

# Appendix A: Trail Accessibility Assessment Report

The purpose of this report was to identify the best candidates for an initial set of Access and Discovery Trails that meet, or can be improved to meet, accessibility standards for recreation trails, as well as identify trails providing improved access to people with disabilities, but that may not currently meet accessibility standards.

Not all candidate trails will be included in the initial set of accessible trails as part of the *Inclusive Access Plan*. With guidance from the public and the MCOSD staff, trails comprising the Access and Discovery Trail system were selected from the list of candidates based on geographic distribution, creation of a diverse set of experiences within the system, and degree of environmental resource impact. Candidate trails not included in the *Inclusive Access Plan* but considered to have good potential will provide a framework for future growth of the accessible trail system as opportunities for development or redevelopment of trails arise.

Trails that are substantially accessible but do not meet all of the established accessibility standards for recreational trails will be considered potential candidates for enhanced signage and other communication strategies as Improved Access Trails.

The initial application of filters to the existing road and trail data identified 21 trails with the potential for being made compliant to trail standards. Indian Valley Fire Road was added at a later time and is not included in these initial assessment reports.

1. Agate Beach Bluff Trail
2. Bahia Trail
3. Big Tree Trail
4. Deer Island Loop Trail
5. Dwarf Oak Trail
6. Escalon Fire Road
7. Greenbridge Trail
8. Hamilton Path Trail
9. Hill Ranch Waterfall Trail
10. Old Railroad Grade
11. Pinheiro Fire Road
12. Ridgewood Fire Road
13. Roy's Redwoods Meadow Trail
14. Rush Creek Fire Road
15. San Andreas Fire Road
16. Santa Margarita Island Trail
17. Santa Venetia Marsh Trail
18. Shipmast Trail
19. Taylor Fire Road (Ring Mountain)
20. Vistazo Fire Road (Old Saint Hilary's)
21. Whitehouse Pool Trail

## Agate Beach County Park Bluff Trail

Road ID N/A | Ocean Parkway, Bolinas

### **Destination and experience value/potential. Geographic location**

The Agate Beach County Park Bluff Trail is located in Bolinas, and offers opportunities to explore tide pools filled with marine life, general beach recreation, wildflower viewing, bird watching, and on clear days, views to the Farallon Islands. Agate Beach is part of the Duxbury Reef State Marine Reserve, which includes federal and state jurisdictions and signifies its status as a sensitive and highly protected resource area. The Marin County Parks jurisdiction includes the beach and the upland area above the bluffs, which includes grassland, woodland, and coastal scrub habitat.

The park has three potential trails for consideration in the *Inclusive Access Plan*. In addition to the trails there are viewing areas, benches, and portable toilets, one of which provides adequate maneuvering space.

### **Parking:**

A paved parking area is provided with two designated accessible parking spaces and two bus loading spaces.

### **Alternative means of access:**

There is limited pedestrian access from the street; there are no pedestrian sidewalks to this trail. There are no public transit options adjacent to this trail.

### **Gate/Entry:**

The Beach Trail entrance is 8 feet wide split by a removable bollard. There is a ½ inch change in level between the concrete paving and the decomposed granite surface.

The Vista Point entrance at end of Ocean Parkway is flush with the road and approximately 36 inches wide.

The Bluff Trail entrance is located behind a curb and both ends of the trail include wood stairs.

### **Trail Conditions:**

The Beach Trail is 275 linear feet with the initial 121 linear feet constructed of decomposed granite. The remainder of the path is compacted native surface material and is reduced to 48 inches to 60 inches wide. Water bars cross the path of travel.

The Vista Trail is 90 linear feet from the parking area to a potential overlook and turnaround space. This segment is adjacent to a neighboring private property.

The Bluff Trail is 12 to 18 inches wide on compacted native soil. The trail is a good candidate for an Improved Access Trail serving people with limited mobility but not suitable for wheeled

mobility devices. The trail run has three sets of rustic stairs with no handrails and irregular wood and earth treads.

### **Surface:**

The Beach Trail surface is a mix of decomposed granite and compacted native soil. Drain channels run parallel to and within the path of travel and affect the integrity and accessibility of the compacted surface. Closer to the beach access point, the rutted channels are more severe.

The Vista Trail surface is compacted native soil but covered by vegetation and does not have a clear delineation.

The Bluff Trail surface is varied with most classified as compacted native soil that is firm and stable in its dry state. Cracks were visible in the dry surface indicating some seasonal wetness. Sections have a loose top surface or vegetation.

### **Slopes:**

The Beach Trail has an initial running slope up to 8.1% for 121 linear feet. Beyond a memorial bench, the running slope ranges from 9% to 11% for 100 linear feet before steepening to 14.5% down to the beach. There is sufficient width to provide resting intervals along the length of the trail.

The Vista Trail is fairly level with minimal running or cross slopes.

The Bluff Trail has fairly level sections but most running slopes range between 12% and 20%. Reducing slopes to meet standards is most likely technically infeasible but there is potential for improvements to increase accessibility for some users.

### **Probable Issues/Maintenance:**

Seasonal rains and drainage will require maintenance of surfaces at certain times of the year. Erosion control will be needed particularly on the Beach Trail. The proximity of private neighbors may create potential for private/public conflict on the Vista Trail. Proximity to sensitive habitats should be reviewed.

### **Preliminary Assessment:**

The Beach and Vista Trails are candidates for designation as part of the initial set of Access and Discovery Trails once accessibility improvements are made and any potential social conflicts addressed. The Bluff trail is a potential candidate for enhanced trail signage.

## **Bahia Trail**

Road ID 12500 | 500 Bahia Drive, Novato

### **Destination and experience value/potential. Geographic location**

Bahia Trail is located in the Rush Creek Open Space Preserve in Novato, and is a 1-¾ mile long narrow trail located adjacent to the Petaluma River Marsh Wildlife Area in Novato. The trail faces north and east and provides views of the wildlife area and the foothills north of Highway 37. The trail is quiet and unaffected by road noise. The trail is well used with a mix of hikers, mountain bikers, and equestrians.

This trail is shaded under a woodland canopy of California bay and coast live oak, as well as occasional black oaks and the largest stand of blue oaks in Marin. In addition, the trail winds along the waterline approximately 30 to 40 feet above the marsh, which provides estuarine habitat for species such as pickleweed, salt grass, and bulrush. Due to its proximity to this marsh, the trail provides ample opportunities for bird and wildlife viewing, including hundreds of shorebird and waterfowl species, as documented in the Rush Creek Open Space Preserve Field Guide here: <http://www.marincounty.org/depts/pk/divisions/open-space/rush-creek> .

### **Parking:**

Street parking is available on Bahia Drive at the trailhead.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhood. There are no public transit options adjacent to this trail.

### **Gate/Entry:**

Approach from road has a 2 inch layer of loose sand and small gravel for 10 linear feet. This surface is not firm and stable.

The entry provides 10 feet of clear width. No step over or other form of barrier limits access through the entrance. The path approaching the trailhead has a running slope up to 19% for 16 linear feet. Sufficient space for grade improvement is available at the entrance.

### **Trail Conditions:**

Much of the trail has a clear width of at least 3 feet. The trail width is sufficient for single file use but users have to step off trail to provide passing opportunities. It is recommended to locate resting intervals for steeper slopes off the path so that resting intervals can also function as passing spaces.

### **Surface:**

The trail surface is compacted native surface that is firm and stable in its dry state. Areas were observed with a top layer of loose sand at a depth of 1 inch. Short sections of trail with erosion, exposed bedrock, tree roots, and larger rocks were observed. Some of the exposed barriers exceeded a 2 inch change in level. Sections of the trail are rutted from bike/equestrian use as well as drainage issues.

### **Slopes:**

Few sections of the trail have cross slopes exceeding 5%. Where excessive cross slopes were observed, it was typically at turns where the outer arc has been worn by bicycles or where there are small erosion issues from the uphill side of the trail.

Running slopes along much of the path are less than 5% but many sections have running slopes that would require installation of level resting intervals. These were often noted at changes in direction such as at the top or bottom of inlets. Some sections of the trail with higher slope readings had informal level resting intervals. Few sections exceeded the 12% maximum running slope specified by most accepted trail guidelines but terrain would not appear to limit improvements for lessening the grade change.

### **Probable Issues/Maintenance:**

Consideration will need to be taken for trails used by equestrians where horses do not use manure catch bags. Manure was observed in many spots along Bahia Trail and substantially limits the usable width of the trail.

Sections of the trail had drainage channels running parallel with direction of the path of travel. These channels could easily be addressed by incorporating drainage management features.

Speed of mountain bikers and equestrians along trail especially at blind turns in the trail may be a consideration.

Felled tree across path resulted in a vertical clearance of 79 inches.

### **Preliminary Assessment:**

This is a candidate for designation as part of the initial set of Access and Discovery Trails once accessibility improvements are made.

## Big Tree Trail

Road ID 16100 | 3221 Vineyard Road, Novato

### **Destination and experience value/potential. Geographic location**

Big Tree Trail is located within the Indian Tree Open Space Preserve and adjacent public lands owned by the North Marin Water District in Novato, and is a 2-1/3 mile trail from Vineyard Road to the Shipmast Trail trailhead. The trail is popular with equestrians and evidence of frequent bike use was also observed.

This trail provides views of adjacent valleys, and runs through mixed broadleaf and coast live oak woodlands with hardwood species such as California bay, Douglas fir, and madrone, before reaching a redwood grove at the top of the ridge. Poison oak is prevalent the length of the trail and encroaches on the usable trail width, limiting useable passing spaces. Due to the variety of habitats encountered on the trail, a wide variety of birds, butterflies, mammals, amphibians, and reptiles may occasionally be spotted along the trail, as documented in the Indian Tree Open Space Field Guide here: <http://www.marincounty.org/depts/pk/divisions/open-space/indian-tree> .

### **Parking:**

Informal street parking is available on Vineyard Road. Road surface at trailhead is compacted road gravel and has up to 4% cross slopes.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhood. The paved roadway ends before the trailhead entrance. There are no public transit options adjacent to this trail.

### **Gate/Entry:**

The trail entry has a clear width of 84 inches. The running slope from the gate for first 25 linear feet ranges from 12% up to 18% with up to a 7% cross slope. The running slope reduces to 10% for next 65 linear feet.

### **Trail Conditions:**

The trail is approximately 24 to 36 inches wide with split level single tracks common and reducing the usable width of each parallel track to 12 inches. Relatively accessible segments are separated by steep switchbacks.

Water bars were a common treatment for drainage. Rutted drain channels were observed both crossing and parallel to the path of travel. Surface material in the rutted channels is loose rock not considered to be firm and stable. Where water bars were used, they also served as a resting interval between steeper trail segments. The timber headers used in this detail often created a 2 inch change in level in the path of travel.

The stream crossings between the road entrance and the trailhead have  $\frac{3}{4}$  inch openings between planks exceeding the  $\frac{1}{2}$  inch maximum typically accepted.

**Surface:**

The trail has a compacted native surface with exposed rock and tree roots. Sections of loose sand were observed. Many sections of the trail appeared to be seasonally wet with erosion and drainage ruts in the dry surface. A trail user encountered during the field visit observed that the trail is extremely “dusty” in the dry months with the thick layer of loose material masking exposed roots and rocks and becoming a tripping hazard.

**Slopes:**

The trail alternates between sections that follow the contour where running slopes are fairly level to many sections having running slopes exceeding 12% and up to 30%. The lower reach of the trail had 20 to 25 linear foot sections with slopes up to 20% with water breaks also serving as resting intervals between the sections. The trail continues to have slopes up to 25% and 30% at switchbacks and between more level segments.

Sections have significant cross slopes exceeding the 5% maximum typical of accessible trails.

**Probable Issues/Maintenance:**

Slope, width, and drainage are significant impediments to making the trail accessible. Trails with running slopes over 10% and up to 12% require resting intervals every 10 feet. Drainage solutions will be needed along the length of the trail where it is creating rilling and surface obstacles as well as an improved detail for stream crossings. Due to the high equestrian use and narrow sections of the trail, level resting intervals that also serve as passing spaces located off the trail/path of travel are needed.

**Preliminary Assessment:**

This trail is not a candidate for designation as part of the accessible trails system unless substantial accessibility improvements can be made to the trail grade and surface condition. The excessive slopes and uneven surfaces are limiting factors to making this an accessible trail.

## **Deer Island Loop Trail**

Road ID 13000 | Deer Island Preserve, Novato

### **Destination and experience value/potential. Geographic location**

The Deer Island Loop trail is approximately 2 miles long and begins at Deer Island Lane in Novato. The narrow trail passes grassland for several hundred feet before transitioning into bay laurel forest that is dense with shaded. This portion of the trail runs parallel to a corporation yard fence for about 1,000 feet. The remainder of the trail ducks in and out of oak/bay forest and grassland and has views to Novato Sanitary District treatment ponds, Highway 37 and beyond. The trail is open to pedestrians and equestrians and provides opportunities for bird and wildlife viewing.

### **Parking:**

A small, informal parking area at the trailhead provides parking for about 4 vehicles. The surface is loose gravel and dirt with slopes of 1-3%. Potential for additional parking may exist by the house on the property if visitors were given vehicular access to this area.

### **Alternative means of access:**

Safe pedestrian access is not available. There are no public transit options to this trail.

### **Gate/Entry:**

The trailhead has a 38 inch wide opening with no gate and a nearly level surfacing. The trail just beyond the opening is 1 to 2 foot wide and uneven due to erosion.

### **Trail Conditions:**

Trail conditions vary from is 1 to 2 foot wide compacted native soil to 2 to 4 foot wide compacted native soil.

### **Surface:**

The trail surfaces is varied with most classified as compacted native soil with some loose gravel or aggregate that is firm and stable in its dry state. Short sections of trail with erosion, exposed bedrock, tree roots, and larger rocks were observed.

### **Slopes:**

Slopes along the trail could be generally less than 10% running slopes and between 5-10% cross slopes. Occasional, brief sections of trail are 15-20% running slope and occasional, short sections of trail have cross slopes between 10-15%.

**Probable Issues/Maintenance:**

Much of the trail would require widening by 1 to 3 feet in order to provide a suitable width for accommodating a broader user group. Also, fairly long segments of trail tread have large boulders which may be difficult to navigate around or excavate. Several stream crossings require improvement.

**Preliminary Assessment:**

The trail is a potential candidate for enhanced information and signage but would require significant lengths of trail widening and resurfacing to be a part of the Access and Discovery Trail system.

## **Dwarf Oak Trail**

Road ID 11570 | 3050 Novato Boulevard, Novato

### **Destination and experience value/potential. Geographic location**

Dwarf Oak Trail is located in the Mount Burdell Open Space Preserve in Novato, and is a 1-<sup>3</sup>/<sub>4</sub> mile trail between Novato Boulevard and San Andreas Fire Road. This narrow trail originates in a residential area behind San Marin High School, and climbs the lower slopes of Mount Burdell to expansive views of Novato and San Pablo Bay.

Once in the Preserve, this trail crosses open grassland with ample wildflowers in the spring before meandering through woodlands composed of valley oaks, coast live oaks, and California bay trees. In addition, the trail crosses multiple small swales and small intermittent streams with associated riparian species. This trail is located near a wildlife area that provides habitat for a wide variety of fauna, including many species of birds that are scarce in the rest of Marin, as documented in the Mount Burdell Open Space Preserve Field Guide here:

<http://www.marincounty.org/depts/pk/divisions/open-space/mount-burdell>

### **Parking:**

Informal street parking is available on Novato Boulevard or on San Andreas Drive if accessing Dwarf Oak Trail via San Andreas Fire Road.

Parking on Sandy Creek Way or San Ramon Way will also provide access to the trail but these are residential cul-de-sacs with limited available street parking. Barriers were observed at the gates serving these entrances including a chicane gate with 17-<sup>1</sup>/<sub>2</sub> inches and 20-<sup>1</sup>/<sub>4</sub> inches wide openings at the San Ramon entrance. A locked vehicular gate with no pedestrian gate is located at the entrance on Sandy Creek Way.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhoods via non-surveyed asphalt pedestrian sidewalk. Marin Transit Routes 151, 154 and 251 as well as Golden Gate Transit Routes 54 and 56 have a time point stop at San Marin Drive and San Carlos Way, approximately a third of a mile from the entrance.

### **Gate/Entry:**

The gate from San Andreas Fire Road has locking hardware 68 inches above the ground surface and requires more than 5 lbs of operating effort. There is a 2-<sup>1</sup>/<sub>2</sub> inch change in level across the opening. The gate does not have a kickplate for use by a person using a wheelchair or wheelchair maneuvering space adjacent to the gate hardware.

### **Trail Conditions:**

The trail is a single track approximately 12 inches to 18 inches wide with multiple stream crossings. Stream crossing details varied from timber planks to channel cuts across the path of

travel. Changes in level exceeding two inches are common at these crossings. One stream crossing had a compound slope of 36% (23% on one side and 13% coming up the other side).

The bridge crossing at the bottom of the trail has 1 inch openings between planks exceeding the ½ inch maximum typically allowed and a 2 inch change in level from trail surface to timber surface.

Drainage improvements are needed. The surface is rutted with drain channels crossing and running parallel to the path of travel. The material in the drainage channels is loose not firm and stable.

### **Surface:**

The surface is a compacted native soil with exposed rock and tree roots. There are sections of loose sandy or gravel surface, particularly associated with observed drainage issues.

### **Slopes:**

The trail alternates between sections following the contour where running slopes are fairly level to many sections having running slopes exceeding 12% and up to 20%. Some sections have significant cross slopes exceeding the 5% maximum typical of accessible trails.

### **Probable Issues/Maintenance:**

Excessive slopes, narrow widths, and drainage structures are the significant impediments to making the trail accessible or qualified to be an Improved Access Trail. Trail segments with running slopes over 10% and up to 12% require resting intervals every 10 feet. Drainage solutions will be needed along the length of the trail as well as an improved detail for stream crossings.

### **Preliminary Assessment:**

This is not a candidate for designation as part of the Access and Discovery Trails system unless substantial accessibility improvements can be made to the trail grade and surface condition. The excessive slope is a limiting factor to making improvements to the accessibility of this trail. It may be a potential candidate for enhanced signage as an Improved Access Trail but will require significant enhancements.

## Escalon Fire Road

Road ID 37000 | 99 Overhill Road, Mill Valley

### **Destination and experience value/potential. Geographic location**

The Escalon Fire Road is located in the Camino Alto Open Space Preserve in Mill Valley, and is a wide ¾ mile trail that follows the hillside contour to “octopus junction”, providing good vista opportunities of Mount Tamalpais along the way. The intermittent tree canopy provides both sunny and shaded sections. Once on the west side of the intersection with Camino Alto Fire Road the trail is significantly quieter from Highway 101 vehicle traffic and bird calls became the dominant sound experience. The trail does not provide an immersive nature experience, but it is easily accessible from the street and neighborhood and is popular with dog walkers and off-leash dogs.

The trail weaves in and out of a canopy of coast live oaks, California bay, and redwood forest interspersed with grasslands, which provide wildlife habitat for a variety of species, as document in the Camino Alto Open Space Preserve Field Guide here:

<http://www.marincounty.org/depts/pk/divisions/open-space/camino-alto>.

### **Parking:**

Informal street parking is available on a spur of Overhill Drive. At the time of survey, 10 vehicles were parked at the trailhead with more parking spaces available.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhoods. There are no public transit options or pedestrian sidewalks to this trail.

### **Gate/Entry:**

Opening at entrance is 40-½ inches wide. The trail surface at the entrance gate has a running slope up to 13% for 10 linear feet on interior of gate.

### **Trail Conditions:**

The fire road maintains a minimum width of 12 feet with some sections even wider.

Drainage needs some improvement. The trail surface was observed to be rutted with drain channels crossing the path of travel and areas of standing water. Drainage channels were typically 12 to 18 inches wide and have loose surface material not considered to be firm and stable.

**Surface:**

The surface appears to be a combination of native soil with added gravel, and exposed bedrock and remnant asphalt. Sections of loose sandy or gravel surface were observed, particularly associated with drainage issues.

**Slopes:**

Running slope was typically good. The section of trail when approaching the Camino Alto Crossing had slopes up to 10% and would need to be addressed with resting intervals.

Many sections of the trail had cross slopes exceeding 5% with some segments having up to 15% cross slope. Excessive cross slopes were found at segments where the trail changes direction with the low points being on the inside curve of the trail.

**Probable Issues/Maintenance:**

Surface drainage appeared to be the biggest issue for making the trail accessible. Most of the surface problems appeared to be topical and not requiring unreasonable modification.

This trail may not be usable in wet weather due to surface material and accumulation of water.

Most of the trail users were walking dogs that for the most part were off leash.

**Preliminary Assessment:**

This is a candidate for designation as part of the Access and Discovery Trails system if accessibility improvements can be made to the surface.

## **Greenbridge Trail**

Road ID N/A | C Street at 3<sup>rd</sup> Street, Point Reyes Station

### **Destination and experience value/potential. Geographic location**

Greenbridge Trail is located in Point Reyes Station, and is a level ½ mile looped trail along Lagunitas Creek in the Tomales Bay Estuary. There is a main semi-formalized trail with indications of semi-developed routes leading to benches. Fencing has been installed to provide habitat protection. The site provides access to riparian habitat at Lagunitas Creek and the National Park Service's Lagunitas Creek Trail and Giacomini Wetlands. There is also potential for creek/beach access.

This trail is fairly quiet with some audible sounds from town (lawn mower, leaf blower, car horn). The trail is well used primarily by dog walkers with most of dogs being off leash.

### **Parking:**

Street parking is available on both 3<sup>rd</sup> Street and C Street. Signs stating "No Parking" were noted on the neighbor's hedge in front of the house as well as the garage across the street from the entrance.

### **Alternative means of access:**

There is limited pedestrian access from roadway; there are no pedestrian sidewalks leading to this trail. Greenbridge Park is served by the West Marin Stage Coach Route 68. The bus stop is located on A Street between 2<sup>nd</sup> and 3<sup>rd</sup> Streets, approximately 800 feet from entrance.

### **Gate/Entry:**

The opening width at the pedestrian gate is 74 inches between posts. The entrance has a running slope of between 10% and 20% for 60 linear feet from the road, through the gate, to a level resting place. The surface near the entrance has an erosion channel running parallel to the path of travel. Loose aggregate material extends 100 linear feet from entrance.

### **Trail Conditions:**

Trail width varies from 12 to 36 inches. Many sections of the trail have overgrown vegetation reducing the clear width with a few sections completely covered by grass. Two stream crossings were observed consisting of a 36 inch wide puncheon style timber crossing with no edge protection or handrails. The site has multiple social trails with no distinguishable designated route, wayfinding, or signage.

### **Surface:**

The trail surface is varied with most classified as compacted native surface that is firm and stable in its dry state. Bike tire tracks were visible in dried surface indicating some seasonal

wetness. Some sections were observed with a top layer of loose gravel and others are completely covered by grass.

**Slopes:**

The trail is generally level with running and cross slopes along much of the path being less than 5%. The initial segment from the entrance and the start of the trail adjacent to the Wiebke's View memorial stone were observed to have running slopes up to 20%.

From Wiebke's View memorial plaque down to grass meadow path, the slope is between 15% and 20% for 40 linear feet.

**Probable Issues/Maintenance:**

Seasonal wetness will require appropriate trail design and maintenance. The proximity of private neighbors both at entrance and along Lagunitas Creek may create potential for private/public conflict. Clarification and delineation of agency jurisdiction is required.

**Preliminary Assessment:**

This is a candidate for designation as part of the Access and Discovery Trails system once accessibility improvements are made.

## **Hamilton Path Trail**

Road ID N/A | Hangar Avenue, Novato

### **Destination and experience value/potential. Geographic location**

Hamilton Trail is a 14 foot wide newly constructed decomposed granite trail running along a levee adjacent to seasonal wetlands and the newly constructed Hamilton Field Wetland Restoration area, and provides views of Mount Burdell, Mount Diablo, and Mount Tamalpais from different vista points. The trail has historical significance as a former airfield with hangars and air tower remaining along the central section. The trail is exposed to sun and wind; minimal shade is available and only at the south end. Benches and interpretive signage stations are provided along the length of the trail. Some benches are not located on an accessible surface.

The adjacent tidal marsh restoration area will continue to develop marsh vegetation such as pickleweed and salt grass, which will in turn provide habitat and ample bird watching opportunities along the trail.

### **Parking:**

Parking is available at the City of Novato's South Hamilton Park as well the parking lot serving the former airfield hangars. The parking area at South Hamilton Park is approximately 1000 feet from the trail head along the public street right-of-way and maintenance road.

Parking at the central section is located in a public parking area served by a pedestrian ramp leading up to and over the levee.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhood to both entrances.

A timed bus stop for Marin Transit Routes 49, 151, 251, 257, and 259 and Golden Gate Transit Route 58 is located at the Hamilton Community Center, less than ½ mile away from hangar parking area entrance.

### **Gate/Entry:**

Entrances near South Hamilton Park do not have pedestrian gates, and have openings over 15 feet wide. There is a 90 linear foot section of loose road gravel between the asphalt maintenance road and the start of the decomposed granite path.

The pedestrian entrance at the hangar area parking lot involves two concrete ramps with compliant slopes up to the top of the levee embankment. The walk connecting the two ramps is 75 linear feet over loose road gravel.

**Trail Conditions:**

Compacted decomposed granite trail is consistently greater than 12 feet wide with minimal slopes and erosion.

**Surface:**

The decomposed granite trail surface appears to be well maintained with minimal erosion. The trail surface is firm and stable in its current condition. It is important to note the National Center on Accessibility commented on the frequent maintenance required to maintain accessibility for decomposed granite in their 2014 *National Trail Surfaces Study*.

Sections of road gravel between decomposed granite segments are not considered an accessible firm and stable surface. In addition to the section at the South Hamilton Park entrance, another approximately 700 linear foot section separates the middle section from the trail section to the north. Another 50 foot segment of road gravel separates the end of the decomposed granite surface from the Arroyo San Jose overlook.

**Slopes:**

The trail is fairly level with only a few sections having running slopes up to 6%.

**Probable Issues/Maintenance:**

Temporary water pumping equipment was situated across trail near north seasonal wetland and obstructed the path of travel. It may be necessary to have seasonal closures of the trail to maintain the working order of the wetland infrastructure.

The trail may not be usable in wet weather due to surface material and accumulation of water.

Proximity of the trail to adjacent houses may impact privacy of neighbors.

**Preliminary Assessment:**

This is a candidate for designation as part of the Access and Discovery Trails system if accessibility improvements can be made.

## Hill Ranch Waterfall Trail

Road ID 18610 | Ignacio Valley Preserve, Novato

### **Destination and experience value/potential. Geographic location**

The Hill Ranch Waterfall trail is approximately a ½ mile long and starts at the terminus of Fairway Drive in Novato. The trail runs along a valley floor in the Ignacio Valley Preserve where the hillsides are covered by oak and bay forest. The trail begins on what is currently privately owned land with a trail easement that allows for public access to the preserve. Approximately half of the trail is through a canopy of the forest and runs alongside an intermittent stream called Arroyo de San Jose.

The forest is lush with ferns and provides ample shade along half of the trail and a creek side experience. The final 350 feet of trail is across private property where a trail easement allows for public access. The trail culminates at a waterfall which is active during, and some time following the rainy season. The first half of the trail is a multi-use fire road which allows for hikers, cyclists and equestrians; the second half is open only to hikers and equestrians.

### **Parking:**

Informal street parking is available on Fairway Drive at the trail head. Fairway Drive culminates in a cul-de-sac with a 65 feet diameter turning area. The asphalt street is gently sloped 1-2% in either direction to accommodate drainage. A 60 inch sidewalk is provided on the south side of the street, and a small portion of the north side of the street just east of the trail entrance.

Alternative means of access:

Pedestrian access is available along the roadway from the adjacent neighborhoods with sidewalks. There are no public transit options to this trail.

### **Gate/Entry:**

No gate exists at the trailhead. The trail begins just off of the street right-of-way at a 40 inch wide loose gravel path with a compacted base. The loose gravel path continues for 50 feet before reaching a 6 inch curb and gutter. Beyond the curb and gutter continues a 20 foot wide asphalt road for approximately 250 feet before reaching the native soil trail.

### **Trail Conditions:**

Trail conditions vary from a 20 foot wide asphalt road near Fairway Drive to a 12 foot wide road, to a trail with trail treads 20 inches to 12 feet wide. Approximately half of the trail has a clear width of greater than 6 feet. Some drainage issues which have caused gullying exist on portions of the trail. Two creek crossings include loose gravel and large boulders.

**Surface:**

The trail surface is varied with most classified as compacted native soil with some loose gravel or aggregate that is firm and stable in its dry state. Short sections of trail with erosion, exposed bedrock, tree roots, and larger rocks were observed.

**Slopes:**

Running slopes along the trail were varied up to 12% and in some locations were as steep as 15%. Cross slopes are moderate for much of trail but at times were recorded as steep as 20% where erosion has created a severe imbalance in the slopes of the trail tread.

Cross slopes become particularly excessive toward the waterfall where the trail narrows and between steep hillside and large boulders or trees.

**Probable Issues/Maintenance:**

In steeper sections of the trail, poor drainage has caused significant gullying that will likely persist without some tread re-design. Two creek crossings, one of which is constrained by steep hillsides and vegetation on either side, need bridges to accommodate users more safely and provide a passable trail during or following wet weather.

**Preliminary Assessment:**

This trail is not a candidate for the Access and Discovery Trail system due to surface conditions, parking, natural resources constraints and sections of excessive slope. It would be difficult to improve the accessibility of this trail to a level suitable for inclusion in the list of Improved Access Trails.

## Old Railroad Grade

Road ID 36500 | Blithedale Summit, Mill Valley

### **Destination and experience value/potential. Geographic location**

The Old Railroad Grade is an approximately  $\frac{3}{4}$  mile long segment of a historic railroad alignment, which operated between 1896 and 1930 carrying tourists on scenic excursions. Because of this history, the current fire road is wide and relatively consistent in gradient. The fire road winds along the hill slope and follows a perennial stream. The majority of the fire road is shaded by bay, redwood and oak trees along the riparian corridor. West Blithedale Avenue below parallels the fire road and across the stream for the first  $\frac{1}{4}$  before giving way homes that have been built into the hill slope nestled by vegetation on the other side of the stream. Old Railroad Grade is very popular with dog walkers, hikers and cyclists.

### **Parking:**

Informal street parking is available for 3-5 cars over compacted dirt and gravel which is relatively flat. An accessible parking space is possible but would likely require approval and coordination with the City of Mill Valley since these would be within the public right-of-way.

### **Alternative means of access:**

Safe pedestrian access is not available. There are no public transit options to this trail.

### **Gate/Entry:**

The trailhead has a normally closed vehicular gate with a 48 inch wide entry. Immediately after the entry, a remnant railroad bridge crosses the perennial stream. The bridge surfacing is uneven due to its previous function as a railroad bridge. There is a 1 to 2 inch change in level at the transition from trail to bridge.

### **Trail Conditions:**

Trail condition is a fairly consistent 15 foot wide fire road with occasional rilling or worn tread which has created some uneven segments. Drainage or bicycle use has worn the tread in a way that has left the uphill portion of the tread roughly 6 inches higher than the downhill tread for brief segments in some locations. Rolling dips for drainage have been incorporated into the trail tread at varying intervals which cause brief segments of steep conditions.

### **Surface:**

The trail surface is compacted native soil that is firm and stable in its dry state. Exposed rocks and concentrations of loose gravel cause uneven and unstable conditions at various points along the trail.

**Slopes:**

Slopes along the fire road are fairly consistent. With the exception of rolling dips, the running slope remains between 5-8%. At rolling dips running can exceed 20% for as much as 20 feet. Cross slopes vary as well with some sections measuring up to 11%.

**Probable Issues/Maintenance:**

Uneven and unstable surfacing, excessive slopes at rolling dips and an aggressively cross sloped fire road may make this road difficult to improve for accessibility

**Preliminary Assessment:**

This trail is not a candidate for designation as part of the Access and Discovery Trail system due to excessive cross slopes, rolling dips necessary for proper drainage and extensive exposed bedrock.

## **Pinheiro Fire Road (Rush Creek Trail)**

Road ID 12100 | 8187 Binford Road or 645 Bugeia Lane, Novato

### **Destination and experience value/potential. Geographic location**

The Pinheiro Fire Road, also known as Rush Creek trail, is located in the Rush Creek Open Space Preserve in Novato, and is a 1-½ mile long fire road between Binford Road and the Rush Creek Fire Road. Views from the Binford Road trailhead face northward toward Gness Field Airport and westward across Highway 101. Proceeding east from the trailhead the trail rounds southward toward Cemetery Marsh. Noise from highway was evident until the trail turned toward Cemetery Marsh. Pedestrian use was observed during the site visit. Equestrian and bike use is evident from tracks left in hardened surface.

This trail traverses California bay and coast live oak woodlands and annual grasslands along the edge of Rush Creek Marsh Wildlife Area and Marin Park's Cemetery Marsh, which provide estuarine marsh habitat for species such as pickleweed, salt grass, and bulrush. Due to its proximity to these marshes, the trail provides ample opportunities for bird and wildlife viewing, including hundreds of shorebird and waterfowl species, as documented in the Rush Creek Open Space Preserve Field Guide here: <http://www.marincounty.org/depts/pk/divisions/open-space/rush-creek> .

### **Parking:**

Informal street parking is available on Binford Road near Highway 101 and a steep, informal parking area at the south end is located along Bugeia Lane. The Bugeia Lane parking area appears to be a better candidate for providing an accessible parking space and connection to the trail due to the steep and constrained trailhead entrance at Binford Road.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhoods. There are no public transit options or pedestrian sidewalks to this trail.

### **Gate/Entry:**

Binford Road Trailhead: two openings for pedestrian access are 39 and 72 inches wide. There is no pedestrian control gate at the trail entrance. Immediately beyond the entrance is a 110 foot length of trail with a running slope exceeding 5%, 90 linear feet of which has a running slope of up to 17%. The slope of the initial reach would require significant modification with multiple resting intervals or a switchback alignment. Width of the entrance area is constrained by terrain.

Bugeia Lane: The pedestrian access opening adjacent to the vehicle gate is 44-¾ inches wide and has a 3.3% running slope. The fire road connecting to the trail is 8 to 10 feet wide and is surfaced with a compacted base with some loose gravel.

### **Trail Conditions:**

Trail condition varies from a 15 foot wide asphalt entry covered with loose road gravel near the Binford Road entrance to a two or more track trail with treads 12 to 39 inches wide. Much of the trail has a clear width of greater than 6 feet. Grass medians were noted at sections along the length of the trail and reduce the clear trail width. Social trails on the uphill side of the trails are present where poor drainage result in wet trail conditions.

### **Surface:**

The trail surface is varied with most classified as compacted sandy/silty clay that is firm and stable in its dry state. Areas were observed with a top layer of sand at a depth of 1 inch. Short sections of trail with erosion, exposed bedrock, exposed metal pipes, tree roots, and larger rocks were observed. Sections of the trail are rutted from bike/equestrian use.

### **Slopes:**

Slopes along the trail were observed with the uphill side of the trail commonly up to 6 inches higher than the downhill side, either split level by a grassy median or sloping across the path of travel. The split level trail condition is primarily adjacent to the Cemetery Marsh on the east side of the trail. Sections of the trail have cross slopes of 13% and greater.

Running slopes along much of the path are less than 5% but sections up to 9% were observed particularly where the path is entering/leaving the tree line near the North Levee Trail trailhead.

### **Probable Issues/Maintenance:**

The trail has poor drainage with very small occasional water breaks and culverts. Water ponds at areas of poor drainage. A majority of the trail is wet/muddy and eroded as water from the hillside seeps across the road.

### **Preliminary Assessment:**

This may be a potential candidate for enhanced signage as an Improved Access Trail but will require substantial improvements to the road grade and surface condition.

## Ridgewood Fire Road

Road ID 29500 and 29560 | Ridgewood Drive, San Rafael

### **Destination and experience value/potential. Geographic location**

The Ridgewood Fire Road Trail is a  $\frac{3}{4}$  mile trail located on San Rafael Ridge in the Terra Linda / Sleepy Hollow Divide Open Space Preserve between Terra Linda, Sleepy Hollow, and San Anselmo. The trail connects Ridgewood Road and Fawn Drive, and offers views north into Terra Linda and south into San Rafael, San Anselmo, and Mount Tamalpais. The trail does not provide an immersive nature experience, but is easily accessible and is popular with dog walkers and off-leash dogs.

The eastern portion of this trail is shaded by eucalyptus trees, while the western portion crosses through open grasslands and coyote brush habitat. A variety of wildlife, including cavity nesting birds, may be observed along the trail, as documented in the Terra Linda / Sleepy Hollow Divide Open Space Preserve Field Guide here: <http://www.marincounty.org/depts/pk/divisions/open-space/terra-linda-sleepy-hollow>.

### **Parking:**

Informal street parking is available on Ridgewood Road. Home owner installed “No Parking” signs and driveway blockades were observed. Fawn Drive is signed as private property with right to pass being subject to the property owner.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhoods. There are no public transit options or pedestrian sidewalks to this trail.

### **Gate/Entry:**

The pedestrian opening at Ridgewood Road entrance is 38 inches wide. The slope of the trail through the entrance gate is 9%.

The pedestrian opening at Fawn Drive entrance is 41 inches wide with loose surface material.

### **Trail Conditions:**

The fire road is very wide - narrowing the road while continuing to allow for emergency access vehicles would provide a more pedestrian scale, facilitate maintenance and drainage, and define an accessible alignment.

Drainage needs significant improvement. The surface is deeply rutted with erosion channels crossing or running parallel with the path of travel. Erosion channels are typically 12 to 18 inches wide and in some locations 12 to 18 inches deep.

### **Surface:**

The trail surface is varied with most classified as a compacted mix of road base and native surface that is firm and stable in its dry state. The trail showed evidence of standing water and softened surfaces but at the time of the evaluation was dry with hardened tracks. Exposed base rock and added gravel/road base were observed in sections up to a thickness of 1 inch. Sections of loose sandy or gravel surface were observed particularly associated with drainage issues and where trails converged.

### **Slopes:**

Running slope alternates between steeper inclines and fairly level sections. From the Ridgewood Drive entrance, running slope is between 8% and 11% for 355 linear feet. The trail levels out for a few hundred feet before reaching another steeper incline up to 14% for 150 linear feet. Trail and side areas are sufficiently wide to provide the opportunity for switchbacks and periodic resting intervals. Many sections were up to 13% running slope. The section up from Fawn Drive has a running slope up to 8.3% for 770 linear feet.

Few sections of the trail had cross slopes exceeding 5%. Excessive cross slopes were found toward the middle of the trail between the Road 29510 connections.

### **Probable Issues/Maintenance:**

The proximity of private neighbors at the Ridgewood entrance may be a potential for private/public conflict.

Surface drainage appeared to be an issue for making the trail accessible. Most of the surface problems appeared to be topical and not requiring unreasonable fixes.

Most trail users were observed walking dogs off leash.

### **Preliminary Assessment:**

This is a candidate for designation as part of the Access and Discovery Trail system if accessibility improvements can be made to the slopes and surface conditions.

It is recommended to follow the fire road 29560 running parallel to the primary road because the grades are less than those on 29500. The smaller road is also narrower creating a smaller sense of scale and enclosure. It is noted if the alternative road is used, views north will only be at the ends of the trail and most views will be to the south.

## **Roy's Redwoods Meadow Trail**

Road ID 23030 | Roy's Redwoods, Fairfax

### **Destination and experience value/potential. Geographic location**

The Meadow Trail is less than ¼ mile long and can be accessed from Nicasio Valley Road just north of the golf course in San Geronimo Valley. The trail runs through an open meadow which is surrounded by old growth redwood forest and tall bay trees. At the terminus of the Meadow trail is an ancient “fairy ring” where the parent tree died and several new trees grow up to surrounded it. The center of the ring is now hollow and is surrounded by towering old growth redwoods. This feature provides a great opportunity for interpretation. A portable toilet with adequate wheelchair turning space exists approximately 90 feet from the trailhead. This is a hiking only trail, although other trails in the preserve allow for equestrians and cyclists.

### **Parking:**

Parking for Roy's Redwoods Preserve exists along the wide shoulders of Nicasio Valley Road. The shoulders are approximately 8 to 12 feet wide with a compacted native soil and loose gravel surface.

### **Alternative means of access:**

Safe pedestrian access is not available. There are no public transit options to this trail.

### **Gate/Entry:**

The trailhead has a normally closed vehicular gate with a 72 inch wide pedestrian entry.

### **Trail Conditions:**

Trail conditions vary from a 6 to 8 foot road at the start, to a 2 to 4 foot wide path through the majority of the meadow. Portions of the trail have become uneven due to concentrated flow along the center of the trail which has caused erosion and some rilling.

### **Surface:**

The trail surface is varied with the majority being classified as compacted native soil. The beginning of the trail has some loose gravel, exposed tree roots and a creek crossing with an uneven, rocky surface.

### **Slopes:**

Most of the trail has a running slope of less than 5%. The cross slopes along this section vary due to some trail erosion which has caused some rilling. A section of trail beginning at Nicasio Valley Road that descends to the trailhead/creek bottom has a running slope between 10%-15%. An alternative entry route along the roadside fill slope is possible and would pass the portable toilet while maintaining a gentler slope.

**Probable Issues/Maintenance:**

Uneven surfacing along the portion of the road where erosion has caused uneven surfacing needs to be assessed for improvements. To improve access, a bridge over the creek crossing is necessary. This bridge would have to be a vehicular bridge to accommodate maintenance and emergency vehicle access.

**Preliminary Assessment:**

The trail is a candidate for the Access and Discovery Trails system.

## Rush Creek Fire Road

Road ID 12200 | 645 Bugeia Lane, Novato

### **Destination and experience value/potential. Geographic location**

Rush Creek Fire Road is located in the Rush Creek Open Space Preserve in Novato, and is a mile long fire road that connects to the Bahia Trail at the east side of the Bahia Ridge to the Pinheiro Fire Road at the bottom of Cemetery Marsh. Views from the trail face northward toward Mount Burdell and Gness Field Airport and east towards the Petaluma River Marsh Wildlife Area. The Rush Creek Fire Road had significantly less noise than the Pinheiro Fire Road. The trail is well used with a mix of hikers, mountain bikers, and equestrians.

As with the Pinheiro Fire Road, this trail traverses California bay and coast live oak woodlands and annual grasslands along the edge of Marin County Park's Cemetery Marsh and then continues around Bahia Ridge along the Petaluma River Marsh Wildlife Area, which provide estuarine marsh habitat for species such as pickleweed, salt grass, and bulrush. Due to its proximity to these marshes, the trail provides ample opportunities for bird and wildlife viewing, including hundreds of shorebird and waterfowl species, as documented in the Rush Creek Open Space Preserve Field Guide here: <http://www.marincounty.org/depts/pk/divisions/open-space/rush-creek> .

### **Parking:**

Informal gravel parking area with spots of significant slope is available on Bugeia Lane. Parking area connects to Rush Creek Fire Road via a section of the Pinheiro Fire Road.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhood. There are no public transit options or pedestrian sidewalks to this trail.

### **Gate/Entry:**

Bugeia Lane: The pedestrian access opening adjacent to the vehicle gate is 44-<sup>3</sup>/<sub>4</sub> inches wide and has a 3.3% running slope. The fire road connecting to the trail is 8 to 10 feet wide and is surfaced with a compacted base with some loose gravel. The road has a slight crown creating up to a 4% cross slope at edges. Sections of the trail have loose sand material up to <sup>3</sup>/<sub>4</sub> inch deep.

### **Trail Conditions:**

Much of the fire road has a clear width of greater than 8 feet. Grass medians were noted at a couple sections along the length of the trail and reduce the clear trail width. Social trails on the uphill side of the trail are present where poor drainage result in wet trail conditions.

At the incline from the Cemetery Marsh section to the Basalt Creek section, an erosion channel was noted on uphill/inside curve of road.

### **Surface:**

The trail surface is varied with sections of compacted sandy/silty clay considered to be firm and stable in its dry state, larger loose road gravel, and loose fine sand. Areas were observed with a top layer of sand at a depth of 1 inch. Segments of the trail along Cemetery Marsh are rutted and have standing water. Further drainage issues are evident where horse and bike tracks were observed in hardened dry surfaces.

### **Slopes:**

Cross slopes were mostly less than 5%, compliant to standard trail codes for unpaved surfaces. Two sections, both where the trail is facing the Petaluma River Marsh Wildlife Area, had cross slopes of 12% and 17%.

Running slopes along much of the trail are less than 5% with a few sections up to 12.5% where the road turns to run along the Basalt Creek. It is recommended to incorporate resting intervals for steeper slopes.

### **Probable Issues/Maintenance:**

The trail has poor drainage with occurrences of standing water. Low sections of the trail along Cemetery Marsh look to be wet/muddy and eroded as water from the hillside seeps across the road. Swales and culverts are present and drain water below trail surface. Ruts and trail surfaces will need seasonal maintenance.

### **Preliminary Assessment:**

This may be a potential candidate for enhanced signage as an Improved Access Trail but will require substantial improvements to the road grade and surface condition.

## San Andreas Fire Road

Road ID 11500 | San Andreas Drive, Novato

### **Destination and experience value/potential. Geographic location**

The San Andreas Fire Road is located in the Mount Burdell Open Space Preserve in Novato, and connects San Andreas Drive with Burdell Fire Road and Dwarf Oak Trail. There is ample shade and wildlife viewing and expansive views and the top of the trail. The road is rilled for a majority of the alignment and is surfaced with remnants of base rock.

This trail follows a grassland corridor through adjacent woodlands composed of coast live oaks, valley oaks, and California bay trees, and is located near a wildlife area that provides habitat for a wide variety of fauna, including many species of birds that are scarce in the rest of Marin, as documented in the Mount Burdell Open Space Preserve Field Guide here:

<http://www.marincounty.org/depts/pk/divisions/open-space/mount-burdell> .

### **Parking:**

Informal street parking is available on San Andreas Drive. At the time of survey, 8 vehicles were parked at the trailhead with more parking spaces available.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhoods via non-surveyed asphalt pedestrian sidewalk. Marin Transit Routes 154 and 251 as well as Golden Gate Transit Routes 54 and 56 have a time point stop at San Andreas Drive and San Marin Drive, approximately a half mile from the trail entrance.

### **Gate/Entry:**

Two pedestrian and one vehicular gate are located at the entrance. The vehicular gate is locked. One pedestrian gate is a non-accessible chicane with openings of 19 inches and 22- $\frac{1}{4}$  inches at a 30 degree switch back. The third gate is sufficiently wide and the locking mechanism has been removed. This gate does not have a kickplate and does not provide adequate strike edge clearance for wheeled mobility device maneuvering due to the adjacent grass surface. The driveway has a slope up to 10% 36 linear feet and a 1- $\frac{1}{2}$  inch change in level from curb cut to the gutter. The approach to the pedestrian gates includes up to 14% running slope for 18 linear feet at the initial turn and then 4.9% to 8.6% for 43 linear feet to the entrance gate.

A second set of gates is located about halfway up the trail and includes a locked vehicular gate, chicane entrance with openings of 17- $\frac{3}{4}$  inches and 21 inches at a 30 degree switch back, and a third more accessible pedestrian gate. The locking hardware on the most accessible pedestrian gate is 60 inches above the ground surface and requires more than 5 lbs of operating effort. The gate at this opening does not have a kickplate.

### **Trail Conditions:**

The fire road maintains a minimum width of 10 feet with some wider sections. Drainage needs improvement. The surface is rutted with erosion channels crossing the path of travel. Erosion channels are typically 12 to 18 inches wide with loose surface material not considered to be firm and stable.

### **Surface:**

The surface is a compacted native soil with added gravel and exposed rock. Sections of loose sandy or gravel surface are associated with observed drainage issues.

### **Slopes:**

Running slope from the vehicular gate is 10% to 11% for initial 225 linear feet and then up to 12% for next 930 linear feet until second set of gates. From the second set of gates, the running slope ranges from 5% up to 8.33% for 160 linear feet before increasing to 12.5% for 650 linear feet.

Cross slope for the 96 linear feet between the pedestrian gates at the trailhead and the fire road is 6.6%. Many sections of the trail had cross slopes exceeding 5%.

### **Probable Issues/Maintenance:**

Excessive running slope appears to be the most significant accessibility issue. For routes with running slopes over 10% and up to 12% require resting intervals every 10 feet. Surface drainage will also be an issue for making the trail more accessible. Most of the surface problems appeared to be topical and not requiring unreasonable fixes.

### **Preliminary Assessment:**

This is not a candidate for designation as part of the Access and Discovery Trail system unless substantial accessibility improvements can be made to the road grade and surface condition. While it does provide a grassland and oak woodland experience, the excessive slope is an extremely limiting factor to making this an accessible trail. With substantial enhancements it may be a potential candidate for enhanced signage as an Improved Access Trail.

## **Santa Margarita Island Trail**

Road ID 30000 | Meadow Drive, San Rafael

### **Destination and experience value/potential. Geographic location**

Santa Margarita Island Trail is located in the Santa Margarita Island Open Space Preserve in Santa Venetia. A narrow to moderate trail circumnavigates a small island in the South Fork of the Gallinas Creek marshlands. The trail is 1/3 mile and is in fair to good condition.

This trail circumnavigates the island, between estuarine marsh habitat, coast live oak, valley oak and madrone woodlands, and, serpentine rock outcrops. Significant amounts of poison oak were also observed along the trail. Due to its proximity to the adjacent marsh, the trail provides ample opportunities for birding, including waterfowl, shorebirds, and rails, as documented in the Santa Margarita Island Open Space Preserve Field Guide here:

<http://www.marincounty.org/depts/pk/divisions/open-space/santa-margarita-island> .

### **Parking:**

Informal street parking is available at the terminus of Meadow Drive and visitors park near residents' homes.

### **Alternative means of access:**

A pedestrian sidewalk is provided to the bridge but is not located on the side of the bridge with a gate. A curb ramp is not provided. Marin Transit Route 233 has a bus stop at Meadow Drive on North San Pablo Road, approximately 1,600 feet from the entrance.

### **Gate/Entry:**

The entrance has sufficient width but has up to 8.4% slope on the pull side of the gate and up to 8.3% slope on the push side.

Changes in level to the vehicle bridge from adjacent surfaces are up to 5-½ inches, exceeding allowable vertical changes in elevation for trails.

### **Trail Conditions:**

The trail width varies from 12 to 30 inches wide along the southwest section of the island. A 15 inch change in level was observed from the trail surface to the adjacent marsh with no edge protection. Tree branches and poison oak overhang sections of the trail. The trail width widens around east side of island.

### **Surface:**

The surface is a compacted fine clay-native surface firm and stable in its dry state. Wet spots and exposed tree roots were observed. The trail surface appears to be wet and muddy at times with cracking observed in the hardened dry surface.

**Slopes:**

The trail does not have a significant running slope and is substantially level with minimal erosion. Significant cross slopes were observed in sections along the outer water channel measuring from 4% up to 13%.

**Probable Issues/Maintenance:**

This trail may not be usable in wet weather. Ruts and trail surfaces will need seasonal maintenance. Poison Oak maintenance and privacy issues due to the proximity of the trail to adjacent houses are other potentially limiting factors.

**Preliminary Assessment:**

This is a potential candidate for enhanced signage as an Improved Access Trail with substantial enhancements. It is not a candidate for designation as part of the Access and Discovery Trails system.

## **Santa Venetia Marsh Trail**

Road ID 31000 | Vendola Drive, San Rafael

### **Destination and experience value/potential. Geographic location**

Also known as Outer Levee Trail, Santa Venetia Marsh Trail is located in the Santa Venetia Open Space Preserve, and is a little over a mile long path located on top of a levee that provides views of Gallinas Creek and the marsh areas of the Preserve. The interior of the trail parallels the backside of many houses and may impact the privacy of those properties.

The outer trail is flanked on either side by tidal marsh with expanses of pickleweed and tidal channels that provide habitat for salt marsh harvest mouse, California clapper rail, and many other bird species, as document in the Santa Venetia Open Space Preserve Field Guide here: <http://www.marincounty.org/depts/pk/divisions/open-space/santa-venetia-marsh> .

### **Parking:**

Informal street parking is available on Vendola Drive close to both entrances.

### **Alternative means of access:**

Pedestrian access is available along the roadway from the adjacent neighborhood to the south entrance. Pedestrian sidewalks connect the neighborhood to the north entrance. Marin Transit Route 233 has a timed point stop at Vendola Drive and Estancia Way, approximately 600 feet from the south entrance.

### **Gate/Entry:**

The pedestrian entrance at south entrance is 36- $\frac{1}{4}$  inches wide and has up to 12% running slope for 46 linear feet. A constrained width of 16 feet between the pump station and the top of the levee embankment may limit grading potential.

The entrance at the north side is 36 inches wide and has up to 13% running slope for 42 linear feet. There is potential to reroute the entrance around the pump station in order to provide accessible slopes.

### **Trail Conditions:**

The trail width varies from 48 inches along the south section with stream crossings to 7 feet wide along much of the outer path. At the turn in the trail where the Gallinas Creek South Fork splits off, the trail is reduced to 30 inches of usable width due to overgrown vegetation for approximately 100 feet. Grass medians were noted at several sections along the length of the trail and reduce the clear trail width.

**Surface:**

The trail surface appears to be wet and muddy at times with both surface cracking and bike tracks in hardened dry surface.

Openings between timbers at both bridges are up to  $\frac{3}{4}$  inch exceeding the  $\frac{1}{2}$  inch maximum typically allowed. Changes in level up to 1 inch were also observed at transition from the trail surface to the bridge surface.

**Slopes:**

Cross slopes were mostly less than 5%, compliant with standard trail standards for unpaved surfaces. At several sections where the trail comes to a turn and changes direction the path had cross slopes exceeding 5%.

Running slopes along most of the trail are less than 5% and do not require resting intervals. The initial slope from the crown of the embankment down to the bridge at the south entrance is up to 18% for 12 linear feet and would require some grading to address the change in level. At the change in direction near the north pump station the trail has a running slope of up to 10.3% for 41 linear feet and would require a resting interval along the run.

**Probable Issues/Maintenance:**

This trail may not be usable in wet weather due to an accumulation of water. Erosion ruts and trail surfaces will need seasonal maintenance.

**Preliminary Assessment:**

This is a candidate for designation as part of the Access and Discovery Trail system if accessibility improvements can be made.

## Shipmast Trail

Road ID 16000 | Between Indian Tree Fire Road and Big Tree Trail, Novato

### **Destination and experience value/potential. Geographic location**

Shipmast Trail is located within the Indian Tree Open Space Preserve in Novato, and is just short of one mile connecting Indian Tree Fire Road to the Big Tree Trail trailhead. The trail is a well built single track trail contouring across moderate to steep slopes in upper hillslope position with good views. The trail is popular with equestrians and dog walkers. Dogs have been observed off leash on the Shipmast Trail.

This trail traverses a redwood grove that is interspersed with coast live oak woodlands and other mixed hardwood species such as California bay, Douglas fir, and madrone. Poison oak is prevalent the length of the trail and encroaches on usable trail width which limits useable passing spaces. Due to the variety of habitats encountered on the trail, a wide variety of birds, butterflies, mammals, amphibians, and reptiles may occasionally be spotted along the trail, as documented in the Indian Tree Open Space Field Guide here:

<http://www.marincounty.org/depts/pk/divisions/open-space/indian-tree> .

### **Parking:**

No parking is available at the Shipmast trailhead. Informal street parking is available at the start of Big Tree Trail or at the start of Indian Tree Fire Road located over two miles and one mile respectively from the Shipmast trailhead.

### **Alternative means of access:**

Pedestrian access is available via other trails. There are no public transit options to this trail.

### **Gate/Entry:**

No formal gates or entries. Trail is a spur between Indian Tree Fire Road and Big Tree Trail. Trailheads have markers.

### **Trail Conditions:**

The trail is approximately 12 to 18 inches wide. The trail tread is smooth with few obstructions but entrenched from use and the low outside berm.

### **Surface:**

The trail is a compacted native surface and is firm and stable.

**Slopes:**

Running slope of trail is good as it follows the contour of the hillside. Sections have significant cross slopes exceeding the 5% maximum typical of accessible trails particularly where the trail has a change of direction.

**Probable Issues/Maintenance:**

Access is the primary issue for this trail. The Indian Tree Fire Road is extremely steep and covered with loose road gravel. The surface is slippery and rutted. Big Tree Trail is the other access point and has its own limitations to accessibility outlined in the trail evaluation. Narrowness and lack of passing spaces along the trail are also limiting factors to designating this as an accessible trail.

**Preliminary Assessment:**

This is not a candidate for designation as part of the Access and Discovery Trail system unless substantial accessibility improvements can be made to provide access to the trail. This trail provides a quality redwood forest experience with a gentle running slope but access and width are limiting factors for this trail.

## **Taylor Fire Road (Ring Mountain Trail)**

Road ID 40100 | Ring Mountain, Tiburon

### **Destination and experience value/potential. Geographic location**

The Taylor Fire Road is an approximately ½ mile long fire road in the Ring Mountain Preserve that can be accessed at the end of Taylor Road in Tiburon. The fire road ascends into the Ring Mountain Preserve through grassland and oak savannah and culminates at a small plateau at the highest point within the preserve. The trail offers expansive views of Tiburon, San Pablo Bay, Richardson Bay and San Francisco Bay. The unique geology and microclimate of the preserve provide a home for a number of rare plants. The trail is open to hikers, bicyclists and equestrians.

### **Parking:**

Informal street parking is available along Taylor Road. The road has a running slope of 5% to 7%. The existing road width and required emergency vehicle turning radius of the cul-de-sac may make it difficult to provide an accessible parking space.

There is adequate space to provide an accessible parking space within the MCOSED preserve with adjustment to the gate location.

### **Alternative means of access:**

Safe pedestrian access is not available. There are no public transit options to this trail.

### **Gate/Entry:**

The trailhead has a normally closed vehicular gate with a 36 inch wide pedestrian entry. Users must travel along 400 feet of moderately steep paved road from Taylor Road to the trailhead.

### **Trail Conditions:**

Trail conditions include a fairly consistent 12 foot wide road for the first half narrowing to an 8 foot wide road for the second half.

### **Surface:**

The trail surface varies between an asphalt road with sections of broken or uneven asphalt, and a compacted native soil with loose gravel which is unstable or slippery. No major erosion issues were observed.

### **Slopes:**

A 400 foot long paved section of the fire road outside of the preserve provides access to the preserve from Taylor Road. This section of fire road has a relatively consistent running slope of 15%. Running slopes along the trail vary between 8% to 15% with a 2% cross slope for the first half of the road. The second half has running slopes between 8% to 12% and cross slopes

around 2%. The trail levels off at the top with a large clearing or viewing area, which is relatively flat.

**Probable Issues/Maintenance:**

Uneven surfacing along the portion of the road where asphalt has either been removed or is broken and deteriorating needs resurfacing.

**Preliminary Assessment:**

The trail is a potential candidate for the Access and Discovery Trails system.

## **Vistazo Fire Road (Old Saint Hilary's)**

Road ID 42200 | Old Saint Hilary's, Tiburon

### **Destination and experience value/potential. Geographic location**

The Vistazo Fire Road is an approximate ½ mile long round trip and is located in Old Saint Hilary's Preserve in Tiburon at the southern end of the preserve. From the hillside road are expansive views of San Francisco Bay to the south, and the surrounding Tiburon peninsula neighborhoods in other directions. The road winds through non-native grassland and crosses one ephemeral drainage channel. The road provides access to fire and emergency vehicles and is open to pedestrians, equestrians and cyclists.

### **Parking:**

A small, informal parking area at the trailhead to the west could provide parking for about 4 vehicles. The surface is loose gravel and dirt with 15% to 20% running slopes and 1% to 3% cross slopes. Informal street parking within the right-of-way exists at the eastern end of the alignment with 2% to 4% slopes in either direction.

### **Alternative means of access:**

Safe pedestrian access is not available. There are no public transit options to this trail.

### **Gate/Entry:**

The trailhead at either end has a normally closed vehicular gate with a 36 inch wide pedestrian entry.

### **Trail Conditions:**

Trail is a compacted native soil and varies in width from 10 to 20 feet wide.

### **Surface:**

The trail surface is varied with most classified as compacted native soil with some loose gravel or aggregate that is firm and stable in its dry state. Short sections of trail with erosion, exposed bedrock, and larger rocks were observed. One wet crossing exists which is comprised of small boulders and some loose rock.

### **Slopes:**

Most of the trail has running slopes of less than 10% and cross slopes less than 5%. A brief segment immediately after the wet crossing has a 20% running slope.

**Probable Issues/Maintenance:**

Uneven surfacing caused by boulders and/or bedrock would need to be re-surfaced or removed. A bridge or other improvement at the wet crossing would need to be installed which could safely get users and emergency vehicles across it.

**Preliminary Assessment:**

The trail is a potential candidate for the Access and Discovery Trails system.

## **Whitehouse Pool Trail**

Road ID N/A | Sir Francis Drake Boulevard, Point Reyes Station

### **Destination and experience value/potential. Geographic location**

Whitehouse Pool Trail is located in Point Reyes Station, and is a level ½ mile trail along Lagunitas Creek in the Tomales Bay Estuary. In addition to the walking paths there are viewing areas, picnic tables, benches, access to Lagunitas Creek, and portable toilets - one of which is larger and provides wheelchair maneuvering space. Whitehouse Pool is surrounded by riparian vegetation and provides significant wildlife habitat for species such as coho salmon, and is popular for bird watching, nature study, and wildlife viewing.

Traffic noise was persistent throughout the survey due to the proximity to Sir Francis Drake Boulevard.

### **Parking:**

A paved parking area is provided at the trailhead. The parking area is not striped and does not include designated accessible parking spaces.

### **Alternative means of access:**

There is no designated pedestrian access from the roadway and no pedestrian sidewalks along the adjacent roadway. Whitehouse Pool is served by the West Marin Stage Coach Route 68. The bus stop is located right at the west entrance to the park and trail.

### **Gate/Entry:**

The entrance gate has a removable bollard with an opening 53 inches on one side and 54 inches on the other side. The entrance is level but the surface at the transition from asphalt paving to the granular trail is loose gravel and not firm and stable.

### **Trail Conditions:**

The trail varies from 12 to 36 inches wide. Many sections of the trail have overgrown with vegetation both on the ground and overhead reducing the clear width and height.

The trail has two timber bridges. The bridge adjacent to Sir Francis Drake Blvd on the east side of the site is 60 inches wide. A 14% slope and 3 inch change in level were observed at the transition plate. The second bridge crossing the inlet between the two trail sections is 48 inches wide. The wood transition on the east side of the bridge has a slope of 12% for 14 linear feet and up to 24 inch changes in level on either side with no edge protection. The transition on the west side includes a 14 foot long timber section with a slope up to 6% connected to an earthen ramp with a slope of 9% to 11% for 15 linear feet.

**Surface:**

The trail surface is varied with compacted native surface that is firm and stable in its dry state. Sections were observed with a top layer of loose small gravel.

Amenities such as the picnic tables, benches, and trash receptacles were located off the trail and require traversing grass.

**Slopes:**

Running and cross slopes along much of the path are less than 5%. The only sections observed to have excessive slopes were the ramp up to the bridge and the trail segment at the west entrance connecting to the bus loading area.

**Probable Issues/Maintenance:**

The trail surface is irregular in some sections, with surfaces not considered firm and stable. Seasonal wetness may be a maintenance issue as well as bank erosion if the trail was to encourage water access.

**Preliminary Assessment:**

This is a candidate for designation as part of the Access and Discovery Trails system once accessibility improvements are made.

## Recommendations

Trails recommended as candidates for the Access and Discovery Trails system include:

- Agate Beach Bluff Trail
- Bahia Trail
- Escalon Fire Road
- Greenbridge Trail
- Hamilton Path Trail
- Ridgewood Fire Road
- Roy's Redwoods Meadow Trail
- Taylor Fire Road (Ring Mountain Trail)
- Vistazo Fire Road (Old Saint Hilary's)
- Whitehouse Pool Trail

Trails sufficiently accessible to be considered candidates for enhanced signage and other communication strategies but that do not meet the more stringent criteria for inclusion in the initial network of Access and Discovery Trails:

- Deer Island Loop Trail
- Pinheiro Fire Road
- Rush Creek Fire Road
- Santa Margarita Island Trail
- Santa Venetia Marsh Trail

Trails that are not currently viable candidates for either inclusion in the network of Access and Discovery Trails or for enhanced accessibility communication include:

- Big Tree Trail
- Dwarf Oak Trail
- Hill Ranch Waterfall Trail
- Old Railroad Grade
- San Andreas Fire Road
- Shipmast Trail

The next steps in developing the Access and Discovery Trail network will be the selection of a sub-set of finalist trails to be further developed with 30 percent design drawings. The selection was based upon considerations of geographic distribution, diversity of experience within the system, and environmental resource impacts, and was informed by guidance from the public solicited through a public workshop in May 2015. Candidate trails not included in the *Inclusive Access Plan* but considered to have good potential were added to the list of trails identified for enhanced accessibility communication and will remain priorities for future accessibility improvement as opportunities for development or redevelopment arise.