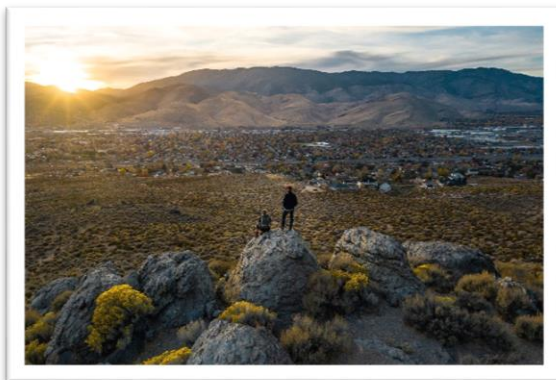


# Prison Hill Master Plan

Carson City, Nevada

Adopted May 4, 2023



# Prison Hill Master Plan

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## List of Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
aMTB	Adaptive Mountain Bike
BLM	Bureau of Land Management
CCMC	Carson City Municipal Code
CE	Conservation Easement
CWSD	Carson Water Subconservancy District
IMBA	International Mountain Bicycling Association
Management Plan	Management Plan for Open Space and Parks in the Carson River Area
MUTCD	Manual on Uniform Traffic Control Devices
NDSL	Nevada Division of State Lands
NHPA	National Historic Preservation Act
NNCC	Northern Nevada Correctional Center
NOHVCC	National Off-Highway Vehicle Conservation Council
NOHVP	Nevada Off-Highway Vehicle Program
NSP	Nevada State Prison
OHV	Off-Highway Vehicle
OPLMA	Omnibus Public Land Management Act of 2009
PA	Programmatic Agreement
PHMP	Prison Hill Master Plan
PHRA	Prison Hill Recreation Area
PNMTA	Pine Nut Mountain Trails Association
PROS	Parks, Recreation & Open Space Department
RTP	Recreational Trails Program
SHPO	State Historic Preservation Office
SNPLMA	Southern Nevada Public Lands Management Act
SSR	Silver Saddle Ranch
UPMP	Unified Pathways Master Plan
WUI	Wildland Urban Interface



## 1.0 Introduction

### 1.1 Project Area and Description

Geographically, Prison Hill covers over 3,200-acres (about five square miles) of rugged terrain in east Carson City. It is oriented in a north-south direction, approximately four miles long, with a varying width of up to 1.5 miles. Prison Hill is bordered by Golden Eagle Lane to the south, Edmonds Drive to the west, 5<sup>th</sup> Street to the north, and Carson River Road, Silver Saddle Ranch and the Carson River to the east.

Typical upland vegetation includes sagebrush, bitterbrush, desert peach, ephedra and rabbitbrush. Cottonwood and willow trees grow near the Mexican Ditch and the Carson River. The slopes on the southern half of Prison Hill are relatively gradual and the east, west and north flanks are generally steep with relatively little gradual terrain at the base. Prison Hill rises over 1,100 feet from its lowest elevation at the Carson River, 4,620 feet, to the tallest of four distinct summits which stands at 5,724 feet and affords sweeping views of Carson City and surrounding valleys and mountains.

The Prison Hill area is separated via the underlying geology. The north-end parent material is a dark-colored meta-volcanic rock, while younger and lighter-colored granitic rocks dominate the southern end. In the middle, granitic intrusions into the meta-volcanic rock appear as curious contrasts on many rock faces. The existing management of the area is also based on this geological divide with the off-road vehicle use allowed on parts of the granitic portion to the south and non-motorized use on the meta-volcanic area to the north.

Prison Hill offers many miles of popular recreational trails which are snow-free for most of the year. The trails are popular with dog-walkers, hikers, runners, mountain bikers and equestrians. Trailheads and pedestrian access points are available on all sides of Prison Hill. The south end of Prison Hill provides opportunities for both motorized and non-motorized recreationists.

**Prison Hill consists of several City-owned properties, each of which has individual management considerations:**

- The Prison Hill Recreation Area (PHRA) – 2,515-acres
- Golden Eagle Open Space – 19-acres
- Mexican Dam Open Space – 64-acres
- The property in the vicinity of the Koontz Lane water tank – 114-acres
- Silver Saddle Ranch – 808.5-acres (For planning purposes, the western side of Silver Saddle Ranch, about half of the property, includes trails, trailheads and slopes that are an integral part of Prison Hill and therefore are included.)

**Collectively, for the purposes of this Prison Hill Master Plan (PHMP), the above properties are referred to as “Prison Hill” (Figure 1).**

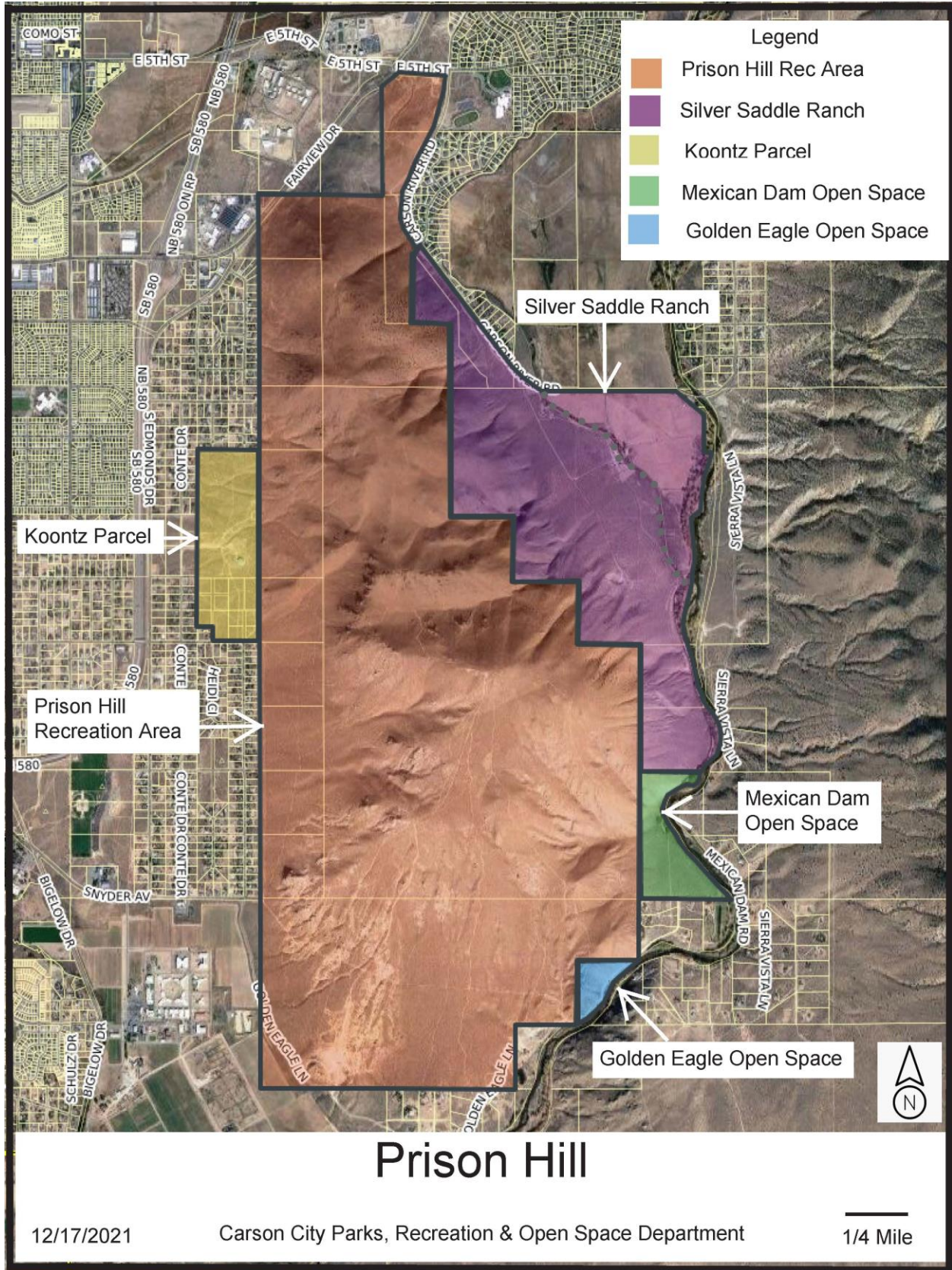


Figure 1 – General Location Map of Properties that Comprise Prison Hill

## 1.2 Purpose

The Management Plan for Carson City Open Space and Parks in the Carson River Area was completed in 2016 (Appendix A); (hereafter referred to as the Management Plan). The Management Plan specifically identified the need for a “future planning effort” in section 1.3.3, and this Prison Hill Master Plan (PHMP) is a result of that directive. The PHMP is intended to complement and update portions of the Management Plan, but it does not replace it. Additionally, the PHMP is intended to be consistent with the guidelines and principles of the Carson City Master Plan and the Unified Pathways Master Plan (UPMP).

Carson City’s population is growing steadily and so is the demand for outdoor recreation. Increasing numbers of visitors to Prison Hill reflect those trends. Further, this plan recognizes that not only are the numbers of visitors increasing, but that the types of recreational pursuits are also evolving. For example, mountain biking was once a relatively rare activity on Prison Hill, but advances in mountain bike technology have encouraged more people to purchase bikes which are now more easily adapted to the sandy soils and rocky terrain of Prison Hill. Prison Hill is now recognized as a popular mountain biking area, especially in winter months when trails on the west-side of town are covered with snow. Increasing demand and evolving recreational uses demonstrate the need for additional planning efforts.

### **The purpose of the Prison Hill Master Plan is to:**

1. Provide an update on activities at Prison Hill since the Management Plan was written.
2. Provide recommendations to guide future planning and management efforts, including trailheads, access points and trails.
3. Incorporate current planning and management efforts for the OHV area on the south end of Prison Hill.
4. Provide recommendations for the 114-acre parcel in the vicinity of the Koontz Lane water tank.



*Photo 1. Prison Hill is a popular winter destination when the Carson Range is covered in snow*

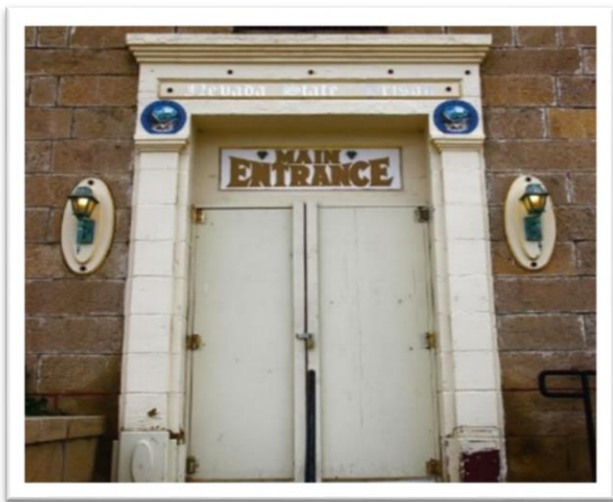
### 1.3 Vision

The goal of the Prison Hill Master Plan is to protect and preserve the natural resources, cultural resources, scenic beauty, and conservation values of the property, while balancing the needs of a growing and changing population by providing high quality recreational opportunities for a variety of users.

### 1.4 History

Archaeological discoveries place the first humans in the Carson River area about 12,000 years ago (Gortner, 1984). The Washoe People have lived in the area for about 6,000 years (Pritzker, 2000). The first person of European descent to see Prison Hill was probably Christopher ‘Kit’ Carson in 1843 (NPS, 2010). Prison Hill was a landmark for early settlers and people traveling to the California gold country from 1848 through the 1850’s. One of the earliest references to Prison Hill is a journal entry made by Jotham Newton on September 5, 1853: *“We now leave the river again for 7 miles. The road passes to the right of a ridge<sup>1</sup> and follows up a valley in a southerly direction, with high mountains at the foot of the Sierra to the right”* (Black, 2010).

Prison Hill was named after the nearby Nevada State Prison, which was Nevada’s first prison and operated from 1862-2012. For many years the inmates worked the prison sandstone quarry, which is tucked into the northwest corner of Prison Hill on State of Nevada lands. Stones from the quarry were used to build early Carson City, including the Capital building in 1871 (NPS, 2010).



**Photo 2. Nevada State Prison**



**Photo 3. Prison quarry**

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<sup>1</sup> The “ridge” is presumably Prison Hill according to the geographical description.

Other than the quarry there were no mines on Prison Hill, but fortune seekers dug many exploratory pits. Depressions and tailings piles are still visible as evidence of this history.



*Photo 4. Shallow pit and tailings*

The prominent Landmark letter, or 'S', on the west side of Prison Hill was created by students and faculty at the Stewart Indian School, which was active from 1890-1980. Alumni and other individuals from the tribe continue to maintain the 'S' (Cruz, 2020).



*Photo 5. Landmark letter*

## 1.5 Planning, Management and Guidance Documents

This section summarizes the primary agreements, plans, and laws that pertain to the various Prison Hill properties. Table 1 lists the existing documents, plans, and agreements and their relevance to this Prison Hill Master Plan. Entries in bold are new or updated since the 2016 Management Plan.

Table 1. Primary Planning, Management and Guidance Documents

<b>Document Name</b>	<b>Year</b>	<b>Relevance</b>
Eagle Valley Trail System	1995	Made recommendations for trails in Eagle Valley, including Prison Hill.
Carson River Master Plan	1996	Established recreational goals for the Carson River area and made recommendations for trails and how they should be constructed.
Carson City Open Space Master Plan	2000	Management of natural resources in the river corridor.
<b>Unified Pathways Master Plan (UPMP)</b>	2006, rev.2007, 2018	Comprehensive plan for non-automobile travel routes around Carson City.
Carson City Municipal Code, Title 13	NA	Codes related to management of parks, recreation, and open space.
Carson City Parks and Recreation Master Plan	2006	Directs management of Carson City Parks.
Carson City Master Plan	2006	General guidance for Land Use, Recreational Opportunities, Economic Vitality, Livable Neighborhoods, and a Connected City.
Creating a Community Vision: Silver Saddle Ranch and the Carson River Charrette	2008	Planning vision for public recreation and open space opportunities on the Silver Saddle Ranch, Prison Hill and along the Carson River.
Omnibus Public Land Management Act of 2009 (OPLMA)	2009	Authorized the conveyance of certain lands from the BLM to Carson City.
Carson City Community Wildfire Protection Plan	2009	Includes wildfire protection plan for Edmonds - Prison Hill.
Conservation Easement	2010	Establishes management practices and outlines both permitted and prohibited uses of certain lands conveyed through OPLMA.
Programmatic Agreement	2012	Establishes procedures to protect cultural resources on lands conveyed through OPLMA.
Management Plan for Carson City Open Space and Parks in the Carson River Area	2016	Management plan for several properties in the Carson River area.
<b>Eagle Valley Trails Committee: Community Trail Inventory, Review, Evaluation and User Needs Assessment Report</b>	2017	Grassroots volunteer effort involved extensive public input to make recommendations for trails within Eagle Valley.
<b>Signage Master Plan for Parks, Recreation and Open Space</b>	2018	Signage guidelines for all Parks, Recreation & Open Space properties.
<b>Prison Hill Recreation Area OHV Management Plan</b>	2018	Recommendations and suggestions to help sustainably manage the southern portion of Prison Hill.

## **1.6 Management Guidelines and Regulations**

The four documents below significantly influence how the lands in this Master Plan are managed.

### **1.6.1 Carson City Municipal Code, Title 13**

Title 13 of the Carson City Municipal Code applies to the Parks, Recreation & Open Space Department. Section 13.06 is specifically for Open Space. The first paragraph of section 13.06 reads:

*“In the broadest sense, the objective of the open space program is to promote quality of life for citizens of Carson City through the preservation and protection of the quality of the natural environment which has given Carson City much of its character. This natural environment includes many spectacular views of the mountains, Carson River, and Eagle Valley. The natural streams, wetlands, and open lands, with their water and related plant and animal life complement the scenic vistas and remind us of the area's early history. These natural areas, water bodies, vistas and panoramas, natural landmarks, and native flora and fauna are intended to be preserved and protected for the enjoyment of this and future generations by the judicious use of funding for open space.”*

### **1.6.2 Omnibus Public Land Management Act of 2009**

The Omnibus Public Land Management Act of 2009 (OPLMA) (Appendix B) conveyed certain lands from the Bureau of Land Management (BLM) to Carson City. Included in the conveyance was the Prison Hill Recreation Area (PHRA), Silver Saddle Ranch, and a 114-acre parcel of land on the west side of the PHRA. OPLMA included language to define use of these lands.

### **1.6.3 Conservation Easement**

Subsequent to OPLMA, a conservation easement (CE) (Appendix C) was established between the BLM and Carson City in 2010. In this Master Plan, the CE applies to the Prison Hill Recreation Area and Silver Saddle Ranch. The purpose of the CE is to protect, preserve, and enhance the conservation values of the property in perpetuity and prevent uses or development of the property that would conflict, impair, or interfere with those values. The CE recognizes that it is in the mutual interest of the BLM and Carson City to manage the property for undeveloped open space, passive recreation, and wildlife protection, and it identifies specific activities that are either “permitted” or “prohibited”. The CE allows motorized vehicles on designated roads, trails, and areas in the south end of Prison Hill. The Management Plan explains the CE in more detail.

### **1.6.4 Programmatic Agreement**

A Programmatic Agreement (PA) (Appendix D) between the BLM, Carson City, and the State Historic Preservation Office (SHPO), with concurrence from the Washoe Tribe of Nevada and California was executed in 2012 for the cultural resources on all lands conveyed under OPLMA. For this Master Plan the PA applies to the Prison Hill Recreation Area, Silver Saddle Ranch, and the Koontz Parcel. The PA provides details regarding Carson City's responsibilities for the care and treatment of cultural resources and requires compliance with Section 106 of the National Historic Preservation Act prior to undertaking ground-disturbing activity on the property.

## **1.7 Planning Efforts**

There have been several planning efforts since the Management Plan of 2016 which influenced the development of this Prison Hill Master Plan.

### **1.7.1 Eagle Valley Trails Committee Report**

The Eagle Valley Trails Committee was a local grassroots organization that undertook a multi-year project, involving extensive public input, to make recommendations for trails within Eagle Valley. Their comprehensive “Community Trail Inventory, Review, Evaluation and User Needs Assessment Report” was finished in 2017 (Appendix E).

### **1.7.2 Unified Pathways Master Plan, revised 2018**

The 2018 revision of the Unified Pathways Master Plan (UPMP) (Appendix F) incorporated the recommendations of the Eagle Valley Trails Committee Report for off-street trails, including Prison Hill.

### **1.7.3 Signage Master Plan for Carson City Parks, Recreation & Open Space Department**

The Signage Master Plan created standards for all Parks, Recreation & Open Space Department signage. It includes standards and details for trailhead kiosk signs, interpretive signs, and trail wayfinding signs (Appendix G).

### **1.7.4 Prison Hill Recreation Area OHV Management Plan**

Funded by a grant from the Nevada Off-Highway Vehicle Program, this plan was produced to provide a guiding framework to proactively manage the OHV area on the south end of Prison Hill (Chapter 5). An important component in developing this plan included public participation, which is described in greater detail in the plan itself. The plan was approved by the Open Space Advisory Committee on October 15, 2018.

### **1.7.5 Prison Hill Recreation Area Master Plan Survey**

This public online survey was conducted in 2019 and received 190 responses. It asked questions about trailheads and access points on Prison Hill, as well as some focused questions about the 114-acre Koontz Lane property on the west side of Prison Hill (Appendix H).

### **1.7.6 Prison Hill Recreation Area Open House**

In January of 2020, about 100 people attended this open house to review and discuss ideas for Prison Hill, with a primary focus on the 114-acre Koontz Lane property including trailhead access and development, parking, and neighborhood concerns (Appendix I).



## 2.0 Property Descriptions

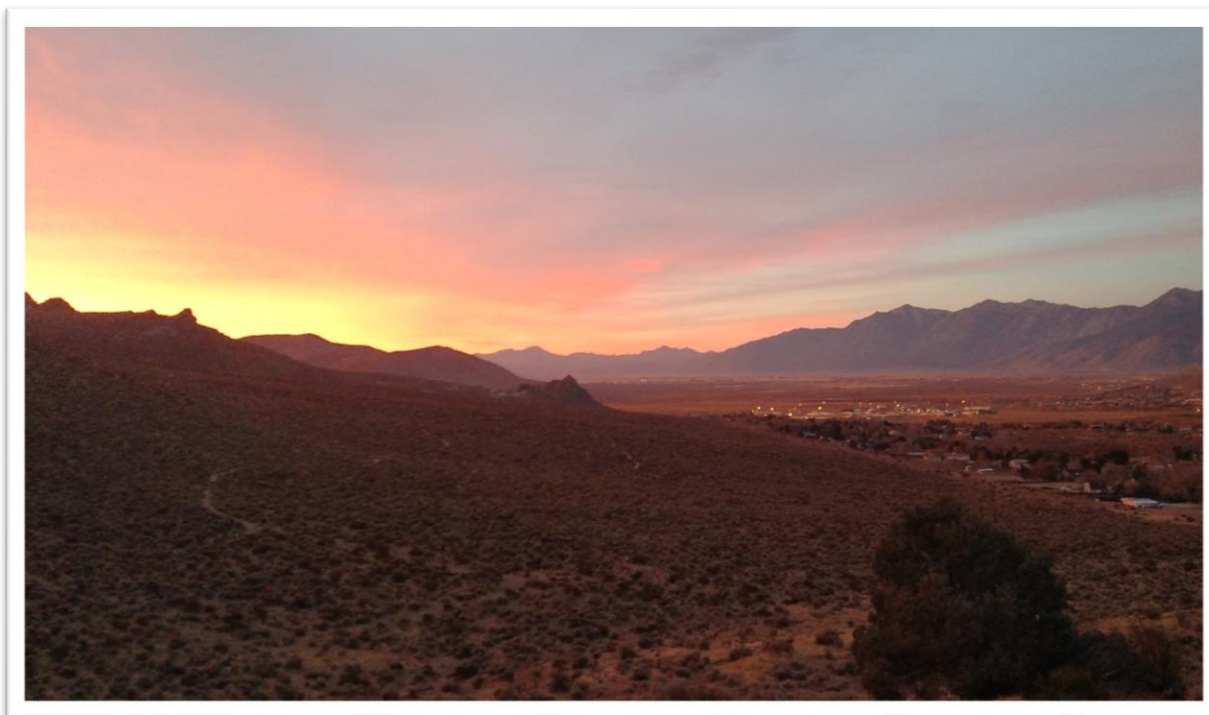
### 2.1 Prison Hill Recreation Area

The Prison Hill Recreation Area is about 2,500-acres and encompasses the majority of Prison Hill (Figure 1). The landscape is dominated by typical upland sagebrush steppe plant community, including sagebrush, bitterbrush, desert peach, ephedra, rabbitbrush and perennial grasses like Indian rice grass. Elevations range from 4,650 feet at the northwest corner to 5,724 feet on the Prison Hill summit.

For many decades the BLM owned and managed this property. In the 1970's, as Carson City's population began to experience rapid growth, the BLM recognized the significant recreational value of Prison Hill. They began planning for various recreational opportunities, both motorized and non-motorized, and named the area the Prison Hill Recreation Lands (later re-named the Prison Hill Recreation Area). In 1983 the BLM closed the northern 1,550-acres of the PHRA to motorized use and designated the southern 950-acres for Off-Highway Vehicle (OHV) recreation. About that same time the BLM created the Koontz Lane and Clearview Drive Trailheads, constructed a few non-motorized trails, and installed some fencing and signage to help delineate the non-motorized and motorized portions of the PHRA.

In 2015, as part of the OPLMA, the PHRA was officially conveyed to Carson City and is managed by the Open Space Division, under the Parks, Recreation & Open Space Department, hereafter referred to as "The Department." Through this conveyance, these lands are subject to provisions outlined in two documents, a Conservation Easement (CE) and Programmatic Agreement (PA). The CE, described in Chapter 1, governs how this area is managed. Essentially, the property is maintained for undeveloped open space, passive recreation, and wildlife protection, and the CE identifies specific activities that are either "permitted" or "prohibited." The CE allows motorized vehicles on designated roads, trails, and areas in the south end of Prison Hill. The PA, described in Chapter 1, requires compliance with Section 106 of the National Historic Preservation Act prior to undertaking ground-disturbing activity on the property.

There are many trails, trailheads and access points within the PHRA. These are described in Chapter 3 and 4, along with recommended actions for each. The OHV area is described in more detail in Chapter 5.



*Photo 6. Sunrise over the Prison Hill Recreation Area*

## **2.2 Koontz Lane Parcel**

### **2.2.1 Location and Current Uses**

The 114-acre parcel on the west side of Prison Hill in the vicinity of the Koontz Lane water tank, and on the west side of the post rail fence, was conveyed to Carson City in 2015 as part of the OPLMA (Figure 1). Vegetation is dominated by typical upland sagebrush steppe plant community, and slopes are moderate with elevations range from 4,790 feet to 4,920 feet.

This parcel is popular with dog-walkers and hikers, and the Open Space Division maintains two popular trailheads on the property, the Koontz Lane Trailhead and the Clearview Drive Trailhead, both of which provide access to trails on the west side of Prison Hill. It also serves as an important 'gateway' to Prison Hill for the large residential neighborhood on the west side of the I-580 freeway. Residents from that neighborhood typically cross the freeway using either the Koontz Lane overpass or the Clearview Drive overpass. The Public Works Department maintains a municipal water tank, water lines, and pump station on the property, which is critical infrastructure for the community's safe drinking water. The Public Works Department has also identified a location on this parcel for a future detention basin to alleviate stormwater runoff issues (Figure 2).

### 2.2.2 Property Conditions

About seven miles of dirt roads were inventoried on this property in 2019. Many of the roads were user-created, are in poor condition, and contribute to runoff. Some neighbors have expressed concern about the effects of noise and dust from motorized users on roads near their homes.

Water bars were installed on Koontz Lane to manage water flows, but they have made travel impassible for some vehicles, and many drivers navigate around the water bars resulting in significant widening of the road, and disturbance of native vegetation. Additionally, the road from Koontz Lane to the Koontz Lane Trailhead is rutted and in poor condition.



*Photo 7. Koontz Lane below the water tank*

### 2.2.3 Management Considerations

Under OPLMA, this property was conveyed to Carson City for “Parks and Public Purposes,” and it is subject to the covenants of the Recreation and Public Purposes Act ([blm.gov/recreation-public-purposes-act](http://blm.gov/recreation-public-purposes-act)). This property is not subject to the CE, but it is subject to the PA. It should be noted that this is a correction to the Management Plan which does not indicate that this parcel is subject to the PA.

The Unified Pathways Master Plan shows a proposed non-motorized crossing at Valley View Drive, which is just south of Koontz Lane and north of Clearview Drive. In 2011 the City commissioned a Preliminary Design Report for this proposed crossing. At that time the report estimated a project cost of \$2.7 million dollars for the crossing. Perhaps alternatives could be reviewed, including a physical barrier between pedestrians/bicycles/equestrians and traffic on the existing two overpasses. Several residents have indicated that a crosswalk is needed across Edmonds Drive at Koontz Lane.

In 2019 the Prison Hill Master Plan Survey specifically asked for opinions about the Koontz Lane Parcel and received 190 responses. In January of 2020 an open house to review and discuss planning for Prison Hill was attended by about 100 people. Recommendations for this parcel are based on the survey results and open house comments (Figure 2).

The Parks and Public Purposes designation allows for some site development and improvements. Examples of typical uses under the Act are historic monument sites, campgrounds, schools, fire houses, law enforcement facilities, municipal facilities, hospitals, parks and fairgrounds. Given its adjacency to the Prison Hill CE lands and to residential neighborhoods, and the current managed status as Open Space property, it is recommended that the Koontz Parcel be managed primarily for passive recreation, along with critical public water utility infrastructure. Any potential development opportunities beyond that would need to be evaluated and discussed by the Planning Commission.

#### **2.2.4 Adjacent Undeveloped BLM Parcels**

An important consideration related to the Koontz Lane Parcel is the adjacent undeveloped property which is bounded by the Koontz Lane Parcel to the east, South Edmonds Drive to the west, Valley View Drive to the south, and Sinbad Street to the north. This property is managed by the BLM and consists of six parcels totaling about 28.5-acres. A portion of Koontz Lane crosses the BLM parcels, and the City holds a non-exclusive easement on these parcels for the water utility infrastructure on Koontz Lane and on a north-south alignment with Conte Drive. The City also holds an easement for an existing detention basin at the corner of Edmonds Drive and Valley View Drive which was constructed in 2020. The BLM has indicated a desire to dispose of these parcels. If the properties were sold for economic development, then the recommendation to the Planning Commission would be to improve Koontz Lane to City standards upon development, which would help address runoff, erosion, and other management issues on this portion of the road that leads to the trailhead. Additionally, recommendations to the Planning Commission would include retaining the existing pedestrian access points to Prison Hill if the area is developed (Figure 2).

#### **Recommended Actions and Guidelines**

The following actions and guidelines are recommended for the Koontz Lane Parcel:

- ✓ Regrade and improve drainage on the roads leading to trailheads.
- ✓ Place signage and install fencing or other barriers to restrict motorized use beyond trailheads and trailhead access roads.
- ✓ Develop a sustainable network of non-motorized trails within the property, using road-to-trail conversion where possible.
- ✓ Decommission unnecessary or erosive roads and perform rehabilitation.
- ✓ Improve and expand the Koontz Lane Trailhead (refer to section 3.0).
- ✓ Improve and expand the Clearview Drive Trailhead (refer to section 3.0).
- ✓ Maintain a fire break adjacent to housing.
- ✓ Add a crosswalk or other safety enhancements across Edmonds Drive at Koontz Lane for pedestrians and equestrians, in coordination with Public Works.
- ✓ Review needs and options with Public Works for enhancing pedestrian/bicycle/equestrian access across the Koontz Lane overpass and the Clearview Drive overpass.
- ✓ Coordinate with Public Works for road maintenance on Koontz Lane.

- ✓ Support Public Works plans for detention basins on this property or other stormwater infrastructure on this property.
- ✓ Pending future development of the BLM parcels, a recommendation to the Planning Commission would include improving Koontz Lane to City standards and retention of existing pedestrian access points.



***Photo 8. Looking north across the Koontz Lane parcel***

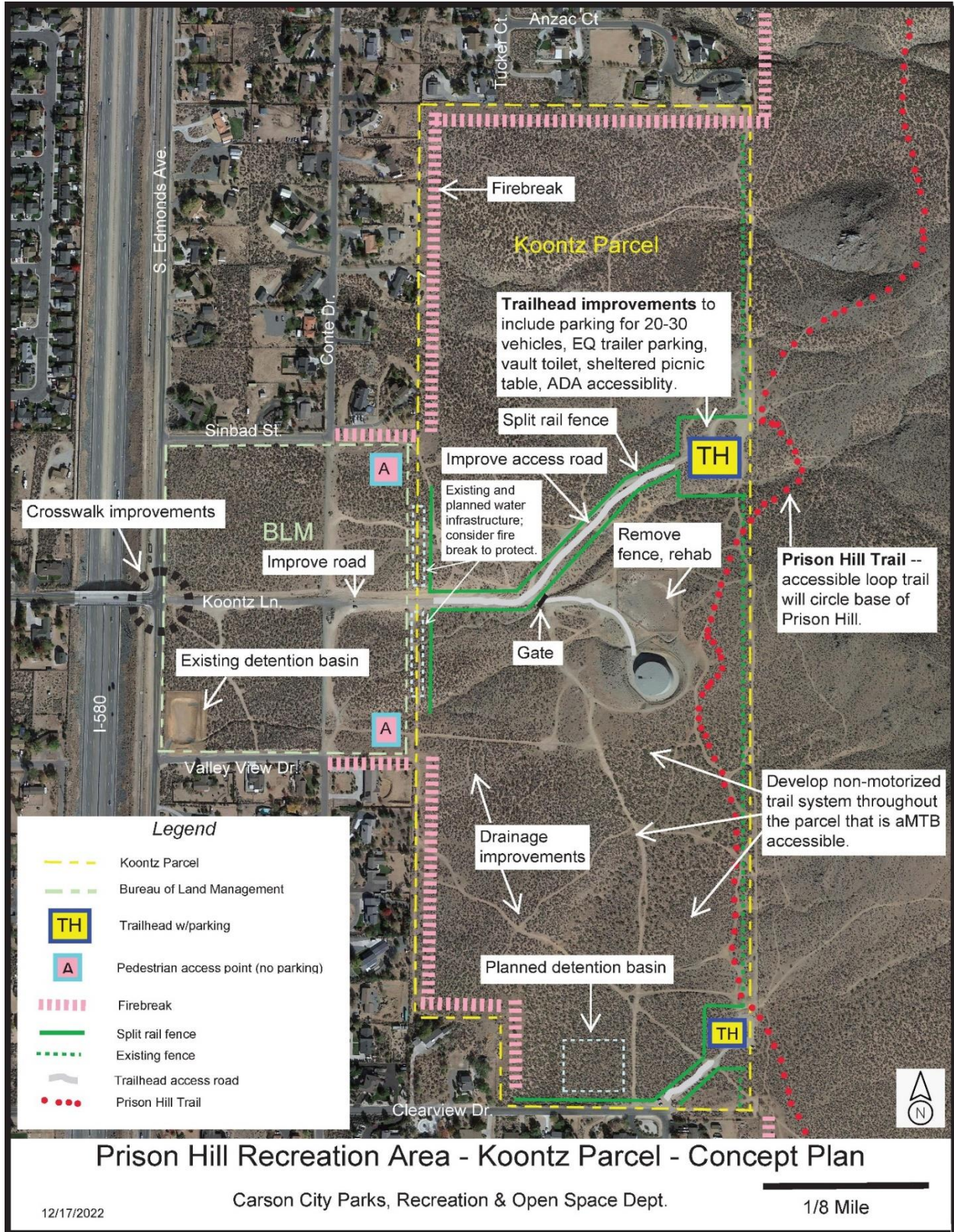


Figure 2 – Prison Hill Recreation Area, Koontz Parcel, Concept Plan

### 2.3 Golden Eagle Open Space

The Golden Eagle Open Space is a 19.3-acre parcel near the southeast corner of Prison Hill (Figure 1). It was purchased in part by the City for Open Space utilizing Quality of Life Sales and Use Tax Funds, and in part by the Nevada Conservation and Resource Protection Grant Program / Question 1 (Q1) funding (Management Plan). The property can be accessed from Golden Eagle Lane, about 2.2 miles from the intersection with Snyder Avenue. A monument sign located on a small turnout on Golden Eagle Lane identifies the property which lies uphill, or east/northeast of the sign.



**Photo 9. Golden Eagle Open Space monument sign**

The property is dominated by a sagebrush steppe plant community, but there is a small riparian corridor between Golden Eagle Lane and the Carson River. Golden eagles are frequently sighted on or near the property, and bald eagles are occasional visitors. Elevations range from 4,625 feet at the river to 4,970 feet at the high point where a scenic lookout provides views of the river and the Carson Valley. An erosion control project including check dams and a detention basin was completed in 2017 to control sediment runoff into the Carson River. The detention basin is a part of the Prison Hill Recreation Area, directly adjacent to the Golden Eagle Open Space monument sign; the project addresses runoff that originates in part from the property.

The property is adjacent to the Prison Hill OHV area and there are a few roads on the property which have been used by OHV's. The steep, erodible slopes, and the necessity of protecting the erosion control project make this property unsuitable for motorized use. The property should be managed for non-motorized, dispersed recreation per CCMC Section 13.06, and for the purposes outlined in the funding agreements which places emphasis on *"...enhancing and restoring the Carson River corridor."* In 2019 all entry roads into the Golden Eagle Open Space from the west (Prison Hill OHV area) were closed to motorized travel using signage, bollards and some fencing. A gate and fencing were installed at the Golden Eagle Lane entrance to allow only non-motorized entry. Some OHV users continue to breach the closures and so it will require diligence to replace signs, repair gates and fencing, educate users and enforce the closures.

### Recommended Actions and Guidelines

The following actions and guidelines are recommended for the Golden Eagle Open Space:

- ✓ Manage the property for non-motorized, passive recreation with an emphasis on protection of the Carson River corridor.
- ✓ Decommission trails and roads on steep slopes and erodible soils, including scarification, vertical mulching and reseeding.
- ✓ Realign or construct a new sustainable single-track trail to connect Golden Eagle Lane to the scenic lookout point, and then to the future Prison Hill Trail.



***Photo 10. View from high point on Golden Eagle Open Space***



## 2.4 Mexican Dam Open Space

The Mexican Dam Open Space is a 64.3-acre parcel on the east side of Prison Hill, south of Silver Saddle Ranch, and adjacent to the Carson River (Figure 1). It was purchased solely by the City for use as Open Space, utilizing Quality of Life Sales and Use Tax Funds and is subject to the provisions of the CCMC Section 13.06.

A monument sign identifying this Open Space is located on the southern border of the property near the northern terminus of Golden Eagle Lane. Golden Eagle Lane is private in this area, and it is gated and posted as such. A grant of easement recorded in 2000 states that the road is “not for general public use” (recorded document #250143). The private property owners remain somewhat agreeable to non-motorized recreational use of the road. Hence, access to this property is achieved only by non-motorized means. Most visitors park at either Silver Saddle Ranch or Carson River Park and walk or bicycle south to the property on the Mexican Ditch Trail. A future section of the Prison Hill Trail will improve access from the southeast.



*Photo 11. Mexican Dam Open Space monument sign*

The uplands are dominated by a sagebrush steppe plant community, and the river corridor on the east side of the property is riparian. Elevations range from 4,620 feet at the river to 5,040 feet at the northwest corner, and much of the property offers a contiguous undeveloped landscape from hillside to river. The Mexican Ditch begins near the north end of the property, adjacent to the Mexican Dam. Both the dam and the ditch were constructed in 1860 to divert water from the Carson River for two ore reduction mills downstream in the former town of Empire: the Mexican Mill and the Meade Mill. The ditch is an historic resource related to the turbulent history of water distribution and water rights in the State. Currently, the ditch is operated by the Mexican Dam and Ditch Company, and it provides irrigation water for several properties including Silver Saddle Ranch, Old Buzzy’s Ranch, Riverview Park and private properties along Hells Bells Road.

The Mexican Dam is a challenging portage for boating recreationists. In 2020 a new bridge on the Mexican Ditch intake was completed which enhanced crossing safety for hikers, bicyclists, equestrians and recreationists with small boats. Volunteers from Muscle Powered (Citizens for a Walkable and Bikeable Carson City) made improvements to the narrow trail immediately south of the bridge for added safety. A designated boater’s ‘take-out’ above the dam is being planned in cooperation with the Carson Water Subconservancy District (CWSD). All these enhancements support both the future expansion of the Carson River Aquatic Trail and the planned Prison Hill Trail around the base of Prison Hill.

There are two roads that enter the Mexican Dam Open Space from the Prison Hill OHV area on the west side of the property. These roads are steep, unsafe, contribute to erosion of fine sand onto the floodplain and have triggered private property trespass issues. To prevent motorized entry into the Mexican Dam Open Space, the Prison Hill OHV area boundary was relocated further west in 2019, effectively closing these roads.

#### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for the Mexican Dam Open Space:

- ✓ Decommission and rehabilitate erosive roads and trails.
- ✓ Manage the property for non-motorized, passive recreational uses with emphasis on protection of the Carson River corridor.
- ✓ Trail development should be minimal, and the future Prison Hill Trail should be constructed above, and not through, the small riparian area.
- ✓ Create a 'take-out' for boating recreationists upstream of the dam and north of the riparian area, on the west side of the Carson River.
- ✓ Coordinate with the Mexican Dam and Ditch Company regarding dam maintenance and to maintain recreation access.



***Photo 12. The Carson River from Mexican Dam Open Space***

## 2.5 Silver Saddle Ranch

Silver Saddle Ranch (SSR) is 808.5-acres and consists of a riparian corridor, irrigated pasture and sagebrush steppe uplands (Figure 1). SSR is generally considered a separate property from Prison Hill because of its historic buildings and actively used pasture lands, meriting different management practices. A different master plan from this document will outline recommendations and usage in the future. However, the upland habitat that is within the SSR property boundaries not directly associated with the ranch and pastures is a continuation of the eastern flanks of Prison Hill. There are several major drainages on this side of Prison Hill, some of which have experienced erosion and runoff in the past during major storm events. This part of the property is also an important access point to Prison Hill trails and includes a critical section of the Prison Hill Trail. Trailheads and trails are addressed in more detail in Chapters 3 and 4, along with recommended actions.



*Photo 13. Prison Hill as seen from Silver Saddle Ranch*

## 2.6 State of Nevada Lands

There are two properties located within the boundary of the CE adjacent to Prison Hill that are owned by Carson City, but managed by State of Nevada entities:

- The Army National Guard occupies approximately 1.5-acres near the northwest corner of Prison Hill, on the northwest side of Fairview Drive. The land is presently used for parking and a solar panel array, and it is subject to a prior easement agreement between the BLM and the State of Nevada.
- The Northern Nevada Correctional Center (NNCC) occupies approximately 18-acres near the southwest corner of Prison Hill, on the west side of Golden Eagle Lane. The land is used as irrigated pasture and is subject to a prior agreement between the BLM and the State of Nevada.

Additionally, there are two State of Nevada owned properties adjacent to the PHRA that are logically a functional extension of the PHRA. Approximately 65-acres on the northwest corner of Prison Hill on the east side of Fairview Drive are owned by Nevada Division of State Lands (NDSL), and under the jurisdiction of the Nevada State Prison (NSP). The other NDSL property is about 10-acres near the southwest corner of Prison Hill on the east side of Golden Eagle Lane and is under the jurisdiction of the NNCC. Carson City should pursue development of a cooperative agreement with the State of Nevada to simplify management practices across land ownership. If an opportunity arose, Carson City may consider acquisition of these parcels.

In 2019, utilizing a temporary Right of Entry Permit from the NDSL, Carson City conducted work on the Nevada State Prison property which included the decommissioning of old fall line<sup>2</sup> roads and construction of a segment of the 5<sup>th</sup> Street Loop Trails. This work was funded by a Recreational Trails Program grant. In 2020 the NDSL issued a license to the City for the portion of the trail that crosses State Owned Lands, for which the City pays a nominal annual fee. Additionally, the entrance to the Prison Hill OHV staging area crosses about 160 feet of NDSL lands that are managed by the NNCC. This road has been in public use for many decades; however, Carson City should work with NDSL and NNCC to formalize legal access through an easement or other method. These lands are illustrated in Figure 3.

### Recommended Actions and Guidelines

The following actions and guidelines are recommended for State of Nevada lands:

- ✓ Because the City and NDSL have adjoining properties on Prison Hill, the City should continue to be a cooperative partner with NDSL to manage the properties in a way that best meets the goals and objectives of both landowners. This may include development of easements and/or a cooperative agreement.
- ✓ Consider future federal legislation such as a congressional lands bill to transfer NDSL occupied properties that Carson City is not using to NDSL ownership.

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<sup>2</sup> A "fall line" road has a grade that exceeds 50% of the slope grade.

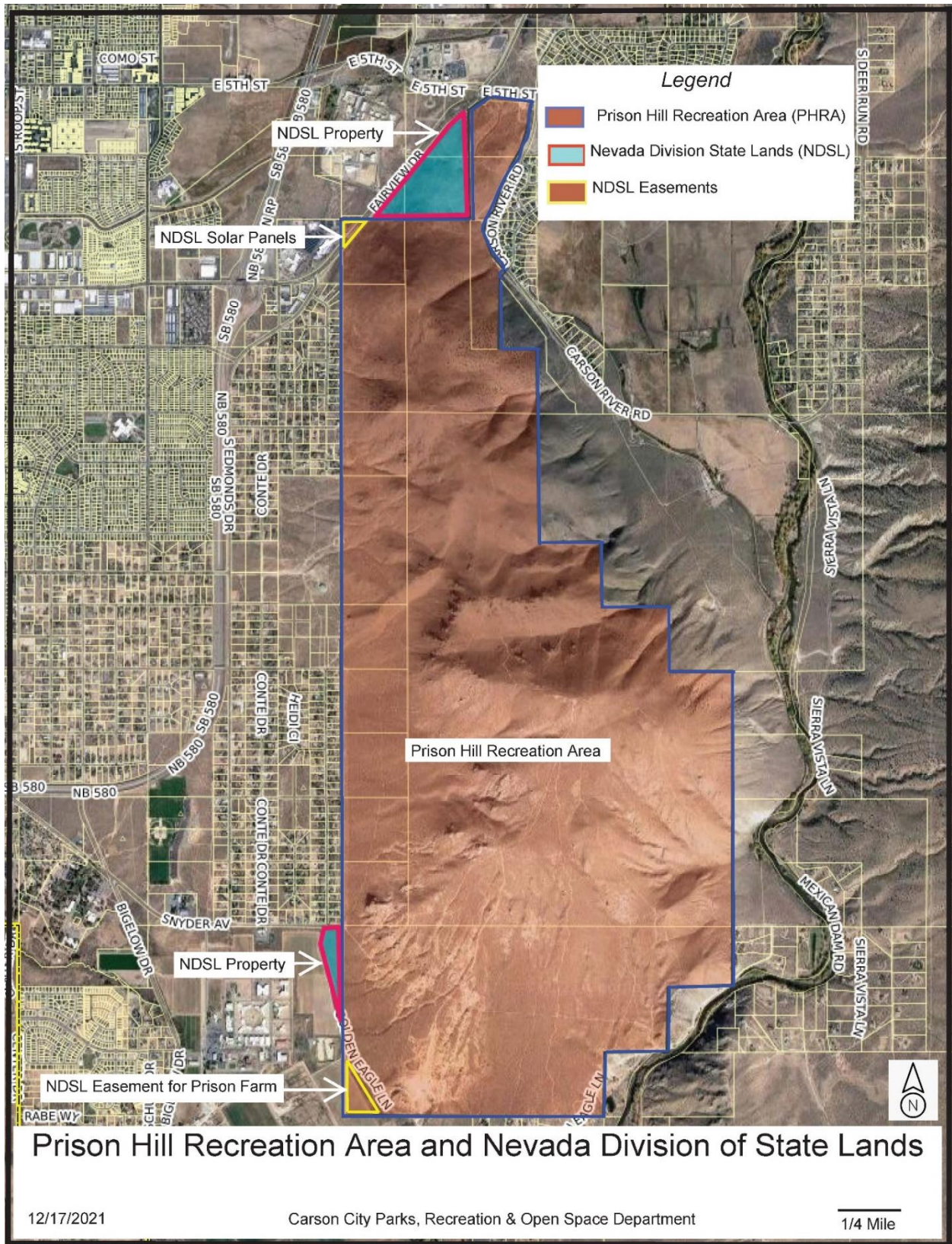


Figure 3 – Prison Hill Recreation Area and Nevada Division of State Lands

## 3.0 Trailheads and Access Points

### 3.1 Trailheads

There are five existing trailheads on Prison Hill (Figure 4): 5<sup>th</sup> Street Trailhead, Silver Saddle Ranch Trailheads, Prison Hill OHV Staging Area, Clearview Drive Trailhead and Koontz Lane Trailhead.

#### 3.1.1 5<sup>th</sup> Street Trailhead

The 5<sup>th</sup> Street Trailhead is located on the north end of Prison Hill near the intersection of Fairview Drive, 5<sup>th</sup> Street and Carson River Road. The 2016 Management Plan notes that this area has been impacted by many years of OHV use. The CE prohibits motorized use in this area and the Management Plan recommended trailhead improvements to manage both motorized and non-motorized use.



*Photo 14. 5<sup>th</sup> Street Trailhead*

To meet the objectives of the Management Plan, fencing was installed to restrict motorized use. In 2019-2020, a project funded by a grant from the Federal Highway Administration Recreational Trails Program (RTP) made significant improvements to the parking lot, creating two ADA parking spaces, fixing drainage problems that were eroding the parking lot, adding a vault toilet, installing a covered picnic table and posting informational signage. A trash can and dog waste disposal station were also added. The parking lot accommodates an estimated 20-30 vehicles and two to four trailers. Since completion in 2020, observations indicate that this may have become the most popular trailhead at Prison Hill.

The RTP grant also funded the construction of three short loop trails totaling 1.6 miles. Referred to as the 5<sup>th</sup> Street Loop Trails, each loop is named for a common local plant: Sagebrush, Rabbitbrush, and Bitterbrush. Interpretive signs were placed on each loop to describe the plant species for which it was named. These trails were constructed to an average width of four feet to accommodate an adaptive mountain bike. The trails portion of the project included scarification or decommissioning and reseeding of several miles of old roads and some drainage improvements to reduce erosion. Trail wayfinding signs were placed as part of an Eagle Scout project.

There are two viewpoints that are easily reached from the 5<sup>th</sup> Street Trailhead: Ranch Overlook and Boy Scout Viewpoint. These viewpoints provide sweeping views of Carson City, Silver Saddle Ranch, Old Buzzy's Ranch and the Carson River. A short single-track trail to Boy Scout Viewpoint was constructed as part of another Eagle Scout project. That project also completed the installation of benches at both viewpoints and placement of an interpretive sign at Ranch Overlook.

The 5<sup>th</sup> Street Trailhead also provides access to the Prison Hill Trail East, which is a multi-use pathway that is part of the Carson River Trail System. It provides a link to Silver Saddle Ranch, and it is a segment of a planned full-loop Prison Hill Trail. The North Loop may also be accessed from the 5<sup>th</sup> Street Trailhead via a connector trail at the top of the Bitterbrush Loop. A sustainable realignment of the connector trail is planned and will be named the Desert Peach Trail.

In 2021, the 5th Street Trailhead and Trails project was selected by the Coalition for Recreational Trails as the winner of their Annual Achievement Award for outstanding use of Recreational Trails Program funds in the Community Linkage category. The parking lot and easy loop trails have become a popular location for hosting Ranger/Naturalist programs and other small events like trail runs, bike rides and cross-country meets for local schools.

### 3.1.2 Silver Saddle Ranch Trailheads

Located on Carson River Road on the east side of Prison Hill, Silver Saddle Ranch can accommodate parking for about 30 vehicles and two to three horse trailers. In addition to the official parking at the ranch complex, the entrance on Carson River Road accommodates about five vehicles just outside the gate, and there is room for about five vehicles at the south end of the entrance road. During special events, the arena can be opened to provide parking for about 100 additional vehicles.

There are two single-vault toilets at Silver Saddle Ranch, along with trash receptacles and a dog waste disposal station near the entrance gate. Silver Saddle Ranch provides access to the Mexican Ditch Trail, the Dead Truck Canyon Trail and the Carson River Trail System.



**Photo 15. Parking at entrance gate**



**Photo 16. A few spaces on entrance road**



**Photo 17. Event parking in the corral**



**Photo 18. Main parking area**

#### Recommended Actions and Guidelines

The following actions and guidelines are recommended for trailheads at Silver Saddle Ranch:

- ✓ Designate two ADA parking spaces.
- ✓ Evaluate need for additional designated equestrian trailer parking.
- ✓ Add wayfinding signage at trailheads to indicate access to trails.



### 3.1.3 Prison Hill OHV Staging Area

This large OHV staging area is located off Golden Eagle Lane, 0.9 miles south of the intersection with Snyder Avenue, and can accommodate many vehicles and trailers. It provides access to the motorized portion of Prison Hill but is also used by non-motorized recreationists. In 2019 an ADA compliant portable toilet was placed, and a double kiosk sign was installed with a map showing the motorized portion of Prison Hill. In 2020-2021 jack-rail fencing was placed in the staging area to control speeds and to delineate a *Tot-Lot* and *Beginner Area*.

#### Recommended Actions

The following actions and guidelines are recommended for the OHV Staging Area:

- ✓ Provide a permanent enclosure for the portable restroom.
- ✓ Place additional wayfinding signage as needed.



Photo 19. Kiosk sign at the Prison Hill OHV Staging Area

### 3.1.4 Clearview Drive Trailhead

Located at the east end of Clearview Drive, this parking lot was constructed many years ago by the BLM and it accommodates six to eight vehicles. A kiosk sign was installed in 2020, and there is a trash receptacle on-site. The Clearview Drive trailhead provides access to non-motorized trails on the west side of Prison Hill.

#### Recommended Actions and Guidelines

The following actions and guidelines are recommended for the Clearview Drive Trailhead:

- ✓ Re-grade and reshape the parking lot to accommodate 10-15 vehicles and improve drainage.
- ✓ Install fencing to delineate the parking area and prevent impacts to vegetation outside of the parking area.
- ✓ Consider adding a vault toilet.
- ✓ Install a dog waste disposal station.



*Photo 20. Clearview Drive Trailhead*

### 3.1.5 Koontz Lane Trailhead

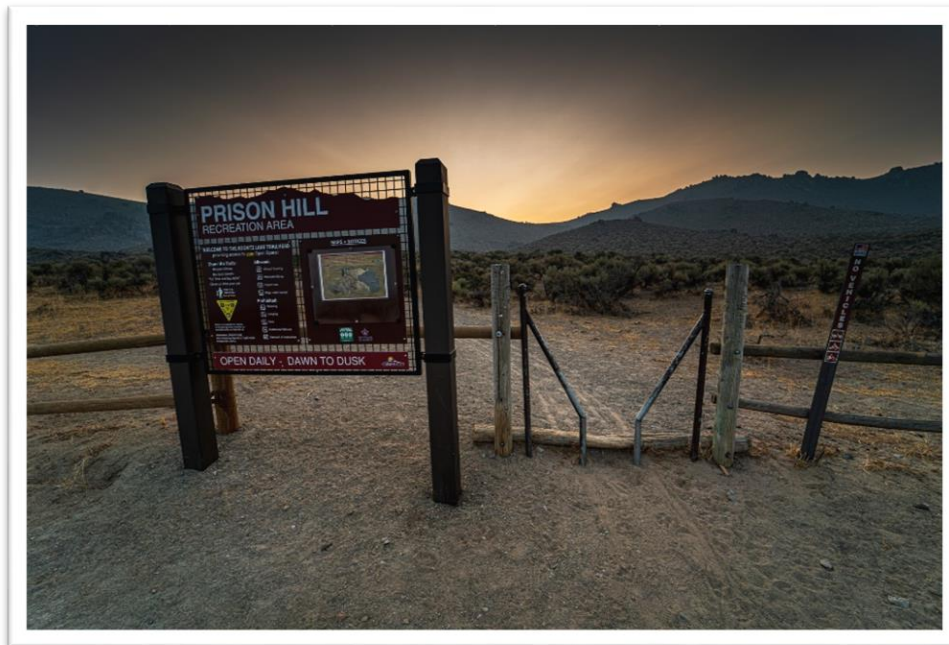
This parking lot is located at the east end of Koontz Lane, just north of the large municipal water tank. It was constructed many years ago by the BLM and accommodates eight to ten vehicles. A kiosk sign was installed in 2020, and there is a trash receptacle on-site. The Koontz Lane Trailhead provides access to trails on the west side of Prison Hill.

Results of the 2019 Prison Hill Master Plan Survey indicated that this was the most popular trailhead at Prison Hill at that time. Survey respondents indicated that they would like to see improvements made to the access road. Equestrians are often seen parking their trailers below the parking lot on a north-south waterline easement between existing segments of Conte Drive.

#### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for the Koontz Lane Trailhead:

- ✓ Re-grade the access road and improve drainage.
- ✓ Re-grade and reshape the parking lot to improve drainage and accommodate 20-30 vehicles and two equestrian trailers.
- ✓ Add a vault toilet.
- ✓ Add a picnic table with shade cover.
- ✓ Add two ADA parking spaces and ADA compliant access to toilet and picnic table.
- ✓ Add a dog waste disposal station
- ✓ Install fencing to delineate the parking area and prevent impacts to vegetation outside of the parking area.
- ✓ Safety enhancements for pedestrian, bicycle, and equestrian crossing of Edmonds Drive.



**Photo 21. Koontz Lane Trailhead**

### 3.2 Pedestrian Access Points

There are five pedestrian access points on Prison Hill. These might also be referred to as ‘neighborhood access points’ because they are typically used by nearby residents. These access points do not have any vehicle parking (Figure 4).

- Snyder Avenue
- Bennett Avenue
- Valley View Road
- Sinbad Street
- Damon Road

#### Recommended Actions and Guidelines

The following actions and guidelines are recommended for pedestrian access points:

- ✓ Install small trail marker.
- ✓ Install travel management sign indicating non-motorized use only.
- ✓ Install step-over gates or other deterrents as needed to discourage dirt bike entry.

### 3.3 Vehicle Access Point

There is one existing vehicle access point at the corner of Snyder Avenue and Golden Eagle Lane (Figure 4). It is a fall line road that is eroded, visually displeasing, under-sized, and non-functional in its current condition. This road has been in public use for many decades; however, it crosses about 290 feet of NDSL property, which is managed by the NNCC.

Carson City should work with NDSL and NNCC to formalize legal access through an easement or other method so that improvements could be made to the road. If legal access is not formalized, it may become necessary in the future to disallow motorized access. Non-motorized access can be retained by constructing a trail through the Snyder Avenue right-of-way.

#### Recommended Actions and Guidelines

The following actions and guidelines are recommended for the vehicle access point:

- ✓ Work with NDSL and NNCC to formalize legal access, and then realign and improve the road for sustainability and add informational kiosk signage.
- ✓ If legal access is not formalized, it may be necessary in the future to disallow motorized access here and to construct a trail through the Snyder Avenue right-of-way for non-motorized users.

**Photo 22. Snyder Avenue access point**



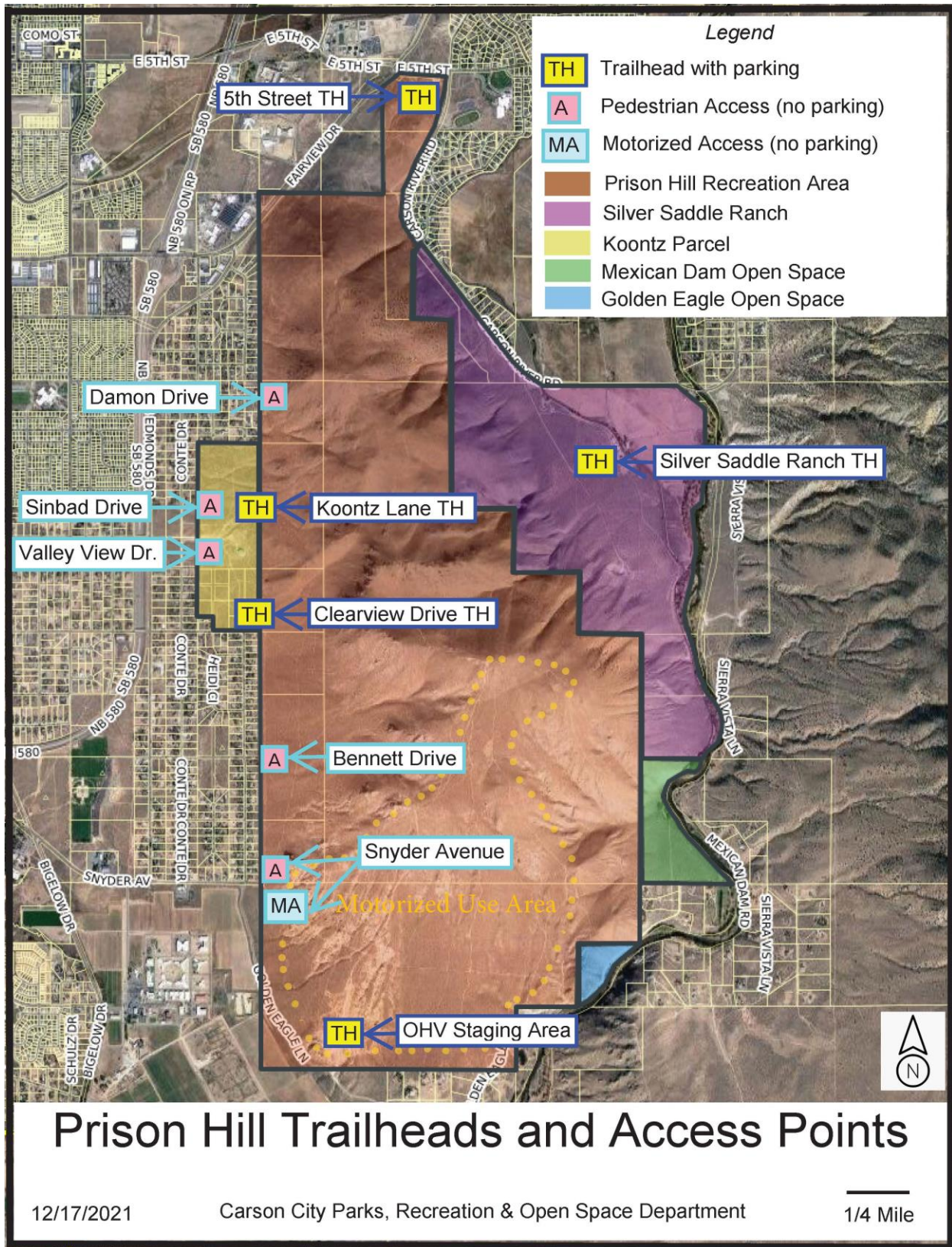


Figure 4 – Prison Hill Trailheads and Access Points

## 4.0 Trails (Non-Motorized)

### 4.1 Existing Trails

There are many miles of existing trails on Prison Hill. A few of them were built in the early 1990's by the BLM, some have been built or realigned since 2015 when the PHRA was conveyed to the City, and many are old roads or social trails. These older trails are sometimes referred to as *legacy trails*, and they are often steep, erosive, and unsustainable. Some of the legacy trails can be incorporated into a planned trail system, others can be fixed or realigned, and some should be decommissioned.



*Photo 23. A view from the North Loop Trail*

### 4.2 Trail Planning Guidelines

There is a growing trend nation-wide in the demand for trails and outdoor recreational opportunities. This demand is reflected in our own community, where regional population growth is an additional factor. The trails on Prison Hill have experienced a significant increase in popularity in recent years. Many people find this area especially attractive in the winter and spring when trails on the west side of town are snow-covered or muddy.

Trail planning needs to recognize and sustain the conservation value of the land, while balancing the need of the public's opportunity for passive recreation. The two goals are not mutually exclusive. Creation of trails that are planned, designed, and built to be both sustainable, and appealing to users, can help to protect the landscape by discouraging the creation of social trails. In some instances, a well-designed trail system may afford the public the access and opportunities they seek while simultaneously reducing the total miles of trail in a given area as some of the legacy trails are decommissioned. The north end of Prison Hill, just above the 5<sup>th</sup> Street Trailhead is an example of this model. Over 5.5 miles of old trails and roadbed, many of which were in poor condition and contributing to erosion, were decommissioned and replaced with 1.6 miles of sustainably built loops trails which are family-friendly and accessible to an adaptive mountain bike (aMTB).

The trail planning guidelines and considerations in this plan are largely derived from the UPMP, the Carson City Master Plan, the Eagle Valley Trails Committee Report, the Carson River and Silver Saddle Ranch Charrette, the Carson River Master Plan and recommendations from Muscle Powered.

#### **4.2.1 Sustainability**

Construct new pathways for sustainability, according to industry standards. Resources include: The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities for bicycle transportation facilities; Trail Solutions: International Mountain Bicycling Association's (IMBA) Guide to Building Sweet Singletrack for trails open to mountain bike use; the USFS's Accessibility Guidebook for Outdoor Recreation and Trails; and the USFS Trail Construction and Maintenance Notebook. Many other resources are also available.

#### **4.2.2 User Appeal**

Trails should be built with the intent of making them fun, desirable and attractive to discourage the establishment of new social trails:

- Provide a continuous network of recreational pathways.
- Where possible, trails should be designed in loops.
- Seek locations that afford opportunities for outstanding views, including views of Carson City, the Sierra, the Carson River, Carson Valley, Silver Saddle Ranch, the Pine Nut Mountains and the peaks/canyons/geologic formations of Prison Hill.
- Utilize interesting features like geological formations.
- Apply interesting/historic/informative names to trails.
- Utilize trailhead kiosks and wayfinding signs to inform visitors about proper uses and etiquette, stewardship, cultural and natural history.

#### **4.2.3 Accessibility**

In the Carson City Master Plan, Guiding Principle 12 says, "*Carson City is committed to shared use of most trail corridors...*," and goes on to say, "*The City will also seek to provide access to all feasible portions of the pathway system and open space areas for persons with disabilities.*" The

Management Plan addresses accessibility in Section 5.3. There are many opportunities on Prison Hill to support trail accessibility.

- Trails should be designed for shared use and accessibility, unless constrained by available land (steepness, right-of-way, and width), incompatible adjacent land uses, the comfort and safety of users or environmental considerations.

#### **4.2.4 Environmental and Cultural Considerations**

- For the protection of wildlife, it is recommended that a 150-foot buffer zone be established along the river. This buffer zone would be measured from the ordinary and permanent high-water mark. There may be conditions such as topography, vegetation density, cultural sites, private land holdings, wetlands etc. that would not allow the full 150-foot buffer from the river.
- Some areas should be identified as trail-free zones (Figure 5). This should include some of the steep slopes on the east side of Prison Hill which are relatively undisturbed and may provide suitable habitat and corridors for wildlife.
- On lands identified in the PA, Carson City must ensure compliance with Section 106 of the NHPA before undertaking new trail construction.
- Consider monkeyflower habitat in trail layout and design (see Chapter 6.4 for additional information).

#### **4.2.5 Trails as Resilient Infrastructure**

Trails may be able to play a role in mitigating the effects of climate change by managing stormwater, providing access to emergency responders and helping to reduce emissions. The increase in frequency and severity of extreme weather events should be a consideration when planning the location, design and construction of trails. Design elements may include:

- Potential use of a trail for non-automobile transportation to reduce congestion and carbon emissions.
- Strategic placement of a trail to provide a fuel break and access for firefighters and other emergency services personnel.
- Inclusion of water management features to address existing and anticipated erosional issues and reduce stormwater run-off into residential areas, infrastructure and roads.

### **4.3 Prison Hill Specific Trail Plan Components**

Specific trail planning for Prison Hill (Figure 5) takes advantage of the unique terrain and considers the guidelines listed in section 4.2. The plan consists of four basic components:

1. The *Prison Hill Trail* - an accessible shared-use trail around the base of Prison Hill, connecting all the trailheads in a single loop.
2. Singletrack natural-surface trails, designed as a network to connect trailheads across Prison Hill while also providing opportunities for loops.
3. Natural-surface trail options for adaptive mountain bikes on some of the more moderate slopes.
4. Designated areas to remain trail free.



#### **4.3.1 Prison Hill Trail – An Accessible Shared-Use Trail**

A shared-use loop trail around the base of Prison Hill provides an outstanding opportunity to create a pathway that is accessible to everyone, including persons with disabilities. The vision for a loop trail around Prison Hill (Figure 5) dates to at least 1995 when the Eagle Valley Trail Plan was developed. Since then, a loop trail around Prison Hill has been identified in the Unified Pathways Master Plan (2006, revised 2008 and 2018), the Silver Saddle Ranch and the Carson River Charrette (2008) and the Eagle Valley Trails Committee Community Trail Inventory, Review, Evaluation and User Needs Assessment Report (2017).

The Prison Hill Trail will be about 10.7 miles long when completed and it will link every trailhead on Prison Hill. As of 2021 about 4.5 miles of the Prison Hill Trail exists:

- Prison Hill Trail Fairview – a paved pathway, one-mile-long, paralleling Fairview Drive along the northwest side of Prison Hill.
- Prison Hill Trail East – an unpaved, firm-surface pathway, 1.6 miles long, extending from the 5<sup>th</sup> Street Trailhead to Silver Saddle Ranch.
- Prison Hill Trail/Mexican Ditch Trail – an unpaved, firm-surface pathway, extending 1.6 miles from Silver Saddle Ranch to the Mexican Dam. Some sections need improvements or repair.
- A new non-motorized shared use bridge was constructed in 2020 across the Mexican Ditch at the intake by the Mexican Dam. This bridge is an important component in development of the Prison Hill Trail in addition to facilitating portage of small watercraft around the dam.

Currently planned for design and construction with funding from a SNPLMA grant:

- Prison Hill Trail West – an unpaved, firm surface pathway, 2.5 miles long, extending from the Koontz Lane Trailhead to the Clearview Drive Trailhead, and ending at the Prison Hill OHV Staging Area. The plan includes improvements to the Koontz Lane Trailhead.

Remaining to be funded, designed and constructed:

- Prison Hill Trail South – this segment will begin at the Mexican Dam and extend south around Prison Hill to entrance for the OHV staging area, about 2.3 miles in length.
- Connection from the Koontz Lane Trailhead north to the Fairview Drive Trail, about 1.2 miles in length. This segment will require careful planning as it would need to ascend steep cross-slopes above some homes before it descends to the Fairview Drive Trail. An alternative would be to navigate through, or below, the residential area near the northern end of S. Edmonds Drive.
- A short segment, about 0.2 miles, to connect the Prison Hill Trail Fairview with the 5<sup>th</sup> Street Trailhead.

### 4.3.2 Singletrack

Singletrack, native-surface trails should connect trailheads across Prison Hill and provide opportunities for hiking or riding loops. The popular North Loop is an example of an existing destination trail that was built to be both fun and sustainable, but it needs new trails to connect it to the trailheads. Specific trail priorities within the non-motorized part of Prison Hill include:

- Construct the *Desert Peach Trail* to connect the 5<sup>th</sup> Street Loop Trails with the North Loop.
- Complete Phase I of the *Odyssey Trail* to connect the Koontz Lane Trailhead with the Prison Hill Saddle and the North Loop.
- Construct Phase II of the *Odyssey Trail* to connect the Prison Hill Saddle with Dead Truck Canyon.
- Construct Phase III of the *Odyssey Trail* to connect Dead Truck Canyon with the Summit, then continuing south and west to the Clearview Trailhead.
- Design a trail alignment from the summit to the pedestrian access at Snyder Avenue, and plan for future construction of this connection.

### 4.3.3 Opportunities for Adaptive Mountain Bikes

Adaptive mountain bikes (aMTB) are growing in popularity among persons with disabilities. An aMTB typically has three wheels and is 35 inches wide. Resources are available to help with trail design for accessibility, including the Kootenay Adaptive Sport Association (KASA) aMTB Trail Standards, American Trails, the International Mountain Bicycling Association (IMBA), and the Forest Service Trail Accessibility Guidelines (FSTAG). The 5<sup>th</sup> Street Loop Trails, accessible from the ADA compliant 5<sup>th</sup> Street Trailhead and located on the relatively gentle slopes of the north end of Prison Hill, were constructed with aMTB access in mind. Additional opportunities exist on the lower flanks of the west side of Prison Hill. The Koontz Lane Trailhead will be a perfect access point for west-side trails when planned upgrades are completed.

### 4.3.4 Designated Trail-Free Areas

Some of the steeper slopes on the east side of Prison Hill are relatively undisturbed and may provide suitable habitat and corridors for wildlife. Additionally, the rocky ridge running east-west above the north side of Dead Truck Canyon may provide suitable raptor habitat.

### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for trails on Prison Hill:

- ✓ Evaluate and manage existing trails according to the UPMP and various trail standards. Trails not meeting standards should be improved, modified, realigned or decommissioned and rehabilitated.
- ✓ New trails should be planned and constructed according to the trail planning guidelines listed in this master plan and the UPMP, with special attention to creating a connected network of sustainable trails.
- ✓ Planning should consider designs that may utilize trails as resilient infrastructure.
- ✓ Where feasible, trail planning should consider designs that provide access to persons with disabilities.

- ✓ Design and construct the remaining segments of the Prison Hill Trail to complete a shared-use trail around the base of Prison Hill that is accessible to persons of all ages and abilities.
- ✓ Repair and improve portions of the Prison Hill Trail where it shares the Mexican Ditch Trail.
- ✓ Evaluate opportunities, and develop a plan, for aMTB options on the gentler slopes of the west-side of Prison Hill, using the Koontz Lane Trailhead as a primary access location.
- ✓ Continue to monitor and maintain the 5<sup>th</sup> Street Loop Trails for accessibility by an aMTB
- ✓ Construct a new trail to connect the 5<sup>th</sup> Street Loop Trails with the North Loop.
- ✓ Construct a new trail to connect the Koontz Lane Trailhead with the saddle and the North Loop Trail.
- ✓ Construct a new trail to connect the saddle with the Dead Truck Canyon Trail.
- ✓ Construct a new trail to connect the Dead Truck Canyon Trail to the Clearview Trailhead.
- ✓ Design a trail alignment from the summit to the pedestrian access at Snyder Avenue.



***Photo 24. Adaptive riders high-five on the Prison Hill Trail East***

***Photo 25. Adaptive riders enjoying the 5<sup>th</sup> Street Loop Trails***



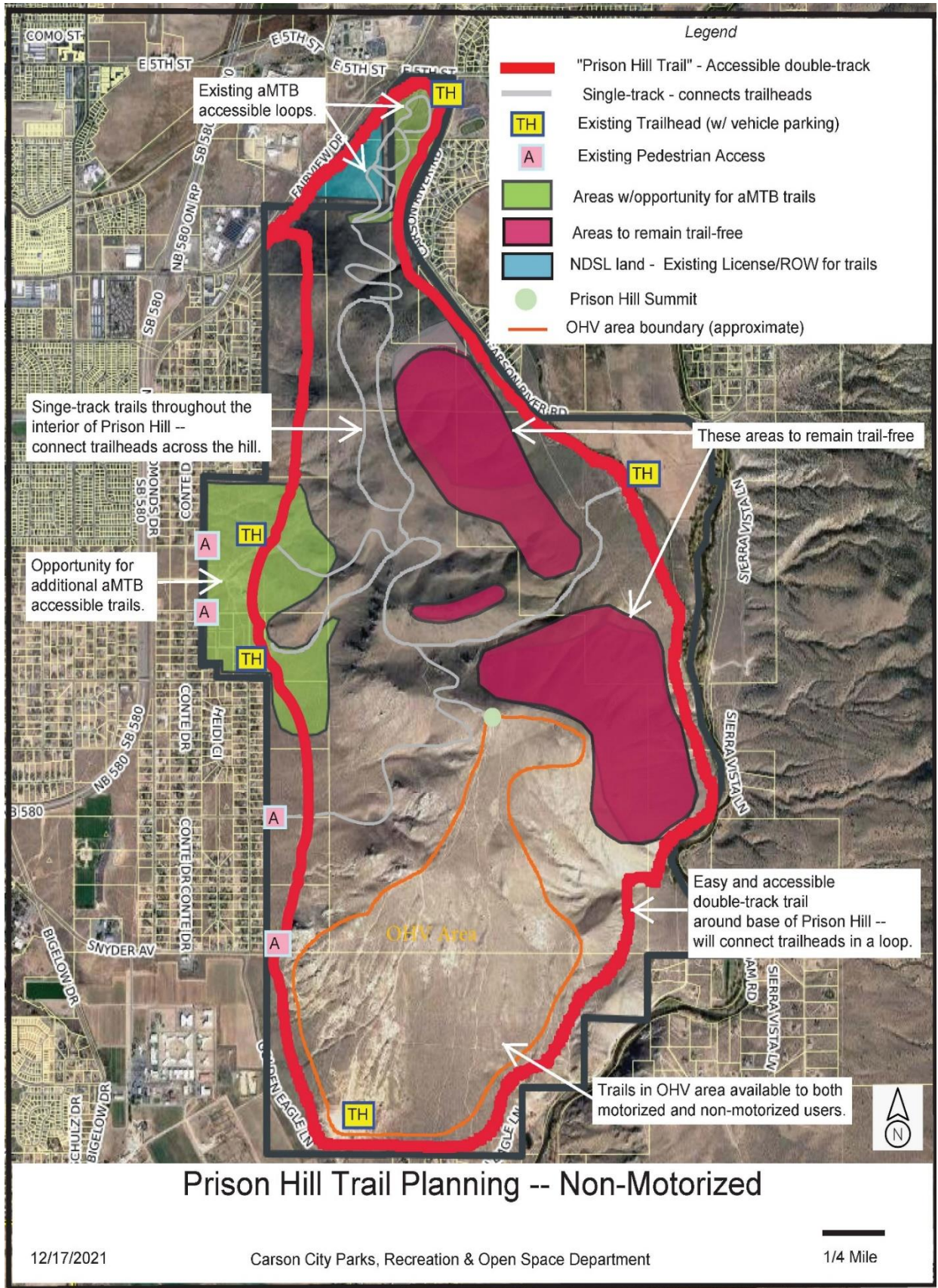


Figure 5 – Prison Hill Trail Planning, Non-Motorized

## 5.0 OHV Area

### 5.1 Background

Motorized recreation was a popular activity on Prison Hill for many decades. In 1977 the BLM indicated that the primary recreational activity on Prison Hill was formal and informal off-road vehicle use in their Recreation Management and Site Plan for the Prison Hill Recreation Lands. In 1983 the BLM designated approximately 950-acres on the southern slope of Prison Hill for motorized activity and closed the northern portion of Prison Hill to motorized vehicles. BLM considered motorized travel in the designated area to be unrestricted. Proximity to Carson City's urban core, an upward trend in OHV recreation, regional population growth, increased availability and enhanced capability of OHV's as well as the unrestricted travel in the OHV area all contributed to many miles of user-created roads and trails, an accumulation of dump sites and impacts to soils and vegetation.

After conveyance of the Prison Hill Recreation Area to Carson City in 2015, the Open Space Division recognized that unrestricted travel was unsustainable and therefore merited a more formal management approach in the OHV area. In 2017 the City partnered with the National Off-Highway Conservation Council (NOHVCC) to help develop a management strategy. In 2018 NOHVCC secured grant funding from the Nevada Off-Highway Vehicle Program to complete the Prison Hill Recreation Area Site Assessment for the motorized area (Appendix J), and the Prison Hill Recreation Area OHV Management Plan (Appendix K).

### 5.2 Prison Hill Recreation Area OHV Management Plan

The Prison Hill Recreation Area OHV Management Plan was created through a collaborative public process with input and guidance from the Open Space Advisory Committee and from stakeholders which included various user groups, interested residents and nearby homeowners. The purpose of the plan is to provide the City with a framework to proactively manage the OHV area in a sustainable way by offering tools, activities and recommendations.

The goals of the plan include:

- Offer a variety of high-quality recreation experiences.
- Identify opportunities for sustainable trails and facilities.
- Provide recommendations for infrastructure: trailheads, kiosks, parking, toilets, access, etc.
- Establish guidelines for events and other activities.
- Enhance the integrity of the area and protect unique natural and cultural resources.
- Reduce user conflict and trespassing into the adjacent residential area.
- Equip the City with tools and resources to effectively operate and maintain the trail system.

### 5.3 Recent Implementations

Between 2019 and 2022 several actions and management practices were implemented, and several projects were completed in partnership with NOHVCC and with the assistance of grant funding from the Nevada Off-Highway Vehicle Program and the Recreational Trails Program. These actions and projects included:

- Minor adjustments to the OHV area boundary to enhance safety, help to protect private property, and reduce impacts to the steep slopes on the east side of the area, closest to the Carson River.
- Designation of three open riding areas totaling approximately 47-acres, and the establishment of rules requiring that vehicles remain on designated trails and areas.
- Creation of a map that was posted both on the City website and at the staging area, and available both in printed form and downloadable to a mobile device via a QR code.
- Implementation of regular Park Ranger patrols and timely response to illegal activities like dumping, graffiti and vandalism.
- Completion of a Section 106 cultural survey.
- Establishment of photo monitoring points and creation of a monitoring plan.
- Placement of a kiosk sign with welcoming information, rules and regulations, maps and room for notices.
- Placement of signage and fencing for wayfinding and to control and direct use.
- Placement of an ADA portable toilet in the staging area.
- Creation of a *Tot-Lot* and a *Beginner Area*, both adjacent to the staging area.
- Installation of jack-rail fencing around the staging area to control speed and enhance safety.
- Several erosional fall line trails were decommissioned or re-aligned.
- Construction of a few new segments of more sustainable trail.
- Construction of drainage features like rolling dips, lead-off ditches and check dams.
- Creation of *filters* at entrances to various technical routes to enhance safety and reduce impacts from user-created escape routes.
- Began rehabilitation in some impacted locations, including closure, scarification and seeding.
- Established partnerships with various user groups and held volunteer workdays for cleanups and to help with some project work.
- Developed a Prison Hill OHV Area – Monitoring Report (Appendix O), including 20 repeat photo-monitoring locations to be completed annually for tracking changes over time.

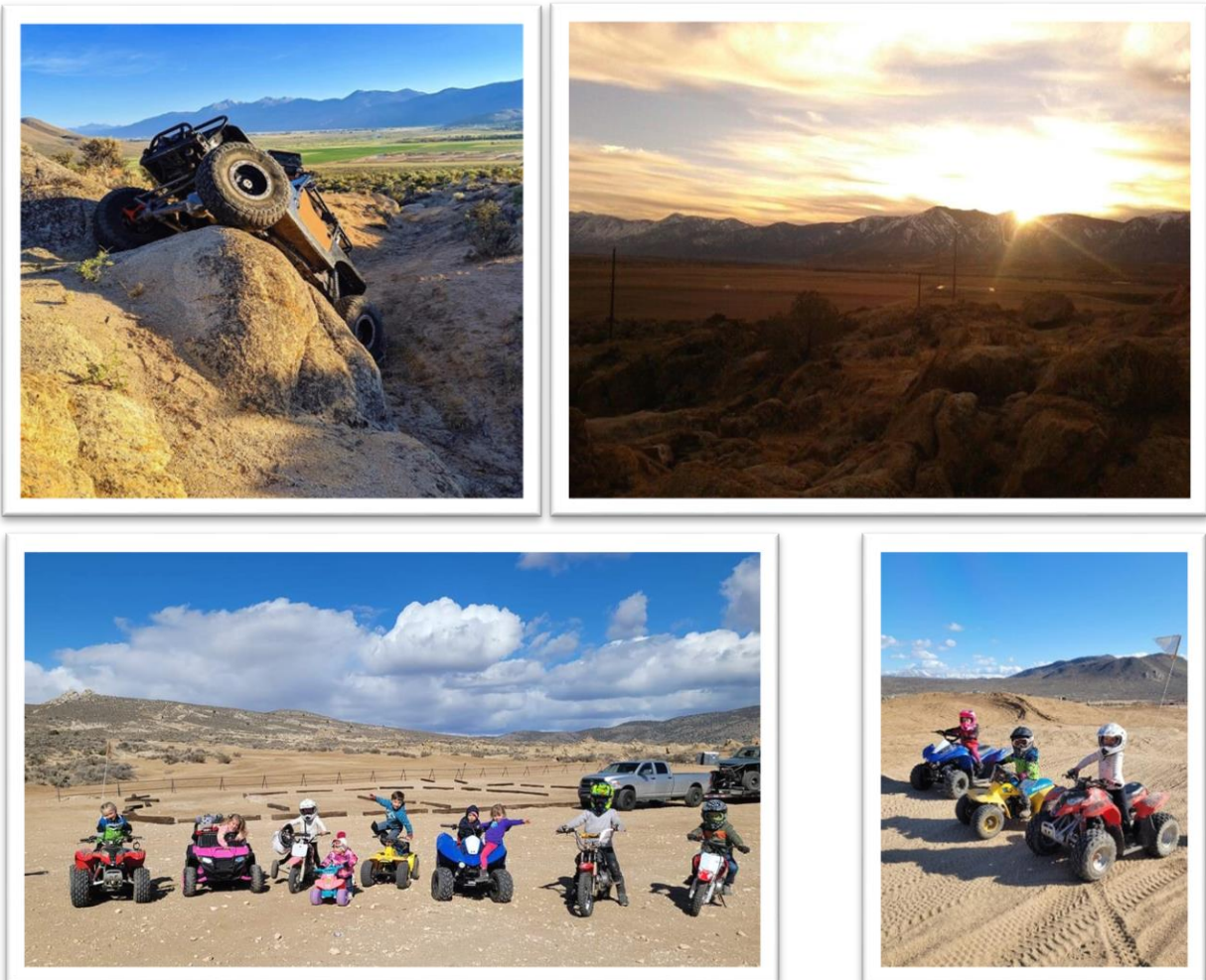
#### Recommended Actions and Guidelines

The following actions and guidelines are recommended for the Prison Hill OHV Area:

- ✓ Continue annual photo monitoring and use this data to inform management practices as needed.
- ✓ Continue to develop and implement restoration practices in disturbed areas. This includes decommissioning of fall line routes, scarifying the topsoil and reseeding or outplanting dominant native species.

- ✓ Recommend creation of Carson City Municipal Codes specific to OHV operation:
  - Enable Park Rangers to cite for non-compliance with NRS 490 (OHV registration, spark arrestors and sound limited to 96dbA).
- ✓ Visual impacts should be considered when improvements are made to the OHV area, and visual impacts should be minimized and reduced where practical.
- ✓ Continue partnerships with user groups for:
  - Volunteer events like clean-ups and small projects.
  - Feedback and input for management and planning.
  - Help with monitoring and reporting of illegal activities.
- ✓ Create a plan for routine trail monitoring and maintenance.
- ✓ Create a plan for routine evaluation, monitoring, and maintenance of drainage features.
- ✓ Maintain an up-to-date and downloadable user map.
- ✓ Continue pursuing cooperative partnerships with NDSL and private parties for the management of Golden Eagle Lane.

***Photos 26-29. Prison Hill OHV Area***



**Photos 30-31. Example of rehab work in the OHV Area:**



***Before rehab***



***After rehab***



## 6.0 Environmental Considerations and Existing Impacts

### 6.1 Fuels Management

Fuels reduction treatments, specifically mastication, was originally conducted on 26-acres by the BLM in 2002 and 2008 along the west side of Prison Hill adjacent to residential fences. This area was recommended by the Carson City Community Wildfire Protection Plan (Appendix L), as the neighborhood is adjacent to medium-density upland sagebrush habitat with fuel loads estimated at 2.0 to 4.0 tons per acre. With the predominant wind direction from the south-southwest, strong afternoon downslope winds could potentially spread wildfire into the wildland-urban interface (WUI).

Subsequent mastication treatments were completed in 2015 and 2019 by Carson City Open Space staff in this same area. The disturbance associated with past fuels reduction treatments resulted in increased cheatgrass and invasive annuals density, which constitutes an ignition point for fire. Since fires can start easily in this area, future mastication treatments should be monitored and complimented with an Imazapic (or other pre-emergent herbicide) treatment in the fall or winter following mastication to prevent the accumulation of fine fuels.

Additionally, the 2008 Carson City Community Wildfire Protection Plan recommended adding a new fuel break on the east side of Prison Hill (Figure 8-1, Section 8.0), along Carson River Road from 5<sup>th</sup> Street to Silver Saddle Ranch. In 2020 the Prison Hill Trail East was completed, which not only provides a fuel break that limits fire spread but also increases access for firefighters to fight wildfires. The future expansion of the Prison Hill Trail will provide additional fuel breaks and improved firefighter access to better protect neighborhoods from wildfire.

#### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for fuels management:

- ✓ Maintain fuels reduction projects to provide defensible space near homes on the west and east sides of Prison Hill.
- ✓ Continue collaboration with the Fire Department to identify the appropriate treatments and develop site specific plans.
- ✓ Monitor fuels reduction projects to evaluate the reestablishment of desirable grasses and shrubs and take appropriate actions to reduce establishment of cheatgrass and invasive annuals.
- ✓ When fires occur, the burned areas should be seeded in the first fall or winter after the fire to avoid weed invasion and soil erosion. The seed mix should contain native and adapted plant species suitable for the site.

## 6.2 Invasive Species Management

Prison Hill does not have a significant issue with noxious or invasive plants, and most of the vegetation growing on-site is intact and native. However, there are some isolated populations of the class C noxious weed, perennial pepperweed (*Lepidium latifolium*) located in drainages at the 5<sup>th</sup> Street Trailhead, as well as the Koontz Lane Trailhead. Both populations have been treated in the past and are monitored annually for changes in population size. Additionally, isolated populations of hoary cress (*Cardaria draba*) and perennial pepperweed have been identified adjacent to the Golden Eagle Lane drainage project. These populations have also been treated and are monitored annually for changes in population size.

The primary issues associated with invasive species throughout Prison Hill relate to invasive annuals such as tumble mustard and cheatgrass. These plants can be found in the understory of the existing native shrub communities and in areas where significant disturbance has occurred. Primarily these plants are prolific throughout the Great Basin and are easy to manage through mechanical or chemical means. Annual monitoring should be completed on existing infestations and appropriate treatment should occur as needed.

### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for invasive species management:

- ✓ Conduct annual monitoring for changes in populations of noxious or invasive plants.
- ✓ Conduct annual monitoring of existing infestations of invasive annuals such as tumble mustard and cheatgrass and treat as needed.

## 6.3 Erosion and Sedimentation

Due to the highly erosive granitic soils that are present on-site, soil erosion and sedimentation are a common occurrence throughout the Prison Hill Recreation Area. Specifically, the western and southern portions of the property have seen impacts from runoff during storm events. In order to mitigate impacts from erosion and to prevent further topsoil loss, many drainage areas have been evaluated and mitigations have been implemented, including installation of rock and straw bale check dams, as well as installation of drainage detention basins. Monitoring and evaluation of drainage issues should continue, and mitigation measures should be implemented where appropriate.

The Golden Eagle Lane Erosion Control Project was completed in 2017 using funds from CWSD and Q1 to install check dams and a detention basin to mitigate flooding and sedimentation into the Carson River, as well as to reduce damage and impacts to the adjacent Golden Eagle Lane. At the OHV Area, some mitigation efforts have been performed to address runoff issues on the south end of Prison Hill, including the decommissioning of some erosive fall line roads and construction of rock-lined ditches and over 50 check dams.

In 2020 the Public Works Department constructed a detention basin on the west side of Prison Hill at the corner of Edmonds Drive and Valley View Drive where the City holds an easement on this BLM parcel. They have a conceptual design for an additional detention basin on the Koontz Parcel near Clearview Drive.

Public Works is currently developing a Southeast Carson City Area Drainage Master Plan which will include the southeast portion of Prison Hill. When completed, recommendations from this plan may be beneficial to Prison Hill planning and management efforts.

#### Recommended Actions and Guidelines

The following actions and guidelines are recommended to address erosion and sedimentation:

- ✓ Monitor and evaluate drainage issues and implement mitigation measures as needed.
- ✓ Support Public Works plans for an additional detention basin on the west side of Prison Hill.
- ✓ Utilize the Southeast Carson City Area Drainage Master Plan, when completed, to aid with Prison Hill planning and management efforts.

## 6.4 Flora and Fauna

Prison Hill hosts a wide variety of life, both common and unique within the Great Basin Desert. Plants vary from sagebrush steppe in the uplands, to riparian vegetation along the river corridor. Single-leaf pinyon pine and juniper dot the landscape throughout and cottonwood trees and willows line the river. These areas provide critical habitat to a myriad of insects, reptiles, birds, and mammals - either residents or frequent visitors. The natural resources present on Prison Hill are a part of Carson City's vibrant heritage and should be protected. A list of common species that occur on Prison Hill can be found in Appendix N.



**Photo 32. Long-nosed leopard lizard  
(*Gambelia wislizenii*)**



**Photo 33. Ephedra (*Ephedra viridis*)**



**Photo 34. Antelope bitterbrush (*Purshia tridentata*)**



**Photo 35. Desert peach (*Prunus andersonii*)**

#### **6.4.1 Golden Eagle survey**

As a component of the Prison Hill Recreation Area OHV Management Plan, Carson City has worked to address potential impacts from motorized recreation to wildlife populations, specifically golden eagles. In 2019 Open Space staff worked with wildlife biologists from the Nevada Department of Wildlife, as well as with conservation staff specialists with Nevada State Parks to monitor and evaluate the golden eagle habitat on both the north and south end of Prison Hill. Through this evaluation, agency staff provided Carson City with recommendations on the best way to manage the habitat on Prison Hill for golden eagle populations, identified critical habitat areas that can be avoided during trail design, as well as identify other non-motorized portions of Prison Hill that can be protected and managed for the benefit of golden eagles and other raptor populations.

#### **6.4.2 Carson Valley Monkeyflower**

The Carson Valley monkeyflower (*Erythranthe carsonensis*) is a small, annual herb in the Phrymaceae (lopseed) family that grows on sandy flats and gentle slopes. While not federally endangered or protected, it is considered a sensitive species by both the Humboldt-Toiyabe National Forest and the Carson City District of the Bureau of Land Management. This species is of interest to the Open Space program because its range is restricted to just three valleys (Carson, Eagle, and Washoe Valleys) and surrounding foothills. Carson Valley monkeyflower appears to be restricted to deep, sandy loam soils derived from alluvial, colluvial, or aeolian deposits of weathered granite. These soils are found on gentle slopes and rolling hills on all aspects in a band between 4,600 and 5,820 feet (1,400 and 1,775 meters) elevation. Most of the sites support a tall brush community dominated by a mix of antelope bitterbrush (*Purshia tridentata*), basin big sagebrush (*Artemisia tridentata* var. *tridentata*), and desert peach (*Prunus andersonii*) except in areas where the shrubby species have been removed by various disturbances. The species seems to be tolerant of light surface disturbance such as fire, brush removal, and trails if the disturbance is not accompanied by significant soil disturbance (more than 3-4 inches deep or removal or addition of soil) or weed infestation. Based on these habitat

requirements, monkeyflower habitat is located throughout Prison Hill Recreation Area, but the west side has been identified as high priority in terms of habitat preservation. Urban and residential development is the single largest threat to the Carson Valley monkeyflower, so the populations are protected through Open Space designation. Additionally, with strategic planning of trails in this area, impacts to these populations can be minimized. Specific findings related to the monitoring and surveys completed is included in an online report from the Nevada Natural Heritage Program: “Current Knowledge and Conservation Status of *Erythranthe carsonensis* Fraga (Phrymaceae), the Carson Valley monkeyflower.”

#### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for management of flora and fauna:

- ✓ Complete annual bird surveys as needed in critical cottonwood galleries to identify resource concerns and management considerations.
- ✓ Consider monkeyflower habitat in trail layout and design.

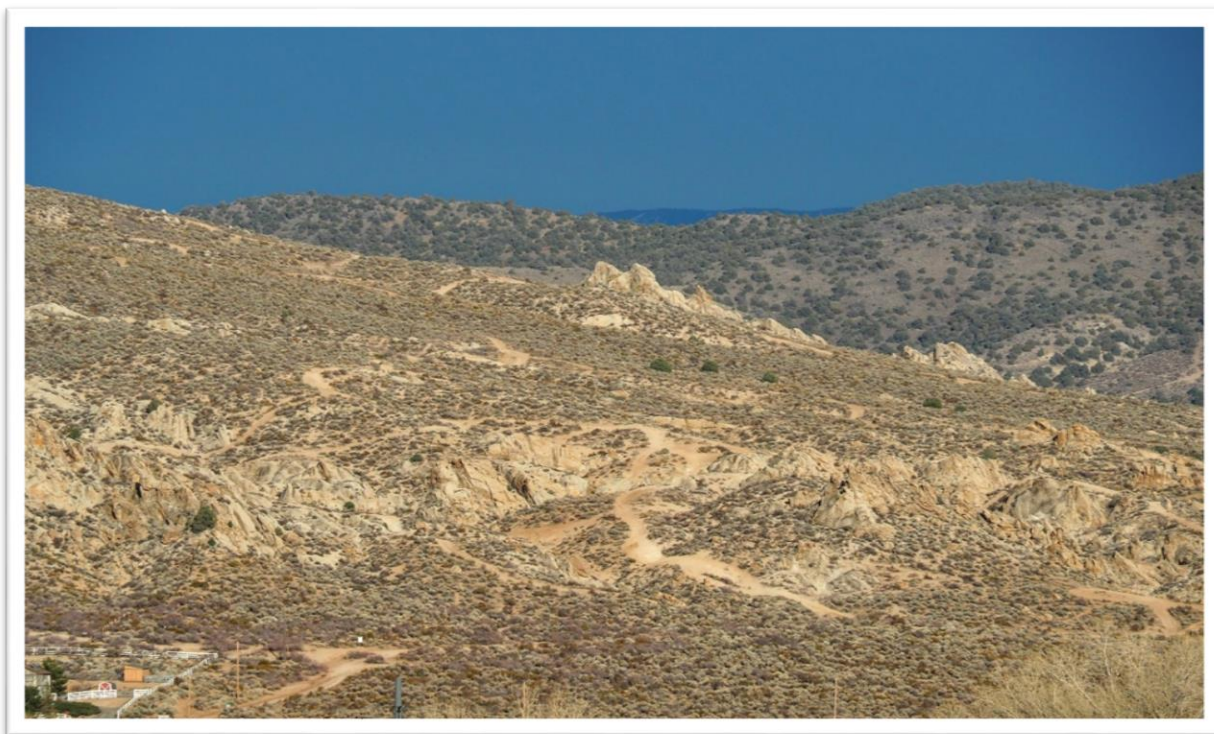
### **6.5 Visual Impacts**

In the central area on the west side, trails originating from the public parking area on Koontz Lane by the Carson City water tank follow old roads that are steep and eroding, presenting negative visual impact from the urban area (Baseline Condition Report). As new sustainable trails are built these old roads should be evaluated for decommissioning and rehabilitation. There are visual impacts on the south end of Prison Hill resulting from decades of motorized usage. Some of these impacts will be addressed as the City implements the new OHV Management Plan which will include realignment of some of the erosive fall-line trails, and corresponding rehabilitation. However, it is expected that some of these impacts will likely be permanent since this area will continue to be managed for motorized recreation including double-track trails.

#### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for addressing visual impacts:

- ✓ As new sustainable trails are constructed, old roads should be evaluated for decommissioning and rehabilitation.
- ✓ Visual impacts should be considered when improvements are made to the OHV area, and visual impacts should be minimized and reduced where practical.



***Photo 36. Prison Hill OHV Area from south Carson City***



***Photo 37. Old road on west side of Prison Hill***

## 6.6 Monitoring

The Open Space Program includes regular monitoring of all properties as part of a long-term stewardship effort, and monitoring is identified as a recommended action in several sections of this document. Specific monitoring elements include:

- Effectiveness of fuels reduction projects
- Effectiveness of invasive species management
- Drainage and erosional issues
- Visual impacts
- User visitation numbers
- Trail and trailhead condition
- Effects from events



*Photo 38. Vegetation transects in the burn scar near the North Loop Trail*

### 6.6.1 Established Monitoring Plans

In response to large-scale disturbances on Prison Hill, two monitoring plans were developed. The first plan is the 2020 Prison Hill OHV Area –Baseline Monitoring Report (Appendix M),

which includes 20 repeat photo-monitoring locations at the south end of Prison Hill to document improvements and maintenance by Carson City staff, as well as address any new issues that arise in the motorized-use area. This monitoring plan captures annual change over time, which can help staff to evaluate if goals outlined in this document are being met, such as reduced erosion, improved visual impacts and the rehabilitation of impacted areas. This information should be used to assist with maintenance planning, resource management, volunteer coordination, event planning and facilities/amenity planning.

The second monitoring plan is for the 2021 Prison Hill Fire Restoration, which has 10 repeat photo-monitoring locations, as well as 30 permanent vegetation transects. In July 2021, a fire burned approximately 171-acres at the north summit of Prison Hill. The area was reseeded in December 2021 with native grasses, forbs, and shrubs to restore habitat for local flora and fauna. This monitoring plan will document the recruitment of vegetation—both native and invasive species—over time and provide a reference to make decisions on how to manage future additional restoration efforts such as invasive species treatment and further reseeding/outplanting.

#### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for monitoring:

- ✓ Continue annual photo monitoring at the south end of Prison Hill, as well as at the north summit burned area.
- ✓ Vegetation monitoring should be completed in the spring at the north summit burned area.
- ✓ Additional monitoring plans should be developed to track changes on specific projects and/or recovery from future disturbance events as needed.



## 7.0 Event Guidelines

### 7.1 Fees

Events are subject to the Department Fees and Charges Policy, as well as the Department Fee Schedule, which is approved by the Carson City Board of Supervisors. Fees are determined by the current approved fee schedule. Fees, fee waivers, co-sponsorships and other options are outlined in that document. Event organizers are responsible for post-event facility cleaning and maintenance. Security deposits and other fees may be required.

### 7.2 Motorized Events

The following guidelines pertain only to the OHV area on the south end of Prison Hill, and only to events involving motorized vehicles. These guidelines may be revised as necessary by the Department due to observed impacts on resources, facilities or neighbors, change in department fee schedule, change in Carson City ordinances, staff limitations or other reasons as determined by the Open Space Manager or Department Director. Each event request should be evaluated on its own merits and how it fits in with the Open Space vision and mission.

#### 7.2.1 Competitive Off-Highway Vehicle (OHV) Events

Competitive off-highway vehicle (OHV) events may be allowed at Prison Hill Recreation Area if proper permits and approvals are received by the event sponsors at least 45 days in advance of the event. The Department shall determine if an event is to be considered for a permit.

- Rock crawling and 4WD events may be allowed.
- Moto-trials events may be allowed.
- No speed events are to be held due to poor soil type and limited trail miles.
- No poker runs are to be held due to poor soil types and limited trail miles.
- Other non-speed OHV events may be considered on a case-by-case basis.

#### 7.2.2 Social OHV Events

Social OHV events such as fun runs, fundraisers, etc. may be allowed at Prison Hill Recreation Area if proper permits and approvals are received by the event sponsors at least 45 days in advance of the event. Department staff shall determine if an event is to be considered for a permit.

#### 7.2.3 OHV Event Capacity

OHV event capacity is not to exceed numbers provided in the Carson City Event Application. The Management Plan states that maximum event size for the motorized use area is 100 participants. To limit impacts to natural resources, regular users, residents and staff, event capacity will be evaluated based on event type and potential impacts. Depending on the event type, total number of participants may be higher or lower than 100. The frequency of events should not normally exceed one per month. The Open Space Division should evaluate the impacts of events and may increase or decrease capacity and/or frequency numbers in the

future.

- Permit applicant must provide a parking plan for event participants, vendors and spectators.
- Parking plan shall not include any parking outside of the designated staging area including along the entrance road.
- No event parking or staging will be allowed on Golden Eagle Lane.
- Event staff/volunteers or contracted parking control people shall be responsible for enforcement of the parking plan.
- Every entrant into the event must sign in with the event sponsor. Participant counts must be provided to Department staff after completion of the event.
- The parking plan will allow for the ingress and egress of emergency vehicles.

#### **7.2.4 Requirements of Sponsors, Spectators and Staff**

Sponsors shall ensure that spectators are controlled, are not allowed on the course, are restrained an adequate distance from the course to protect spectator safety and do not damage soil or vegetation.

- Spotters, guides, and event staff/volunteers are not considered spectators.
- Event sponsors are responsible for enforcing minimum spectator setback distances.

After the event, Department staff will review site conditions. The security deposit and additional fees may be assessed as needed to cover site clean-up, trail maintenance/repair or other impacts caused by the event. Proper clean-up by the sponsors of the event may negate the need for these fees.

- Educational events may be exempt from the cost recovery fees upon the discretion of the Department, or as outlined in the Department Fees and Charges Policy.
- OHV clubs and organizations may choose to provide a supervised service project (in addition to the clean-up of their event) in the OHV area in lieu of paying the cost recovery fee with approval from the Department.
- All vehicles must have a current OHV Registration, spark arrestor, and comply with 96dbA sound maximum.
- Events may only be conducted from dawn to dusk.
- Event frequency shall be determined by Department staff. Allowable frequency shall be based on weather, trail conditions, fire danger and staff availability.
- Crawler and 4WD events shall submit a spill plan and shall require spill kits if appropriate for the activity.
- The sponsor shall submit a plan for vehicle recovery that will not impact existing soil or vegetation.
- The sponsor will be responsible for repairing any damage to the existing trail tread.
- Unless previously approved, no use shall occur off designated routes or outside of designated open areas.

- The sponsor will be responsible for providing sanitation facilities according to NRS requirements.
- The applicant shall remove all garbage and event signs and markers.
- The sponsor shall provide an emergency communication and action plan.
- Sponsor may be required to submit a public communication and event advertisement plan to the Department.
- This plan shall include all ads (radio, tv, newspaper, etc.), website and social media outreach. Noticing at site should occur one week prior to event.
- Event sponsors shall comply with all other requirements set forth in the Carson City Event Application.

### **7.3 Non-Motorized Events**

The Escape from Prison Hill running race has been a popular annual event at Prison Hill for many years. Parking and staging for this event is held at Silver Saddle Ranch. The Love Can Be Cold running race is held in February, and begins and ends at the OHV staging area. Participant counts for both running events typically range between 100 and 150, and they have had minimal impacts on trails and associated staging areas.

As the demand for outdoor activities increases, it is expected that requests for various events will increase as well. This could include requests for mountain biking and equestrian events, which may have the potential for a greater impact than pedestrian events. Each request should be evaluated on its own merits and how it fits in with the Open Space vision and mission. It is recommended that permits be issued conservatively. Event size should be limited first by parking capacity, and second by potential impact. Careful monitoring and evaluation should be conducted during and after each event, and that information should be used to guide future event planning.

Considerations:

- Event size – total numbers of participants and spectators.
- Type of activity and its potential impact on resources, neighbors and regular users.
- Frequency – events should be infrequent enough that they do not significantly impact neighbors, regular users or resources.
- Alignment with the Open Space vision and mission.

#### [Recommended Actions and Guidelines](#)

The following guideline is recommended to help plan and manage events on Prison Hill:

- ✓ Monitor and evaluate each event for impacts and issues and use that information to guide future event planning.

## 8.0 Sign Plan

Signage is important to assure visitor awareness of regulations, provide for wayfinding, promote proper trail etiquette, support education and understanding and help to foster a sense of ownership.

In 2018 a Signage Master Plan was completed for the Parks, Recreation & Open Space Department (Appendix G). The plan details sign requirements for all areas managed by the Department.

Beginning in 2019, messaging to encourage proper trail etiquette has been included on all new kiosk and directional signs and has been added to many trail markers. Messaging varies, but normally includes the Trail Courtesy triangle along with reminders such as: *Share the Trail, Go Slow and Say Hello, Use Safe Speeds, Respect Others, Be Kind and Be Safe*. Some signs have a QR code with a link to a *Share the Trail* etiquette video.

As of 2021, kiosk signs had been placed at all five trailheads on Prison Hill, and four interpretive panels had been placed on the 5<sup>th</sup> Street Loop Trails.

### [Recommended Actions and Guidelines](#)

The following actions and guidelines are recommended for signage on, and adjacent to, Prison Hill:

- ✓ MUTCD signs should be located as needed on streets for general directions.
- ✓ Kiosk signs and/or directional signs should be located as needed at trailheads.
- ✓ Trail markers should be placed at access points.
- ✓ Trail markers should be placed as needed along trails (trail intersections, for example).
- ✓ Interpretive panels should be considered where there are educational opportunities related to natural, historic, and cultural resources. Interpretive panels may also be added to kiosk signs by utilizing both sides of the sign.
- ✓ Continue placing trail etiquette messaging on new signs, as appropriate.



Photo 39. Kiosk sign at 5<sup>th</sup> Street Trailhead



Photo 40. Trail Marker



Photo 41. Directional sign on Prison Hill Trail East

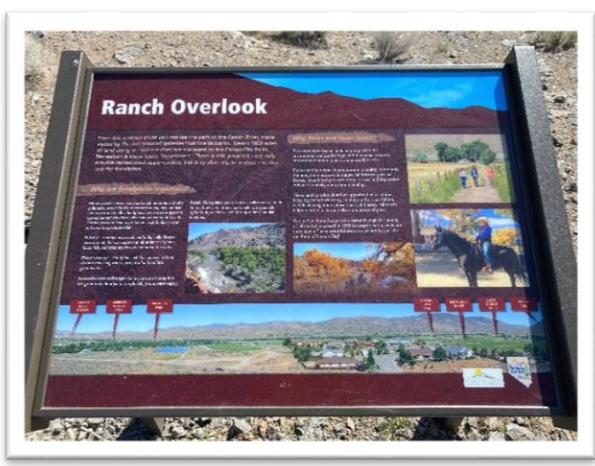


Photo 42. Interpretive panel on the 5<sup>th</sup> Street Loop Trails

## 9.0 Administration

Identifying Department and Division responsibilities is critical to implementation of the Prison Hill Master Plan. The Open Space Division, within the Parks, Recreation & Open Space Department, will have primary responsibility for management of the properties that comprise Prison Hill, and for implementation of the Prison Hill Master Plan. The Open Space Advisory Committee works with staff in developing recommendations for the Board of Supervisors on Open Space and Carson River matters. Most of the trails and pathways on Prison Hill are managed by the Open Space Division, but in some cases the Public Works Department may have some responsibility as well due to the proximity of streets, utilities and stormwater infrastructure.

The Open Space Division will work cooperatively with the Public Works Department on management of the Koontz Parcel where Public Works maintains infrastructure critical to the City's drinking water, matters of streets and transportation planning adjacent to Prison Hill, as well as the development of additional stormwater related infrastructure where deemed necessary.

Additionally, the Open Space Division will work cooperatively with Public Works and the Planning Division on matters related to the potential disposal of adjacent BLM lands, and with the Fire Department on matters related to fuels management.

## 10.0 Actions, Guidelines, and Implementation

This chapter summarizes the actions and guidelines found throughout the Prison Hill Master Plan and suggests how these actions and guidelines may be used to implement and achieve the objectives of the Plan. Timelines are included where practical. The Open Space Division holds primary responsibility for implementation, but other Departments are identified where they have been called out as cooperative partners. Departments are identified as follows:

- OS – Open Space Division
- PW – Public Works Department
- PD – Planning Division
- FD – Fire Department

### 10.1 Projects – Short Term

Short term projects are actionable items that are currently grant-funded or may be funded within the normal operating budget of the Open Space Division. In some cases, these projects may be completed by Department Staff. Projects should be evaluated, prioritized, and scheduled for completion within a five-year timeframe. Some of the smaller projects could be scheduled for implementation within the first year.

Table 2. Projects – Short Term

<b>Projects - Short Term</b>		
<b>Management Topic</b>	<b>Recommended Action Items</b>	<b>Who</b>
<b>Properties and Locations</b>		
Koontz Lane Parcel	Regrade and improve drainage on the roads leading to trailhead.	OS
	Place signage and install fencing or other barriers to restrict motorized use beyond trailheads and trailhead access.	OS
	Develop a sustainable network of non-motorized trails within the property, using road-to-trail conversion where possible.	OS
	Decommission unnecessary roads and perform rehabilitation.	OS
	Improve and expand the Koontz Lane Trailhead (refer to section 3.0).	OS
	Add a crosswalk across Edmonds Drive at Koontz Lane.	OS, PW
Golden Eagle Open Space	Decommission trails and roads on steep slopes and erosive soils, including scarification, vertical mulching, and reseeding.	OS
Mexican Dam Open Space	Decommission and rehabilitate erosive roads and trails.	OS
	Create a 'take-out' for boating recreationists upstream of the dam and north of the riparian area, on the west side of the Carson River.	OS
OHV Area	Create a plan for routine trail monitoring and maintenance.	OS
	Create a plan for routine evaluation, monitoring and maintenance of drainage features.	OS

<b>Trailheads and Access Points</b>		
Silver Saddle Ranch Trailheads	Designate two ADA parking spaces.	OS
	Add wayfinding signage at trailheads.	OS
Prison Hill OHV Staging Area	Provide a permanent enclosure for the portable restroom.	OS
Clearview Drive Trailhead	Install fencing to delineate the parking area and prevent impacts to vegetation outside of the parking area.	OS
	Install a dog waste disposal station.	OS
Koontz Lane Trailhead	Re-grade and reshape the parking lot to accommodate 20-30 vehicles and two equestrian trailers.	OS
	Install fencing to delineate the parking area and prevent impacts to vegetation outside of the parking area.	OS
	Re-grade the access road and improve drainage.	OS
	Add a vault toilet.	OS
	Add a picnic table with shade cover.	OS
	Add two ADA parking spaces and ADA compliant access to toilet and picnic table.	OS
	Add a dog waste disposal station.	OS
	Install fencing to delineate the parking area and prevent impacts to vegetation outside of the parking area.	OS
Safety enhancements for pedestrian, bicycle and equestrian crossing of Edmonds Drive.	OS, PW	
Pedestrian Access Points	Install a small trail marker.	OS
	Install travel management sign indicating non-motorized use only.	OS
	Install step-over gates or other deterrents as needed to discourage dirt bikes entry.	OS
<b>Trails</b>		
Trail planning and projects	Construct a new trail to connect the 5th Street Loop Trails with the North Loop.	OS
	Construct a new trail to connect the Koontz Lane Trailhead with the saddle and the North Loop.	OS
	Construct a new trail to connect the saddle with the Dead Truck Canyon Trail.	OS
	Construct a new trail from the saddle, south to the Dead Truck Canyon Trail.	OS
	Construct a new trail to connect the Dead Truck Canyon Trail with the Clearview Trailhead.	OS
	Evaluate opportunities and develop a plan for aMTB options on the gentler slopes of the west-side of Prison Hill, using the Koontz Lane Trailhead as a primary access location.	OS
	Trail markers should be placed at access points.	OS



<i>Sign Plan</i>		
Sign Plan	Kiosk signs and/or directional signs should be located as needed at trailheads.	OS
	Trail markers should be placed at access points.	OS
	Trail markers should be placed as needed along trails (trail intersections, for example).	OS

## 10.2 Projects – Long Term

Long term projects include actionable items that require future funding, or concepts that require additional research and planning. In some cases, these projects and concepts may be awaiting an opportunity. Timeframes will vary depending on funding and timing of opportunities.

Table 3. Projects – Long Term

<b>Projects - Long Term</b>		
<b>Management Topic</b>	<b>Recommended Action Items</b>	<b>Who</b>
<i>Properties and Areas</i>		
Koontz Lane Parcel	Review needs and options with Public Works for enhancing pedestrian/bicycle/equestrian access across the Koontz Lane overpass and the Clearview Drive overpass.	OS, PW
Golden Eagle Open Space	Design and construct a new sustainable single-track trail to connect Golden Eagle Lane to the scenic lookout point, and then to the future Prison Hill Trail.	OS
OHV Area	Recommend creation of Carson City Municipal Codes specific to OHV operation: Enable Sheriff and Park Rangers to cite for non-compliance with NRS 490 (OHV Registration), require spark arrestors and limit sound to 96dbA.	OS
State of Nevada Lands	Because the City and NDSL have adjoining properties on Prison Hill, the City should continue to be a cooperative partner with NDSL to manage the properties in a way that best meets the goals and objectives of both land managers. This may include development of easements and/or a cooperative agreement.	OS
	Consider future federal legislation to transfer NDSL occupied properties that the City is not using to NDSL ownership.	OS

<b>Trailheads and Access Points</b>		
Silver Saddle Ranch Trailheads	Evaluate need for additional designated equestrian trailer parking.	OS
Clearview Drive Trailhead	Re-grade and reshape the parking lot to accommodate 10-15 vehicles and improve drainage.	OS
	Consider adding a vault toilet.	OS
Vehicle Access Point	Work with NDSL and NNCC to formalize legal access to the OHV Area from Snyder Avenue, and then realign and improve the road for sustainability and add informational kiosk signage.	OS, PW
	If legal access is not formalized, it may be necessary in the future to disallow motorized access here and construct a trail through the Snyder Avenue right-of-way for non-motorized users.	OS
<b>Trails</b>		
Trail Planning and Projects	Design and construct the remaining segments of the Prison Hill Trail to complete a shared-use trail around the base of Prison Hill that is accessible to persons of all ages and abilities.	OS
	Repair and improve portions of the Prison Hill Trail where it shares the Mexican Ditch Trail.	OS
	Design a trail alignment to connect the summit with the pedestrian access at Snyder Avenue.	OS
	Realign or construct a new singletrack trail to connect Golden Eagle Lane to the scenic lookout point, and then to the future Prison Hill Trail.	OS

### 10.3 Guidelines for Management

Guidelines for Management summarize the actions and recommendations that should be considered routine management practices. Some of the items may be reviewed or conducted on an annual basis, some as needed, and some implemented as projects are completed.

Table 4. Guidelines for Management

<b>Guidelines for Management</b>		
<b>Management Topic</b>	<b>Recommended Action Items</b>	<b>Who</b>
<b>Properties and Locations</b>		
Koontz Lane Parcel	Maintain a fire break adjacent to housing. Coordinate with the Fire Department for assistance.	OS, FD
	Coordinate with Public Works for road maintenance on this property.	OS, PW
	Support Public Works plans for detention basins or other stormwater infrastructure on this property.	OS, PW
	Conduct routine trail monitoring and maintenance.	OS

Golden Eagle Open Space	Manage the property for non-motorized, passive recreation with an emphasis on protection of the Carson River corridor.	OS
Mexican Dam Open Space	Manage the property for non-motorized, passive recreational uses and with emphasis on protection of the Carson River corridor.	OS
	Coordinate with the Mexican Dam and Ditch Company regarding dam maintenance and to maintain recreation access.	OS
OHV Area	Continue annual photo monitoring and use this data to inform management practices as needed.	OS
	Continue to develop and implement restoration practices in disturbed areas. This may include decommissioning of fall line routes, scarifying the topsoil and reseeding or outplanting dominant native species.	OS
	Visual impacts should be considered when improvements are made to the OHV area, and visual impacts should be minimized and reduced where practical.	OS
	Continue partnerships with user groups for volunteer events like clean-ups and small projects, to elicit feedback and input for management and planning and help with reporting of illegal activities.	OS
	Conduct routine trail monitoring and maintenance.	OS
	Conduct routine evaluation, monitoring and maintenance of drainage features.	OS
	Maintain up-to-date and downloadable user map.	OS
	Maintain and place wayfinding signage as needed.	OS
State of Nevada Lands	Because the City and NDSL have adjoining properties on Prison Hill, the City should continue to be a cooperative partner with NDSL to manage the properties in a way that best meets the goals and objectives of both land managers. This may include development of easements and/or a cooperative agreement.	OS
<b>Trails</b>		
Trail Planning	Evaluate and manage existing trails according to the UPMP and various trail standards. Trails not meeting standards should be improved, modified, realigned or decommissioned and rehabilitated.	OS
	Continue to monitor and maintain the 5th Street Loop Trails for accessibility by an aMTB.	OS

<b><i>Environmental Considerations</i></b>		
Fuels Management	Maintain fuels reduction projects to provide defensible space near homes on the west and east sides of Prison Hill.	OS, FD
	Continue collaboration with the Fire Department to identify the appropriate treatments and develop site specific plans.	OS, FD
	Monitor fuels reduction projects to evaluate the reestablishment of desirable grasses and shrubs and take appropriate actions to reduce establishment of cheatgrass and invasive annuals.	OS
	When fires occur, the burned areas should be seeded in the first fall or winter after the fire to avoid weed invasion and soil erosion. The seed mix should contain native and adapted plant species suitable for the site.	OS
Invasive Species Management	Conduct annual monitoring for changes in populations of noxious or invasive plants.	OS
	Conduct annual monitoring of existing infestations of invasive annuals such as tumble mustard and cheatgrass and treat as needed.	OS
Erosion and Sedimentation	Monitor and evaluate drainage issues and implement mitigation measures as needed.	OS
	Support Public Works plans for an additional detention basins or stormwater infrastructure on the west side of Prison Hill.	OS
	Utilize the Southeast Carson City Area Drainage Master Plan, when completed, to aid with Prison Hill planning and management efforts.	OS
Flora and Fauna	Complete annual bird surveys as needed in critical cottonwood galleries to identify resource concerns and management considerations.	OS
Visual Impacts	As new sustainable trails are constructed, old roads should be evaluated for decommissioning and rehabilitation.	OS
	Visual impacts should be considered when improvements are made to the OHV area, and visual impacts should be minimized and reduced where practical.	OS
Monitoring	Continue annual photo monitoring at the south end of Prison Hill, as well as at the north summit burned area.	OS
	Vegetation monitoring should be completed in the spring at the north summit burned area.	OS
	Additional monitoring plans should be developed to track changes on specific projects and/or recovery from future disturbance events as needed.	OS

<b>Event Guidelines</b>		
Event Guidelines	Monitor and evaluate each event for impacts and issues and use that information to guide future event planning.	OS
<b>Sign Plan</b>		
Sign Plan	MUTCD signs should be located as needed on streets for general directions.	OS, PW
	Kiosk signs and/or directional signs should be located as needed at trailheads.	OS
	Trail markers should be placed as needed along trails (trail intersections, for example).	OS
	Continue placing trail etiquette messaging on new signs, as appropriate.	OS
	Interpretive panels should be considered where there are educational opportunities related to natural, historic, and cultural resources. Interpretive panels may also be added to kiosk signs by utilizing both sides of the sign.	OS

## 10.4 Guidelines for Planning

Guidelines for Planning are essentially principles or practices that should be considered when planning and implementing projects on Prison Hill.

Table 5. Guidelines for Planning

<b>Guidelines for Planning</b>		
<b>Management Topic</b>	<b>Recommended Action Items</b>	<b>Who</b>
<b>Properties and Locations</b>		
Koontz Lane Parcel	Support Public Works plans for detention basins or other stormwater infrastructure on this property.	OS, PW
	Pending future development of the BLM parcels, a recommendation to the planning commission would include improving Koontz Lane to City standards and retention of existing pedestrian access points.	PW, PD
Golden Eagle Open Space	Manage the property for non-motorized, passive recreational uses with an emphasis on protection of the Carson River corridor.	OS
Mexican Dam Open Space	Manage the property for non-motorized, passive recreational uses and with emphasis on protection of the Carson River corridor.	OS
	Trail development should be minimal, and the future Prison Hill Trail should be constructed above, and not through, the small riparian area.	OS

<b><i>Trails and Trailheads</i></b>		
Trail and Trailhead Planning	New trails should be planned and constructed according to the trail planning guidelines listed in this master plan and the UPMP, with special attention to creating a connected network of sustainable trails.	OS
	Where feasible, trail planning should consider designs that provide access to persons with disabilities.	OS
	Planning should consider designs that may utilize trails as resilient infrastructure.	OS
<b><i>Environmental Considerations</i></b>		
Erosion and Sedimentation	Support Public Works plans for an additional detention basins or stormwater infrastructure on the west side of Prison Hill.	OS
	Utilize the Southeast Carson City Area Drainage Master Plan, when completed, to aid with Prison Hill planning and management efforts.	OS
Flora and Fauna	Consider monkeyflower habitat in trail layout and design.	OS
Visual Impacts	As new sustainable trails are constructed, old roads should be evaluated for decommissioning and rehabilitation.	OS

## 11.0 Bibliography

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## Appendices

- Appendix A Management Plan for Carson City Open Space and Parks in the Carson River Area  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix B Omnibus Public Land Management Act of 2009  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix C Conservation Easement  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix D Programmatic Agreement  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix E Eagle Valley Trails Committee Report  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix F Unified Pathways Master Plan  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix G Signage Master Plan for the Parks, Recreation & Open Space Dept.  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix H Prison Hill Master Plan Survey  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix I Prison Hill Master Plan Open House  
Available online under the heading *Prison Hill Master Plan Survey* at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>



- Appendix J Prison Hill Recreation Area Site Assessment, South End (Motorized)  
Available online with the Prison Hill Recreation Area OHV Management Plan at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix K Prison Hill Recreation Area OHV Management Plan  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix L Carson City Community Wildfire Protection Plan  
Available online at: <https://www.carson.org/government/departments-a-f/fire-department/divisions/fire-prevention-division/wildland-fuels-reduction/carson-city-community-wildfire-protection-plan>
- Appendix M Prison Hill OHV Area – Baseline Monitoring Report  
Available online at: <https://www.carson.org/government/departments-g-z/parks-recreation-open-space/about-us/brochures-maps-master-plans-and-reports>
- Appendix N Prison Hill Recreation Area Common Species List

Appendix N: Prison Hill Recreation Area Common Species List

Common Name	Scientific Name
<b>PLANTS</b>	
Shrubs	
Antelope bitterbrush	<i>Purshia tridentata</i>
Desert peach	<i>Prunus andersonii</i>
Green ephedra	<i>Ephedra viridis</i>
Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>
Narrowleaf willow	<i>Salix exigua</i>
Rubber rabbitbrush	<i>Ericameria nauseosa</i>
Sagebrush	<i>Artemisia tridentata var. tridentata</i>
Smooth horsebrush	<i>Tetradymia glabrata</i>
Spineless horsebrush	<i>Tetradymia canescens</i>
Spiny hopsage	<i>Grayia spinosa</i>
Trees	
Fremont cottonwood	<i>Populus fremontii</i>
Jeffrey pine	<i>Pinus jeffreyi</i>
Single-leaf pinyon pine	<i>Pinus monophylla</i>
Utah juniper	<i>Juniperus utahensis</i>
Western juniper	<i>Juniperus occidentalis</i>
Grasses	
Bottlebrush squirreltail	<i>Elymus elymoides</i>
Great Basin wildrye	<i>Leymus cinereus</i>
Indian Ricegrass	<i>Achnatherum hymenoides</i>
Sandberg's Bluegrass	<i>Poa secunda</i>
Sixweeks' fescue	<i>Vulpia octoflora</i>
Thurber's Needlegrass	<i>Achnatherum thurberianum</i>
Forbs	
Arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
Carson Valley monkeyflower	<i>Erythranthe carsonensis</i>
Common whitlowgrass	<i>Draba verna</i>
Douglas' dustymaiden	<i>Chenactis douglasii</i>
Dune evening primrose	<i>Oenothera deltoides</i>
Foothill deathcamus	<i>Toxicoscordion venenosum</i>
Ground nama	<i>Nama aretoides</i>

Hawksbeard	<i>Crepis sp.</i>
Hoary aster	<i>Dieteria canescens</i>
Hoary rockcress	<i>Boechera puberula</i>
Inyo threadplant	<i>Nemacladus sigmoideus</i>
Lance-leaved scurf-pea	<i>Ladeania lanceolata</i>
Miniature monkeyflower	<i>Erythranthe sukdorfii</i>
Mule's Ears	<i>Wyethia mollis</i>
Plains evening primrose	<i>Camissonia contorta</i>
Prince's plume	<i>Stanleya pinnata</i>
Red triangles	<i>Centrostegia thurberi</i>
Scale bud	<i>Anisocoma acaulis</i>
Scrub gilia	<i>Gilia malior</i>
Shy gilia	<i>Gilia inconspicua</i>
Silvery lupine	<i>Lupinus argenteus</i>
Sleeping combseed	<i>Pectocarya penicillata</i>
Slender popcornflower	<i>Plagiobothrys tenellus</i>
Small onion	<i>Allium parvum</i>
Small wirelettuce	<i>Stephanomeria exigua</i>
Spiny phlox	<i>Phlox hoodii</i>
Spreading pygmyleaf	<i>Loeflingia squarrosa</i>
Starcup	<i>Gymnosteris nudicaulis</i>
Steamboat monkeyflower	<i>Diplacus ovatus</i>
Sulphur buckwheat	<i>Eriogonum umbellatum</i>
Two-colored phacelia	<i>Phacelia bicolor</i>
Volcanic gilia	<i>Gilia ochroleuca</i>
Washoe phacelia	<i>Phacelia curvipes</i>
Western peony	<i>Paeonia brownii</i>
Whitedaisy tidytips	<i>Layia glandulosa</i>
Whitestem blazingstar	<i>Mentzelia albicaulis</i>
Woolly bonnets	<i>Eatonella nivea</i>
Nuisance Weeds	
Bristly fiddleneck	<i>Amsinckia tessellata</i>
Burr buttercup	<i>Ceratocephala testiculata</i>
Cheatgrass	<i>Bromus tectorum</i>
Flixweed	<i>Descurainia sophia</i>

Purple mustard	<i>Chorispora tenella</i>
Stork's bill	<i>Erodium cicutarium</i>
Tall tumble mustard	<i>Sysimbrium altissimum</i>
Noxious Weeds	
Hoary cress	<i>Cardaria draba</i>
Perennial pepperweed	<i>Lepidium latifolium</i>
<b>INVERTEBRATES</b>	
Butterflies and Moths	
Monarch	<i>Danaus plexippus</i>
Painted lady	<i>Vanessa cardui</i>
Western tent caterpillar	<i>Malacosoma californicum</i>
Western tiger swallow	<i>Papilio rutulus</i>
White satin moth	<i>Leucoma salicis</i>
Beetles, Ants, Flies, Wasps	
Black calosoma	<i>Calosoma semilaeve</i>
California harvest ant	<i>Pogonomyrmex californicus</i>
Cutworm wasps	<i>Podalonia sp.</i>
Darkling beetle	<i>Eleodes obscurus</i>
Hairy bear scarab	<i>Paracotalpa granicollis</i>
Hover flies	<i>Syrphidae</i>
Jerusalem crickets	<i>Stenoplematus sp.</i>
Northern scorpion	<i>Paruroctonus boreus</i>
Say's stink bug	<i>Chlorochroa sayi</i>
Velvet ant	<i>Mutillidae</i>
<b>VERTEBRATES</b>	
Mammals	
Beaver	<i>Castor canadensis</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>
Coyote	<i>Canis latrans</i>
Kangaroo rats	<i>Dipodomys sp.</i>
Mountain cottontail	<i>Sylvilagus nuttallii</i>
Mule deer	<i>Odocoileus hermionus</i>
Musktrat	<i>Ondatra zibethicus</i>
Reptiles and Amphibians	
American bullfrog	<i>Lithobates catesbeianus</i>

Desert horned lizard	<i>Phrynosoma platyrhinos</i>
Gopher snake	<i>Pituophis catenifer</i>
Long nosed leopard lizard	<i>Gambelia wislizenii</i>
Western fence lizard	<i>Sceloporus occidentalis</i>
Western rattlesnake	<i>Crotalus oreganus</i>
Western toad	<i>Anaxyrus boreas</i>
Western whiptail	<i>Aspidoscelis tigris</i>
Birds	
American crow	<i>Corvus brachyrhynchos</i>
American kestrel	<i>Falco sparverius</i>
American robin	<i>Turdus migratorius</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Barn owl	<i>Tyto alba</i>
California quail	<i>Callipepla californica</i>
Canada goose	<i>Branta canadensis</i>
Common raven	<i>Corvus corax</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Eurasian magpie	<i>Pica</i>
Golden eagle	<i>Aquila chrysaetos</i>
Great horned owl	<i>Bubo virginianus</i>
Mountain bluebird	<i>Sialia currucoides</i>
Merlin	<i>Falco columbarius</i>
Northern goshawk	<i>Accipiter gentilis</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Osprey	<i>Pandion haliaetus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Scrub jay	<i>Aphelocoma californica</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Turkey vulture	<i>Cathartes aura</i>
Western meadowlark	<i>Sturnella neglecta</i>