ARE SHOWN DIAGRAMMATICALLY

-- 9 PROPOSED 24" BOX COAST LIVE OAKS ARE SHOWN TO REPLACE REMOVED LIVE OAKS

IRRIGATION NOTES:

-- IRRIGATION IMPROVEMENTS WILL BE RETROFITTED ON THE EXISTING WEATHER–BASED SYSTEM

-- NEW IRRIGATION FOR SHRUBS WILL BE DRIP EMITTERS

-- NEW IRRIGATION FOR TURF BLOCK WILL BE SPRAY HEADS

1" = 16'-0"

0 16 32

North

KEY PLAN:

PROJECT TEAM:

CIVIL ENGINEER:
CSW | ST2
45 Leveroni Court
Novato, CA 94949
P: (415) 883-9850

LANDSCAPE ARCHITECT:
SWA
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STRUCTURAL ENGINEER:
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MEP:
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AQUATICS:
AQUATIC DESIGN GROUP
2226 Faraday Avenue
Carlsbad, CA 92008
P: 760.438.8400

STAMP:

NOT FOR CONSTRUCTION

REVISION

NO.	REVISION	DATE

PROJECT NUMBER: 201813

PROJECT TITLE:
OSHER MARIN JCC - AQUATICS

200 N SAN PEDRO ROAD
SAN RAFAEL, CA 94903

ISSUE:
CONDITIONAL USE PERMIT AMENDMENT APPLICATION

02/28/2019

SHEET TITLE:
LANDSCAPE PLAN

els
architecture+ urban design
2040 Addison Street | Berkeley, CA 94704
P: 510.549.2929

SHEET NUMBER:
L1.1

EXHIBIT D

PRELIMINARY STORMWATER CONTROL PLAN

for

MARIN JEWISH COMMUNITY CAMPUS

September 2019

KPFF Consulting Engineers
45 Fremont Street, 28th Floor
San Francisco, CA 94105
(415) 989-1004

prepared by:

Ryan Beaton, PE, QSD
Ryan.Beaton@kpff.com

TABLE OF CONTENTS

Tables

Attachments

Stormwater Control Plan Exhibit & Details

This Stormwater Control Plan was prepared using the template dated February 2018.

I. PROJECT DATA

Table 1. Project Data

Project Name/Number	Marin Jewish Community Campus
Application Submittal Date	
Project Location	170, 180, 200, 210 N San Pedro Road
Name of Developer	Marin Jewish Community Campus
Project Phase No.	NA
Project Type and Description	Existing Jewish Community Campus including community center, synagogue, day school, early child education center
Total Project Site Area (acres)	10.1 ac
Total Area of Land Disturbed (acres)	2.2 ac
Total New and Replaced Impervious Surface Area (sq. ft.)	43,632
Total Pre-Project Impervious Surface Area (sq. ft.)	244,951
Total Post-Project Impervious Surface Area	230,041

II. SETTING

II.A. Project Location and Description

The Marin Jewish Community Center (MJCC) project consists of several related facilities at 170, 180, 200 & 210 N San Pedro Road in San Rafael, California, including a synagogue, community center, day school, and early education center. The proposed redevelopment consists of a replacement of the existing Congregation Rodef Sholom synagogue, improvements to the Osher Marin Jewish Community Center aquatics area, and building alterations to both Brandein Marin and OMJCC Early Education Center.

II.B. Existing Site Features and Conditions

The MJCC site is located northeast of highway US101, bound by N San Pedro Road to the north, private properties on the east and west, and open space to the south. The existing site consists of five buildings: three operated by Osher Marin Jewish Community Center and two by separate entities. Parking facilities are shared throughout the campus and are generally located between N San Pedro Road and the aforementioned buildings. Play areas, courtyards,

and an aquatics facility are located behind the structures along the southerly edge of the property. Undeveloped hillside extends up behind the property to the south.

The site generally slopes from south to north with elevations ranging from approximately 160 feet to 58 feet. Two ephemeral creeks traverse the site, one each near the east and west end of the property. These existing creeks capture runoff from the hillside and covey it through the property. The existing on-site storm drain system conveys stormwater runoff through the site into the Marin County public drainage system in N San Pedro Road, or into the ephemeral creeks.

II.C. Opportunities and Constraints for Stormwater Control

Constraints for stormwater control are the existing site conditions. Conforming to existing improvements can be difficult when trying to incorporate stormwater control features. In addition, the site generally slopes away from the improvements relatively quickly meaning flat areas for treatment are limited.

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. Optimization of Site Layout

III.A.1. Limitation of development envelope

The development envelope is minimally reducing grading, alterations within tree driplines, and new impervious area wherever possible.

III.A.2. Preservation of natural drainage features

The project preserves the existing drainage patterns by matching the overall flow direction of the existing site.

III.A.3. Setbacks from creeks, wetlands, and riparian habitats

Setbacks are identified for creeks, wetlands, and riparian habitats. Existing creeks are minimally impacted by the project.

III.A.4. Minimization of imperviousness

Imperviousness for the project was minimized through the utilization of permeable material.

III.A.5. Use of drainage as a design element

Bioretention areas are located where they can capture roof runoff.

III.B. Use of Permeable Pavements

Permeable pavements are proposed to be used at both the CRS and OMJCC Aquatics Complex areas.

III.C. Dispersal of Runoff to Pervious Areas

All created impervious surfaces are treated by either bioretention areas of pervious pavements. Runoff is directed to these areas at both projects.

III.D. Stormwater Control Measures

Bioretention facilities used on the site are located and designed to be consistent with the guidance from MCSTOPP. Documentation of Drainage Design

IV. DESCRIPTIONS OF EACH DRAINAGE MANAGEMENT AREA

See attached Stormwater Control Plan sheets for the locations, types, and sizing of each drainage management area for the Congregation Rodef Sholom and OMJCC Aquatics Complex projects.

V. SOURCE CONTROL MEASURES

V.A. Site activities and potential sources of pollutants

- Potential dump of washwater, oil, paints, and other household liquids.
- Pest control
- Pesticide
- Vehicle Washing
- Pool chemicals

V.B. Source Control Table

Table 3. Source Controls

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*
A. On-site storm drain inlets	Mark all inlets with the words "No Dumping! Flows to Bay" with thermoplastic stenciling.	Maintain and periodically repaint or replace inlet markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators. Annually remove sediment, trash, and debris from inlets prior to rainy season and as needed.
D1. Need for future indoor & structural pest control	Slope pavement away from buildings and compact backfill to prevent settling. Backfill should be free of organic material. Provide a membrane beneath the floor slab. Limit expansion joints. Mechanically vibrate floor slab to minimize voids.	Encourage the use of Integrated Pest Management techniques.

	Maintain adequate clearance between wood structural components and soil. Seal gaps between utility penetrations and slab.	
D2. Landscape/Outdoor Pesticide Use	The final landscape plans will accomplish the following: • Preserve existing vegetation to the maximum extent practicable. • Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. • Where landscaped areas are used to retain stormwater, specify plants that are tolerant of saturated soil conditions. • Consider using pest-resistant plants, especially adjacent to hardscape. To insure successful establishment, elect plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	Maintain landscaping using minimum or no pesticides. Encourage the use of Integrated Pest Management techniques.
E. Pools	The local municipality requires pools to be plumbed to the sanitary sewer, this connection will be made according to local requirements.	Prevent algae problems with regular cleaning, consistent adequate chlorine levels, and well-maintained water filtration and circulation systems. Do not use copper-based algaecides. Control algae with chlorine or other alternatives, such as sodium bromide.

		Manage pH and water hardness to minimize corrosion of water pipes. Prevent backflow if draining a pool to the sanitary sewer by maintaining an "air gap" between the hose and sewer. Be sure to call the local wastewater treatment plant for further guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash).
G. Refuse Areas	Sit. e refuse will be deposited in a trash compactor, located in the trash compactor building near the northeasterly corner of the project site.	Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site.
J. Vehicle and Equipment Cleaning	There are no designated car wash areas in order to discourage on site car washing. Hose bibs will not be accessible to residents. Facility vehicles used for transporting waste within the site will have a designated washing area within the trash compaction enclosure. The washing area will be connected to an oil-water separator and the sanitary sewer system.	Washwater from facility vehicles and equipment washing operations shall not be discharge to the storm drain system. Facility vehicles and equipment shall be cleaned with biodegradable, phosphate-free detergents as appropriate, and rinsed with water only. Runoff from washing within the trash compaction enclosure will be directed to the sanitary sewer through a floor drain.
K. Vehicle/Equipment Repair and Maintenance	No vehicle repair or maintenance will be done outdoors.	No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.

	There are no floor drains that permit the discharge of industrial waste. There are no tanks, containers or sinks to be used for parts cleaning or rinsing.	No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment, leaking fluids shall be contained or drained from the vehicle immediately. No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.
O. Miscellaneous Drain or Wash Water	Condensate drain lines will discharge to adjacent landscaped areas.	
P. Plazas, sidewalks, and parking lots.		Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

The bioretention areas have a max side slope of 3:1, 12" ponding depth, minimum 18" bioretention soil and a class 2 permeable aggregate depth of 2'-3". The bioretention soil will be 60-70% sand, 30-40% compost with a minimum percolation rate of 5 in/hr. The bioretention is lined with an HDPE liner on the sides and is drained by a 6" perforated pipe at a 0.5% minimum slope.

The pervious pavement consists of pervious paving over minimum 8" Class 1, Type A Permeable Drain Rock. The pervious paving lacks fine aggregates, allowing stormwater to pass through the pavement. The drain rock acts as a reservoir course with approximately 40% voids, capturing the equivalent of 3.2" of rainfall depth to be infiltrated on-site. The pavement is underlain by a geotextile fabric to strengthen the pavement and prohibit differential settlement or rutting attributed to stormwater infiltration.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

I, _____, commit to execute any necessary agreements and/or annex into a fee mechanism, per local requirements and accept responsibility for operation and maintenance of facilities until that responsibility is formally transferred.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

Bioretention Areas

- Inspect **inlets** for channels, exposure of soils, or other evidence of erosion. Clear any obstructions and remove any accumulation of sediment. Examine rock or other material used as a splash pad and replenish if necessary.
- Inspect **outlets** for erosion or plugging.
- Inspect **side slopes** for evidence of instability or erosion and correct as necessary.
- Observe soil at the bottom of the swale or filter for uniform **percolation** throughout. If portions of the swale or filter do not drain within 48 hours after the end of a storm, the soil should be tilled and replanted. Remove any debris or accumulations of sediment.
- Confirm that **check dams** and **flow spreaders** are in place and level and that channelization within the swale or filter is effectively prevented.
- Examine the **vegetation** to ensure that it is healthy and dense enough to provide filtering and to protect soils from erosion. Replenish mulch as necessary, remove fallen leaves and debris, prune large shrubs or trees, and mow turf areas. When mowing, remove no more than ⅓height of grasses. Confirm that irrigation is adequate and not excessive. Replace dead plants and remove noxious and invasive vegetation.
- Abate any potential **vectors** by filling holes in the ground in and around the swale and by insuring that there are no areas where water stands longer than 48 hours following a storm. If mosquito larvae are present and persistent, contact the Marin County Mosquito and Vector Control District for information and advice. Mosquito larvicides should be applied only when absolutely necessary and then only by a licensed individual or contractor.

Pervious Pavement

- Check for sediment and debris accumulation. Prevent soil from washing or blowing onto the pavement. Do not store sand, soil, mulch, or other landscaping materials on pervious pavement surfaces.
- Conduct preventative surface cleaning, using commercially available regenerative air or vacuum sweepers, to remove sediment and debris.
- Inspect for any signs of pavement failure.
- Check for standing water on the pavement surface within 30 minutes after a storm event.
- Inspect underdrain outlets and cleanouts. Remove trash and debris.

VII. CONSTRUCTION PLAN C.3 CHECKLIST

Table 4. Construction Plan C.3 Checklist

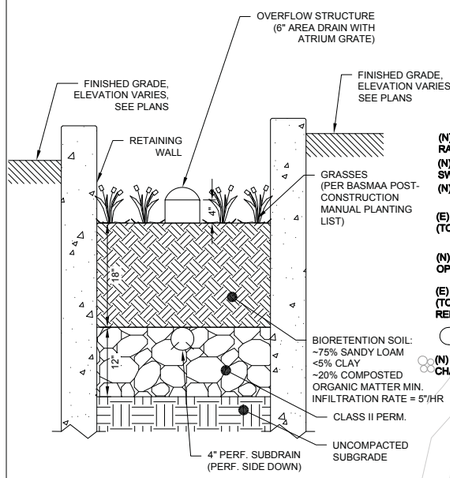
Stormwater Control Plan Page #	*BMP Description*	*See Plan Sheet #s*
	Bioretention Area	C6.1, C2.0
	Pervious Pavement	C6.1, C2.0

VIII. CERTIFICATIONS

The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R2-2015-0049.

By

Print Name



1 BIORETENTION DETAIL
SCALE: N.T.S.

GRADING & DRAINAGE PLAN KEYNOTES

1. (E) STORM DRAIN TO BE REMOVED OR ABANDONED
2. (E) AREA DRAIN TO BE REMOVED
3. (E) FENCE TO BE REMOVED
4. (E) SLOT DRAIN TO BE REPLACED
5. BIORETENTION PLANTER
6. DISCHARGE TO BIORETENTION PLANTER
7. (E) IRRIGATION BOX TO BE REMOVED
8. (E) AD TO REMAIN

HYDROLOGY LEGEND

- DMA X / XX SF / BIO X — DRAINAGE MANAGEMENT AREA (D.M.A) I.D. / DMA AREA IN SQUARE FEET / INTEGRATED MANAGEMENT PRACTICE (IMP) TREATING DMA
- DRAINAGE AREA BOUNDARY
- DMA BOUNDARY
- BIORETENTION AREA
- PERMEABLE PAVERS

SELF-RETAINING	
DMA 4	2,286 SF

DMA NAME	DMA AREA (SF)	POST-PROJECT SURFACE TYPE	DMA RUNOFF FACTOR	DMA AREA X RUNOFF FACTOR	IMP NAME		
					BIO 1		
					IMP SIZING FACTOR	MIN. IMP SIZE (SF)	PRO. IMP SIZE (SF)
DMA 1	5,106	CONCRETE	1.0	5,106	0.04	204	275
TOTAL >				5,106			

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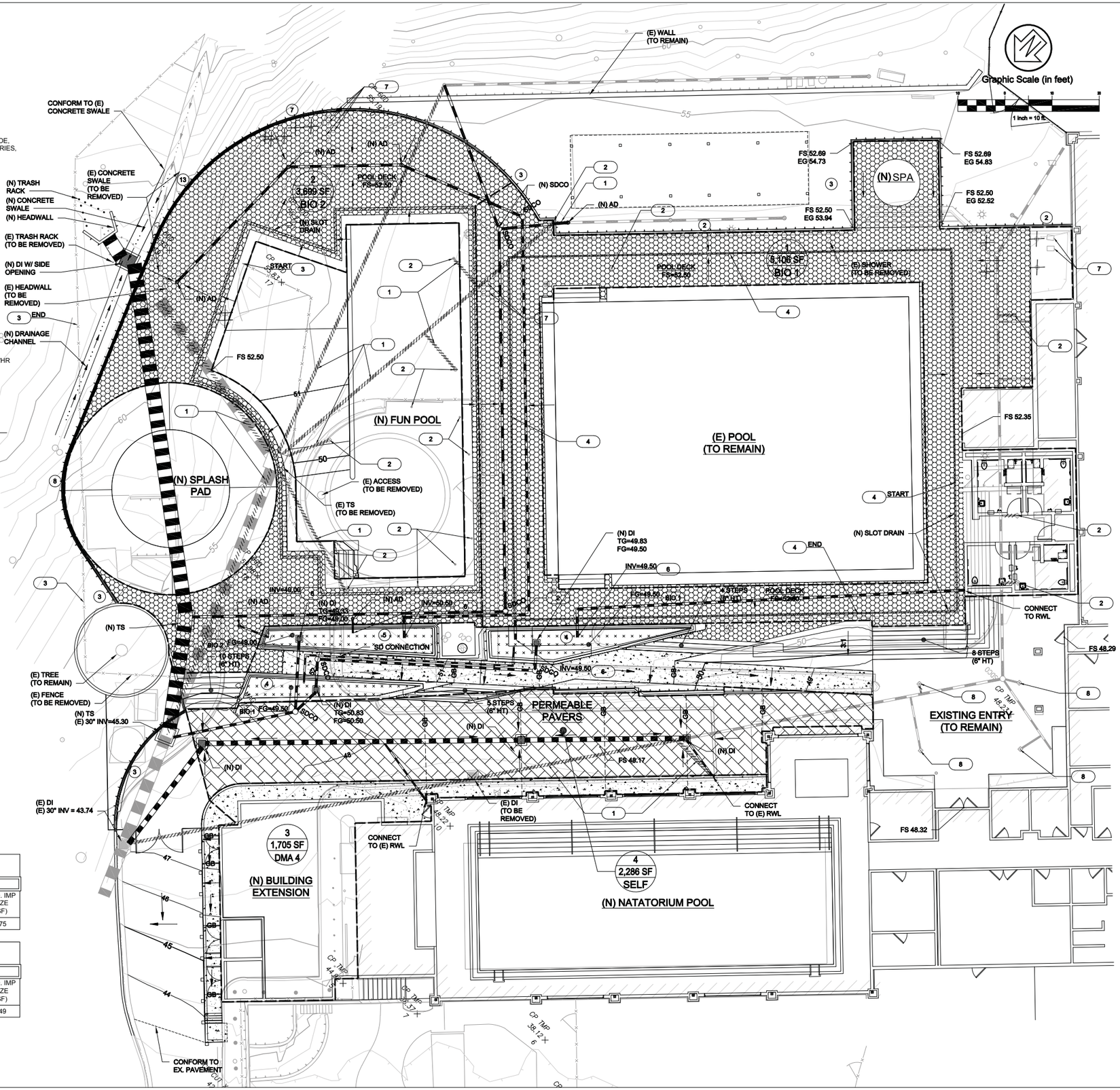
DMA 3	1,705	ROOF	1.0	DMA 4	2,286



KEY PLAN:

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CIVIL ENGINEER:
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AQUATICS:
AQUATIC DESIGN GROUP
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P: 760.438.8400

STAMP:

NOT FOR CONSTRUCTION

REVISION

NO.	REVISION	DATE

PROJECT NUMBER: 201813

PROJECT TITLE:
OSHER MARIN JCC - AQUATICS

200 N SAN PEDRO ROAD
SAN RAFAEL, CA 94903

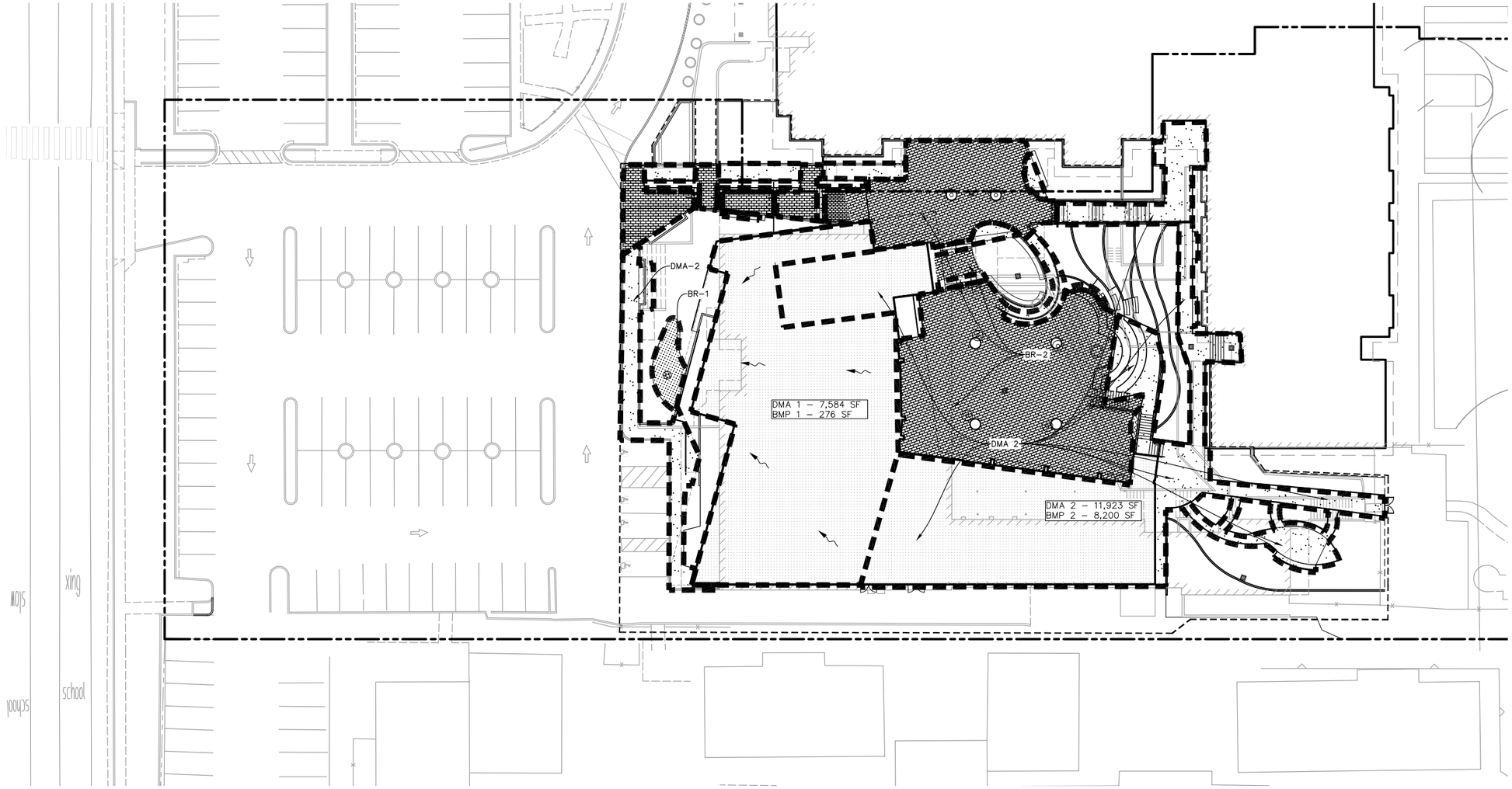
ISSUE:
CONDITIONAL USE PERMIT AMENDMENT APPLICATION

02/28/2019

SHEET TITLE:
PRELIMINARY STORMWATER CONTROL PLAN

els architecture+ urban design
2040 Addison Street | Berkeley, CA 94704
P: 510.549.2929

SHEET NUMBER: **C2.0**



LEGEND:

- BIORETENTION AREA
- CONCRETE PAVEMENT
- ROOF/BUILDING
- PERVIOUS PAVEMENT

DMA Table						
DMA	Impervious Area (sq. ft.)	Pervious Area (sq. ft.)	Effective Area (sq. ft.)	BMP Required Area (sq. ft.)	BMP	BMP Area (sq. ft.)
1	7,584	0	7,584	303	BR-1	303
2	11,923	0	11,923	477	BR-2	8,200

STORMWATER CONTROL NOTES:

1. THE CALCULATIONS ON THIS SHEET ARE BASED ON THE STORMWATER QUALITY MANUAL FOR DEVELOPMENT PROJECTS IN MARIN COUNTY HANDBOOK.
2. A TREATMENT MEDIUM SIZING FACTOR OF 0.04 WAS ASSUMED WHEN DETERMINING THE TREATMENT CONTROL METHOD AREA REQUIRED.

20' 10' 20' 40'
SCALE: 1" = 20'

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Key Plan:

General Notes/Legend:

Consultant:

kpff
45 Fremont Street, 28th Floor
San Francisco, CA 94105
415.989.1004 | kpff.com

Stamp:

No.	Revision	Date
	CONCEPTUAL PRICING SET	5/11/2018
	SCHEMATIC DESIGN PRICING CHECK SET	8/24/2018
	100% DESIGN DEVELOPMENT	7/19/2019

Project Number

Project Title:

Sheet Title: STORMWATER CONTROL PLAN

Scale:

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Drawn By:

Checked:

Sheet Number: C6.1

IF THIS SHEET IS SMALLER THAN 24"x36" THEN IT HAS BEEN REDUCED

EXHIBIT E

MARIN JEWISH COMMUNITY CAMPUS

SAN RAFAEL, CALIFORNIA

STORM DRAINAGE REPORT

PREPARED BY:

KPFF CONSULTING ENGINEERS
45 FREMONT STREET, 28TH FLOOR
SAN FRANCISCO, CALIFORNIA 94105

DATE: SEPTEMBER 2019

INTRODUCTION

KPFF Consulting Engineers has compiled this report to document the existing and proposed drainage for the planned alternations to the Marin Jewish Community Center. The scope of this report is the compilation of the analysis associated with the site's comprehensive environmental review examining drainage patterns, stormwater runoff, erosion and sedimentation, and the impacts to stormwater water quality for the purpose of meeting the requirements of the authorities having jurisdiction for permitting of the project.

The Marin Jewish Community Center (MJCC) project consists of several related facilities at 170, 180, 200 & 210 N San Pedro Road in San Rafael, California, including a synagogue, community center, day school, and early education center. The proposed redevelopment consists of a replacement of the existing Congregation Rodef Sholom synagogue, improvements to the Osher Marin Jewish Community Center aquatics area, and building alterations to both Brandein Marin and OMJCC Early Education Center. This stormwater report supplements the Conditional Use Permit application, and is based on information obtained from the relevant design teams and design standards from Marin County.

EXISTING CONDITIONS

The MJCC site is located northeast of highway US101, bound by N San Pedro Road to the north, private properties on the east and west, and open space to the south. The existing site consists of five buildings: three operated by Osher Marin Jewish Community Center and two by separate entities. Parking facilities are shared throughout the campus and are generally located between N San Pedro Road and the aforementioned buildings. Play areas, courtyards, and an aquatics facility are located behind the structures along the southerly edge of the property. Undeveloped hillside extends up behind the property to the south.

The site generally slopes from south to north with elevations ranging from approximately 160 feet to 58 feet. Two ephemeral creeks traverse the site, one each near the east and west end of the property. These existing creeks capture runoff from the hillside and covey it through the property. The existing on-site storm drain system conveys stormwater runoff through the site into the Marin County public drainage system in N San Pedro Road, or into the ephemeral creeks.

See Appendix A for more information on the existing drainage area and storm drain system.

PROPOSED IMPROVEMENTS

The proposed MJCC site improvements include a complete reconstruction of Congregation Rodef Sholom (CRS), renovation to the OMJCC Aquatics Complex, and building alternations to Brandeis Marin and OMJCC Early Education Center. The CRS and OMJCC Aquatics Complex projects are the only projects that will impact exterior improvements.

The CRS reconstruction project will include the demolition of the existing 1-story synagogue, adjacent courtyard area, and minor parking lot renovation. It will be replaced with a 2-story

synagogue, a new courtyard and landscaping for increased community usage, and upgraded accessible parking facilities. For stormwater management the project is proposing bioretention areas and pervious pavement. Bioretention areas will capture some roof runoff from the new structure. Pervious pavement will be self-retaining and also take additional runoff from adjacent roof areas.

The OMJCC Aquatics renovation will include demolition and replacement of the existing tot pool. The replacement will include a new family pool and water play features. The project will also improve the existing indoor pool, expand locker rooms, and enlarge the indoor pool wing to house added mechanical equipment. For stormwater management, the project is proposing bioretention areas and pervious pavement. Bioretention areas will capture pool deck runoff. Pervious pavement will be self-retaining and also take additional runoff from adjacent pavement surfaces and the pool wing expansion.

See Appendix A for additional information regarding stormwater management.

Temporary and Permanent Erosion and Sediment Control

The earthwork activities for the proposed improvements on the MJCC site are designed to minimize erosion and sedimentation on- and off-site. As a part of the improvements, the overall drainage patterns will be redirected by curbs, gutters, inlets, and/or catch basins to accommodate new buildings, modified parking areas, walkways, and planting areas. Temporary and permanent erosion and sediment control measures during construction will be designed according to the State Regional Water Quality Control Board (RWQCB) and Marin County Standards. Erosion and sediment control measures designed for both during and after construction are integrated into the project grading and drainage plans. The maintenance, observation, and monitoring of the erosion control measures are managed by the Contractor based on their methods of construction. Erosion and sediment control measures for this project include inlet and biobag filter protection at all inlets and catch basins, fiber roll sediment barriers at the downhill side of all disturbed areas, and stabilized constructions exits.

STORMWATER ANALYSIS SUMMARY

The Marin County municipalities, Marin County Stormwater Pollution Prevention Program (MCSTOPPP), and the Regional Water Quality Control Board (RWQCB) have adopted Low Impact Development (LID) guidelines for stormwater design to comply with the National Pollutant Discharge Elimination System (NPDES) Permit. Several LID design strategies were reviewed and evaluated for the MJCC project site. LID measures considered were the optimization of the site layout, the use of permeable pavement, the dispersal of runoff to pervious areas, and the use of Best Management Practices (BMPs) such as bioretention, bioinfiltration, bioswale surface treatment and other similar facilities and controls.

The MJCC site design optimizes the site layout by preserving the natural drainage features to the maximum extent practicable, while minimizing additional impervious areas through the preservation of existing sidewalks, roadways, and parking lots. The renovated areas will replace existing improved areas of the site instead of expanding the campus footprint. Approximately 14,400 square feet of pervious pavement will be used to mitigate stormwater runoff in areas with inadequate space available for landscape-based BMPs, or where existing drainage patterns and site features do not allow the placement of landscape-based BMPs.

The LID design approach includes BMPs such as bioretention facilities using filtration through soil media to meet stormwater quality standards. Bioretention facilities will be constructed for treatment of stormwater runoff from new building roof areas and walkways, where practicable.

With the implementation of these LID design measures, the discharge of stormwater pollutants is mitigated to the maximum extent practicable. The individual project Stormwater Control Plans identify the proposed treatment areas, included in Appendix A. These treatment

facilities are designed for the runoff produced by smaller storms and the first flush[1] of larger storms as required by the MCSTOPPP and NPDES permit. According to the MCSTOPPP, these requirements apply to previously developed sites when "5,000 square feet or more of impervious area is created or replaced." If the impervious area being created or replaced is less than 50% of the existing total site area, "the requirements apply only to the addition."

In addition to reducing the discharge of stormwater pollutants to the maximum extent practicable, LID design aims to mimic the post-project site hydrology to the pre-project site hydrology. The MCSTOPPP requires developments to infiltrate runoff or provide facilities to treat stormwater runoff prior to its release from the site in addition to controlling the peak runoff rate and flow volume. For a breakdown of the peak runoff rates for both the existing and proposed site conditions, see attached tables in Appendix B. See the "Design Methodology" section for a breakdown of all site hydrology computations.

Due to the addition of pervious pavement and the minimal increase into previously undeveloped areas, the proposed impervious areas are less than the existing impervious areas. As a result, and as shown in Appendix B, there is a resultant decrease in anticipated site runoff. Therefore, based on our analysis, this project satisfies the requirements set forth in the MCSTOPPP and NPDES permit for peak runoff flow control.

MARIN COUNTY STORM DRAIN DESIGN METHODOLOGY

The hydrology for the proposed Marin General Hospital site is based on the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) criteria as well as the Regional Water Quality Control Board National Pollutant Discharge Elimination System (NPDES) permit. MCSTOPPP and NPDES permit criteria for sizing stormwater treatment and flow-control facilities are different from the "event based" or "design storm" hydrology typically used to size drainage and flood control facilities. A breakdown of the design methodology for both stormwater treatment versus drainage and flood control facilities is below. BMPs such as vegetated swales, surfaces bioswales, infiltration planters, and porous pavements are classified as stormwater treatment and flow-control facilities. Sizing storm drain lines and calculating peak flows fall under the drainage and flood control design approach.

[1] The first flush is the initial surface runoff for a rainstorm.

Stormwater Treatment Facilities

For flow-based treatment facilities, the NPDES permit specifies the Rational Method be used to determine the peak stormwater runoff. The Rational Method is expressed as follows:

$$Q = C * I * A$$

Where: Q = runoff rate in cubic feet per second
C = runoff coefficient
I = average rainfall intensity in inches per hour
A = drainage area in acres

The runoff coefficient, C, for the existing and proposed site conditions was calculated using a "weighted" C-factor. Runoff coefficients for different types of surfaces within the drainage areas were determined using the Runoff Coefficient Fact Sheet included in Appendix C and as identified in the tables in Appendix B.

The rainfall intensity, I, used in the Rational Method is a function of smaller storms and the first flush of larger storms. According to the MCSTOPPP and as specified by the NPDES permit, landscape-based stormwater filtration BMP's are designed to retain and treat runoff produced by a rainfall intensity of 0.2 inches per hour. Assuming a minimum 5 inches per hour infiltration rate for bioretention facilities, this equates to a minimum bioretention area equal to 4% of all contributing impervious area.

Pervious pavement is considered a self-retaining treatment facility. Stormwater that lands on the facility is retained in a matrix of gravel base below the pavement level, where it can be stored and infiltrated into the ground overtime. Due to structural requirements of the pavement, the underlying gravel layer is larger than is necessary for storing only the pavement area itself. Therefore, additional site runoff from adjacent impervious areas can also be drained onto the pervious pavement at a maximum ratio of 2:1 impervious area to pervious pavement area.

Drainage and Flood Control Facilities

For flood control facilities, the NPDES permit specifies the Rational Method be used to develop the peak stormwater runoff rate. With this sizing approach, the stormwater runoff produced for the site conditions is based on a rainfall intensity using an "event based" or "design storm" methodology rather than the 0.2 inches per hour which represents approximately 80% of the average annual rainfall. The rainfall intensity, I, is a function of both frequency and duration of the storm event and the time of concentration. For rainfall intensity, the NPDES permit allows some municipalities and local agencies in Alameda, Contra Costa, Marin, and others not covered under the Phase I NPDES permit to regulate

stormwater design standards. These municipalities and local agencies throughout California fall under the NPDES Phase II permit as Municipal Separate Storm Sewer System (MS4s). However, based on KPFF's review of the MCSTOPPP, no design storm event is specified.

The storm duration for determining the peak runoff rate is considered to be the time required for the stormwater to flow from the furthest point of the system until it reaches the discharge point. The time of concentration, T_c, used is five minutes which corresponds to an urban, directly connected surface drainage system.

NOAA Atlas 14 Point Precipitation Frequency Estimates, attached in Appendix C, were used in the development of the design rainfall intensity for a 10 year storm event.

Based on our analysis, we have determined that the post-developed peak runoff rate is lower than the pre-developed peak runoff rate. A breakdown of the peak runoff rates for the individual drainage basins throughout the site is attached in Appendix B.

CONCLUSIONS

The proposed stormwater management facilities for the MJCC site satisfy MCSTOPPP and NPDES requirements for sizing of stormwater quality treatment facilities and peak stormwater runoff rate. See Appendix B for a breakdown of the existing and proposed stormwater runoff rates. By incorporating stormwater quality features such bioretention areas and pervious pavement, sources of polluted stormwater runoff from impervious surfaces will be mitigated. These features will be constructed throughout the site as near as possible to the impervious area they are treating.

The introduction of stormwater quality treatment enhancements will improve the quality of the stormwater runoff from the site and maintain the overall existing on-site drainage system patterns, while retaining the post-development peak discharge runoff rate below the pre-development peak discharge rate. Based on our analysis, the existing and proposed development peak discharge rates for a 10-year storm event are shown below.

	Existing Site Conditions	Proposed Site Conditions
Peak Runoff Rate:	22.03 cfs	21.00 cfs

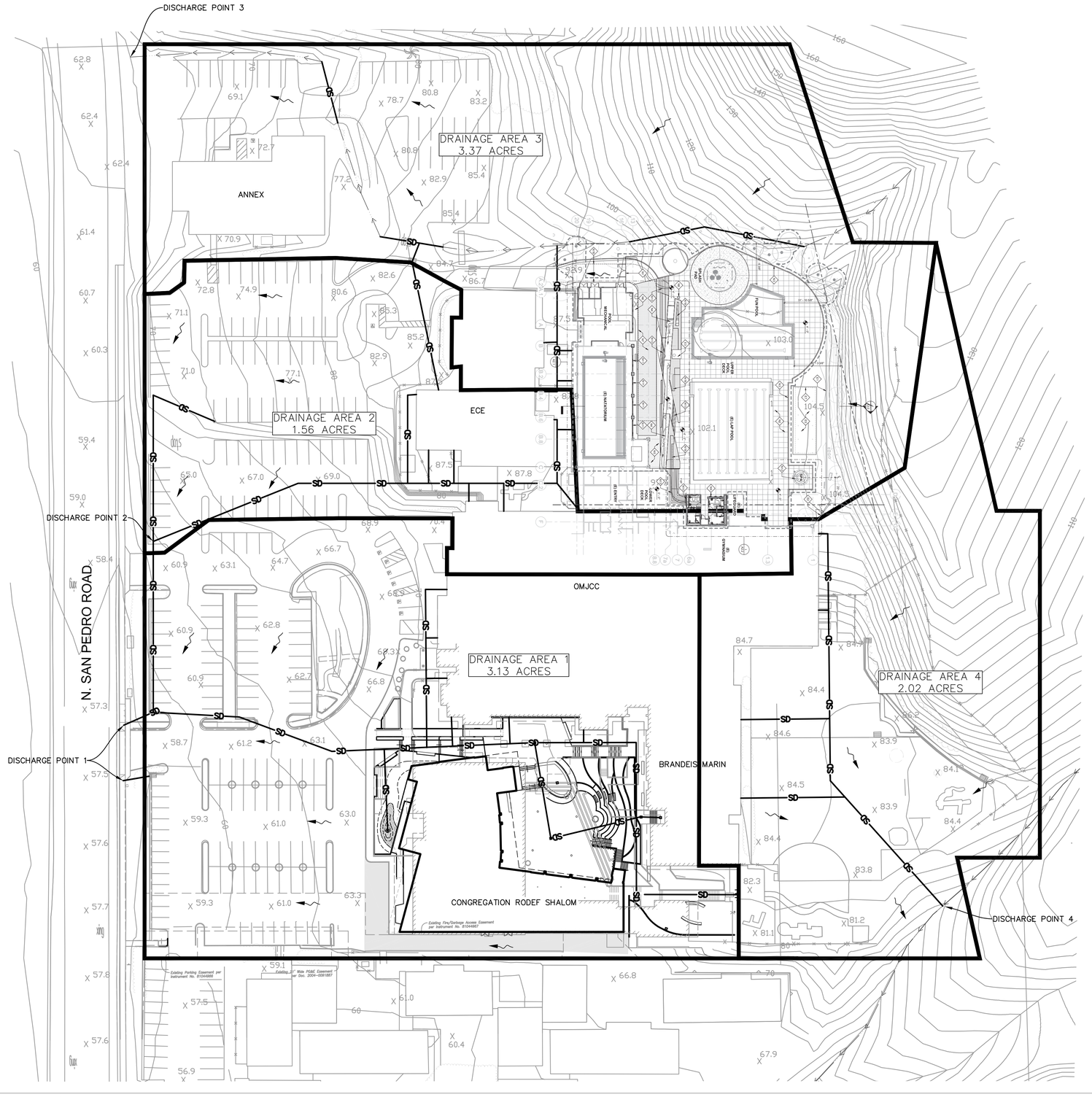
By reducing the proposed stormwater runoff rate to below the existing runoff rate for the MJCC site, the project has met the requirements for managing stormwater on-site.

APPENDIX A

EXISTING AND PROPOSED SITE CONDITIONS

LEGEND:

- PROPERTY LINE
- SD — CLOSED CONDUIT STORM DRAIN
- UNLINED EARTHEN CHANNEL
- DRAINAGE DIRECTION



40' 20' 40' 80'
SCALE: 1" = 40'

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Key Plan:

General Notes/Legend:

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No.	Revision	Date
	CONCEPTUAL PRICING SET	5/11/2018
	SCHEMATIC DESIGN PRICING CHECK SET	8/24/2018
	100% DESIGN DEVELOPMENT	7/19/2019

Project Number

Project Title:

Sheet Title: DRAINAGE AREA EXHIBIT

Scale:

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herman coliver locus
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Drawn By:	Sheet Number:
Checked:	

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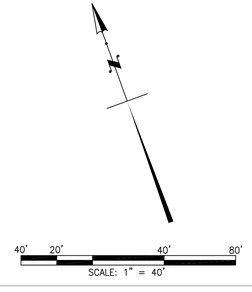
LEGEND:

- PROPERTY LINE
- SD — CLOSED CONDUIT STORM DRAIN
- UNLINED EARTHEN CHANNEL
- DRAINAGE DIRECTION

NOTES:

1. THERE ARE NO NEW CONNECTIONS TO PUBLIC STORM DRAIN SYSTEMS PROPOSED AS A PART OF THIS PROJECT. CREEK IMPACTS ARE LIMITED TO NORTH OF OMJCC AQUATICS RENOVATION WHERE AN EXISTING CONCRETE HEADWALL WILL BE REPLACED. SEE PROJECT-SPECIFIC UTILITY PLANS FOR ADDITIONAL INFORMATION.



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Project Number

Project Title:

Sheet Title: PRELIMINARY DRAINAGE PLAN

Scale:

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Drawn By:

Checked:

Sheet Number: C4.0

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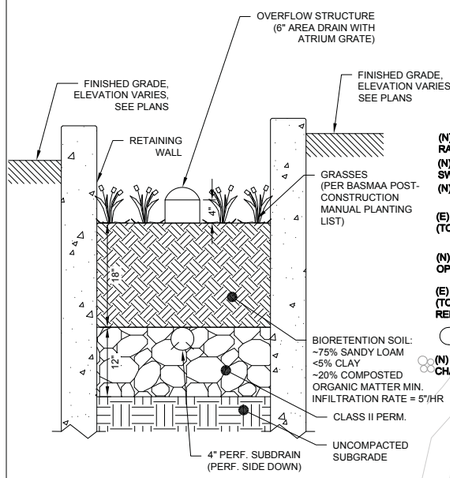

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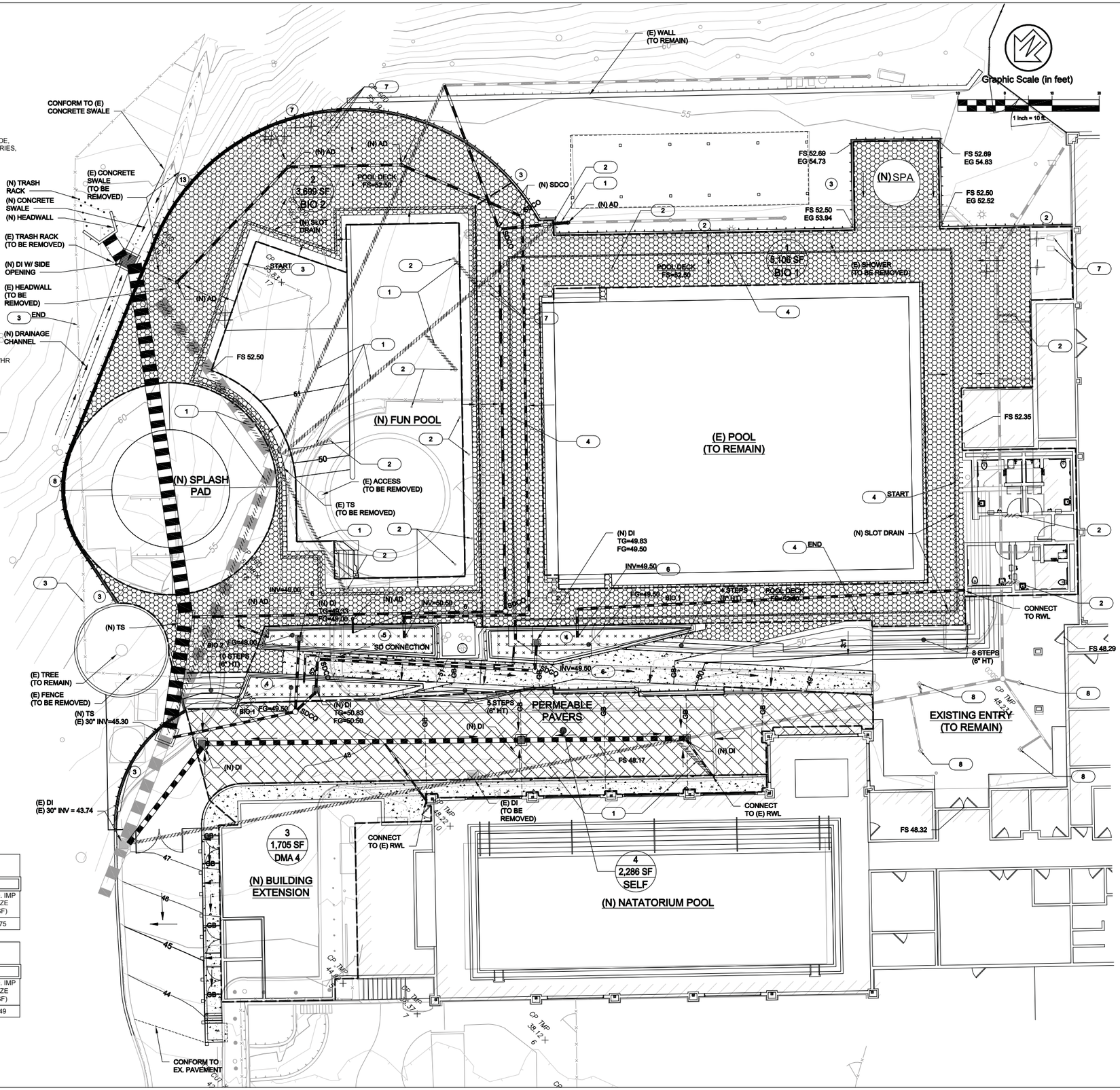

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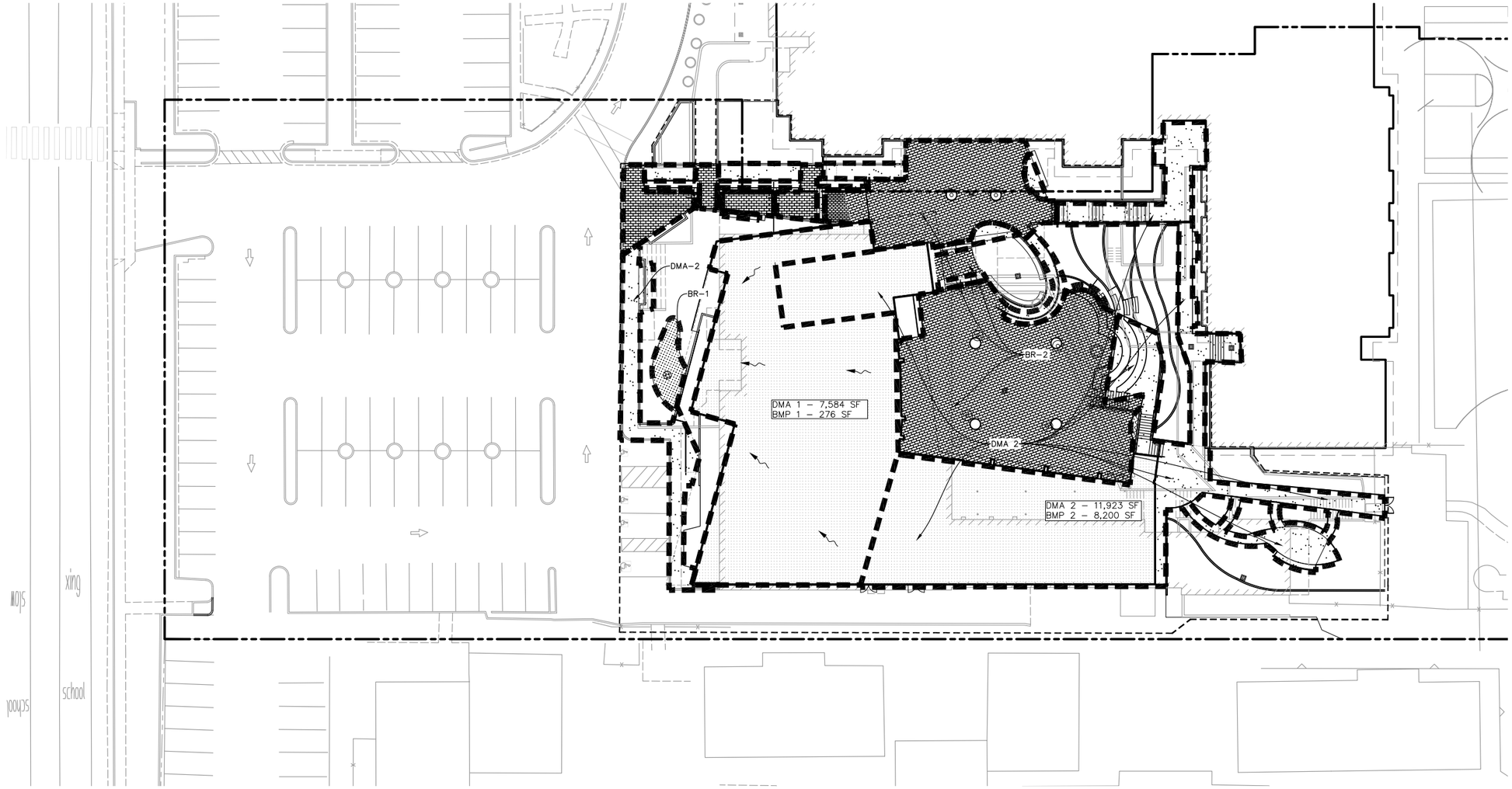


LEGEND:

- BIORETENTION AREA
- CONCRETE PAVEMENT
- ROOF/BUILDING
- PERVIOUS PAVEMENT

DMA Table						
DMA	Impervious Area (sq. ft.)	Pervious Area (sq. ft.)	Effective Area (sq. ft.)	BMP Required Area (sq. ft.)	BMP	BMP Area (sq. ft.)
1	7,584	0	7,584	303	BR-1	303
2	11,923	0	11,923	477	BR-2	8,200

STORMWATER CONTROL NOTES:

1. THE CALCULATIONS ON THIS SHEET ARE BASED ON THE STORMWATER QUALITY MANUAL FOR DEVELOPMENT PROJECTS IN MARIN COUNTY HANDBOOK.
2. A TREATMENT MEDIUM SIZING FACTOR OF 0.04 WAS ASSUMED WHEN DETERMINING THE TREATMENT CONTROL METHOD AREA REQUIRED.

20' 10' 20' 40'
SCALE: 1" = 20'

Disclaimer:

Written dimensions on these drawings shall have precedence over scaled dimensions. Contractors shall verify, and be responsible for, all dimensions and conditions on the job and this office must be notified of any variations from the dimensions and conditions shown by these drawings. Shop details must be submitted to this office for approval before proceeding with fabrication.

Key Plan:

General Notes/Legend:

Consultant:

kpff
45 Fremont Street, 28th Floor
San Francisco, CA 94105
415.989.1004 | kpff.com

Stamp:

No.	Revision	Date
	CONCEPTUAL PRICING SET	5/11/2018
	SCHEMATIC DESIGN PRICING CHECK SET	8/24/2018
	100% DESIGN DEVELOPMENT	7/19/2019

Project Number

Project Title:

Sheet Title: STORMWATER CONTROL PLAN

Scale:

herman coll ver locus
423 Tehama Street San Francisco, California 94103
T 415.495.1776 F 415.552.9811 E info@hclarchitecture.com

Drawn By:

Checked:

Sheet Number: C6.1

IF THIS SHEET IS SMALLER THAN 24"x36" THEN IT HAS BEEN REDUCED

APPENDIX B

STORMWATER CALCULATIONS TABLES

TABLE 1: DRAINAGE MANAGEMENT AREAS

			EXISTING CONDITION		PROPOSED CONDITION			
Drainage Area	TOTAL DRAINAGE BASIN AREA (AC)	TOTAL DRAINAGE BASIN AREA (SF)	EXISTING IMPERVIOUS AREA (SF)	EXISTING LANDSCAPE AREAS (SF)	IMPERVIOUS AREA (SF)	LANDSCAPE AREA (SF)	PERVIOUS PAVEMENT AREA (SF)	STORMWATER TREATMENT AREA (SF)
1	3.13	136,379	114,104	22,275	100,489	23,464	12,123	303
2	1.56	68,129	55,153	12,976	55,153	12,976	0	0
3	3.37	146,804	50,127	96,677	48,832	95,262	2,286	424
4	2.02	88,112	25,567	62,545	25,567	62,545	0	0
TOTALS	***10.09***	***439,424***	***244,951***	***194,473***	***230,041***	***194,247***	***14,409***	***727***

Notes:

[1] Refer to Drainage Area Exhibit for a graphic depiction of the project Drainage Areas.

TABLE 2: EXISTING PROJECT RUNOFF

			EXISTING CONDITIONS		EXISTING STORMWATER FLOW RATE, Q				
Drainage Area	TOTAL DRAINAGE BASIN AREA (AC)	TOTAL DRAINAGE BASIN AREA (SF)	EXISTING IMPERVIOUS AREA (SF)	EXISTING LANDSCAPE AREAS (SF)	VOLUMETRIC RUNOFF COEFFICIENT, C [1]			RAINFALL INTENSITY, I (inches) [2]	RUNOFF FLOWRATE, Q (CFS)
					IMPERVIOUS	LANDSCAPE	COMPOSITE C		
1	3.13	136,379	114,104	22,275	0.95	0.35	0.85	3.19	8.51
2	1.56	68,129	55,153	12,976	0.95	0.35	0.84	3.19	4.17
3	3.37	146,804	50,127	96,677	0.95	0.35	0.55	3.19	5.97
4	2.02	88,112	25,567	62,545	0.95	0.35	0.52	3.19	3.38
TOTALS	***10.09***	***439,424***	***244,951***	***194,473***	***0.95***	***0.35***	***0.68***	***3.19***	***22.03***

Notes:

[1] Runoff factors based on Runoff Coefficient Fact Sheet included in The Clean Water Team Guidance Compendium for Watershed Monitoring and Assessment.

[2] Rainfall intensity based on NOAA Atlas 14 Point Precipitation Frequncy Estimates for a 10-year storm with a Time of Concentration of 5 minutes.

TABLE 3: PROPOSED PROJECT RUNOFF

			PROPOSED IMPROVEMENTS				PROPOSED STORMWATER FLOW RATE, Q						
Drainage Area	TOTAL DRAINAGE BASIN AREA (AC)	TOTAL DRAINAGE BASIN AREA (SF)	IMPERVIOUS AREA (SF)	LANDSCAPE AREA (SF)	PERVIOUS PAVEMENT AREA (SF)	STORMWATER TREATMENT AREA (SF)	VOLUMETRIC RUNOFF COEFFICIENT, C [1]					RAINFALL INTENSITY, I (inches) [2]	RUNOFF FLOWRATE, Q (CFS)
							IMPERVIOUS	LANDSCAPE	PERVIOUS PAVEMENT	STORMWATER TREATMENT	COMPOSITE C		
1	3.13	136,379	100,489	23,464	12,123	303	0.95	0.35	0.35	0.35	0.79	3.19	7.91
2	1.56	68,129	55,153	12,976	0	0	0.95	0.35	0.35	0.35	0.84	3.19	4.17
3	3.37	146,804	48,832	95,262	2,286	424	0.95	0.35	0.35	0.35	0.55	3.19	5.91
4	2.02	88,112	25,567	62,545	0	0	0.95	0.35	0.35	0.35	0.52	3.19	3.38
TOTALS	***10.09***	***439,424***	***230,041***	***194,247***	***14,409***	***727***	***0.95***	***0.35***	***0.35***	***0.35***	***0.65***	***3.19***	***21.00***

Notes:

[1] Runoff factors based on Runoff Coefficient Fact Sheet included in The Clean Water Team Guidance Compendium for Watershed Monitoring and Assessment.

[2] Rainfall intensity based on NOAA Atlas 14 Point Precipitation Frequncy Estimates for a 10-year storm with a Time of Concentration of 5 minutes.

APPENDIX C
SUPPORTING DOCUMENTATION

Runoff Coefficient (C) Fact Sheet

What is It?

The runoff coefficient (C) is a dimensionless coefficient relating the amount of runoff to the amount of precipitation received. It is a larger value for areas with low infiltration and high runoff (pavement, steep gradient), and lower for permeable, well vegetated areas (forest, flat land).

Why is It Important?

It is important for flood control channel construction and for possible flood zone hazard delineation. A high runoff coefficient (C) value may indicate flash flooding areas during storms as water moves fast overland on its way to a river channel or a valley floor.

How is It Measured?

It is measured by determining the soil type, gradient, permeability and land use. The values are taken from the table below. The larger values correspond to higher runoff and lower infiltration.

Land Use	C	Land Use	C
		Lawns:	
		Sandy soil, flat, 2%	0.05 - 0.10
Business:		Sandy soil, avg., 2-7%	0.10 - 0.15
Downtown areas	0.70 - 0.95	Sandy soil, steep, 7%	0.15 - 0.20
Neighborhood areas	0.50 - 0.70	Heavy soil, flat, 2%	0.13 - 0.17
		Heavy soil, avg., 2-7%	0.18 - 0.22
		Heavy soil, steep, 7%	0.25 - 0.35
		Agricultural land:	
		Bare packed soil	
		*Smooth	0.30 - 0.60
		*Rough	0.20 - 0.50
Residential:		*Cultivated rows*	
Single-family areas	0.30 - 0.50	*Heavy soil, no crop	0.30 - 0.60
Multi units, detached	0.40 - 0.60	*Heavy soil, with crop	0.20 - 0.50
Munti units, attached	0.60 - 0.75	*Sandy soil, no crop	0.20 - 0.40
Suburban	0.25 - 0.40	*Sandy soil, with crop	0.10 - 0.25
		Pasture	
		*Heavy soil	0.15 - 0.45
		*Sandy soil	0.05 - 0.25
		Woodlands	0.05 - 0.25

Industrial:		*Streets:*	
Light areas	0.50 - 0.80	Asphaltic	0.70 - 0.95
Heavy areas	0.60 - 0.90	Concrete	0.80 - 0.95
		Brick	0.70 - 0.85
Parks, cemeteries	0.10 - 0.25	Unimproved areas	0.10 - 0.30
Playgrounds	0.20 - 0.35	Drives and walks	0.75 - 0.85
Railroad yard areas	0.20 - 0.40	Roofs	0.75 - 0.95

Note: The designer must use judgment to select the appropriate "C" value within the range. Generally, larger areas with permeable soils, flat slopes and dense vegetation should have the lowest "C" values. Smaller areas with dense soils, moderate to steep slopes, and sparse vegetation should assigned the highest "C" values.

http://water.me.vccs.edu/courses/CIV246/table2b.htm accessed 11/19/09

www.nws.noaa.gov

NOAA's National Weather Service
Hydrometeorological Design Studies Center
Precipitation Frequency Data Server (PFDS)

General Information
Homepage
Progress Reports
FAQ
Glossary

Precipitation Frequency
Data Server
GIS Grids
Maps
Time Series
Temporals
Documents

Probable Maximum Precipitation
Documents

Miscellaneous
Publications
Storm Analysis
Record Precipitation

Contact Us
Inquiries

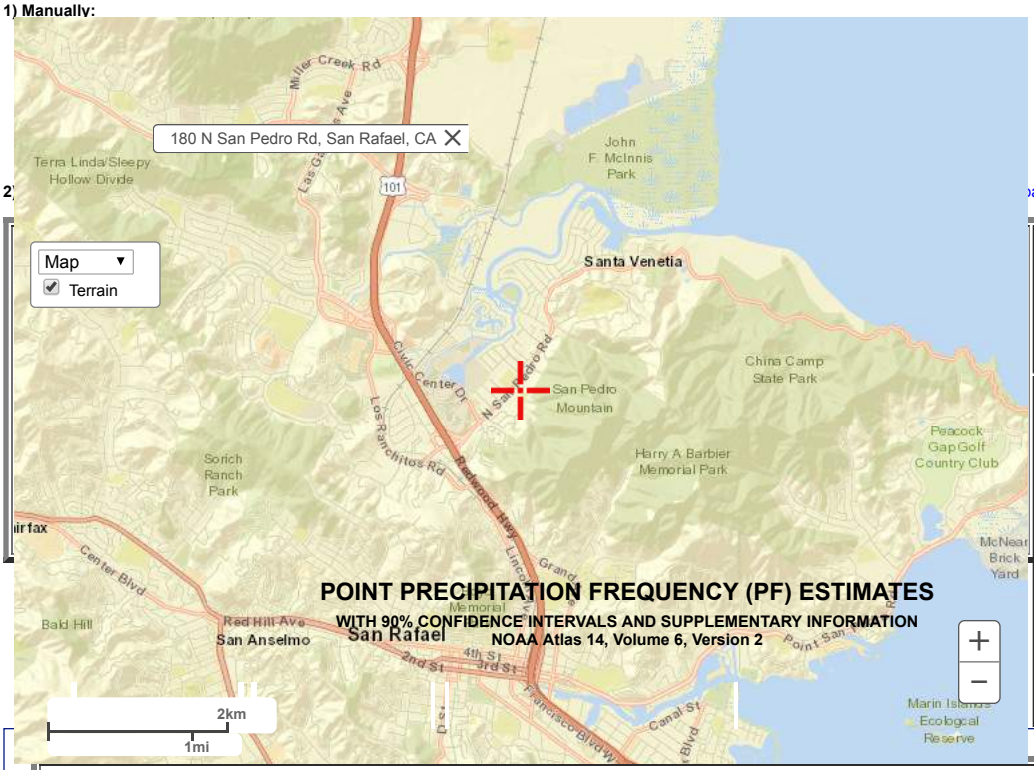
NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

Data description

Data type: Precipitation intensity **Units:** English **Time series type:** Partial duration

Select location

1) Manually:



2

aa.gov):

a) Select location
Move crosshair or double click

b) Click on station icon
Show stations on map

Location information:
Name: San Rafael, California, USA
Latitude: 37.9997°
Longitude: -122.5231°
Elevation: 75.17 ft **

Print page

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES

WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
NOAA Atlas 14, Volume 6, Version 2

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**1.73** (1.54-1.96)	**2.14** (1.90-2.42)	**2.70** (2.39-3.07)	**3.19** (2.80-3.67)	**3.90** (3.29-4.68)	**4.49** (3.70-5.52)	**5.12** (4.09-6.48)	**5.80** (4.49-7.58)	**6.78** (4.98-9.31)	**7.58** (5.35-10.8)
10-min	**1.24** (1.10-1.40)	**1.52** (1.36-1.73)	**1.93** (1.72-2.20)	**2.29** (2.01-2.63)	**2.80** (2.36-3.35)	**3.22** (2.65-3.95)	**3.67** (2.93-4.64)	**4.16** (3.21-5.44)	**4.86** (3.58-6.67)	**5.43** (3.84-7.77)
15-min	**0.996** (0.888-1.13)	**1.23** (1.10-1.40)	**1.56** (1.38-1.78)	**1.84** (1.62-2.12)	**2.26** (1.90-2.70)	**2.60** (2.14-3.19)	**2.96** (2.36-3.74)	**3.35** (2.59-4.38)	**3.92** (2.88-5.38)	**4.38** (3.09-6.26)
30-min	**0.742** (0.660-0.840)	**0.914** (0.814-1.04)	**1.16** (1.03-1.32)	**1.37** (1.20-1.58)	**1.68** (1.41-2.01)	**1.93** (1.59-2.37)	**2.20** (1.76-2.78)	**2.49** (1.92-3.26)	**2.91** (2.14-4.00)	**3.25** (2.30-4.65)
60-min	**0.533** (0.475-0.604)	**0.657** (0.585-0.746)	**0.833** (0.738-0.949)	**0.984** (0.864-1.13)	**1.21** (1.02-1.44)	**1.39** (1.14-1.70)	**1.58** (1.26-2.00)	**1.79** (1.38-2.34)	**2.09** (1.54-2.87)	**2.34** (1.65-3.34)
2-hr	**0.403** (0.359-0.456)	**0.498** (0.442-0.565)	**0.630** (0.559-0.718)	**0.745** (0.654-0.857)	**0.910** (0.768-1.09)	**1.05** (0.860-1.29)	**1.19** (0.952-1.51)	**1.35** (1.04-1.76)	**1.57** (1.16-2.16)	**1.75** (1.24-2.51)
3-hr	**0.339** (0.302-0.385)	**0.419** (0.373-0.476)	**0.530** (0.470-0.604)	**0.626** (0.549-0.720)	**0.764** (0.644-0.915)	**0.876** (0.721-1.08)	**0.996** (0.796-1.26)	**1.13** (0.870-1.47)	**1.31** (0.964-1.80)	**1.46** (1.03-2.09)
6-hr	**0.251** (0.223-0.284)	**0.310** (0.276-0.352)	**0.392** (0.348-0.447)	**0.462** (0.405-0.532)	**0.562** (0.474-0.673)	**0.642** (0.528-0.788)	**0.727** (0.580-0.919)	**0.818** (0.632-1.07)	**0.947** (0.696-1.30)	**1.05** (0.742-1.50)
12-hr	**0.180** (0.160-0.204)	**0.225** (0.200-0.255)	**0.286** (0.254-0.326)	**0.337** (0.296-0.388)	**0.410** (0.346-0.491)	**0.467** (0.384-0.574)	**0.527** (0.421-0.667)	**0.591** (0.456-0.773)	**0.680** (0.500-0.933)	**0.750** (0.530-1.07)
24-hr	**0.121** (0.109-0.137)	**0.153** (0.138-0.174)	**0.196** (0.176-0.223)	**0.232** (0.207-0.266)	**0.282** (0.243-0.332)	**0.321** (0.272-0.386)	**0.361** (0.299-0.443)	**0.403** (0.326-0.508)	**0.461** (0.359-0.603)	**0.507** (0.383-0.684)
2-day	**0.083** (0.074-0.094)	**0.105** (0.094-0.119)	**0.134** (0.120-0.152)	**0.158** (0.141-0.181)	**0.191** (0.165-0.225)	**0.216** (0.184-0.260)	**0.243** (0.201-0.298)	**0.270** (0.218-0.340)	**0.307** (0.239-0.402)	**0.336** (0.254-0.454)
3-day	**0.063** (0.057-0.072)	**0.080** (0.072-0.091)	**0.102** (0.092-0.116)	**0.120** (0.107-0.138)	**0.145** (0.126-0.171)	**0.164** (0.139-0.198)	**0.184** (0.152-0.226)	**0.204** (0.165-0.257)	**0.231** (0.180-0.302)	**0.252** (0.190-0.340)
4-day	**0.052** (0.047-0.059)	**0.066** (0.060-0.075)	**0.085** (0.076-0.096)	**0.100** (0.089-0.114)	**0.120** (0.104-0.141)	**0.135** (0.115-0.163)	**0.151** (0.125-0.186)	**0.167** (0.135-0.211)	**0.189** (0.147-0.247)	**0.205** (0.155-0.277)
7-day	**0.036** (0.033-0.041)	**0.046** (0.041-0.052)	**0.059** (0.053-0.067)	**0.069** (0.061-0.079)	**0.083** (0.072-0.098)	**0.093** (0.079-0.112)	**0.104** (0.086-0.127)	**0.114** (0.092-0.144)	**0.128** (0.100-0.168)	**0.139** (0.105-0.188)
10-day	**0.030** (0.027-0.034)	**0.038** (0.034-0.043)	**0.048** (0.043-0.055)	**0.056** (0.050-0.065)	**0.067** (0.058-0.079)	**0.076** (0.064-0.091)	**0.084** (0.069-0.103)	**0.092** (0.074-0.116)	**0.103** (0.080-0.134)	**0.111** (0.084-0.150)

* Source: ESRI Maps
** Source: USGS

FEHR PEERS

EXHIBIT F

MEMORANDUM

Date: August 1, 2019

To: Nader Mansourian, MJCC Consultant

From: Bob Grandy & Neil Smolen, Fehr & Peers

Subject: **Existing Transportation Conditions Report for the ~~Osher~~ Marin Jewish Community Campus in Marin County, California**

SF19-1014

This memorandum documents existing transportation conditions in the study area around the ~~Osher~~ Marin Jewish Community Campus (MJCC) in unincorporated Marin County, California. The MJCC is located on N. San Pedro Road east of US-101 and across from the Venetia Valley School. The existing transportation conditions documented in this memorandum will be integrated into a subsequent transportation impact study (TIS) for the MJCC Rezoning and Master Plan.

Summary

- MJCC generates approximately 370 peak hour vehicle trips during the weekday morning and mid-afternoon peak hours, and 280 vehicle trips during the evening peak hour. Vehicles were observed queueing onto N. San Pedro Road for a short period of time during the mid-afternoon peak hour as parents arrived to pick up students after school.
- The highest parking demand for MJCC occurred during the Purim Palooza special event on a Sunday morning, when approximately 390 vehicles were parked. Vehicles that could not find parking in the MJCC lot used on-street parking and the Venetia Valley school parking lot. Peak hour parking demands on weekdays and Saturday mornings range from approximately 190-235 spaces. MJCC employees do park in the MJCC parking lot and on-street along N. San Pedro Road.
- MJCC employee surveys indicate that 90 percent drive alone, 4 percent carpool, 4 percent take public transit, and 2 percent walk to work.
- Venetia Valley School generates approximately 470 vehicle trips during a weekday morning peak hour and about 320 vehicle trips during the mid-afternoon peak hour. Some school

parents use the MJCC parking lot to drop off students in the morning peak hour, which contributes significantly to congestion levels on N. San Pedro Road as vehicles stop for pedestrians crossing N. San Pedro Road to the Venetia Valley School. This same activity was not observed after school. During the morning and mid-afternoon peak hours, some parents also use the Marin County Jury Duty Lot for pick-up/drop-off.

- All signalized study intersections currently operate at acceptable levels. Minor movements at two side-street stop-control intersections and one MJCC driveway experience average delays that exceed acceptable levels.
- Bicycle volumes on N. San Pedro Road are low during the weekday peak hours. Previous counts indicate they are much higher on Saturdays and Sundays.

Memo Organization

This memorandum is organized into the following eleven sections:

I. Project Description
II. Data Collection
III. Study Periods
IV. Roadway Network
V. Transit System
VI. Pedestrian Facilities
VII. Bicycle Facilities
VIII. Parking
IX. Emergency Vehicle Access
X. Marin JCC Campus Travel Data
XI. Venetia Valley School Travel Data

All figures and technical calculations are contained in the attached appendices.

I. Project Description

The proposed MJCC Campus Master Plan includes expansion of the Congregation Rodef Sholom synagogue, addition of a classroom for Brandeis Marin School, and addition of a Summer Family Pool and related expansion of the Jewish Community Center (JCC). Expansion of the Congregation Rodef Sholom Synagogue from 14,357 to 23,317 s.f. would result in an increase in the number of attendees at Saturday morning services from 180 currently to 220. There would be no change in

the number of attendees on Friday nights (currently 200). The addition of a new classroom to Brandeis Marin School, would bring the student population for the academic year (i.e., from September to May) from 172 existing students to 250 future students. Expansion of JCC facilities consists of the addition of a 2,900 s.f. Summer Family Pool (58-person capacity), 500 s.f. Splash Pad, 4,800 s.f. pool deck, 80 s.f. outdoor spa, 1,500 s.f. building expansion, and the expansion of the indoor pool (from 1,875 to 2,100 s.f.).

The project study area is focused along North San Pedro Road from Los Ranchitos Road to Woodoaks Drive. Focal points include the driveways for the MJCC campus and the adjacent Venetia Valley School as well as the intersection at Civic Center Drive. Refer to Figure 1 for the project study area and Figure 2 for the project study intersections.

II. Data Collection

A robust data collection effort was conducted to understand existing conditions that included daily roadway volume and peak hour intersection counts on N. San Pedro Road, driveway counts at the MJCC campus and Venetia Valley School, pedestrian counts at the crosswalks adjacent to the MJCC campus on N. San Pedro Road, vehicle occupancy counts at the main MJCC driveway, and parking occupancy counts at the MJCC lots. The intersection counts include vehicle turn movements as well as bicycle and pedestrian movements. Additionally, observations were made during the peak periods of traffic conditions, vehicle queueing, site access and circulation, and pedestrian activity.

The primary data collection occurred during the week of March 16-22, 2019. Data collected during this period included counts on a Tuesday (morning, noon, mid-afternoon, and evening commute hours), Saturday (synagogue service) and Sunday (special event – Purim Palooza). Counts collected on Tuesday, March 19, occurred on a day that the Venetia Valley School was on a minimum day schedule (12:00 PM dismissal) for parent-teacher conferences, which was not known at the time counts were scheduled. As a result, supplemental data was collected from April 29-May 3, 2019 while Venetia Valley School was on a regular day schedule. Travel surveys of JCC employees were collected in May 2019. Counts of Venetia Valley School pick ups and drop offs at the Marin County Jury Duty Lot were collected in June 2019 when school was in regular session. A description of the data collection is provided below.

Saturday, March 16, 2019 – Friday, March 22, 2019

All-day (24-hour) counts were collected for seven days at the following locations:

- **Road Volumes:** Bi-directional hose counts were collected on the following segments of N. San Pedro Road:
    - East of MJCC driveways
    - West of MJCC driveways
    - Between Golf Avenue and Civic Center Drive
    - Between Civic Center Drive and northbound US-101 ramps

Saturday, March 16, 2019

Daytime (9:00 AM-5:00 PM) counts were collected at the following locations:

- **Driveways:** Inbound and outbound counts at all three MJCC driveways.
- **Vehicle occupancy:** At the westernmost MJCC driveway.
- **Pedestrian:** Directional (inbound/outbound) pedestrian counts at the stairway connecting the MJCC parking lots and the LDS Church parking lot, as well as at the two yellow marked crosswalks on N San Pedro Road adjacent to MJCC.
- **Parking:** Parking occupancy data at the MJCC lots, as well as the western portion of the LDS Church parking lot.

Sunday, March 17, 2019

Mid-day (11:00 AM-3:00 PM) counts were collected at the following locations:

- **Driveways:** Inbound and outbound counts at all three MJCC driveways.
- **Vehicle occupancy:** At the westernmost MJCC driveway.
- **Pedestrian:** Directional (inbound/outbound) pedestrian counts at the stairway connecting the MJCC parking lots and the LDS Church parking lot, as well as at the two yellow marked crosswalks on N San Pedro Road adjacent to MJCC.
- **Parking:** Parking occupancy data at the MJCC lots, as well as the western portion of the LDS Church parking lot.

Tuesday, March 19, 2019

Morning, mid-afternoon, and evening (7:00-9:00 AM, 2:30-3:30 PM, and 4:00-6:00 PM) peak period counts were collected at the following locations:

- **Intersections:** Intersection turn movement vehicle counts:
    - North San Pedro Road/Los Ranchitos Road (signal)

    - North San Pedro Road/Merrydale Road (signal)
    - North San Pedro Road/Civic Center Drive (signal)
    - North San Pedro Road/Golf Avenue-Garden Avenue (side street stop)
    - North San Pedro Road/Roosevelt Avenue (side street stop)
    - Merrydale Road/Southbound Highway 101 Ramps (side street stop)
- US-101 northbound off-ramp to eastbound N. San Pedro Road, including both total vehicles and the number of vehicles using this off-ramp that turn left onto northbound Civic Center Drive.
- **Driveways:** Inbound and outbound counts at all three MJCC driveways.
- **Vehicle occupancy:** At the westernmost MJCC driveway.
- **Pedestrian:** In-person directional (inbound/outbound) pedestrian counts at the stairway connecting the MJCC parking lots and the LDS Church parking lot, in addition to the two yellow marked crosswalks on N San Pedro Road.

Morning and mid-afternoon (7:00-9:00 AM and 2:30-3:30 PM) peak period counts were collected at the following locations:

- **Driveways:** Inbound and outbound counts at the two Venetia Valley School driveways.

Half-day (7:00 AM-7:00 PM) hourly counts were collected at the following locations:

- **Parking:** Parking occupancy at the MJCC parking lots, as well as the western portion of the LDS Church parking lot.

Monday, April 29 – Friday, May 3, 2019

Because the Venetia Valley School was on a minimum day schedule during March data collection, supplemental data was collected to measure the difference in roadway volumes and travel behavior when the school is on a regular schedule.

All-day (24-hour) counts were collected at the following locations:

- **Volumes:** ADT on N. San Pedro Road west of the MJCC driveways.

Mid-afternoon (2:30-3:30 PM) driveway counts were collected at the following locations:

- **Driveways:** Inbound and outbound counts at the three MJCC driveways and the Venetia Valley School driveways.

Tuesday, June 4, 2019

Morning and mid-afternoon (7:30-8:30 AM and 2:15-3:15 PM) peak hour counts were collected at the following locations on Tuesday, June 4 and Friday, June 7, respectively:

- Venetia Valley School drop-offs and pick-ups at the Marin County Jury Duty Lot.

JCC Employee Travel Survey

A travel survey of JCC employees was conducted in May 2019. Of the approximately 70 JCC employees, 68 survey responses were received. The employee survey provided information on staff travel mode, arrival and departure times, and parking locations that was used to identify current MJCC campus trip and parking demand levels.

III. Study Periods

Based on the data collected, Level of Service (LOS) analysis was conducted for the following three weekday and two weekend peak hours, representing typical conditions during the school year between September and May:

- Tuesday during the school year (September to May)
    - AM: 7:45-8:45 PM
    - Mid-afternoon: 2:30-3:30 PM
    - PM: 5:00-6:00 PM
- Saturday, 12:15-1:15 PM
- Sunday, 11:30 AM-12:30 PM

These study periods were selected based on when the greatest MJCC trips were observed. While N. San Pedro Road weekday AM and PM period roadway volumes peaked earlier than MJCC trips (at 7:30 AM and 4:15 PM, compared to 7:45 AM and 5:00 PM), study periods were selected in order to

evaluate when the MJCC would have the greatest impact on the surrounding study area. The weekday mid-afternoon peak period captures pick-up activity from Venetia Valley School's dismissal. Weekend peak hours were selected to evaluate the maximum parking demand for synagogue service and special events.

IV. Roadway Network

This section describes the existing roadway network within the study area, including road volumes, intersection operations, and driveway volumes.

Description of Roadway Facilities

N. San Pedro Road is the main thoroughfare connecting the unincorporated Santa Venetia community to the rest of Marin County. The MJCC is located on N. San Pedro Road approximately a half mile east of US-101. Past the MJCC, N. San Pedro Road winds through residential communities before connecting to Buck's Landing and China Camp. At the MJCC, N. San Pedro Road is a two-lane road with a center left turn lane and on-street parking on both sides of the street. The speed limit on N. San Pedro Road is 25 mph.

Existing N. San Pedro Road Volumes

The study periods with the highest roadway volumes on N. San Pedro Road were the special event peak hour on Sunday, March 17 and the weekday AM and PM peak hours on Tuesday, March 19. As noted above, the highest background traffic levels during the AM and PM peak hours on N. San Pedro Road occurred slightly earlier than the selected study periods (7:30 AM and 4:15 PM, respectively). Roadway volumes on N. San Pedro Road were higher during the weekday AM peak hour than the weekday PM peak hour, and were higher at the west end of the road near Highway 101 than at the east end near the MJCC campus.

N. San Pedro Road volumes were considerably lower during the peak hour on Saturday, March 16. Roadway volumes were also lower during the weekday mid-afternoon peak hour on Tuesday, March 19 (2:30-3:30 PM), but this was partly because Venetia Valley School was operating under a shortened schedule as described above. N. San Pedro Road roadway volumes collected on Tuesday, April 30 during the weekday mid-afternoon peak hour (2:30-3:30 PM) were higher than during the same time on Tuesday, March 19 (1,311 vehicles per hour versus 1,186 vehicles per hour), due primarily to Venetia Valley School being on a regular schedule.

Figure 3 displays daily roadway volumes for N. San Pedro Road, and Figure 4 displays peak hour roadway volumes.

Field Observations

Congestion and queuing were observed on N. San Pedro Road primarily during the weekday (Tuesday, March 19) AM and mid-afternoon peak hours. During the AM peak hour, observations indicate queues occur on N. San Pedro Road as a result of a combination of heavy vehicle traffic (both trips destined for the two schools and westbound commute traffic traveling from residences east of the study area to Highway 101) and pedestrian crossings between MJCC and Venetia Valley School, which were caused primarily by Venetia Valley parents who dropped off students in the MJCC Campus lot that then used the crosswalk. The pedestrian crossings were not clustered and were observed to be the primary cause of congestion and queues. During this period, eastbound queues on N. San Pedro Road were observed to extend beyond the N. San Pedro Road/Civic Center Drive intersection. During the mid-afternoon peak hour, MJCC ingress queues of cars waiting to pick up students were observed to extend from the parking lot onto N. San Pedro Road. A maximum eastbound queue of seven vehicles was observed on N. San Pedro Road. The queue began to form around 2:45 PM and was clear by 3:15 PM. Egress vehicles did not experience significant delays; however, they had limited sight distance looking west due to eastbound right turn queues on N. San Pedro Road. During the special event on Sunday, March 17, use of the Venetia Valley lot for overflow parking resulted in sporadic pedestrian use of the N. San Pedro Road crosswalk. Traffic congestion and queueing was not observed to be significant, though, as background traffic volumes on Sunday morning are lower than for the weekday peak hours. Congestion and queueing during the other study time periods was not observed to be significant.

Existing Intersection Operations (LOS)

This study analyzes traffic operations using intersection level of service (LOS) as the primary measure of performance. Motorized vehicle LOS is a qualitative measure of traffic flow from the perspective of motorists and is an indication of the comfort and convenience associated with driving. Typical factors that affect motorized vehicle LOS include speed, travel time, traffic interruptions, and freedom to maneuver. Empirical LOS criteria and methods of calculation are documented in the *Highway Capacity Manual (HCM)* published by the Transportation Research Board of the National Academies of Science (Transportation Research Board, 2017). The HCM defines six levels of service ranging from LOS A (representing free-flow vehicular traffic conditions with little to no congestion) to LOS F (oversaturated conditions where traffic demand exceeds

capacity resulting in long queues and delays). The LOS definitions and calculations contained in the HCM are the prevailing measurement standard used throughout the United States and are used in this study. Table 1 summarizes intersection LOS criteria for both signalized and unsignalized intersections.

Table 1: Intersection Level of Service Criteria

TABLE 1 INTERSECTION LOS CRITERIA			
LOS	**Description**	**Average Control Delay (seconds per vehicle)[1234]**	
		Unsignalized Intersections	**Signalized Intersections**
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	≤ 10	≤ 10
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	> 10 to 15	> 10 to 20
C	Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	> 15 to 25	> 20 to 35
D	Represents high-density, but stable flow.	> 25 to 35	> 35 to 55
E	Represents operating conditions at or near the capacity level.	> 35 to 50	> 55 to 80
F	Represents forced or breakdown flow.	> 50	> 80

Notes:

1. *Source: Highway Capacity Manual 6th Edition*, Transportation Research Board of the National Academies of Science, 2017.
2. For signalized intersections, LOS is based on the average control delay experienced by all vehicles that arrive during the analysis period.
3. For all-way stop-controlled intersections, LOS is based on control delay for the entire intersection, which is calculated by computing a weighted average of the delay for each approach based on the volume..
4. For side-street stop-controlled intersections, overall intersection LOS can be provided but it is typically not considered because major-street movements are assumed to have 0 seconds of delay. LOS for side street or minor movements is determined based on the average control delay for that individual movement and shown in parentheses in Table 2. These minor street movements often have very low volumes compared to the major street movement.

Intersection operations were analyzed using the Synchro analysis platform for all study intersections, with the exception of the N. San Pedro Road/Civic Center Drive intersection, where we used the SimTraffic simulation add-on to account for weaving movements (i.e., between eastbound through traffic on North San Pedro Road and off-ramp traffic exiting Highway 101) in the eastbound lanes of North San Pedro Road on the west leg of the intersection. SimTraffic considers the effects of signal coordination, vehicle queue spillbacks between intersections, and variation in driver and vehicle types. The SimTraffic model was calibrated to the observed peak hour turn movement volumes and queue lengths. Table 2 displays the existing peak hour delay and LOS for the three weekday study time periods at six study intersections (refer to Technical Appendix for detailed calculations).

As seen in Table 2, all intersections operate at LOS D or better during the AM, mid-afternoon, and PM peak hours except for the N. San Pedro Road/Golf Avenue, N. San Pedro Road/Roosevelt Avenue, and N. San Pedro Road/MJCC East Driveway intersections. The outbound MJCC driveway at the N. San Pedro Road/MJCC East Driveway intersection operates at LOS E during the mid-afternoon peak hour due to heavy outbound traffic volumes. At the N. San Pedro Road/Golf Avenue and N. San Pedro Road/Roosevelt Avenue intersections, the northbound left movements (i.e., turning off of the side-streets) operate at LOS F during the AM peak hour and are relatively low volumes movements (i.e., approximately 40 vehicles per hour or less). These movements operate at LOS F due to queueing that occurs along N. San Pedro Road between US 101 and the MJCC campus. Eastbound queueing within this segment of N. San Pedro occurs as a result of heavy vehicle traffic, a lane reduction east of Civic Center Drive, eastbound left turn movements that must wait in the travel lane for a gap in traffic, and a high frequency of pedestrian crossings at crosswalks adjacent to the MJCC campus. In the westbound direction, queueing within this segment of N. San Pedro Road occurs as a result of heavy vehicle traffic and poor lane utilization at the N. San Pedro Road/Civic Center Drive intersection due to a downstream right-turn-only lane on to US 101 northbound. There is less delay and queueing along this segment of N. San Pedro Road during the mid-afternoon and PM peak hours than during the AM peak hour.

Figure 5 displays the intersection volumes during the weekday AM, mid-afternoon, and PM peak hours.

Table 2: Intersection Level of Service – Existing Conditions

TABLE 2
INTERSECTION LOS – EXISTING CONDITIONS

Intersection	Traffic Control[1]	Weekday AM Peak Hour		Weekday Mid-Afternoon Peak Hour		Weekday PM Peak Hour	
		Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1. N. San Pedro Road/Los Ranchitos Road	Signal	7	A	6	A	6	A
2. N. San Pedro Road/Merrydale Road	Signal	33	C	17	B	14	B
3. N. San Pedro Road/Civic Center Drive	Signal	39	D	28	C	20	B
4. N. San Pedro Road/Golf Avenue	SSSC	25 (133)	D (F)	7 (24)	A (C)	5 (26)	A (D)
5. N. San Pedro Road/Roosevelt Avenue	SSSC	22 (92)	C (F)	3 (27)	A (D)	2 (28)	A (D)
6. Merrydale Road/Southbound Highway 101 Ramps	AWSC	15	B	9	A	7	A
7. N. San Pedro Road/Venetia Valley School Driveway East	SSSC	9 (23)	A (C)	3 (9)	A (A)	1 (5)	A (A)
8. N. San Pedro Road/Marin JCC Driveway East	SSSC	11 (13)	B (B)	7 (45)	A (E)	2 (26)	A (D)
9. N. San Pedro Road/Marin JCC Driveway West	SSSC	17 (26)	C (D)	4 (26)	A (D)	2 (19)	A (C)

Notes:

1. SSSC = side street stop-controlled. AWSC = all way stop-controlled.
2. For signalized intersections and all way stop controlled intersections, delay (sec/veh) and LOS is reported for the overall intersection. For SSSC intersections, delay and LOS is reported for the overall intersection and worst-case movement in parentheses. See notes 2-4 in Table 1 for a discussion of how LOS is determined.

Source: Fehr & Peers, 2019.

Existing Campus Driveway Volumes

Driveway counts were collected at the three MJCC driveways and at the two Venetia Valley School driveways. Figure 6 displays driveway volumes during the three weekday peak hours and the two weekend peak hours.

Weekday AM peak hour driveway volumes were higher than during the weekday mid-afternoon or PM peak hours. This is in part due to vehicle trips associated with Venetia Valley School drop offs – during the weekday AM peak hour. A total of 32 vehicles pulled into the MJCC parking lot to drop off Venetia Valley School students, who then used the crosswalk on N. San Pedro Road to access the school.

Weekday average vehicle occupancy was 1.44 during the AM peak hour, 1.32 during the afternoon peak hour, and 1.2 during the PM peak hour. Special event average vehicle occupancy was 1.91.

Venetia Valley School driveway counts were higher during the weekday AM peak hour than during the mid-afternoon peak hour (340 vs. 220 vehicle trips). This does not include vehicle trips associated with parents dropping off or picking up in the Jury Duty Lot (33 drop offs during the AM peak hour and 48 pickups during the PM peak hour, equivalent to 66 and 96 trips, respectively).

V. Transit System

This section describes the transit network serving the study area, including services provided by Marin Transit, SMART, Golden Gate Transit, and Whistlestop Transportation Services. This section also includes a brief description of shuttles operated on weekdays for the Brandeis School on the MJCC Campus.

Marin Transit

Marin County Transit District (Marin Transit) provides local transit service within Marin County. Marin Transit Route 233 connects Santa Venetia to the San Rafael Transit Center along N. San Pedro Road. The stop at N. San Pedro Road and Roosevelt Avenue serves the MJCC. Buses run hourly on weekdays from approximately 6:30 AM to 7:30 PM, and hourly on weekends from approximately 7:30 AM to 6:00 PM.

Marin Transit Routes 35 and 49, which connect Novato to San Rafael, serve stops near the Marin Civic Center at N. San Pedro Road and Civic Center Drive, approximately one half mile from the MJCC. Buses run every half hour to hour from 6:30 AM to 10:45 PM daily.

SMART

Sonoma-Marin Area Rail Transit (SMART) provides rail service connecting the Sonoma County Airport to Downtown San Rafael. The Marin Civic Center Station is approximately 1 mile away from the MJCC; however, there is no direct transit connection between the SMART station and the MJCC. The SMART train runs at approximately hourly headways from 5:20 AM to 8:45 PM on weekdays, and at approximately two-hour headways from 11:15 AM to 9:00 PM on weekends and holidays.

Golden Gate Transit

Golden Gate Transit provides bus service along the US-101 corridor. The closest Golden Gate Transit stops are along US-101 at the on- and off-ramps serving N. San Pedro Road. Commute Routes 44, 54, and 54C, and Regional Route 70. Commute Route 38 stops just west of US-101 at Merrydale Road and N. San Pedro Road.

Whistlestop Transportation Services

Whistlestop operates a variety of transportation services for older adults and people living with disabilities in Marin County, including demand response service, fixed route service, shuttle service, same-day on-demand service, information and referral services, and a volunteer driver program. Whistlestop operates Marin Access Paratransit, a joint paratransit service for both Marin Transit and Golden Gate Transit.

Brandeis School Shuttles

The Brandeis School on the MJCC campus operates four shuttles to bring students from remote locations to and from the campus on weekdays.

VI. Pedestrian Facilities

Description of Pedestrian Facilities

N. San Pedro Road currently has continental striped crosswalks ("zebra" crosswalks) at Washington Avenue, Roosevelt Avenue, between the MJCC and Venetia Valley School, and at Woodoaks Drive. The two crosswalks at Roosevelt Avenue and at the MJCC have rectangular rapid-flashing beacons.

The 2018 Marin County Unincorporated Area Bicycle and Pedestrian Master Plan (BPMP) identified a cluster of pedestrian-involved collisions on N. San Pedro Road between US-101 and Birch Way (4 collisions between 2011 and 2015). Of these, two occurred in the immediate vicinity of the project site; one occurred between the two easternmost MJCC driveways, and one occurred at Roosevelt Street.

Pedestrian Activity Levels

The crosswalk between MJCC and Venetia Valley School saw the highest levels of pedestrian crossings. The greatest number of people crossing occurred during the weekday AM peak period, with 46 crossings from MJCC to Venetia Valley School and 10 crossings from Venetia Valley School to MJCC. During the same weekday AM peak hour, six people were observed using the crosswalk at Roosevelt Avenue, and four pedestrians used the stairway between the LDS Church lot and MJCC.

Figure 7 displays pedestrian volumes for the three weekday peak hour study periods.

Field Observations

During the weekday AM peak hour, pedestrian crossings were observed between MJCC and Venetia Valley School that resulted from Venetia Valley School parents utilizing the MJCC parking lot to drop off students, resulting in congested conditions on N. San Pedro Road as each pedestrian crossing with a crossing guard requires about 20-30 seconds. On average, the crossings occurred once per minute during the peak 30 minutes. The crossings were not clustered and were observed to be a significant contributing factor for congestion and queues on this segment of North San Pedro Road during the weekday AM peak hour.

VII. Bicycle Facilities

Description of Bicycle Facilities

N. San Pedro Road is a Class III bikeway and designated as County Bike Route 26. In both the Marin County BPMP and the 2018 Update to San Rafael's BPMP, N. San Pedro Road was identified as a high-collision corridor, with disproportionately high levels of collisions involving bicyclists (5 collisions between US-101 and Point Gallinas Road from 2011 to 2015). Of these, none were in the immediate vicinity of the project site; three were clustered at Civic Center Drive and others occurred 1/3 to 1¼ mile west of Woodoaks Drive.

N. San Pedro Road between Civic Center Drive and Vendola Drive (1.7 miles) is designated for future Class II on-street bicycle lanes in the Marin County BPMP. However, in the vicinity of the MJCC, reconfiguration of the roadway to provide on-street bike lanes would require removal of on-street parking which is currently heavily used. N. San Pedro Road is a planned portion of the San Francisco Bay Trail, a continuous 500-mile walking and bicycling path along the San Francisco Bay.

Bicycle Activity Levels

Bicycle volumes were generally low during the weekday study periods during which intersection counts were conducted. During the weekday AM, mid-afternoon, and PM peak hours, fewer than 5 people bicycling were counted at study intersections near the MJCC. A greater number of bicyclists were counted at intersections west of the study area (i.e., at Los Ranchitos and at Civic Center Drive). N. San Pedro Road is a popular route for recreational bicycling, and sees higher bicycle activity on weekends and holidays.

Figure 8 displays bicycle volumes for the three weekday peak hour study periods.

VIII. Parking

This section describes existing parking supply and occupancy data for the MJCC Campus, other adjacent off-street lots, and on-street parking along segments of N. San Pedro Road and Roosevelt Avenue. Table 3 summarizes the existing parking supply and peak parking occupancy.

Parking Supply

The MJCC has on-campus parking consisting of a main lot and annex lot (at the front of the campus) and a rectory lot (southwest of the campus at N. San Pedro Road and Roosevelt Ave). A total of 295

spaces are available on MJCC lots (257 in the main lot and annex lot, and 38 in the rectory lot). In addition, off-campus overflow parking is available off-street in the western portion of the parking lot serving the Church of Jesus Christ of Latter-day Saints (LDS west lot) and on-street on designated portions of N. San Pedro Road and Roosevelt Avenue.

Parking Occupancy

Peak parking occupancy occurred at 11:00 AM on Saturday, March 16 and Sunday, March 17. Parking demand was heaviest for the special event on Sunday, March 17. The MJCC main and annex lots were essentially full (93 percent) during the Purim Palooza special event on Sunday, and parking overflowed into other off-street lots. A total of 316 parked vehicles were counted in off-street lots during peak occupancy for the special event. This includes 239 vehicles in the MJCC main and annex lots, 33 vehicles in the Venetia Valley School lot, 37 vehicles in the rectory lot, and 7 vehicles at the LDS west lot. Additionally, a total of 74 vehicles were parked on-street along N. San Pedro Road and Roosevelt Avenue in the vicinity of the MJCC.

On Tuesday, March 19, two distinct peaks in parking occupancy occurred, at 11:00 AM and at 2:00 PM. On-campus parking occupancy peaked at 55%, indicating that on-site parking is typically available on most weekdays. A total of 193 parked vehicles were counted in off-street lots during the weekday peak hour. This include 126 vehicles in the MJCC main and annex lots, 36 vehicles in the rectory lot, and 31 vehicles parked in the LDS west lot. Additionally, 41 vehicles were parked on-street along N. San Pedro Road and Roosevelt Avenue in the vicinity of the MJCC.

Table 3: Parking Supply and Occupancy[1]

Location	Supply	Saturday, March 16	Sunday, March 17	Tuesday, March 19	
		11:00 AM	11:00 AM	11:00 AM	2:00 PM
MJCC Parking Areas					
MJCC Main + Annex Lot	257	187 (73%)	239 (93%)	106 (41%)	126 (49%)
Rectory Lot	38	34 (90%)	37 (97%)	36 (95%)	36 (95%)
Subtotal: MJCC Campus Parking	*295*	*221 (75%)*	*276 (94%)*	*142 (48%)*	*162 (55%)*
Off-Campus Parking Locations					
LDS Church (West portion of Lot)		2	7	29	31
On-Street		12	74	37	41
Venetia Valley School		-	33	-	-
Subtotal: Off-Campus Parking		*14*	*114*	*66*	*72*
Total		***235***	***390***	***208***	***234***

Notes: 1. The parking demand data is a combination of raw counts and data for off-site locations determined using employee travel surveys. Parking occupancy for on-campus parking lots is provided in parentheses.

Source: Fehr & Peers, 2019

IX. Emergency Vehicle Access

Emergency vehicle access to the project site is provided by N. San Pedro Road. In the event of an emergency, vehicles traveling on N. San Pedro Road can pull over to the side of the road (utilizing the parking lane when available), allowing emergency vehicles to pass. Three driveways allow emergency vehicles from N. San Pedro Road to access the MJCC main lot and annex lot.

X. Marin JCC Travel Data

Campus Employees

Table 4 displays the number of MJCC employees on campus during each peak hour period, from data provided by MJCC, broken out by use. Overall, more employees are on-site on weekdays than during the weekend, primarily serving the Community Center and the Brandeis School. The period with the greatest number of employees on-site is during the weekday mid-afternoon peak hour (156 employees total). The Saturday 11:00 AM-12:00 PM peak hour has the fewest number of employees on-site (8 employees total between the JCC and the synagogue). The majority of employees on-site on weekends serve the synagogue (6 during the Saturday peak hour and 34 during the Sunday peak hour).

Table 4: MJCC Employee Totals by Peak Hour[1]

Date	Peak Hour Start	JCC	Brandeis School	Rodof Shalom Synogogue	Total
Saturday	11:00 AM	2	0	6	**8**
Sunday	11:00 AM	2	0	34	**36**
Tuesday	8:00 AM	26	65	0	**91**
	2:00 PM	66	65	25	**156**
	5:00 PM	32	5	18	**55**

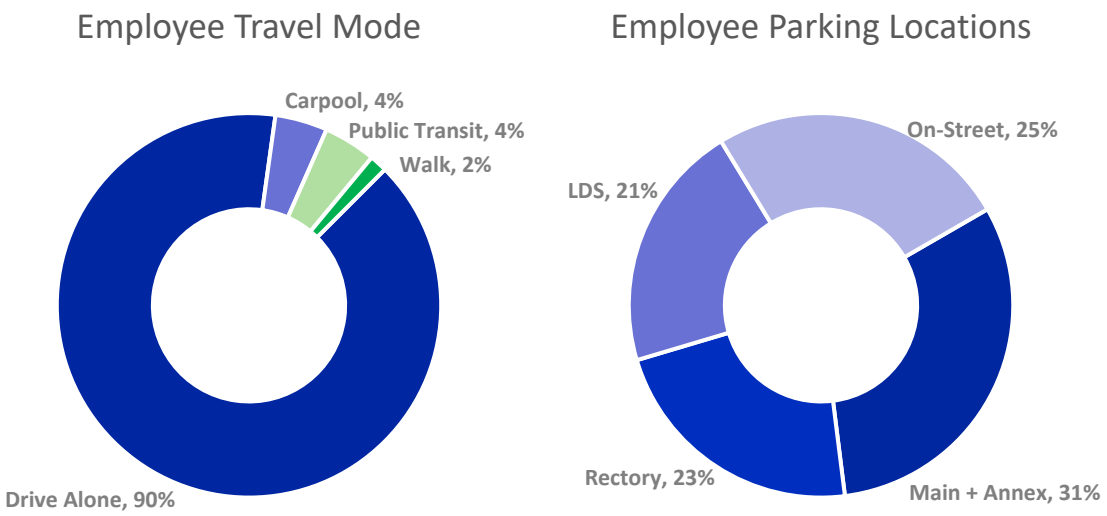
Notes:
1. Employees expected to be onsite from September to May.

Source: MJCC, Fehr & Peers, 2019

As described above, a travel survey of the approximately 70 JCC employees garnered 68 survey responses. Approximately 35-45 staff work on weekdays and approximately 17 staff work on weekends. Fourteen staff reported shift start times between 7:00-9:00 AM, and 19 staff reported shift end times between 4:00-6:00 PM. The majority of employees drive alone (61 respondents), while 3 use carpool/vanpool, and 3 use public transit. JCC staff park both on-site (21 in the main and annex lots, 15 in the rectory lot) and off-site (17 on N. San Pedro Road and 14 in the LDS west

lot). Inset 1 displays JCC employee mode share and parking locations results from the employee travel survey.

Inset 1: JCC Employee Travel Survey Results[1]



Notes:
1. Employee survey was administered to JCC employees only, and does not include staff at the Brandeis School or synagogue.

Source: Fehr & Peers, 2019

MJCC Campus Trip Count Data

Table 5 displays vehicle trip counts during the weekday AM, mid-afternoon, and PM peak hours on Tuesday, March 19. The majority of vehicle trips to MJCC occur on-site, with the greatest number of on-site and total vehicle trips occurring during the mid-afternoon peak period. Off-site MJCC vehicle trips are due to employees who park in off-site locations.

Table 5: MJCC Campus Vehicle Trip Count

Date	Peak Hour Start	MJCC On-Site Vehicle Trips[1]			MJCC Off-Site Vehicle Trips[2]			MJCC Total Vehicle Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Tuesday, March 19, 2019	7:45 AM	180	114	**294**	71	0	**71**	251	114	**365**
	2:30 PM	164	165	**329**	5	37	**42**	169	202	**371**
	5:00 PM	125	120	**245**	0	35	**35**	125	155	**280**

Notes:
1. AM peak hour trip generation reduced by 64 trips due to on-site Venetia Valley School drop offs
2. Off-site vehicle trips include staff parking in off-site locations (rectory lot, LDS west lot, and on-street). Off-site vehicle trips were calculated based on parking distribution reported in the employee survey.

Source: Fehr & Peers, 2019

MJCC Campus Parking Demand

Table 6 displays MJCC employee and visitor parking demand for the various parking locations available, during the Saturday and Sunday mid-morning peak periods, and Tuesday during the mid-morning and mid-afternoon peak periods. MJCC staff park both on-site in the main and annex lots, as well as off-site in the rectory lot, LDS west lot, and on-street. Staff and visitor demand for parking is highest during the week.

Table 6: MJCC Staff and Visitor Parking Demand

Time Period	Staff Parking Demand[1]					Visitor Parking Demand[1]					Total Parking Demand
	Location				Total	Location				Total	
	MJCC Main + Annex	Rectory Lot	LDS West Lot	On-Street		MJCC Main + Annex	Rectory Lot	LDS West Lot	On-Street		
Saturday 11:00 AM	2	2	2	2	**8**	185	0	0	0	**185**	**193**
Sunday 11:00 AM	0	36	6	19	**61**	239	0	0	89[2]	**328**	**389**
Tuesday 11:00 AM	45	33	29	37	**144**	61	0	0	0	**61**	**205**
Tuesday 2:00 PM	48	36	31	41	**156**	78	0	0	0	**78**	**234**

Notes:
1. Parking demand is calculated based on the number of persons on-site as estimated by the MJCC. Parking location for employees is based on count data, field observations, and parking distribution reported in the JCC employee survey. Parking location for visitors is assumed to be primarily in the main and annex lots.
2. Of the 89 visitor vehicles parked on-street during peak parking demand on the Sunday special event, 33 vehicles parked within the Venetia Valley lot and 56 parked along N. San Pedro Road or Roosevelt Avenue.
3. Parking Supply for Key Lots:
    a. MJCC Main & Annex Lot – 257 spaces
    b. Rectory Lot – 38 spaces

Source: Fehr & Peers, 2019

Field Observations

As described earlier, some Venetia Valley School parents use the MJCC parking lot to drop off students (32 vehicles making one inbound and one outbound trip each, accounting for 64 MJCC trips). Additionally, some MJCC staff park in off-site locations and were not captured in driveway counts. To account for these trips, total MJCC campus trip demand was adjusted to subtract Venetia Valley School trips and include MJCC off-site trips.

XI. Venetia Valley School Travel Data

School Trip Count Data

The primary drop off and pick up site for the Venetia Valley School is on the school driveway off of N. San Pedro Road. Parents also utilize the MJCC parking lot across the street and the Marin County Jury lot (a short distance west of the school, and accessed from Civic Center Drive) to drop off students. Table 7 below shows vehicle trip counts for the school driveway and as well as off-site locations used by parents of Venetia Valley students. Venetia Valley School generates approximately 470 vehicle trips during the morning peak hour, and 316 vehicle trips during the mid-afternoon peak hour.

Table 7: Venetia Valley School Vehicle Trip Count

Date	Peak Hour Start	Venetia Valley On-Site Vehicle Trips			Venetia Valley Off-Site Vehicle Trips[1]			Venetia Valley Total Vehicle Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Tuesday[2]	7:30 AM	192	148	**340**	65	65	**130**	257	213	**470**
	2:30 PM	96	124	**220**	48	48	**96**	144	172	**316**

Notes:
1. AM peak hour trip generation includes 32 drop offs at MJCC lots and 33 drop offs at the Marin County Jury Duty lot. PM peak hour trip generation includes 48 pick ups at the Marin County Jury Duty lot; no pick ups were observed at the MJCC lots.
2. During the regular school year (between September and May)

Source: Fehr & Peers, 2019

Field Observations

During weekday mornings, parents of Venetia Valley students were observed using the MJCC parking lot to drop off students, who then used the crosswalk and crossing guard to cross N. San Pedro Road to Venetia Valley School. A number of parents also utilize the Marin County Jury Duty lot for drop-offs. Students dropped off in the Jury Duty lot walk along a short section of Madison Avenue and Roosevelt Avenue to access the school. These observations informed adjustments to trip counts for both the MJCC campus and the Venetia Valley School.

FEHR PEERS

Appendix A. Figures

List of Figures

Project Site

Parking Lots

Study Crosswalks

Study Driveways

Figure 1

MJCC Study Area

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Figure 2

MJCC Study Intersections

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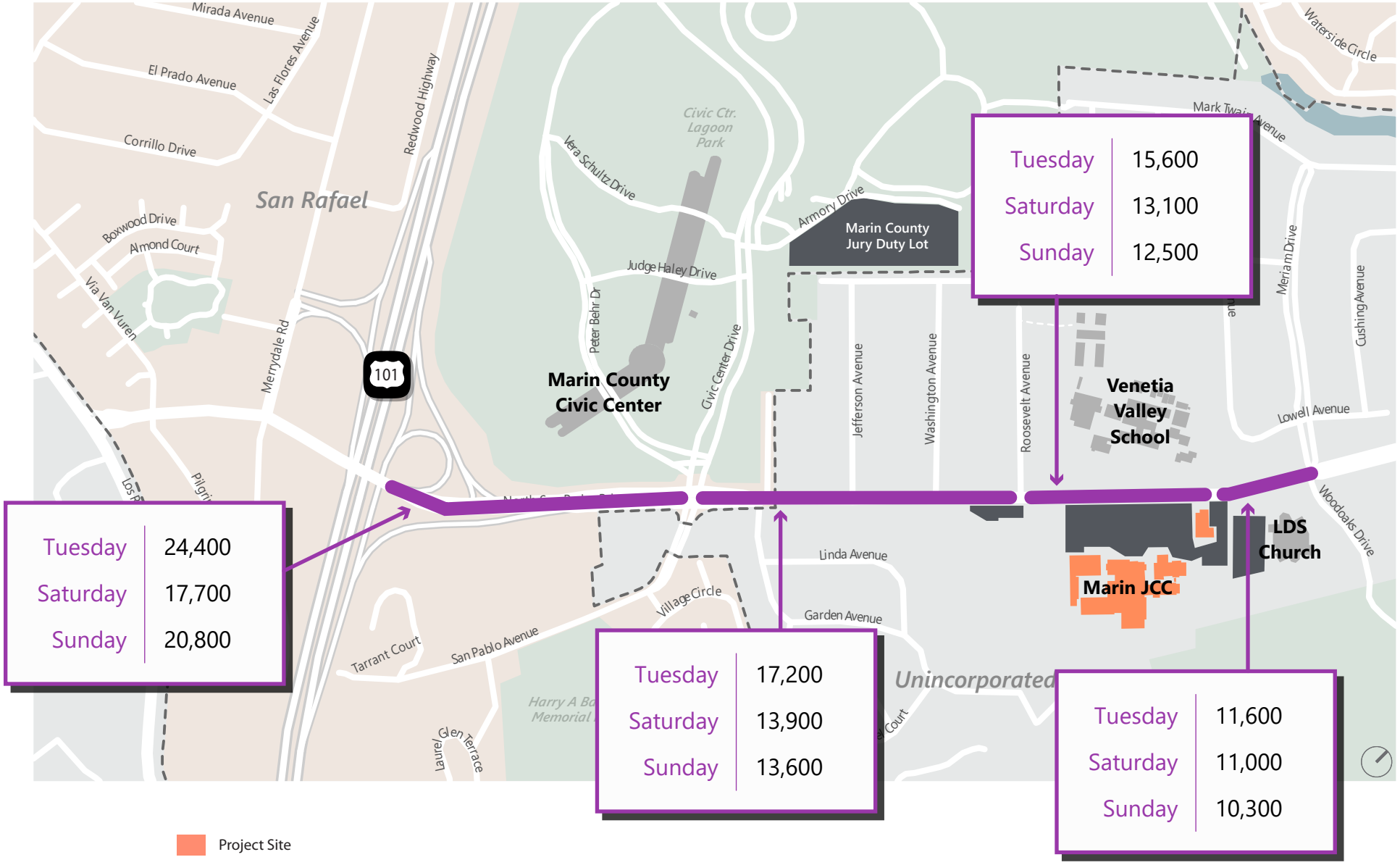


Figure 3

North San Pedro Road Segments Daily Volumes

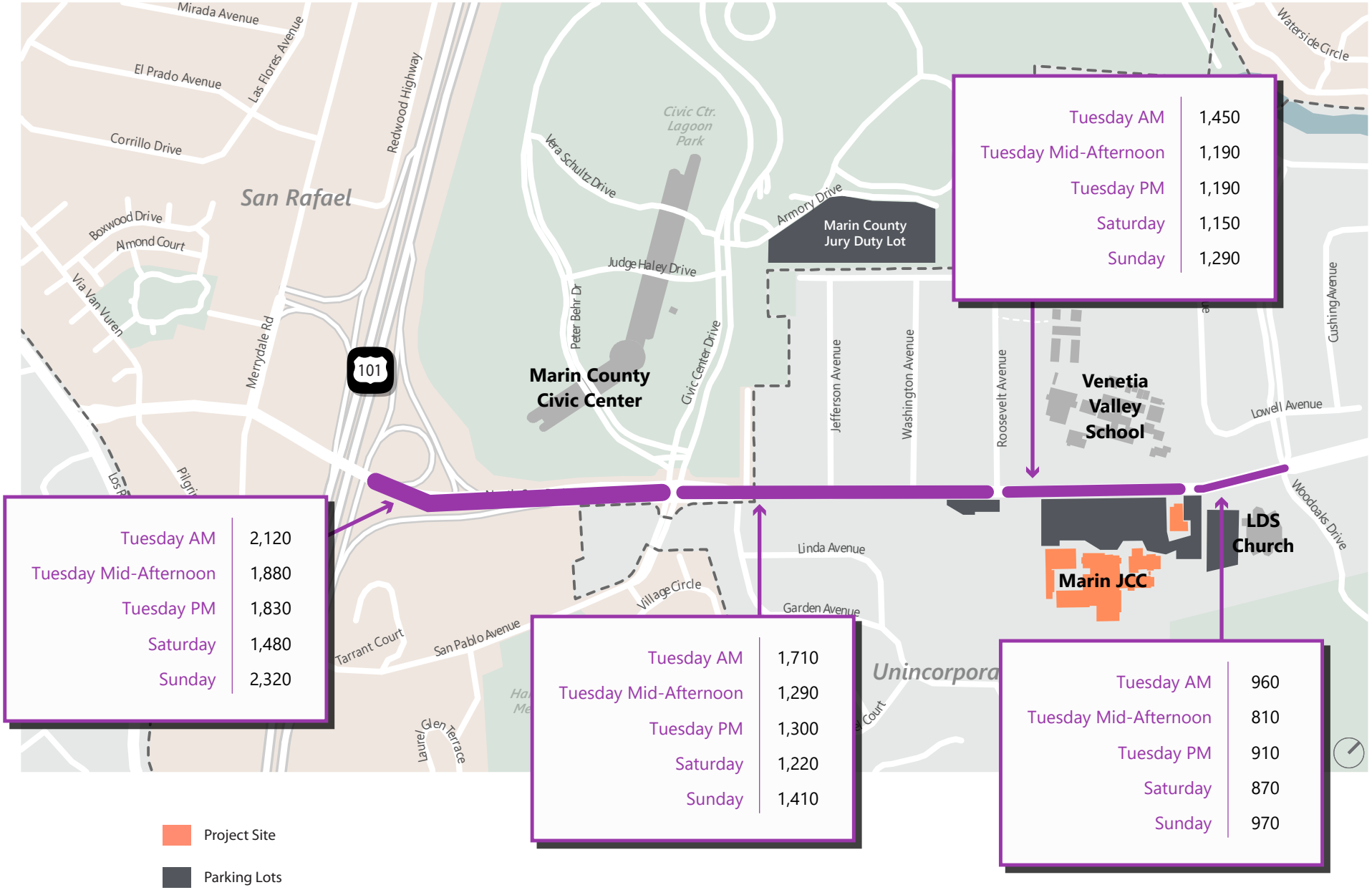


Figure 4

North San Pedro Road Segments Peak Hour Volumes

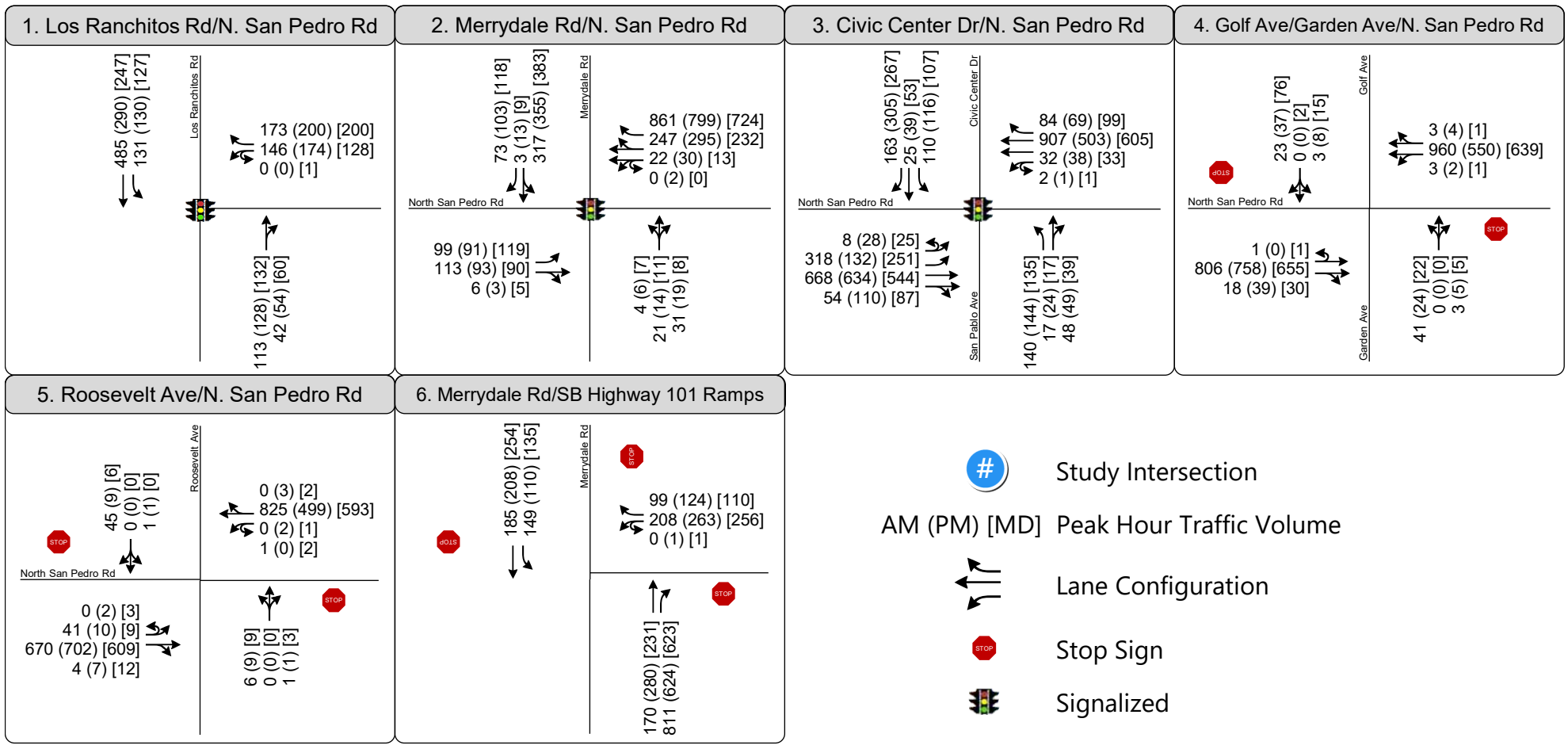


Figure 5

Traffic Volumes and Lane Configurations
Weekday Peak Hours

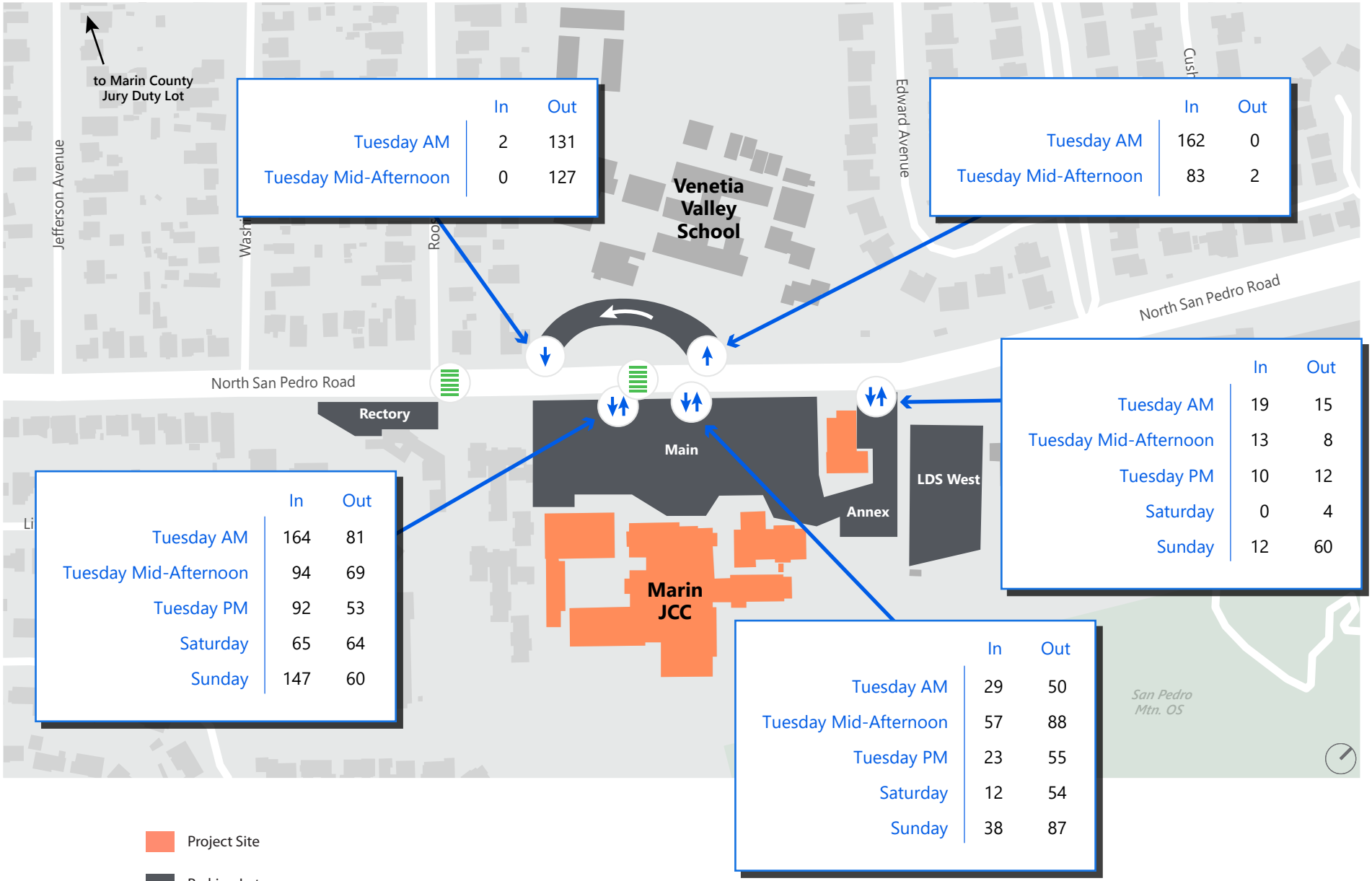
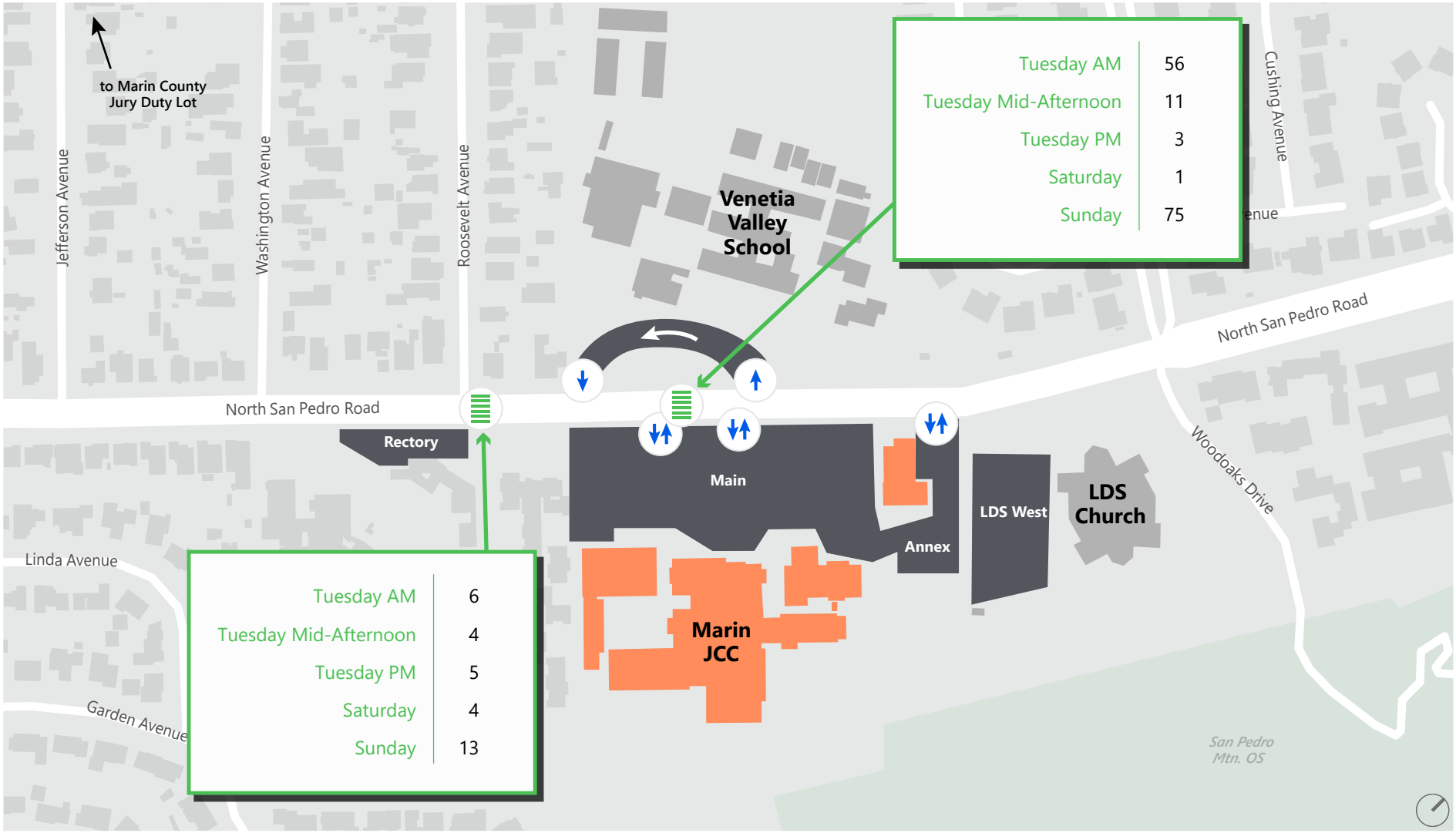


Figure 6

Driveway Volumes Peak Hours



Project Site

Parking Lots

Study Crosswalks

Study Driveways

Figure 7

Pedestrian Volumes
Peak Hours

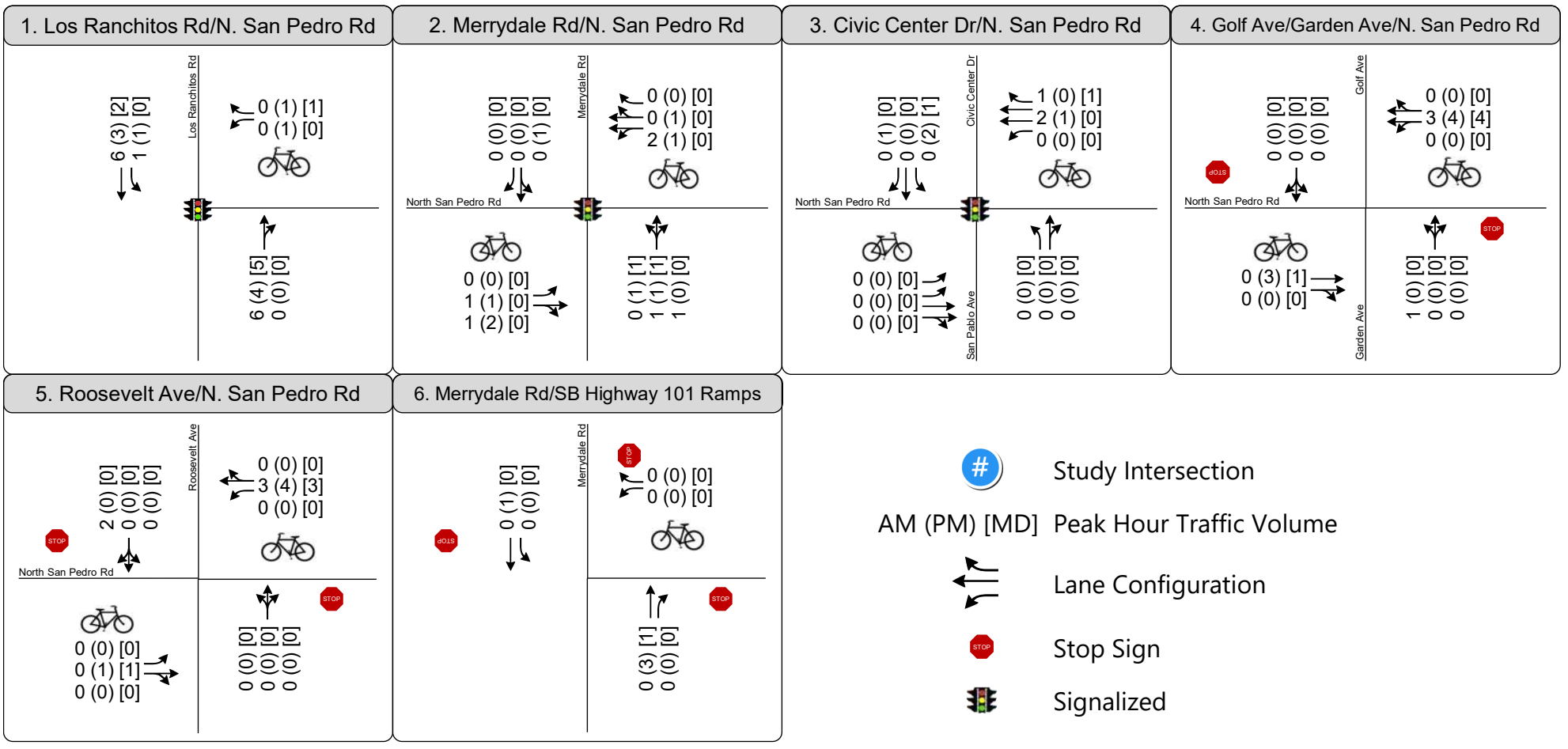


Figure 8

Bicycle Volumes
Weekday Peak Hours

EXHIBIT G

PARKING LICENSE AGREEMENT

THIS PARKING LICENSE AGREEMENT ("**Parking License**") is made as of June 30th, 2011, by and between Metropolis San Pedro Road, LP, a California limited partnership ("**Licensor**"), and Bernard Osher Marin Jewish Community Center, a California nonprofit corporation ("**Licensee**").

RECITALS

A. Licensor is the owner of certain real property and improvements located at 160 North San Pedro Road, San Rafael, California (the "**Property**"). A portion of the Property contains a parking lot in the area shown on Exhibit A (the "**Parking Facility**").

B. Licensee currently licenses the usage of certain parking spaces in the Parking Facility pursuant to that certain Revocable License and Release Agreement dated October 28, 2002 by and between Licensor's predecessor-in-interest and Licensee (the "**Existing License**"). Licensor and Licensee desire to amend and restate the terms of the Existing License as provided herein.

C. Licensee would now like to license from Licensor twenty-seven (27) parking spaces in the area shown on Exhibit A attached hereto and incorporated herein by this reference (collectively, the "**Parking Spaces**" and, individually, a "**Parking Space**") in accordance with the terms and conditions of this Parking License.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants expressed and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Licensor and Licensee hereby covenant and agree as follows:

1. **License.** Licensor hereby grants Licensee a license to use the Parking Spaces in the Parking Facility for the Term (defined below) subject to the conditions and covenants contained herein. Licensee may, from time to time, request additional parking spaces, and if Licensor shall provide same, such parking spaces shall be provided and used on the same terms and provisions as provided herein upon payment of such license fee and other charges as Licensor shall establish from time to time.

2. **Term.** The term of this Parking License shall commence on July 1, 2011 and shall continue for a period of one (1) years (the "**Term**"). After the initial Term, this Parking License shall continue on a month-to-month basis, terminable by either party on thirty (30) days prior written notice, unless sooner terminated as hereinafter provided.

3. **License Fee.** Licensee shall pay to Licensor, at Licensor's address set forth on the signature page below, as a license fee, the sum of $500 per month (the "**License Fee**") for the Parking Spaces. Said License Fee shall be paid on or before the first (1st) day of each calendar month of the Term until the expiration or earlier termination of this Parking License. After expiration of the initial Term, Licensor reserves the right to change the License Fee, upon thirty (30) days advance written notice, from time to time in its sole and absolute discretion. No deductions from the License Fee shall be made for days that Licensee does not use any or all of the Parking Spaces. In addition to the License Fee, Licensee shall reimburse Licensor for its pro rata share of all costs and expenses reasonably incurred by Licensor in maintaining and repairing the Parking Facility. Tenant's pro rata share shall be a fraction, the numerator of which is the number of Parking Spaces licensed by Licensee and the denominator of which are the total number of parking spaces in the Parking Facility.

4. **No Liability; Indemnity; and Insurance.** Licensor shall not have any obligation to monitor the use of the Parking Facility and shall not have any liability whatsoever for any damage to property, any other items located in the Parking Facility, or for any personal injuries or death arising out of any matter relating to the Parking Facility, and in all events, Licensee agrees to look to its insurance carrier for payment of any losses sustained in connection with any use of the Parking Facility. Throughout the Term of this Parking License, Licensee shall carry and maintain the following insurance, which insurance shall cover, without limitation, Licensee's use of the Parking Spaces, Licensee's activities in and about the Parking Facility and the performance by Licensee of the indemnity agreements set forth in this Parking License: (i) worker's compensation and employer's liability, as required by law; (ii) commercial general liability insurance (occurrence form) providing coverage against any and all claims for bodily injury and property damage occurring in, on or about the Parking Facility arising out of Licensee's and Licensee's agents, employees or contractors use of the Parking Facility and such insurance shall have a combined single limit of not less than Two Million Dollars ($2,000,000) per occurrence with a Three Million Dollar ($3,000,000) aggregate limit; and (iii) comprehensive automobile liability insurance with a combined single limit of at least $1,000,000 per occurrence for claims arising out of any company owned automobiles. Upon execution hereof and, thereafter, within ten (10) days of written request from Licensor, Licensee shall provide Licensor certificates of insurance demonstrating that the insurance required to be carried by Licensee pursuant to this Section 4 is in effect. In the event that Licensee fails to timely provide Licensor such insurance certificates, Licensor shall have the right to terminate this Parking License upon five (5) business days prior written notice.

To the fullest extent permitted by law, Licensee hereby waives on behalf of its insurance carriers all rights of subrogation against Licensor or Licensor's agents. Licensee shall, during the entire Term hereof, be responsible for all loss or damage to Licensee's personal property located in the Parking Facility, whether by reason of fire, water, theft, vandalism, riot, breakage or other cause. Except to the extent arising from the gross negligence or willful misconduct of Licensor, Licensee shall indemnify, defend, protect, and hold harmless Licensor from any and all claims, losses, costs, damages, judgments, expenses and liabilities (including without limitation court costs and reasonable attorneys' fees) (collectively, "**Claims**") incurred in connection with or arising from Licensee's acts, omissions or negligence, or of any person claiming by, through or under Licensee, or the acts, omissions or negligence of Licensee's agents, employees or invitees in, on or about the Parking Spaces and the Parking Facility, including, without limitation, Claims arising from the passive negligence or active negligence, to the extent active negligence is not deemed to be gross negligence of Licensor.

5. **Reserved Spaces.** Licensor reserves the right to assign a reasonable number of parking spaces in the Parking Facility for visitors, small cars, handicapped persons, other licensees, guests of licensees, or other parties designated by Licensor, and Licensee shall not at any time park in any such assigned or reserved spaces. In addition to the foregoing, Licensor shall have the right to recapture and terminate the Parking License with respect to some of the Parking Spaces if necessary in order for Licensor to comply with any legal or contractual requirements. In such event, the License Fee shall be equitably reduced.

6. **Repairs.** Licensor reserves the right to close all or any portion of the Parking Facility in order to make repairs, perform maintenance services, or to alter, modify, restripe or renovate the Parking Facility, if required by casualty, strike, condemnation, act of God, governmental law or requirement or other reason beyond Licensor's reasonable control, or as deemed necessary by Licensor.

7. **Destruction.** In the event of a fire or other casualty in the Parking Facility or a condemnation of any part thereof, Licensor shall have the right to terminate this Parking License. In the event Licensor shall not terminate this Parking License, this Parking License shall continue in full force

and effect and all of the terms and conditions of this Parking License shall be binding upon both parties; provided, however, during any period when all or a portion of the Parking Facility, as a result of any fire or other casualty, is unusable and actually not used by Licensee, the License Fee shall abate proportionately until such time as the Parking Facility is made available for Licensee's use.

8. **Use of Parking Facility.** Licensee's use of the Parking Facility as set forth herein shall be non-exclusive and in common with other invitees, licensees and/or tenants of Licensor. Licensee may use the Parking Facility for automobiles only (and not pick-ups or other trucks).

9. **Termination by Licensor.** If Licensee or any designated user shall default under this Parking License, Licensor shall have all the rights available to it by reason of such default, including without limitation the right (i) to refuse further access to the Parking Facility by Licensee or any user of the Parking Facility, and (ii) to remove from the Parking Facility any vehicles hereunder which shall have been involved or shall have been owned or driven by parties involved in causing such default, without liability therefor whatsoever. In addition, (A) if Licensee or any designated user shall fail to pay any amount due under this Parking License within five (5) days of the date such amount is due, Licensor shall have the right to terminate this Parking License, effective immediately upon Licensor's delivery of notice to Licensee following the expiration of such five (5) day period; and (B) if Licensee or any designated user shall fail to observe or perform any other provision, covenant or condition of this Parking License required to be performed by Licensee or such designated user, Licensor shall have the right to terminate this Parking License, on ten (10) days written notice to Licensee, unless within such ten (10) day period such default is cured. Such termination rights shall be cumulative and in addition to any other rights or remedies available to Licensor at law or in equity.

10. **Compliance with Laws; Rules.** Licensee shall at all times comply with all applicable ordinances, rules, regulations, codes, statutes and requirements of all federal, state, county and municipal governmental bodies or their subdivisions respecting the use of the Parking Facility, including without limitation, the rules listed in Exhibit B attached hereto and made a part hereof (the "**Rules**"). Licensor reserves the right to adopt, modify, and enforce additional reasonable rules governing the use of the Parking Facility from time to time, including altering the identification or access systems, and hours of operation. The Rules are currently in effect with respect to the Parking Facility. Licensor may refuse to permit any person who violates such Rules to park in the Parking Facility, and any violation of the Rules (and any additional rules) may subject the car to removal from the Parking Facility and the termination of this Parking License.

11. **Termination of Existing License.** Licensor and Licensee hereby acknowledge and agree that, notwithstanding anything in the Existing License to the contrary, the Existing License shall terminate and be of no further force or effect upon the commencement of the Term of this Parking License.

12. **Miscellaneous.** Any notices delivered pursuant to the terms of this Parking License shall be in writing, shall be sent by United States certified or registered mail, postage prepaid, return receipt requested, delivered by a nationally recognized same-day or overnight courier (e.g. FedEx or UPS) or delivered personally to the respective parties' addresses set forth on the signature page to this Parking License. Any such notice properly delivered will be deemed received on the date it is mailed as provided in this Section 12, upon the first (1st) business day after delivery to a nationally recognized courier, or upon the date personal delivery is made. It is specifically understood and agreed between the parties that all agreements made between the parties with respect to parking of automobiles are contained in this Parking License, and any exhibits, modifications, or alterations to the same shall not be valid unless in writing and signed by both parties. Upon Licensor's assignment of this Parking License, Licensor shall be relieved of any and all obligations and liabilities thereafter arising under this Parking License. Should

any litigation be commenced between the parties to this Parking License concerning this Parking License, the prevailing party in such litigation shall be entitled to a reasonable sum as and for its attorneys' fees and court costs in the litigation. Every parker is required to park and lock his own car. Washing, waxing, cleaning or servicing of any automobile by the Licensee and/or its invitees, employees or agents in the Parking Facility is prohibited. By signing this Parking License, Licensee agrees to acquaint all persons to whom Licensee designates as the user of a Parking Space of the Rules (and any additional rules) and the terms and provisions of this Parking License. Licensee shall provide to Licensor the names of all authorized users of Parking Spaces and the make, model and license plate number of all automobiles that will be parked in the Parking Spaces during the Term of this Parking License.

IN WITNESS WHEREOF, Licensor and Licensee have executed this Parking License effective as of the date first written above.

LICENSOR:

METROPOLIS SAN PEDRO ROAD, LP,
a California limited partnership

By: MPI San Pedro Management, LLC,
a California limited liability company

By: _____
David Agger
Member

Address: P.O. Box 2129
San Francisco, CA 94126

LICENSEE:

BERNARD OSHER MARIN JEWISH COMMUNITY CENTER,
a California nonprofit corporation

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

Address: 200 North San Pedro Road
San Rafael, CA 94903

Exhibit A

Depiction of Parking Facility and Parking Spaces

Exhibit A

Depiction of Parking Facility and Parking Spaces

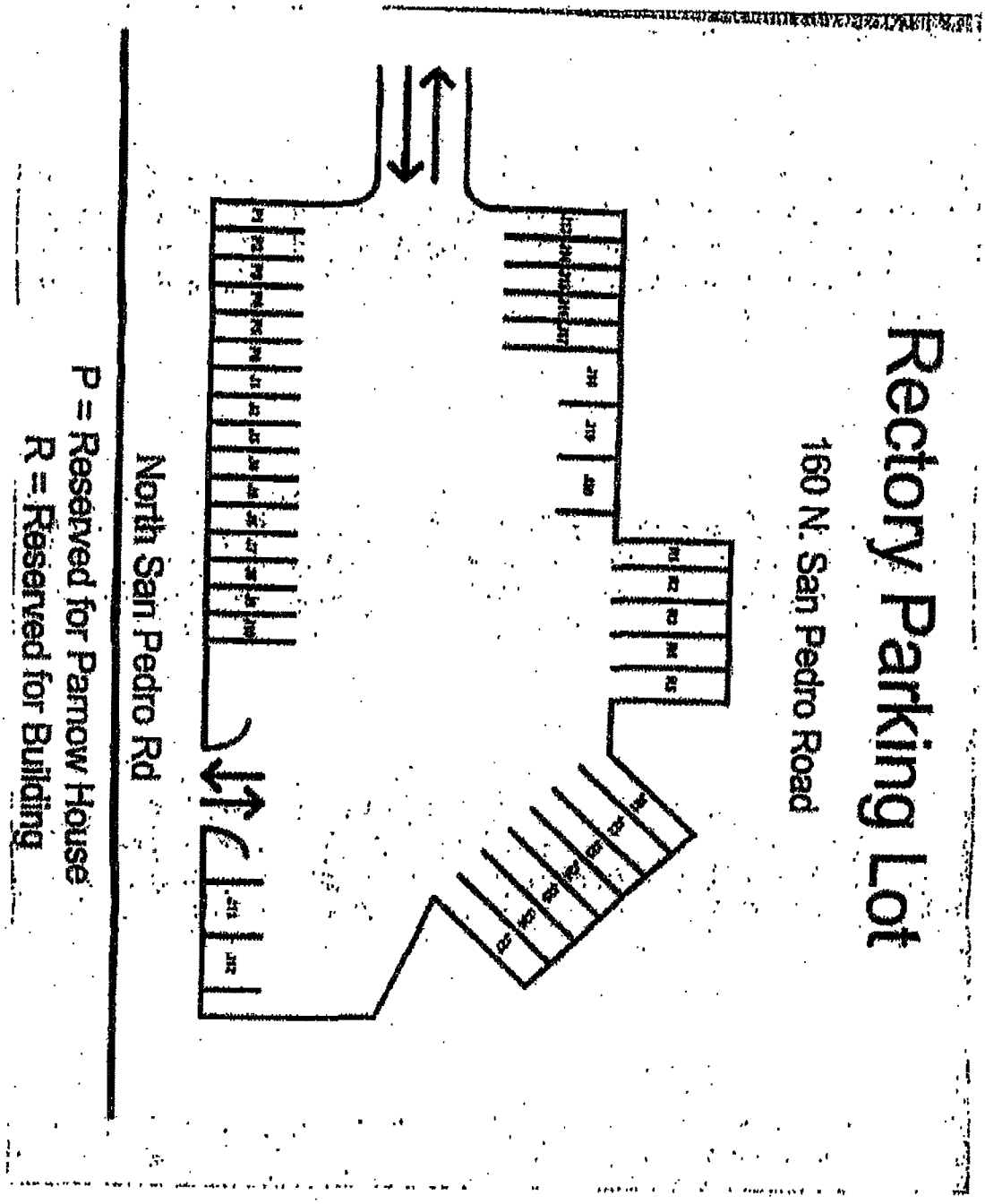


Exhibit A

Exhibit B

Rules

(i) Parking Facility hours shall be such hours as Licensor shall determine from time to time; provided, however, Licensee shall have access to the Parking Facility twenty-four (24) hours a day, seven (7) days a week. Licensee shall advise Licensor in advance of any automobiles that will be left by authorized users in Parking Spaces overnight.

(ii) Cars must be parked entirely within the stall lines painted on the floor, and only small cars may be parked in areas reserved for small cars.

(iii) All directional signs and arrows must be observed.

(iv) The speed limit shall be 5 miles per hour.

(v) Spaces reserved for handicapped parking must be used only by vehicles properly designated.

(vi) Parking is prohibited in all areas not expressly designated for parking, including without limitation:

(a) areas not striped for parking;
(b) aisles;
(c) where "no parking" signs are posted;
(d) ramps; and
(e) loading zones.

(vii) Washing, waxing, cleaning or servicing of any automobile by the Licensee and/or its invitees, employees or agents in the Parking Facility is prohibited.

(viii) No vehicles may be left at the Parking Facility in excess of seven (7) consecutive days. Any vehicles left in excess of such time period will be deemed abandoned and shall be towed away at the owner's sole cost.

(ix) In no event may Licensee park or allow to be parked in the Parking Facility any recreational vehicle, boat, personal watercraft, all-terrain vehicle, dune buggy or other off-road vehicle, or commercial truck having three (3) or more axles.