

**Attachment 5**  
**Summary of Resource Protection and Design Guidelines**

Plan	Siting and Design Guidance
<b>Biological Resources</b>	
CoSD's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Avoid impacts to narrow endemics or unique critical populations of specific species, unless the activities are in “take” authorized areas or allowed under the MSCP.</li> <li>• Locate trails, view overlooks, and staging areas in the least sensitive areas of the Otay Ranch Preserve (Preserve).</li> <li>• Do not locate trails greater than 4 feet wide in core areas or wildlife corridors, except where necessary to accommodate multiple uses or improve ADA accessibility.</li> <li>• Limit equestrian trails near sensitive resources.</li> <li>• Locate equestrian staging areas sufficient distance (e.g., 300 to 500 feet) from riparian and coastal sage scrub habitats.</li> </ul>
CiCV's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Locate trails, view overlooks, and staging areas in the least sensitive areas of the Preserve.</li> <li>• Do not locate trails greater than 4 feet wide in core areas or wildlife corridors.</li> <li>• Limit equestrian trails near sensitive resources.</li> <li>• Locate equestrian staging areas sufficient distance (e.g., 300 to 500 feet) from riparian and coastal sage scrub habitats.</li> <li>• Limit access to finger canyons.</li> <li>• Provide sufficient signage to clearly identify public access to the Preserve.</li> </ul> <p><u>OVRP</u></p> <ul style="list-style-type: none"> <li>• Construct all recreational facilities consistent with the Preserve adjacency guidelines found in Section 7.5.2 of CiCV's Subarea Plan.</li> <li>• Limit public access to finger canyons providing access to Wolf Canyon.</li> <li>• Install barriers to deter human intrusion into particularly sensitive areas.</li> </ul>
CiSD's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Provide sufficient signage to clearly identify public access to the Preserve.</li> <li>• Locate trails, overlooks, and staging areas in least-sensitive areas in MHPA.</li> <li>• Do not locate trails greater than 4 feet wide in core areas or wildlife corridors.</li> <li>• Limit equestrian trails near sensitive resources.</li> <li>• Locate equestrian staging areas sufficient distance (e.g., 300 to 500 feet) from riparian and coastal sage scrub habitats.</li> <li>• Limit recreational uses to passive uses such as birdwatching, photography, and trail use.</li> <li>• Locate picnic areas near MHPA edges or specific areas within the MHPA.</li> </ul>
CiCV Otay Ranch General Development Plan and the CoSD Otay Subregional Plan	<ul style="list-style-type: none"> <li>• Identify trail access points to the Preserve that are consistent with resource protection goals.</li> <li>• Assure the type, width, and intensity of trail uses is consistent with protection of the resources being traversed.</li> </ul>

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Phase 2 (Otay Ranch GDP/SRP)	<ul style="list-style-type: none"> <li>• Provide limited equestrian trails in non-sensitive areas.</li> <li>• Provide bicycle trails only in areas that have no environmentally sensitive resources.</li> <li>• Design bicycle pathways in a manner that discourages intrusion into adjacent environmentally sensitive areas.</li> <li>• Public access may be restricted within and adjacent to wetlands, vernal pools, restoration areas, and sensitive wildlife habitat (e.g., during breeding season) at the discretion of the Preserve Owner/Manager.</li> </ul>
Community Trails Master Plan	<p><u>MSCP Preserve Guidelines</u></p> <ul style="list-style-type: none"> <li>• Trail tread will be constructed with native soil (or disintegrated granite if necessary) and trail width will be minimized to reduce impacts to critical habitat and resources.</li> <li>• Site design objectives will include avoidance and/or minimization of impacts to biological resources within the Preserve.</li> <li>• Consider access, non-native predators, non-native species, illumination, point source drain water, non-point source runoff, and noise during planning and construction of trails.</li> </ul> <p><u>Biological Resource Guidelines</u></p> <ul style="list-style-type: none"> <li>• Develop design guidelines that protect sensitive species and their habitats, and encourage enhancement of habitats and educational opportunities as part of trail implementation activities.</li> <li>• Incorporate appropriate buffers from sensitive resources (e.g., 1,000 feet from any golden eagle nest, 100 feet from any active raptor tree nests or 300 feet from any raptor ground nest).</li> <li>• Incorporate physical and/or visual barriers may be incorporated to protect sensitive habitats, species, and wetlands, when deemed necessary.</li> <li>• Trail grading, clearing, or construction shall follow distance and season requirements, when applicable.</li> </ul>
OVRP Trail Guidelines	<ul style="list-style-type: none"> <li>• Limit equestrian trails near sensitive resources.</li> <li>• Locate equestrian staging areas sufficient distance (e.g., 300 to 500 feet) from riparian and coastal sage scrub habitats.</li> <li>• Avoid endangered or sensitive plant species and wildlife breeding habitats.</li> <li>• When possible, site new trails on north facing slopes in chaparral, away from coastal sage scrub and other sensitive habitat.</li> <li>• Avoid routing trail alignments parallel to habitat ecotones.</li> <li>• Incorporate noise reduction measures adjacent to breeding areas.</li> </ul>

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Greenbelt Master Plan	<p><u>Policies</u></p> <ul style="list-style-type: none"> <li>• CiCV will strive to ensure the protection of the natural habitat from encroachment of trail users through education, fencing, signing and design.</li> <li>• CiCV recognizes the natural value of the open space through the MSCP preserves and will plan for trails that do not diminish the value of the pristine environment.</li> <li>• CiCV will locate trails in areas that avoid or minimize conflicts with natural resources.</li> <li>• Proposed trails shall adhere to the guidelines contained in CiCV's MSCP Subarea Plan, as well as stipulations contained within other mitigation agreements.</li> </ul> <p><u>Specific Trail Design Criteria</u></p> <ul style="list-style-type: none"> <li>• Locate public access, trails, view overlooks, and staging areas in the least sensitive areas of the Preserve.</li> <li>• Avoid locating trails between two different habitat types (ecotones).</li> <li>• Minimize trail widths to reduce impacts to critical resources. To the maximum extent practicable, do not locate new trails wider than four feet in core Preserve areas or wildlife corridors. Core areas and wildlife corridors, where new trails may be limited to 4 feet, will be defined in area-specific management directives (plans).</li> <li>• Limit equestrian trails near sensitive resources.</li> <li>• Locate equestrian staging areas sufficient distance (e.g., 300 to 500 feet) from riparian and coastal sage scrub habitats.</li> <li>• Limit access to finger canyons.</li> </ul>
RJER Land Management Plan	<ul style="list-style-type: none"> <li>• Reduce edge effects and habitat fragmentation by reducing the number of roads and trails in the interior of the reserve.</li> <li>• Implement a riparian and wetlands buffer (set-back) of 100 feet or more from the edge of riparian habitat to protect the riparian zone from new development, public use, erosion, hydrological impediments, and non-native species invasions.</li> </ul> <p><u>San Diego Ambrosia:</u></p> <ul style="list-style-type: none"> <li>• Protect populations from detrimental edge effects by locating facilities away from occupied areas. Move planned public parking lot to alternate location away from existing San Diego ambrosia populations.</li> </ul> <p><u>Otay Tarplant:</u></p> <ul style="list-style-type: none"> <li>• Protect populations from detrimental edge effects by locating facilities away from occupied areas.</li> </ul>

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	<p><u>Coastal California Gnatcatcher:</u></p> <ul style="list-style-type: none"> <li>• Control indirect effects of noise within gnatcatcher habitat by keeping noise levels at or below 60 dB(A) during the breeding season. Avoid the use of noise-generating equipment, and noise generating public activities as necessary.</li> <li>• Avoid flushing young or adults from their nest by restricting public recreational and educational activities during the breeding season as necessary.</li> </ul> <p><u>Least Bell's Vireo:</u></p> <ul style="list-style-type: none"> <li>• Control indirect effects of noise within vireo habitat by keeping noise levels at or below 60 dB(A) during the breeding season.</li> <li>• Avoid the use of noise-generating equipment, and noise generating public activities as necessary</li> <li>• Avoid flushing young or adults from their nest by restricting public recreational and educational activities during the breeding season as necessary.</li> <li>• Restrict all trails and public activity within 100 feet of all occupied vireo habitat</li> </ul>
HCWA Land Management Plan	<ul style="list-style-type: none"> <li>• Specific threats to the riparian corridors within HCWA are the trails that parallel Hollenbeck Canyon, Jamul Creek, and other stream channels. These features and the effect of their use must be evaluated to determine whether special improvements, e.g., stream crossings, closure after substantial rain events, or realignment away from the riparian corridor, are warranted.</li> <li>• Where feasible, implement a riparian and wetlands buffer (setback) of 100 feet or more from the edge of riparian habitat to protect the riparian zone from public use, and to allow riparian drainages to meander. Realign segments of trails and management roads, if feasible, where these facilities are closer than 100 feet from the edge of riparian habitat.</li> <li>• Determine whether barriers (e.g., split rail fencing, boulders, etc.) are needed to limit public access into areas potentially critical for wildlife movement (e.g., narrow segments of drainages, oak woodlands).</li> <li>• Specific threats to upland habitats within HCWA are the trails that are located near the coastal sage scrub/clay lens habitat in the north-central portion of the wildlife area. These trails and the effect of their use must be evaluated to determine whether protective measures (e.g., installation of split-rail fencing, closure after substantial rain events, or realignment) are warranted</li> </ul> <p><u>San Diego Thornmint</u></p> <ul style="list-style-type: none"> <li>• Install split-rail fencing along the access road to restrict illegal encroachment into the thornmint population. Extend the fencing from the access gate, down past the southerly clay lens area to protect the thornmint as well as the Quino checkerspot butterfly.</li> <li>• Install signage along the fencing, as appropriate.</li> </ul>

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CiSD's Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• A professional biological assessment shall be performed, in the field, to identify natural resources that require protection during design development.</li> <li>• Identification of resources that are important to a healthy watershed shall be identified prior to design development.</li> <li>• Removal of native vegetation shall only be done equal to trail clearing width.</li> <li>• Trail setbacks adjacent to sensitive habitat may need to be assessed on a case-by-case basis and should be determined by a professional biologist.</li> <li>• Mature trees and shrubs shall be avoided and protected.</li> <li>• Equestrian trails shall avoid riparian corridors, wetlands, including springs, vernal pools, and seeps.</li> </ul>
<b>Cultural Resources</b>	
Otay Ranch GDP/SRP	<ul style="list-style-type: none"> <li>• Identify trail access points to the Preserve that are consistent with resource protection goals.</li> <li>• Assure the type, width, and intensity of trail uses is consistent with protection of the resources being traversed.</li> <li>• Provide limited equestrian trails in non-sensitive areas.</li> <li>• Provide bicycle trails only in areas that have no environmentally sensitive resources.</li> <li>• Design bicycle pathways in a manner that discourages intrusion into adjacent environmentally sensitive areas.</li> </ul>
Community Trails Master Plan	<ul style="list-style-type: none"> <li>• Trail alignments shall avoid archaeological and sensitive cultural resources, wherever feasible.</li> <li>• Mitigate any potential impacts to cultural resources through collection of significant artifacts, documentation and curation of the items by a professional archaeologist. The documentation of the resources may then be interpreted as part of the trail opportunity while respecting the need for a requirement of confidentiality of site locations.</li> <li>• Provide evidence to the satisfaction of the Director of Planning and Land Use that all archeological material recovered during the archeological investigation of the property, including all significance testing and grading monitoring activities, have been curated according to professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility with San Diego County, to be accompanied by payment of the fees necessary for permanent curation.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Minimize impacts on cultural resources by avoiding grading and other ground disturbing activities, where such resources are known to exist.</li> <li>• The County will consult with the appropriate governing tribal council to discuss the feasibility of a trail connection that involves either tribal land and/or Native American cultural resources</li> </ul>
RJER Land Management Plan	<ul style="list-style-type: none"> <li>• Construct viewing platform and interpretive panels near the kiln areas. Evaluate fencing options to ensure public safety and protection of the kiln while allowing public viewing.</li> <li>• Consult with Native Americans.</li> <li>• Implement treatments using the Treatment Categories provided by Hector (2002).</li> </ul> <p><u>Category 1 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>○ Preserve in place. Do not introduce incompatible elements. Active management of cultural resources may include fencing, re-routing trails, stabilization and repair of historic structures and features, i.e., providing covers for buildings or ruins, capping with non-cultural soils, and annual monitoring.</li> </ul> <p><u>Category 2 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>○ Preserve in place. Trails, staging areas, or other uses may be nearby if no direct access is provided to the resources. Treatments to avoid impacts to these resources may include: avoidance through re-routing trails and activity areas, revegetation to hide and protect the resource, limited stabilization of historic features such as dump sites and small architectural sites, and biennial monitoring.</li> </ul> <p><u>Category 3 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>○ Preserve in place. Trails and other modern amenities may be nearby. This category includes resources used in interpretive programs and for research and study. Treatment may include: avoidance of direct impacts, revegetation to hide or protect the resource, and restoration or reconstruction of a historic building for interpretive use.</li> </ul> <p><u>Category 4 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>○ These resources should be treated as follows: ensure that proper documentation in terms of a site report or site record has been completed and submitted to the proper agencies and organizations (e.g., South Coastal Information Center); and if artifacts were collected, provide funds for curation at an appropriate facility.</li> </ul> <p><u>Proposed staging area near the Conservation Education Center.</u></p> <ul style="list-style-type: none"> <li>• Maintain fencing and signage to protect sites CA-SDI-14,893 and -14,894, and avoid using the area where P-37-025320 is located.</li> </ul>

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HCWA Land Management Plan	<ul style="list-style-type: none"> <li>• Consult with Native Americans.</li> <li>• Implement treatments using the Treatment Categories provided by Hector (2002)</li> </ul> <p><u>Category 1 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>• Preserve in place. Do not introduce incompatible elements. Active management of cultural resources may include fencing, re-routing trails, stabilization and repair of historic structures and features, including providing covers for buildings or ruins, capping with non-cultural soils, and annual monitoring.</li> </ul> <p><u>Category 2 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>• Preserve in place. Trails, staging areas, or other uses may be nearby if no direct access is provided to the resources. Treatments to avoid impacts to these resources may include: avoidance through re-routing trails and activity areas, revegetation to hide and protect the resource, limited stabilization of historic features such as dump sites and small architectural sites, and biennial monitoring.</li> </ul> <p><u>Category 3 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>• Preserve in place. Trails and other modern amenities may be nearby. This category includes resources used in interpretive programs and for research and study. Treatment may include: avoidance of direct impacts, revegetation to hide or protect the resource, and restoration or reconstruction of a historic building for interpretive use.</li> </ul> <p><u>Category 4 Treatment Areas:</u></p> <ul style="list-style-type: none"> <li>• These resources should be treated as follows: ensure that proper documentation in terms of a site report or site record has been completed and submitted to the proper agencies and organizations (e.g., South Coastal Information Center); and if artifacts were collected, provide funds for curation at an appropriate facility.</li> <li>• Prioritize the following activities identified by Hector (2002): <ul style="list-style-type: none"> <li>○ Control access to CA-SDI-7441.</li> <li>○ Eliminate access to CA-SDI-9273, -9689, -14,439, and -14,443. Make no plans to develop or improve access to these locations.</li> </ul> </li> </ul>

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CiSD's Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• Native American sites shall be avoided.</li> <li>• When constructing trails, care should be taken to assure potential archeological sites will be promptly acknowledged.</li> <li>• If an archeological site is uncovered during grading all artifacts or historical items shall be curated pursuant to the Municipal Code along with records, field notes, maps, and photos.</li> </ul>
<b>Trail Material</b>	
CoSD's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Avoid paving trails.</li> </ul>
CiSD's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Avoid paving trails.</li> </ul>
Community Trails Master Plan	<ul style="list-style-type: none"> <li>• Trail tread will be constructed with native soil (or disintegrated granite if necessary) in MSCP Preserve areas.</li> </ul>
OVRP Trail Guidelines	<ul style="list-style-type: none"> <li>• Trails and maintenance/emergency roads shall not be paved unless otherwise specified.</li> </ul>
Greenbelt Master Plan	<ul style="list-style-type: none"> <li>• Impervious trails should be avoided in watershed and flood plain areas where potential contamination of resources could occur.</li> <li>• Avoid paving trails in wildlife areas unless management and monitoring evidence shows otherwise.</li> </ul>
BLM Manual 6340	<p><u>Wilderness Study Areas:</u></p> <ul style="list-style-type: none"> <li>• Use natural materials for trail construction, when necessary.</li> <li>• Minimize ground disturbance for trail construction.</li> </ul>
CiSD's Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• Sustainable, local materials shall be used on all trail projects.</li> <li>• Recycled materials, without detrimental environmental effects, are to be used when possible.</li> <li>• Materials should be chosen that complement the regional landscape</li> </ul>
<b>Trail Width</b>	
CoSD's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Minimize recreational trail widths to reduce impacts to critical resources.</li> <li>• Do not locate trails greater than four feet wide in core areas or wildlife corridors, except where necessary to accommodate multiple uses or improve ADA accessibility.</li> </ul>
CiCV's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Minimize recreational trail widths to reduce impacts to critical resources.</li> <li>• To the maximum extent practicable, do not locate trails greater than four feet wide in core areas or wildlife corridors.</li> <li>• Where trails are planned in concert with sewer or water utility easements, the trail width should consider the easement requirements for the utility.</li> </ul>
CiSD's MSCP Subarea Plan	<ul style="list-style-type: none"> <li>• Minimize recreational trail widths to reduce impacts to critical resources.</li> <li>• Do not locate trails greater than four feet wide in core areas or wildlife corridors, except where necessary to accommodate multiple uses or improve ADA accessibility.</li> </ul>



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Community Trails Master Plan	<ul style="list-style-type: none"> <li>• Tread within the optimum range will be based upon site conditions. The following is the optimum range:               <ul style="list-style-type: none"> <li>○ Type A Urban/Suburban Trails: 8 to 10 feet</li> <li>○ Type B Rural Trails: 6 to 8 feet</li> <li>○ Type C Primitive Trails: Greater than or equal to 2 feet</li> <li>○ Type D Pathway Trails: 10 to 12 feet</li> <li>○ Type D Special Pathway Trails: 10 to 12 feet</li> </ul> </li> </ul>
OVRP Trail Guidelines	<ul style="list-style-type: none"> <li>○ Type A Trails: 6 to 8 feet; up to 12 feet within utility easements</li> <li>○ Type B Trails: 4 to 6 feet</li> <li>○ Type C Trails: 2 or 4 feet</li> <li>○ Type D Trails: 8 feet</li> <li>• Where a multi-use trail is less than 6 feet, occasional passing areas or turnouts shall be added at gentle slopes or as approved by OVRP Operations Management.</li> <li>• Trail width of specialized trails will be influenced by site-specific conditions or on a case-by-case basis, and they may vary from the suggested guidelines.</li> </ul>
Greenbelt Master Plan	<ul style="list-style-type: none"> <li>• Multi-use Trails: 10 feet</li> <li>• Rural Trails: 10 feet; 4 to 5 feet in core Preserve/habitat areas</li> <li>• Width may be reduced for short sections where available width is constrained due to environmental or other constraints upon approval of the Director of Planning and Building Director.</li> </ul>
BLM Manual 6340	<p><u>Wilderness Area</u></p> <ul style="list-style-type: none"> <li>• Limit tread to 24 inches, except where a wider trail is justified to protect the wilderness resource.</li> </ul>
CiSD's Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• Primitive Trails: Minimum 4 feet</li> <li>• Moderate Use Trails: Minimum 5 feet</li> <li>• High-Use Recreational Trails: No less than 8 feet; generally 12 to 14 feet</li> <li>• Circulation Trails: Generally 8 to 14 feet</li> </ul>
<b>Trail Siting</b>	
CiCV's MSCP Subarea Plan	<p>OVRP:</p> <ul style="list-style-type: none"> <li>• Avoid construction of new trails and/or roads, where feasible.</li> <li>• Use existing dirt roads.</li> </ul>
Otay Ranch GDP/SRP	<ul style="list-style-type: none"> <li>• Use existing dirt roads for the trail system, where possible.</li> </ul>
Community Trails Master Plan	<ul style="list-style-type: none"> <li>• Establish and designate trails, whenever feasible, that correspond to existing (nondesignated) trails, paths, or unpaved roadbeds that already have a disturbed tread.</li> <li>• Seek opportunities to designate or construct future trails on County-owned lands, such as parks, open space preserves and/or lands within the MSCP or other lands already under public ownership or proposed for public acquisition.</li> </ul>

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	<ul style="list-style-type: none"> <li>Trail opportunities on public lands and public easements should be a priority over those crossing privately owned lands.</li> <li>Use lands already in public ownership or proposed for public acquisition wherever possible for trail alignments.</li> <li>Pathways should be considered when connections to staging areas or trail systems cannot use a conventional trail and be routed along scenic roads where such routing is feasible.</li> </ul>
OVRP Concept Plan (Public Review Draft)	<ul style="list-style-type: none"> <li>Encourage recreational uses as buffers between the Open Space/Core Preserve Area and new private development.</li> <li>Incorporate Staging Areas and Viewpoint and Overlook Areas within Recreation Areas whenever possible.</li> <li>Utilize existing fire and utility roads and easements for trails to minimize impacts on sensitive resources.</li> <li>Provide trails that connect to other regional trails off site and to existing and future park facilities located adjacent to or near OVRP.</li> </ul> <p><u>Heritage Road to Otay Reservoirs Segment</u></p> <ul style="list-style-type: none"> <li>Encourage development of Staging Areas and Viewpoints and Overlooks in this Segment.</li> </ul>
OVRP Trail Guidelines	<ul style="list-style-type: none"> <li>Use existing access roads or existing unauthorized trails.</li> </ul>
Greenbelt Master Plan	<ul style="list-style-type: none"> <li>Locate trails along the edges of urban land uses adjacent to the Preserve, or the seam between land uses (e.g., agriculture/ habitat).</li> <li>Follow existing dirt roads as much as possible (except where occupied by Quino checkerspot butterfly).</li> </ul>
BLM Manual 6340	<p><u>Wilderness Study Areas:</u></p> <ul style="list-style-type: none"> <li>Locate trail heads and access points well outside wilderness boundary to minimize impacts.</li> <li>Follow natural contours.</li> <li>New trails may be constructed only if they are needed to preserve wilderness values and resources and will not significantly impair the degree of naturalness or solitude in the area.</li> <li>Minimize ground disturbance for trail construction.</li> </ul>
RJER Land Management Plan	<ul style="list-style-type: none"> <li>Concentrate roads and trails around the perimeter and Area of Critical Environmental Concern</li> <li>Build new parking lots at entrance along State Route 94, and along Otay Lakes Road.</li> <li>Continue to maintain access routes to existing and new parking lot.</li> <li>Designate specific wildlife viewing areas in a variety of habitats and locations that provide for undisturbed wildlife viewing, protect sensitive species, and do not cause a visual impact.</li> </ul>

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HCWA Land Management Plan	<ul style="list-style-type: none"> <li>• Designate specific wildlife viewing areas in a variety of habitats and locations that provide for undisturbed wildlife viewing, protect sensitive species, and do not cause a visual impact.</li> <li>• Assess the eastern end for a potential additional parking lot near the Honey Springs Ranch.</li> <li>• Continue to maintain access routes to existing parking lots.</li> </ul>
CiSD’s Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• Trail shall be integrated into the landscape in a manner that minimizes soil disturbance, including avoiding excessive slope cuts and fills.</li> <li>• Trail alignments shall incorporated set back distances from dams, intakes, pipelines, and other critical water infrastructure, based on the Public Utilities’ Vulnerability Assessment and DPH Source Water Protection Zones.</li> <li>• All drainage crossing structures shall be designed to keep footings above the 100-year floodplain or top of bank.</li> <li>• Trails should cross creeks perpendicular to channel and travel through the 400-foot source water protection buffer in the shortest distance to minimize disturbance.</li> <li>• Drainage crossings should be sited at locations that require the least disturbance to the channel.</li> <li>• Drainage crossings should be located at sites that provide the safest access.</li> <li>• Grades should not exceed 12.5 percent and ideally should be 10 percent or less. Trails built on loose, highly erosive soils should have maximum grades of &lt; 5%.</li> <li>• Trails should be designed with adequate lines of sight based upon user type.</li> <li>• Long gradual switchbacks should be used for steep trails and shall be designed to avoid sharp turns and the creation of “short cut” trails.</li> <li>• Equestrian trails should not be closer than 1000 feet of the high water line of a reservoir or 200 feet of a stream.</li> </ul>
<b>Land Use Considerations</b>	
CiCV’s MSCP Subarea Plan	<p><u>Otay Mesa Area:</u></p> <ul style="list-style-type: none"> <li>• Restrict public access in areas with hazardous materials.</li> </ul>
Otay Ranch GDP/SRP	<ul style="list-style-type: none"> <li>• Encourage joint use of utility easements with appropriate and compatible uses, including, but not limited to, open space, agriculture, parking, and trails.</li> <li>• Maximize conservation, joint uses and access and consider safety in the design of recreation facilities.</li> </ul>
Community Trails Master Plan	<ul style="list-style-type: none"> <li>• Consider shared-use of public utility easements if beneficial to the trail system.</li> <li>• Provide trail routes that meet the public needs while respecting the rights of property owners.</li> <li>• Identify trail routes that meet a public need while recognizing the concerns of private property owners, safety requirements, land use concerns and environmental protection goals.</li> <li>• When preparing to implement or open a new trail, consider design modifications to accommodate landowner concerns for privacy, security or safety.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Establish specific guidelines for trails in areas with active agricultural operations or active grazing lands that will minimize potential impacts and accommodate operational necessities through proper location, design, construction, and active management.</li> <li>• Recognize that some agricultural operations will need certain controls on trails, such as authorized temporary trail closure for periods of pesticide application or other operational occurrences to maintain the economic viability of the agricultural operation, and solicit input from the operator as part of the trail design considerations.</li> </ul>
OVRP Concept Plan (Public Review Draft)	<ul style="list-style-type: none"> <li>• Coordinate trail planning with the State Department of Corrections to determine feasibility of trail corridors in the vicinity of the R. J. Donovan Correctional Facility.</li> <li>• Coordinate trail planning with the Detention Facility.</li> </ul>
Greenbelt Master Plan	<ul style="list-style-type: none"> <li>• The City of Chula Vista will utilize existing fire roads, access roads and/or utility easements for the trail system when possible.</li> <li>• Where trails are planned in concert with sewer or water utility easements, the trail width should consider the easement requirements for the utility.</li> <li>• Trails should not be encouraged within San Diego Gas &amp; Electric easements.</li> </ul>
RJER Land Management Plan	<ul style="list-style-type: none"> <li>• Identify potential conflicts between recreational uses and resolve such conflicts.</li> </ul>
HCWA Land Management Plan	<ul style="list-style-type: none"> <li>• Identify potential conflicts between recreational uses and resolve such conflicts.</li> </ul>
CiSD's Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• Existing roads or trails shall be used when feasible and agreed upon by the Public Utilities.</li> <li>• Existing residents and property owners should be considered during design to avoid unauthorized access and other disturbances such as noise or view and privacy disturbance.</li> <li>• Incorporate fencing, signage, and vehicle barriers along trails to prevent access to critical water infrastructure.</li> <li>• Stormwater management at staging areas shall keep water on site, within staging area or be directed to adjacent swales.</li> <li>• In areas where erosion is deemed potentially significant by Public Utilities staff an Erosion Control Plan may be required.</li> <li>• All staging areas shall use low impact development storm water quality best management practices to reduce impact on watershed.</li> <li>• All staging areas must have an approved Manure Management Plan.</li> <li>• All staging areas should consider vehicle fluid leaks in design development.</li> </ul>
<b>Accessibility</b>	
Community Trails Master Plan	<ul style="list-style-type: none"> <li>• Provide adequate support facilities which should include, but not be limited to parking facilities, potable water supply, restrooms, emergency telephones and access.</li> </ul>

<b>Attachment 5</b>	
<b>Summary of Resource Protection and Design Guidelines</b>	
Plan	Siting and Design Guidance
Otay Ranch GDP/SRP	<ul style="list-style-type: none"> <li>• Encourage public transit service to regional parks and provide access to handicapped and disabled persons, in accordance with the latest federal guidelines.</li> </ul>
OVRP Trail Guidelines	<ul style="list-style-type: none"> <li>• Accessibility shall be considered in the decision-making process for planning, design, construction, maintenance, and management of trails within the OVRP. Current state and federal regulations concerning the ADA shall be applied to provide access to a wide range of user capabilities where deemed appropriate.</li> </ul>
Greenbelt Master Plan	<p><u>Policies</u></p> <ul style="list-style-type: none"> <li>• The City of Chula Vista will develop trails, wherever possible, which provide for accessibility for all, including those with disabilities.</li> </ul> <p><u>Specific Trail Design Criteria</u></p> <ul style="list-style-type: none"> <li>• A continuous path of travel is the single most important park feature to a person with a physical disability. Additionally, four other design components are essential to being a fully accessible park or trail: <ul style="list-style-type: none"> <li>○ Access to the park or trail, including parking areas and the path of arrival used to get from parking areas.</li> <li>○ Access and egress points to the park and along the trail.</li> <li>○ Support facilities and desirable amenities, including the placement of restrooms, drinking fountains, telephones, etc., with respect to the park programs and trail and any access paths leading to these support elements.</li> <li>○ Access to accurate information regarding the Greenbelt, how to get to the park or trail and potential hazards of a project, plus location and height of on-site interpretive signage programs (Federal Highway Administration, National Bicycle and Walking Study).</li> </ul> </li> <li>• Overcrossings over arterials typically require as much as 400 to 500 feet of approach structure on each side due to the maximum 5 percent gradient as specified by the ADA.</li> </ul>
RJER Land Management Plan	<ul style="list-style-type: none"> <li>• Improve design and landscaping of RJER entrance to make this area more inviting. Improve trails near the future visitor center and interpretive area for ADA compliant accessibility.</li> <li>• Convert the former race track into an ADA compliant accessible interpretive nature trail with interpretive signs and displays of local and regional natural habitats and species (emphasizing those covered by MSCP).</li> </ul>
HCWA Land Management Plan	<ul style="list-style-type: none"> <li>• Evaluate and improve trails for ADA compliant access.</li> </ul>
CiSD's Public Utilities Trail Guidelines	<ul style="list-style-type: none"> <li>• Trails shall be designed when possible in compliance with ADA regulations.</li> </ul>

**Attachment 5**  
**Summary of Resource Protection and Design Guidelines**

Plan	Siting and Design Guidance
<p>ADA = American With Disabilities Act; BLM = Bureau of Land Management; CiCV = City of Chula Vista; CiSD = City of San Diego; CoSD = County of San Diego; GDP = General Development Plan; HCWA = Hollenbeck Canyon Wildlife Area; MHPA = Multi-Habitat Planning Area; MSCP Plan = Final Multiple Species Conservation Program MSCP Plan; MSCP Subarea Plan = Multiple Species Conservation Program Subarea Plan; OVRP = Otay Valley Regional Park; RJER = Rancho Jamul Ecological Reserve; SRP = Subregional Plan</p>	
<p><b>Reference Cited</b></p> <p>Hector, S. M.</p> <p>2002 Hollenbeck Canyon Wildlife Area Archaeology Management Plan with an Appendix for Rancho Jamul Ecological Reserve, Unpublished document on file at the South Coast Coastal Information Center</p>	