MARIN COUNTY PARKS
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

STAFFORD LAKE PARK MASTER PLAN
NOVEMBER 2018

PROJECT INFORMATION

Project Title
Stafford Lake Park Master Plan

Lead Agency Name and Address
Marin County Parks
3501 Civic Center Drive, Suite 260
San Rafael, California 94903

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Project Location
Stafford Lake County Park, Novato

Project Sponsor's Name and Address
Marin County Parks
3501 Civic Center Drive, Suite 260
San Rafael, California 94903

General Plan Designation
PF-OS (Public Facility – Open Space)

Zoning
APN: 125-090-019 and 22, 125-100-14,
Zoning: A2-B4 (Limited Agriculture)

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1. Introduction

Marin County Parks (Parks) is proposing to adopt a Master Plan, a comprehensive long-term planning document, to guide the future development of park facilities, improvements and programs at Stafford Lake County Park. The Master Plan provides recommendations for general infrastructure and circulation improvements to singular design elements. Overall, the Master Plan aims to protect the natural, cultural, and recreational amenities that currently exist within the park while proposing new, complementary features and programs. Specific improvements would be constructed incrementally over the life span of the Master Plan. This Initial Study evaluates the potential environmental effects of implementing the proposed Master Plan.

2. Environmental Setting

2.1 Location

Stafford Lake Park is located in northern Marin County, approximately 3 miles west of downtown Novato and U.S. 101 at 3549 Novato Blvd (see Figures 1 and 2). Marin County owns the park, with the exception of approximately 10 acres in the northeastern corner of the park owned by the North Marin Water District (NMWD). Marin County holds an easement over this portion of the park to allow for management activities and public recreation. Development of proposed improvements identified in the Master Plan that would occur outside of Marin County Parks jurisdiction would require permission from adjacent property owners.

Marin County Parks manages the park, which is comprised of approximately 139 acres of land along the western edge of Stafford Lake. Stafford Lake is the northernmost park managed by Marin County Parks and contains the largest upland acreage. The park is located between the urbanized core of Novato to the east and rural lands to the west.

2.2 Existing Facilities and Park Operation

The 139-acre regional park provides recreation opportunities to the community, including hiking, fishing and group picnicking for up to 500 people (Figure 3). The park also has a children's play structure, ball fields, volleyball and horseshoe courts, and a disc golf course. Phase 1 of the Stafford Lake Bike Park opened in August 2015, providing off-road bicycle riding areas designed for riders of all ages and skill levels. Overall, the park is used for a variety of large-scale events, music concerts and festivals, drawing as many as 8,000 people and 1,200 cars. At present, the County does not have an adopted master plan to guide facility development at Stafford Lake County Park.

The park hosts an array of programs, ranging from family picnics and day hikes to large-scale music events and other festivals. Six picnic areas are heavily used during the summer months. Picnic Areas 1 and 2 are particularly popular with large picnic groups and special events. The park is a very popular wedding venue, consistently booked on weekends during the warmer months. The park also has a diverse set of ranger-led and community group-organized park programs including outdoor movie screenings, educational, and stargazing events.

LSA

FIGURE 1

Stafford Lake Master Plan
Novato, Marin County, California

Regional Location

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MILES

SOURCE: ESRI StreetMap North America (2012).

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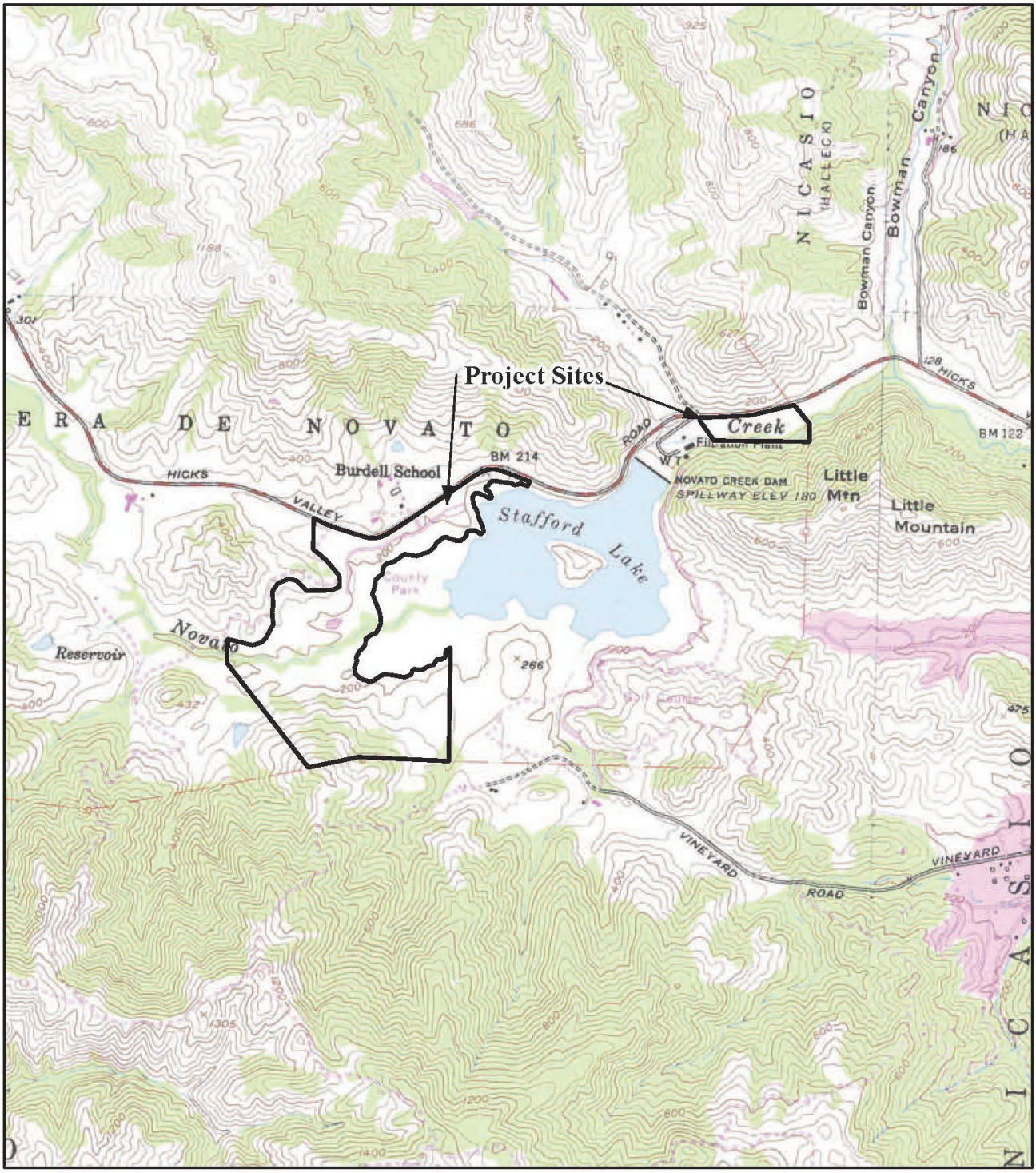

LSA

FIGURE 2

0 1000 2000
FEET

SOURCE: USGS 7.5-minute Topographic Quads: *San Geronimo* (1971), *Novato* (1980), *Petaluma* (1981), and *Petaluma River* (1980), *California*.

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Stafford Lake Master Plan
Novato, Marin County, California

Project Area

LSA

FIGURE 3

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SOURCE: RHAA 2015

Stafford Lake Park Master Plan
Marin County, California

Existing Park Amenities

P:\RHA1401\g\IS\Figure 3 Existing Park Amenities.cdr (12/1/2015)

Road access to the park is from Novato Blvd. Parking fees are $5.00 per vehicle seven days a week during winter months and Monday through Thursday during summer months, and $10.00 per vehicle on summer weekends (Friday, Saturday and Sunday). No on-street parking is available on Novato Boulevard. Separated bike paths or bike lanes are present along the route to the park from downtown Novato. In addition to the vehicle entrance, pedestrian/bicycle access is available via the bike path at the east end of the park.

Park hours are 7:00 a.m. to 8:00 p.m. in summer, 7:00 a.m. to 7:00 p.m. in fall and spring and 8:00 a.m. to 5:00 p.m. in winter. The park is closed at night and the vehicle entrance is locked.

2.3 Circulation

The only road to Stafford Lake Park is Novato Boulevard. Currently, Stafford Lake Park has only one vehicular entry and exit point. This access point is located toward the middle of the park off of Novato Boulevard. Upon entering the park and passing a small guard house, the road comes to a T, forcing drivers to turn either left or right. Internal vehicular circulation is via one primary access road, which cases congestion for patrons trying to enter or exit the park at peak use periods.

Parking capacity at Stafford Lake Park is greatly dependent on whether scheduled event(s) are taking place. During weekdays, the park has ample parking in designated lots; however, on busy weekends and during large events or festivals, parking and vehicular circulation is congested. Even with adequate overflow parking, and additional gated entry points, poor internal vehicular circulation results in traffic congestion on Novato Boulevard.

The main bicycle route to Stafford Lake Park is a multi-use path along Novato Boulevard that begins at Sutro Avenue. Avid road cyclists also ride directly on Novato Boulevard, often using Stafford Lake Park as a rest stop or meet up spot for longer rides. No official bike paths are located within Stafford Lake Park. Other than special permitted events, the County currently prohibits bikes on trails in the park. The recent opening of Phase 1 of the Stafford Lake Bike Park has provided an off-road amenity for bikers.

Currently, Stafford Lake offers one interior trail – the Terwilliger Nature Trail, which begins near Picnic Area 6, climbs about 400 feet and eventually loops back down to the original trailhead. A number of County Open Space Preserves and Novato City parks are located within a 3-mile radius of the park. Park patrons have expressed the desire to connect Stafford Lake Park with these neighboring spaces, especially the redwood groves at nearby Indian Tree Open Space Preserve. Currently, there is little direct connection between various open spaces and preserves. The Novato Boulevard multi-use path connects between Stafford Lake Park and O'Hair Park/ Dogbone Meadow, but regional trail connection is spotty and not well marked. There is potential to connect Stafford Lake Park with neighboring trails and open spaces but would require easement agreements with North Marin Water District and adjacent private property owners.

Public transportation to Stafford Lake Park is not available. The closest bus stop is located at Novato Boulevard and San Marin Drive via Marin Transit Route 251 or Golden Gate Transit Route 54. This stop is approximately 2 miles from the park entry.

2.4 Drainage and Flood Control

The park is located within the Novato Creek watershed, the largest watershed in Marin County, draining to San Pablo Bay. The North Marin Water District treats the water from Stafford Lake reservoir at the nearby Stafford Lake Water Treatment Plant and supplies approximately 20 percent of Novato's water. As a protected water source, swimming and boating are prohibited at the lake. Fishing is allowed outside of the 1,500-foot buffer from the dam and intake tower. In addition to Novato Creek, various other drainages flow into the lake.

The Stafford Dam spillway crest is measured at an elevation of +198.5 (NAVD-88) thus setting the maximum high-water line. The park experiences occasional flooding during large storm events, especially near riparian areas and drainage corridors. North Marin Water District typically begins drawing reservoir water from Stafford Lake around April to supplement drinking water, though lake water levels fluctuate throughout the year due to a number of factors.

2.5 Biological Resources

Vegetation Communities and Habitats. The plant communities that occur within Stafford Lake Park include non-native grassland, brome/fescue, native grassland, purple needlegrass, native grassland, seasonal wetland, riparian, and oak woodland (Figures 4a/b and 5a/b). Turf covers a portion of the park that has not been watered in the last couple of years and supports non-native species at 10 percent or less cover.

Non-native Grassland. The non-native grassland is dominated by a variety of non-native species including ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), hare barley (*Hordeum murinum* ssp. *leporinum*), and Italian ryegrass (*Festuca perenne*). Non-native grassland includes the annual brome grasslands as described in the *Manual of California Vegetation* (*Manual*).[1] The cover of these species typically approaches 100 percent in this grassland.

Brome/Fescue Native Grassland. The brome/fescue Native Grassland is an unusual type of native grassland because it is dominated by a number of different native plant species including fescue (*Festuca* spp.), California brome (*Bromus carinatus*), and purple needlegrass (*Stipa pulchra*). This grassland roughly corresponds to the description of Idaho Fescue alliance as described in the *Manual*.

The Brome/Fescue Native Grassland is considered vulnerable and at moderate risk.[2] This grassland is considered locally sensitive because of the high cover and diversity of native species, low cover of non-native species, and restricted occurrence. The cover of this grassland approaches 100 percent and the non-native component of this grassland is low to non-existent in some areas This grassland only occurs on a slope near the southwestern boundary of the park. The wildflower component of the grassland is likely to be diverse as well, but was not observed during the October field work as the survey occurred outside of the blooming period for most plants.

[1] Sawyer, J.O., T. Keeler-Wolf, J.M. Evans. 2009. A Manual of California Vegetation. California Native Plant Society Press, Sacramento, CA. 1300 pp.
[2] NatureServe. 2015. NatureServe Conservation Status. http://www.natureserve.org/explorer/ranking.htm

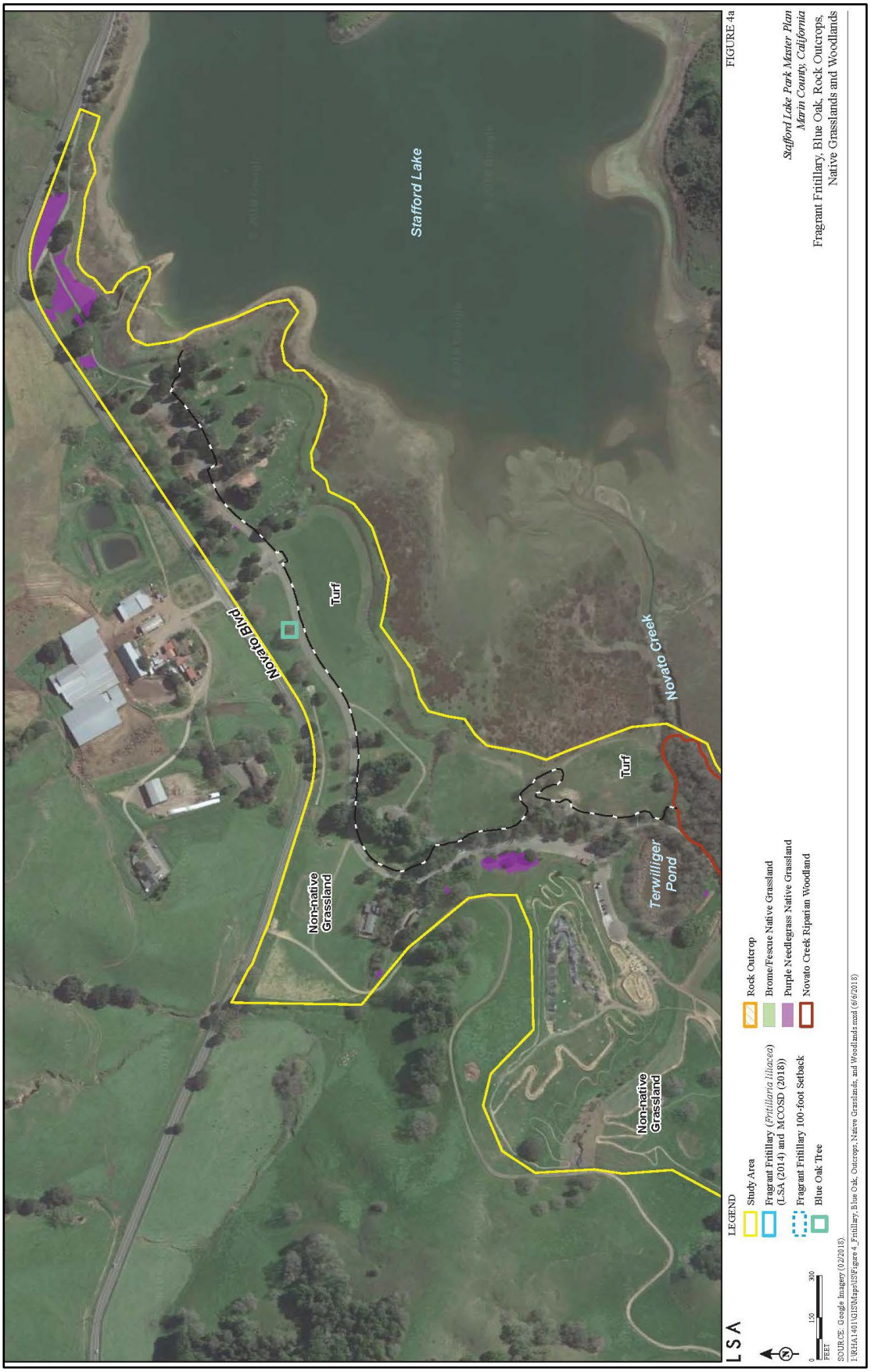

FIGURE 4a

Stafford Lake Park Master Plan
Marin County, California

Fragrant Fritillary, Blue Oak, Rock Outcrops, Native Grasslands and Woodlands

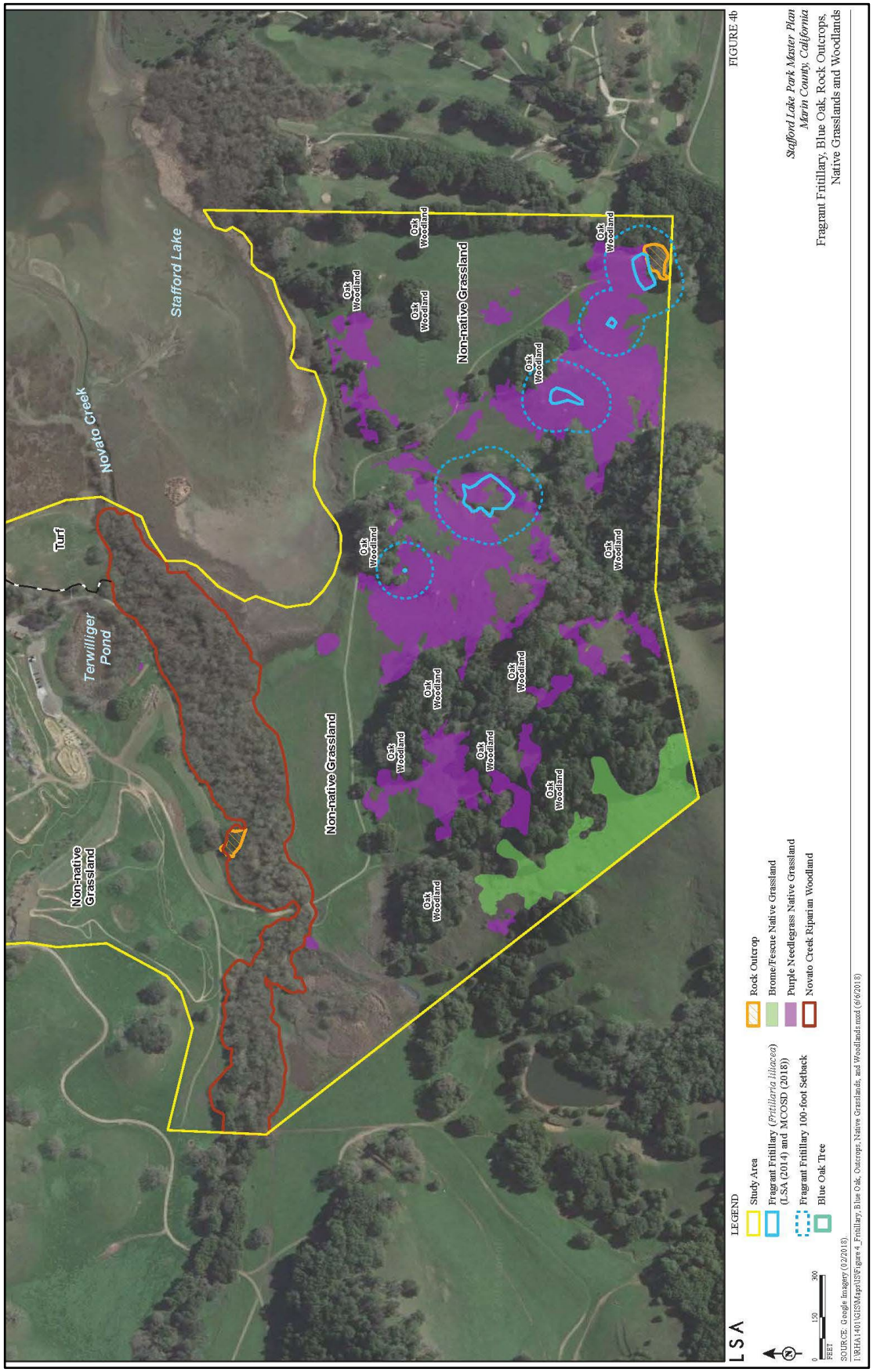

FIGURE 4b

Stafford Lake Park Master Plan
Marin County, California

Fragrant Fritillary, Blue Oak, Rock Outcrops, Native Grasslands and Woodlands

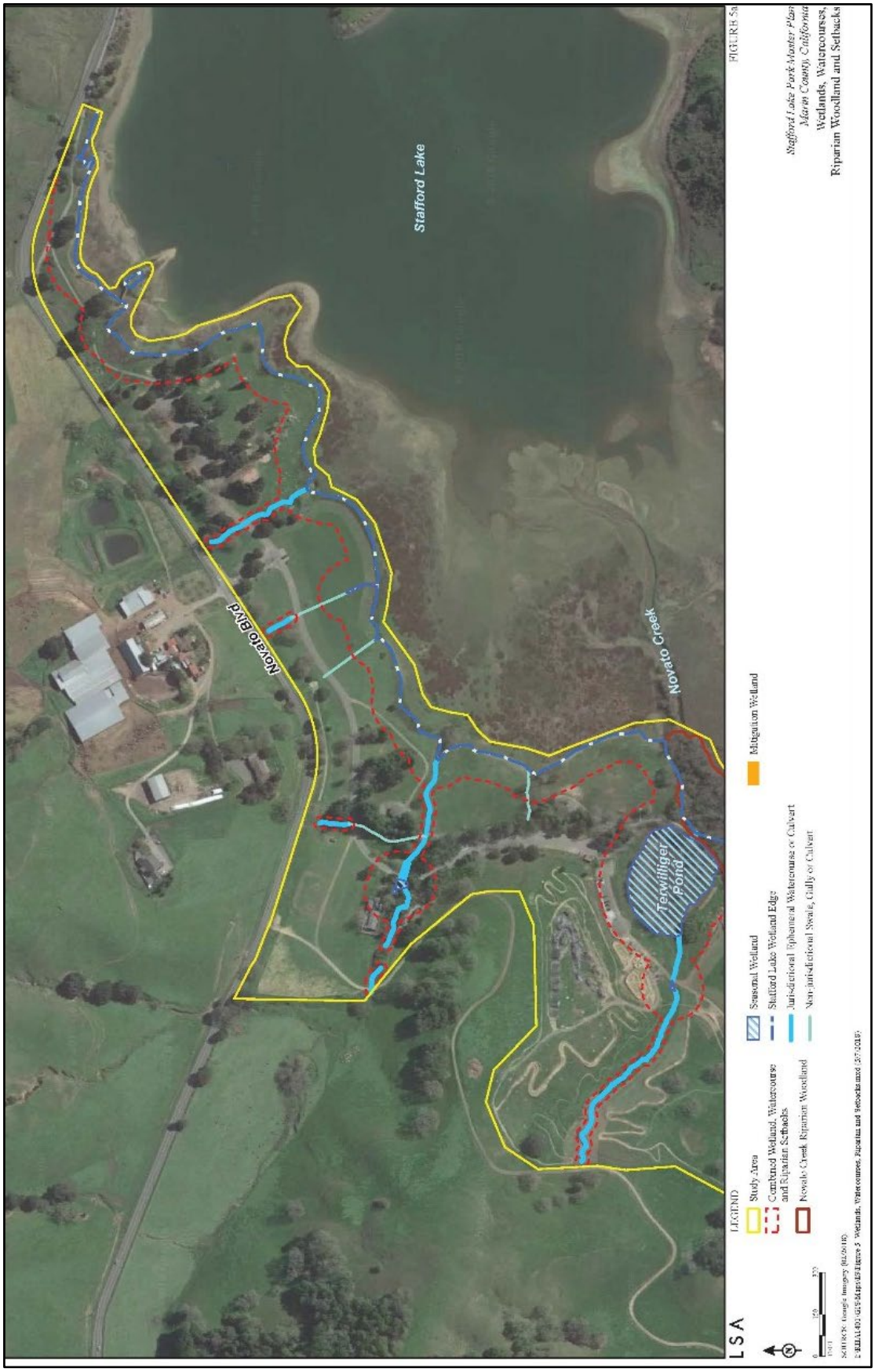

FIGURE 5a
Stafford Lake Park Master Plan
Marin County, California
Wetlands, Watercourses, Riparian Woodland and Setbacks

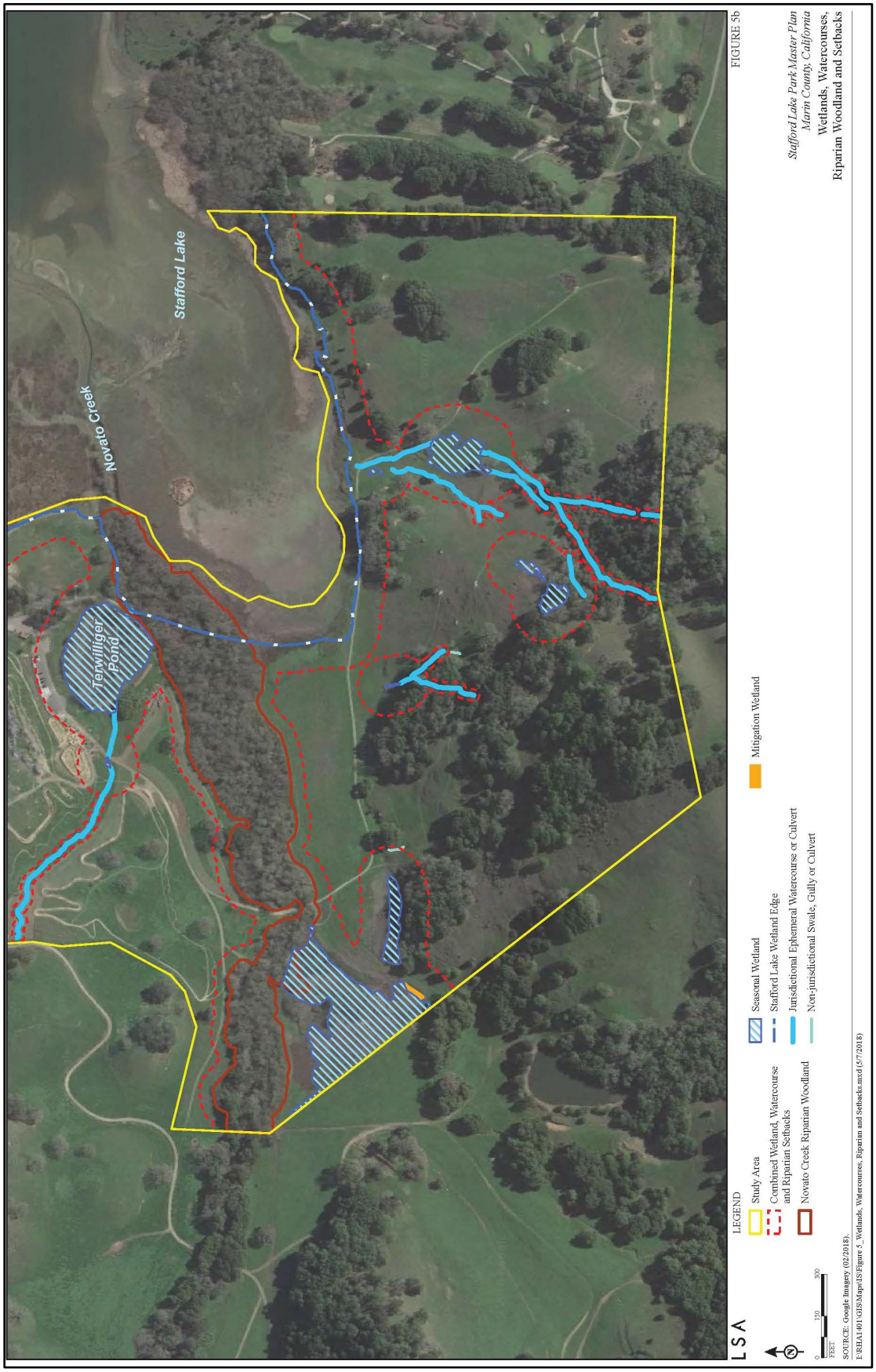

FIGURE 5b

Stafford Lake Park Master Plan
Marin County, California
Wetlands, Watercourses, Riparian Woodland and Setbacks

Purple Needlegrass Native Grassland. The Purple Needlegrass Native Grassland is dominated by purple needlegrass (cover 10 to 50 percent) and is relatively widely distributed in the undisturbed portions of Stafford Lake Park. It corresponds to the *Nassella pulchra* alliance as described in the *Manual*. Purple Needlegrass Native Grassland is considered a special-status vegetation type because of the conversion of land to agricultural and urban uses and displacement by invasions of non-native vegetation. The Purple Needlegrass Native Grasslands at Stafford Lake Park would fall into the valley needlegrass grassland category of the Marin Countywide Plan and would therefore be considered sensitive.

Seasonal Wetland. The seasonal wetland that occurs at Stafford Lake Park is an aggregation of a number of different alliances (plant communities) that occur in a mosaic or in single species stands, including native and non-native species. Cattails (*Typha latifolia*), a native species, grow at the edge of Terwilliger Pond. Other commonly observed alliances dominated by native wetland plant species include spike rush (*Eleocharis* sp.), willowherb (*Epilobium* sp.), and spreading rush (*Juncus patens*). Common non-native wetland alliances include curly dock (*Rumex crispus*) and pennyroyal (*Mentha pulegium*). Seasonal wetland is considered a sensitive community because it indicates a potential jurisdictional wetland that would be regulated by the U.S. Army Corps of Engineers (Corps) and the Regional Water Quality Control Board (RWQCB). Wetlands are also biologically valuable because of their ecosystem functions that include wildlife habitat, protection of water quality, and high productivity.

Watercourses. The watercourses within the park are generally small with the exception of Novato Creek and range from completely vegetated swales to incised streams with scour. All of the park's watercourses are seasonal and flow only during the winter rainy season, although Novato Creek may continue to flow later in the year than the smaller watercourses. Some watercourses including swales dominated by non-native upland species appear to be non-jurisdictional but will be reviewed on a site-specific basis if projects are proposed in their vicinity. Jurisdictional watercourses exhibit scour and/or are dominated by wetland plant species. The channel of Novato Creek is bare due to scour and is surrounded by willow riparian vegetation. Watercourses are also regulated by the Corps, RWQCB, and the California Department of Fish and Wildlife (CDFW) and provide valuable habitat for fish and wildlife.

Riparian Vegetation. The riparian vegetation within the park is dominated by yellow willow (*Salix lasiandra*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*) trees, which grow in a dense canopy along Novato Creek. The diameter of many of these trees exceeds 1 foot DBH (diameter at breast height[3]). The trees can exceed 40 feet in height. The CDFW ranks Yellow Willow plant communities as threatened using the NatureServe classification system. Arroyo Willow and Red Willow alliances are ranked as more common. Although the riparian vegetation within the park is a mixture of these three types, it is still considered sensitive because of its value to wildlife. As articulated in the Marin Countywide Plan[4], Marin County policy protects this vegetation type.

Oak Woodland. Oak woodland occurs in the southern portion of Stafford Lake Park, with non-native and native grassland occurring beside the Oak Woodland stands. This vegetation corresponds to the *Quercus agrifolia* alliance as described in the *Manual*. Coast live oak (*Quercus agrifolia*) is the dominant species within this community. Other tree species include valley oak (*Quercus lobata*), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*). Canopy cover of the Oak Woodland varies from 80 to 100 percent. The diameter of the trees often exceeds 1 foot.

Three small stands of coast redwood trees (*Sequoia sempervirens*) occur within the oak woodland. Stands range from less than 800 square feet (sf) up to 1,800 sf. Tree diameters range

[3] Diameter of tree measured at a point 4.5 feet from the ground surface.
[4] County of Marin, Community Development Agency, 2007. *Marin Countywide Plan.* 6 November.

from 1-3 feet with some of the redwood trees exceeding 50 feet in height. The understory consists mostly of thick duff from the redwood needles but also includes wood fern (*Dryopteris arguta*). Patches of scrub dominated by coyote brush (*Baccharis pilularis*) and poison oak (*Toxicodendron diversilobum*) are also located within the oak woodland. Ocean spray (*Holodiscus discolor*) and coffee berry (*Frangula californica*) also occur in the scrub.

A number of notable trees are located within Stafford Lake Park, including the weeping willows (*Salix babylonica*) between Group Picnic Areas 1 and 2, the large California bay tree just west of Terwilliger pond, a blue oak (*Quercus douglasii*), near the park entrance, as well as the large coast live oaks and California bay trees on site. Pacific madrone (*Arbutus menziesii*) is also present within the park including one very large tree in the southeast portion of the park. The Marin County tree ordinance[5] protects trees native to Marin County. The tree ordinance contains an exemption for public agencies to provide routine management and maintenance of public lands

Special-Status Plants. For the purposes of this analysis, special-status plants are defined to include state or federally listed species, and species on the California Native Plant Society (CNPS) Lists 1 and 2. Locally rare plants include plants on CNPS Lists 3 and 4, and other plants recognized by local experts as being uncommon in the local area. LSA conducted a CNDDB search for rare plants on April 8, 2018 and had previously conducted several fall surveys in 2014. One rare (CNPS List 1B) plant, fragrant fritillary (*Fritillaria liliacea*), is known to occur within the park and other rare plants may potentially occur. Figure 4b depicts the locations of fragrant fritillary. County Park staff regularly conducts botanical surveys. One List 4 plant, bristly leptosiphon (*Leptosiphon acicularis*) is known to occur within the park south of Novato Creek (Personal Communication, Adam Craig, Marin County Open Space District, May 1, 2018). LSA prepared a list of special-status plant species with potential to occur in the park by reviewing CNDDB results within a five-mile radius of Stafford Lake Park (Table 8.A, in Section 9.8). Additional species from the U.S. Fish and Wildlife Service (USFWS) ECOS (Environmental Conservation On-Line System [ECOS]) list were also included.

Wildlife. There are several habitat types that support common native wildlife in the park such as Western fence lizard (*Sceloporus occidentalis*), California newt (*Taricha torosa*), California scrub jay (*Aphelocoma californica*), red-winged blackbird (*Agelaius phoeniceus*), Canada goose (*Branta canadensis*), great-horned owl (*Bubo virginianus*), ground squirrel (*Spermophilus beecheyi*), black-tailed jack-rabbit (*Lepus californicus*), black-tailed deer (*Odocoileus hemionus columbianus*), and coyote (*Canis latrans*). An exhaustive species survey was not conducted but several species of songbirds, shorebirds, ducks, and raptors also utilize the lake and surrounding open space for foraging and/or nesting.

Special-status Animals. LSA conducted a CNDDB search on April 8, 2018 and consulted the USFWS ECOS list for Marin County in order to create a list of special-status wildlife species that may potentially occur within the park. A list of special-status species considered is provided in Table 8.B. in Section 9.8. Special-status animals that have been observed within the park include American badger (*Taxidea taxus*), Western pond turtle (*Emys marmorata* - a candidate for listing under the Federal Endangered Species Act), tricolored blackbird (*Agelaius tricolor* - a candidate for listing under the California Endangered Species Act), bald eagle (*Haliatus leucocephalus*), Nuttall's woodpecker (*Picoides nuttallii*), and oak titmouse (*Baeolophus inornatus*). Western pond turtles and tricolored blackbird have been observed in Terwilliger Pond.

Additional species likely to occur within the park include several special-status bat species, white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and Northern spotted owl (*Strix*

[5] Ordinance No. 3342; Ordinance of the Marin County Board of Supervisors Amending Title 22 to Reenact Provisions for Native Tree Preservation and Protection. http://ucanr.edu/sites/oak_range/files/60606.pdf

occidentalis caurina), saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), and yellow warbler (*Setophaga petechia*). Habitat is also present for the federally-threatened California red-legged frog (*Rana draytonii*). Federally threatened steelhead trout (*Oncorhyncus mykiss irideus*) are known to occur in Novato Creek downstream of the dam. Additional information about these and additional species considered is provided in Table 8.B and Section 9.8.

3. Proposed Project

From the onset of the master planning process, Marin County Parks and the design team considered Stafford Lake Park as a unique, but underutilized amenity. The Master Plan focuses on alternative, nature-based recreation, as well as traditional picnic and play to activate the park's underutilized areas and to protect its existing resources. The overall Master Plan improvements have been broken down into five general categories, as shown in Figure 6:

- General Park Improvements
- The Event Meadow
- The Picnic Playground
- The Back Meadow
- Miscellaneous Amenities

While interconnected, these features can stand as singular projects. These proposed improvements are described below.

3.1 General Park Improvements

A major step in the master plan effort is to reconfigure the current vehicular circulation for improved movement and increased accessibilty to park features. The main access point would be moved to the northwestern corner of the park along Novato Boulevard and an exit-only access would be provided at the eastern edge. The existing gatehouse structure would be preserved and repurposed and a new gatehouse would be constructed near the Event Meadow.

New pedestrian and bicycle paths would supplement the existing pathways to create internal walking loops that are wheelchair and stroller-accessible. These new pathways would be up to 8 feet wide and could be improved with decomposed granite, paving, or other hardened surfaces. Additionally, improved trail connections with the existing Terwilliger Trail, disc golf course trails, and along the lake are proposed. These trail extensions would create continuous trail loops from existing dead-end trails. New trails would avoid disturbing upland vegetation and other environmentally sensitive areas. New interpretive signage is proposed at sensitive environmental and cultural spaces within the park. Additionally, individual and group picnic areas would be added throughout the park.

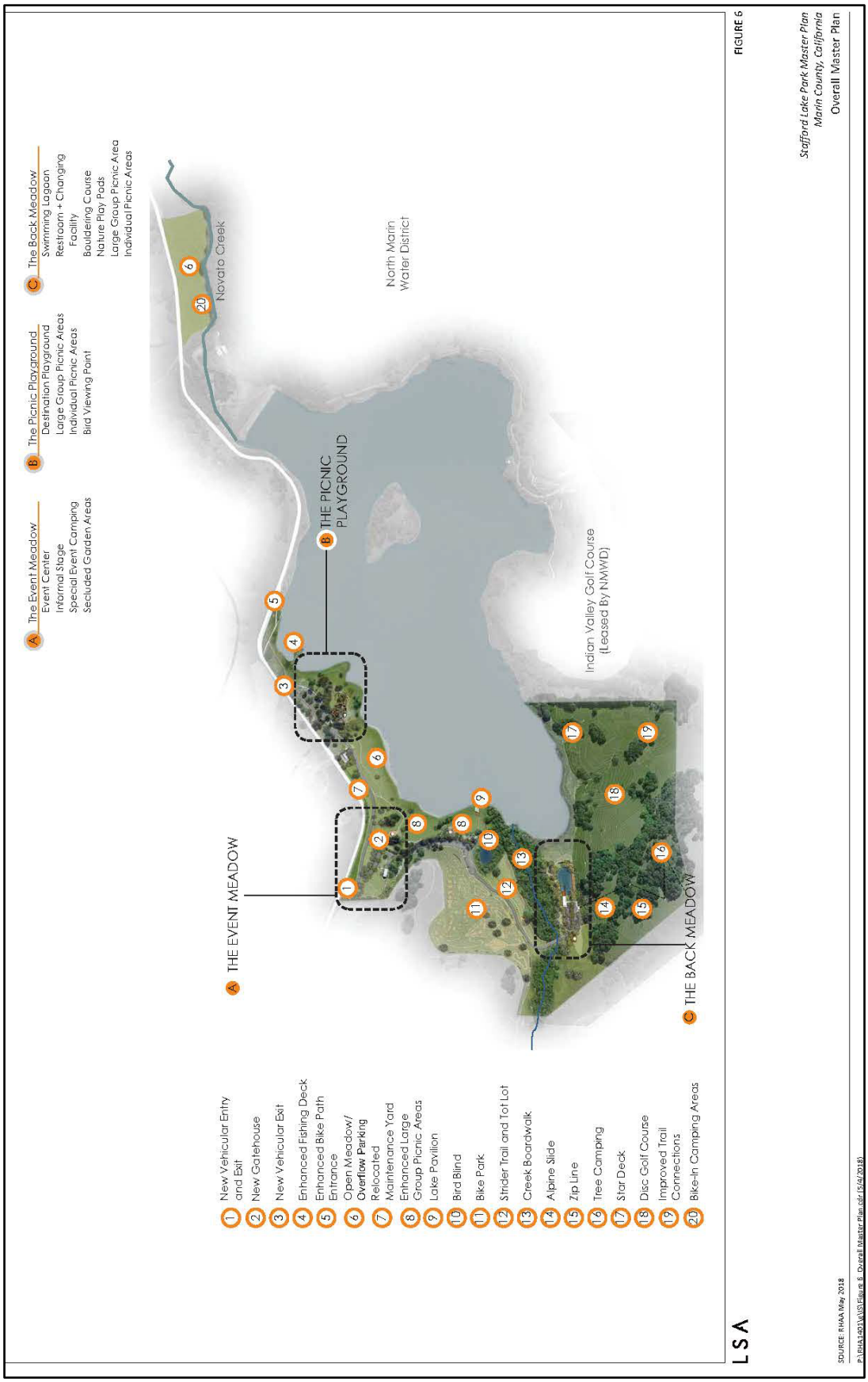

FIGURE 6

Stafford Lake Park Master Plan
Marin County, California
Overall Master Plan

3.2 The Event Meadow

The following elements are proposed in the northwest portion of the park along Novato Boulevard:

- **New Gatehouse.** A new 250 sf gatehouse would be situated between the park road parallel with Novato Boulevard and the road leading to the existing group picnic areas 1 and 2 (see Figure 7). This new gatehouse configuration would allow the park to be split into two sections - one without a fee and the other fee-based - to encourage more frequent use by nearby residents who are turned away from visiting the park due to fees. A fee would be required to access the Event Meadow area and areas south of the new gatehouse.

- **Events Center.** The existing staff maintenance yard and trailer residence would be replaced with a new 4,000 sf event center structure. The structure would provide a flexible indoor space for special events, community meetings, exhibitions, and other gatherings. It would also include exterior restrooms. The structure design would reference to the neighboring barn/ranch style architecture.

Representative Photo of Proposed Events Center

- **New Parking Lot.** A new parking lot with approximately 60 spaces would provide formal parking spaces for future events. The remaining open meadow would have capacity for overflow parking during large special events in the park and could accommodate approximately 150 vehicles.

- **Informal Stage and Open Meadow.** An informal 450 sf stage with electrical power would be constructed in the northwestern portion of the Event Meadow. The surrounding open meadow area would remain as an open, flexible space for picnicking or informal recreation. The stage would be a simple platform that could accommodate a removable shade structure.

- **Special Event Camping.** To accommodate special groups (e.g., Girl Scouts), a space along the southern edge of the meadow would allow special event camping parties of approximately 50 people.

- **Event Gardens.** The existing drainage swale, adjacent to the proposed events center, could become a garden space to supplement the events center. Areas near the drainage swale would be planted with California native plantings while areas outside of the swale would become a naturalistic garden with low water-use plantings.

Representative Photo of Proposed Event Gardens

FIGURE 7

LSA

Stafford Lake Park Master Plan
Marin County, California
Detail Plan – Event Meadow

SOURCE: RHAA, May 2018

P:\RHA1403\gis\F\Figure 7_Detail Plan – Event Meadow.cdr (5/4/2018)

1. New Maintenance Facility Utilizing Existing Entry Station
2. New Path
3. Open Meadow/ Overflow Parking
4. Restoration Planting Along Existing Swale
5. New Restroom
6. Individual Picnic Area
7. New Group Picnic Area
8. New Destination Playground
9. Enhanced Parking
10. New Park Exit
11. Bird Viewing Vista Point
12. Fishing Deck
13. Enhanced Bike Entry

FIGURE 8

Stafford Lake Park Master Plan
Marin County, California
Detail Plan – Picnic Playground

LSA

SOURCE: NAIP, May 2018

P:\RHA1401\gis\Figure 8 Detail Plan – Picnic Playground.cdr (5/4/2018)

3.3 The Picnic Playground

The following elements are proposed in the northeast portion of the Park along Novato Boulevard:

- **Destination Playground.** The destination playground would be the centerpiece of the Picnic Playground area (see Figure 8). Play equipment would include custom-designed and standard climbing structures built around the existing mature trees on site. The playground would have various subareas including a tot lot, water play zone, willow hut village, play stage, and elevated play areas. The playground would be designed with accessibility in mind, providing ADA-accessible play equipment, multi-sensory engaging elements, and imaginative spaces. The playground would be located within the no fee zone of the park.

- **Individual and Group Picnic Areas.** This area would include additional individual and group picnic areas scattered around the area. Adjacent to the new destination playground, an improved group picnic area would have a newly constructed BBQ counter along with several picnic tables. An additional group picnic area would be added just west of the existing stand of redwoods. New paths would connect to this proposed group picnic area and additional picnic tables, BBQ counter, and serving area would be provided. Four additional individual picnic areas would supplement the existing two areas, allowing more intimate picnic venues, and would offer freestanding BBQs. These picnic areas would be in addition to the picnic and play area associated with the Stafford Lake Bike Park. Proposed amenities would serve both general park and bike park users.

Representative Photo of Proposed Individual and Group Picnic Areas

- **Extended Walking Paths.** A new approximately 1,000 linear foot ADA-accessible pathway would go around the Picnic Playground area. The path would provide individual picnic areas and a bird viewing vista point. The path would be a mini-loop within the larger park-wide pedestrian loop. Parts of the pathway would be a multi-use path that shares pedestrian and bicycle traffic.

- **New Maintenance Yard and Staff Offices.** The existing 400 sf gatehouse building would be renovated to serve as the relocated park staff offices and maintenance facilities. Additional permanent structures totaling approximately 2,000 sf would function as a maintenance yard.

Representative Photo of Proposed Maintenance Yard and Staff Offices

1 New Vehicular Bridge
2 Strider Trail + Tot Lot
3 Restroom + Changing Facility
4 Kiddie Lagoon
5 Zip Line Platform
6 Alpine Slide
7 Deck
8 Creek Boardwalk
9 Small Group Picnic Areas
10 Informal/ Nature Play Pods
11 Lagoon
12 Bouldering Course

FIGURE 9

LSA

Stafford Lake Park Master Plan
Marin County, California
Detail Plan – The Back Meadow

SOURCE: RHAA, May 2018

P:\RHA1401\G\IS\Figure 9_Detail Plan – The Back Meadow.cdr (5/4/2018)

3.4 The Back Meadow

The following elements are proposed in the central portion of the Park south of the Stafford Lake Bike Park (see Figure 9):

- **Roadway Extension and Back Meadow Parking Lot.** Currently, the Back Meadow area consists of an open field of non-native plants and is inaccessible to vehicles. A permanent vehicular bridge and roadway connection would provide greater access to this area. The new road would be approximately 1,800 linear feet in length and 20 feet wide and the bridge would be approximately 25 feet wide and 80 feet long. A parking lot with approximately 64-spaces would be added to the Back Meadow.

- **Bouldering Course.** The bouldering course would be located along the foot of the hillside just north of the disc golf course. It would consist of 12 climbable rock features built into the landscape, including 6 large features ranging from 10 to 15 feet in height and 6 small features ranging in height from 6 to 10 feet tall. All boulders would be designed with the appropriate fall zone requirements.

Representative Photo of Proposed Bouldering Course

- **Nature Play Pods.** Three nature play pod areas would be scattered along the path west of the lake. These play areas would have informal play elements adjacent to proposed picnic areas.

Representative Photo of Proposed Nature Play Pods

- **Individual and Group Picnic Areas.** Three new individual picnic areas and one group picnic area would be provided in the Back Meadow. Individual picnic areas would have picnic tables and freestanding BBQs, while the group picnic area would have an approximately 1,000 sf shade structure and BBQ counter and serving area. Approximately 17 picnic tables and four BBQs would be installed.

Temporary Uses are activities or amenities that can be quickly built into the existing landscape with minimal impact. The three temporary use options for the Back Meadow are described below and illustrate ideas for these activities with suggested placement and dimensions in the landscape. The options would be universally accessible via an accessible crossing.

- **BMX Track with Loop Trail:** The first option for temporary use is a one-half mile loop trail encompassing a BMX track in the heart of the Back Meadow. The loop would be designed as a multiple use trail to accommodate bikers and joggers for fitness. In the center of the loop, the BMX track would be roughly 100,000 sf. This size would be large enough to accommodate a track with multiple turns and could accommodate potential racing events.

Representative Photo of Proposed BMX Track

- **Ropes Course:** Option 2 proposes to create a course traversing 18 elements connected by rope at 6 poles. The linear 'aerial rope adventure' would be sited on a 60-foot x 30-foot area at the edge of the meadow. The elements would be separated by pathways and platforms ranging in height. The varying levels in course difficulty would allow for individuals of varying abilities to enjoy this site amenity. The course would be designed with the appropriate safety requirements and features.

- **Ninja Warrior Obstacle Course:** The third temporary use would be a 17,000 sf "Ninja Warrior" style obstacle course which would accommodate individuals or groups in a challenging 10 element course. High and low elements would be placed strategically in sequence to encourage fitness and fun. The course would be sited adjacent to the lake at the terminus of the accessible crossing.

Representative Photo of Proposed Obstacle Course

3.5 Miscellaneous Amenities

Other amenities are proposed include the following:

- **Fishing Boardwalk.** The Fishing Boardwalk would improve and expand the existing fishing spot near the northeast portion of the park. The boardwalk would provide access to deeper waters within the lake and more spaces for fishing overall. The pathway leading to the fishing boardwalk would also be improved. The boardwalk would be approximately 200 feet long and 6 feet wide.
- **South Lake Edge Improvements and Star Deck.** The South Lake Edge would have minimal improvements, including three hike-in picnic spaces and a Star Deck. The Star Deck would have built-in telescopes, an informal classroom space, and a radiant heating floor. The deck could also be outfitted with a solar-powered heater. The Star Deck would be approximately 2,000 sf and would include three picnic tables.

Representative Photo of Proposed Star Deck

- **Bird Blind.** A Bird Blind structure would be located near the existing group picnic area adjacent to the seasonal wetland pond south of the Bike Park. The simple 150 sf structure would allow visitors to observe birds in an unobtrusive manner. It could also include interpretive signage.
- **Zip Line and Alpine Slide.** The proposed Zip Line and Alpine Slide would be located in the southern portion of the park, just west of the existing disc golf course. These facilities would be designed to have minimal impact on the existing terrain and could become revenue-generating concessions within the Park. The Zip Line would be approximately 1,000 linear feet and include five platforms. The Alpine Slide would be approximately 1,000 feet long and five feet wide.

Representative Photo of Proposed Zip Line

- **General Picnic Area Improvements.** As part of the Master Plan, the existing Group Picnic Areas 1, 2, and Rustic Meadows would be renovated. Improvements would include three new 1,000 sf shade structures, improved BBQ with serving counter, and approximately 50 new picnic tables.
- **Bike-In Camping.** The 16-acre lot to the east of Stafford Lake Park would remain an open meadow utilized as overflow parking with the exception of a portion along Novato Creek. Small areas would be cleared and used as overnight camp sites. Due to the proximity to the main bike path, the sites would be oriented to bike-in and walk-in camping only.
- **Creek Boardwalk.** The new creek boardwalk would cross Novato Creek further east from the vehicular crossing, providing increased circulation options within the park. The approximately 350 linear feet, seven-foot wide boardwalk would allow visitors to engage with the creek without disturbing sensitive habitat and provide interpretive opportunities for educational programs.
- **Strider Trail, Tot Lot and Temporary Roadway Extension.** The new tot lot and strider trail would be located across the road from the bike park, between Novato Creek and the road. The 15,000 square foot tot lot would include nature-based play items, two picnic areas with two tables each, a new 16-foot by 27-foot shade structure and a 1,300 linear foot by 3-foot-wide dirt trail for strider bicycles.[6]

[6] A strider bicycle, also known as a balance bicycle or run bicycle, is a training bicycle that helps children learn balance and steering. It has no pedals and no drive train.

- **Single Track Bike Trail.** A new 5- foot wide multi-use dirt trail would be located in and around the disc golf course area. The trail would be designated for use by hikers, bicyclists, and occasional bicycle race events. The trail would be between 2 and 5 miles long and may utilize sections of the existing Terwilliger Trail to minimize disturbance. Bicycle traffic would likely be limited to one direction to ensure safety.
- **Utilities and Infrastructure.** Currently, minimal utilities exist within Stafford Lake Park. Water service extends to most of the picnic areas, the three restroom facilities, and the maintenance yard/trailer residence. Electrical service is available at Group Picnic Areas 1 and 2 and the maintenance yard/trailer. No sewer connections exist at the park. The restrooms and residence rely on individual holding tanks to handle waste. Implement the proposed master plan improvements, would require extended utility connections, in addition to increased transformer capacity.

Table 1. Stafford Lake Park Master Plan Project List

General Improvements
Reconfigure Existing Vehicular Circulation
Pedestrian and Bicycle Paths
Utilities

The Event Meadow
New Gatehouse
Event Center
Event Center Parking Lot
Informal Stage and Open Meadow
Special Event Camping
Event Gardens

Picnic Playground
Destination Playground
Individual and Group Picnic Areas
Extended Walking Path
Maintenance Yard & Staff Offices

The Back Meadow
Roadway Extension, Bridge & Parking Lot
Bouldering Course
Nature Play Pods
Individual and Group Picnic Areas

Miscellaneous Amenitiesf
Fishing Deck
South Lake Edge Improvements & Star Deck
Bird Blind
Zipline
Alpine Slide
Group Picnic Areas 1, 2 & 3 Upgrades
Bike-In Camping
Creek Boardwalk
Strider Trail, Tot Lot and Temporary Road Extension
Single Track Trail
Utilities and Infrastructure

4. Construction

The Master Plan would be constructed incrementally over approximately 25 years. Projects to be implemented annually would depend on budgetary, permitting, and planning requirements. It is assumed that projects would largely be constructed sequentially with approximately one or two projects being constructed each year. Below is an estimated timeline for project implementation:

Short Term (1 to 10 years)
Strider Trail, Tot Lot & Temporary Road Extension
Permanent Road Extension, Bridge & Parking Lot
Single Track Bike Trail
Group Picnic Areas 1,2 & 3 Upgrades
Utilities
Creek Boardwalk
Bouldering Course
Individual and Group Picnic Areas at Back Meadow

Mid Term (10-20 years)
Reconfigure Existing Vehicular Circulation – new entry and exits
New Gatehouse
Maintenance Facility and Staff Office
Destination Playground
Individual and Group Picnic Areas at Destination Playground
Event Center, Open Meadow and Informal Stage
Event Center Parking Lot
Special Event Camping
Event Garden
Pedestrian and Bicycle Paths
Nature Play Pods

Long-term (20 plus years)
Alpine Slide
Zipline
South Lake Edge Improvements and Star Deck
Bird Blind
Fishing Deck
Bike-In Camping

Construction staging would occur on the Project site in areas not proposed to support the existing and proposed improvements and away from the lake and creeks. Construction workers, equipment, and deliveries would access the construction site via Novato Boulevard. Construction of Master Plan projects would start in 2018. In general, a small project would take approximately 1 to 6 months to construct; a medium project would take 6 to 12 months to construct; and a large project would take 1 to 5 years to construct. There would be no overlap of large projects; however, several small and medium projects could be constructed at the same time. Projects to be implemented in 2018 include the Strider Trail, Tot Lot and Temporary Road Extension.

As a reasonable worst-case scenario, this analysis assumes that at a maximum, one large project and one medium project could be constructed in one year. For example, the Event Center, Open Meadow, Informal Stage, and Parking Lot could be constructed in the same year. These projects would include the construction of the 4,000 sf Event Center, 2,500 sf Open Meadow, and 450 sf stage over the duration of a year. Construction would take place between the hours of 8 am to 5 pm, Monday through Friday. No

work would take place Saturday, Sunday or holidays, unless approved by Marin County Parks on an as needed basis.

5. Operation and Maintenance

Similar to existing conditions, the Park would provide recreation opportunities to the community, including a variety of large and small-scale events. The Park would be open daily to informal use, including hiking, biking, and use of general park facilities. The Park would continue to host a variety of programs, ranging from family picnics and day hikers to large-scale music events and other festivals. Picnic areas would continue to be heavily used during the summer months for group events such as family reunions, large group picnics, weddings, and other events. Other activities would include ranger-led and community group-organized park programs including outdoor movie screenings, educational, and stargazing events. Large-scale events would include music concerts and festivals, athletic races, and other large events drawing as many as 8,000 people and 1,200 cars. Maintenance activities would be similar to existing conditions and would be performed by existing Marin County Parks staff. Maintenance activities include mowing, facility cleaning, vegetation management, and maintenance of bike park trails, jumps and other features.

6. Circulation and Review

This Initial Study and the Notice of Intent to Adopt a Mitigated Negative Declaration is being circulated to all agencies that have jurisdiction over the subject property or natural resources affected by the project and to community groups and interested parties to attest to the completeness and adequacy of the information contained in the Initial Study as it relates to the concerns that are germane to the agency's jurisdictional authority or to the interested parties' issues. The State Clearinghouse review period is 30 days as required by CEQA.

6.1 Marin County Agencies:

Marin County Parks
Marin County Flood Control and Water Conservation District
Marin County Department of Public Works (DPW), Land Use & Water Resources Division
Marin County Community Development Agency
Marin County Fire Department

6.2 Responsible Agencies:

North Marin Municipal Water District
Novato Fire Protection District

6.3 Trustee Agencies (via State Clearinghouse):

United States Fish and Wildlife Service
United States Army Corps of Engineers
NOAA National Marine Fisheries Service
California Department of Fish and Wildlife
San Francisco Bay Regional Water Quality Control Board

7. Determination

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Land Use and Planning	☐ Population and Housing	☒ Geophysical
☒ Water	☒ Air Quality	☒ Greenhouse Gas Emissions
☒ Transportation/Circulation	☒ Biological Resources	☐ Energy and Natural Resources
☒ Hazards	☐ Noise	☐ Public Services
☐ Utilities/Service Systems	☐ Aesthetics/Visual Resources	☒ Cultural Resources
☐ Social and Economic Effects	☐ Mandatory Findings of Significance	

DETERMINATION:

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Rachel Reid
Signature

10/8/18
Date

Digital signature by Rachel Reid, Marin County Environmental Coordinator
Dated October 8, 2018

8. Evaluation of Environmental Impacts and Mitigation Measures

Pursuant to Section 15063 of the State CEQA Guidelines, and the County EIR Guidelines, Marin County will prepare an Initial Study for all projects not categorically exempt from the requirements of CEQA. The Initial Study evaluation is a preliminary analysis of a project, which provides the County with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration. The points enumerated below describe the primary procedural steps undertaken by the County in completing an Initial Study checklist evaluation and, in particular, the manner in which significant environmental effects of the project are made and recorded.

A. The determination of significant environmental effect is to be based on substantial evidence contained in the administrative record and the County's environmental database consisting of factual information regarding environmental resources and environmental goals and policies relevant to Marin County. As a procedural device for reducing the size of the Initial Study document, relevant information sources cited and discussed in topical sections of the checklist evaluation are incorporated by reference into the checklist (e.g. general plans, zoning ordinances). Each of these information sources has been assigned a number which is shown in parenthesis following each topical question and which corresponds to a number on the data base source list provided herein as Appendix C. Other sources used or individuals contacted may also be cited in the discussion of topical issues where appropriate.

B. In general, a Negative Declaration shall be prepared for a project subject to CEQA when either the Initial Study demonstrates that there is no substantial evidence that the project may have one or more significant effects on the environment. A Negative Declaration shall also be prepared if the Initial Study identifies potentially significant effects, but revisions to the project made by or agreed to by the applicant prior to release of the Negative Declaration for public review would avoid or reduce such effects to a level of less than significance, and there is no substantial evidence before the Lead County Department that the project as revised will have a significant effect on the environment. A signature block is provided in Section 7 of this Initial Study to verify that the project sponsor has agreed to incorporate mitigation measures into the project in conformance with this requirement.

C. All answers to the topical questions must take into account the whole of the action involved, including off-site as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Significant unavoidable cumulative impacts shall be identified in Section 10 of this Initial Study (Mandatory Findings of Significance).

D. A brief explanation shall be given for all answers except "Not Applicable" answers that are adequately supported by the information sources the Lead County Department cites in the parenthesis following each question. A "Not Applicable" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "Not Applicable" answer shall be discussed where it is based on project-specific factors, as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

E. "Less Than Significant Impact" is appropriate if an effect is found to be less than significant based on the project as proposed and without the incorporation of mitigation measures recommended in the Initial Study.

F. "Potentially Significant Unless Mitigated" applies where the incorporation of recommended mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead County Department must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 9, may be cross-referenced).

G. "Significant Impact" is appropriate if an effect is significant or potentially significant, or if the Lead County Department lacks information to make a finding that the effect is less than significant. If there are one or more effects, which have been determined to be significant and unavoidable, an EIR shall be required for the project.

H. The answers in this checklist have also considered the current California Environmental Quality Act Guidelines and the Initial Study Checklist contained in those Guidelines.

9. Issues (and Supporting Information Sources):

9.1 Land Use and Planning

Would the proposal:

a) Conflict with applicable Countywide Plan designation or zoning standards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 4, 5)	☐	☐	☒	☐

The Master Plan proposes improvements within the boundaries of the existing Stafford Lake Park. The County Park is located within unincorporated Marin County and subject to the land use and zoning designations of the Marin Countywide Plan (CWP).

For policy purposes, Marin County is divided into three environmental corridors with Stafford Lake Park located within the Inland Rural Corridor. The CWP establishes seven planning areas in the county that further define policies applicable to specific areas and parcels. Stafford Lake Park is located in the Novato Planning Area and has a land use designation of Public Facility (PF) - Open Space (OS) (Map 1.2 West Novato Land Use Policy Map). The Marin County Code specifies that the parcel is zoned Agriculture and Conservation and Limited Agriculture (A60, A2-B4) which allows for public parks as a permitted use.

The construction and operation of the proposed project would not require a change to the County land use or zoning designations, thus the proposed project would not conflict with applicable CWP land use designations or County zoning standards. This impact would be less than significant

b) Conflict with applicable environmental plans or policies adopted by Marin County?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3)	☐	☒	☐	☐

Environmental Policies in the Marin Countywide Plan

The environmental protection policies contained in the CWP that pertain to the proposed project include the following: (1) species and habitat preservation; (2) invasive species control; (3) appropriate streamside development and erosion control; (4) prevention of air, water, and noise pollution; (5) protection of visual resources and amenities; (6) protection of historic resources; and (7) prevention of traffic impacts and promotion of alternative modes of transportation. The relevant policies are listed below, followed by the policy analyses.

The discussion of policy consistency in this Initial Study represents Marin County Parks staff interpretation of policies but does not determine policy consistency. The formal policy consistency determinations are made by County decision-makers. Policy inconsistencies may not necessarily indicate significant environmental effects. Section 15358(b) of the CEQA Guidelines states that “effects analyzed under CEQA must be related to a physical change in the environment.” Therefore, only those policy inconsistencies that would lead to a significant effect on the physical environmental are considered significant impacts pursuant to CEQA. Where potentially significant environmental impacts are raised in the discussion below, they have been mitigated to a less than significant impact and, therefore, project activities are determined to be consistent with the relevant policies cited. Mitigations are addressed further in the topical impact sections following plan policy analyses.

a. Special-Status Species and Sensitive Habitat Areas

BIO-1.1 ***Protect Wetlands, Habitat for Special-Status Species, Sensitive Natural Communities, and Important Wildlife Nursery Areas and Movement Corridors.*** *Protect sensitive biological resources, wetlands, migratory species of the Pacific flyway, and wildlife movement corridors through careful environmental review of proposed development applications, including consideration of cumulative impacts, participation in comprehensive habitat management programs with other local and resource agencies, and continued acquisition and management of open space lands that provide for permanent protection of important natural habitats.*

BIO-1.3 ***Protect Woodlands, Forests and Tree Resources.*** *Protect large native trees, trees with historical importance; oak woodlands; healthy and safe eucalyptus groves that support colonies of monarch butterflies, colonial nesting birds, or known raptor sites; and forest habitats. Prevent the untimely removal of trees through implementation of standards in the Development Code and the Native Tree Preservation and Protection Ordinance. Encourage other local agencies to adopt tree preservation ordinances to protect native trees and woodlands, regardless of whether they are located in urban or undeveloped areas.*

BIO-2.2 ***Limit Development Impacts.*** *Restrict or modify proposed development in areas that contain essential habitat for special-status species, sensitive natural communities, wetlands, baylands and coastal habitat, and riparian habitats, as necessary to ensure the continued health and survival of these species and sensitive areas. Development projects should preferably be modified to avoid impacts on sensitive resources, or to adequately mitigate impacts by providing on-site or (as a lowest priority) off-site replacement at a higher ratio.*

BIO-2.4 ***Protect Wildlife Nursery Areas and Movement Corridors.*** *Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits, including consideration of cumulative impacts. Features of particular importance to wildlife for movement may include riparian corridors, shorelines of the coast and bay, and ridgelines. Linkages and corridors shall be provided that connect sensitive habitat areas such as woodlands, forests, wetlands, and essential habitat for special-status species, including an assessment of cumulative impacts.*

TRL-2.1 ***Preserve the Environment.*** *In locating and designing trails, protect sensitive habitat and natural resources by avoiding those areas, forests, wetlands, and essential habitat for special-status species, including an assessment of cumulative impacts.*

Consistent. As documented in Section 9.8, Biological Resources, special-status plant and animal species, trees, and other natural vegetation could be adversely affected by construction and operation of proposed park improvements under the Master Plan. However, Section 9.8, Biological Resources and Section 9.4, Water, include Mitigation Measures 8.A.1 through 8.A.3, 8.B.1 through 8.B.4 and Mitigation Measure 4.A, which would reduce potential impacts to biological resources to a less than significant level. Therefore, with implementation of these mitigation measures, the Master Plan would be consistent with CWP policies BIO-1.1, 1.3, BIO-2.1, through 2.4, and TRL-2.1.

b. Non-Native Invasive Plants

BIO-1.5 ***Promote Use of Native Plant Species.*** *Encourage use of a variety of native or compatible nonnative, non-invasive plant species indigenous to the site vicinity as part of project landscaping to improve wildlife habitat values.*

BIO-1.6 ***Control Spread of Invasive Exotic Plants.*** *Prohibit use of invasive species in required landscaping as part of the discretionary review of proposed development. Work with landowners, landscapers, the Marin County Open Space District, nurseries, and the multi-agency Weed Management Area to remove and prevent the spread of highly invasive and noxious weeds.*

Invasive plants are those plants listed in the State's Noxious Weed List, the California Invasive Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California," and other priority species identified by the agricultural commissioner and California Department of Agriculture.

BIO-1.7 ***Remove Invasive Exotic Plants.*** *Require the removal of invasive exotic species, to the extent feasible, when considering applicable measures in discretionary permit approvals for development projects unrelated to agriculture and include monitoring to prevent re-establishment in managed areas.*

Consistent. As documented in Section 9.8 Biological Resources, implementation of Mitigation Measures 8.C.1 through 8.C.3 would prevent the spread of invasive species throughout the site and onto adjacent lands. Therefore, the proposed project would be consistent with CWP policies BIO-1.5 through 1.7.

c. Bird Nesting

BIO-2.5 ***Restrict Disturbance in Sensitive Habitat During Nesting Season.*** *Limit construction and other sources of potential disturbance in sensitive riparian corridors, wetlands, and baylands to protect bird nesting activities. Disturbance should generally be set back from sensitive habitat during the nesting season from March 1 through August 1 to protect bird nesting, rearing, and fledging activities. Preconstruction surveys should be conducted by a qualified professional where development is proposed in sensitive habitat areas during the nesting season, and appropriate restrictions should be defined to protect nests in active use and ensure that any young have fledged before construction proceeds.*

Consistent. As documented in Section 9.8, Biological Resources, implementation of Mitigation Measure 8.A.3 would reduce potential impacts to nesting birds protected by the Migratory Bird Treaty Act and California Fish and Game Code to a less than significant level. Therefore, the proposed project would be consistent with CWP policy BIO-2.5.

d. Wildlife Movement

BIO-2.6 ***Identify Opportunities for Safe Wildlife Movement.*** *Ensure that existing stream channels and riparian corridors continue to provide for wildlife movement at roadway crossings, preferably through the use of bridges, or through over-sized culverts, while maintaining or restoring a natural channel bottom. Consider the need for wildlife movement in designing and expanding major roadways and other barriers in the county. Of particular concern is the possible widening of Highway 101 north of Novato to the county line, where maintenance of movement opportunities for terrestrial wildlife between the undeveloped habitat on Mount Burdell and the marshlands along the Petaluma River is critical.*

Consistent. Stafford Lake is an important wildlife corridor, connecting Indian Tree, Little Mountain, Verissimo Hills, and Mount Burdell open space preserves. The park is part of the Bay Area Open Space Council areas of essential conservation goals. Wildlife such as badgers are known to use the park. The proposed project would construct park and recreation improvements within an existing 139-acre county park and would not substantially interfere with wildlife movement. Fencing already defines the boundary between the park and the adjacent private property. Therefore, the proposed project would be consistent with CWP policy BIO-2-6.

e. Wetlands

BIO-3.1 ***Protect Wetlands.*** *Require development to avoid wetland areas so that the existing wetlands and upland buffers are preserved and opportunities for enhancement are retained (areas within setbacks may contain significant resource values similar to those within wetlands and*

also provide a transitional protection zone). Establish a Wetland Conservation Area (WCA) for jurisdictional wetlands to be retained, which includes the protected wetland and associated buffer area. Development shall be set back a minimum distance to protect the wetland and provide an upland buffer. Larger setback standards may apply to wetlands supporting special-status species or associated with riparian systems and baylands under tidal influence, given the importance of protecting the larger ecosystems for these habitat types as called for under Stream Conservation and Baylands Conservation policies defined in Policy BIO-4.1 and BIO-5.1, respectively. Regardless of parcel size, a site assessment is required either where incursion into a WCA is proposed or where full compliance with all WCA criteria would not be met. Employ the following criteria when evaluating development projects that may impact wetland areas: Coastal, Inland Rural, and Baylands Corridors.

- *For all parcels, provide a minimum 100-foot development setback from wetlands (areas within setbacks may contain significant resource values similar to those within wetlands and also provide a transitional protection zone). An additional buffer may be required, based on the results of a site assessment, if such an assessment is determined to be necessary. Site assessments will be required and conducted pursuant to Program BIO-3.c, Require Site Assessment. Exceptions to full compliance with the WCA setback standards may apply only in the following cases:*
  1. *Parcel is already developed with an existing use, provided no unauthorized fill or other modifications to wetlands have occurred as part of ongoing use of the property.*
  2. *Parcel is undeveloped and falls entirely within the WCA.*
  3. *Parcel is undeveloped and potential impacts on water quality, wildlife habitat, or other sensitive resources would be greater as a result of development outside the WCA than development within the WCA, as determined by a site assessment.*
  4. *Wetlands are avoided and a site assessment demonstrates that minimal incursion within the minimum WCA setback distance would not result in any significant adverse direct or indirect impacts on wetlands.*

BIO-3.2 ***Require Thorough Mitigation.*** *Where avoidance of wetlands is not possible, require provision of replacement habitat on-site through restoration and/or habitat creation at a minimum ratio of 2 acres for each acre lost (2:1 replacement ratio) for on-site mitigation and a minimum 3:1 replacement ratio for off-site mitigation. Mitigation wetlands should be of the same type as those lost and provide habitat for the species that use the existing wetland. Mitigation should also be required for incursion within the minimum WCA setback/transition zone.*

Consistent. As documented in Section 9.8 Biological Resources, implementation of Mitigation Measures 8.B.1 and 8.B.2 would ensure that potential impacts to wetlands and other jurisdictional waters would be reduced to a less than significant level. Therefore, the proposed project would be consistent with CWP policies BIO-3.1 and BIO-3.2.

f. Erosion Control

WR-1.1 ***Protect Watersheds and Aquifer Recharge.*** *Give high priority to the protection of watersheds, aquifer-recharge areas, and natural drainage systems in any consideration of land use.*

WR-1.3 ***Improve Infiltration.*** *Enhance water infiltration throughout watersheds to decrease accelerated runoff rates and enhance groundwater recharge. Whenever possible, maintain or increase a site's predevelopment infiltration to reduce downstream erosion and flooding.*

WR-1.4 ***Protect Upland Vegetation****. Limit development and grazing on steep slopes and ridgelines in order to protect downslope areas from erosion and to ensure that runoff is dispersed adequately to allow for effective infiltration.*

WR-2.3 ***Avoid Erosion and Sedimentation****. Minimize soil erosion and discharge of sediments into surface runoff, drainage systems, and water bodies. Continue to require grading plans that address avoidance of soil erosion and on-site sediment retention. Require developments to include on-site facilities for the retention of sediments, and, if necessary, require continued monitoring and maintenance of these facilities upon project completion.*

WR-2.4 ***Design County Facilities to Minimize Pollutant Input.*** *Design, construct, and maintain County buildings, landscaped areas, roads, bridges, drainages, and other facilities to minimize the volume of toxics, nutrients, sediment, and other pollutants in stormwater flows, and continue to improve road maintenance methods to reduce erosion and sedimentation potential.*

Consistent. Construction of improvements proposed as part of the Master Plan would include grading and earthwork, which could result in erosion and loss of topsoil. Exposed soils could be entrained in stormwater runoff and transported off the project site. As described in Section 9.3 Geophysical and 9.4, Water, of this Initial Study, a Stormwater Pollution Prevention Plan (SWPPP) will be required for construction at the project site that disturbs one acre or more of topsoil. Although designed primarily to protect stormwater quality, the SWPPP would incorporate Best Management Practices (BMPs) to minimize erosion. With preparation and implementation of a SWPPP, which is required under existing regulations, potential soil erosion impacts would be less than significant. Therefore, the construction and operation of the Master Plan would be consistent with CWP policies WR-1.1, 1.3, 1.4, 2.3, or 2.4.

g. Hydrology

EH-3.2 ***Retain Natural Conditions.*** *Ensure that flow capacity is maintained in stream channels and floodplains and achieve flood control using biotechnical techniques instead of storm drains, culverts, riprap, and other forms of structural stabilization.*

Consistent. As described in Section 9.4, Water, of this Initial Study, the project would be required to comply with Section E.12 of the Phase II General Permit that requires implementation of Low Impact Development (LID) standards. Under the Phase II General Permit, regulated projects are required to incorporate BMPs designed into project features and operations to reduce potential impacts to surface water quality and to manage changes in the timing and quantity of runoff associated with development of the project site. The BMPs are typically detailed in a Stormwater Control Plan (SCP) for the project site and proposed development. The SCP may include, but is not be limited to, LID measures (such as minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source) and a funding mechanism for the maintenance of all BMPs for the life of the proposed project. Therefore, the project would be consistent with CWP policy EH-3.2.

h. Air Quality

AIR-1.2 ***Meet Air Quality Standards.*** *Seek to attain or exceed the more stringent of federal or State Ambient Air Quality Standards for each measured pollutant.*

AIR-4.1 ***Reduce Greenhouse Gas Emissions.*** *Adopt practices that promote improved efficiency and energy management technologies; shift to low-carbon and renewable fuels and zero emission technologies.*

Consistent. As discussed in Section 9.5, the proposed project's construction and operations emissions would not: 1) conflict with any applicable air quality plan; 2) generate levels of emissions that violate any air quality standard; or 3) contribute substantially to an existing or projected air quality violation. The project is not expected to result in a cumulative increase of any criteria pollutant for which the project area is in non-attainment under an applicable federal or state ambient air quality standard or adversely affect sensitive receptors. With respect to global climate change, the proposed project would not conflict with the County's Greenhouse Gas Reduction Plan or generate greenhouse gases that would contribute to the cumulative effects of global warming. The project would also comply with County greenhouse gas reduction strategies through the implementation of Best Management Practices for construction activities. Therefore, the construction and operation of the Master Plan would be consistent with CWP policy AIR-1.2 and AIR-4.1.

i. Public Involvement

OS-1.1 Enhance Open Space Stewardship. *Promote collaborative resource management among land management agencies. Monitor resource quality. Engage the public in the stewardship of open space resources.*

Consistent. As outlined in the project description, one focus of the Master Plan is to provide alternative, nature-based recreation. The plan includes opportunities for interpretive signage and displays at sensitive environmental and cultural spaces within the park to promote education and stewardship of park resources. Therefore, the project would be consistent with CWP policy OS-1.1.

j. Countywide Trail System

TRL-1.1 Protect the Existing Countywide Trail System. *Maintain the existing countywide trail system and protect the public's right to access it.*

TRL-1.2 Expand the Countywide Trail System. *Acquire additional trails to complete the proposed countywide trail system, providing access to or between public lands and enhancing public trail use opportunities for all user groups, including multi-use trails, as appropriate.*

Consistent. The Master Plan proposes additional trails and trail connections within Stafford Lake Park, thereby protecting and enhancing the County's existing trail system and providing increased public access to Marin County trails. Therefore, the Master Plan would be consistent with CWP policies TRL-1.1 and 1.2.

k. Trespass

TRL-2.2 Respect the Rights of Private Landowners. *Design and manage trails to avoid trespass and trail construction impacts on adjacent private land.*

Consistent. The Master Plan proposes additional trails and trail connections within Stafford Lake Park. These trails would be located largely on County-owned land, within the existing Park boundary and separated from adjacent private property. Any trails proposed on adjacent private property (e.g., NMWD property) would require permission from the adjacent landowners. Therefore, the Master Plan would be consistent with CWP policy TRL-2.2.

l. User Safety

TRL-2.3 Ensure User Safety. *Plan and maintain trails to protect the safety of trail users.*

Consistent. All trails proposed as part of the Master Plan would be designed and constructed consistent with County Design Standards to protect the safety of trail users. Signs would be installed at trailheads

outlining Park rules, directing users to stay on designated trails and to respect private property rights. Therefore, the Master Plan would be consistent with CWP policy TRL-2.3.

m. Accessibility

TRL-2.5 ***Provide Access for Persons with Disabilities.*** *Design and develop trails and trail programs to enhance accessibility by persons with disabilities.*

Consistent. The Master Plan would incorporate access for persons with disabilities. Parking, picnic areas, playground, and other facilities would comply with state and federal accessibility requirements. Therefore, the Master Plan would be consistent with CWP policy TRL-2.5.

n. Maintenance

TRL-2.7 ***Ensure Sustainable Maintenance.*** *Continue to ensure that trails are responsibly maintained.*

Consistent. Proposed improvements included in the Master Plan would be maintained as part of Marin County Parks' routine operations and maintenance activities. Therefore, the Master Plan would be consistent with CWP policy TRL-2.7.

o. Visual

DES-4.1 ***Preserve Visual Quality.*** *Protect scenic quality and views of the natural environment – including ridgelines and upland greenbelts, hillsides, water, and trees — from adverse impacts related to development.*

Consistent. As described in Section 9.13, Aesthetics/Visual Resources, the Master Plan would not block or otherwise affect views from other areas. Proposed improvements would be designed to blend into and/or aesthetically refer to the natural and/or built surroundings. Prominent features are not proposed on ridgelines or hillsides and trail alignments would generally follow natural contours. Construction of proposed improvements would require the removal of some existing vegetation, but would retain the larger more visible trees and the vegetation associated with existing drainage areas. Therefore, the Master Plan would be consistent with CWP policy DES-4.1.

p. Noise

NO-1.3 ***Regulate Noise Generating Activities.*** *Require measures to minimize noise exposure to neighboring properties, open space, and wildlife habitat from construction-related activities, yard maintenance equipment, and other noise sources, such as amplified music.*

Consistent. As described in Section 9.10, Noise, the proposed project would not expose people to significant noise levels. Stafford Lake Park is an existing open space use and implementation of the Master Plan would not significantly increase ambient long-term noise levels in the plan area. Construction activities could result in a substantial temporary increase in ambient noise levels in Stafford Lake Park and adjacent land uses above levels without the Master Plan. However, the construction activities would occur approximately 1 mile from the nearest residential property line and therefore noise levels during construction would not substantially affect land uses adjacent to the Park. Compliance with the hours specified in the Marin County Code regarding construction activities would reduce construction noise impacts on adjacent noise sensitive land uses. Operation of the Master Plan would result in similar noises as existing conditions. Noise levels could rise incrementally if use of the park increases; however, noise generation would be limited to the hours of operation (7:00 a.m. to 8:00 p.m. in summer, 7:00 a.m. to 7:00 p.m. in fall and spring and 8:00 a.m. to 5:00 p.m. in winter). The park is closed at night and the

vehicle entrance is locked. Therefore, implementation of the Master Plan would be consistent with CWP policy NO-1.3.

q. Health

PH-1.2 ***Promote Physical Activity.*** *Increase opportunities for and interest in safe and pleasant physical activity.*

PH-1.3 ***Promote Healthy Environments.*** *Provide school and community environments and policies that foster healthy lifestyles and behavior.*

Consistent. The Master Plan includes a variety of improvements (e.g., playground, climbing area, trails) that would provide recreational opportunities for all ages and interests. Therefore, the Master Plan would promote physical activities and healthy behavior and would be a beneficial effect consistent with CWP policies PH 1.2 and PH 1.3.

r. Bicycle Access

TR-2.1 ***Improve the Bicycle and Pedestrian Network.*** *Promote adequate bicycle and pedestrian links, to the extent feasible, throughout the county, including streetscape improvements and standards that are safe and pedestrian and bicycle friendly.*

TR-2.2 ***Provide New Bicycle and Pedestrian Facilities.*** *Where appropriate, require new development to provide trails or roadways and paths for use by bicycles and/or on- street bicycle and pedestrian facilities. In-lieu fees may be accepted if warranted in certain cases.*

TR-2.4 ***Seek Funding Opportunities for Bicycle and Pedestrian Infrastructure.*** *Seek grants and other funding opportunities available to construct new bicycle and pedestrian infrastructure and to connect existing segments.*

Consistent. The proposed Master Plan would include new pedestrian and bicycle paths to supplement existing pathways. Additionally, improved trail connections within the existing Terwilliger Trail and disc golf course trails are proposed. Therefore, the Master Plan would be consistent with CWP policies TR-2.1, TR-2.2 and TR-2.4.

s. Transportation

TR-1.2 ***Maintain Service Standards.*** *Establish level of service standards for vehicles on streets and highways and performance standards for transit (see Map 3-8, Roadway Network of Marin County), bicycles, pedestrians, and other modes of transportation.*

Consistent. Implementation of the Master Plan is anticipated to generate an average of an additional 38 vehicle trips per weekday of which fewer than 2 trips would occur in the AM peak hour or PM peak hour. These trips would be added to Novato Boulevard, which provides access to the park. The intersection of Novato Boulevard/San Marin Drive-Sutro Avenue currently operates at satisfactory level of service (LOS) C. With completion of the Bike Park, the intersection is expected to operate at LOS D. However, LOS D is still considered satisfactory LOS. The increased traffic volume associated with implementation of the Master Plan represents less than 1 percent of the capacity of a travel lane and would therefore be less than significant. Therefore, the project would not cause the LOS at the intersection to deteriorate below acceptable standards and would be consistent with CWP policy TR-1.2.

t. Historic Resources

HAR-1.3 Avoid Impacts to Historical Resources*. Ensure that human activity avoids damaging cultural resources.*

Consistent. As discussed in Section 9.14, Cultural Resources, due to the presence of previously recorded archaeological sites and the project's proximity to the creek, the area is considered sensitive for archaeological deposits. Ground disturbance associated with the project could affect subsurface deposits associated with CA-MRN-528, as well as previously unidentified prehistoric and historical resources and human remains in the project area. With implementation of Mitigation Measures 15.A.1 through 15.A.5, the impact on cultural resources from the proposed project would be less than significant. Therefore, the project is consistent with CWP policy HAR-1.3.

u. Hazards

EH-2.1 Avoid Hazard Areas*. Require development to avoid or minimize potential hazards from earthquakes and unstable ground conditions.*

EH-2.2 Comply with the Alquist-Priolo Act*. Continue to implement and enforce the Alquist-Priolo Earthquake Fault Zoning Act.*

Consistent. As described in Section 9.3, Geophysical, the project site is located in the San Francisco Bay Area, which is one of the more seismically active regions in the United States. As such, the potential for strong seismic shaking at the project site is high. Strong seismic shaking could result in potential damage to structures and improvements. The project site also contains colluvial soils that appear to be slightly to moderately expansive. The Alquist-Priolo Act required the establishment of Earthquake Fault Zones. Marin County has several faults delineated by the California Division of Mines and Geology, with the San Andreas Fault being the only fault identified by the Alquist-Priolo Earthquake Fault Zoning Act. No portion of Stafford Lake Park is located within an Alquist-Priolo Earthquake Fault Zone (Fault Zone) and neither there are no mapped active faults on the project site.[7] Implementation of Mitigation Measure 3.A would reduce potential impacts associated with ground shaking and unstable ground to a less than significant level by requiring geotechnical investigations for project components located in geologically unstable areas. With implementation of Mitigation Measure 3.A, the Master Plan would be consistent with CWP policies EH-2.1 or EH-2.2.

v. Parks and Recreation

PK-1.1 Conduct and Coordinate Park Planning. *Develop park and recreation facilities and programs to provide for active recreation, passive enjoyment, and protection of natural resources as a complement to local, state, and national parks and open space in Marin.*

PK-1.2 Consider User Needs, Impacts, and Costs. *Plan and develop any needed new park and recreation facilities and programs to meet the desires of the community and protect environmental resources.*

Consistent. The proposed Master Plan results from a public outreach process, which included public workshops, focus group meetings, and other opportunities for community input. As a result, the Master Plan includes a variety of park and recreation improvements, including new trails, paths, and picnic areas, playground, events area, a road, and parking areas, that respond to the needs/desires of the community. Therefore, the Master Plan is consistent with CWP policy PK-1.1 and PK-1.2.

[7] Association of Bay Area Governments, 2018. Association of Bay Area Governments Resiliency Program Hazards website: http://gis.abag.ca.gov/website/Hazards/?hlyr=apZones

c) Affect agricultural resources, operations, or contracts (e.g. impacts to soils or farmlands, impacts from incompatible land uses, or conflicts with Williamson Act contracts)?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 6)	☐	☐	☒	☐

Proposed Master Plan improvements would be located within the existing Stafford Lake Park, which is intended for recreational use. Adjacent properties are used for agricultural production, including pasture and growing hay. The Department of Conservation's Farmland Mapping and Monitoring Program designates the site and surrounding lands as "Grazing Land"; however, with the exception of APN 125-100-14 which has a short-term grazing lease associated with it, the park is not currently used for grazing. In the past, portions of the park have been leased for hay production. Further, the site is not under a Williamson Act contract. As the project site is not currently used for agriculture and the project would not result in the displacement of agricultural activities, implementation of the Master Plan would not adversely affect agricultural resources, operations, or contracts. This impact would be less than significant.

d) Disrupt or divide the physical arrangement of an established community (including a low income or minority community)?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5)	☐	☐	☒	☐

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying area. Proposed Master Plan improvements are located entirely within the existing Stafford Lake Park, west of the City of Novato. The park is located immediately adjacent to agricultural uses, a water storage facility, and other recreational and open space facilities. Implementation of the Master Plan would not affect the City of Novato, as the improvements would be located within the existing Park. Therefore, the Master Plan's impact to an established community would be less than signficant.

e) Result in substantial alteration of the character or functioning of the community, or present or planned use of an area?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 7)	☐	☐	☒	☐

Implementation of the Master Plan would provide new park and recreation facilities within the existing Stafford Lake Park. Proposed improvements are consistent with existing management practices and would comply with goals and policies established by Marin County Parks (e.g., Strategic Plan, Parks Master Plan.

Marin County Parks published a Strategic Plan in June 2008 to evaluate existing parks and open space preserves and to describe improvements or facilities that respond to community needs. Stafford Lake Park is one of four regional county parks with substantial visitation and a variety of facilities not available elsewhere in the County. The Needs Assessment Report (Appendix A of the Strategic Plan) outlines community needs that include providing diverse recreation experiences and accommodating recreation preferences of Marin's youth. In addition to a shortage of park facilities in Novato, the Needs Assessment found that existing regional parks have substantial capacity to accommodate new recreation facilities.

The Parks Master Plan (Appendix B of the Strategic Plan) assesses existing facilities and provides specific direction for renovating existing facilities. The Parks Master Plan recommends preparation of a master plan and details recommended improvements for Stafford Lake Park.

The Stafford Lake Master Plan proposes new and improved recreation facilities within an existing regional county park that provides opportunities for active recreation use. The Master Plan would not create a new land use or increase traffic in the area (refer to Section 9.6, *Transportation/Circulation*). Proposed improvements would be compatible with adjacent agricultural and open space uses. Therefore, construction and operation of the Stafford Lake Master Plan would not alter the character or functioning of the surrounding community or present or planned use of the area. The proposed Master Plan would enhance the character of the existing park and improve its function and utility for the community. This impact would be less than significant.

f) Substantially increase the demand for neighborhood or regional parks or other recreational facilities, or affect existing recreational opportunities?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3)	☐	☐	☒	☐

Implementation of the Stafford Lake Master Plan would create new park and recreation facilities within the existing Stafford Lake Park. The addition of these new facilities would likely increase use of Stafford Lake Park. However, as described above, the Needs Assessment prepared as part of the Strategic Plan, found that existing regional parks have substantial capacity to accommodate new recreation facilities. Therefore, implementation of the Master Plan would not increase the demand for neighborhood or regional parks or other recreational facilities, but instead would satisfy the need for diverse recreational opportunities within the area.

9.2 Population and Housing

Would the proposal:

a) Increase density that would exceed official population projections for the planning area within which the project site is located as set forth in the Countywide Plan and/or community plan?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 4)	☐	☐	☒	☐

Implementation of the Master Plan would entail construction of park and recreation improvements within the existing Stafford Lake Park and ongoing operation and maintenance of the park. It would not include development of residential housing. Therefore, the Master Plan would not affect population densities within Novato or the unincorporated communities of Marin County and this impact would be less than significant.

b) Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3)	☐	☐	☒	☐

Implementation of the Master Plan would entail construction and operation of park and recreation improvements within the existing Stafford Lake Park. It would not include development of residential housing or infrastructure or otherwise extend or establish uses that would induce population growth. Therefore, the Master Plan would not directly or indirectly induce population growth within Novato or the unincorporated communities of Marin County.

c) Displace existing housing, especially affordable housing?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Stafford Lake Park currently supports a trailer residence at the site of the staff maintenance yard. Under the proposed Master Plan, this site would be developed with an event center structure. The trailer residence would not be replaced if the event center structure is constructed. However, the new maintenance yard would include a more permanent office building for Park rangers. No other residences are located within the park or would be affected by implementation of the Master Plan. Therefore, the Master Plan would not result in a significant impact related to this issue.

9.3 Geophysical

Would the proposal result in or expose people to potential impacts involving:

a) Location in an area of geologic hazards, including but not necessarily limited to: 1) active or potentially active fault zones; 2) landslides or mudslides; 3) slope instability or ground failure; 4) subsidence; 5) expansive soils; 6) liquefaction; 7) tsunami; or 8) similar hazards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 8)	☐	☒	☐	☐

Unless otherwise noted, this section is based on information obtained from the *Countywide Master Plan* and the County of Marin's Map Viewer.[8]

Faults: No mapped active faults cross the project site. The San Andreas Fault, located approximately 9 miles west of the site, is the only active fault in Marin County subject to the Alquist-Priolo Earthquake Fault Zoning Act. Fault rupture of the surface typically occurs along existing faults that have ruptured the surface in the past. Since faults with known surface rupture have been mapped in California, and none are known to occur at the project site, the potential for impacts to the proposed project due to fault rupture is less than significant.

Earthquakes on regional active` faults, including the San Andreas, Rodgers Creek, Hayward, and West Napa, could cause seismic shaking at the site. Seismic shaking (or ground shaking) is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. Magnitude is a measure of the energy released by an earthquake; it is assessed by seismographs that measure the amplitude of seismic waves. Intensity is a subjective measure of the perceptible effects of seismic energy at a given point and varies with distance from the epicenter and local geologic conditions. The median peak ground acceleration at the project site during that seismic event has been estimated at 0.29g.[9,10] This level of seismic shaking could cause substantial damage to structures such as the Event Center and new buildings. Smaller facilities such as trails and the disc golf course would not present a significant risk to park users in the event of a large earth quake. However, larger structures and buildings could present a hazard. New structures such as the Event Center, maintenance yard and offices, creek boardwalk, new gatehouse, and zipline would require a site-specific geotechnical investigation to ensure public safety. Mitigation Measure 3.A would require these facilities to be designed are engineered informed by a geotechnical evaluation by a licensed professional and designed by a licensed engineer. Implementation of Mitigation Measure 3.A would reduce this impact to a less than significant level.

Subsidence: No documented regional subsidence has occurred in the vicinity of the project site and the proposed project does not propose any activities (e.g., groundwater pumping) that would contribute to subsidence. Therefore, this impact is less than significant.

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[8] County of Marin, Countywide Plan Map Viewer, Marin Countywide Plan Map Viewer: http://www.marinmap.org/Geocortex/Essentials/Marinmap/Web/Viewer.aspx?Site=MMDataViewer

[9] Miller Pacific Engineering Group, 2011. Geologic and Geotechnical Feasibility Study. Prepared for the Marin County Parks Department. June 23.

[10] Earthquake intensity can be quantitatively measured using accelerometers (strong motion seismographs) that record ground acceleration at a specific location, a measure of force applied to a structure under seismic shaking. Acceleration is measured as a fraction or percentage of the acceleration under gravity (g).

Expansive Soils: Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction. The dominant soil types within the project site, the Los Osos-Bonny Dune complex and the Blucher-Cole complex, have low to moderate shrink-swell potential (based on regional mapping). A site-specific geotechnical feasibility study conducted for the Bike Park (within Stafford Lake Park) indicated that the "colluvial soils observed during our site reconnaissance appear to be slightly to moderately expansive."[11] Therefore, this impact is potentially significant. Implementation of Mitigation Measure 3.A would reduce this impact to a less than significant level by requiring site specific geotechnical investigations for project's that are located in areas with expansive soils.

Liquefaction: Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Soils most susceptible to liquefaction are loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts and gravels with poor drainage, or those capped by or containing seams of impermeable sediment. The low-lying areas at the project site have a moderate susceptibility to liquefaction, while the liquefaction potential in the upland areas is low. Due to the moderate liquefaction potential in the low-lying areas, potential impacts associated with liquefaction would be potentially significant. Implementation of Mitigation Measure 3.A would reduce this impact to a less than significant level.

Tsunamis and Dam Failure: The project site is located in the hilly uplands of Marin County and would not be subject to coastal hazards (including tsunamis). The only dam inundation zone in the vicinity is that associated with Stafford Lake, however, the proposed Master Plan elements are not located within the mapped inundation area.

Slope Instability/Landslides: Slope failure can occur as either rapid movement of large masses of soil ("landslide") or slow, continuous movement ("creep"). Slope instability (which can result in landslides) is a concern because it can cause damage to infrastructure and buildings, and in some cases can even result in injuries or deaths. Landslides can also generate large quantities of easily-erodible material and therefore can impact runoff water quality and degrade downgradient habitats. The main factors that affect slope instability are slope steepness, soil type, underlying geologic material type and structure, vegetation, subsurface water content, and human activity (e.g., loading a slope with weight or excavating and undercutting the slope toe). In addition, seismic shaking can trigger a landslide.

Regional mapping indicates that areas of "mostly landslides" occur in the off-site uplands west of the Bike Park and in the southern area near the disc golf course. In addition, the geotechnical feasibility study for the Bike Park identified areas of debris flows west of the Bike Park. Specifically, the geotechnical feasibility study indicated that the "potential for landslides and debris flows originating from this off-site area is moderate."[12] Landslides could cause substantial property damage and injuries to people. Due to the moderate landslide potential in the upland areas, impacts associated with slope instability would be potentially significant. Implementation of Mitigation Measure 3.A would reduce this impact to a less than significant level.

IMPACT 3.A: The project has the potential for damage to improvements related to soil movement (resulting from expansive soils, seismic shaking, and or landslide), and the potential for injury of facility users (mostly related to trips and falls from uneven surfaces).

Mitigation Measure 3.A: Prior to grading, excavation, and construction of improvements under the Master Plan that coincide with areas with potentially adverse geological conditions, a design-level geotechnical report shall be prepared by a licensed professional and submitted to Marin County Parks staff for review and approval. Projects requiring a geotechnical report include reconfiguring vehicle circulation, the new gatehouse, event center and parking lot, destination playground, maintenance facility

[11] Miller Pacific Engineering Group, 2011. Op.cit.
[12] Ibid., page 6.

and offices, roadway extension and parking lot, bouldering course, strider trail, tot lot and temporary roadway extension, zipline, alpine slide, and creek boardwalk. The geotechnical review shall specifically address potential adverse geological conditions at the site, including but not limited to expansive soils, slope instability, liquefaction, and seismic shaking. All structures will be designed by a licensed engineer and will adhere to the current California Building Code requirements, and other applicable design standards. All design measures, recommendations, design criteria, and specifications set forth in the design-level geotechnical review shall be incorporated into the design and construction plans.

Monitoring Measure 3.A: Marin County Parks staff shall verify that Mitigation Measure 3.A has been fully implemented.

b) Substantial erosion of soils due to wind or water forces and attendant siltation from excavation, grading, or fill?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 8)	☐	☐	☒	☐

Grading and earthmoving during construction of the Master Plan elements has the potential to result in erosion and loss of topsoil. Exposed soils could be entrained in stormwater runoff and transported off the project site.

As specified in Section 9.4 below, a SWPPP will be required for construction that includes disturbance of 1 acre or more of soil at the project site. Although designed primarily to protect storm water quality, the SWPPP would incorporate BMPs to minimize erosion. Additional details regarding the SWPPP are provided in Section 9.4, Water, of this Initial Study.

Preparation and implementation of a SWPPP, which is required by existing regulations, would reduce any potential soil erosion impacts to a less-than-significant level. Ongoing operation and maintenance would not require substantial grading, excavation, or earthmoving and therefore would result in less than significant impacts.

c) Substantial changes in topography from grading or fill, including, but not necessarily limited to: 1) ground surface relief features; geologic substructures or unstable soil conditions; and 3) unique geologic or physical features?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 8)	☐	☒	☐	☐

Implementation of the Master Plan would require some excavation and grading, primarily for road, trail, and parking lot construction. In addition, some excavation would be required for new building foundations and installation of utilities. However, these activities would result in only a modest change in elevation and the existing topography of the project site would be maintained. The potential for the project to impact (or be impacted by) unstable soil conditions would be addressed through implementation of Mitigation Measure 3.A. No identified unique geologic features would be modified. Long-term operation and maintenance would not entail substantial changes from grading or fill. Therefore, the proposed project would not result in significant impacts to topography or geologic features on the site.

IMPACT 3.B: The proposed project could impact (or be impacted by) unstable soil conditions.

Mitigation Measure 3.B: Implement Mitigation Measure 3.A.

Monitoring Measure 3.B: Implement Monitoring Measure 3.A.

9.4 Water

Would the proposal result in:

a) Substantial changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 9)	☐	☐	☒	☐

Construction of some of the elements of the Master Plan, such as new paved roads, the new gatehouse, parking areas, and maintenance yard would include the placement of new impervious surfaces at the project site. While most of the underlying soils are hydrologic class C and D,[13] which indicates they have low to very low ability to infiltrate water, a modest decrease in absorption of precipitation and a slight increase in runoff could occur under the project.

Since the project would create and/or replace 5,000 sf or more of impervious surface, it would be required to comply with Section E.12 of the Small MS4 Phase II General Permit (Phase II General Permit)[14] that requires implementation of measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification[15] management. The Phase II General Permit also requires implementation of Low Impact Development (LID) standards. LID uses design techniques such as harvest and reuse, infiltration, evapotranspiration to mimic a site's pre-development hydrology.

The Phase II General Permit requires regulated projects (which includes implementation of the Master Plan) to include facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the hydraulic sizing design criteria included in the Phase II General Permit. To comply with the Phase II General Permit, a Stormwater Control Plan that describes the project specific measures must be prepared and implemented. Since LID measures would be required under existing NPDES regulations and these measures encourage reuse, infiltration, and bioretention so that site hydrology is not substantially altered. Therefore, both operation and maintenance of the project would result in less than significant impacts under this criterion.

b) Exposure of people or property to water related hazards, including, but not necessarily limited to: 1) flooding; 2) debris deposition; or 3) similar hazards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 10, 11)	☐	☒	☐	☐

Most of the Master Plan area is not located within a 100-year flood hazard zone as designated by the Federal Emergency Management Agency (FEMA),[16] and therefore these areas outside the 100-year flood hazard zone would not be subject to storm-related flooding. Only the lake itself and the corridor along Novato Creek (approximately 200 feet wide) are located within the FEMA 100-year flood hazard zone. Elements of the Master Plan that would encroach into the flood zone include the vehicular bridge and boardwalk over Novato Creek, and the fishing deck (which extends into the lake). It is possible that

[13] Natural Resources Conservation District (NRCS), 2015. Web Soil Survey, website: National Conservation Service's web soil survey: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed 11/17/15)
[14] NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit), Order No. 2013-0001-DWQ
[15] Hydromodification is the alteration of the natural flow of water through a landscape, and often takes the form of creek channel erosion. Hydromodification is one of the leading sources of impairment in streams, lakes, and estuaries.
[16] Federal Emergency Management Agency (FEMA), 2009. Flood Insurance Rate Map, Map No. 06041C0257D, May 4.

the vehicular bridge and boardwalk could be constructed in a way that blocks flood flows or displaces floodplain storage, potentially modifying the extent of the flood hazard zone (no detailed specifications for these structures was available for this analysis). If built in this manner, this would be a significant impact requiring mitigation. Mitigation Measure 4.A would reduce this impact to a less than significant level by designing the bridges and boardwalk to prevent changes to stormwater flow and floodwaters. No impacts related to flooding would be expected from construction of the fishing deck. Mitigation Measure 4.A would also ensure that potential impacts from ongoing operation and maintenance of the park are reduced to a less than significant level by ensuring these facilities are located and designed appropriately.

The Master Plan area is not located within any mapped dam failure inundation area,[17] and therefore potential impacts related to dam failure inundation are less than significant.

IMPACT 4.A: Proposed improvements within the flood zone (e.g., vehicular bridge and boardwalk) could be constructed in a way that blocks flood flows or displaces floodplain storage, potentially modifying the extent of the flood hazard zone and exposing people and or property to flood hazards.

Mitigation Measure 4.A: Proposed improvements within the flood zone (e.g., vehicular bridge and boardwalk) shall be designed by a qualified professional engineer to minimize changes to stormwater flow and flood waters. The design shall ensure that proposed improvements are located above the base flood elevation and that encroachment into the flood hazard zone does not exacerbate flooding or restrict the movement of floodwater and the design ensures that people and/or property are not subject to flood-related hazards, thereby reducing this impact to less than significant. In addition, any projects located in or near the creek would require compliance with the Clean Water Act and would obtain all required permits from the RWQCB, USACE, and CDFW.

Monitoring Measure 4.A: Marin County Parks staff shall verify that Mitigation Measure 4.A has been fully implemented.

c) Discharge of pollutants into surface or ground waters or other alteration of surface or ground water quality (e.g. temperature, dissolved oxygen or turbidity?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 12)	☐	☐	☒	☐

Most of the land uses and improvements proposed under the Master Plan are relatively low-intensity and would not have the potential to substantially increase the discharge of pollutants to surface water or groundwater. However, the project would include construction and operation of some new paved roads, parking areas, and a maintenance yard.

Construction Period Impacts: During the construction period, excavation and grading activities would result in exposure of soil to runoff, potentially causing erosion and entrainment of sediment in the runoff. Soil stockpiles and excavations on the project site would be exposed to runoff and, if not managed properly, the runoff could cause erosion and increased sedimentation in water courses outside of the project site.

Consistent with the requirements of the statewide Construction General Permit,[18] the County shall prepare and implement a SWPPP designed to reduce potential adverse impacts to surface water quality through the project construction period. Under the existing regulations, the SWPPP must be designed to address the following objectives: (1) all pollutants and their sources, including sources of sediment

[17] County of Marin, Countywide Plan Map Viewer, http://gis.marinpublic.com/Html5Viewer/Index.html?viewer=cwp
[18] NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002 (Construction General Permit

associated with construction, construction site erosion and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a Water Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated; (3) site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology and Best Conventional Technology (BAT/BCT) standard; (4) calculations and design details as well as BMP controls for site run-on are complete and correct, and (5) stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

The SWPPP must be prepared by a Qualified SWPPP Developer and include the minimum BMPs required for the identified Risk Level. The SWPPP must include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations, and as appropriate, depending on the project Risk Level, sampling of the site effluent and receiving waters (receiving water monitoring is only required for some Risk Level 3 dischargers). A Qualified SWPPP Practitioner (QSP) shall be responsible for implementing the BMPs at the site. The QSP shall also be responsible for performing all required monitoring, and BMP inspection, maintenance and repair activities. If the project is Risk Level 2 or 3, the project applicant shall also prepare a Rain Event Action Plan as part of the SWPPP.

Compliance with the existing regulations that require preparation and implementation of a SWPPP would ensure that potential impacts to water quality during construction are less than significant.

Operation Period Impacts: During the operation period, proposed elements under the Master Plan could result in an increase in pollutant discharges associated with automobile use at the project site. As described in Section 9.4a) above, the project would be required to comply with Section E.12 of the Phase II General Permit that requires implementation of LID standards. One of the main goals of LID design measures is to treat post-construction stormwater runoff so that receiving water quality is protected.

Under the Phase II General Permit, regulated projects are required to incorporate BMPs designed into project features and operations to reduce potential impacts to surface water quality and to manage changes in the timing and quantity of runoff associated with development of the project site. The BMPs are typically detailed in a Stormwater Control Plan (SCP) for the project site and proposed development. The SCP may include, but is not be limited to, LID measures (such as minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source) and a funding mechanism for the maintenance of all BMPs for the life of the proposed project.

Compliance with the existing regulations that require compliance with Phase II General Permit post-construction stormwater management requirements would ensure that potential impacts to water quality during the operation period are less than significant.

d) Substantial change in the amount of surface water in any water body or ground water either through direct additions or withdrawals, or through intersection of an aquifer by cuts or excavations?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5)	☐	☐	☒	☐

The improvements proposed under the Master Plan do not include any facilities that would change the surface water in any water body or ground water through direct additions or withdrawals. In addition, the project would not interfere with any aquifer. Therefore, the potential for the construction and operation of the project to result in substantial changes in the amount of surface water in any water body or ground water would be less than significant.

e) Substantial changes in the flow of surface or ground waters, including, but not necessarily limited to: 1) currents; 2) rate of flow; or 3) the course or direction of water movements?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 10)	☐	☒	☐	☐

The improvements proposed under the Master Plan, in general, do not include substantial changes to the flow of surface and groundwater. The new impervious surfaces are not continuous, but are surrounded by unimproved lands where runoff from the new impervious surface can be infiltrated, in accordance with requirements of the Phase II MS4 General Permit (as described in a) above). The project would not result in a significant impact related to this issue.

No streams or creek channels would be rerouted or substantially altered as a result of construction and operation of the Master Plan. However, some of the proposed improvements (e.g., the proposed vehicular bridge and boardwalk over Novato Creek) would include foundation supports adjacent to (and potentially within) the creek channel, and these structures could change the flow of surface water. Any projects located in or near the creek would be subject to the requirements of the Clean Water Act and the County would need to obtain all required permits from the RWQCB, USACE, and CDFW and comply with all permit conditions. Implementation of Mitigation Measure 4.A would require that proposed improvements within the flood zone (e.g., vehicular bridge and boardwalk) are designed by a qualified professional engineer to minimize changes to stormwater flow and flood waters. Implementation of Mitigation Measure 4.A would reduce this impact to less than significant.

IMPACT 4.B: Proposed improvements (e.g., the proposed vehicular bridge and boardwalk over Novato Creek) requiring foundation supports could change the flow of surface water within the creek channel. This impact would be significant.

Mitigation Measure 4.B: Implement Mitigation Measure 4.A.

Monitoring Measure 4.B: Implement Monitoring Measure 4.A.

f) Substantial reduction in the amount of water otherwise available for public water supplies?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s):)	☐	☐	☒	☐

Implementation of the Master Plan would include the use of water for construction, operation and maintenance of proposed improvements. Water would be supplied by the existing (and expanded) public water infrastructure within Stafford Lake Park. Implementation of the Master Plan would construct new facilities within the existing park site, resulting in a slight increase in water demand over existing levels. However, it is not anticipated that the increase in demand would be substantial such that the quantity of public water supplies would be reduced. Limited water use would be anticipated with these new park facilities. Therefore, this impact is considered less than significant.

9.5 Air Quality

Would the proposal:

a) Generate substantial air emissions that could violate official air quality standards or contribute substantially to an existing or projected air quality violation?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 13)	☐	☒	☐	☐

Stafford Lake Park is located in unincorporated Marin County within the San Francisco Bay Area Air Basin and is governed by the Bay Area Air Quality Management District (BAAQMD). Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10}, $PM_{2.5}$), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and particulate matter standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal $PM_{2.5}$ 24-hour standard.

Pollutant monitoring results for the years 2014 to 2016 at the San Rafael ambient air quality monitoring station (the closest monitoring station to Stafford Lake Park) indicate that air quality in the County of Marin has generally been good. The monitoring results indicated $PM_{2.5}$ levels exceeded the federal standard once in 2014, twice in 2015, and none were recorded in 2016. Both State and federal 1-hour ozone standards were not exceeded in the 3-year period, and the federal 8-hour ozone standards were not exceeded in the 3-year period at this monitoring station. The PM_{10}, CO, SO_2, and NO_2 standards were also not exceeded in this area during the 3-year period.

According to the BAAQMD CEQA Guidelines, to meet air quality standards for operational-related criteria air pollutant and air precursor impacts, the project must not:

- Contribute to CO concentrations exceeding the State ambient air quality standards;
- Generate average daily construction emissions of ROG, NO_x or $PM_{2.5}$ (exhaust) greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day; or
- Generate operational emissions of ROG, NO_x or $PM_{2.5}$ of greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

The following sections describe the project's CO impacts and construction- and operation-related air quality impacts and CO impacts associated with implementation of the Master Plan. The discussion for localized CO impacts and operational emissions analyzes the impact of the Master Plan. The conclusions are summarized at the end of each subsection. As discussed, impacts would be less than significant for localized CO emissions and operational emissions. Impacts associated with construction-period emissions would be less than significant with implementation of recommended mitigation measures.

Localized CO Impacts: Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. The BAAQMD's 2010 CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed transportation projects. A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine impacts of CO concentrations associated with implementation of the proposed Master Plan. The screening methodology provides a conservative indication of whether implementing a project would result in significant CO emissions. According to the

BAAQMD's CEQA Guidelines, implementation of a project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- Traffic generated by the project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

Implementation of the Master Plan would not conflict with the Transportation Authority of Marin's Congestion Management Program for designated roads or highways, a regional transportation plan, or other agency plans. Stafford Lake Park is not located in an area where vertical or horizontal mixing of air is substantially limited. In addition, the Master Plan would increase daily trips by approximately 38 trips per day and would not increase traffic volumes to more than 44,000 vehicles per hour. Intersection level of service associated with the Master Plan would not decline. Therefore, this impact would be less than significant.

Construction Period Impacts: Air pollutant emissions associated with construction of the projects proposed in the Master Plan would primarily occur over the short-term in association with construction activities, including demolition, excavation and vehicle/equipment use.

Construction activities associated with implementation of the proposed Master Plan could generate exhaust emissions and fugitive dust that would affect local air quality.

During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by excavation, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Site preparation and construction would involve clearing, cut-and-fill activities, grading, and building activities. Construction-related effects on air quality would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils on the site. If not properly controlled, these activities would temporarily generate PM_{10}, $PM_{2.5}$, and to a lesser extent CO, SO_2, NO_x, and volatile organic compounds. Sources of fugitive dust would include disturbed soils at the construction sites and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, the silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. These emissions would be temporary and limited to the immediate area surrounding the construction sites.

Construction emissions for the activities described above were estimated for the projects proposed in the Master Plan using the California Emissions Estimator Model (CalEEMod), consistent with BAAQMD recommendations. As discussed in the Project Description, construction and implementation of the Master Plan would take place over approximately 25 years and would depend on budgetary, permitting, and planning requirements. Therefore, since specific construction details are not yet known, to present a conservative analysis default assumptions (e.g., construction duration and fleet activities) from CalEEMod were used. Construction-related emissions and applicable thresholds are presented in Table 5.A. Model output sheets are included in Appendix A. As shown in Table 5.A, average daily construction

emissions would not exceed the BAAQMD's numeric threshold for ROG, NO_x or particulate matter exhaust emissions.

Table 5.A: Construction Emissions Estimates

Construction Emissions	ROG	NO_x	CO	Exhaust $PM_{2.5}$	Exhaust PM_{10}
Average Daily Emissions (pounds/day)	2.18	16.76	13.22	0.88	0.93
BAAQMD Thresholds	54.0	54.0	NA	54.0	82.0
Exceed Threshold?	**No**	**No**	**NA**	**No**	**No**

Source: LSA Associates, Inc. (April 2018).

As shown in Table 5.A, construction emission estimates would not exceed the thresholds established by the BAAQMD for exhaust particulate emissions; however, in order to reduce fugitive dust emissions to a less than significant level, Best Management Practices must be implemented. Mitigation Measure 5.A would require implementation of the BAAQMD's Basic Construction Mitigation Measures and would reduce impacts to less than significant.

IMPACT 5.A: Fugitive dust emissions generated during construction of proposed improvements could contribute to a violation of air quality standards or contribute substantially to an existing or projected air quality violation.[19]

Mitigation Measure 5.A: Marin County and the project contractor shall follow Basic Construction Mitigation Measures as recommended by the BAAQMD, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. Clear signage on this measure shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at Marin County Parks regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

According to the BAAQMD, implementation of this measure would reduce fugitive particulate matter emissions to a less than significant level.

Monitoring Measure 5.A: During routine field inspections, County staff shall verify that the applicant and contractors are implementing the applicable BAAQMD basic control measures throughout all phases of construction.

[19] Table A provides the results for *exhaust* particulate emissions. BAAQMD states that basic control measures must be implemented to reduce *fugitive* emissions to a less than significant level.

Operational Emissions – Regional Emissions Analysis: Long-term air emission impacts are associated with stationary sources and mobile sources. Stationary source emissions result from the consumption of natural gas and electricity. Mobile source emissions result from vehicle trips and result in air pollutant emissions affecting the entire air basin. Implementation of the Master Plan would generate approximately 38 vehicle trips per day. Air emissions associated with these trips was calculated using CalEEMod as shown in Table 5.B. As shown in Table 5.B, emissions associated with implementation of the Master Plan would be minimal and would not exceed the pollutant thresholds established by the BAAQMD. Therefore, the Master Plan would not be a source of stationary source emissions and operation of the projects proposed in the Master Plan would not be expected to result in a violation of air quality standards. No mitigation is required.

Table 5.B: Operational Emissions Estimates

Operational Emissions	ROG	NO_x	CO	$PM_{2.5}$	PM_{10}
Average Daily Emissions (pounds/day)	0.27	0.21	0.31	0.05	0.16
BAAQMD Thresholds (pounds/day)	54.0	54.0	NA	54.0	82.0
Exceed Threshold?	**No**	**No**	**NA**	**No**	**No**
Annual Emissions (tons/year)	0.04	0.04	0.05	8.1900e-003	8.1900e-003
BAAQMD Thresholds (tons/year)	10	10	NA	10	10
Exceed Threshold?	**No**	**No**	**NA**	**No**	**No**

Source: LSA Associates, Inc. (April 2018).

b) Expose sensitive receptors to pollutants, such as noxious fumes or fugitive dust?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 13)	☐	☒	☐	☐

Sensitive receptors located near the park include single-family residences located approximately 500 feet east of park along Vineyard Road and Meadow Lane. As described above, implementation of the projects proposed in the Master Plan is not expected to result in a substantial increase in vehicle trips to Stafford Lake Park. Total vehicle emissions associated with the Master Plan would be similar to existing conditions; and implementation of the Master Plan would not result in exposure of sensitive receptors to substantial pollutant concentrations.

Construction of the projects associated with implementation of the Master Plan may expose surrounding sensitive receptors to airborne particulates and fugitive dust as well as a small quantity of construction equipment pollutants (i.e., diesel-fueled vehicles and equipment). As shown in Table A, exhaust emissions are expected to be below pollutant threshold criteria given the limited extent and nature of these activities and would be of short duration. In addition, construction contractors would be required to implement measures for dust control and emission control as required by the BAAQMD (Mitigation Measure 5.A) to reduce *fugitive* emissions to a less than significant level. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during construction. With implementation of Mitigation Measure 5.A, this impact would be less than significant.

IMPACT 5.B: Project construction could expose surrounding sensitive receptors to fugitive emissions.

Mitigation Measure 5.B: Implement Mitigation Measure 5.A. Implementation of this mitigation measure would reduce this impact to insignificance.

Monitoring Measure 5.B: Implement Monitoring Measure 5.A.

c) Alter air movement, moisture, or temperature, or cause any change in climate?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 13)	☐	☒	☐	☐

General scientific consensus is that global climate change is occurring, caused in whole or in part by increased emissions of greenhouse gases (GHGs) that keep the Earth's surface warm by trapping heat in the Earth's atmosphere. While many studies show evidence of warming over the last century and predict future global warming, the causes of such warming and its potential effects are far less certain. In its "natural" condition, the greenhouse effect is responsible for maintaining a habitable climate on Earth, but human activity has caused increased concentrations of these gases in the atmosphere, thereby contributing to an increase in global temperatures.

GHGs are present in the atmosphere naturally, are released by natural sources, or formed from secondary reactions taking place in the atmosphere. The six gases that are widely seen as the principal contributors to global climate change are: Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydroflourocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur Hexafluoride (SF_6).

According to the Countywide Plan, nearly 3 million tons of carbon dioxide is emitted in Marin County every year. Vehicle traffic accounts for 50 percent of the total emissions, and energy use by buildings (residential, commercial, and industrial combined) accounts for 41 percent.

<u>Project Impacts.</u> As discussed above in Sections 9.5.a and 9.5.b, implementation of the Master Plan is expected to result in a minimal increase in visitation and associated vehicle trips to the plan area. Construction of the projects proposed in the Master Plan may result in an increase in airborne particulates and fugitive dust. As discussed in Section 9.6 below, the project would generate approximately 393 metric tons of CO_2e during construction of the project. The BAAQMD does not have an adopted threshold of significance for construction-related greenhouse gas emissions; however implementation of Mitigation Measure 5.A would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, impacts associated with the release of greenhouse gas emissions would be considered less than significant. b. Additionally, exhaust emissions associated with the Master Plan are anticipated to be only a small fraction of the total statewide greenhouse gas emissions released annually.

Once constructed, implementation of the projects proposed in the Master Plan would not generate significant GHG emissions. As shown in Table 6.A below, long-term operation of the projects proposed in the Master Plan would generate approximately 57.82 metric tons of CO_2e per year, which is well below the BAAQMD's threshold of 1,100 metric tons of CO_2e per year. Therefore, implementation of the Master Plan would not result in alterations to local temperatures and would not result in a significant contribution to changes in the global climate. Additionally, implementation of the Master Plan would not have an effect on air movement or moisture. This impact would be considered less than significant.

IMPACT 5.C: Project construction would result in GHG emissions that could change the climate.

Mitigation Measure 5.C: Implement Mitigation Measure 5.A. Implementation of this mitigation measure would reduce this impact to less than significant.

Monitoring Measure 5.C: Implement Monitoring Measure 5.A.

d) Create objectionable odors?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

During construction, the various diesel-powered vehicles and equipment in use could create localized odors. Construction-period odors would be temporary and would not result in permanent impacts to surrounding land uses, including the single-family residences located approximately 500 feet east of the park along Vineyard Road ad Meadow Lane. Air pollutant emissions are anticipated to be similar to current conditions and long-term exposure of sensitive receptors to objectionable odors would be considered less than significant. Therefore, no significant impacts related to objectionable odors would result from implementation of the Master Plan. This impact would be less than significant.

9.6 Greenhouse Gas Emissions

Would the proposal:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 13)	☐	☐	☒	☐

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon Dioxide (CO_2)
- Methane (CH_4)
- Nitrous Oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

The BAAQMD CEQA Guidelines recommend that all GHG emissions from a project be estimated, including a project's direct and indirect GHG emissions from operations. The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, BAAQMD recommends that the Lead Agency quantify and disclose GHG emissions that would occur during construction and make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals.

GHG emissions associated with implementation of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust.

<u>Construction Emissions:</u> Construction activities, such as site preparation, excavation and site grading, would require the use of on-site heavy-duty construction vehicles and the use of equipment for hauling materials to and from the construction site. Motor vehicles would also be used to transport the construction crew, all of which would produce combustion emissions from these various sources.

During construction of the projects proposed in the Master Plan, greenhouse gasses would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates greenhouse gases such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity

levels change. The only greenhouse gas with well-studied emissions characteristics and published emissions factors for construction equipment is CO_2. As discussed above, the BAAQMD does not have a quantitative threshold of significance for construction-related greenhouse gas emissions. Using CalEEMod, it is estimated that the project would generate a total of approximately 393 metric tons of CO_2e during construction of the project. Implementation of Mitigation Measure 5.A would reduce greenhouse gas emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment. Therefore, impacts associated with the release of greenhouse gas emissions would be considered less than significant.

Operational Emissions: Long-term operation of the implemented Master Plan would generate greenhouse gas emissions from mobile sources and indirect emissions from sources associated with energy consumption. Mobile-source emissions of greenhouse gases would include vehicle trips generated by the Master Plan. CalEEMod was used to determine the potential GHG emissions that implementation of the proposed Master Plan would generate. Model output sheets are included in Appendix A.

Table 6.A: Operational Greenhouse Gas Emissions

Emissions Category	CO_2	CH_4	N_2O	CO_2e
Project Emissions[1]	49.40	0.31	2.0700e-003	57.82
BAAQMD Thresholds	NA	NA	NA	**1,100**
Exceed Threshold?	**NA**	**NA**	**NA**	**No**

Source: LSA Associates, Inc. (April 2018).
[1]Pollutant emissions measured in metric tons/year.

Implementation of the Master Plan would not generate significant GHG emissions during construction and operation. Therefore, implementation of the Master Plan would not result in alterations to local temperatures and would not result in a significant contribution to changes in the global climate. Additionally, the Master Plan would not have an effect on air movement or moisture. This impact would be considered less than significant.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 3)	☐	☐	☒	☐

As previously discussed, implementation of the Master Plan would not exceed the BAAQMD threshold of significance for greenhouse gas emissions. The BAAQMD approach to developing a threshold of significance for greenhouse gas emissions has been to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide greenhouse gas emissions. The greenhouse gas emissions associated with implementation of the Master Plan are below this threshold, and, therefore, would not conflict with any applicable plan, policy or regulation for the purpose of reducing greenhouse gas emissions.

9.7 Transportation/Circulation

Would the proposal result in:

a) Substantial increase in vehicle trips or traffic congestion such that existing levels of service on affected roadways will deteriorate below acceptable County standards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 15, 16)	☐	☒	☐	☐

Level of service (LOS) is a qualitative measure that communicates the ability of roadways and intersections to accommodate traffic volume on or through those facilities. LOS grades range from A to F. LOS A represents little or no delay while LOS F indicates that traffic volumes exceed the ability of a facility to process it. The Marin County Congestion Management Program establishes LOS D as the minimum level of service standard for urban and suburban roadways. The City of Novato General Plan states that intersections with traffic signals or all-way stop control should operate at LOS D or better and two-way stop-controlled intersections should operate at LOS E or better.

Information presented in the Initial Study/Mitigated Negative Declaration for the Stafford Lake Bike Park (2011) found that the all-way stop controlled intersection of San Marin Drive-Sutro Avenue/Novato Boulevard operated at LOS C before the addition of the Bike Park and that the intersection was anticipated to operate at LOS D after the addition of the Bike Park. This result would be a satisfactory LOS according to the City's criteria.

Additional traffic volume generated by the proposed expansion of Stafford Lake Park was calculated using nationally surveyed rates found in the Institute of Transportation Engineers (ITE) *Trip Generation*, Ninth Edition. The tenth edition of *Trip Generation* combines travel data from city parks and regional parks and provides lower rates for the combined park category. To present a more conservative analysis, the higher rates from the more applicable regional park category were applied. Planned improvements related to the Event Meadow, Picnic Playground, Swimming Lagoon, and miscellaneous amenities would create 8.27 acres of new development within the park. Based on trip generation rates for regional parks, this new development is forecast to result in an average of additional 38 vehicle trips per weekday of which fewer than 2 trips would occur in the AM peak hour or PM peak hour.

Table 7.A: Weekday Project Trip Generation Summary

Land Use (Land Use Code)	Size	Units	Average Daily Traffic	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Trip Rates for Regional Park (417)		Acre	4.57	0.09	0.06	0.15	0.09	0.11	0.20
Trip Generation for Proposed Project	8.27	Acre	38	0.7	0.5	1.2	0.7	0.9	1.6

The increased traffic volume associated with operation of the park represents less than 1 percent of the capacity of a travel lane and would therefore be less than significant.

As previously stated, construction emissions for the projects proposed in the Master Plan were estimated using CalEEMod. CalEEMod estimates 40 peak daily construction worker trips, equating to approximately 20 vehicles arriving at the beginning of the work day and 20 vehicles leaving at the end of the work day.

Accounting for potential vendor trips as well, 22 additional trips could occur during the AM or PM peak hour during construction activity. This increased traffic volume during construction represents more than 1 percent of the capacity of a travel lane and has the potential to be a significant contribution to an intersection operating at or near capacity. Implementation of Mitigation Measure 7.A would reduce the potential impact to less than significant. With implementation of this mitigation measure, this impact would be reduced to a level of insignificance.

IMPACT 7.A: Construction traffic could add a potentially significant quantity of traffic to intersections operating at or near capacity.

Mitigation Measure 7.A: For any construction phase anticipated to require 17 or more construction workers per day, work shall be scheduled so that worker and vendor trips occur outside of the AM peak period (7:00 a.m. to 9:00 a.m.) and PM peak period (4:00 p.m. to 6:00 p.m.).

Monitoring Measure 7.A: Prior to construction of each element of the Stafford Lake Park Master Plan, Marin County Parks staff shall verify that either (1) fewer than 17 construction workers per day are required or (2) work is scheduled to begin at or before 7:00 a.m. or after 9:00 a.m. and work is scheduled to conclude before 4:00 p.m. or at or after 6:00 p.m.

b) Traffic hazards related to: 1) safety from design features (e.g. sharp curves or dangerous intersections); 2) barriers to pedestrians or bicyclists; or 3) incompatible uses (e.g. farm equipment)?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 18, 19)	☐	☒	☐	☐

The Master Plan proposes to establish a new park entrance at the northwest end of the property. This proposed location is near, but to the west of, an existing gated entrance for maintenance equipment. In the vicinity of the proposed entrance, Novato Boulevard is a two-lane roadway with a narrow shoulder and no center median.

Speeds along Novato Boulevard could be as high as 55 miles per hour (mph) in the vicinity of the proposed driveway. There are several sources that help determine adequate site distances for moving vehicles to ensure safety. According to AASHTO *Geometric Design of Highways and Streets* (2011), the "Stopping Sight Distance" for a roadway with a design speed of 55 mph is 495 feet, meaning that a car traveling 55 mph requires approximately 500 feet to come to a stop. The Caltrans Highway Design Manual, Fifth Edition (2001) (HDM) recommends a stopping sight distance on a 90 kilometer per hour (kph) road (approximately 55 mph) of 160 meters, which is approximately 525 feet.

Using the more stringent Caltrans standard, 525 feet would be the minimum sight distance that should be provided at the driveway to ensure that vehicles have sufficient distance to stop for a vehicle passing through the travel lane. Caltrans also suggests corner sight distance at intersections that allows vehicles entering or exiting the roadway to choose an appropriate gap in traffic that would not cause a vehicle on the roadway to alter their travel speed. On a 90 kph road (approximately 55 mph), the suggested corner sight distance is 190 meters, which is approximately 625 feet.

A preliminary assessment of sight distance estimates that approximately 800 feet of sight distance is provided to the east and approximately 1,250 feet of sight distance is provided to the west. These distances would be sufficient to provide adequate corner sight distance according to Caltrans standards. However, the current entrance is located opposite an existing private driveway on the north side of Novato Boulevard, creating a four-way intersection with left-turn pockets from Novato Boulevard onto the side streets. The westbound left-turn pocket provides 75 feet of storage space for vehicles waiting to enter Stafford Lake Park. Without the provision of left-turn pockets, it is still possible for vehicles entering Stafford Lake Park to interfere with vehicles traveling along Novato Boulevard as they wait to turn left.

Implementation of Mitigation Measure 7.B will reduce safety hazards from design features by requiring the construction of a westbound left turn pocket. With implementation of this mitigation measure, this impact would be reduced to a less than significant level.

IMPACT 7.B: Vehicles entering Stafford Lake Park at the new, proposed entry could interfere with vehicles traveling along Novato Boulevard.

Mitigation Measure 7.B: At the time of construction of the proposed Stafford Lake Park entrance driveway, Marin County shall improve Novato Boulevard to provide a westbound left-turn pocket with at least 75 feet of storage for vehicles waiting to enter Stafford Lake Park. Vegetation at the proposed entrance shall be maintained to preserve at least 625 feet of sight distance from the park exit.

Monitoring Measure 7.B: Prior to construction of the Stafford Lake Park entrance driveway, Marin County Parks staff shall verify that the westbound left-turn pocket has been incorporated into construction documents.

c) Inadequate emergency access or access to nearby uses?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Emergency access to the project site is provided by Novato Boulevard. Implementation of the proposed Master Plan would not result in inadequate emergency access or access to nearby uses. The Master Plan proposes to construct a second park entrance/exit at the northwest corner of Stafford Lake Park and an exit-only driveway at the northeastern corner of the park. These additional access locations would improve emergency access. During construction of the second park entrance/exit, the current entrance/exit would remain open for emergency vehicle access. Operation of the park under the Master Plan would also be less than significant with construction of the second entrance. As a result, this impact would be less than significant.

d) Insufficient parking capacity on-site or off-site?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

According to the Master Plan, parking capacity within the existing park is sufficient to accommodate typical demand, as well as parking demand during special events held at the park. The Master Plan would provide additional parking spaces to serve new amenities such as those proposed in the Event Meadow, Picnic Playground, and Swimming Lagoon areas. In addition, the Master Plan includes plans for providing overflow parking within the open meadow during periods of high parking demand coinciding with special events. Therefore, the Master Plan would include sufficient parking to accommodate typical demand and improved parking capacity to accommodate special event parking demand. This impact would be less than significant.

e) Substantial impacts upon existing transportation systems, including rail, waterborne or air traffic systems?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

The park is not located near existing transportation systems, including rail, waterborne, or air traffic systems. The Master Plan would not impact existing transportation systems. Implementation of the Master Plan is expected to generate additional vehicle travel demand of less than two trips in the AM peak hour and less than two trips in the PM peak hour. Therefore, the Master Plan would not result in a significant impact related to this issue.

9.8 Biological Resources

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) 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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting

Stafford Lake Park comprises 139 acres along the western edge of Stafford Lake. Stafford Lake is a surface water source reservoir owned by the North Marin Water District and is not part of the park. As a protected water source, there is no swimming or boating allowed at the lake. Fishing is allowed at the lake outside the 1,500-foot buffer from the dam and intake tower. Stafford Lake Park lies in undeveloped and rural lands approximately 3 miles west of downtown Novato. It is adjacent to Indian Valley Golf Course and North Marin Water District land to the east; beyond those properties lie several open space preserves including Indian Tree, Verissimo Hills, and Little Mountain to the east; Mount Burdell to the north; and Indian Valley to the south. Private rangeland and other undeveloped lands lie in the hills to the west.

Marin County purchased land along the western edge of Stafford Lake to create Stafford Lake Park in 1971. About 20 acres of the 139-acre park were developed in the late 1970's into the recreational spaces that currently exist, including picnic areas, restrooms, play fields, and playground. The 23-hole disc golf course was developed in the 1990's, and phase 1 of the Stafford Lake Bike Path opened to the public in 2015. Currently, trail use within the park is restricted to pedestrians only. There are no dogs allowed in the park, except service animals, and there are restrictions on equestrian use and cyclists on trails. The park has changed little in the 50-year history. The Master Plan proposes to renovate and update existing park amenities.

Stafford Lake Park currently offers various recreational amenities scattered throughout the park's wildlands. The park offers lake fishing, picnic and barbeque areas, recreational amenities like a volleyball court and horseshoes, a playground, bike park, open lawn and nature trails. The park hosts an array of programs, ranging from family picnics and day hikers to large-scale music events and other festivals drawing up to several thousands of visitors. Its six picnic areas are heavily used during summer months. The park is a popular wedding venue, consistently booked on weekends during warmer months. It also has a diverse set of ranger-led and community group-organized park programs including outdoor movie screenings, educational, and stargazing events.

The proposed master plan improvements are broken down into five general categories and described in the Project Description:

- General Park Improvements
- The Event Meadow
- The Picnic Playground
- The Back Meadow
- Miscellaneous Amenities

These proposed improvements would be located throughout the park within a variety of vegetation and habitat types as discussed below. The maps and descriptions of Master Plan elements provided are conceptual. As conceptual Master Plan elements become projects, they will be evaluated against the Master Plan IS/MND to determine if the impact analysis is adequate or not, what impacts would actually occur from implementation of the specific Master Plan element, which mitigation measures would apply, and whether additional mitigation measures are needed.

Novato Creek runs from the west, through the park, and into the lake, eventually flowing to San Pablo Bay. Stafford Lake provides a portion of Novato's water supply. In addition to Novato Creek, several other smaller drainages flow into the lake. Elevation ranges from approximately 200 feet along the northern periphery of the park to 500 feet at the southwestern boundary. The park experiences occasional flooding during large storm events near the riparian corridor, but the Stafford Dam overflow sets the water edge to +197.87 (NAVD-88). Soil types within the park are primarily derived from sedimentary rock and include Blucher and Cole soils (silt or clay loams derived from alluvium weathered from sandstone, granite, or

shale); Gilroy loams (derived from residuum weathered from igneous and metamorphic rock); and Los Osos and Bonnydoon loams (derived from residuum weathered from sandstone or shale).

A biological constraints review for the Stafford Lake Master Plan was performed by LSA Associates in fall 2014. This included background research and field review that consisted of five site visits in October 2014 to identify sensitive biological resources for consideration in project planning and implementation. LSA prepared a memo summarizing results and mapping sensitive features. LSA also conducted a rare plant survey on April 8, 2018. This biological setting section is based on LSA's findings (LSA 2014) with additional background review completed by PCI in May 2019 (PCI 2019). The 2019 background review included an examination of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) occurrences from the Stafford Lake region (i.e., within USGS quads San Geronimo, Petaluma, Petaluma River, and Novato; CDFW 2019a), excluding those requiring habitat not present in the park (e.g., such as marine, estuarine, sand dunes, tidal marsh, and serpentine); U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database (USFWS 2019c); California Native Plant Society's electronic database (CNPS 2019); Calflora (Calflora 2019); and Marin County documents and reports, and other resources. The review identified 33 special-status plants and 24 special-status animal species for possible occurrence in the general vicinity of the park, which are included in (Appendices A and B).

Vegetation Communities and Habitats

The plant communities that occur within Stafford Lake Park include non-native grassland, brome/fescue native grassland, purple needlegrass grassland, seasonal wetland, riparian willow groves, and oak woodland and are depicted in Figures 4a, 4b, 5a, and 5b.

Non-native Grassland. The grassland is dominated by a variety of non-native species including ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), hare barley (*Hordeum murinum* ssp. *leporinum*), and Italian ryegrass (*Festuca perenne*). This grassland corresponds to the annual brome grasslands as described in the *Manual of California Vegetation* (*Manual*; Sawyer et al. 2009). Much of the grassland in the northern half of Stafford Lake Park has been previously disturbed by mowing and/or cultivation for hay. There is also an area adjacent to the northeast part of the lake that was previously ornamental lawn but has not been irrigated in recent years.

Brome/Fescue Native Grassland. The brome/fescue native grassland is unusual in that it is dominated by a number of different native grass species including fescue (*Festuca* spp.), California brome (*Bromus carinatus*), and purple needlegrass (*Stipa pulchra*). This grassland roughly corresponds to the Idaho fescue alliance as described in the *Manual*. At Stafford Lake, this grassland has high cover and diversity of native species, low cover of non-native species, and restricted occurrence. This grassland type only occurs on a slope near the southwestern boundary of the park. The forb component of the grassland is likely to be diverse as well but was not observed during the October 2014 fieldwork as the survey occurred outside of the blooming period for most plants.

This grassland is considered sensitive based on CDFW ranking of Idaho fescue grassland and the Marin Countywide Plan's (CWP) protection of the closely related needlegrass grassland (CDFW 2019c and MCCDA 2007).

Purple Needlegrass Native Grassland. The purple needlegrass grassland is dominated by purple needlegrass at 10 to 50 percent relative cover. This habitat type is relatively widely distributed in the undisturbed portions of Stafford Lake Park. It corresponds to the *Nassella pulchra* alliance as described in the *Manual*.

Purple needlegrass grassland is considered a sensitive habitat by CDFW and the CWP. This habitat was once extensive in the region but has been reduced by historic conversion to agricultural and urban uses and displacement by invasions of non-native grasses.

Seasonal Wetland. Seasonal wetland occurs along the edge of Stafford Lake, at Terwilliger Pond, at the western edge of the park where a smaller drainage joins Novato Creek, and in several other locations on

slopes. Wetland types present include a number of different alliances (plant communities) that occur in a mosaic or in smaller single species stands. These alliances include both native- and non-native-dominated communities. Cattails (*Typha latifolia*), a native species, grow at the edge of Terwilliger Pond. Other dominant native wetland species include spike rush (*Eleocharis* sp.), willowherb (*Epilobium* sp.), and western rush (*Juncus patens*). Common dominant non-native wetland species include curly dock (*Rumex crispus*) and pennyroyal (*Mentha pulegium*). These wetland areas correspond to cattail marshes, spikerush marshes, and western rush marshes as described by the *Manual*.

Seasonal wetland is considered a sensitive community in the CWP and may be regulated by the U.S. Army Corps of Engineers (Corps), CDFW, and the Regional Water Quality Control Board (RWQCB). Wetlands are biologically valuable because of their ecosystem functions that include wildlife habitat, protection of water quality, and high productivity.

Watercourses. The watercourses within Stafford Lake Park are generally small, with the exception of Novato Creek, and range from completely vegetated swales to incised streams. They are seasonal and flow only during the winter rainy season, although Novato Creek may continue to flow later in the year than the smaller watercourses.

Watercourses are generally considered sensitive habitat. Depending on their characteristics, they may be regulated by the Corps, RWQCB, and CDFW. Novato Creek has a well-developed bed and bank and supports willow riparian vegetation along its length through the park. Watercourses also provide valuable habitat for fish and wildlife.

Riparian Vegetation. The riparian vegetation within the park is dominated by shining willow (*Salix lasiandra*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*) trees, which grow in a dense canopy along Novato Creek. The diameter of many of these trees exceeds 12-inches diameter at breast height (DBH)[20]. The trees can exceed 40 feet in height.

CDFW ranks shining and red willow plant communities as rare. The arroyo willow alliance is ranked as more common and not considered rare. All riparian habitat is still considered sensitive by CDFW, Marin County, and other agencies because of its value to wildlife and importance in watershed protection.

Oak Woodland. Oak woodland occurs in the southern portion of Stafford Lake Park. This vegetation corresponds to the coast live oak (*Quercus agrifolia*) alliance as described in the *Manual*. Coast live oak is the dominant species within this community. Other tree species include valley oak (*Quercus lobata*), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*). Canopy cover of the oak woodland varies from 80 to 100 percent. The DBH often exceeds 12 inches.

Coast live oak woodland is not considered sensitive by CDFW but the Marin County tree protection and preservation ordinance[21] protects trees native to Marin County, including oaks. The tree ordinance places restrictions on the removal of native oaks. It contains an exemption for public agencies to provide routine management and maintenance of public lands, and for removal of oaks when specifically proposed and authorized as part of an approved discretionary permit, including a Master Plan. As such, the Stafford Lake Park Master Plan is not subject to the Marin County tree protection and preservation ordinance. Nonetheless, mitigation measures have been included to address potential impacts to trees including trees within coast live oak woodland that are generally aligned with the ordinance.

Other Trees. Three small stands of coast redwood (*Sequoia sempervirens*) occur within the oak woodland. Stands range from less than 800 square feet up to 1,800 square feet. Trees range from 1 to 3 feet DBH with some of the redwood trees exceeding 50 feet in height. The understory consists mostly of thick duff from the redwood needles but also includes wood fern (*Dryopteris arguta*). Patches of scrub dominated by coyote brush (*Baccharis pilularis*) and poison oak (*Toxicodendron diversilobum*) are also

[20] Diameter of tree measured at a point 4.5 feet from the ground surface.

located within the oak woodland. Ocean spray (*Holodiscus discolor*) and coffee berry (*Frangula californica*) also occur in the scrub.

number of large mature trees are located within Stafford Lake Park, including the weeping willows (*Salix babylonica*) between Group Picnic Areas 1 and 2, the large California bay tree just west of Terwilliger pond, and other large coast live oaks and California bay trees on site. A blue oak (*Quercus douglasii*) is present near the park entrance. Pacific madrone (*Arbutus menziesii*) is also present within Stafford Lake Park including one very large tree in the southeast area of the park.

a) 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 California Department of Fish and Game or U.S. Fish and Wildlife Service? Less than Significant with Mitigation

A biological constraints review for the Stafford Lake Master Plan was performed by LSA Associates in fall 2014 (LSA 2014). This included 2019 background research and field review to identify special-status species within the park. The review identified 33 special-status plants and 24 special-status animal species for possible occurrence in the general vicinity of the park; these are provided in Appendices A and B.

Applicable Regulations

Special-status plants and animals include those species that are afforded legal protection and include those addressed by the following regulations:

Federal Endangered Species Act (ESA)

Under the federal Endangered Species Act of 1973 (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered. Two federal agencies oversee the FESA: U.S. Fish and Wildlife Service (USFWS), a part of the Department of the Interior, has jurisdiction over plants, wildlife, and resident fish, while NOAA's National Marine Fisheries Service (NOAA Fisheries Service), a part of the Commerce Department, has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of the FESA mandates that all federal agencies consult with USFWS and NOAA Fisheries Service to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species.

The FESA prohibits "take" of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery. Section 10 of the FESA requires the issuance of an incidental take permit before any public or private action may be taken that would potentially result in "take," which is defined as actions that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt any individual of an endangered or threatened species. Future development of the property will require consultation with USFWS and/or NOAA Fisheries issuance of a permit if proposed activities will result in take or habitat modification for listed species.

California Department of Fish and Wildlife/California Department of Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for managing, conserving, and protecting the state's biological resources including fish, wildlife, and plants. CDFW regulates species listed or proposed for listing as threatened or endangered under California Endangered Species Act (CESA); species defined by CDFW as California Species of Special Concern; species classified as Fully Protected by CDFW; plant species, subspecies, and varieties defined as rare or threatened by the California Native Plant Protection Act (California Fish and Game Code Section 1900, et seq.); plant species listed by the California Native Plant Society (CEQA Guidelines Section 15380) according to the California Rare Plant Ranks (CRPR); and species that otherwise meet the definition of rare, threatened, or endangered pursuant to Section 15380 of the CEQA Guidelines. CDFW also manages mountain lions as they are protected under the California Wildlife Protection Act of 1990, also known as (Proposition

117) and designated as a "specially protected mammal in California."

Projects affecting or potentially affecting any of the resources listed above must be completed in consultation with CDFW. CDFW may issue an Incidental Take Permit under Section 2018 if impacts on special-status resources may occur. A Streambed Alteration Agreement is required for projects that could significantly alter the bed and banks of a stream, creek, or lake.

Federal Migratory Bird Treaty Act

Nesting native bird species are protected under both federal and state regulations. According to USFWS, under the federal Migratory Bird Treaty Act of 1918 (MBTA; 50 CFR 10.13), "it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird," unless authorized under a permit issued by the Secretary of the Interior. Some regulatory exceptions apply. Bald and golden eagles are also protected under the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) of 1940.

Birds and their nests are protected under the California Department of Fish and Game Code (§3503 and §3513). Under §3503, "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Under §3513, "it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act." The ESA and CESA also protect nesting threatened and endangered bird species.

Special-status Plant Species

Two special-status plant species have been documented in the park: fragrant fritillary and bristly leptosiphon. PCI performed an updated review of the most current special-status plant occurrence records in May 2019, including CNDDB records and Calflora/California Consortium of Herbaria records (Calflora 2019), and compared species distribution and habitat requirements with habitat conditions at Stafford Lake Park as described by LSA Associates (2014). Based on this updated review (PCI 2019), four additional species were found to have moderate likelihood of occurring in the park; none were found to have high potential to occur. Table 1 includes information on these six species. Appendix A includes these six species and the remaining 27 species which were reviewed and determined to have low potential to occur.

Table 1 includes information regarding the Master Plan components that could result in potential impacts on special-status plants based on the proposed area of park development and the potential rare plant habitat. Appendix A does not include this column.

Fragrant fritillary and bristly leptosiphon are known to occur in the existing disc golf area and where a single-track bike trail and other improved trail connections are proposed in the grasslands south of Novato Creek. Four additional rare plant species have potential to occur in other grassland and forested areas as presented in Table 1, especially in areas of lower disturbance that have not been regularly plowed for hay production. These species are vulnerable to above-ground and below-ground disturbance such as grading, compaction, trampling, mowing, and discing.

Table 8.A Special Status Plant Species with Potential to Occur in Stafford Lake Park					
Species	**Listing Status USFWS/CDFW / CRPR**	**Life Form, Blooming Period, and Typical Habitat**	**Potential for Species Occurrence**	**Habitat Types at Stafford Lake Park with Potential to Support Species**	**Master Plan Components with Potential to Affect Species**
Species Known to Occur within Stafford Lake Park					
fragrant fritillary (*Fritillaria liliacea)*	--/--/1B.2	Perennial bulbiferous herb. Blooms February-April. Woodland, coastal prairie, coastal scrub, valley and foothill grassland (often serpentinite) . 3-410 m.	**Present**. Four populations and 1 individual mapped by County Park staff in March 2018 – in purple needlegrass and non-native annual grassland. This species has 82 CNDDB occurrences throughout its range, the greater Bay Area. CNPS considers it threatened by grazing, agriculture, urbanization, and non-native plants.	Native grassland and other grassland	Misc. Amenities in grassland –improved trail connections
bristly leptosiphon (*Leptosiphon acicularis)*	--/--/4.2	Annual herb. Blooms April - July. Grassland, woodland,	**Present.** One population observed in park south of Novato Creek[22].	Native grassland and other grassland, oak woodland	Misc. Amenities south of Novato Creek , improved trail connections

[22] 2018-05-01. Personal communication between LSA and Adam Craig, MCOSD

Table 8.A Special Status Plant Species with Potential to Occur in Stafford Lake Park					
Species	**Listing Status USFWS/CDFW / CRPR**	**Life Form, Blooming Period, and Typical Habitat**	**Potential for Species Occurrence**	**Habitat Types at Stafford Lake Park with Potential to Support Species**	**Master Plan Components with Potential to Affect Species**
		and chaparral.	Additional habitat present. This species occurs in multiple northern California counties. CNPS considers it potentially threatened by road widening and non-native plants.		
Species with Moderate Potential to Occur within Stafford Lake Park					
Koch's cord moss *(Entosthodon kochii)*	--/--/1B.3	Moss. Woodland, on open soil. 180-1000 m.	Moderate. Documented occurrences within 5 miles. Potentially suitable habitat present.	Oak woodland, edge of wetlands or waters	Back Meadow, Misc. Amenities in woodland habitat
streamside daisy *(Erigeron biolettii)*	--/--/ 3	Perennial herb. Blooms June-October. Dry slopes, rocks, and ledges along rivers in broadleafed upland forest, woodland, North Coast coniferous forest. 30-1100 m.	Moderate. Potentially suitable habitat present. Species known from Mt. Burdell, within 3 miles. 2018 survey occurred outside of blooming period.	Oak woodland	Back Meadow, Misc. Amenities

Table 8.A Special Status Plant Species with Potential to Occur in Stafford Lake Park					
Species	**Listing Status USFWS/CDFW / CRPR**	**Life Form, Blooming Period, and Typical Habitat**	**Potential for Species Occurrence**	**Habitat Types at Stafford Lake Park with Potential to Support Species**	**Master Plan Components with Potential to Affect Species**
congested-headed hayfield tarplant *(Hemizonia congesta ssp. congesta)*	--/--/ 1B.2	Annual herb. Blooms April-November. Valley and foothill grassland, sometimes roadsides. 20-560 m.	Moderate. Documented occurrences within 5 miles, and suitable habitat present. Not observed in LSA April 2018 survey but survey early in typical blooming period.	Native grassland and other grassland	Misc. Amenities in grassland – star deck, improved trail connections
harlequin lotus *(Hosackia gracilis)*	--/--/4.2	Annual herb. Blooms March - July. Wetlands, roadsides in many habitat types (grassland, forest, scrub).	Moderate. Potentially suitable habitat present. Reported occurrences from within 3 miles to southwest.	Wetlands, including localized seasonally wet areas in all habitats present	Back Meadow, Misc. Amenities

Potential Impacts: Construction activities in woodlands and native grassland could disturb occupied habitat and result in the loss of individual plants, which would be a significant impact. Ground disturbance from construction could also lead to increased non-native plant populations, which may compete with rare native species in and near the construction area. Increases in the extent of non-native invasive plant populations could result in the loss of special-status plant species, and the impact could be significant. Changes to drainage patterns in or adjacent to rare plant stands could alter water and soil conditions and negatively affect plant survival or reproduction. If changes in water and soil conditions result in the loss of special-status species, the impact could be significant. Mitigation measures would be necessary to reduce impacts to less-than-significant levels.

Mitigation Measure BIO-1, Protect Special-Status Plants, includes measures to avoid impacts on special-status plants where feasible and to mitigate for the loss when needed. Pre-project special-status plant surveys and identification of protective buffers around known occurrences would allow for protection of the existing population from direct impacts and for gradual dispersal of the population over time. If work is unavoidable within the buffer but no direct impacts to plants would occur, the population would be marked for protection and work would be timed to allow plants to complete their annual seed production. Implementation of Mitigation Measure BIO-1 would reduce potential impacts on special-status plants to less-than-significant levels.

Areas supporting special-status plants and the 100-foot buffer around them are sensitive habitat and *Mitigation Measure BIO-8, Protect Sensitive Habitat – General Protection Measures* would also be implemented in those locations. This includes training workers on habitat sensitivity, preventing vehicular impacts, preventing erosion, compaction, and dust impacts, and rehabilitating areas of disturbed soil using locally native vegetation. These measures would ensure that rare plant habitat conditions are protected whenever work occurs within the buffer around a rare plant population, and the impacts would be less than significant. For invasive species management measures, see Section (e).

Table 8B Typical Blooming Period for Special-status Plants with Potential to Be Affected by Master Plan Projects

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
bristly leptosiphon (*Leptosiphon acicularis)*												
congested-headed hayfield tarplant *(Hemizonia congesta ssp. congesta)*												
fragrant fritillary (*Fritillaria liliacea)*												
harlequin lotus *(Hosackia gracilis)*												
Koch's cord moss *(Entosthodon kochii)*	This species is best identified when spore-bearing capsules are present (Flora of North America Editorial Committee, 1993). No information found on seasonality in the limited literature on this species.											
streamside daisy *(Erigeron biolettii)*												

Mitigation Measure BIO-1: Protect Special-status Plants

Marin County Parks shall, to the extent feasible, avoid impacts on State and federally listed plant species, locally sensitive plant species, and occupied habitat, meaning the area where rare plants are known to occur. The following measures shall be implemented:

- During the planning and design phase for specific Master Plan projects, Marin County Parks shall conduct a reconnaissance-level survey during the appropriate time for identifying the special-status plants, typically the blooming period, to determine whether the project area supports suitable habitat for special-status plants. For the purpose of the reconnaissance-level survey, the project area shall be defined as the specific area where the project would be located plus a 1,000-buffer or smaller if a qualified botanist determines a smaller buffer is adequate to protect special-status plants and after consultation with CDFW. If the area is found not to support suitable habitat for special-status plants, the findings shall be documented in a letter report and no further mitigation would be required. If the area supports suitable habitat, floristic surveys shall be performed.
- Floristic surveys shall be conducted during the appropriate time for identifying the specific plants that could occur in the project area. If found, special-status plants shall be mapped. Marin County Parks, to the maximum extent feasible, shall design site development to avoid special-status plants and minimize development within the 1,000-foot setback from special-status plant populations.
- Prior to construction, the 1,000-foot buffer around special-status plants, measured from the edge of the area occupied by special-status plants, shall be clearly delineated with flagging or temporary fencing, by a qualified botanist. To the maximum extent feasible, no disturbance to soil, vegetation, or drainage patterns shall occur within this buffer. All staging, equipment maintenance, refueling, and storage areas shall be located outside the 100-foot buffer.
- Where maintenance activities or placement of site development infrastructure within the 1,000-foot buffer cannot be avoided, but no direct impacts to the population itself will occur, the following actions shall be taken:

- Conduct a special-status plant worker training for all field personnel involved with project construction. The training shall consist of a brief presentation by a qualified botanist.[23] The training shall include the following: a description of the rare plant and its required habitat including graphic aids such as photographs, a brief overview of its ecology, an explanation of the measures being taken to avoid or reduce adverse impacts, and the workers' responsibility under applicable environmental regulations.
- For mowing and other above-ground-only disturbance, restrict work to the period when special-status plants have completed that year's seed set as determined by a qualified botanist.
- Minimize downslope erosion and sedimentation within the buffer, maintain erosion- and sediment-control devices during ground-disturbing activities and until disturbed soils are stabilized. Control devices include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds.

▪ If special-status plant species are found, the plant shall be avoided, if possible. If impact avoidance is not feasible and where project activities may result in direct impacts on special-status plants, Marin County Parks would consult with CDFW and/or USFWS, as appropriate depending on species status, to determine the appropriate conservation measures to address direct and indirect impacts that could occur as a result of construction-type measures and would implement the agreed conservation measures to achieve no net loss of occupied habitat or individuals. Conservation measures may include preserving and enhancing existing populations, creation of off-site populations on mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. A conservation plan would be developed describing how unavoidable losses of special-status plants would be compensated.

▪ If relocation efforts are part of the conservation plan, the plan would include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term conservation requirements. Success criteria for preserved and compensatory populations would include:

- The extent of occupied area and plant density (number of plants per unit area) in compensatory populations would be equal to or greater than the affected occupied habitat.
- Compensatory and preserved populations would be self-producing. Populations would be considered self-producing when:
    - plants reestablish annually for a minimum of five years with no human intervention such as supplemental seeding; and
    - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

[23] A qualified botanist and/or restoration specialist has a minimum of five years of academic training and professional experience in biological sciences and related resource management activities with a minimum of two years conducting surveys for the target species.

- If off-site conservation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures would be included in the conservation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long-term viable populations.

Special-status Wildlife Species

As noted above, the LSA 2014 biological constraints review and the PCI 2019 additional background review of the 2019 CNDDB identified 24 special-status animals in the general vicinity of the park and seven have been observed within Stafford Lake Park by LSA and Marin County Parks staff, which are described in Table 3 Special-status Wildlife with Potential to Occur within Stafford Lake Park and in Appendix B.

Special-status animals that have been observed by LSA and Marin County Parks staff within the park include northwestern pond turtle, tricolored blackbird, oak titmouse, bald eagle, Nuttall's woodpecker, American badger, and western red bat. LSA biologists have reported sightings of bald eagle, Nuttall's woodpecker, and oak titmouse during field surveys. Northwestern pond turtles and tricolored blackbirds have been observed in Terwilliger Pond and in Novato Creek. American badgers were last observed in the park in 2013, with 2019 monitoring showing badger use in the past two years.

Additional species with moderate to high potential to occur within Stafford Lake Park that were identified as part of the background review and revision to this Biological Resources section include California giant salamander, California red-legged frog, great egret, great blue heron, northern harrier, white-tailed kite, San Francisco common yellowthroat, yellow warbler, and several special-status bat species including pallid bat and Townsend's big-eared bat. Great blue herons previously nested on the island in Stafford Lake, but the heronry was last active in 1993. Local bird watchers have reported sightings of all of the above-noted birds in eBird (2019). Suitable foraging and roosting habitat is present for special-status and common bat species. California giant salamanders may occur in Novato Creek and other aquatic and upland habitats. Habitat is also present for the California red-legged frog, but this species has not been documented within the park. Steelhead are known to occur in Novato Creek downstream of the dam but not within the park itself; this species is not discussed further.

Stafford Lake Park supports potential habitat for a number of special-status wildlife species and other common native reptiles, amphibians, mammals, and invertebrates. These species could occur in and near proposed park development areas. The following species have been identified within the park or have a moderate or high potential to occur there and could be affected by project activities.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
Species Known to Occur within Stafford Lake Park				
Reptiles				
northwestern pond turtle *Actinemys marmorata*	--/SSC	A year-round resident of Marin County. Found in or near permanent or semi-permanent water sources such as ponds, lakes, rivers, and streams with suitable basking sites and underwater retreats. Pond turtles have been observed in Terwilliger Pond, Stafford Lake, and in Novato Creek. They may use other aquatic habitats and uplands for nesting. Eggs are laid in shallow holes dug by the female from April through August. Eggs hatch in late summer or fall. In northern California, hatchlings can remain buried until	**Present.** Documented in Terwilliger Pond and the seasonal wetland. May use the uplands and shoreline for nesting. Habitat also present in Novato Creek and Stafford Lake.	All Master Plan components that occur in any habitat where construction involves digging within 250 feet from a wetland or waterway at Stafford Lake Park, including Novato Creek, Terwilliger Pond, and Stafford Lake.

[24] **Listing Status** (CDFW 2019d): FE-federally listed as endangered, FT-federally listed as threatened, BCC-Bird of Conservation Concern, SE-state listed as endangered, ST-state listed as threatened, Candidate SE-state candidate to be listed as endangered under CESA Candidate ST-state candidate to be listed as threatened under CESA, FP-State of California fully-protected species, SSC-California Species of Special Concern, and WL-Watch List.

[25] **Special-status Species Evaluation Criteria:** Special-status species were evaluated for their potential to occur within the park. Potential for occurrence was classified as not present, low, moderate, high, or present based on the following criteria; **Moderate** – Some of the habitat components required by this species are present within the park and/or marginally suitable habitat is present within surrounding areas. Species may occur within the park; **High** – All of the habitat components required by this species are present within the park and/or it is known to occur in surrounding areas. Species is likely to occur within the park; **Present** – Species has reported occurrences within the park and/or was observed within the project site during field surveys.

[26] See Table 5, Proposed Master Plan Elements and Sensitive Habitats

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
		the following spring. Turtles may use uplands for overland migration (movements up to 5 km) and nesting sites (nesting can occur over 500 m from water).		
Birds				
tricolored blackbird *Agelaius tricolor*	BCC/ST (listing warranted by CFGC in 2018), SSC (nesting colony)	Colonial-nesting bird in fields, pastures, and wetlands. Nests in tules, cattails, and to a lesser degree willow and brambles. Breeding occurs from mid-April into late July. Typically forage on the ground in large flocks. Year-round resident in Marin County, more common in winter. Breeding distribution within the County is limited to northern Marin.	**Present.** Species documented at Terwillger Pond. Park provides suitable foraging habitat. However, there are no known nesting occurrences nearby and the likelihood of nesting is low.	Construction of any Master Plan component that occurs in or near riparian vegetation, wetlands, or watercourses.
oak titmouse *Baeolophus inornatus*	BCC/-- (nesting)	Oak titmice are a year-round resident in Marin County. Forages for insects and seeds, hopping from branch to branch. Nests in cavities in trees or nest boxes.	**Present.** Species documented within the park. Suitable foraging and nesting habitat present.	Construction of any Master Plan component that occurs in or near riparian vegetation or oak woodlands.
bald eagle	Delisted, BCC/SE,	Coastal and inland waterways including rivers,	**Present.** Stafford Lake provides suitable foraging	Construction of any Master Plan component that occurs in

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
Haliaeetus leucocephalus	Fully Protected (nesting and wintering)	lakes, seashores. Feeds primarily on fish and waterfowl. Nests in large trees near water. Breeds from February through July. Average clutch size is 2. Eggs are incubated for up to 36 days. Bald eagles have continued to expand their range and have become more common in Marin County in recent years. There are no nesting records for bald eagles in Marcin County (Shuford 1993), but it is within their historic range.	habitat and this species has been documented frequently at Stafford Lake (eBird 2019). However, there are no known nesting occurrences nearby and the likelihood of nesting is low.	or near riparian vegetation, wetlands, or watercourses.
Nuttall's woodpecker *Picoides nuttallii*	BCC/--	Permanent, resident woodpecker of woodland habitats, prefers oak and streamside habitats. Probes for insects in tree bark and crevices. Nests in live or dead tree cavities excavated by males of the species, typically. Nuttall's woodpeckers are a year-round resident in Marin County.	**Present.** Species documented within the park. Suitable foraging and nesting habitat present.	Construction of any Master Plan component that occurs in or near riparian vegetation or oak woodlands.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
Mammals				
American badger *Taxidea taxus*	--/SSC	Occur in a variety of habitat types (e.g., herbaceous, shrub, or forest habitats) with dry, friable soils. Badgers are carnivorous and dig their own burrows. Consume primarily fossorial rodents but will also eat reptiles, insects, eggs, birds, and carrion. Active year-round, although less active in winter. Mating occurs in summer and early fall with young (average 2 to 3) born in early spring.	**Present.** Last observed in the park in 2013. Marin County Parks and Conservation Corps North Bay ecology crew conducted monitoring for American badger and western burrowing owls (*Athene cunicularia*) in February 2019. Two burrows were observed that were presumable badger burrows based on size and shape but were filled with water from the recent storms. Based on the amount of vegetation growing around the burrows and the bare soil, these burrows had been used within the previous two years indicating that American badgers have been using the area recently.	Construction of any Master Plan component that involves soil disturbance in grassland or woodland habitats.
western red bat *Lasiurus blossevillii*	--/SSC Western Bat Working Group high priority species	Occurs throughout California in forested and riparian habitat, typically along edges, field, and urban areas. A solitary bat,	**Present.** Suitable roosting habitat present in mature trees, may forage over project site. No CNDDB occurrences within 5 miles. Species	Construction of any Master Plan component that requires removal or pruning of trees over 6 inches in diameter at breast height or structure removal/modifications.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
		coming together only during mating and migration. A foliage dwelling species – roosting in leaves of trees and leaf litter in winter. Rarely enter buildings. Mate in flight during August and September. One to four pups born in late spring through early fall.	documented at Mount Burdell in similar habitat types (Townsend 2016).	
Species with Moderate to High Potential to Occur within Stafford Lake Park				
Amphibians				
California giant salamander *Dicamptodon ensatus*	--/SSC	Occur in wet coastal forests near permanent and semi-permanent streams and springs. Breeding occurs mostly in spring, but sometimes fall. Eggs are laid in water and larvae exhibit an enlarged tail fin for swimming with external gills. They transform into land dwelling salamanders with lungs around 18 to 24 months. This species is endemic to California.	**Moderate.** Potential habitat present in Novato Creek within the park. There are CNDDB records within 3.5 miles in the Lucas and Nicasio Valleys.	All Master Plan components that occur in any habitat where construction involves digging within 250 feet from any waterway at Stafford Lake Park, including Novato Creek, Terwilliger Pond, and Stafford Lake.
California red-legged frog	FT/SSC	Common in marshes, streams, lakes, reservoirs, ponds, and other water sources with	**Moderate.** Potential habitat is present within the park.	All Master Plan components that occur in any habitat where construction involves digging within 250 feet from any wetland or waterway at

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
Rana draytonii		plant cover. Breeding occurs in deep, slow-moving waters with dense shrubby or emergent vegetation from late November through April. Floating egg masses are attached to emergent vegetation near the water's surface. During the non-breeding season, California red-legged frogs can remain at the breeding site (in the presence or absence of water) or move into surrounding non-breeding habitats.	California red-legged frogs are known to occur within 3 miles at Mt. Burdell OSP.	Stafford Lake Park, including Novato Creek, Terwilliger Pond, and Stafford Lake.
Birds				
great egret *Ardea alba*	--/-- (nesting colony) Not formally listed, rookies are considered a protected resource under MBTA and California Fish and Wildlife Code.	A year-round resident of Marin County. Commonly seen in marshes, ponds, shores, and mudflats where they feed primarily on fish and smaller animals. Courtship can begin in early January and breeding extends into June to August. Grassland and shallow wetland habitats in the County are common foraging	**High.** Great egrets may forage within the park. A historic great blue heron rookery was present on the island in Stafford Lake, but has been inactive since 1993. Suitable rookery habitat is present on the island and birds could colonize this site. The nearest active rookery is at the	Construction of any Master Plan component that occurs in or near riparian vegetation, wetlands, or watercourses.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
		habitat for this species.	Petaluma Wastewater Plant, 8 miles to the northeast of the project site (Audubon Canyon Ranch 2017).	
great blue heron *Ardea herodias*	--/-- (nesting colony) Not formally listed, rookies are considered a protected resource under MBTA and California Fish and Wildlife Code.	A year-round resident of Marin County. Courtship can begin in early January to March and breeding extends into June to August or later. Colonial nests are built in large trees or snags, often is association with great egrets.	**High.** Great blue herons may forage within the project site. A historic great blue heron rookery was present on the island in Stafford Lake, but has been inactive since 1993. Suitable rookery habitat is present near the project site; bird could potentially reestablish this site. The nearest active rookery is along the bay on Channel Drive, less than 7 miles east of the project site (Audubon Canyon Ranch 2017).	Construction of any Master Plan component that occurs in or near riparian vegetation, wetlands, or watercourses.
northern harrier *Circus hudsonius*	--/SSC (nesting)	A year-round resident in Marin County. Occupies wide-open habitats from grasslands to marshes. A slender, medium sized raptor. Fly low to ground hunting for small	**Moderate.** Suitable foraging and nesting habitat present within the park. Harriers have been observed at Stafford Lake (eBird 2019).	Construction of any Master Plan component that occurs in or near grassland or wetland habitat.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
		animals. Rely heavily of sense of hearing to detect prey. Nests are constructed on the ground in well concealed vegetation or clumps of vegetation.		
white-tailed kite *Elanus leucurus*	--/FP (nesting)	Raptor of semi-open areas. Forages for mostly small rodents by hovering and diving. Nests in trees and tall bushes. Year-round resident in Marin County in open woodlands, bottomlands, and agricultural grasslands. Kites are known to breed in lowland and grassland habitats in Marin County (Shuford 1993).	**Moderate.** Suitable foraging and nesting habitat present within the park. Kites have been observed at Stafford Lake (eBird 2019).	Construction of any Master Plan component that occurs in or near grassland, wetland, or oak woodland habitat.
San Francisco common yellowthroat *Geothlypis trichas sinuosa*	BCC/SSC	The common yellowthroat is a wide spread migrant breeding throughout California. The subspecies sinuosa is endemic to the San Francisco Bay region. They occur is salt marshes, riparian thickets, and wetlands in the San Francisco Bay area. Nests are constructed	**High.** Suitable foraging and nesting habitat present in the park. There is a small population of yellowthroats at Stafford Lake (Shuford and Gardali 2008).	Any Master Plan component that occurs in or near riparian vegetation, wetlands, or watercourses.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
		close to the ground or water.		
yellow warbler *Dendroica petechia*	BCC/SSC (nesting)	Summer resident in Marin County in particular along riparian groves. A bright yellow bird of riparian woodlands with willows, alders and/or cottonwoods. Typically nests along stream courses but can occur in a variety of habitats during migration. Nests constructed in fork of a tree or small shrub. Gleans vegetation for insects.	**Moderate.** Suitable foraging and nesting habitat present within the park. Yellow warblers have been observed at Stafford Lake (eBird 2019).	Any Master Plan component that occurs in or near riparian vegetation, wetlands, or watercourses.
Mammals				
pallid bat *Antrozous pallidus*	--/SSC Western Bat Working Group high priority species	Occurs in grassland, shrubland, forest, and woodland habitats at low elevations up through mixed coniferous forests. Roosting sites include caves, mines, crevices, buildings, and hollow trees during day, more open sites used at night.	**Moderate.** Suitable roosting habitat is present in the buildings and mature trees and species may forage over the park. CNDDB occurrences within 0.8 miles east of Stafford Lake. Species also documented at Mount Burdell in similar habitat	Construction of any Master Plan component that requires removal or pruning of any trees over 6 inches in diameter at breast height or structure removal/modifications.

Table 8.C. Special-status Wildlife with Potential to Occur within Stafford Lake Park

Common Name *Scientific Name*	Listing Status[24] (Federal/ State)	Habitat Description	Potential for Occurrence within the Park[25]	Master Plan Components with Potential to Affect Species[26]
			types (Townsend 2016).	
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC Western Bat Working Group high priority species	Occurs in low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. Utilizes edge habitats for foraging. Roosting sites include caves, mines, tunnels, buildings, and other man-made structures.	**Moderate.** Suitable roosting habitat is present in the buildings and mature trees and species may forage over the park. No CNDDB occurrences within 5 miles. Species documented at Mount Burdell in similar habitat types (Townsend 2016).	Construction of any Master Plan component that requires removal or pruning of any trees over 6 inches in diameter at breast height or structure removal/modifications.

Potential Impacts: Construction of the park improvements could affect special-status and common wildlife habitat due to noise, equipment, and increased human presence. Park development could result in the loss of core habitat areas including those used for foraging, nesting, migration, and aestivation. Wildlife in the area could vacate the area due disturbance, which may result in displacement, and in some instances, mortality of special-status and common wildlife species. Mobile wildlife species could be displaced as part of the construction activities; however, these species would likely colonize adjacent habitats and move back into the area after construction. Direct mortality could result to less-mobile species, if an individual was present in the construction area or if wildlife enter the construction area during active construction activities. Direct harm on wildlife and wildlife habitat could be significant, and implementation of Mitigation Measure BIO-2 would reduce impacts to a less-than-significant level.

Stafford Lake Park is currently developed and provides recreational access to park users and is a venue for weddings as well as small- and large-scale special events throughout the year. The number of park users is not expected to increase dramatically with implementation of the Master Plan, as the Master Plan is designed to improve infrastructure and circulation for park users and to prevent user impacts on sensitive riparian habitat. Wildlife that currently inhabit Stafford Lake Park, especially common wildlife species, often tolerant of human disturbance and/or can become habituated to the activity and would continue to use the habitat that exists throughout the park. Habitat for wildlife species exists throughout the park and on private and public lands surrounding the park. Impacts on wildlife resulting from operations of the park would be less than significant.

Marin County Parks would design and implement Master Plan projects to reduce potential impacts on special-status wildlife and other common native wildlife species and their habitats. Implementation of *Mitigation Measure BIO-2: Protect Special-status Wildlife and Habitat – General Measures*, would limit potential impacts through appropriate project planning and design, completing a worker training, and wildlife-specific construction BMPs. Implementation of these measures would reduce potential impacts on special-status wildlife and their habitat to less-than-significant levels.

Mitigation Measure BIO-2: Protect Special-status Wildlife and Habitat – General Measures

Marin County Parks shall ensure that the following protection measures for wildlife and their habitat are implemented:

- During project planning and design, complete wildlife surveys in and around the project area to delineate and map special-status wildlife habitat and documented occurrences.
- Design projects to minimize disturbance on special-status wildlife while avoiding core habitat areas and providing native habitat buffers.
- Establish buffers to protect wildlife. A qualified biologist[27] shall determine appropriate buffer distances, which shall include the protection of foraging, nesting, migration, and aestivation habitat. The qualified biologist shall determine allowable activities within the buffers.
- Prior to construction, conduct a worker awareness training for all supervisory field staff. The training shall include the following information: a photograph and description of each special-status wildlife species or sensitive resource known from the project area; a description of its ecology and habitat needs; potentially confusing resources such as similar species or habitats; an explanation of the measures being taken to avoid adverse impacts; reporting and necessary actions if sensitive resources are encountered; and workers' responsibility under the applicable environmental regulation.
- The project limits shall be clearly marked on the final design drawings and work confined within those boundaries.
- Foot and vehicle traffic shall be restricted to the designated work and staging areas.
- Excavated holes, trenches, and other depressions greater than one foot in depth shall be covered with boards or other appropriate materials or backfilled with dirt at the end of each working day. If trenches remain open overnight, earthen escape ramps shall be constructed every 10 feet.
- Food and food-related trash shall be stored in closed containers and removed from the project site daily. Food-related trash can attract wildlife to construction sites, disrupting their normal behavior patterns. Trash must be collected at the end of the day and properly disposed.
- If vehicles and/or equipment will be stored on-site overnight, each vehicle and/or equipment shall be checked prior to use. All vehicles shall be inspected each morning to ensure wildlife are not hiding under them. Vehicles shall not be operated until wildlife have left the area under their own volition.
- Permanent fencing shall not cause the risk of death or injury to wildlife or impede movement. All fencing shall account for wildlife protection.

[27] A qualified biologist has a minimum of five years of academic training and professional experience in biological sciences and related resource management activities with a minimum of two years conducting surveys for the target species.

Special-status and Nesting Birds

Habitats within the park provide potential nesting habitat for special-status bird species. Nuttall's woodpecker and oak titmouse are known to occur year-round within the park. Tricolored blackbirds have been reported at Terwilliger Pond. Additional special-status birds have been reported in the park; see above. Other species, although common, are nevertheless protected under the California Fish and Game Code and their nesting could be affect by the project.

Potential Impacts: If construction work is conducted during the bird nesting season, bird nests, eggs, or young protected under the California Endangered Species Act and California Fish and Game Code could be affected. Active nests could be destroyed during vegetation removal, trail construction, and construction of other infrastructure elements if present in or near the construction site. Construction activities could result in tree removal or pruning, ground disturbance, or construction related noise which could result in impacts on protected nesting birds if present in and near the work area. These impacts would be short-term, during construction periods. The impact, however, would be significant.

Operation of proposed improvements would include maintenance activities, an increase in human activity around new facilities, and increased pedestrian traffic on trails to and from the facilities. A number of the Master Plan elements could affect the long-term use of Stafford Lake Park by special-status and nesting birds. Along portions of the Zipline, people would potentially be moving over the woodland canopy during days of operation, including those times of year when birds may be nesting in and around the Zipline. Nesting in the area could decrease, especially among those species sensitive to human presence, due to increased human activity, including human noise, from operation of proposed facilities such as the Zipline and Alpine Slide. Impacts on nesting birds from operation of the Zipline and Alpine Slide are possible as a result of noise and human proximity to canopy level nesting birds and possible impacts on active nests in the understory, on the ground below the Zipline route, or Zipline infrastructure. The Zipline and Alpine Slide would be constructed through and above oak woodland and native grassland habitats. The potential loss of nesting or foraging habitat for birds that are sensitive to disturbance would be less than significant because of the abundance of suitable nesting and foraging habitat in the surrounding area within the park boundary and in the natural lands surrounding the park. Birds could nest in trees within oak woodlands further from the Zipline, or they may become habituated to the noise and human use and nest near the Zipline. The long-term impacts on special-status and nesting birds would be less than significant.

Implementation of *Mitigation Measure BIO-3: Protect Special-status and Nesting Birds* would limit potential impacts on nesting birds by requiring preconstruction surveys by a qualified biologist to determine if nesting birds are present and by identifying exclusionary zones around the nests or delaying work until the breeding season is over or nesting is complete. Implementation of these measures would reduce potential impacts on special-status and nesting birds to less-than-significant levels. If work would occur outside the nesting bird window, surveys and avoidance measures would not be necessary for special-status and nesting birds.

Mitigation Measure BIO-3: Protect Special-status and Nesting Birds

Marin County Parks shall implement the following protection measures and seasonal restrictions to protect nesting birds. Work, such as vegetation removal and ground disturbance, that occurs outside of the nesting season may proceed without preconstruction nesting bird surveys. Table 4 provides the recommended buffer and nesting season guidelines for various bird species.

- Prior to construction, complete a nesting bird survey 7 days prior to initiation of any ground disturbing activities, vegetation clearing, tree removal and trimming, or other construction-related activities, including noise disturbance, that is planned to occur during the nesting season. The survey shall be completed for special-status birds and all other native nesting birds by a qualified biologist. The survey shall be completed within the construction area and an appropriate buffer around it summarized in Table 3. If the biologist finds no active nesting or breeding activity, then

work can proceed without restrictions. If the work area is left unattended for more than 7 days following the initial surveys, additional surveys shall be completed. This timing is standard protocol based on common knowledge of avian biology. Ongoing construction monitoring of active nests shall occur to ensure no nesting activity is disturbed.

- If active nests are identified within the buffer area guidelines included in Table 4, a qualified biologist shall determine whether or not construction activities may impact the active nest or disrupt reproductive behavior. If it is determined by the biologist that construction would not affect an active nest or disrupt nesting behavior, construction may proceed without restrictions. The determination of disruption shall be based on the species' sensitivity to disturbance, which can vary among species; the expected level of noise or construction disturbance; and the line of sight between the nest and the planned disturbance. If the biologist determines activities would be detrimental, the buffer area guidelines identified in Table 4 shall be avoided until the nest has been vacated, meaning that the chicks have fledged. If nests are present, the qualified biologist shall monitor the behavior of birds, including adults and nestlings, when present at the nest site to ensure they are not disturbed by construction activities. Nest monitoring shall continue until the nestlings have fully fledged, as determined by the qualified biologist.
- If State and/or federally listed birds are found breeding within the construction area, activities shall be halted until the nestlings have fledged or the nesting area plus the site-specific buffer shall be avoided until the nest has been vacated. If construction activities must continue and would incur take of the listed species, Marin County Parks would consult with CDFW and USFWS prior to the initiation of work that would result in take. If construction activities must continue and would not incur take of the listed species, Marin County Parks would establish the buffer are guidelines included in Table 4 until the nest has been vacated.

Special-status and Common Bats

There are approximately 15 bat species with known occurrences within northern California, and a number of these species have a high probability of occurring within Stafford Lake Park and adjacent lands. Bats are highly mobile and many are migratory. Foraging habitats range from woodlands, forests, and grasslands to open water. As noted above, western red bat occurs within Stafford Lake Park. Townsend's big-eared bat, and pallid bat have potential to occur within Stafford Lake Park based on nearby observations.

Special-status bat species could use habitat within the park for foraging and the pallid bat may roost within the park. A number of trees within the proposed development areas where construction activities would occur could contain cavities and other conditions that could provide suitable roosting habitat for special-status and common bat species.

Potential Impacts: Maternity colonies of pallid bats could be directly affected by tree removal or disturbance caused by construction. Minor tree removal and pruning may be required to accommodate Master Plan projects. Tree removal or pruning and structure modification or removal could result in disturbance to roosting bats through noise generated during the pruning or direct removal of occupied habitat. A small number of existing structures may need to be modified or removed. If bats are roosting in the trees to be pruned or removed or are using the structures to be modified or removed, the impact could be significant due to direct impacts on bats. If work is conducted outside of the breeding season, potential impacts would be less, but a small amount of roosting habitat could be lost due to tree removal. The impact from construction projects on bats in the park could be significant.

Long-term use of the habitat by bats within the park is expected to continue with implementation of the Master Plan; however, bats may utilize habitat away from human presence and potential noise

disturbance. The park and surrounding natural lands support habitat that would continue to be available for bats, and the long-term impact would be less than significant.

Implementation of *Mitigation Measure BIO-4, Protect Special-status and Common Bats*, would limit potential impacts on special-status and common bat species by requiring preconstruction and ongoing surveys, avoidance of disturbance to maternity roosts, appropriately timed habitat removal, and work hour restrictions. Implementation of these measures would reduce potential impacts on special-status and common bat species to less-than-significant levels.

Table 8.D. Guideline Buffers by Species or Guild

Species/Guild	Recommended Buffer * meters/feet	Nesting Season
Diurnal Raptors (i.e.: Cooper's hawk)	100 meters (330 feet)	January 01 – July 31
Owls (except northern spotted owl)	50 meters (160 feet)	January 01 – July 31
Northern Spotted Owl	402 meters (1,320 feet or ¼ mile)	February 01- July 31
White-tailed Kite, double clutch	100 meters (330 feet)	February 01 – October 31
Double-crested Cormorant	50 meters (160 feet)	March 01 – October 31
Herons/Egrets/Bitterns	100 meters (330 feet)	January 01 – September 30
Waterfowl (Ducks/Geese/Swans)	30 meters (100 feet)	March 01 – July 31
Larger Passerines: Corvids (crows, jays), Thrushes	20 meters (65 feet)	March 01 – July 31
Smaller Passerines: Most Songbirds	10 meters (30 feet)	March 01 – July 31
Hummingbirds	10 meters (30 feet)	January 01 – July 31
Woodpeckers	15 meters (50 feet)	March 01 – July 31
Band-tailed Pigeon (BTPI)	30 meters (100 feet)	March 01 – July 31
Pigeons/Doves (except BTPI)	20 meters (65 feet)	March 01 – July 31
Species of Special Concern (olive-sided flycatcher, grasshopper sparrow, San Pablo song sparrow)	22 meters (75 feet)	March 01 – July 31
Blackbirds (tri-colored and red-winged)	30 meters (100 feet)	March 01 – July 31
Turdidae (robins, thrushes)	20 meters (65 feet)	March 01 – July 31
Killdeer	22 meters (75 feet)	March 01 – July 31

Notes: These recommended buffers were developed by a Marin County Parks biologist, meeting the definition of a qualified biologist. The recommended buffers were determined to be at an appropriate distance to protect normal bird behavior to prevent nesting failure and/or abandonment. Consistent with implementation of this Mitigation Measure, a qualified biologist would adjust the recommended buffers specific to the project area after conducting field investigations. Not all species/guild included in this table occur within a given project area.

Mitigation Measure BIO-4: Protect Special-status and Common Bats

Marin County Parks shall implement the following protection measures for special-status and common bats:

- Prior to construction, a qualified biologist shall complete presence/negative finding bat surveys prior to removal or pruning of any trees over 6 inches in diameter at breast height or structure removal/modifications. Because each individual bat species may use different roosts seasonally and from night to day, surveys must be conducted at the appropriate times and according industry standard survey protocols.
- For all trees previously identified during project surveys as active roost sites and subject to pruning or removal, trees shall be removed in a two-step process in consultation with a qualified biologist: limb removal on day one shall be followed by bole removal on day two. This approach will allow any bats that are present an opportunity to move out of the area prior to completing removal of the trees.
- If occupied structures are present and require removal or modification, bat exclusion and one-way exit structures shall be installed to allow bats to leave the structure and not get back in.
- No maternity roosts shall be disturbed until unoccupied for the season. A 50-foot buffer shall be established around maternity roosts until unoccupied.
- If work is postponed or interrupted for more than one week from the date of the initial bat survey, the preconstruction survey shall be repeated.
- Construction shall be limited to daylight hours to avoid interference with the foraging abilities of bats.

American Badger

Habitats within Stafford Lake Park could potentially support American badger. Badgers have been reported within Stafford Lake Park. Burrow surveys to document California ground squirrel *(Otospermophillus beecheyi)*, American badger, and western burrowing owls *(Athene cunicularia)* were conducted by Marin County Parks biologists and Conservation Corps North Bay ecology crew in February 2019. Two burrows were observed that were presumable badger burrows based on size and shape but were filled with water from the recent storms. Based on the amount of vegetation growing around the burrows and the bare soil, these burrows had been used within the previous two years indicating that American badgers have been using the area recently. Badgers have a relatively large home range, can expand their territories in the breeding season and in search of food, and may move into the park at any time. American badger natal season is September 1 through February 28. American badgers give birth underground in March and April to an average litter size of two to three kits. Kits remain underground until the age of 6 to 8 weeks old. In July to August, the young badgers disperse to live in their own burrows.

Potential Impacts: During construction, project activities could result in disturbance to badgers or their dens if they are present within the work area. Disturbance to soils could result in compaction of den and burrows if present. The presence of construction workers could preclude badgers from using the project area during the construction period. The impact on badgers from construction-related impacts could be significant.

Long-term use of the habitat by badgers within Stafford Lake Park is expected to continue with implementation of the Master Plan; however, badgers may utilize habitat away from human presence and potential noise disturbance. Stafford Lake Park and surrounding natural lands support habitat that would continue to be available for badgers, and the long-term impact would be less than significant.

Implementation of *Mitigation Measure BIO-5: Protect American Badger* would limit potential impacts on American badgers and their habitat by requiring preconstruction surveys and implementation of buffers to protect burrows and dens during project activities, ongoing monitoring, and wildlife exclusion fencing. Implementation of these measures would reduce potential impacts on American badger to less-than-significant levels.

Mitigation Measure BIO-5: Protect American Badger

Marin County Parks shall implement the following protection measures for American badger:

- Prior to construction, a qualified biologist shall complete an American badger survey one week prior to initiation of any vegetation clearing, ground disturbance, or other construction-related activities, including noise disturbance in areas that support suitable badger habitat. The survey shall be completed within the project area and a 250-foot buffer.
- If any badger burrows/dens are documented within the project area or within 250 feet of it, buffer zones shall be established and maintained until the badgers have vacated the area. A qualified biologist shall determine the appropriate setbacks; no work shall occur within the buffer zone until the area is cleared by a qualified biologist and it is determined the project activities will not harm badgers.
- If American badgers are known to be present in the project area or within 250 feet, a qualified biologist shall monitor construction activities to ensure impacts to species will be avoided. Temporary wildlife exclusionary fencing such as silt fence, which is a piece of synthetic filter fabric and is also called geotextile shall also be installed around work areas during construction, as determined by the qualified biologist. Openings in the exclusion fencing shall be restricted to areas of construction site access only. Fencing would preclude badgers from entering the construction area.

California Red-legged Frog

Habitats within Stafford Lake Park could potentially support California red-legged frog. Focused surveys for frogs have not been completed within the park, and no frogs have been documented within the park. California red-legged frogs are known to occur on Mount Burdell within 3 miles of the park (MCOSD 2015). Frogs may use the pond, lake, and watercourses for breeding and the adjacent riparian and wetland vegetation for dispersal, cover, and foraging habitat, but the presence of fish within Stafford Lake may preclude this species from using portions of the site.

Potential Impacts: Project activities could result in disturbance, displacement, or mortality to California red-legged frogs if proposed park development occurs in areas that support frog habitat and frogs are present during construction. Construction activities in areas south of Novato Creek, near seeps, seasonal wetlands, and streams, and within the riparian corridor could impact California red-legged frogs if they are present in the work areas, and the impact could be significant.

Park infrastructure, including trails, picnic areas, roads, and restrooms already exist throughout the park. Implementation of the Master Plan would expand facilities and improve the condition of some existing facilities. Construction of new infrastructure, such as the creek boardwalk would improve existing conditions by limiting access through the riparian area and riparian setback along Novato Creek and instituting setbacks along all creeks and wetlands throughout the park. These setbacks would help preserve conditions of the riparian corridors and the habitat supported in them. However, a number of the proposed project components near wetlands and streams may cause frogs to alter their activity patters along trail corridors and near park infrastructure if frogs were present in the park. For example, increased foot traffic and human presence near the Terwilliger Pond may restrict frogs from using the park over time or moving into the site from surrounding habitats. These potential effects could be minimized by ensuring trail corridor margins are vegetated to provide habitat.

Park and trail users and maintenance workers could inadvertently kill or harm individual frogs along trail corridors or within picnic and other use areas if frogs are present in the park. Frogs may be encountered by the public, and/or harmed by park staff during patrols in vehicles or completing site maintenance work. Since California red-legged frogs are largely nocturnal, direct encounters with frogs will likely be infrequent, and the impact is not expected to increase from implementation of the Master Plan.

Implementation of *Mitigation Measure BIO-6: Protect California Red-legged Frog* would limit potential impacts on California red-legged frogs and their habitat by requiring preconstruction surveys, implementation of buffers, construction monitoring, and wildlife exclusion fencing. Implementation of these measures would reduce potential impacts on California red-legged frog to less-than-significant levels.

Mitigation Measure BIO-6: Protect California Red-legged Frog

Marin County Parks shall ensure that the following protection measures for California red-legged frog are implemented during project activities:

- Complete a preconstruction California red-legged frog survey one week prior to initiation of any vegetation clearing, ground disturbance, or other construction-related activities for projects within 50 feet of any riparian corridor, Terwilliger Pond, Stafford Lake, or other watercourse. The survey shall be completed within the project area and a 250-foot buffer around it by a qualified biologist. Surveys shall be completed year-round.
- If any California red-legged frogs are documented within the project area or within 250 feet of it, buffer zones shall be established and maintained until the frogs have vacated the area. A qualified biologist shall determine the appropriate setbacks; no work shall occur within the buffer zone until the area is cleared by the qualified biologist and it is determined the project activities will not harm California red-legged frogs. Frogs will only be relocated following consultation with USFWS and CDFW.
- If California red-legged frogs are known to be present in the project area or within 250 feet, a qualified biologist shall monitor construction activities to ensure impacts to species will be avoided. Temporary wildlife exclusionary fencing (e.g., silt fence, which is a piece of synthetic filter fabric [also called geotextile]) shall be installed around work areas during construction, as determined by a qualified biologist. Openings in the exclusion fencing shall be restricted to areas of construction site access only. Fencing would preclude California red-legged frogs from entering the construction area

Northwestern Pond Turtle

The park supports northwestern pond turtle. This species has been documented in Terwilliger Pond and the seasonal wetland within the Park. Pond turtles may be found year-round within the park. Turtles may use Terwilliger Pond, Stafford Lake, watercourses, wetlands, and adjacent riparian and wetland vegetation for dispersal, cover, and foraging habitat and appropriate uplands and shoreline habitats for nesting. Construction of proposed park developments would occur in areas potentially occupied by northwestern pond turtle.

Potential Impacts: Construction activities could result in disturbance, displacement, or mortality to individuals or their nests if they are present in the work area during construction and the impact could be significant.

A number of the proposed project components near wetlands and streams and upland nesting sites could affect the long-term survival and use of the park by northwestern pond turtles. For example, increased foot traffic through the riparian corridor or increased human presence near the Terwilliger Pond may restrict turtles from using this park over time. The reduction in the availability of open annual grassland

and presence of humans may destroy or disrupt nesting sites. Although turtles that utilize habitat in the park have adapted to the presence of recreationalists, maintenance works, and park staff, an increase of park infrastructure could have a significant impact on turtle population numbers or significantly alter use patterns.

Implementation of *Mitigation Measure BIO-7: Protect Northwestern Pond Turtle* would limit potential impacts on turtles and their habitat by requiring preconstruction surveys, adult relocations, establishment of nest site buffers, ongoing construction monitoring, and wildlife exclusion fencing. Implementation of these measures would reduce potential impacts on northwestern pond turtle to less-than-significant levels.

Mitigation Measure BIO-7: Protect Northwestern Pond Turtle

Marin County Parks shall ensure that the following protection measures for northwestern pond turtle are implemented during project activities:

- Construction that involves digging within 250 feet from any waterway at Stafford Lake Park, including Novato Creek, Terwilliger Pond, and Stafford Lake, should be delayed until outside of northwestern pond turtle nesting season: April 1 through August 31. Work that would occur September 1 through March 31 within 250 feet of a waterway shall require fencing and a daily biological survey to ensure no northwestern pond turtles are within the project area. Northwestern pond turtles found within the project area shall be relocated. A biological monitor shall be present during digging to ensure no northwestern pond turtles have burrowed.
- Any adults found within the project area shall be relocated to suitable off-site habitat within Stafford Lake Park by a qualified biologist. Marin County Parks would then notify CDFW of the relocation.
- Nest sites discovered during the preconstruction survey or anytime during construction shall be avoided until the nest is vacated, as determined by a qualified biologist. Buffer zones shall be established and maintained until nesting is complete. A qualified biologist shall determine the appropriate setbacks; no work shall occur within the buffer zone until the area is cleared by the biologist and it is determined the project activities will not harm turtle nests.
- If turtles are known to be present in the project area or within 250 feet, a qualified biologist shall monitor construction activities to ensure impacts to species are avoided. Temporary wildlife exclusionary fencing will also be installed around work areas during construction as determined by a qualified biologist.
- Establish a baseline northwestern pond turtle inventory for the area surrounding Novato Creek, Terwilliger Pond and areas along the shoreline of Stafford Lake prior to implementing park improvements in those areas. Monitor Northwestern pond turtle population changes as a result of infrastructure development and public use. Monitoring shall be conducted by a qualified biologist at regular intervals for the target species to inform on going public uses and development of an adaptive management strategy if negative impacts are detected such as education program and seasonal exclusion of park users.

b) 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 California Department of Fish and Game or U.S. Fish and Wildlife Service? Less than Significant with Mitigation

A large portion of the park supports sensitive riparian and wetland habitat, native grassland, and native oaks that are identified in local plans and/or regulated by both state and federal agencies. Brome/fescue and purple needlegrass native grasslands are both sensitive grasslands that are present in areas across the park. Seasonal wetlands are present across the landscape. Novato Creek and other smaller

watercourses are present, and these waterways support riparian vegetation dominated by shining willow and red willow plant communities. Oak woodland occurs in the southern area of the park.

Potential Impacts: Proposed Master Plan components have been sited outside of these habitats and sensitive natural communities to the greatest extent feasible. However, some improvements are located in, close to, or within buffers for sensitive habitats, including new or expanded trails and boardwalks designed to provide public access across and through these sensitive habitats. Utilities installation may affect sensitive plant communities. Construction activities could result in a significant impact. Table 5 below indicates the sensitive natural communities potentially affected by each proposed Master Plan elements.

As shown in Table 8.E, a number of project components could affect multiple sensitive and natural habitat types within the park. Construction in the sensitive natural communities would require general protection measures. *Mitigation Measure BIO-8: Protect Sensitive Natural Communities – General Protection Measures* would be applicable to construction activities to avoid soil compaction and to reduce runoff, soil erosion, and vegetation loss reduce construction-related impacts to less-than-significant levels.

- To minimize downslope erosion and sedimentation near sensitive natural communities maintain erosion- and sediment-control devices during ground-disturbing activities and until all disturbed soils have been stabilized. Materials shall be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion-control materials shall be constructed of natural fibers including coconut fiber mats, burlap and rice straw wattles.
- Limit or avoid using heavy equipment in areas with soils that are undisturbed, saturated, or subject to extensive compaction. Where staging of heavy equipment, vehicles, or stockpiles is unavoidable, the allowable disturbance footprint shall be limited and marked with flagging or fencing. Following the end of work, surface soils, if they no longer support native vegetation, shall be scarified and seeded with appropriate native species as directed by a qualified botanist or restoration specialist to retard runoff and promote rapid revegetation.
- Immediately rehabilitate areas where project actions have disturbed soil. Areas disturbed by equipment or vehicles shall be rehabilitated as quickly as possible to prevent erosion and discourage the colonization of invasive plants. For disturbed areas greater than 0.1 acre, prepare a project-specific revegetation or restoration plan.

Mitigation Measure BIO-8: Protect Sensitive Natural Communities – General Protection Measures

Marin County Parks shall protect sensitive natural communities during construction activities using the following protection measures.

- Prohibit equipment refueling, fluid storage, equipment maintenance, and road surfacing activities within sensitive natural communities. Inspect equipment and vehicles regularly for hydraulic and oil leaks, and do not allow leaking vehicles in the park. Drip pans will be placed underneath equipment stored on site. Vehicles and construction equipment will be maintained in good working condition.
- To the extent feasible, use locally collected native plant materials from the project footprint or from within the park or adjacent preserves for revegetation. Marin County Parks shall allow collection of no more than 5 percent of any native plant population to prevent over-collection of wild plant material sources, as per Marin County Parks and Open Space District's Vegetation and Biodiversity Management Plan, BMP – Special Status Plants 5 (2015). If sufficient local plant materials are not available for collection prior to project activities, geographically appropriate native plant materials will be purchased from a local nursery or seed supplier.

- Incorporate the removal of invasive species into site development. Remove, by hand or mechanical means, all non-natives within the project site and within 25 feet of the construction area. Dispose of any material with potential to germinate or re-sprout in a landfill. If substantial bare ground is left after removal, seed and/or plant with site-appropriate native species.
- Prevent the introduction and spread of invasive plant species.
  - Ensure that any seed, straw, mulch, gravel, or other imported materials are weed-free.
  - Clean construction vehicles and other landscaping or maintenance equipment of seed and soil from weed-infested locations before entering new areas.
  - Revegetate disturbed soil promptly after disturbance.
  - Use only native species from the Novato Creek watershed or Marin County for all site restoration and erosion control seeding when available and to the greatest extent feasible.
  - Monitor areas of ground disturbance for invasive species infestation after construction and revegetation efforts.
- Do not plant invasive, weedy species, or non-native species.
- Limit the introduction and spread of plant pathogens by:
  - Cleaning equipment, boots, truck tires, and any other exposed material with a 10 percent bleach solution or other disinfectant after working in infected areas and bringing materials into the park.
  - Avoiding pruning oaks or other affected trees in wet weather.
  - Avoiding work in wooded areas during the wet season when spores are being produced and infections are starting.
  - Leaving potentially infected downed trees in the park instead of transporting the material to an uninfected area.
  - Purchasing nursery stock for restoration plantings at nurseries that follows current Best Management Practices (BMPs) for preventing the spread of SOD. Consult the California Oak Mortality Task Force, www.suddenoakdeath.org, for current standards.
  - Inspecting all plant materials for symptoms of SOD before bringing any plants into the park.

Table 8.E. Proposed Master Plan Recommendations and Sensitive Habitat Types

Master Plan Component	Sensitive Habitat Type			
	Riparian Vegetation	Native Grassland	Oak Woodland	Wetlands and Waters
General Improvements				
Pedestrian and Bicycle Paths	X	X	X	X
Utilities	X			X
The Event Meadow				
Special Event Camping	X			
Event Gardens	X			X
Picnic Playground				
Extended Walking Paths	X			X
The Back Meadow				
Roadway Extension, Bridge & Parking Lot	X			
Nature Play Pods	X			
Individual and Group Picnic Areas	X			
Temporary Uses				
BMX	X			X
Ropes Course	X			X
Ninja Obstacle Course	X			
Misc. Amenities				
Fishing Boardwalk				X
South Lake Edge Improvements & Star Deck		X		X
Bird Blind	X			X
Zip Line			X	
Alpine Slide		X		
Bike-In Camping	X			
Creek Boardwalk	X			
Single Track Bike Trail	X	X	X	X

Riparian Vegetation

Potential Impacts: Construction of some proposed Master Plan elements would occur in areas that support riparian vegetation, as shown in Table 5. Potential impacts from construction activities on riparian vegetation could include removal or pruning of plants; grading, compaction, or other disturbance to soil; introduction or facilitation of non-native species; and changes to the hydrologic conditions that support riparian plants.

The Master Plan has established setbacks beside watercourses that consist of a development setback on each side of the top of bank that is the greater of either: (a) 50 feet landward from the outer edge of woody riparian vegetation associated with the stream; or (b) 100 feet landward from the top of bank for permanent and intermittent streams. These setbacks are consistent with those called for by the CWP Policy BIO-4.1.

The Master Plan also provides for setbacks from ephemeral streams if they: (a) support riparian vegetation for a length of 100 feet or more, and/or (b) support 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 is required. Riparian setbacks are mapped on Figures 5a and 5b.

Implementation of Master Plan elements would be designed to align with CWP policies to the greatest degree feasible to minimize impact on riparian trees and riparian habitats to the greatest extent feasible. Should impacts to riparian trees and/or habitats be unavoidable for implementation specific Master Plan projects, implementation of *Mitigation Measure BIO-9: Replace Riparian Trees* and *Mitigation Measure BIO-10: Protect Sensitive Riparian Habitat Areas* would reduce potential impacts to riparian areas to less than significant.

Mitigation Measure BIO-9: Replace Riparian Trees

Park improvements shall avoid impacts to native trees to the greatest extent feasible. However, if impacts cannot be avoided, Marin County Parks shall replace native riparian trees at the following ratios:

Native Riparian Trees	3 – 6 inches DBH	3:1
Native Riparian trees	6-inches + DBH	6:1
Non-native trees	any DBH	1:1

Revegetation should include only local plant materials native to the project area, unless local trees are not available. Should plants need to be obtained from a non-local source, information regarding the lack of local supplies and the non-local source shall be provided to CDFW as part of a permit application when a CDFW permit is required for the specific Master Plan project. If a CDFW permit is not required, this information shall be included in the project file.

Mitigation Measure BIO-10: Protect Sensitive Riparian Habitat Areas

Park improvements shall avoid encroachment into riparian habitat to the greatest extent feasible. However, if the riparian habitat cannot be avoided, and the removal of riparian vegetation is required, Marin County Parks shall implement the following measures:

- Mitigation shall occur at a minimum 1:1 ratio, based on area of impact. Exact mitigation ratios shall be determined after analyzing the total percent of habitat removed from the project; local sensitivity and diversity of the habitat type; significance of likely temporal losses while the restored area is establishing; and proximity of the mitigation area to the impact site. On-site mitigation shall be prioritized. CDFW may require greater than 1:1 mitigation ratio for off-site mitigation.
- Mitigation in riparian areas shall include planting suitable native species (determined by a qualified botanist or biologist) along an unaffected edge of the affected area. If there is insufficient area within the riparian habitat at Stafford Lake Park to complete the mitigation, then SCAs on other

suitable Marin County open space or park parcels can be planted in order to complete the mitigation requirement. In addition, unforested portions of the riparian area shall be planted with native willow trees if the area is suitable, or native tree species including coast live oak, valley oak, California bay, California buckeye, and/or big-leaf maple between park improvements and the edge of the riparian canopy to increase the effectiveness of the riparian buffer.

- A planting plan shall be developed for installing trees within the riparian area between the existing riparian canopy and the proposed park improvements. The planting plan shall show the locations of the tree planting and shall provide techniques for tree planting. The planting plan shall indicate performance standards and the contents of an as-built report. Monitoring the success of the plantings shall occur for at least 5 years. Annual reports shall be submitted to CDFW when a CDFW permit is required for the specific Master Plan project. Otherwise, annual reports shall be included in the project file.

Native Grassland

Purple needlegrass and brome/fescue native grasslands are mapped in areas south of Novato Creek as shown on Figure 4b. Several proposed park improvements may be located in or adjacent to these grasslands. The disc golf course, where improved trail connections are planned, is located within purple needlegrass grassland. The Alpine Slide, pedestrian and bike trails, and South Lake Edge improvements are planned to pass through or near native grassland.

Potential Impacts: Construction of these facilities could result in a loss of acreage and diversity of sensitive native grassland. Use of heavy equipment during construction and other ground disturbance during construction could also reduce native plant survivorship and reproduction in these grasslands. Many existing trails pass through purple needlegrass grassland. Increased use of these trails, trail widening, and/or trail maintenance could reduce native grassland extent or increase non-native species. The impact from a reduction in the grassland extent, a change in grassland composition, or the spread of non-native species into native grassland areas could be significant.

Implementation of *Mitigation Measure BIO-11: Protect Native Grassland* would reduce potential impacts to native grassland to less than significant by avoiding direct impacts where feasible and mitigating the loss of native grassland. For invasive species control measures, see Section (e).

Mitigation Measure BIO-11: Protect Native Grassland

Marin County Parks shall avoid permanent impacts on native grasslands to the greatest extent feasible, meaning that specific Master Plan projects shall be designed and constructed outside of native grassland and the boundaries of sensitive natural communities. Sensitive habitats such as the brome/fescue native grassland shall be identified during the design process for the specific Master Plan project so that these sensitive areas can be avoided to the greatest extent possible. Prior to the initiation of construction activities, an exclusion zone shall be established. Construction equipment, personnel, material storage, and staging activities shall be prohibited within the exclusion zone. If impacts to native grassland cannot be avoided, Marin County Parks shall implement the following measures:

- Impacts on native brome/fescue grassland shall be mitigated by establishing native brome/fescue grassland species within non-native grassland; impacts on purple needlegrass grassland shall be mitigated by establishing purple needlegrass grassland species within non-native grassland.
- Mitigation shall occur at a minimum 1:1 ratio, to be determined by a qualified biologist after analyzing the total percent of habitat removed from the project; local sensitivity and diversity of the habitat type; significance of likely temporal losses while the restored area is establishing; and proximity of the mitigation area to the impact site. On-site mitigation shall be prioritized. CDFW may require greater than 1:1 mitigation ration for off-site mitigation.

- A revegetation plan shall be developed that will identify areas for re-establishing the native grassland, techniques used to reestablish the grassland, performance standards, and monitoring techniques. The performance standards shall include replacing the grassland lost with native grassland of similar species composition and cover of grassland lost to park improvements. Annual reports shall be submitted to CDFW when a CDFW permit is required for the specific Master Plan project. Otherwise, annual reports shall be included in the project file.

Oak Woodland

Proposed Master Plan improvements, such as the Zipline, the single-track bike trail, and pedestrian and bike paths, are proposed within areas that include oak woodland.

Potential Impacts: Construction and operation of proposed facilities would affect oak woodland and its habitat values. Siting and building facilities such as the towers supporting the Zipline could result in tree removal and/or trimming within the tree canopy, soil compaction around oaks, and loss of understory vegetation. These impacts could reduce the extent of the oak woodlands and/or impact individual trees in the oak woodland community, and the impacts could be significant.

Implementation of *Mitigation Measure BIO-12: Protect Oak Woodland and Individual Oak Trees* would reduce oak woodland impacts to less than significant by siting facilities to minimize oak removal or pruning and developing and implementing a revegetation plan to replace damaged or removed trees and understory species at suitable ratios.

Mitigation Measure BIO-12: Protect Oak Woodland and Individual Oak Trees

Marin County Parks shall ensure that park improvements are designed and implemented to avoid encroachment on oak woodlands to the greatest extent feasible.

- The Root Protection Zone (RPZ), defined as 1.5 times the dripline radius and 3 feet below the soil surface, of all native trees, shall be identified on design plans for specific Master Plan projects. Temporary protective fencing shall be installed around RPZs or, at a minimum, the dripline perimeter of trees near work areas in the field prior to the initiation of construction-related activities.
- Changes in drainage and soil compaction within protected tree perimeters shall be avoided to the extent feasible.
- Heavy equipment, vehicles, and/or construction materials shall not be parked or stored beneath trees or operated within the delineated protected perimeter.

If placement of facilities in oak woodlands cannot be avoided, Marin County Parks shall implement the following measures:

- Proposed facilities, such as the Zipline, trails, and paths, shall be sited to minimize damage to the trees of the oak woodland and other native trees. Zipline facilities shall be located above the tree canopy to minimize impacts to trees when feasible. If needed, individual trees shall be pruned prior to installation of the Zipline facility to avoid injury. Tree pruning shall be directed by a certified arborist. Zipline components shall not be in contact with tree trunks.
- Any native tree in which at least 1/3 of its canopy or root system is damaged from construction or operation of proposed facilities shall be mitigated through replacement of the same species at the following ratios:

oaks..... 5 - 10 inches DBH 4:1
oaks..... 10 – 15-inches DBH 5:1
oaks..... 15-inch + DBH.....15:1

- Trees shall be planted at a suitable location identified by a qualified biologist, preferably at the interface of oak woodland and non-native grassland at the park edge near the Indian Valley Golf Club. Associated native understory species from the impact area shall also be replaced, to the extent feasible, along with the trees in the restoration area. A restoration plan shall be developed that will identify areas for re-establishing the oak woodland, techniques used to reestablish the oak woodland, performance standards, and monitoring techniques. The performance standards shall include replacing the oak woodland lost with native oak woodland of the same species composition and cover of oak woodland lost to park improvements. Annual reports shall be submitted to CDFW when a CDFW permit is required for the specific Master Plan project. Otherwise, annual reports shall be included in the project file.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? Less than Significant with Mitigation

The proposed Fishing Deck would result in direct impacts to jurisdictional wetlands and waters of Stafford Lake, with fill for support piers/piles installed in the lakebed. Other improvements, included in Table 5, are proposed in proximity to wetland areas and/or within buffer areas and could result in fill of jurisdictional wetlands or waters depending on the precise location and design of these features. Fill of wetlands or jurisdictional waters would be a significant impact.

Removal of native vegetation, soil compaction, or alterations to local hydrology from these improvements could also have a significant effect on wetlands. Implementation of Mitigation Measure BIO-13 would reduce potential impacts on wetlands to less than significant by providing for wetland delineation, permitting, and implementation and development of a mitigation plan approved by the appropriate regulatory agencies for wetland impacts.

Mitigation Measure BIO-13: Protect Wetlands and Watercourses

Marin County Parks shall avoid fill of jurisdictional wetlands and waters, to the extent feasible, including avoiding the modification of the bed and/or bank of Stafford Lake, Terwilliger Pond, and Novato Creek. Preconstruction surveys shall identify waters and wetlands according to state and federal regulations. If fill cannot be avoided, Marin County Parks shall mitigate for these impacts by creation, restoration, or preservation of wetlands and waters.

- Prior to construction, a formal wetland delineation shall be prepared for all areas of the park subject to the specific Master Plan project. The wetland delineation shall be used to determine the extent of fill to waters of the United States including wetlands, and waters of the State. Marin County Parks shall review the wetland delineation and associated upland features with the regulatory agencies including CDFW, REQCB, and USACOE as needed to confirm jurisdiction. Jurisdictional areas to be filled or avoided shall be clearly shown on construction plans for specific improvements.
- Prior to construction of improvements resulting in fill of jurisdictional areas, appropriate permits from the Corps, RWQCB, and CDFW shall be obtained.
- An application for a Lake or Streambed Alteration Agreement pursuant to Fish and Game Code §1600 shall be submitted to the CDFW for any modification of the bed and/or bank of Stafford Lake, Terwilliger Pond, and Novato Creek resulting from construction of proposed improvements, including the Fishing Deck and Creek Boardwalk and potentially the Bird Blind and Bird Viewing Vista Area. Any loss of riparian vegetation shall be replaced on-site at a ratio agreed upon with regulatory agencies.

- Temporary impacts in wetlands and waters shall be restored and may include removal of sediments and foreign materials deposited during construction activities, restoration of disturbed areas to their original contour and hydrologic condition, stabilization of disturbance areas prior to the onset of winter, reestablishment of riparian woodland and stands of sensitive wetland plant cover using native seed stock, container plants, and/or cuttings collected from as close to the impact vicinity as possible, and protection and conservation of topsoil within riparian woodland and stands of sensitive wetland plant cover.
- If wetland areas cannot be avoided, Marin County Parks shall mitigate for the loss. Compensatory mitigation may include onsite, in-kind replacement, or purchase of wetland credits. Onsite wetland mitigation shall consist of creating wetland acreage at a ratio determined by regulatory agencies, preferably at the edge of existing wetlands onsite. A wetland mitigation plan shall be developed for any required mitigation, except for purchase of wetland credits. The wetland mitigation plan shall include monitoring and reporting methods and performance standards for the mitigation wetlands. The site shall be monitored for 5 years; additional monitoring may be required if performance standards are not met during that time. If required, the results of the monitoring shall be reported in annual reports submitted to the applicable regulatory agencies.

d) 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? Less than Significant

Fish and wildlife need to be able to move among varied habitat types and patches in order to survive, breed, raise young, and maintain healthy populations over time. This movement may be through wildlife corridors or habitat linkages. A wildlife corridor is an area of habitat connecting wildlife populations otherwise separated by human activities or structures including roads, and other development. Wildlife corridors are typically linear or relatively narrow strips of land that allow an exchange of individuals between populations separated by habitat fragmentation. This exchange helps prevent the negative effects of inbreeding and reduced genetic diversity that often occur within isolated populations. Habitat linkages refer to broader regions of connectivity that allow for the movement of multiple species, maintenance of ecological processes, and provide routes for colonization of new habitat lands. Native wildlife nursery sites are specific areas where certain species return yearly to breed, birth, and raise young.

Stafford Lake Park provides a variety of wildlife movement opportunities and nursery sites. The park supports a number of vegetation communities including non-native grassland, brome/fescue native grassland, purple needlegrass grassland, seasonal wetland, riparian willow groves, and oak woodland that support a diverse assemblage of wildlife species, which are described in the Setting section. Stafford Lake and the seasonal wetland likely serve as a key resource for local wildlife populations, and is an important wildlife corridor, connecting Indian Tree, Little Mountain, Verissimo Hills, and Mount Burdell Open Space Preserves. It is also adjacent to the Indian Valley Golf Course. These open areas provide key habitat for many of Marin County's wildlife species and can support a variety of wildlife through part or all of their life cycles.

Stafford Lake Park receives substantial visitation and supports existing site development. The park hosts an array of programs, ranging from family picnics to large-scale music events and other festivals. Picnic areas are heavily used, especially during the summer months. Stafford Lake Park is a very popular wedding venue and also has a diverse set of ranger-led and community group-organized park programs including outdoor movie screenings, educational, and stargazing events. Stafford Lake Park accommodates high traffic volumes to accommodate the existing uses. The number of park users is not expected to increase significantly as stated on page 61 of the Master Plan,: "*implementation of the Master Plan is expected to result in a minimal increase in visitation and associated vehicle trips to the plan area"* (Stafford Lake Master Plan page 61)

The proposed Master Plan would develop park and recreation improvements within the existing park boundaries, and implementation of the proposed Master Plan elements is not expected to interfere with the movement of wildlife from park lands to surrounding habitat connections to adjacent preserves. Improvements at Stafford Lake Park would not 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 within the park or the surrounding area. Under existing conditions, resident wildlife have likely habituated to human activity within the park. Park improvements would not result in significant impacts on wildlife movement activity in the surrounding area because none of the proposed improvements would remove large swaths of vegetation or block flows of creek channels. While public uses of the park may increase, Stafford Lake Park will continue to operate only during daylight hours. The park will continue to be closed at night and the vehicle entrance locked. Human presence and noise disturbance will not occur at night. The project would not block wildlife corridors or migration routes; therefore, the impact would be less than significant.

Construction-related disturbance would not cause significant impacts on wildlife movement activity at Stafford Lake Park. Wildlife may leave the immediate area surrounding the trail during construction activities; however, the impacts will be short-term and only occur during construction and would not affect migration.

The Master Plan includes installation of a minor amount of fencing, which would primarily be located around the picnic playground. The fence would be ranch style, spilt rail fence constructed with wood and metal mesh. The small amount of proposed fencing would not interfere with wildlife movement across the park or through the fence itself as wildlife can pass through split rail fence.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? No Impact

The Marin CWP includes goals and policies to protect natural resources and manage the spread of invasive species and plant pathogens (MCCDA 2007). Public agencies, including Marin County Parks, is exempt from the CWP policies and local ordinances, including the tree protection ordinance, per Marin County Code Section 22.06.050 – Exemptions from Land Use Permit Requirements. Nonetheless, Marin County Parks would incorporate the intent of the CWP policies as part of standard practices, implementation of the proposed Master Plan elements are aligned with goals and policies of the CWP.

Wetland Protection

The Master Plan has established setbacks beside watercourses that consist of a development setback on each side of the top of bank that is the greater of either: (a) 50 feet landward from the outer edge of woody riparian vegetation associated with the stream; or (b) 100 feet landward from the top of bank for permanent and intermittent streams. These setbacks are consistent with the CWP, policy BIO-3.1, establishes Wetland Conservation Areas (WCA) to protect wetlands and upland buffers (MCCDA 2007).

Stream Conservation Areas

The Master Plan includes protections stream setbacks that are consistent with the CWP.

Native Tree Protection

Marin County Parks is exempt from the CWP policies and local ordinances, including the tree protection ordinance, per Marin County Code Section 22.06.050 – Exemptions from Land Use Permit Requirements. Nonetheless, Marin County Parks would incorporate the intent of the CWP policies as part of standard practices. Implementation of *Mitigation Measure BIO-9* and *Mitigation Measure BIO-12* would limit impacts on native trees by requiring avoidance of impacts where feasible, and replacement of any trees removed.

Invasive Plant Species Management

Although Marin County Parks is exempt from CWP policies, the invasive species control measures included in the Master Plan comply with CWP policies BIO-1.6 and 1.7, which call for the control of the spread and removal of invasive exotic plants (MCCDA 2007).

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? No Impact

Habitat conservation plans (HCPs) are planning documents required as part of an application for an Incidental Take Permit. They describe the anticipated effects of the proposed taking; how those impacts would be minimized or mitigated; and how the HCP is to be funded. HCPs can apply to both listed and non-listed species, including those that are candidates or proposed for listing. HCPs are required to meet the permit issuance criteria of Endangered Species Act of 1973." (USFWS 2019b). There are no applicable HCPs in Marin County (USFWS 2019a).

A Natural Community Conservation Planning program (NCCP) is a State led effort to take a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. It is broader in its orientation and objectives than the California and federal Endangered Species Acts, as these laws are designed to identify and protect individual species that have already declined in number significantly. An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity." (CDFW 2019b). There are 14 approved NCCPs in the State. There are no adopted NCCPs in Marin County.

There are no applicable HCPs or NCCPs in Marin County; therefore, there would be no impact.

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Appendix A. Special-status Plants Evaluated for the Stafford Lake Park Master Plan

Based on the background literature review, a number of special-status plants were identified with potential to occur in the project area. Species with reported observations in close proximity to the project site and/or in habitat types of relevance are evaluated in the table below.

Scientific Name Common Name	Listing Status[28] USFWS/CDFW/CRPR	Life Form, Blooming Period, and General Habitat	Potential for Species Occurrence within the Park[29]
Allium peninsulare var. franciscum Franciscan onion	--/--/ 1B.2	Perennial bulbiferous herb. Blooms May-June. Woodland, grassland (clay, volcanic, often serpentinite). 52-300 m.	Low. No documented occurrence within 5 miles, only marginally suitable habitat present.
Alopecurus aequalis var. sonomensis Sonoma alopecurus	FE/--/ 1B.1	Perennial herb. Blooms May-July. Freshwater marshes and swamps, riparian scrub. 5-365 m.	Low. No documented occurrence within 5 miles, only marginally suitable habitat present.
Amorpha californica var. napensis	--/--/ 1B.2	Perennial deciduous shrub. Blooms April-July. Broadleafed upland forest (openings), chaparral, woodland. 120-2000 m.	Low. Potentially suitable habitat present and known occurrences within several miles, but species not observed by LSA in April 2018 survey.

[28] **Listing Status:** FE-federally listed as endangered**,** FT-federally listed as threatened**,** SE-state listed as endangered**,** ST-state listed as threatened**,** Candidate SE-state candidate to be listed as endangered under CESA Candidate**,** ST-state candidate to be listed as threatened under CESA**,** CR-state listed as rare; California Rare Plant Rank (CRPR): 1A – Presumed extinct in California and rare/extinct elsewhere**,** 1B – Rare, threatened, or endangered in California and elsewhere, 2A – Presumed extirpated in California, more common elsewhere**,** 2B – Rare, threatened, or endangered in California, more common elsewhere**,** 3 - Plants for which we need more information**,** 4 – Plants of limited distribution. Suffixes: .1 Seriously endangered in California**,** .2 Fairly endangered in California**,** .3 Not very endangered in California.

[29] **Special-status Species Evaluation Criteria:** Special-status species were evaluated for their potential to occur within the park. Potential for occurrence was classified as not present, low, moderate, high, or present based on the following criteria: **Not Present** – Suitable habitat is not present within the park, species definitively not observed; **Low** – One or more key habitat components is absent from the park; no known occurrences in vicinity, or habitat present but species not observed during field surveys that would be expected to discover species, if present, based on season and level of effort. Species is unlikely to occur within the park; **Moderate** – Some of the habitat components required by this species are present within the park and/or marginally suitable habitat is present within surrounding areas. Species may occur within the park; **High** – All of the habitat components required by this species are present within the park and/or it is known to occur in surrounding areas. Species is likely to occur within the park; **Present** – Species has reported occurrences within the park and/or was observed within the project site during field surveys.

Scientific Name Common Name	Listing Status[28] USFWS/CDFW/CRPR	Life Form, Blooming Period, and General Habitat	Potential for Species Occurrence within the Park[29]
Napa false indigo			
Amsinckia lunaris bent-flowered fiddleneck	--/--/ 1B.2	Annual herb. Blooms March-June. Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Typically on gravelly slopes, grassland, openings in woodland, often serpentine. 3-500 m.	Low. Potentially suitable habitat present but species not observed by LSA in April 2018 survey, and only known occurrence in region is historic.
Arctostaphylos virgate Marin manzanita	--/--/ 1B.2	Perennial evergreen shrub. Blooms January-March. Sandstone or granite. Broadleafed upland forest, close-cone coniferous forest, chaparral, and North Coast coniferous forest.	Low. Typically occurs in chaparral or conifer forest, not present on site; and species not observed.
Castilleja affinis ssp. Neglecta Tiburon paintbrush	FE/ST/ 1B.2	Perennial herb (hemiparasitic). Blooms April-June. Serpentinite grassland. 60-400 m.	Low. No serpentine present.
Delphinium bakeri Baker's larkspur	FE/SE/ 1B.1	Perennial herb. Blooms March-May. Decomposed shale, often mesic, settings in broadleafed upland forest, coastal scrub, and valley and foothill grassland.	Low. Not known from this part of Marin, no decomposed shale present, and species not observed in LSA April 2018 survey.
Delphinium luteum golden larkspur	FE/SR/ 1B.1	Perennial herb. Blooms March-May. Rocky locations in chaparral, coastal prairie, coastal scrub. 0-100 m.	Low. Potentially suitable habitat present but species not observed by LSA in April 2018 survey, and no documented occurrences within 5 miles.
Dirca occidentalis western leatherwood	--/--/ 1B.2	Perennial deciduous shrub. Blooms January-March. Broadleafed upland forest, closed-cone coniferous forest, chaparral, woodland, North Coast coniferous forest. 50-395 m.	Low. No documented occurrences within 5 miles and species not observed.
Entosthodon kochii	--/--/1B.3	Moss. Woodland, on open soil. 180-1000 m.	Moderate. Documented occurrences within 5 miles.

Scientific Name Common Name	Listing Status[28] USFWS/CDFW/CRPR	Life Form, Blooming Period, and General Habitat	Potential for Species Occurrence within the Park[29]
Koch's cord moss			Potentially suitable habitat present.
Erigeron biolettii streamside daisy	--/--/ 3	Perennial herb. Blooms June-October. Dry slopes, rocks, and ledges along rivers in broadleafed upland forest, woodland, North Coast coniferous forest. 30-1100 m.	Moderate. Documented occurrence on Mount Burdell. Potentially suitable habitat present. LSA April 2018 survey outside of blooming period.
Eriogonum luteolum var. caninum Tiburon buckwheat	--/--/ 1B.2	Annual herb. Blooms May-September. Serpentinite, sandy to gravelly locations in chaparral, woodland, coastal prairie, and grassland. 0-700 m.	Low. Documented occurrence within several miles but no serpentine present.
Fritillaria lanceolata var. tristulis Marin checker lily	--/--/ 1B.1	Perennial bulbiferous herb. Blooms February-May. Coastal bluff scrub, coastal prairie, coastal scrub. 15-150 m.	Low. No documented occurrences within 5 miles; typically more coastal, and species not observed during LSA April 2018 survey.
Fritillaria liliacea fragrant fritillary	--/--/ 1B.2	Perennial bulbiferous herb. Blooms February-April. Woodland, coastal prairie, coastal scrub, valley and foothill grassland (often serpentinite). 3-410 m.	Present. Four populations and 1 individual mapped by County Park staff in March 2018. See text for discussion.
Helianthella castanea Diablo helianthella	--/--/ 1B.2	Perennial herb. Blooms March-June. Usually rocky, axonal soils, often in part shade. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	Low. Only marginally suitable habitat present, no documented occurrences within 5 miles, and species not observed in LSA April 2018 survey.
Hemizonia congesta ssp. Congesta white seaside tarplant	--/--/ 1B.2	Annual herb. Blooms April-November. Valley and foothill grassland, sometimes roadsides. 20-560 m.	Moderate. Documented occurrences within 5 miles, and suitable habitat present. Not observed in LSA April 2018 survey but survey early in typical blooming period.

Scientific Name Common Name	Listing Status[28] USFWS/CDFW/CRPR	Life Form, Blooming Period, and General Habitat	Potential for Species Occurrence within the Park[29]
(congested-headed hayfield tarplant)			
Hesperolinon congestum Marin western flax	FT/CT/ 1B.1	Annual herb. Blooms April-July. Serpentinite chaparral and grassland. 5-370 m.	Low. Documented occurrences within 5 miles but no serpentine soil present. Species not observed in LSA April 2018 survey.
Hosackia gracilis harlequin lotus	--/--/4.2	Annual herb. Blooms March - July. Wetlands, roadsides in many habitat types (grassland, forest, scrub).	Moderate. Potentially suitable habitat present. Species known from several miles to southwest.
Lasthenia conjugens Contra Costa goldfields	FE/--/ 1B.1	Annual herb. Blooms March-June. Woodland, alkaline playas, grassland, vernal pools (mesic). 0-470 m.	Low. Nearest documented occurrence over 10 miles to east. Marginally suitable habitat present, but species not observed during LSA April 2018 survey.
Leptosiphon acicularis Bristly leptosiphon	--/--/4.2	Annual herb. Blooms April - July. Grassland, woodland, and chaparral.	Present. One population observed in park south of Novato Creek.[30] Additional habitat present. See text for discussion.
Micropus amphiboles Mt. Diablo cottonwood	--/--/ 3.2	Annual herb. Blooms March-May. Bare, grassy, or rocky slopes in broadleafed upland forest, chaparral, woodland, and grassland. 45-825 m.	Low. Known from Mt. Burdell. Potentially suitable habitat present but species not observed by LSA in April 2018.
Microseris paludosa marsh microseris	--/--/ 1B.2	Perennial herb. Blooms April-June (rarely July). Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 5-300 m.	Low. No documented occurrences within 5 miles; only historic occurrences within 10 miles. Species not observed during LSA April 2018 survey.

[30] 2018-05-01. Personal communication between LSA and Adam Craig, MCOSD.

Scientific Name Common Name	Listing Status[28] USFWS/CDFW/CRPR	Life Form, Blooming Period, and General Habitat	Potential for Species Occurrence within the Park[29]
Navarretia cotulifolia broadleaved navarretia	--/--/4.2	Annual herb. Blooms May-June. Adobe soils in chaparral, foothill woodland, grassland, wetland-riparian.	Low. Reported from Mt. Burdell. Only marginally suitable habitat present. LSA April 2018 survey outside of blooming period.
Navarretia leucocephala ssp. Bakeri Baker's navarretia	--/--/ 1B.1	Annual herb. Blooms April-July. Vernal pools and swales; adobe or alkaline soils, in woodland, lower montane coniferous forest, meadows/seeps, valley and foothill grassland. 5-1740 m.	Low. No true vernal pool habitat present, and species not observed by LSA in April 2018 survey.
Pentachaeta bellidiflora white-rayed pentachaeta	FE/SE/ 1B.1	Annual herb. Blooms March-May. Woodland, grassland (often serpentinite). 35-620 m.	Low. Potentially suitable habitat present, but species not observed by LSA in April 2018 survey. No CNDDB occurrences within 5 miles.
Plagiobothrys glaber hairless popcorn-flower	--/--/ 1A	Annual herb. Blooms March-May. Coastal salt marshes and alkaline meadows. Presumed extinct in California. 5-180M.	Low. Only marginally suitable habitat present, species not observed, and species believed extinct.
Plagiobothrys mollis var. vestitus Petaluma popcornflower	--/--/ 1A	Perennial herb. Blooms June-July. Coastal salt marshes and mesic grassland.	Low. Marginally suitable habitat present but species believed extinct.
Pleuropogon hooverianus North Coast semaphore grass	--/ST/ 1B.1	Perennial rhizomatous herb. Blooms April-August. Wet, grassy usually shady areas, sometimes freshwater marsh; associated with forest environments. 10-671 m.	Low. Potentially suitable habitat present but species not observed in LSA April 2018 survey.
Quercus parvula var. tamalpaisensis	--/--/ 1B.3	Perennial evergreen shrub. Blooms March-April. Lower	Low. No suitable habitat present, not known from this part of Marin

Scientific Name Common Name	Listing Status[28] USFWS/CDFW/CRPR	Life Form, Blooming Period, and General Habitat	Potential for Species Occurrence within the Park[29]
Tamalpais oak		montane coniferous forest. 100-750 m.	County, and species not observed.
Ranunculus lobbii *Lobb's aquatic buttercup*	--/--/4.2	Annual aquatic herb. Blooms February-May. Vernal pools. 15-470 m.	Low. Known from Mt. Burdell, but no vernal pools present and species not observed by LSA in April 2018.
Rhynchospora californica California beaked-rush	--/--/ 1B.1	Perennial rhizomatous herb. Blooms May-July. Bogs and fens, lower montane coniferous forest, seeps, freshwater marshes and swamps. Typically freshwater seeps and open marshy areas. 45-1010 m.	Low. No documented occurrences within 5 miles. Marginally suitable habitat present. LSA April 2018 outside of blooming period.
Streptanthus glandulosus var. pulchellus Mt. Tamalpais bristly jewel-flower	--/--/ 1B.3	Annual herb. Blooms May-July. Serpentinite in chaparral and grassland.	Low. No serpentine present.
Trifolium amoenum two fork clover	FE/--/ 1B.1	Annual herb. Blooms April-June. Coastal bluff scrub, valley and foothill grassland (sometimes serpentinite). Open, sunny sites, swales. 5-415 m.	Low. Historic occurrences within 10 miles but species not observed in LSA April 2018 survey.

Appendix B. Special-status Animals Evaluated for the Stafford Lake Park Master Plan

Based on the background literature review, a number of special-status animals were identified with potential to occur in the project area. Species with reported observations in close proximity to the project site and/or in habitat types of relevance (e.g., grassland, woodland, grassland, wetland, riparian) are evaluated in the table below. Species (e.g., California least tern, green sea turtle, Delta smelt, tidewater goby) that only occur in habitats not present within the park (e.g., marine, estuarine) are not discussed further.

Common Name *Scientific Name*	**Listing Status[31] (Federal/ State)**	**Description**	**Potential for Occurrence within the Park[32]**
Amphibians			
California giant salamander *Dicamptodon ensatus*	--/SSC	Occur in wet coastal forests near permanent and semi-permanent streams and springs. This species is one of the largest terrestrial salamanders in North America. Breeding occurs mostly in spring, but sometimes fall. Eggs are laid in water and larvae exhibit an enlarged tail fin for swimming with external gills. They transform into land dwelling salamanders with lungs around 18 to 24 months. They consume a wide variety of animals from small invertebrates to salamanders, rodents, and lizard – they exhibit a sit and wait feeding style. This species is endemic to California.	Moderate. Potential habitat present in Novato Creek within the park. There are CNDDB records within 3.5 miles in the Lucas and Nicasio Valleys.
California red-legged frog *Rana draytonii*	FT/SSC	Largest native frog in the western U.S. with females reaching up to 5¼ inches in length and males being slightly smaller. They are most common in marshes, streams, lakes, reservoirs, ponds, and other water sources with plant cover. Breeding occurs in deep, slow-moving waters with dense shrubby or emergent vegetation from late November	Moderate. Potential habitat is present within the park. California red-legged frogs are known to occur within 3 miles at Mt. Burdell OSP.

[31] **Listing Status** (CDFW 2019d): FE-federally listed as endangered, FT-federally listed as threatened, BCC-Bird of Conservation Concern, SE-state listed as endangered, ST-state listed as threatened, Candidate SE-state candidate to be listed as endangered under CESA Candidate ST-state candidate to be listed as threatened under CESA, FP-State of California fully-protected species, SSC-California Species of Special Concern, and WL-Watch List.

[32] **Special-status Species Evaluation Criteria:** Special-status species were evaluated for their potential to occur within the park. Potential for occurrence was classified as not present, low, moderate, high, or present based on the following criteria: **Not Present** – Suitable habitat is not present within the park, species definitively not observed; **Low** – One or more key habitat components is absent from the park; no known occurrences in vicinity, or habitat present but species not observed during field surveys that would be expected to discover species, if present, based on season and level of effort. Species is unlikely to occur within the park; **Moderate** – Some of the habitat components required by this species are present within the park and/or marginally suitable habitat is present within surrounding areas. Species may occur within the park; **High** – All of the habitat components required by this species are present within the park and/or it is known to occur in surrounding areas. Species is likely to occur within the park; **Present** – Species has reported occurrences within the park and/or was observed within the project site during field surveys.

Common Name *Scientific Name*	**Listing Status[31] (Federal/ State)**	**Description**	**Potential for Occurrence within the Park[32]**
		through April. Floating egg masses are attached to emergent vegetation near the water's surface. Tadpoles require 3½ to 7 months to attain metamorphosis. During the non-breeding season, California red-legged frogs can remain at the breeding site (in the presence or absence of water) or move into surrounding non-breeding habitats. Adults eat invertebrates and small vertebrates. Larvae are algal grazers.	
foothill yellow-legged frog *Rana boylii*	--/Candidate ST, SSC	In or near partly shaded rocky streams that are shallow, slow, and moderately size from sea level to 6,300 feet. Breeding occurs from spring to early summer after high flows have receded. Eggs are laid at downstream end of rocks. Tadpoles require 3 to 4 months to attain metamorphosis. During all season, never found far from water.	Not present. Although habitat occurs in Novato Creek, no known records in the vicinity. There is a CNDDB occurrence approximately 3 miles from park along Arroyo Sausal Creek and Point Reyes Petaluma Road.
Reptiles			
northwestern pond turtle *Actinemys marmorata*	--/SSC	A year-round resident of Marin County, found in or near permanent or semi-permanent water sources (e.g., ponds, lakes, rivers, streams) with suitable basking sites and underwater retreats. Eggs are laid in shallow holes dug by the female from April through August. Eggs hatch in late summer or fall. In northern California, hatchlings can remain buried until the following spring. Turtles may use uplands for overland migration (movements up to 5 km) and nesting sites (nesting can occur over 500 m from water).	Present. Documented in Terwilliger Pond and the seasonal wetland. May use the uplands and shoreline for nesting. Habitat also present in Novato Creek and Stafford Lake.

Birds			
tricolored blackbird *Agelaius tricolor*	BCC/ST (listing warranted by CFGC in 2018), SSC (nesting colony)	Colonial-nesting bird in fields, pastures, and wetlands. Nests in tules, cattails, and to a lesser degree willow and brambles. Breeding occurs from mid-April into late July. Typically forage on the ground in large flocks. Year-round resident in Marin County, more common in winter. Breeding distribution within the County is limited to northern Marin.	Present. Species documented at Terwillger Pond. Park provides suitable foraging habitat. However, there are no known nesting occurrences nearby and the likelihood of nesting is low.
great egret *Ardea alba*	--/-- (nesting colony) Not formally listed, rookies are considered a protected resource under MBTA and California Fish and Wildlife Code.	Medium to large wading bird, commonly seen in marshes, ponds, shores, and mudflats where they feed primarily on fish and smaller animals. Courtship can begin in early January and breeding extends into June to August. Nests are a large bulky platform of sticks, colonial nester. Grassland and shallow wetland habitats in the County are common foraging habitat for this species. The nearest active rookery is at the Petaluma Wastewater Plant, 8 miles to the northeast of the project site (Audubon Canyon Ranch 2017).	High. Great egrets may forage within the park. A historic great blue heron rookery was present on the island in Stafford Lake, but has been inactive since 1993. Suitable rookery habitat is present on the island and birds could colonize this site.
great blue heron *Ardea herodias*	--/-- (nesting colony) Not formally listed, rookies are considered a protected resource under MBTA and California Fish and Wildlife Code.	Large wading bird, commonly seen in freshwater and saline habitat and open grasslands where they feed primarily on fish and smaller animals. Courtship can begin in early January to March and breeding extends into June to August or later. Colonial nests are built in large trees or snags, often is association with great egrets. The nearest active rookery is along the bay on Channel Drive, less than 7 miles east of the project site (Audubon Canyon Ranch 2017).	High. Great blue herons may forage within the project site. A historic great blue heron rookery was present on the island in Stafford Lake, but has been inactive since 1993. Suitable rookery habitat is present near the project site; bird could potentially reestablish this site.
burrowing owl *Athene cuniculari*	BCC/SSC (burrowing and some wintering sites)	A small, ground-dwelling species of grasslands, prairies, rolling hills, and ranchlands. Subterranean nesters that utilize abandoned burrows of ground squirrels and other mammals. Feed on a variety of prey items, including ground insects and small vertebrates. Historically, this species bred in Marin County along the baylands, but now occurs seasonally, mostly as winter resident (Shuford and Gardali 2008).	Low. Limited wintering habitat present within the park. Suitable burrows may be present, but no local observations for this species have been reported for Stafford Lake (eBird 2019).
oak titmouse *Baeolophus inornatus*	BCC/-- (nesting)	Small, gray-brown bird of oak woodlands. Characterized by small pointed crest and nasal tsick-a-dee-dee call that resonates through woodland habitats. Forages for insects and seeds, hopping from branch to branch. Nests in cavities in trees or nest boxes. Oak titmice are a year-round resident in Marin County.	Present. Species documented within the park. Suitable foraging and nesting habitat present.

marbled murrelet *Brachyramphus marmoratus*	FT/SE (nesting)	Uncommon permanent resident of the west coast from California to Alaska. This species is permanent resident along the Marin Coast, but sightings are uncommon during the breeding season from May through July. This seabird forages for small fish and plankton in offshore areas and along the rocky coastline. It has an unusual nesting behavior. Unlike most alcids, it does not nest in burrows or cliff colonies, but uses old-growth forests dominated by conifers and redwoods. Nesting may occur as far as 45 miles inland. A single egg is laid on a platform of lichen and moss on large tree limbs. Adult movements to and from the nest occur most often at dusk and dawn. Breeding success is very low. The decline of this species has been attributed to the loss of old-growth forests.	Not present. Suitable old-growth forest habitat not present within the park.
northern harrier *Circus hudsonius*	--/SSC (nesting)	Occupies wide-open habitats from grasslands to marshes. A slender, medium sized raptor. Fly low to ground hunting for small animals. Rely heavily of sense of hearing to detect prey. Nests are constructed on the ground in well concealed vegetation or clumps of vegetation. A year-round resident in Marin County.	Moderate. Suitable foraging and nesting habitat present within the park. Harriers have been observed at Stafford Lake (eBird 2019).
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	BCC, FT/SE (nesting)	A rare summer resident of valley foothill and desert riparian woodlands. Requires extensive thickets with low growing understory vegetation adjacent to water. Open cup nest constructed on horizontal branch from 2 to 25 feet off the ground. Breeds from June to July departing for South America in late August to early September. Feeds primarily on insects, but will also consume frogs, lizards, and fruit. Cuckoos have declined from former range due to a loss of riparian habitat. Historically may have nested in Marin County (Shuford 1993).	Low. Suitable nesting habitat may be present along Novato Creek, but this species is extirpated from the County and unlikely to occur within the park.
white-tailed kite *Elanus leucurus*	--/FP (nesting)	Raptor of semi-open areas. Forages for mostly small rodents by hovering and diving. Nests in trees and tall bushes. Year-round resident in Marin County in open woodlands, bottomlands, and agricultural grasslands. Kites are known to breed in lowland and grassland habitats in Marin County (Shuford 1993).	Moderate. Suitable foraging and nesting habitat present within the park. Kites have been observed at Stafford Lake (eBird 2019).
San Francisco common yellowthroat *Geothlypis trichas sinuosa*	BCC/SSC	The common yellowthroat is a wide spread migrant breeding throughout California. The subspecies *sinuosa* is endemic to the San Francisco Bay region. They occur is salt marshes, riparian thickets, and wetlands in the San Francisco Bay area. Nests are constructed close to the ground or water. They feed primarily on insects.	High. Suitable foraging and nesting habitat present in the park. There is a small population of yellowthroats at Stafford Lake (Shuford and Gardali 2008).

bald eagle *Haliaeetus leucocephalus*	Delisted, BCC/SE, Fully Protected (nesting and wintering)	Coastal and inland waterways including rivers, lakes, seashores. Feeds primarily on fish and waterfowl. Nests in large trees near water. Breeds from February through July. Average clutch size is 2. Eggs are incubated for up to 36 days. Bald eagles have continued to expand their range and have become more common in Marin County in recent years. There are no nesting records for bald eagles in Marcin County (Shuford 1993), but it is within their historic range.	Moderate. Stafford Lake provides suitable foraging habitat and this species has been documented frequently at Stafford Lake (eBird 2019). However, there are no known nesting occurrences nearby and the likelihood of nesting is low.
Nuttall's woodpecker *Picoides nuttallii*	BCC/--	Permanent, resident woodpecker of woodland habitats, prefers oak and streamside habitats. Characterized by black and white barring on backside. Probes for insects in tree bark and crevices. Nests in live or dead tree cavities excavated by males of the species, typically. Nuttall's woodpeckers are a year-round resident in Marin County.	Present. Species documented within the park. Suitable foraging and nesting habitat present.
yellow warbler *Dendroica petechia*	BCC/SSC (nesting)	A bright yellow bird of riparian woodlands with willows, alders and/or cottonwoods. Typically nests along stream courses but can occur in a variety of habitats during migration. Nests constructed in fork of a tree or small shrub. Gleans vegetation for insects. Summer resident in Marin County in particular along riparian groves.	Moderate. Suitable foraging and nesting habitat present within the park. Yellow warblers have been observed at Stafford Lake (eBird 2019).
northern spotted owl *Strix occidentalis caurina*	FT/ST	Dense forest habitats in northern California. Requires multi-layered canopy cover for roosting sites. Nesting sites include tree or snag cavities or broken tops of large trees. Nocturnal hunter eating mostly small mammals. Year-round resident in Marin County where it is known from breeding occurrences in old-growth and mixed forest habitats. Species occupies a large territory, approximately 5 square miles. A pair of owls may utilize the same nesting site for five to 10 year.	Low. Spotted owls have documented territories and nest sites approximately 1.75 miles south of the park in the Indian Tree OSP. These sightings are reported in more densely wooded areas. Suitable habitat is not present within the park.
Mammals			
pallid bat *Antrozous pallidus*	--/SSC Western Bat Working Group high priority species	Grassland, shrubland, forest, and woodland habitats at low elevations up through mixed coniferous forests. A social species forming small colonies. Roosting sites include caves, mines, crevices, buildings, and hollow trees during day, more open sites used at night. Pallid bats feed on large flightless arthropods. A yearlong resident throughout most of its range. During non-breeding season, both sexes may be found roosting in groups of 20 or more individuals. One to three (typically twins) pups born from April to July.	Moderate. Suitable roosting habitat present in mature trees, may forage over project site. CNDDB occurrences within 0.8 miles east of Stafford Lake. Species also documented at Mount Burdell in similar habitat types (Townsend 2016).

Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC Western Bat Working Group high priority species	Low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. Utilizes edge habitats for foraging. Roosting sites include caves, mines, tunnels, buildings, and other man-made structures. Mating typically occurs in winter with single young born in May or June. Maternal roosts consist of a small number of females with young, typically less than 100 individuals.	Moderate. Suitable roosting habitat present in mature trees, may forage over project site. No CNDDB occurrences within 5 miles. Species documented at Mount Burdell in similar habitat types (Townsend 2016).
western red bat *Lasiurus blossevillii*	--/SSC Western Bat p high priority species	Occurs throughout California in forested and riparian habitat, typically along edges, field, and urban areas. A solitary bat, coming together only during mating and migration. A foliage dwelling species – roosting in leaves of trees and leaf litter in winter. Rarely enter buildings. Mate in flight during August and September. One to four pups born in late spring through early fall.	Present. Suitable roosting habitat present in mature trees, may forage over project site. No CNDDB occurrences within 5 miles. Species documented at Mount Burdell in similar habitat types (Townsend 2016).
American badger *Taxidea taxus*	--/SSC	Occur in a variety of habitat types (e.g., herbaceous, shrub, or forest habitats) with dry, friable soils. Badgers are carnivorous and dig their own burrows. Consume primarily fossorial rodents but will also eat reptiles, insects, eggs, birds, and carrion. They are active year-round, although less active in winter. Mating occurs in summer and early fall with young (average 2 to 3) born in early spring.	Present. Documented within the park in 2013. May continue to utilize the park. No recent observations.
Invertebrates			
San Bruno Elfin Butterfly *Callophrys mossii bayensis*	FE/--	Coastal, mountainous areas with grassy ground cover. All known locations restricted to San Mateo County. Host plant is Pacific sedum (*Sedum spathulifolium*) (eggs laid on plant and caterpillars feed on sedum). Adult flight season is late February to mid-April.	Not present. Suitable habitat not present within the park.
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	FE/--	Historically, occupied coastal dune, prairie habitat, dunes, and bluffs from San Mateo County north to the Russian River in Sonoma County. Four remaining populations occur in western Marin County and southwestern Sonoma County. Similar in appearance and life history to Behren's silverspot butterfly. Larvae typically feed on violets (*Viola adunca*) where eggs are laid. Adult flight season from late June to early September. Adults known to use a number of nectar plants [i.e., gum plant, yellow sand verbena, mints (*Monardella* ssp.), seaside daisy, and nonnative bull thistle and false dandelion].	Not present. Suitable habitat not present within the park.
Fish			

steelhead – central California coast DPS *Oncorhynchus mykiss irideus*	FT/--	Spawn in fresh water and mature at sea. Steelhead generally spend their first and sometimes second year of life in freshwater creeks and then one to four years at sea. They return to spawn in their natal streams as many as four times as they do not always die after spawning like other salmonids. Juvenile steelhead generally occupy glides and riffles and less frequently pools. Adult steelhead spawn from December through April in cool, clear, well-oxygenated streams with pea to apple-sized gravel, usually at the head of a riffle. Federal listing applies to all coastal runs from Russian River south to Soquel Creek; it includes San Francisco and San Pablo Bay basins but excludes the Sacramento-San Joaquin Rivers.	Not present. Novato Creek supports a small run of steelhead (Jones 2000, Leidy et al. 2005). However, the Stafford Lake dam acts as a complete barrier for steelhead migration upstream. Suitable habitat not present.

9.9 Energy and Natural Resources

Would the proposal result in:

a) Substantial increase in demand for existing energy sources, or conflict with adopted policies or standards for energy use?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Implementation of the Master Plan would result in the construction and operation of new recreation facilities within the existing park. During construction, the project would require the use diesel-powered heavy equipment and gas-powered vehicles to access the site and bring materials and equipment to the area and would result in additional truck trips to and from the site from construction workers. Construction of Master Plan improvements would span 25 years, with one or two projects being implemented each year. The projects would typically take less than a year to construct and would require a small amount of construction equipment and employees.

Operation and maintenance would use energy from new vehicle trips and a corresponding increase in the use of fossil fuels as users would likely drive to access the park. However, the number of trips generated by proposed improvements would be relatively small and would not be significant in relation to the number of existing users who drive to Stafford Lake Park. The nature of proposed improvements (e.g., playground, picnic areas) would not require substantial amounts of energy for either construction or maintenance purposes. Therefore, the Master Plan would not conflict with adopted policies or standards for energy use.

b) Use of non-renewable resources in a wasteful and inefficient manner?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 4)	☐	☐	☒	☐

Construction of the project would utilize non-renewable resources primarily be in the form of petroleum products and electricity used to operate construction equipment and consumed during vehicle trips associated with material delivery/debris hauling and commuting workers. Indirect energy use would also occur and include the extraction, production, and transportation of goods and materials needed for construction. As described in the project description. Implementation of the Master Plan would span approximately 25 years and projects would be constructed over time as funding is available. The nature of proposed improvements would not require substantial amounts of energy for construction given the limited size of the project components and the short-term duration of the construction (approximately a year per project), which is comparable to other small construction projects in the area.

Long-term operation and maintenance of the park would require minimal energy use and would likely be similar to existing park maintenance activities, such as weed clearing, road work, and facility maintenance and repair. These activities would occur on an annual, or as-needed, basis. Energy use associated with operation and maintenance would be similarly limited and would involve truck trips from maintenance workers and rangers driving to and from the site and the use of small equipment such as weed whackers, blowers; hand saws and more. The energy used during maintenance would not result in a significant impact. Additionally, the Project does not involve constructing buildings for human inhabitation, therefore no energy efficiency policies apply. For these reasons, the Master Plan would not use non-renewable resources in a wasteful or inefficient manner and therefore energy impacts during Project operation would be less than significant.

c) Loss of significant mineral resource sites designated in the Countywide Plan from premature development or other land uses which are incompatible with mineral extraction?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5)	☐	☐	☒	☐

The Marin Countywide Plan identifies mineral sites in the Pt. San Pedro area of San Rafael, Nicasio, Mill Valley, and Novato at the Mount Burdell Open Space Preserve. None of these sites is located at Stafford Lake Park. Therefore, implementation of the Master Plan would not adversely affect designated mineral resource sites or result in development or other land uses that would be incompatible with mineral extraction.

9.10 Hazards

Would the proposal involve:

a) A risk of accidental explosion or release of hazardous substances including, but not necessarily limited to: 1) oil, pesticides; 2) chemicals; or 3) radiation?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Construction and operation of proposed improvements would not require the use of any explosive or hazardous materials. Although small quantities of commercially available hazardous materials could be used during construction activities (e.g., oil, gasoline), these materials would not be used in sufficient quantities to pose a threat to human or environmental health. Such materials would be kept at construction staging areas and would be secured when not in use. The use and storage of such materials would comply with numerous federal, State, and local laws and regulations governing hazardous materials. The existing park is largely in its natural condition and is unlikely to have any hazardous substances on site. Therefore, implementation of the Master Plan would not create a risk of accidental explosion or release of hazardous substances.

b) Possible interference with an emergency response plan or emergency evacuation plan?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Implementation of the Master Plan would improve an existing recreational facility; it would not interfere with emergency response plans or emergency evacuation plans. Stafford Lake Park is not located along an identified evacuation route and construction of proposed improvements would not obstruct access for emergency vehicles. This impact would be less than significant.

c) The creation of any health hazard or potential health hazard?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

As described above, construction of proposed improvements could include construction activities that employ hazards or the use of hazardous chemicals, such as gasoline, diesel fuel, oils and lubricants, paints and thinners, solvents, and other chemicals. Numerous federal, State, and local laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials. Contractors would be required to comply with all hazardous materials laws and regulations for the transport, use, and disposal of hazardous materials. Therefore, the Master Plan would not result in a significant impact related to this issue.

d) Exposure of people to existing sources of potential health hazards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 33, 34)	☐	☐	☒	☐

The park site is not included on any of the environmental databases maintained by the State Water Resources Control Board or the California Department of Toxic Substances Control. The Master Plan proposes improvements within an existing County park that is managed for recreation uses. It is unlikely that future users of the proposed improvements would be exposed to sources of existing or future health hazards as none are known to occur within or in the vicinity of the park. Therefore, the proposed project would not result in exposure to existing or potential sources of health hazards.

e) Increased fire hazard in areas with flammable brush, grass, or trees?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3, 5, 22, 23)	☐	☒	☐	☐

The California Department of Forestry and Fire Protection (CAL FIRE) designates the project area as lying within a zone of moderate fire hazard (CAL FIRE 2007). In addition, the Marin Countywide Plan indicates that the project site is ranked as a High Fire Risk zone. This rank is based on vegetation, slope, and aspect.

Implementation of the Master Plan would increase use of the Park, including use of barbecue facilities. Section 10.08 of the Marin County Municipal Code prohibits fires of any nature, except in permanent fixed barbecues, camp stoves, or fireplaces established by Marin County Parks. It also prohibits firecrackers, skyrockets, other fireworks or explosives, as well as smoking, except in designated areas specified for smoking. Stafford Lake Park includes barbecue facilities for groups of up to 500 people; however, use of these facilities would be restricted per Section 10.08 of the Municipal Code. Rangers patrol the park and are trained in fire-fighting techniques. Parks' radio and repeater system combined with ranger patrols and staff on-call 24 hours per day enable prompt and effective communication with emergency service providers in the event of a wildland fire or an emergency response call.

Construction of some of the proposed improvements would occur on slopes that include grassy areas, oak woodlands, and other potentially flammable vegetation, increasing the fire hazard risk. During construction of these improvements, the most likely source of ignition would be by mechanical activities such as operation of backhoes, mini excavators, dozers, skid steer, skid loaders, or roller compactors. However, the potential for ignition can be greatly reduced through equipment features, fuel treatment, and management of behavior. Therefore, implementation of the following mitigation measures would reduce the risk associated with fire hazards during the construction period to a less than significant level.

IMPACT 10.A: Construction on vegetated slopes could result in wildland fire due to ignition associated with mechanical activities.

Mitigation Measure 10.A: The following measures shall be implemented throughout the construction period to reduce the potential risk associated with fire hazards:

1. Parks staff shall comply with the County fire prevention practices.

2. Upon notification from the County Fire Department that a "Red Flag Warning - High Fire Danger Alert" exists for Marin County, Parks shall suspend any construction activities involving powered mechanical equipment and shall limit vehicle access to construction staging areas.

3. Parks staff shall hold fire prevention training session(s) for construction staff, contractors, and volunteers. The training shall describe the County's Fire Prevention Procedures and regulations for smoking and open fires on Parks land, including:

- The prohibitions on smoking and open fire or flames while on Parks land;
- The use of fire suppression equipment; and
- The use of avoidance measures such as not allowing heated tools to contact ignitable fuels or not driving off road or in any area with tall grass.

4. Parks shall maintain fire suppression equipment, including water pumpers and fire extinguishers, on site and on trucks and tractors.

5. Parks shall maintain communication equipment, including cell phones and radios, on site during construction to allow for rapid contact of emergency responders.

6. Parks shall implement the following measures to reduce the risk of fire resulting from the use and storage of fuel:

- Refuel power equipment or tools in a cleared space;
- Store fuel in a cleared space and, where possible, in the shade;
- Turn off equipment while fueling;
- Use a gas spout/funnel to avoid spills; and
- Remove or dry any spilled fuel prior to starting equipment.

7. Parks shall implement the following measures if welding is necessary during construction:

- Suspend welding on hot dry days and when winds exceed five miles per hour;
- Perform welding in the morning prior to 10:00 a.m.;
- Remove grass within a 12-foot radius of the welding site;
- Wet the ground and surrounding vegetation prior to welding and every 15 minutes thereafter;
- Maintain a portable welding screen around the welder;
- Keep a truck-mounted pumper at the welding site, with the pump engaged during welding; and
- Staff an extra person on site with no other duty except to watch for fire and operate the pumper.

With implementation of this mitigation measure, this impact would be reduced to a level of insignificance.

Monitoring Measure 10.A: The following monitoring measures shall be implemented throughout the construction period to ensure compliance with Mitigation Measure 10.A:

- After receiving red-flag warnings, Parks staff shall verify that the park supervisor has suspended the use of heavy equipment.
- Prior to the start of construction, Parks staff shall verify that construction staff held fire prevention training session.
- Parks shall verify the implementation of the various fire safety mitigation measures.

9.11 Noise

Would the proposal result in:

a) Substantial increases in existing ambient noise levels?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1 4)	☐	☐	☒	☐

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a ten-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements which better represent how humans are more sensitive to sound at night. These measurements include the day/night sound level (L_{dn}) and the Community Noise Equivalent Level (CNEL).

Primary noise sources within the plan area include traffic along neighboring roadways, airplanes flying overhead, construction, and minimal noise associated with recreational use of the park. Sources of noise in the park include sounds from people recreating, riding bikes, children playing at the playground, and some amplified noise such as music at weddings and events during the year.

The CWP Noise Element includes guidelines for normally acceptable noise levels for types of land uses as established by the California Office of Planning and Research. These guidelines enforce a normally acceptable noise level of 70 dB L_{dn} in park/recreational uses. The County's Noise Ordinance establishes the maximum permissible noise level that may intrude into a neighbor's property and noise level standards for various land use categories affected by stationary noise sources. The County's Noise Ordinance also regulates the timing of construction activities and includes special provisions for sensitive land uses. According to the County's Noise Ordinance, construction activities shall occur only between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and from 9:00 a.m. and 5:00 p.m. on Saturdays. Construction is not permitted outside of these hours or on Sundays and federal holidays.

An analysis of potential noise impacts associated with construction and operation activities associated with implementation of the Master Plan is provided as follows.

Construction Noise Impacts: Implementation of the Master Plan would include construction activities that could result in a substantial temporary increase in ambient noise levels in Stafford Lake Park and adjacent land uses above levels existing without the Master Plan but would no longer occur once construction is completed.

The following two types of short-term noise impacts could occur during the construction of the projects associated with the Master Plan. First, construction crew commutes and the transport of construction equipment and materials to the construction site would incrementally increase noise levels on access roads leading to the construction site. Although there would be a relatively high single event noise exposure potential causing intermittent noise nuisance, the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the construction site would be less than significant.

The second type of short-term noise impact is related to noise generated during construction. Construction is completed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. Table 11.A lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor. Typical noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. Because the noisiest construction equipment is earthmoving equipment, the excavation phase is expected to generate the highest noise levels. Construction of the projects proposed in the Master Plan is expected to require the use of front-end loaders, compactors, hydraulic backhoes, and haul trucks. Typical operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three or four minutes at lower power settings.

Table 11.A: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Range of Maximum Sound Levels (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers	81 to 96	93
Rock Drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	74 to 84	80
Scrapers	83 to 91	87
Haul Trucks	83 to 94	88
Cranes	79 to 86	82
Portable Generators	71 to 87	80
Rollers	75 to 82	80
Dozers	77 to 90	85
Tractors	77 to 82	80
Front-End Loaders	77 to 90	86
Hydraulic Backhoe	81 to 90	86
	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 89	86
Trucks	81 to 87	86

Source: Bolt, Beranek & Newman, 1987. *Noise Control for Buildings and Manufacturing Plants*

As shown in Table 11.A, the typical maximum noise level generated by backhoes and front-end loaders is assumed to be 86 dBA L_{max} at 50 feet from the operating equipment. The maximum noise level generated by compactors or rollers is approximately 80 dBA L_{max} at 50 feet. The maximum noise level generated by haul trucks operating at full power is approximately 88 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound sources with equal strength would increase the noise level by 3 dBA. Assuming each piece of construction equipment operates at some distance apart from the other equipment, the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from an active construction area.

The nearest construction activities would occur approximately 1 mile from the nearest residential property line and therefore noise levels during construction would not substantially affect land uses adjacent to the park. Compliance with the hours specified in the Marin County Code regarding construction activities would reduce construction noise impacts on adjacent noise sensitive land uses when construction occurs near the project boundaries. This impact would be less than significant

Operational Noise Impacts: Implementation of the Master Plan would not result in a substantial increase in daily traffic trips in the plan area; subsequently, the Master Plan would not result in substantial traffic noise effects on adjacent land uses. Stafford Lake Park is an existing open space use and implementation of the Master Plan would not significantly increase ambient, long-term noise levels in the plan area. The Master Plan would implement improvements to the existing recreational facilities, which could result in slightly increased use of the park. Noise generated from the park would be similar to existing conditions and include noise from cars driving to and from the site, people recreating, riding bikes, children playing at the playground, and some amplified noise such as music at weddings and events during the year. As discussed in the project description, Park hours are from 7:00 a.m. to 8:00 p.m. in summer, 7:00 a.m. to 7:00 p.m. in fall and spring and 8:00 a.m. to 5:00 p.m. in winter. The park is closed at night and the vehicle entrance is locked. As a result, noise is limited to daytime hours and is restricted to the stated hours of operation. The use of the park is not expected to change substantially, although use may increase some. Overall, this impact would be less than significant.

b) Exposure of people to significant noise levels, or conflicts with adopted noise policies or standards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 14)	☐	☐	☒	☐

Construction of the projects associated with implementation of the Master Plan would not expose people to significant noise levels. As described above, Stafford Lake Park is an existing open space use and implementation of the Master Plan, including construction and operation of proposed facilities, would not increase noise levels for visitors of the park or surrounding land uses. Therefore, noise impacts would be considered less than significant.

9.12 Public Services

Would the proposal have an effect upon, or result in a need for new or altered governmental service in any of the following areas

a) Fire protection?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 24)	☐	☐	☒	☐

The project site and immediate vicinity are served by Novato Fire Protection District and would also be served by the Marin County Fire Department. The nearest fire station to the project is the Novato Fire District's Station 63, located at 65 San Ramon Way, approximately 2 1/2 miles east of the park. Implementation of the Master Plan would include construction and operation of recreation improvements. It would not include housing units or other habitable structures. Therefore, the demand for fire protection services would not increase with implementation of the Master Plan. In addition, proposed improvements would be located within an existing County Park, which is clearly marked to aid in access and timely response for medical emergencies. Therefore, the Master Plan would not affect fire services in the area or result in the need for additional or altered fire protection facilities.

b) Police protection?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

The project site is served by the Marin County Sheriff's Department, which provides police patrol services to unincorporated areas within the County. Parks Rangers are responsible for enforcing park rules and regulations. Public use of proposed improvements is not expected to significantly affect the Marin County Sheriff's ability to maintain service ratios, response times, other performance objectives, and new or physically altered facilities would not be required. Therefore, the Master Plan would not result in a significant impact related to this issue.

c) Schools?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

The Master Plan does not include housing units or other development that would increase the number of students enrolled in schools within the area. Therefore, the Master Plan would not result in an increase in demand for school services or result in the need for additional or altered school facilities.

d) Maintenance of public facilities, including roads?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Implementation of the Master Plan would not include or require expansion of roads, flood control, or other public works facilities. Implementation of the Master Plan would require maintenance of proposed improvements, including the playground, parking lots, trails, and roadways within the park. Park staff would perform the daily trash pick-up and general park inspection. Proposed improvements would result in an increase in maintenance responsibilities for Marin County Parks; however, this increase would not result in any significant impacts to roads, flood control or other public works facilities. Therefore, the Master Plan would not have a significant impact on the maintenance of existing public facilities, including roads.

e) Other governmental services?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1	☐	☐	☒	☐

The Master Plan would not impact other government services such as libraries since proposed improvements would be located within an existing park and would not increase the population that needs such services. Therefore, the Master Plan would not result in a significant impact related to this issue.

9.13 Utilities and Service Systems

Would the proposal result in a need for new systems, or substantial alterations to the following utilities:

a) Power or natural gas?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

As described in the Master Plan, minimal utilities exist within Stafford Lake Park. Electrical service is available at Group Picnic Areas 1 and 2 and the maintenance yard/trailer. To implement proposed improvements, the County would need to extend utility connections from these existing facilities and provide additional transformer capacity. These utility improvements would be linked to site-specific improvement projects. Implementation of the Master Plan would increase electricity and natural gas consumption, but not at a level that would be considered substantial in relation to regional or statewide energy supplies.

Proposed improvements would be subject to the standards of Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Title 24 measures consist of developing an energy budget for structures and designing the structures to use no more energy that what is budgeted. The Master Plan would be consistent with the growth projected for the region and the County, and would be within the energy demands of the land uses planned in the CWP. Therefore, the Master Plan would not result in energy demands that would require the development of new energy sources or affect service to existing customers. This impact would be less than significant.

b) Communications systems?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

The Master Plan would not result in significant impacts due to an increased need for communications systems, as no communications systems would be provided as part of proposed improvements. Therefore, communications systems would not be affected by implementation of Master Plan.

c) Local or regional water treatment or distribution facilities?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

The North Marin Water District (NMWD) provides water to a population of 61,000 people situated in and about the City of Novato, including Stafford Lake Park.[33] NMWD purchases approximately 80 percent of its water supply from the Sonoma County Water Agency (SCWA). The remainder of Novato's water comes from Stafford Lake, which supplements NMWD's purchased water supply.

[33] North Marin Water District, 2015. North Marin Water District website: The North Marin Water District website: http://www.nmwd.com/index.php (Accessed December 2, 2015).

The County would require the use of water[34] for construction, maintenance, and operation of proposed improvements. As described in the Master Plan, existing water service extends to most of the picnic areas, three restroom facilities, and the maintenance yard/trailer residence. To implement proposed improvements, utility extensions would be needed. However, these extensions would not be considered "major" lines because they would be connected to existing water supply infrastructure. Because these improvements would be made as additions to existing water supply infrastructure, they would constitute a less-than-significant impact. Water demand would be slightly increased over the existing level of demand due to proposed improvements. However, the increase in demand would not be significant and would not affect local or regional water distribution facilities. Park staff would work with NMWD to ensure adequate water service to the park. Therefore, this impact would be less than significant.

d) Sewer or septic tanks?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

No sewer connection exists at the park. The restrooms and residence rely on individual holding tanks to handle waste. To implement proposed improvements, a sewer line connection could be installed to Novato Sanitary District in place of the existing holding tanks. The County would need to further investigate a possible sewer connection. Any proposed sewer connection would need to be reviewed and approved by Novato Sanitary District prior to issuance of a building permit for specific improvements. Any additional sewer demand would be handled through the use of NMWD approved holding tanks with no on-site disposal. Compliance with these regulatory requirements would ensure that no impacts associated with sewer or septic tanks would result from implementation of the Master Plan. Therefore, the project would not result in a significant impact related to this issue.

e) Storm water drainage?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 9, 10)	☐	☐	☒	☐

Construction of some of the elements of the Master Plan, including new paved roads, the new gatehouse, parking areas, and a maintenance yard would include the placement of new impervious surfaces at the project site. While most of the underlying soils are hydrologic class C and D,[35] which indicates they have low to very low ability to infiltrate water, a modest decrease in absorption of precipitation and a slight increase in runoff could occur with implementation of the Master Plan.

Since the project would create and/or replace 5,000 sf or more of impervious surface, it would be required to comply with Section E.12 of the Small MS4 Phase II General Permit (Phase II General Permit)[36] that requires implementation of measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification[37] management. The Phase II General Permit also requires

[34] Other than water for drinking and cleaning, Stafford Lake Park uses raw water. Any water provided for irrigation or construction would be raw water.

[35] Natural Resources Conservation District (NRCS), 2015. Web Soil Survey, website: National Resources Conservation Service web soil survey: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed 11/17/15)

[36] NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit), Order No. 2013-0001-DWQ

[37] Hydromodification is the alteration of the natural flow of water through a landscape, and often takes the form of creek channel erosion. Hydromodification is one of the leading sources of impairment in streams, lakes, and estuaries.

implementation of Low Impact Development (LID) standards. LID uses design techniques such as harvest and reuse, infiltration, evapotranspiration to mimic a site's pre-development hydrology.

The Phase II General Permit requires regulated projects (which includes implementation of the Master Plan) to include facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the hydraulic sizing design criteria included in the Phase II General Permit. To comply with the Phase II General Permit, a Stormwater Control Plan that describes the project specific measures must be prepared and implemented. Since LID measures would be required under existing NPDES regulations and these measures encourage reuse, infiltration, and bioretention so that site hydrology is not substantially altered, this potential impact is less than significant.

f) Solid waste disposal?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significa nt Impact	Not Applicable
(source #(s): 1)	☐	☐	☒	☐

Buildout of the Master Plan would not result in the generation of significant amounts of solid waste. Users of the park would dispose of garbage, but not in amounts that would greatly exceed average per capita garbage generation rates. In addition, recycling receptacles would continue to be located throughout the park, allowing the proposed Master Plan to be in full compliance with the waste diversion goals mandated by the California Integrated Waste Management Act. The amount of solid waste generated by both users of the park and construction of park facilities or infrastructure would not substantially decrease the amount of space in the Redwood Landfill, which serves the park.

9.14 Aesthetics/Visual Resources

Would the proposal:

a) Substantially reduce, obstruct, or degrade a scenic vista open to the public or scenic highway, or conflict with adopted aesthetic or visual policies or standards?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3)	☐	☐	☒	☐

As described in Section IV.1(a), Land Use, the Marin Countywide Plan includes several policies that protect visual resources. Generally, these policies require the protection of views of ridgelines, greenbelts, hillsides, water, trees, and other natural areas. None of the roads or highways within the vicinity of the park is designated as scenic highways.

None of the visual changes that would result from implementation of the Master Plan would substantially reduce, obstruct, or degrade a scenic vista or scenic highway, or conflict with adopted aesthetic or visual policies or standards. Proposed improvements (including new roads, parking areas, trails) would be generally low profile and would not block views. New features within the viewshed would include new structures (e.g., Event Center, Zipline, and Playground). These features would be designed to blend into the surroundings and complement the existing visual setting of the park. Proposed facilities would be consistent with Marin County Parks' design guidelines and similar in appearance to other facilities within Stafford Lake Park.

Construction of proposed improvements may require removal of some existing trees and other vegetation. However, impacts on visual character and quality of the site from tree/vegetation removal are expected to be less than significant. The proposed Master Plan would include installation of landscaping and visual improvements that would result in a beneficial visual impact at the project site.

During construction of proposed improvements, additional vehicles, workers, and materials coming to and from the site, and site preparation activities would be visible from travelers along Novato Boulevard and from adjacent uses. However, construction activities would occur within the existing Park and would be of intermittent and of relatively short duration.

Therefore, for the reasons cited, the proposed project would not reduce, obstruct, or degrade a scenic vista open to the public or a scenic highway, conflict with adopted aesthetic or visual policies and standards, or otherwise degrade the visual quality or character of the site and surroundings.

b) Have a demonstrable negative aesthetic effect by causing a substantial alteration of the existing visual resources including, but not necessarily limited to: 1) an abrupt transition in land use; 2) disharmony with adjacent uses because of height, bulk, or massing of structures; or 3) cast of a substantial amount of light, glare, or shadow?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 3)	☐	☐	☒	☐

As described in Section 9.13(a) above, improvements proposed as part of the Master Plan would be generally consistent with the visual landscape of the area and would not result in a substantial or adverse change to the visual quality or character of the site and surroundings. The Master Plan proposes park and recreation improvements within an existing County park that currently provides opportunities for active recreation (i.e., barbecues, picnic areas, volleyball, etc.). As such, implementation of the Master Plan would not result in an abrupt transition in land use. As described above, structures associated with the Master Plan would be designed to blend into the surroundings and be consistent with existing facilities within the park. Therefore, implementation of the Master Plan would not result in height, bulk, or massing that would create any disharmony with the surrounding area or cast any light, create glare, or result in any shadows. Standard lighting would be required in some locations where improvements are proposed. These lighting fixtures would be consistent with other fixtures in the park. The park is closed at sunset, except for special events, so minimal overhead lighting would be required, and the operation of such lighting would not create a substantial amount of light. No glare-inducing materials (i.e., glass, metal) would be used in proposed improvements. Therefore, the Master Plan would not have a demonstrable negative aesthetic impact resulting from substantial alteration of existing visual resources.

9.15 Cultural Resources

Would the proposal:

a) Disturb paleontological, archaeological, or historical sites, objects, or structures?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 4, 26, 27, 28, 29, 30, 31, 32)	☐	☒	☐	☐

Paleontological sensitivity was assessed by reviewing geologic mapping by Wagner and Gutierrez.[38] The Park area contains Holocene Alluvium, as well as the mélange facies and sandstone and shale facies of the Cretaceous-Jurassic Franciscan Complex. The deposits of Holocene Alluvium are too young to contain fossils and are considered to have no paleontological sensitivity. Although rocks of the Franciscan Complex have produced scientifically important fossils, these fossils are uncommon to rare. In addition, the rocks of the Franciscan Complex within the Park area have been sheared and/or fragmented. As a result, the potential for encountering scientifically significant fossils is extremely low, and these rocks are considered to have no paleontological sensitivity.[39]

LSA conducted two cultural resources investigations including a records search, literature review, paleontological research, three field surveys (two in 2011 and one in 2014), and prepared documents summarizing the findings of the investigations.[40][41]

The records searches identified prehistoric archaeological site CA-MRN-528, within the Park area. The site is a prehistoric lithic scatter located on a "narrow terrace extending west to east" consisting of "obsidian microdebitage and small chert flakes" exposed in rodent hole backdirt piles, in an area measuring approximately 2,000 by 400 feet.[42] No evidence of this site was found during the 2011 or 2014 surveys.

The 2014 records search (which included a larger Park area than in 2011) identified prehistoric/historic-period archaeological site CA-MRN-342 buried along Novato Creek adjacent to the Park area.[43][44][45][46][47] The most recent documentation for CA-MRN-342 describes the site as consisting of "obsidian arrow points, bowl mortars, pestles and charmstones, as well as [historic-period] ceramic and glass fragments".[48] Millet also identified human burials at the site. No evidence of the site was identified during

[38] Wagner, David L., and Carlos I. Guitierrez, 2010. *Preliminary Geologic Map of the Napa 30-minute by 60-minute quadrangle, California.* California Geological Survey. Map Scale 1:100,000.
[39] Kaptain, Neal. 2014. *Cultural Resources Constraints Review for the Stafford Lake Master Plan, Marin County, California.* LSA Associates, Inc., Point Richmond, California.
[40] Goetter, Karin, 2011. *Memorandum Regarding the Stafford Lake Bike Park, Novato, California.* LSA Associates, Point Richmond, California.
[41] Kaptain 2014.
[42] Flynn, Katherine, William Roop, and Mark Roll, 1982-1984. Archaeological Site Survey Form for CA-MRN-342. Archaeological Resource Service, Petaluma, California. On file at the Northwest Information Center, Rohnert Park, California.
[43] Flynn et. al. 1982-1984.
[44] Jordan, Leigh, 1985. *Letter regarding the location of CA-MRN-342.* On file at the Northwest Information Center, Rohnert Park, California.
[45] Millett, Marshall, 2008. California Department of Parks and Recreation Form 523 Series records for CA-MRN-342. On file at the Northwest Information Center, Rohnert Park, California.
[46] Pilling, Arnold R., 1951a. Unpublished notes on CA-MRN-342, dated September 14, 1951. On file at the Northwest Information Center, Rohnert Park, California.
[47] Pilling, Arnold R., 1951b. University of California Archaeological Site Survey Record for CA-MRN-342. On file at the Northwest Information Center, Rohnert Park, California.
[48] Millett, 2008.

LSA's 2014 survey. The literature review identified Holocene sediments throughout the \Park area that may be sensitive for buried prehistoric archaeological deposits.

Archaeological deposits may qualify as historical resources under Public Resources Code (PRC) Section 21084.1 or as unique archaeological resources under PRC Section 21083.2. Should those resources so qualify, their disturbance would constitute a substantial adverse change to their significance under *CEQA Guidelines* Section 15064.5(b), which would result in a significant impact under CEQA. Such an impact would require avoidance or mitigation.

The County initiated consultation with Federated Indians of Graton Rancheria (FIGR) per the requirements of AB 52 to solicit feedback on the proposed project, and determine whether FIGR had any specific recommendations for the project or mitigation measures. The measures requested include the following;

1. A tribal representative be present on-site during ground disturbing activity in either of the identified cultural/archaeological sites
2. FIGR involvement in the selection of the archaeological team working on park projects
3. Cultural access to the site for FIGR in the form of a cultural easement to accommodate willow branch gathering needs along Novato Creek.

The County made every effort to incorporate these requests in the mitigation measures identified below where appropriate.

Paleontology. As described above, the paleontological sensitivity of the park is considered low. However, should project construction encounter paleontological resources, impacts to these resources could occur.

IMPACT 15.A.1: Construction of proposed improvements included in the Master Plan could impact paleontological resources if they are encountered during construction.

Mitigation Measure 15.A.1: Should project construction encounter paleontological resources, all ground-disturbing activities within 25 feet shall be redirected to prevent disturbance of the resource(s), and a qualified paleontologist shall be contacted to assess the situation, consult with the County, and make recommendations for the treatment of the discovery. Project personnel shall not collect or move any paleontological materials.

Paleontological resources are considered significant if they may provide new information regarding past life forms, paleoecology, stratigraphy, or geological formation processes. If found to be significant, and project activities cannot avoid disturbing such finds, the mitigation recommended by the consulting paleontologist shall be implemented prior to the resumption of project activities within the 25-foot protective buffer described previously. Mitigation may include monitoring, recording the fossil locality, data recovery and analysis, a final report, and accessioning the fossil material and technical report to a paleontological repository. Public educational outreach may also be appropriate.

Upon completion of the assessment, a report documenting methods, findings, and recommendations shall be prepared and submitted to the County, and, if paleontological materials are recovered, to a paleontological repository, such as the University of California Museum of Paleontology.

Implementation of Mitigation Measure 15.A.1, described above, would reduce potential impacts to paleontological resources to a less than significant level. This reduction would occur because the scientific data that could be derived from the find will be documented and recovered through the assessment by the consulting paleontologist, and mitigation prior to the disturbance of the discovery.

Monitoring Measure 15.A.1: Parks shall verify that the above measure is implemented throughout the construction period.

Archaeological Sites. Background research identified previously recorded prehistoric archaeological site CA-MRN-528 within the park. No evidence of the site was identified during two intensive archaeological field surveys of its documented location in 2011 and one field survey conducted in 2014. The Park area has been disturbed throughout the years by various activities, the most prevalent being the use of the land for hay production for many decades. It is likely that the intensive use of the Park area (i.e., annual disking, seeding, mowing, and baling) has displaced and dispersed the sparse surface scatter of lithic materials. Additionally, local chert identified within the Park area exhibits fractures that resemble the scarring that occurs when lithic material is crushed, dragged, or displaced by mechanical equipment, especially during agricultural activities. In addition to the agricultural use of the Park area, heavy vehicles were used during the staging and operation of the renaissance faire over the years, adding another source of ground disturbance.

Background research identified previously recorded prehistoric/historic-period archaeological site CA-MRN-342 adjacent to the park. The site consists of obsidian arrow points, bowl mortars, pestles and charmstones, as well as ceramic and glass fragments, adjacent to the park. Although deposits associated with CA-MRN-342 may extend into the adjacent park area, construction associated with proposed improvements in the vicinity of the site are anticipated to be shallow and are less likely to impact deposits associated with CA-MRN-342.

IMPACT 15.A.2: Despite the lack of evidence of CA-MRN-528 within the park, it cannot be definitively demonstrated that subsurface deposits associated with the site are not present in the park area, especially those areas proposed for project-related disturbance. Disturbance of these deposits could result in a significant impact.

Mitigation Measure 15.A.2: Prior to construction of proposed improvements, the County shall require an archaeological presence/absence investigation to determine if subsurface components of the site exist and extend into areas proposed for improvements. The investigation shall include the use of canine's trained in the detection of human remains and shall be overseen by a Registered Professional Archaeologist. FIGR shall provide input during the selection of the archaeologist. The final selection of the archaeologist will be made by the County. Prior to construction of proposed improvements, the County shall notify FIGR. If FIGR determines it is necessary to have a tribal representative on-site during ground disturbing activity, FIGR will be responsible for providing a tribal representative at no additional expense to the County and in a manner that does not unreasonably delay the County's effort.

Should the investigation indicate that subsurface archaeological deposits associated with CA-MRN-528 exist, proposed improvements shall be redesigned to avoid disturbing said deposits. If such avoidance is not possible, the deposits shall be evaluated to determine if they meet the definition of a historical or unique archaeological resource under California Public Resources Code (PRC) Section 21084.1 and PRC Section 21083.2, respectively. If they do so qualify, the disturbance of such deposits would constitute a substantial adverse change in their significance, which would result in a significant impact under *CEQA Guidelines* Section 15064.5(b).

Prior to the impact described above occurring, the County shall require that the disturbance of the deposits associated with CA-MRN-528 be mitigated through data recovery. Such mitigation could consist of archaeological data recovery through excavation and analysis of recovered materials, and public outreach and interpretation.

Implementation of Mitigation Measure 15.A.2, described above, would reduce potential impacts to CA-MRN-528 to a less than significant level.

Monitoring Measure 15.A.2: Parks shall verify that improvements avoid archaeological deposits associated with site CA-MRN-528 prior to the initiation of construction activities or ensure that mitigation is implemented before impacts occur.

IMPACT 15.A.3: Ground-disturbing activities associated with proposed improvements in the Park area east of the dam along the south side of Novato Boulevard could result in impacts to archaeological deposits associated with a known archaeological site (CA-MRN-342).

Mitigation Measure 15.A.3: To identify and avoid or mitigate impacts to archaeological deposits associated with CA-MRN-342 (i.e., the archaeological site adjacent to the Park area), a qualified archaeologist shall monitor construction-related ground disturbance of CA-MRN-342 in the Park area east of the dam along the south side of Novato Boulevard. Prior to construction of proposed improvements, the County shall notify FIGR. FIGR may choose to provide input during the selection of the archaeologist. The final selection of the archaeologist will be made by the County. If FIGR determines it is necessary to have a tribal representative on-site during ground disturbing activity, FIGR will be responsible for providing a tribal representative at no additional expense to the County and in a manner that does not unreasonably delay the County's effort.

Should subsurface archaeological deposits associated with CA-MRN-342 exist, proposed improvements shall be redesigned to avoid disturbing said deposits. If such avoidance is not possible, the deposits shall be evaluated to determine if they meet the definition of a historical or unique archaeological resource under PRC Section 21084.1 and PRC Section 21083.2, respectively. If they do so qualify, the disturbance of such deposits would constitute a substantial adverse change in their significance, which would result in a significant impact under *CEQA Guidelines* Section 15064.5(b).

Prior to the impact described above occurring, the County shall require that the disturbance of the deposits associated with CA-MRN-342 be mitigated through data recovery. Such mitigation could consist of archaeological data recovery through excavation and analysis of recovered materials, and public outreach and interpretation.

Implementation of Mitigation Measure 15.A.3, described above, would reduce potential impacts to CA-MRN-342 to a less than significant level.

Monitoring Measure 15.A.3: Parks shall verify that improvements avoid archaeological deposits associated with site CA-MRN-342 prior to the initiation of construction activities or ensure that mitigation is implemented before impacts occur.

IMPACT 15.A.4: The park is situated within an area of archaeological sensitivity and cultural resources may be impacted during implementation of the Master Plan.

Mitigation Measure 15.A.4: Should an archaeological deposit be encountered during project subsurface construction activities, all ground-disturbing activities within 25 feet shall be redirected and a Registered Professional Archaeologist be contacted to assess the situation (if one is not already on-site), consult with agencies as appropriate, and make recommendations for the treatment of the discovery. If found to be significant (i.e., meets the definition of a historical or unique archaeological resource under CEQA), the County shall require appropriate mitigation measures. Mitigation measures may include recording the archaeological deposit, data recovery and analysis, and public outreach. Upon completion of the selected mitigations, a report documenting methods, findings, and recommendations shall be prepared and submitted to the County for review.

Implementation of Mitigation Measures 15.A.2 through 15.A.4, described above, would reduce potential impacts to archaeological sites to a less than significant level. The realization of the archaeological deposits' data potential through professionally administered archaeological excavation would reduce the impact to the sites to less than significant because data about pre-contact lifeways and subsistence, which would be otherwise be lost through the disturbance of the deposits, will be documented and preserved.

IMPACT 15.A.5: Ground disturbance associated with grading and construction of proposed improvements could affect human remains in the project area.

Mitigation Measure 15.A.5: Any human remains encountered during project ground-disturbing activities shall be treated in accordance with California Health and Safety Code Section 7050.5 and CEQA Guidelines section 15064.5(d). The County shall inform its contractor(s) of the sensitivity of the park area for human remains by including the following directive in contract documents:

"If human remains are uncovered, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted (if one is not already on site) to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains or associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Work within 25 feet of the discovery can resume only after the MLD has inspected the site, provided recommendations, and the remains and associated grave goods removed from the site by a qualified archaeologist in consultation with the MLD."

Implementation of Mitigation Measure 15.A.5, described above, would reduce potential impacts to human remains to a less than significant level by facilitating the treatment of human remains in accordance with State law and in a manner that is respectful of the cultural beliefs of descendant communities.

Monitoring Measure 15.A.5: Parks shall verify that the above measure is implemented throughout the construction period.

Historical Sites, Objects, or Structures: LSA's research and field surveys did not identify any historical sites, objects, or structures that would be impacted by the proposed improvements. Therefore, the Master Plan would not result in a significant impact related to this issue

b) Have the potential to cause a physical change that would adversely affect unique ethnic cultural values, or religious or sacred uses within the project area?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 1, 26, 27, 28, 29, 30, 31, 32)	☐	☒	☐	☐

As described above, LSA's research and field surveys identified two known prehistoric archaeological sites within and adjacent to the Park area. Ground-disturbing activities associated with construction of proposed improvements could result in impacts to archaeological deposits associated with these two known archaeological sites, as well as, previously undiscovered sites within the Park area. Implementation of Mitigation Measures 15.A.2 through 15.A.4, described above, would reduce potential impacts to archaeological sites to a less than significant level. The realization of the archaeological deposits' data potential through professionally administered archaeological excavation would reduce the impact to the sites to less than significant because data about pre-contact lifeways and subsistence, which would be otherwise be lost through the disturbance of the deposits, will be documented and preserved. With implementation of these measures, the potential for the Master Plan to cause a physical change that would adversely affect unique ethnic cultural values, or religious or sacred uses within the project area would be less than significant.

9.16 Social and Economic Effects

Would the proposal result in:

a) Any physical changes which can be traced through a chain of cause and effect to social or economic impacts?	Significant Impact	Potentially Significant Unless Mitigated	Less Than Significant Impact	Not Applicable
(source #(s): 4)	☐	☐	☒	☐

The proposed project would not result in any physical change that would result in a negative social or economic effect because it would entail construction and operation of park and recreation improvements within an existing County Park. Proposed improvements would not result in a significant increase in the costs of providing County services to the park nor would it result in adverse physical effects on the environment. The Master Plan would not result in a significant impact related to this issue.

10. Mandatory Findings of Significance

Pursuant to Section 15065 of the State EIR Guidelines, a project shall be found to have a significant effect on the environment if any of the following are true:

	Yes	No	Maybe
A. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐

As described in Section IV of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.

	Yes	No	Maybe
B. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	☐	☒	☐

As described in Section IV of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.

	Yes	No	Maybe
C. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☒	☐

As described in Section IV of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.

	Yes	No	Maybe
D. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐

As described in Section IV of this Initial Study, any potential environmental impacts from the proposed project would be mitigated to a level of insignificance.

STAFFORD LAKE PARK MASTER PLAN
DOCUMENTS INCORPORATED BY REFERENCE

The following is a list of relevant information sources that have been incorporated by reference into the foregoing Initial Study pursuant to Section 15150 of the State CEQA Guidelines. The number assigned to each information source corresponds to the number listed in parenthesis following the incorporating topical question of the Initial Study checklist. These documents are both a matter of public record and available for public inspection either online or at the Planning Division office of the Marin County Community Development Agency (CDA), Suite 308, 3501 Civic Center Drive, San Rafael. The information incorporated from these documents shall be considered to be set forth fully in the Initial Study.

1. Marin County Parks and RHAA, 2015. Stafford Lake Park Master Plan - Final Draft. October.
2. Sawyer, J.O., T. Keeler-Wolf, J.M. Evans. 2009. A Manual of California Vegetation. California Native Plant Society Press, Sacramento, CA. 1300 pp.
3. County of Marin, Community Development Agency, 2007. *Marin Countywide Plan*. 6 November.
4. Marin, County of. 2013. *Marin County—Title 22, Development Code.*
5. County of Marin, Countywide Plan Map Viewer, Available online at: http://gisprod.co.marin.ca.us/CWP/Viewer/bottom/Viewer.asp.
6. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, *Marin County Important Farmland 2010 Map*, May 2011. Available online at: Marin County Important Farmland Map: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/mar10.pdf (Accessed 28 August 2013).
7. Marin County, Department of Parks and Open Space. *Strategic Plan*. June 2008.
8. Miller Pacific Engineering Group, 2011. Geologic and Geotechnical Feasibility Study. Prepared for the Marin County Parks Department. June 23
9. Natural Resources Conservation District (NRCS), 2015. Web Soil Survey, website: National Resources Conservation District web soil survey: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (accessed 11/17/15)
10. NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit), Order No. 2013-0001-DWQ
11. Federal Emergency Management Agency (FEMA), 2009. Flood Insurance Rate Map, Map No. 06041C0257D, May 4.
12. NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002 (Construction General Permit
13. Bay Area Air Quality Management District, 2010. California Environmental Quality Act Air Quality Guidelines. May.
14. California Air Resources Board, 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.
15. Marin County Congestion Management Program 2013 Update, Transportation Authority of Marin, October 15, 2013
16. City of Novato General Plan, City of Novato, Latest Revision May 13, 2014

17. Trip Generation, Institute of Transportation Engineers, 2012
18. Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), Sixth Edition, 2011
19. Highway Design Manual, California Department of Transportation, Fifth Edition 2001
20. California Department of Fish and Wildlife, Natural Diversity Database. October 2015. Special Animals List. Periodic publication. 51 pp.
21. County of Marin. Marin County Code. Undated.
22. CAL FIRE. Maps of Fire Hazard Severity Zones in the State Responsibility Area of California, Marin County. Adopted November 7, 2007.
23. CAL FIRE. Maps of Fire Hazard Severity Zones in the Local Responsibility Area of California, Marin County. Recommended September 25, 2007.
24. Novato Fire Protection District, 2011. Novato Fire Protection District website. Available online at: Novato Fire Protection District website: http://www.novatofire.org/ (accessed July 20, 2011).
25. Flynn, Katherine, William Roop, and Mark Roll, 1982-1984. Archaeological Site Survey Form for CA-MRN-342. Archaeological Resource Service, Petaluma, California. On file at the Northwest Information Center, Rohnert Park, California.
26. Goetter, Karin, 2011. *Memorandum Regarding the Stafford Lake Bike Park, Novato, California*. LSA Associates, Point Richmond, California. LSA Associates, Inc., Point Richmond, California.
27. Jordan, Leigh, 1985. *Letter regarding the location of CA-MRN-342*. On file at the Northwest Information Center, Rohnert Park, California.
28. Kaptain, Neal, 2014. *Cultural Resources Constraints Review for the Stafford Lake Master Plan, Marin County, California.* LSA Associates, Inc., Point Richmond, California.
29. Millett, Marshall, 2008. California Department of Parks and Recreation Form 523 Series records for CA-MRN-342. On file at the Northwest Information Center, Rohnert Park, California.
30. Pilling, Arnold R., 1951a. Unpublished notes on CA-MRN-342, dated September 14, 1951. On file at the Northwest Information Center, Rohnert Park, California.
31. Pilling, Arnold R., 1951b. University of California Archaeological Site Survey Record for CA-MRN-342. On file at the Northwest Information Center, Rohnert Park, California.
32. Wagner, David L., and Carlos I. Gutierrez, 2010. *Preliminary Geologic Map of the Napa 30-minute by 60-minute quadrangle, California*. California Geological Survey. Map Scale 1:100,000.
33. State Water Resources Control Board. 2014. GeoTracker website. Available online at: http://geotracker.waterboards.ca.gov/
34. Department of Toxic Substances Control. 2007. EnviroStor website. Available online at: http://www.envirostor.dtsc.ca.gov/public/

Appendix A:
Air Quality Modeling Results

Available upon request. Please call the main office at (415) 473-6388.

All County publications are available in alternative formats (Braille, Large Print, or CD), upon request. Requests for accommodations may be made by calling (415) 473-4381, TTY (415) 473-2495, CRS dial 711, e-mail at disabilityaccess@marincounty.org.