

DATE: November 23, 2016
FROM: Carl Somers, Chief of Planning and Acquisition
SUBJECT: Proposed Projects for the Cascade Canyon Open Space Preserve

UPDATE REGARDING PENDING PROPOSED PROJECTS IN THE CASCADE CANYON OPEN SPACE PRESERVE

Background

The Marin County Open Space District (MCOSD) road and trail projects are part of a science-based, public inclusive, [comprehensive plan](#) (RTMP) which addresses the complex challenges of the MCOSD roads and trails. The plan was developed over the course of four years on the basis of extensive [outreach and public input](#).

The MCOSD road and trail projects are designed and implemented to reduce the environmental impact of the road and trail network and enhance visitor experience and safety. The RTMP establishes a process whereby members of the public, working alone or in coordination with others, can submit proposals for projects that will advance the goals of the plan. Proposed projects must demonstrate familiarity and compliance with the RTMP's adopted standards and procedures.

On September 8, 2016, Marin County Parks hosted a community workshop in Fairfax on current proposed projects in the Cascade Canyon Open Space Preserve. Staff opened with a presentation about the Road and Trail Management Plan and its implementation. With the participation of the National Oceanic and Atmospheric Administration Fisheries Biologist, Dan Logan, who presented to the public on salmonid biology and current conditions in the Corte Madera Creek watershed, staff introduced two proposed projects and made recommendations for their implementation.

1. A proposed project to decommission the undesignated High Water Trail, construct two multiuse (pedestrian/equestrian/bicyclists) bridges over San Anselmo Creek, and redesignate the use of a portion of the Canyon Trail from pedestrian/equestrian to full multiuse. This combination of actions would allow for safe year round access through the canyon, remove all recreational traffic from the creek, and eliminate a significant source of harmful sediment into the creek through the elimination and restoration of the High Water Trail.
2. A proposed project to decommission the undesignated Happersberger Trail. The Happersberger Trail is highly erosive and steep, with grades up to 35% and areas of degraded native vegetation. A portion of the Happersberger Trail is located on adjacent Marin Municipal Water District (MMWD) lands. This adjacent portion of the trail was left undesignated by the MMWD in its 2005 systemwide trails plan, and it remains a priority for closure and decommission by the MMWD. Consistent with the designation established in fall 2015, the portion of the trail located within the Cascade Canyon Preserve will not be maintained and is subject to decommission as time and resources permit. Under the current proposal, the MCOSD would decommission the portion of the trail located within this preserve in summer 2017 as a stand-alone project.

San Anselmo Creek is a tributary of Corte Madera Creek. Both Corte Madera Creek and San Anselmo Creek are habitat for federally listed steelhead and native rainbow trout. Both projects would benefit

water quality and the native fisheries supported by these streams, as well as allow for the restoration of sensitive native vegetation. Staff recommended implementation of both projects as proposed. The meeting was followed by a 30 day formal comment period on both proposed projects. This comment period closed October 8, 2016.

SAN ANSELMO CREEK AND THE HIGH WATER TRAIL: PROPOSED PROJECT TO CONSTRUCT TWO MULTIUSE BRIDGES OVER SAN ANSELMO CREEK, REDESIGNATE A PORTION OF THE CANYON TRAIL AS MULTIUSE, AND DECOMMISSION THE HIGH WATER TRAIL

The MCOSD received a public proposal from the Friends of Corte Madera Creek Watershed and the Marin County Bicycle Coalition to explore the implementation of 2 multiuse recreational bridges spanning San Anselmo Creek and a change in use on a portion of the Canyon Trail to include Bicycles in Cascade Canyon Preserve. The goals of the proposal are to provide safe recreational access to Cascade Canyon Preserve as well as improve the health of the watershed by reducing sedimentation into the creek by removing recreation from the creek banks and channel. The proposal was evaluated and found to be consistent with the standards established for public submitted proposals by the RTMP.

The majority of the comment letters submitted to the MCOSD following the September 8 meeting, supported the project. Other commenters raised concerns about increased use and posed questions about the efficacy of the project. Specifically, these comments included the following stated concerns:

- The proposed bridges will improve access for senior citizens and young kids.
- The proposed bridges will protect habitat for steelhead by reducing erosion.
- The projects will improve the ecology and accessibility of the area.
- The grant deed between the Town of Fairfax and the MCOSD for the Elliott Nature Preserve requires town approval before constructing any improvements.
- The bridges will encourage more people to visit the Cascade Canyon Preserve, which will adversely affect the neighborhood and the quality of the recreational experience.
- The project will cause increased use of Cascade Fire Road during the wet season, which will cause rutting of trails and sedimentation into San Anselmo Creek.
- Allowing bicycles to use a portion of the Canyon Trail will increase sedimentation into the creek because it is adjacent and uphill from the stream
- The impacts from increased wet weather use of the Cascade Fire Road and Canyon Trail will offset the sediment reduction benefits from the decommissioning of the High Water Trail.
- There is not enough parking on Cascade Drive to support the increase in use.
- The project will cause increased traffic on Cascade Drive.
- The project will increase bicycle use of the preserve.
- The use of mountain bikes on the preserve are damaging natural resources and causing erosion.
- The increase in bicycle use will alter the experience of hiking in the pristine environment.
- The project should include bike racks at the trailhead.

Factors considered in the project evaluation included the following technical and policy considerations:

- Effects to trail circulation patterns within the park unit
- Effects to trail safety
- Effects to trail sustainability
- Effects or impacts to natural and/or cultural resources
- Effects or impacts to maintenance and operational costs
- Compatibility with RTMP policies and goals

Technical Analysis

Effects to Trail Circulation Patterns

The MCOSD expects the level and types of recreational use in Cascade Canyon Preserve will not undergo a categorical change upon completion of the recreational bridges. The 2016 Marin County Parks Visitor Study Report illustrated that over half of the people recreating in the MCOSD preserves lived within one mile of the preserve. Implementation of the bridges spanning San Anselmo Creek would provide safer access to the interior of Cascade Canyon Preserve without fundamentally changing the access points or destinations. The implementation of bridges would however remove recreational use from the banks and channel of San Anselmo Creek.

The addition of bicycle use on the segment of the Canyon Trail between bridge #1 and #3 is not expected to significantly change circulation patterns.

Effects to Trail Safety

The current access to the interior of the Cascade Canyon preserve is either crossing San Anselmo Creek or via the High Water Trail. The High Water Trail is a steep, actively eroding trail which is substandard in design and safety. Conversely, crossing the San Anselmo Creek during the rainy season can be extremely dangerous due to swift water flows. The implementation of bridges will greatly improve the visitor access by avoiding hazardous routes and providing consistent year round safe passage to equestrians, bicyclists, and hikers.

The Canyon Trail currently receives low to moderate use and the addition of bicycle use on the segment of the Canyon Trail between bridge #1 and #3 is not expected to create unsafe trail conditions. The trail segment has very good sight lines as well as a flat wide bench and very low running grade

Effects on Trail Sustainability

Construction of the San Anselmo Creek bridges will allow the MCOSD the opportunity to decommission the High Water Trail which does not meet trail standards as it is a steep and erosive trail which is substandard in design and safety. The trail has an unstable and severely outsloped tread surface creating an extremely challenging walking surface. In recent years the trail has actively eroded and degraded beyond maintenance repairs.

The addition of bicycle use on the segment of the Canyon Trail between bridge #1 and #3 is not expected to create any adverse sustainability issues. This segment of the Canyon Trail is flat with a compacted stable soil surface.

Effects to Natural and Cultural Resources

The bridges will provide recreational access to Cascade Canyon OSP while removing the habitat disturbance of park visitors traversing through the creek. Additionally, implementation of the 2 bridges will afford the MCOSD the opportunity to decommission the erosive High Water Trail. Both of these actions will result in a reduction of sediment discharge into the watershed. Excess amounts of fine sediment (silt and clay) can adversely affect water quality by diffusing light, retaining heat and increasing water temperature. In addition, negative impacts to the fish habitat result when excessive amounts of sediment clog the spaces between gravel, cobble, and boulders. The reduction of these fine sediments into the creek will improve the overall health of the watershed as well as the spawning habitat for federally listed Steelhead trout. Implementation of the project as proposed is consistent with and advances the goals of the National Marine Fishery Service's Coastal Multispecies Recovery Plan.

A complete bio assessment of the flora and fauna of the site will guide construction to minimize the impacts to the natural resources.

Other agency permits (Regional Water Quality Control Board, Army Corps, and California Department of Fish and Wildlife) will be required for the bridge design and implementation. Plant surveys will also be required as part of project development and implementation. Identified sensitive plant locations, as determined by surveys, will be avoided and/or construction techniques will be modified for minimization of potential impacts. Plant surveys will also be required as part of project development and implementation. Identified sensitive plant locations, as determined by surveys, will be avoided and/or construction techniques will be modified for minimization of potential impacts.

Initial evaluations indicate there should be no significant impacts to natural or cultural resources associated with the change in use on the Canyon Trail.

Effects to Maintenance and Operations Costs

It is estimated that the construction cost to implement two bridges spanning San Anselmo Creek and replace the existing Carey Camp Bridge will be \$377,000. While this represents a significant cost, it also represents the most feasible approach to meet the goals of the RTMP. This option was encouraged by the regulatory agencies as the most fish friendly option to provide safe and consistent access to the preserve.

POLICY ANALYSIS

As part of the RTMP, the MCOSD adopted goals and policies that direct the designation of, improvements to, and use of its road and trail system. In determining whether to move forward with a project, the MCOSD evaluates it for consistency with these goals and policies. In the case of the proposed improvements to the Cascade Fire Road and the decommissioning of the High Water Trail, the staff has determined that the project is consistent with and implements these goals and policies.

Goal 1: Establish and Maintain a Sustainable System of Roads and Trails that Meet Design and Management Standards

The proposed upgrades to the Cascade Fire Road and the decommissioning of the High Water Trails are consistent with this goal. The MCOSD is proposing to construct two bridges across San Anselmo Creek to allow recreational users (hikers, bikers, and equestrians) to cross the stream without entering or disturbing the banks of the creek. The proposed project will allow the MCOSD to decommission the unsustainable, unsafe, and highly erosive High Water Trail. The new bridges will improve the sustainability of the fire road by eliminating the need for recreational users to ford the creek, and will be consistent with the design standards and best management practices contained in the RTMP. The project also includes a redesignation of the portion of the Canyon Trail spanning the two bridges to allow bicycles. This redesignation reduces the number of bridges necessary to get users out of the stream. Without the change in use, the project would require four new bridges. The lowest portion of the Canyon Trail providing an outlet to Canyon Road will remain closed to bicycles.

Implementing this goal are policies SW.4, SW. 31, TRL-2.1, TRL-2.b, and T2a¹, which direct the MCOSD to design and build a sustainable trail system that protects natural resources and reduces the overall environmental impact from current conditions. The existing fire road crosses San Anselmo Creek four times. Along with the change in designation for the Canyon Trail, the project will replace these wet crossings with two bridges. The project also includes decommissioning the High Water Trail, which is a social trail adjacent to the creek and a significant source of sediment discharge. By eliminating instream crossings on a creek that supports federally listed steelhead and by removing the High Water Trail, the project will improve the overall condition of the Cascade Canyon Preserve.

¹ A full copy of the text of these policies is in the RTMP, starting at page 4-11

Goal 2: Reduce the Environmental Impact of Roads and Trails on Sensitive Resources, Habitats, Riparian Areas, and Special Status Plant and Animal Species

The proposed project is also consistent with this goal. One of the primary purposes of the proposed bridges is to eliminate recreational impacts to San Anselmo Creek and reduce sedimentation into the stream. San Anselmo Creek supports the threatened steelhead trout. Additionally, the decommissioning of the High Water Trail will eliminate a significant source of sediment discharges into the stream. The proposed projects will reduce the environmental impact of the road and trail system in Cascade Canyon.

Implementing this goal are policies BIO 4.14, BIO 4-k, SW.22, SW.24, SW.23, SW.27, SW.28, and TRL-2.a, which direct the MCOSD to protect rare and sensitive biological and cultural resources. The Cascade Fire Road is located in an area that provides habitat to a number of plants and animals, including rare and sensitive resources. The MCOSD's Vegetation and Biodiversity Management Plan (VBMP) zones the project sites as "Sustainable Natural Systems Zone" and "Legacy Zone," which are most biologically sensitive zones identified in the plan. The new bridges and the elimination of the High Water Trail will reduce impacts to special status species by reducing sedimentation and eliminating direct impacts to the stream from recreational activities. The project will also allow the MCOSD to restore natural resources of the area damaged by the High Water Trail.

Goal 3: Improve the Visitor Experience and Visitor Safety for All Users, Including Hikers, Mountain Bikers, and Equestrians

The third goal of the plan is to improve visitor experience and safety. The proposed improvements to the Cascade Fire Road create a safe way to cross the creek at all times of the year and eliminate a steep and dangerous bypass trail. The change in use will allow bicyclists to use the route to connect to upper portions of the Cascade Fire Road and to the MMWD lands. Additionally, the bridges will improve access for younger children, the elderly, and people with disabilities by providing a route into the canyon without wet crossings or a steep narrow bypass. Therefore, the proposal will improve visitor experience and safety.

Implementing this goal are policies SW.12, T1d, T.1, T.3, TRL-2.3, TRL-2.5, and TRL-2.e, which direct the MCOSD to: (1) increase trail connectivity; (2) provide opportunities for loop and long distance travel; (3) improve public safety; (4) provide access for people with disabilities; and (5) provide opportunities for long distance connections. The proposed project will decommission the High Water Trail, which is a narrow steep trail in the banks of San Anselmo Creek. The construction of two new bridges will allow safe all year access to Cascade Canyon Preserve and the adjacent public watershed lands. Additionally, the improvements will facilitate for long distance travel on Cascade Fire Road through the MMWD's property consistent with policy T.1.

Recommendations Summary

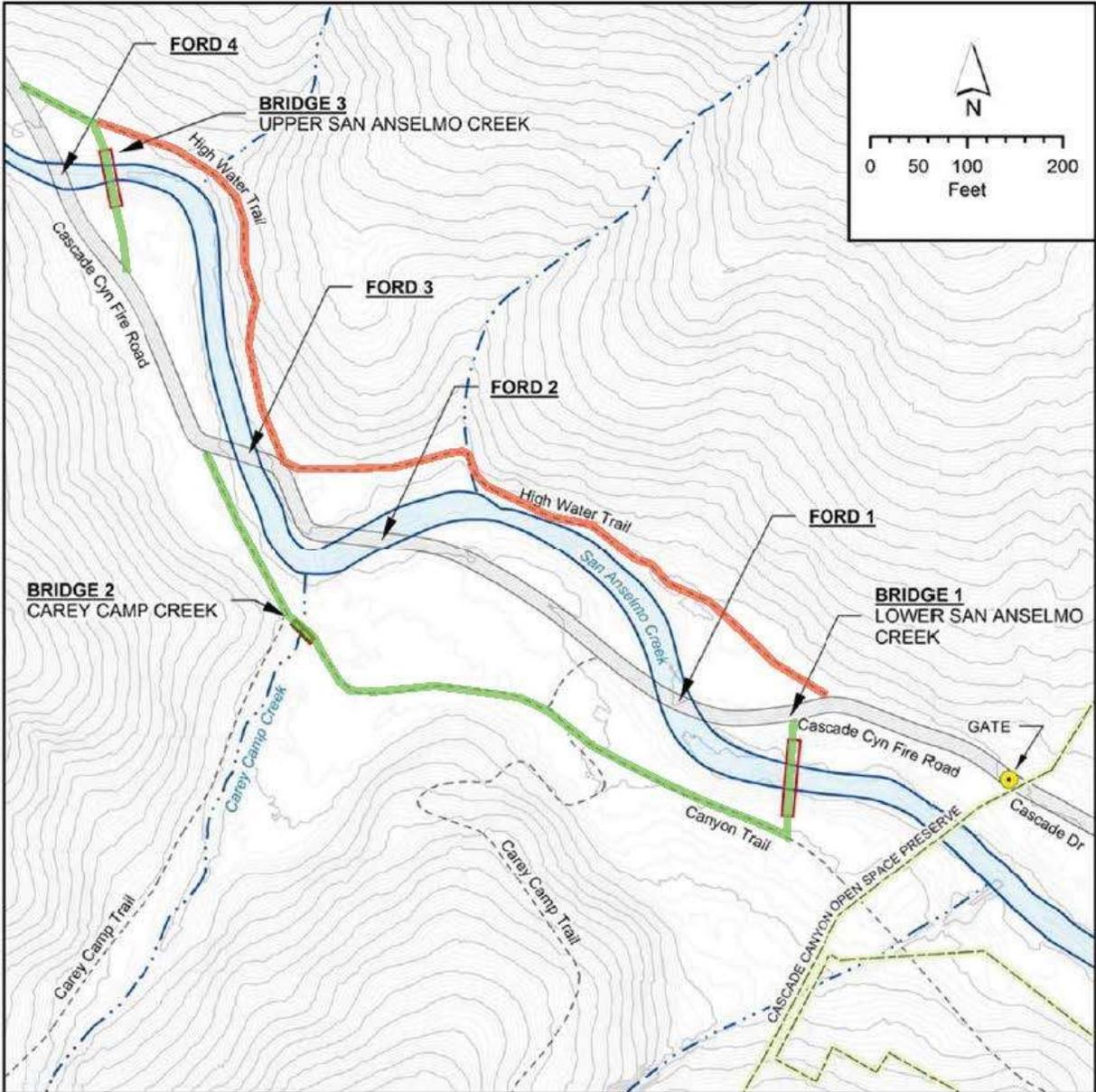
The MCOSD evaluated the proposal from the Friends of Corte Madera Creek Watershed and the Marin County Bicycle Coalition as well as other options to provide safe access while minimizing the environmental disturbance to the Cascade Canyon OSP. Upon careful review, the submitted proposal to construct two recreational multiuse bridges and adopt a change in use on a segment of the Canyon Trail in Cascade Canyon Preserve was approved.

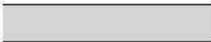
The current access to the interior of the Cascade Canyon Preserve is either fording San Anselmo Creek or via the High Water Trail. The High Water Trail is a steep, actively eroding trail which is substandard in design and safety. The MCOSD evaluated the current trail alignment and the surrounding open space to propose an alternate route that would meet the trail standards for a multiuse

trail removing the need to ford the creek. Unfortunately, due to the canyon topography and steep side slopes, no suitable alternate route was identified. Furthermore, traveling along the Cascade Fire Road to crossing the San Anselmo Creek is a route which is often used safely during the dry season. Although, during the rainy season this crossing can become extremely dangerous if not completely impassable due to swift water flows.

The implementation of the multiuse bridges greatly improve the visitor access by avoiding hazardous routes and providing consistent year round safe passage to equestrians, bicyclists, and hikers. Furthermore, this approach will remove recreational use from the creek banks and channel of San Anselmo Creek, removing fine sediments and improving the overall health of the watershed.

Additional design details, resources surveys, environmental compliance and permitting would be required prior to the implementation of design modifications.



- Multi-use Trail 
- Decommissioned Trail 
- Fire Road 
- Proposed Bridge (Bridges 1 and 3) 

Next Steps

It is anticipated that the MCOSD will begin construction of the Cascade Canyon Bridges beginning in the summer of 2017. The next steps for these projects are outlined below

- Budget Approval
- Site Bioassessment
- Final trail Design Refinement
- Environmental Review and Regulatory Permitting
- Nesting Surveys
- Construction

HAPPERSBERGER TRAIL: PROPOSED PROJECT TO DECOMMISSION THE HAPPERSBERGER TRAIL

The MCOSD received a public proposal from the FootPeople, California Native Plant Society, and Marin Audubon Society to decommission the Happersberger Trail. The proposal was evaluated and found to be consistent with the standards established for public submitted proposals by the RTMP.

The Happersberger trail was originally proposed for decommission in the 2015 Region 2 public workshop. The trail is a fall line trail with linear grades up to 35% and does not meet the MCOSD sustainability standards. The current condition of the trail has several sections which are deeply rutted and continue to erode fine sediments into the watershed. Furthermore, the trail leads park visitors to MMWD property and continues through their watershed for recreational use. The MMWD has formally communicated its intention to close the portion of the Happersberger Trail alignment on MMWD lands.

The MCOSD received several comments relevant to the proposed decommissioning of the Happersberger Trail following the September 8 meeting. These comments included the following issues and stated concerns:

- The Happersberger Trail is not an erosive trail and is not a source of sediment into the watershed.
- The Happersberger Trail provides the only trail access to San Geronimo ridge and many users cherish it.
- The Happersberger Trail provides a steep and rugged experience for those looking for an extreme challenge.
- The MCOSD does not have adequate enforcement to prevent reuse of the Happersberger Trail after it is decommissioned.
- The reuse of the decommissioned Happersberger Trail will damage resources.
- The main source of erosion on the Happersberger Trail is from illegal mountain bike use.

POLICY ANALYSIS

As part of the RTMP, the MCOSD adopted goals and policies that direct the designation of, improvements to, and use of its road and trail system. In determining whether to move forward with a project, the MCOSD evaluates it for consistency with these goals and policies.

Goal 1: Establish and Maintain a Sustainable System of Roads and Trails that Meet Design and Management Standards

In designating the trails in Cascade Canyon Preserve, the MCOSD did not identify the Happersberger Trail as a system trail. The trail is on an unsustainable alignment and is a potential source of sedimentation into the watershed. As such, the project would substantially reduce impacts from erosion and runoff. Therefore, decommissioning the trail would be consistent with the first goal of the RTMP.

Implementing this goal are policies SW.4, SW. 31, TRL-2.1, TRL-2.b, and T2a, which direct the MCOSD to design and build a sustainable trail system that protects natural resources and reduces the overall environmental impact from current conditions. Decommissioning the Happersberger Trail would eliminate an unsustainable trail that has the potential to discharge sediment into the watershed.

Goal 2: Reduce the Environmental Impact of Roads and Trails on Sensitive Resources, Habitats, Riparian Areas, and Special Status Plant and Animal Species

The proposed project is also consistent with this goal. The decommissioning of the Happersberger Trail will eliminate a potential source of sediment and will allow for habitat restoration.

Implementing this goal are policies BIO 4.14, BIO 4-k, SW.22, SW.24, SW.23, SW.27, SW.28, and TRL-2.a, which direct the MCOSD to protect rare and sensitive biological and cultural resources. The MCOSD's Vegetation and Biodiversity Management Plan (VBMP) zones the project site as "Natural Landscape Zone," "Sustainable Natural Systems Zone," and "Legacy Zone," with the latter two zones being most biologically sensitive zones identified in the plan. The decommissioning of the Happersberger Trail will allow the MCOSD to restore habitat in the biologically sensitive zones. This trail also intrudes into a large contiguous habitat made up of land owned by the MCOSD and the MMWD. The proposed project would implement RTMP policy SW.24 by eliminating an encroachment into this habitat.

Goal 3: Improve the Visitor Experience and Visitor Safety for All Users, Including Hikers, Mountain Bikers, and Equestrians

The third goal of the plan is to improve visitor experience. With respect to the Happersberger Trail, the proposed decommissioning will eliminate a route that the MCOSD had previously included in its public trail maps, signed for public use by pedestrians, and maintained. The decommissioning of this trail at this time could modestly diminish visitor experience of the established trail system, at least at the very local level, by eliminating a path that, though unsustainable, was part of the MCOSD's managed roads and trails as of the date the Region 2 designation was established in the fall of 2015.

Recommendations Summary

The MCOSD agrees with merit of the public proposal, but has decided to delay implementation until it can be implemented in association with a project that will provide a broadly similar recreational experience in the general vicinity of the Cascade Canyon Preserve. This decision is made mostly in light of the public input received during the comment period but also partly in light of the unusual circumstance that this trail had been part of the signed and mapped network of trail facilities maintained by the MCOSD as of the date of the Region 2 designation.

The proposal will be reevaluated with future projects in the environs of Cascade Canyon Preserve as the RTMP planning evolves in the region. In the meantime, the trail remains undesignated and, as such, is closed to bicycling, horses, and dogs.