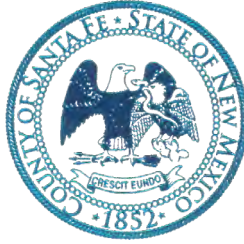


**Henry P. Roybal**  
*Commissioner, District 1*

**Anna Hansen**  
*Commissioner, District 2*

**Rudy N. Garcia**  
*Commissioner, District 3*



**Anna T. Hamilton**  
*Commissioner, District 4*

**Ed Moreno**  
*Commissioner, District 5*

**Katherine Miller**  
*County Manager*

**Date:** February 25, 2019

**To:** Board of County Commissioners

**From:** Maria Lohmann, Senior Planner  
Robert Griego, Planning Manager  
Penny Ellis-Green, Growth Management Director

**Via:** Katherine Miller, County Manager

---

**Item: Resolution 2019-\_\_\_\_: A Resolution Adopting The Santa Fe Rail Trail Management Plan**

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**BACKGROUND:**

The 2015 Sustainable Growth Management Plan and the Open Land and Trails Plan call for developing management plans for Santa Fe County's open spaces in order to provide effective management and maintenance of the properties.

The planning process to develop the SFRT Management Plan included meetings with trail stewards and trail users, as well as numerous stakeholders, community members, adjacent property owners, and relevant public entities working together to develop a long range vision for maintenance and management of the facility. Management principles, including appropriate public access, minimal maintenance needs, limited capital investments, protection of resources, diverse use opportunities along with increased youth and community participation in site stewardship, guided the process.

An assessment of the entire constructed portion of the SFRT was conducted that helped determine needed projects and identified the appropriate actions. County staff and volunteers participated in a training to evaluate conditions on the Rail Trail, and to understand and implement recommended actions.

The SFRT Management Plan identifies short-term, mid-term, and long-term management priorities and projects for the trail. In the short-term Santa Fe County will work with the community on sustainable trail and open space improvements, addressing trespassing and safety hazards, and finding ways to increase user enjoyment of the trail through continued trail extensions, improvements, education, community engagement, and amenities. All projects will require interdepartmental coordination with Public Works, Growth Management, and Community Services as well as consistent community outreach and coordination with other agencies as appropriate. This plan also identifies needed training to develop robust staff capacity and capability.

COLTPAC recommended approval of this plan at the April 4, 2018 meeting.



**ACTION REQUESTED**

Adoption of the Santa Fe Rail Trail Management Plan.

**EXHIBITS:**

**Exhibit A:** Santa Fe Rail Trail Management Plan

**Exhibit A1:** SFRT Management Plan Appendix



# SANTA FE RAIL TRAIL

## MANAGEMENT PLAN 2019



PRODUCED FOR SANTA FE COUNTY

PREPARED BY: DESIGN OFFICE



## ACKNOWLEDGEMENTS

The plan was made possible through the support of the Santa Fe County Board of County Commissioners.

Henry Roybal – District 1

Anna Hansen – District 2

Rudy Garcia – District 3

Anna Hamilton – District 4

Ed Moreno – District 5

The County Open Lands, Trails, and Parks Advisory Committee (COLTPAC) for its strategic guidance and review.

The knowledge and expertise of the County Open Space and Trails (OS+T) planning, project development, and maintenance staff was invaluable in developing this plan.

Maria Lohmann, OS+T Senior Planner

Paul Olafson, Planning Project Manager

Colleen Baker, OS+T Project Manager

David Padilla, OS+T Maintenance Foreman

Special appreciation to the many community members who provided the time, local wisdom and sense of the community needed to achieve this management plan. Their participation in focus group meetings, a community meeting and in providing information about the project site and its history, environment and the surrounding community are fundamental to this plan.

Thank you to the Santa Fe County Fire Department and the Rancho Viejo Volunteer Fire Fighters for providing the Rancho Viejo Fire Station to host the public meeting for this plan.

A specific thank you for information and experience that added immeasurably to the research efforts for this plan.

Steve Griego, SFRT Trail Steward

Major Gabe Martinez, Santa Fe Sheriff's Office

The Santa Fe Rail Trail Management Plan planning consultant team was:

Design Office / Team lead, planners  
Claudia Meyer Horn  
Patrick Sinnott

Tony Boone Trails, Inc. / Trail evaluator  
Tony Boone



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## EXECUTIVE SUMMARY

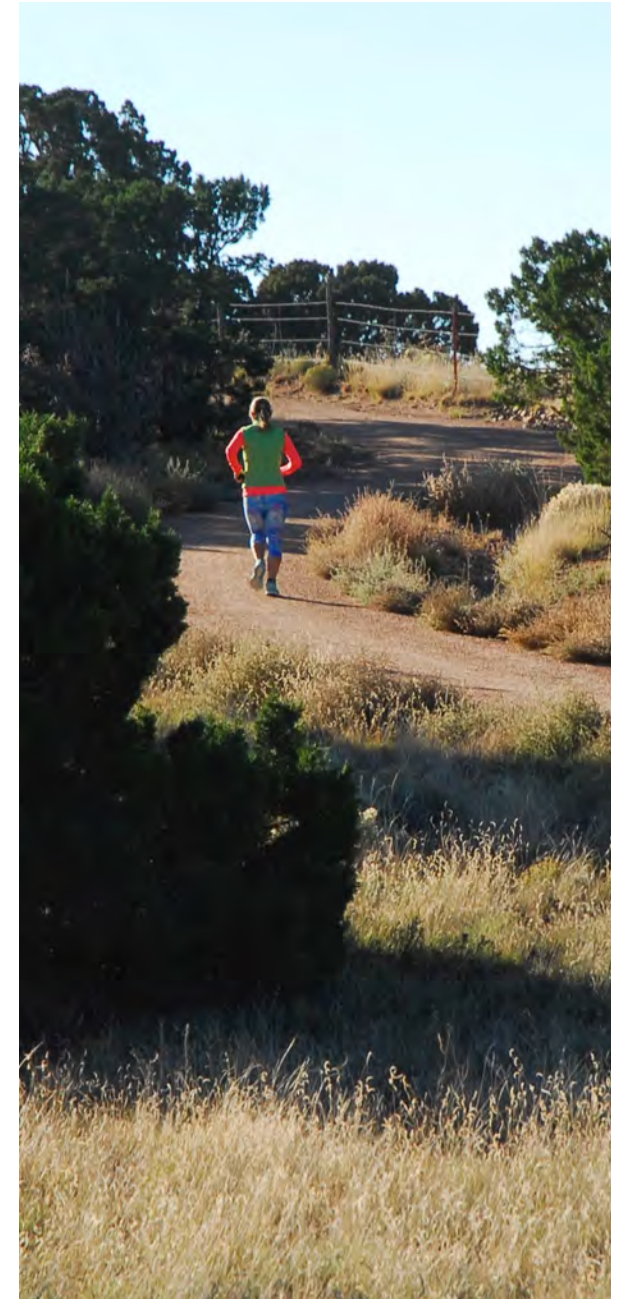
The Santa Fe Rail Trail (SFRT) is an 18 mile urban trail that extends from the train depot in downtown Santa Fe, across NM 285 to eventually connect to the Lamy Open Space in Lamy, NM. Santa Fe County manages an existing 8.5 mile stretch of the trail from the Rabbit Road Trailhead south to Avenida Eldorado in Eldorado, NM. The goal of this plan is to create a practical and effective management plan to maintain the safety, recreational function, environmental resources, cultural resources, and legal obligations of the Santa Fe Rail Trail. This plan was developed based on input gathered in a community meeting, focus group meetings with key stakeholder groups, an in-depth existing conditions assessment, and research. Community participants are very supportive of the County's efforts to establish, extend, maintain, and improve the Santa Fe Rail Trail.

The recreational function of the Santa Fe Rail Trail is to serve as a recreation and alternative transportation corridor along the Santa Fe Southern rail spur to connect neighborhoods and communities to the city and to each other. Surface damage to the soft surface trail from drainage and erosion is evident and will always be on-going. Reducing risks related to future storm related erosion along the trail and in the open space is important.

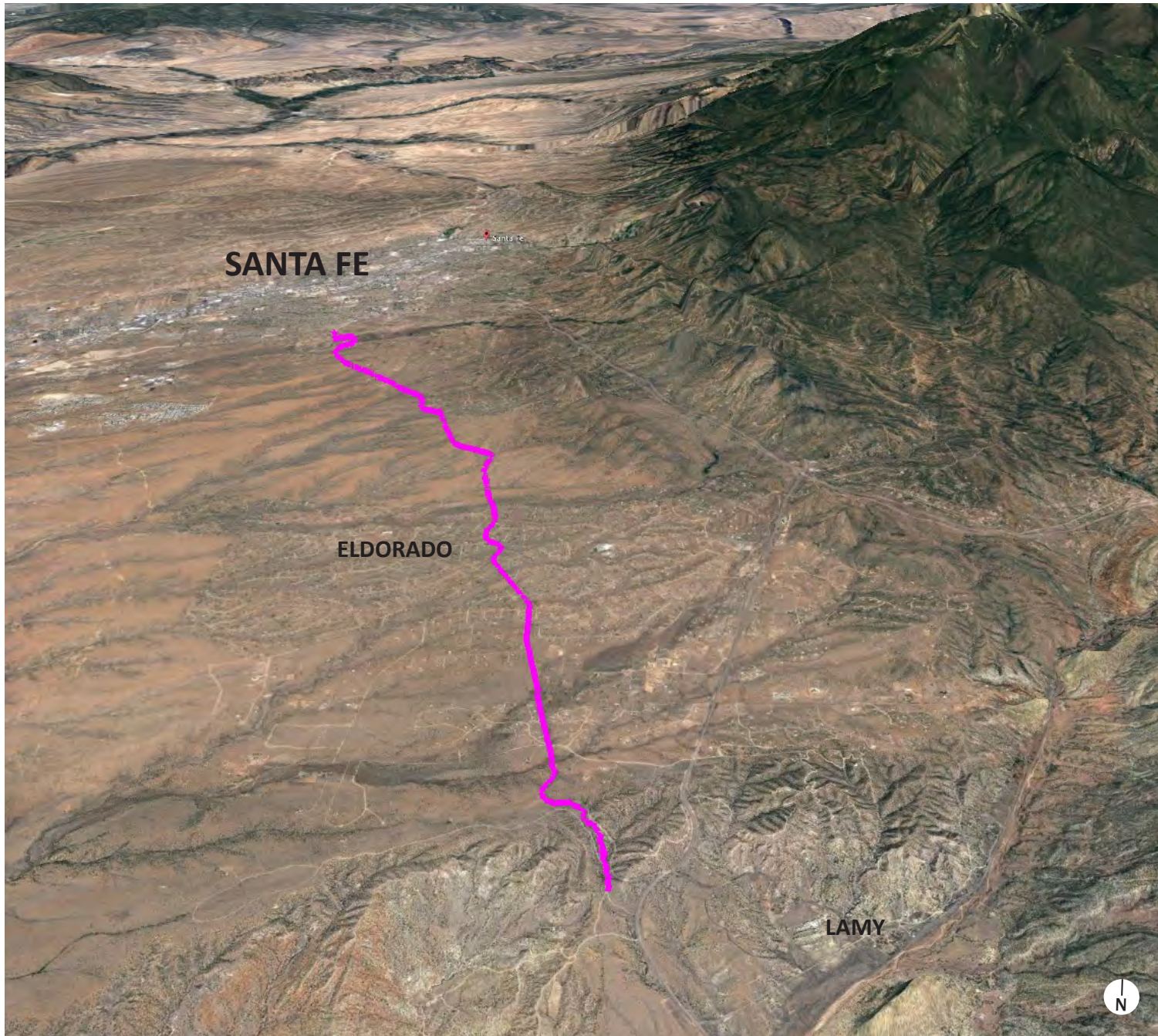
Management goals include collaborative management with trail stewards, volunteers and adjacent SFRT community for monitoring trail safety issues, protection of existing cultural resources, small-scale enhancement of the site habitat, improving site signage, and clarifying access issues. The plan outlines a vision, maintenance goals, projects and improvement priorities, and involvement in stewardship of the Santa Fe Rail Trail.

The SFRT Management Plan identifies short-term, mid-term, and long-term management priorities for the trail. In the short-term Santa Fe County will work with the community on sustainable trail and open space improvements, addressing trespassing and safety hazards, and finding ways to increase user enjoyment of the trail through continued trail extensions, improvements, education, community engagement, and amenities.

The Management Plan emphasizes collaboration with existing SFRT adjacent community organizations and NMDOT for trail monitoring and land stewardship. Due to easement agreements with NMDOT for the trail corridor adjacent to an active rail line, education and collaboration with the community is essential to achieve appropriate and practical management of the SFRT.







*Santa Fe Rail Trail  
aerial looking from  
south to north.*



# 1. INTRODUCTION

*This Management Plan for the Santa Fe Rail Trail provides the long-term vision and goals for how to manage this trail as a valuable open space and recreational resource. The Plan's vision and goals reflect the desires of the community and the County to create an exceptional Santa Fe County Open Space and Trails system.*

## 1.1. Plan Purpose and Need

The purpose of the Santa Fe Rail Trail (SFRT) Management Plan is to:

- describe a vision, goals, and objectives for management of the SFRT,
- help understand existing environmental conditions of the SFRT,
- clarify priorities for the maintenance of the SFRT,
- identify projects for future investments at the SFRT,
- describe a coordinated management approach to documentation, planning, implementation and maintenance activities,
- identify community stewardship and educational opportunities for the SFRT.

This Plan was developed in response to clear and strong support for enhanced management planning for open space properties and trails from the County Open Lands, Trails, and Parks Advisory Committee (COLTPAC) and from the Board of County Commissioners (BCC).

The Plan arose from a growing need for:

- strategic management plans that include meaningful input from the community,
- a strong vision with clear objectives and strategies for maintenance, stewardship, resource conservation, recreation, and public access,
- a detailed existing conditions and inventory report,
- maintenance plans with clear projected labor / equipment needs and best management practices,
- stewardship action plan that includes volunteer training protocol, outreach, steward responsibilities, and communication protocol,
- identifying priorities and actions for developing key projects,
- identification of potential funding sources to implement the plan.

### **Management Plan Need**

The Santa Fe Rail Trail Management Plan is needed to guide the management and stewardship of the Rail Trail as a safe and enjoyable recreation corridor.



## 1.2. PROPERTY DESCRIPTION + EXISTING CONDITIONS ASSESSMENT

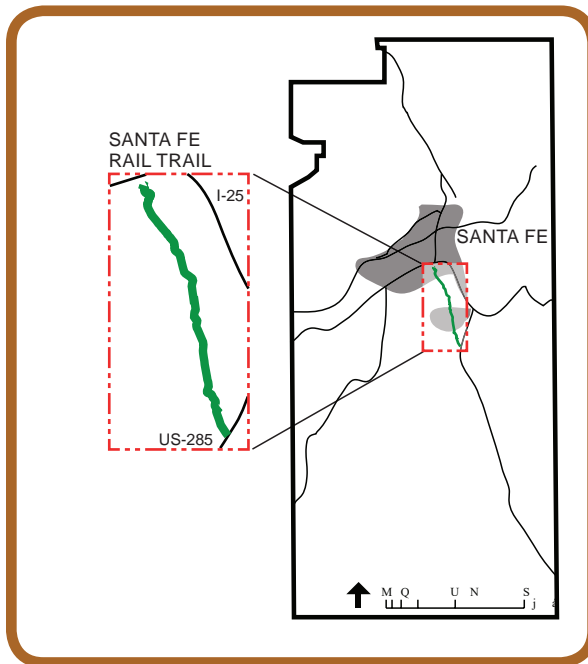


Figure 1. Santa Fe Rail Trail - Location Map

The Santa Fe Rail Trail (SFRT) consists of ca. 18 miles of trail that extends south of Santa Fe and runs parallel with the Santa Fe Southern Rail line. It is an 8 ft. wide trail within a 20' wide easement in the Railroad Right of Way, which varies in width from ca. 75 ft. at its narrowest to ca. 200 ft. The SFRT currently has three distinct sections: the first section (5 miles), from the train depot in downtown Santa Fe to Rabbit Road, is managed by the City of Santa Fe Parks Division; the second section (8.5 miles), from Rabbit Road to Avenida Eldorado, is managed by Santa Fe County; and the third section (4.5 miles), from Avenida Eldorado to NM 285, is a social trail slated to be constructed according to the designated trail standards as funding is allocated.

### History

Originally intended to connect Atchison and Topeka, Kansas with Santa Fe, New Mexico, the Atchison Topeka and Santa Fe Railway (ATSF) extended to Pueblo, Colorado in 1876, Raton Pass in 1878, and subsequently began laying tracks in New Mexico. Despite its name, the main line never connected to Santa Fe. It was bypassed for a combination of reasons: the 3.5% ruling uphill grade, the absence of local freight manufacturing, and Santa Fe's perception as a place on the way to somewhere else.

Instead, the City of Santa Fe passed bonds to pay for an 18-mile branch line (opened in February 1880) to connect Santa Fe with the small town of Lamy. Primarily a passenger train, four trains daily in each direction brought tourists to and from Santa Fe.

Over time, as people began using automobiles, passenger service declined. Operated by AT&SF for 112 years, the branch line was bought by Santa Fe Southern Railway in 1992, who operated sight-seeing trains on this line. In 2005, the Santa Fe Southern Railway sold the Railroad Right of Way to the State of New Mexico, but continues to operate the railway.



City of Santa Fe  
(existing, 8' paved)

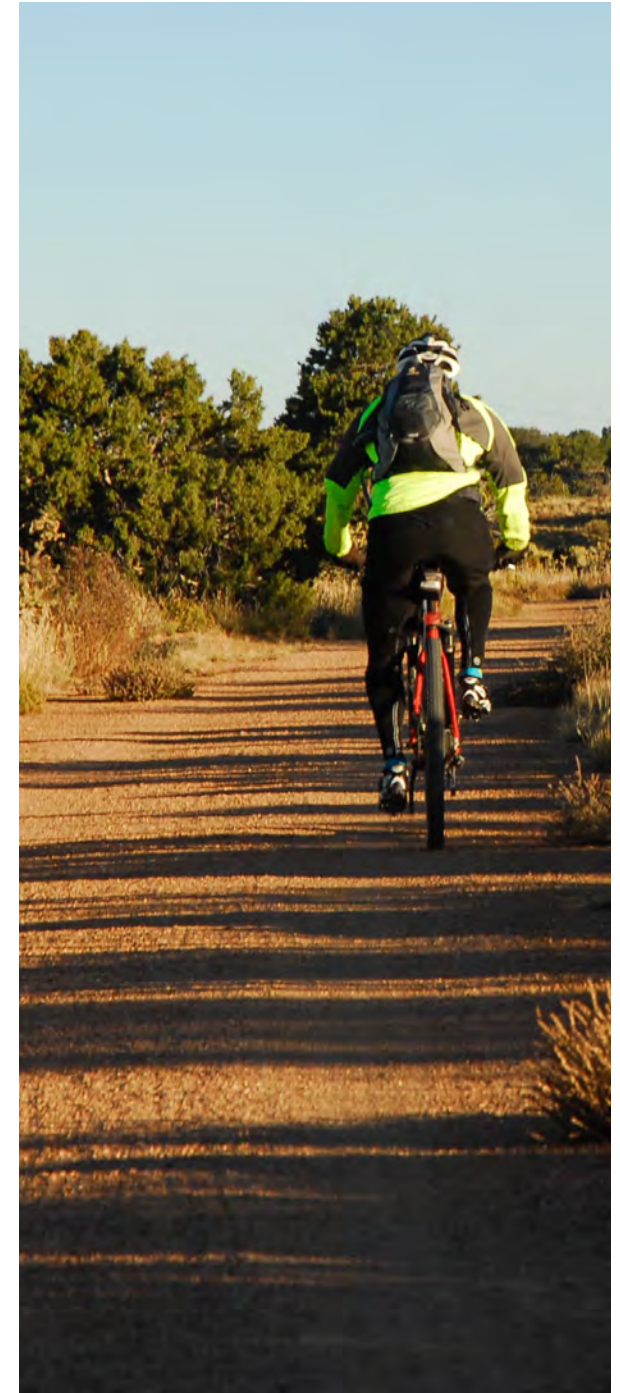
Santa Fe County  
(existing, 8' unpaved)

Santa Fe County  
(planned, 8' unpaved)

Santa Fe County  
(proposed)



Figure 2. Santa Fe Rail Trail - Greenbelt Area





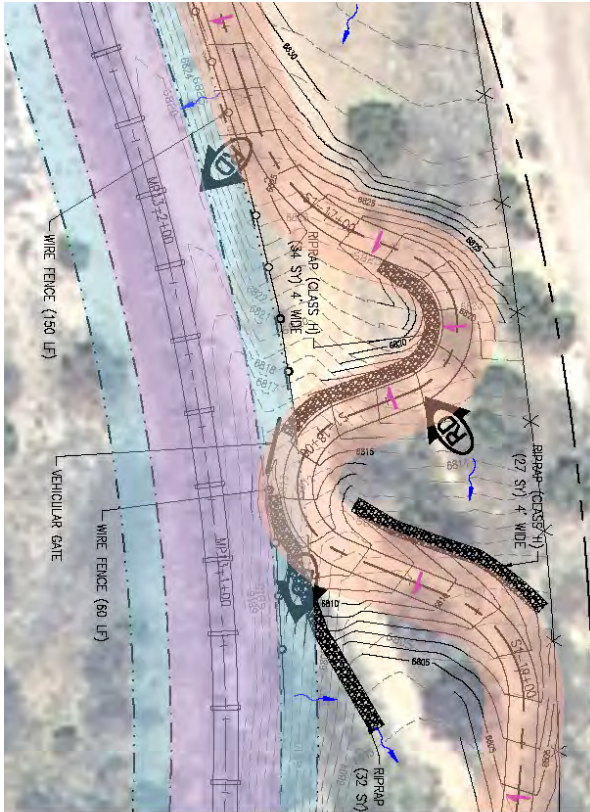


Figure 3. Santa Fe Rail Trail - Rail Corridor / Trail Corridor Easement

Santa Fe Rail Trail - Segment 1 plan / section of portion of the trail illustrating the 75' - 200' rail corridor and some of the railway, grading, and design constraints governing the layout and design of the trail. A 25 ft. safety zone measured from the centerline of the track is required on both sides of the active rail line. The 20 ft. wide trail corridor easement meanders within the railroad ROW.

## The Santa Fe Rail Trail

For years, the Santa Fe Southern Railway allowed the public access to a two-track maintenance road running parallel with the track for use as an informal trail. The maintenance road, however, was (and is) not a public trail and did not comply with federal safety requirements and the New Mexico Department of Transportation's (NMDOT) requirements for multi-use trails within the state-owned right of way.

In 1997, Santa Fe County purchased an easement from the Santa Fe Southern Railway to develop a commuter and recreational trail along the railway. The primary objectives of the design were to:

- bring the trail into compliance with federal safety requirements for a trail along an active rail line
- address drainage and erosion problems along the railroad and trail corridor
- make the trail more accessible to a wider range of users as a primary, non-motorized multi-modal commuter and recreational trail

## Trail Planning

The Santa Fe Rail Trail is identified in a number of publicly adopted land use plans, including the Santa Fe County Open Land and Trails Plan (2000), the Santa Fe Community College District Plan (2000), and the Santa Fe Metropolitan Bicycle Master Plan (2012). The trail is also included in the Statewide Transportation Improvement Program (TIP), making it eligible for Federal Highway Administration (FHWA) funding. The Santa Fe Metropolitan Bicycle Master Plan, which is the planning document that guides the allocation of federal transportation funding for bike facilities in the Santa Fe Metropolitan area including the Santa Fe Rail Trail, recommends using American Association of State Highway and Transportation Officials (AASHTO) guidelines.

The trail was designed as a shared use, bicycle, pedestrian and equestrian trail. Under AASHTO guidelines, the minimum width for a shared use path is 8 ft wide. The trail design must also comply with the Americans with Disabilities Act (ADA) because it is being constructed with federal funding and because it is within NMDOT Right of Way. The trail design from Rabbit Rd to NM 285 was completed in 2011.



## Trail Implementation

In 2005, Santa Fe County began working on designs for the trail. Engineering plans have been completed for a ca. 11.5-mile stretch of the trail extending from Rabbit Road, where the trail connects to the City of Santa Fe's segment, south to NM 285. Anticipating phased implementation, the trail was divided into logical segments that have been constructed over time as follows:

Segment	Length	Connection Points	Completion
1	1.94 mi	Rabbit Road - Spur Trail Connection	2011
2	1.94 mi	Spur Trail Connection - Nine Mile Road	2014
3	2.99 mi	Nine Mile Road - Avenida Vista Grande	2014
4	1.64 mi	Avenida Vista Grande - Avenida Eldorado	2016
5	1.59 mi	Avenida Eldorado - Spur Ranch Road	2019
6	1.53 mi	Spur Ranch Road - NM 285	Pending Funding

*An additional segment, not yet designed, would extend the SFRT to Lamy or to another multi-use regional trail that connects to Lamy.*

7	±1.68 mi	NM 285 - AT&SF Junction Lamy	Conceptual
---	----------	------------------------------	------------

## The Community

The overall character of existing residential development along the rail trail corridor is rural and sparsely populated, with long stretches of open space. Communities along the trail include Arroyo Hondo West (north section); Seton Village / Nine Mile Road (northeast section); Eldorado (central section); Galisteo Basin Preserve (northwest of intersection with NM 285); and the town of Lamy (start of trail at junction with the ATSF line).

Long stretches of open space are still undeveloped: a 4.6 mile stretch on the west side between the Spur Trail and Eldorado, and a 2.5 mile stretch on the east side between the Nine Mile Road neighborhood and Eldorado. While plans for this area (as outlined in the Santa Fe Community College District plan, 2000) call for retaining natural land features and sparse development, two new community areas are designated in the vicinity of the Spur Trail connection and on the east side south of the Nine Mile Road neighborhood.

## Trail Design Standards

Tread Surface: Unpaved, hard-packed, crusher fines surface; occasional short bridges or at-grade drainage crossings.

Features: Above-grade and at-grade drainage crossings.

Trail Tread (width): 8 feet

Trail Corridor (clearing width): 12 feet

Trail Ceiling (clearing height): 14 feet

Cross Slope: 2-5% maximum

5% w/steeper side grades

< 10% @ drainage crossings

Percent Grade: 1: 20 (5%) Any Distance

1:12(8.33%) Up to 200 Feet

1:10 (10%) Up to 30 Feet

1:8 (12.5%) Up to 10 Feet

1:7 (14%) Up to 5 Feet

Turning Radii: 50 feet (where possible)

Sight Distance: 100 feet







Trail erosion due to stormwater run-off.



Trail intersection with Avenida Vista Grande



Drainage crossing hazards include variable surface material

## Existing Conditions Assessment

An inventory of features and an existing conditions assessment was conducted in September 2017. Major management issues fall into four main categories:

### A. *Sustainability*

Re-establishing and maintaining optimal trail conditions to reduce future maintenance needs is a the primary component of trail sustainability. In some cases, adjustments to the original trail design are needed to address unforeseen maintenance issues. This is evident in Segment 1 and at major drainage crossings, where trail grades and adjacent slopes are greater than in other segments. The effects of erosion from stormwater is more pronounced in these locations. In other sections of the trail, routine maintenance is necessary to keep trail conditions safe and in compliance with original design intentions. The dominant activities that impact trail conditions are trail use, trail use during wet conditions, and erosion in and alongside the trail.

- *Properly Constructed / Maintained Drainage Features* help manage stormwater and reduce erosion within and alongside the trail. Some of these features on the trail include rolling grade dips and knicks; some of these features alongside the trail include swales, lead-off ditches, spreaders, and culverts.
- *Vegetation Encroachment Management* within the 8 foot trail tread and the 2 foot shoulders on either side help maintain a clear corridor and preserve the integrity of the trail surface. Encroachment on the trail of invasive weeds is more prevalent where adjacent soils have been disturbed due to construction grading or erosion. Invasive weeds encroaching on the trail surface are primarily Russian Thistle and Kochia. In a few locations, yucca glauca specimens are emerging within the trail corridor.
- *Erosion Control of Side Slopes* is critical to reducing buildup of sediment on the trail surface that could compromise the hard pack surface. Steeper slopes and those with retaining walls show evidence of erosion and should be monitored and stabilized to mitigate future impacts to the trail.
- *Pest Management* within the trail corridor helps maintain the integrity of the trail surface. This is a minor issue along the trail, since evidence of pests such as ants or gophers is minimal. Only a few locations have been impacted by pests. Proactive management of these areas will reduce further trail degradation.



## B. Safety / Risk Management

For a safe and enjoyable user experience, the County should responsibly address the issues below.

- Obstructions that intrude on the trail tread at trail access points may become tripping or unnecessary hazards. Center bollards at trail access locations and ATV access prevention devices (wood stepovers) should be removed. Alternate access control designs should be implemented without utilizing obstructions.
- Surface Conditions impacted by trail use, erosion, and other factors can impair the surface and lead to safety hazards such as ruts, loose surface material, etc. Efforts should be made to maintain the hard packed crusher fines surface as outlined in the original design standards.
- Roadway Intersections at Rabbit Road, Avenida Vista Grande, and Avenida Eldorado should be evaluated to optimize safety for all users of the intersection: roadway vehicles, trains, and trail users. The County should ensure intersections are adequately signed, have sufficient visibility and have all necessary pavement markings. All intersections should undergo Safety Audits to outline suggested intersection improvements to address safety issues.
- Fencing occurs within the trail corridor to keep users on the trail or as a precaution to keep trail users away from drainage features. These fence types are typically buck and rail or post and wire. A barbed wire fence runs along the length of the rail right of way property edges. Any fence that is within 10 feet of the edge of trail tread should be monitored for its condition so it does not pose a safety hazard.
- Blind Corners w/ Steep Slopes can cause low visibility and difficulty controlling speeds. In locations such as trail access from Nine Mile Road, site specific improvements should be implemented for better visibility and gentler slopes. Signage can also help to warn users of hazards.



*Tree branch "hanger" hazards within the trail corridor.*



*Weed encroachment within the trail corridor.*



*Social trail spur (left) impedes upon the railroad right of way.*



### **C. Easement Compliance**

Adhering to the trail easement agreement will help ensure the safety of trail users on a trail alongside a rail line and allow for continued public use of the SFRT. The designated trail corridor established by the easement is a 20 ft. wide corridor. Access beyond this corridor is considered trespassing on NMDOT Right of Way. A number of infractions within this zone have been noted and should be addressed by the County in cooperation with trail users, area residents, and NMDOT.

- Social Trails exist within some segments of the rail right of way. Social trails are narrow (12"-18" wide) hardpack surface trails that have emerged over time or were already in place prior to construction of the SFRT. These consist of short cuts along the SFRT to cut corners (particularly in Segment 1) or parallel social trails on the opposite side of the track from the SFRT. Social trail locations have not been documented; trail conditions are sometimes monitored by the trail steward.
- Trail Access Locations from private properties and neighborhood trails / drainages can be found all along the ROW perimeter. These access points provide intermediate access to the trail for adjacent residents without having to go around to a primary access location. In some cases, access locations lead to social trails that cut across the tracks and connect to the SFRT.
- ROW Fence along the east and west property boundaries in some locations is in need of minor repairs to fix gaps, uneven strands, and loose barbed wire. While the responsibility of maintaining this fence rests with Santa Fe Southern Railway, where the fence is located within the trail corridor, County maintenance should make necessary repairs. In other locations, County representatives should monitor fence conditions and report to NMDOT to discuss a plan of action.

### **D. User Enjoyment**

The SFRT would benefit from additional planning / design improvements to increase user access and enjoyment of the trail.

- Trailheads / Trailhead Improvements. Additional trailheads will provide alternate primary access locations for local and regional trail users. Trailheads should include amenities such as: parking, trash receptacles, regulatory / wayfinding signage kiosks.
- Neighborhood Access Points provide intermediate locations for neighborhoods to access the trail at designated locations. Possible locations include neighborhood trail system crossing points or open space drainageways.
- Native Vegetation Re-establishment contributes to the health of the grassland ecosystem, encourages plant and wildlife diversity, and helps curb erosion.
- Weed Management programs target specific invasive species to best control spreading. Early detection and eradication are the best methods for invasive species control. Management of non-invasive species that enter the trail tread and shoulder area focuses largely on mowing with occasional removal.
- Surface Condition monitoring and routine maintenance helps maintain a safe and enjoyable trail surface.
- Amenities such as benches, wayfinding signage, interpretive signage, etc. both at trail access points and internal to the trail system would provide greater enjoyment of the trail. A series of benches have been added by users that need to be evaluated and institutionalized.



## **EXISTING CONDITIONS NEEDS ASSESSMENT**

### **Condition**

### **Needs Assessment**

<ul style="list-style-type: none"><li>• Erosion and Drainage</li></ul>	<ul style="list-style-type: none"><li>• Need to reconstruct, repair, and add drainage features within and alongside the trail to manage erosion.</li><li>• Need management of erosion prone areas with steep embankments or arroyo / drainage crossings.</li><li>• Need to identify and engage other agencies and partners to help fund planning and improvements as scope and scale are likely to be beyond the capacity of the Santa Fe County Open Space Program.</li></ul>
<ul style="list-style-type: none"><li>• Easement Compliance</li></ul>	<ul style="list-style-type: none"><li>• Need to document existing social trails and monitor future additions.</li><li>• Need to review and address with NMDOT social trail and private access outside the trail corridor.</li><li>• Need to establish rail ROW fence monitoring / reporting / repair protocols.</li><li>• Need installation of additional regulatory and informational signage.</li></ul>
<ul style="list-style-type: none"><li>• Plant-Wildlife Habitat</li></ul>	<ul style="list-style-type: none"><li>• No active management for wildlife habitat needed. But community desires maintaining birdhouses.</li></ul>
<ul style="list-style-type: none"><li>• Infrastructure</li></ul>	<ul style="list-style-type: none"><li>• Need open space management signage and information boards.</li><li>• Need access control fences / signage to keep users on the trail and aware of the trail corridor.</li><li>• Need additional trailheads / trail access locations to provide access to the trail.</li><li>• Need Safety Audit of roadway intersections.</li><li>• Need to address safety issues at access points and along trail.</li></ul>
<ul style="list-style-type: none"><li>• Community Stewardship</li></ul>	<ul style="list-style-type: none"><li>• Need to formalize the stewardship role and protocols for trail monitoring / maintenance.</li><li>• Need to outline initiatives / programs for community engagement to maintain and support the trail and open space.</li></ul>





### 1.3 Management Plan Development Process

The Santa Fe Rail Trail Management Plan was informed by the County's initial goals for easement acquisition / construction of the Santa Fe Rail Trail and a set of planning principles. The planning principles were formulated based on goals for the Santa Fe County Open Space and Trails Program.

#### INITIAL GOALS FOR ACQUISITION OF THE SANTA FE RAIL TRAIL

- Provide a recreation and commuter trail along the railway.
- Address drainage and erosion problems along the railroad and trail corridor.
- Make the trail accessible to a wide range of users as a primary, non-motorized multi-modal commuter and recreation trail.

#### PLANNING PRINCIPLES

- Adhere to the goals and purpose of the Open Space program.
- Ensure public safety and access based on the reasons for acquiring the property.
- Keep maintenance needs to a minimum (commensurate with County capacity and community-based stewardship capacity).
- Invest in strategic, cost effective, long-term improvements to enhance user enjoyment and preserve the railway's rural character.
- Minimize the disturbance of cultural and ecological resources.
- Involve youth and create educational opportunities.

#### PLANNING PROCESS

The plan process included three phases:

##### *Scoping and Reconnaissance Phase*

- Focus group meetings with key stakeholders, recreational trail users, stewardship organization representatives, and County staff regarding current issues with the site and how to address best practices in the management plan.
- Review of relevant Santa Fe County plans and policies.
- Review of relevant plans and documents from other agencies.



- Detailed existing conditions site inventory and assessment to identify recommended design modifications for a more sustainable trail.
- Public input meeting to confirm the community vision for the site, present overview of site inventory / assessment, review the components of the management plan, identify existing / potential issues, and outline potential stewardship opportunities.

#### **Research Phase**

- Follow-up interviews with key stakeholders and community members to refine the approach.
- Additional site visits to confirm terrain management units and the development of management recommendations.
- Mapping of findings of the Scoping/Reconnaissance and Research phases.

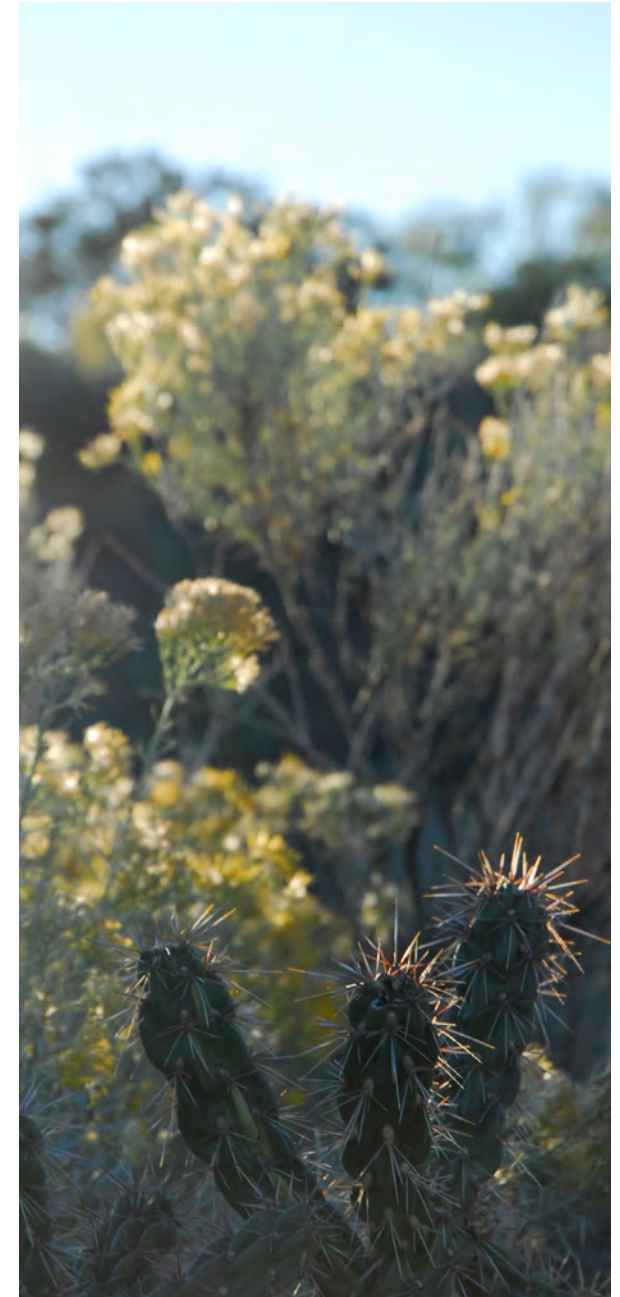
#### **Planning Phase**

- Develop initial management plan recommendations for SFRT monitoring, stewardship, and maintenance.
- Write the first draft of the management plan.
- Review with County staff to confirm plan implementation and funding opportunities.
- Submit the draft management plan for public review and comment.
- Revise plan draft based on public comments and submit final draft plan for official approval.

### **PLAN UPDATING**

The time scope of this Management Plan is approximately 15-20 years. Plan information is more specific for the short-term (*years 1-5*), descriptive for the mid-term (*years 6-10*), and preliminary for the long-term (*beyond 10 years*).

Changing community needs, environmental conditions, and County management capacity will lead to the need for adjustments to the plan. After the mid-term span of 10 years, this plan will need updating.









## 2. SANTA FE RAIL TRAIL MANAGEMENT PLAN



### 2.1. Vision + Goals for the Santa Fe Rail Trail Management Plan

#### **Vision Statement**

The Santa Fe Rail Trail (SFRT) vision statement is based on original planning efforts and public input for SFRT implementation. The draft vision statement was shared and verified with community members at the community meeting.

#### **Santa Fe Rail Trail Vision Statement**

The Santa Fe Rail Trail will link communities and neighborhoods along a 18-mile multi-use trail featuring scenic rural landscapes, local heritage, and contributing to the social and economic vitality of the region. The trail along the rail line will serve as a historic, recreational, and commuter resource for residents and visitors of all ages and abilities. Responsible stewardship of the trail will encourage a legacy celebrating the unique history, ecology, and integrity of the Santa Fe Rail Trail.

#### **Santa Fe Rail Trail Management Goal**

The Santa Fe Rail Trail Management Goal is that Santa Fe County, Trail Stewards, and the SFRT community will collaboratively work to monitor, enhance, and maintain the safe functioning of the trail. The management goal is to be sustainable, encourage community stewardship, involve citizens in monitoring and maintenance, and protect the cultural, habitat and recreation resources of the site.





### **Santa Fe Rail Trail Specific Management Goals**

Specific management goals in support of the Santa Fe Rail Trail Vision are:

- A. ***Holistic & Inclusive.*** The Santa Fe Rail Trail is managed in an inclusive and collaborative manner through on-going consistent discussion with the community, stewardship groups, agencies and partners about planning, implementation and maintenance activities for the site.
- B. ***Access.*** The Santa Fe Rail Trail will manage access to balance community safety and desires for trail users in the rail corridor and County obligations of the trail easement.
- C. ***Ecological Health.*** The ecological health and resilience of the Santa Fe Rail Trail is maintained through reducing risks from flood events, minimizing new impacts, and careful enhancement of the habitat.
- D. ***Natural Appearance.*** The Santa Fe Rail Trail appearance and railroad history are complimented by using natural design principles and materials that reflect the history and environment of the site.
- E. ***Education.*** The Santa Fe Rail Trail will encourage education and research about the site's role related to local railroad history, the historic resources of the site, and its environment.
- F. ***Site Improvements.*** Site improvements such as signage, fencing and gates on the Santa Fe Rail Trail will be purposeful, be built of materials that fit the context of the community, relate to the history of the railroad, and minimize impacts from the design, installation or maintenance of the improvements.

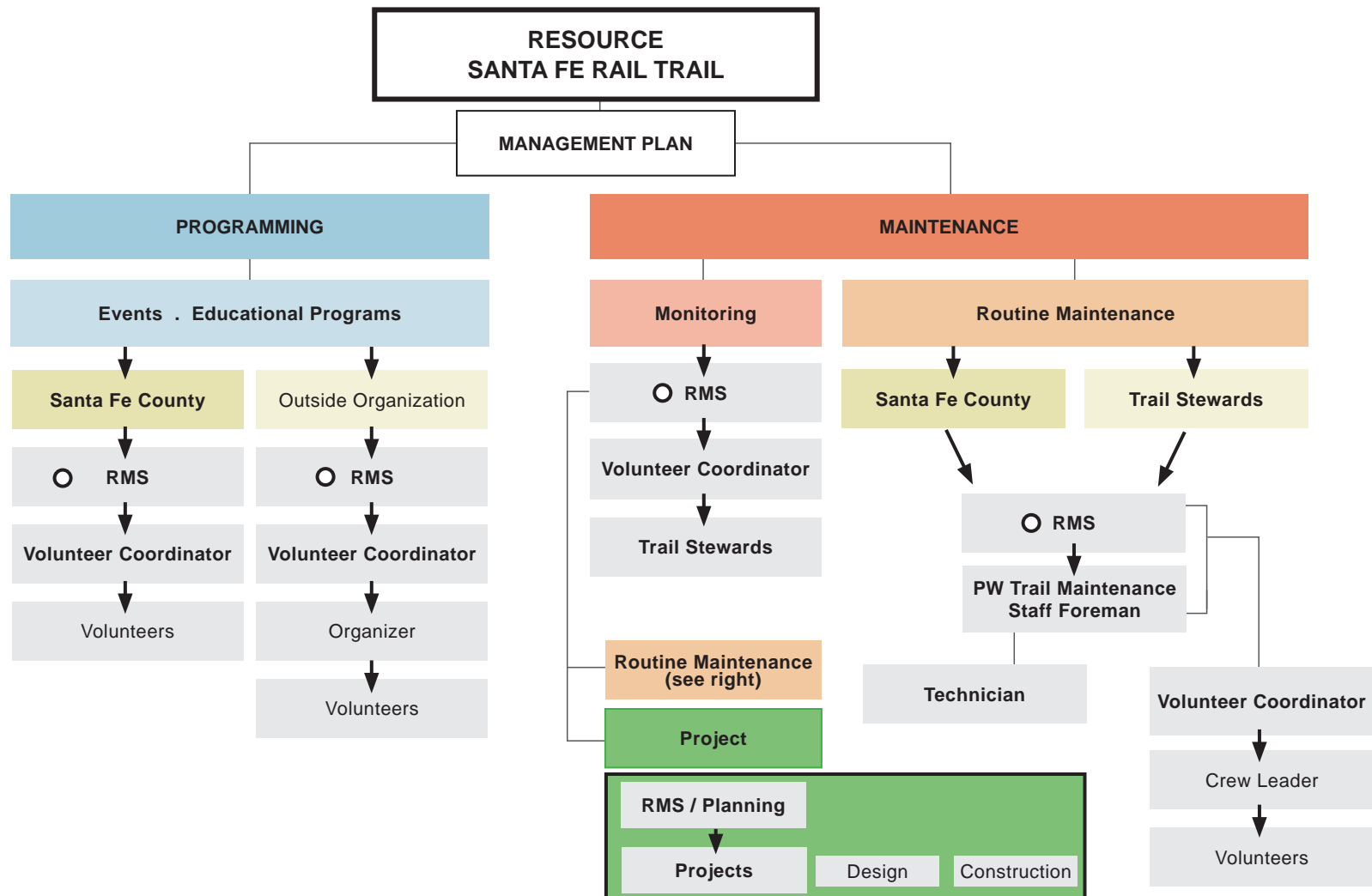


## Monitoring Objective

The monitoring objective for the Santa Fe Rail Trail is to use trail monitoring to track the condition of the trail and to indicate when management is needed to address changes as they arise. The monitoring data is regularly reviewed by the County to identify priority management activities and coordinate management activities with the SFRT Stewardship entities and adjacent community.

## Management Organizational Chart

The following organizational chart illustrates how monitoring and management of the SFRT is envisioned:









## 2.2 Santa Fe Rail Trail Management Plan

The Plan for the Santa Fe Rail Trail (*SFRT*) describes proposed management strategies, projects and associated investments to support the SFRT Vision and Management Goals. The Plan recommends planning actions; projects with their purposes and priority; maintenance and community stewardship activities; and a possible timeline for implementation.

### Approach

The Conceptual Plan envisions the continued development and management of the Santa Fe Rail Trail to maintain a safe, sustainable trail in accordance with the SFRT vision and the easement agreement with NMDOT. The plan aims to preserve the Rails by Trails experience within a rural, natural setting.

Plan actions are focused on:

- improving safety at access points and along the trail;
- enhancements that benefit user enjoyment;
- resolving conflicts to address trespassing issues;
- establishing and maintaining sustainable trail conditions and improvements on site,
- managing ecosystem health on the property and
- building staff capacity with stewardship and community outreach and programming.

Future improvements and extensions of the trail and public access will be coordinated with local landowners, the NMDOT, trail users, and the community at large.







### **Development / Projects + Programs**

The Conceptual Plan includes trail and trail-related improvement projects, interpretive education, and community engagement projects identified during the planning process with the community. While some of these projects have been engineered and are awaiting funding for implementation, others need further planning and review to establish their feasibility. Within the context of this Plan, “project” means programs and built projects.

**Planning and preparation** is required for all projects and programs proposed. Coordination with the NMDOT Rail Bureau may also be necessary for some projects. Implementation will need to be balanced with funding, staff availability, and project schedules.

**Community involvement is essential** for the planning, implementation and maintenance of future Santa Fe Rail Trail projects. Public involvement may include review and input during the project design, participation in the implementation of projects, and engagement in on-going maintenance of the site.

The following are projects prioritized by their importance to the SFRT Vision, the level of effort to achieve them, and the effective period to accomplish them.

### **Short-Term**

#### **1. Drainage / Erosion Control Projects**

- implement trail drainage / erosion control projects (reconstruct / install rolling grade dips, drainage swales, check dams, lead-off ditches)
- design and implement more intensive trail improvement projects in locations with steep slopes, retaining walls, or trail tread migration
- provide training on reconstruction to established trail design standards (for maintenance crews, volunteers, volunteer coordinator)

#### **2. Trail / Open Space Access and Control**

Formalize social trails / access, emergency access and control vehicle access to the Rail Trail. The project should:

- establish an Emergency Response protocol and access route w/ local agencies,
- repair boundary fences and install additional fencing, gates, and signage to control access,
- develop a policy and process to assess and address social trails and additional internal access points; coordinate with NMDOT and local property owners.



### 3. Vegetation Management

Develop, adopt, and implement a comprehensive vegetation management plan. The plan should:

- outline pruning techniques for trees according to standards,
- establish best practices for weed management,
- outline techniques for native plant dryland restoration in coordination with agencies and volunteers.

### 4. Signage Plan

Upgrade site signage to:

- design and install County Open Space standard signage with identification signage, trailhead kiosks, orientation, and wayfinding; coordinate with City and NMDOT Rail Bureau
- install additional no trespassing signage.

### 5. Safety / Risk Management

- conduct Road Safety Audits (RSAs) for trail (and rail) intersections at Rabbit Road, Avenida Eldorado, and Avenida Vista Grande,
- implement short-term RSA recommendations as possible.
- remove existing hazards within the trail corridor (e.g. trash, construction debris, etc.)

### 6. Trail Extension / Amenity Improvements

Continue improvements to the Rail Trail. Projects include:

- trail amenity assessment and implementation for upgrades to SF County standards (e.g. benches, trailhead amenities, signage, access points, etc.)
- construction of Rail Trail Segment 5 (anticipated funding 2018)
- design and construct Trailheads at Nine Mile Road and Avenida Vista Grande.

### 7. Community Programming

Expand the volunteer stewardship program to address community interests. The program should:

- define SFRT steward volunteer guidelines and provide training,
- work with Randall Davey Audubon to develop a program for maintenance, monitoring, and reporting on the Rocky Mountain Bluebird houses.
- consider developing a Master Naturalist Program for Santa Fe County.



*Road intersection with SFRT at Rabbit Road in need of RSA.*



*Example of weed encroachment within the trail corridor.*



*Potential community project: Rocky Mountain Bluebird house and habitat monitoring and maintenance.*



## Mid-Term / Long-Term

### 8. Intersection Safety Improvements

Design and construct trail / roadway intersection improvements based on road safety audit recommendations.

### 9. Trail Extension / Amenity Improvements

Continue improvements to the Rail Trail. Projects include:

- design and construction of Rail Trail Segment 6; coordinate with NMDOT and Galisteo Basin Preserve.
- design and construction of Rail Trail Segment 7 (to Lamy); coordinate with NMDOT and area property owners.
- design and construct a Trailhead at Avenida Eldorado; design an equestrian-focused trailhead and coordinate with local equestrians.

### 10. Public Safety Programs

Evaluate and implement initiatives that focus on public safety along the trail. Programs include:

- Open Space Ranger program for SFRT / SFCo Open Spaces + Trails (look at APD Ranger program, Boulder, CO Ranger program)
- Trail patrol program based on the IMBA Trail Patrol

### 11. Activate Rail Line

Explore opportunities to re-activate the 'Trails by Rails' concept with the rail line owner / operator in a beneficial way (e.g. by partnering with SF Southern to provide train rides back to town, acquiring the rail line and opening it to use for 'rail bikes')

## Development - Projects Sequence

Every proposed project requires planning, research, and concept development to be well conceived, funded and implemented. The *Possible Projects Sequence* indicates a possible sequence for the SFRT projects identified in this Plan and the general process that each project will go through. (See the graph next page.)

### ***The Possible Projects Sequence***

The Possible Projects Sequence indicates a general estimate about the relative timing and complexity of proposed projects. The sequence also conveys the likely overall scale of effort needed to accomplish the proposed project.

































The simpler and smaller the project, the shorter the likely time to fund and implement will be. The more complex and costly the project, the longer the budgeting and implementation time takes. Some projects such as new trail construction or major drainage improvements may require several years to secure funding. Community advocacy and support can affect project timing and implementation.

The actual project sequence and timing will vary from what is diagrammed on the chart. Projects may start earlier or later than estimated. The sequence indicates the relative time and effort it may take to prepare a project, plan and design it.



<b>Project Identification</b>	<p>A. Identify the project.</p> <p>B. Determine project schedule and needed level of planning /research / concept plan.</p> <p>C. Identify and secure funding source for planning /research / concept plan</p> <p>D. Obtain County approvals to proceed with planning /research / concept plan.</p>
<b>Planning + Concept Plan</b>	<p>E. Engage and notify the community about the project and its process</p> <p>F. Engage and/or notify reviewer agencies and agencies with interests in project.</p> <p>G. Conduct project planning, research, and concept plan process.</p> <p>H. Obtain approval of project concept to proceed to implementation/design/construction</p>
<b>Funding for Implementation</b>	I. Identify funding for implementation of plan, design and/or construction
<b>Implementation</b>	J. Proceed with County process to implement plan, design and/or construction

#### POSSIBLE PROJECTS SEQUENCE

PROJECTS	YR 1	YR 2	YR 3	YR 4	YR 5	Mid-Term	Long-Term
1. Drainage / Erosion Control	 	 					
2. Access Control	 	 					
3. Vegetation		 	 				
4. Signage Plan		 	 				
5. Intersection Road Safety Audits		 	 				
6. Trail Extension / Amenities					 	 	
7. Programming					 	 	



The *Planning/Maintenance/Improvements* chart on this page and the next, shows the transition of planning, maintenance, and improvements activities over the short term (1 to 5 years) and mid-to-long term (6 to 10 years) (long-term beyond 10 years).

Refinements to the projects and management activities will be made as necessary to achieve the intended Vision and Management Goal for the SFRT. Factors that may influence activities and timing are: staff availability, funding availability, management priorities, and operational or policy changes.

### Short-Term

- Maintenance and repairs to existing trail and site improvements to address existing and potential safety issues.
- Formalize emergency access plan and completion of physical improvements to facilitate access.
- Conduct intersection road safety audits.
- Tailor existing stewardship program to specific needs of the Rail Trail, the community, and adjacent resources / amenities.
- Planning and implementation of trail extension (Segment 5) and amenity improvements (trailheads, signage).
- Develop policies to address vegetation management, social trails, access, trespassing.

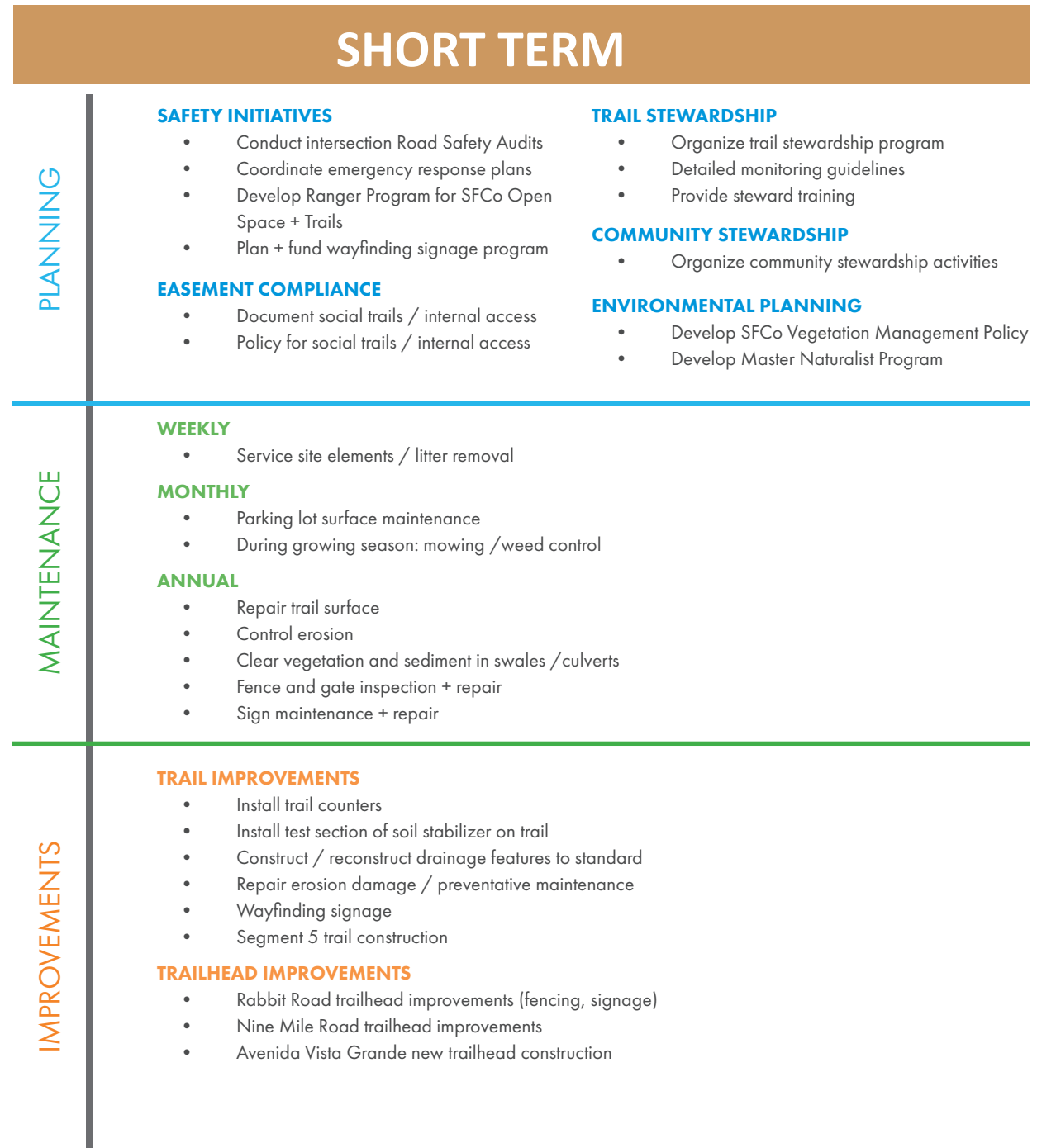


Figure 4-A. Planning/Maintenance/Improvements Diagram



# MID TERM - LONG TERM

## PLANNING

### SAFETY INITIATIVES

- Implement Ranger Program

### STEWARDSHIP

- Continue trail stewardship program
- Organize community stewardship activities

### ENVIRONMENTAL PLANNING

- Implement Master Naturalist Program

### ECONOMIC DEVELOPMENT

- Explore opportunities for rail line activation in coordination with trail activities

## MAINTENANCE

### WEEKLY

- Service site elements / litter removal

### MONTHLY

- Parking lot surface maintenance
- During growing season: mowing /weed control

### ANNUAL

- Repair trail surface
- Control erosion
- Clear vegetation and sediment in swales /culverts
- Fence and gate inspection + repair
- Sign maintenance + repair

## IMPROVEMENTS

### TRAIL IMPROVEMENTS

- Trail amenity improvements
- Segment 6 design + construction
- Segment 7 design + construction
- Trail amenity improvements

### TRAILHEAD IMPROVEMENTS

- Avenida Eldorado new trailhead planning + construction; equestrian access / trailer parking
- Additional trailhead at junction of SFRT and ATSF Trails

### INTERSECTION IMPROVEMENTS

- Implement Road Safety Audit recommendations

## Mid-Term

- Planning and implementation of trail extension (Segment 6) and amenity improvements.
- Implement intersection safety audit recommendation plans and upgrade improvements.
- Research development of a Ranger program to help manage and monitor the SFRT.
- Continue maintenance of site improvements.

## Long-Term

- Planning and implementation of trail extension (Segment 7) and amenity improvements.
- Research activation of rail line in coordination with trail activities.
- Continue maintenance of site improvements.
- Continue County and volunteer collaboration on maintenance and management activities.

Changing community needs, environmental conditions, and County management capacity will inevitably lead to the need for plan adjustments. Priorities and timelines may shift, and objectives for planned projects, maintenance activities, and community relations may change or expand. After 10 years, this plan will need updating.

Figure 4-B. Planning/Maintenance/Improvements Diagram



## 2.3 Monitoring + Maintenance Approach

### Monitoring

Monitoring will continue to play an important role in the management of the Santa Fe Rail Trail (SFRT). There are four types of monitoring that will be done at SFRT.

Because of the nature of agreements locating the County trail within the rail ROW, monitoring needs to be done jointly by Santa Fe County, Trail Stewards, and adjacent community entities. A collaborative approach will create a more coordinated response to changing circumstances as they arise.

#### **A. Trail Condition Monitoring**

Trail condition monitoring will be a specific monitoring program to report on current and potential drainage or erosion-related risks within the trail corridor. Designated volunteer Trail Stewards will document trail conditions and report to the County Volunteer Coordinator and Resource Management Specialist. Protocols for trail monitoring and reporting will be developed by the County.

#### **B. Maintenance Monitoring**

Maintenance monitoring is focused on repair and management of site improvements not related to trail condition improvements. Included in this category are fencing, access control gates, signage and the acts of illegal vandalism. County staff will lead in this monitoring with assistance from the SFRT Stewards.

#### **C. Environmental Monitoring**

Environmental monitoring will be a program for monitoring and restoring environmental-focused initiatives such as wildlife habitat enhancement, grassland restoration, and Rocky Mountain Bluebird habitat in the open space area along the SFRT. County staff will lead this effort in coordination with local experts and volunteers.

#### **D. Trail Use Monitoring**

Trail use will be tracked and documented on a regular basis using trail counters installed at key locations at entry points and along the trail. County staff will lead this effort in coordination with the City and the Metropolitan Planning Organization.

### Information Management

Santa Fe County will gradually streamline and enhance procedures that help staff and community participants to acquire, store, and share knowledge that is essential for effective management of the SFRT.



## Maintenance Approach

The County may face challenges to meet all the maintenance needs that may arise in the future. Strategies to optimize maintenance efforts include:

- collaboration with established trail user group organizations, other agencies, and community stewards to leverage the efficiency of working together,
- invest in smaller, consistent well-planned maintenance activities,
- establish a specialized volunteer 'Hot Shot' crew to address critical safety items until staff or outside contractors are able to provide more permanent fixes,
- conduct maintenance activities at the optimum time based on monitoring data or a regular schedule.

## Maintenance Commitment

Crew	Total Hours	Hours/Yr/Mile of Trail	Cost/Yr/Mile of Trail
Maintenance	626	74	\$2,460
Volunteers	183	20	n/a

*\* Projected based on documented staff and volunteer hours in 2016, 2017 for a 8.5 mile stretch of trail; cost is labor only estimated at \$28/hr.*

Where	What	Why	When
Location	Anticipated Regular Maintenance Activity	Objective	Maintenance Frequency*
All TMUs	Dialogue about maintenance with neighbors and stakeholders; integrate feedback in planning	Holistic & Neighborly	Annually
All TMUs	Inspect and repair: <ol style="list-style-type: none"> <li>Fences, gates, and stiles</li> <li>Site signage</li> </ol>	Access / Scenic & Interpretive / Ecological Health	<ol style="list-style-type: none"> <li>Annually</li> <li>Annually</li> </ol>
RT-THD	<ol style="list-style-type: none"> <li>Service site element, litter removal</li> <li>Parking lot surface</li> </ol>	Access / Infrastructure	<ol style="list-style-type: none"> <li>Weekly</li> <li>Monthly</li> </ol>
RT-TCO-L	<ol style="list-style-type: none"> <li>Trail surface</li> <li>Drainage structures</li> <li>Vegetation encroachment management</li> </ol>	Safety / Infrastructure User Experience	<ol style="list-style-type: none"> <li>Annually</li> <li>Annually</li> <li>Monthly (6 months)</li> </ol>
RT-TCO-H	<ol style="list-style-type: none"> <li>Trail surface repairs and erosion management</li> <li>Arroyo and drainage crossings</li> <li>Drainage structures</li> <li>Vegetation encroachment management</li> <li>Soil conservation</li> </ol>	Safety / Infrastructure User Experience / Ecological Health	<ol style="list-style-type: none"> <li>After storm events</li> <li>After storm events</li> <li>Quarterly</li> <li>Monthly (6 months)</li> <li>Annually</li> </ol>
RT-OSP	<ol style="list-style-type: none"> <li>Monitor social trails</li> <li>Remove invasive plant species / restoration</li> <li>Report vandalism</li> </ol>	Access / Easement Ecological Health	<ol style="list-style-type: none"> <li>Annually</li> <li>Annually</li> <li>As necessary</li> </ol>

Table 1. Monitoring Matrix

**Note:** The table indicates the minimum suggested monitoring frequency. In some circumstances frequencies may need to be increased if/when staff time and funds allow, or if maintenance activities can be conducted by community volunteers.



## 2.4. Community Relations

Santa Fe County intends to develop and maintain a productive and collaborative relationship with the Santa Fe Rail Trail users, adjacent neighbors / neighborhoods, and other stakeholders as a critical activity in the implementation of the Santa Fe Rail Trail (SFRT) Management Plan.

### Information Exchange

Santa Fe County plans to expand and develop several methods for information distribution and exchange with community members and stakeholders.

### Signage

Santa Fe County will work with to place appropriate signage to identify Santa Fe Rail Trail access and extents by implementing the Santa Fe County Open Space and Trails Signage Plan.

### Website

Santa Fe County will maintain the website pages dedicated to the County Open Space & Trails program. The website may be expanded with a specific web page describing the Santa Fe Rail Trail route, landscape, history, management plan information, and planning initiatives.

### Community Contact

As part of the Adopt an Open Space program, Santa Fe County has a volunteer trail steward for the County portion of the Rail Trail. Santa Fe County will work with the trail stewards and the community to identify a communication structure and methodology with stewards or community members to be available to field comments and questions about the trail and to contact County staff for follow-up actions. Communication may address trail maintenance, site protection, public safety measures, and collaborative management activities.

Santa Fe County intends to include a diverse group of community stakeholders in volunteer stewardship work. These stakeholder groups include:

- Immediate neighbors of the SFRT ROW property.
- Neighborhood groups along the trail, including: Arroyo Hondo Subdivision, Sunlit Hills Subdivision, Seton Village, El Dorado, Lamy, Galisteo Basin Preserve, Rancho Viejo,
- Trail user groups, including: mountain bikers, equestrians, trail runners, hikers. (i.e. SF Fat Tire Society, GUSTO, Backcountry Horsemen, SF Striders)
- Local volunteer fire departments, Santa Fe County Sheriff Department
- Local youth and students: Amy Biehl Community School, El Dorado Community School, and Santa Fe Community College
- Rail history interest groups
- Regional conservation groups, hiking and outdoor organizations interested in the SFRT.



### Education and Collaboration

Santa Fe County, trail users, and community members understand that it is important to cultivate community management and maintenance activities for the Santa Fe Rail Trail. Raising awareness mobilizes support for future stewardship of the Santa Fe Rail Trail. Santa Fe County and community members want to encourage youth engagement and to include school groups in educational and maintenance activities, and site monitoring.

An education tool that the trail stewards felt would be valuable is a information pack summarizing the design standards, construction details, and management of the Santa Fe Rail Trail.

### Monitoring, Maintenance and Land Stewardship

A significant portion of the community relations will revolve around trail condition monitoring, site maintenance, and stewardship of the Santa Fe Rail Trail. Because the trail is relatively new and in fairly good condition, the initial focus will be to institute practices with the trail stewards for monitoring and reporting to evaluate trail conditions that affect user safety. Community and trail steward maintenance activities will be limited to non-mechanical improvements.

For broader community engagement, activities can focus on highlighting unique aspects of the history and ecology of the rail trail and partnering with related agencies or experts to instigate site stewardship. The following topics are of interest to the community and may serve as pilot projects.

- Rocky Mountain Bluebird House monitoring and maintenance.
- Native plant establishment, seed collection, and monitoring.
- Coordinated events to activate the rail line and the trail.



*GPS unit for real-time location services in remote area.*



*Digital collection with geo-located images will help with record keeping and interface between trail stewards and maintenance crews.*



# LEGEND

- RT-THD - TRAILHEAD
- █ RT-OSP - OPEN SPACE
- █ RT-TCO-L - TRAIL CORRIDOR - LOW EROSION POTENTIAL AREA
- █ RT-TCO-H - TRAIL CORRIDOR - HIGH EROSION POTENTIAL AREA

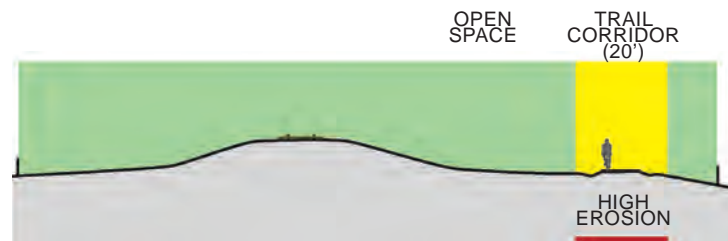
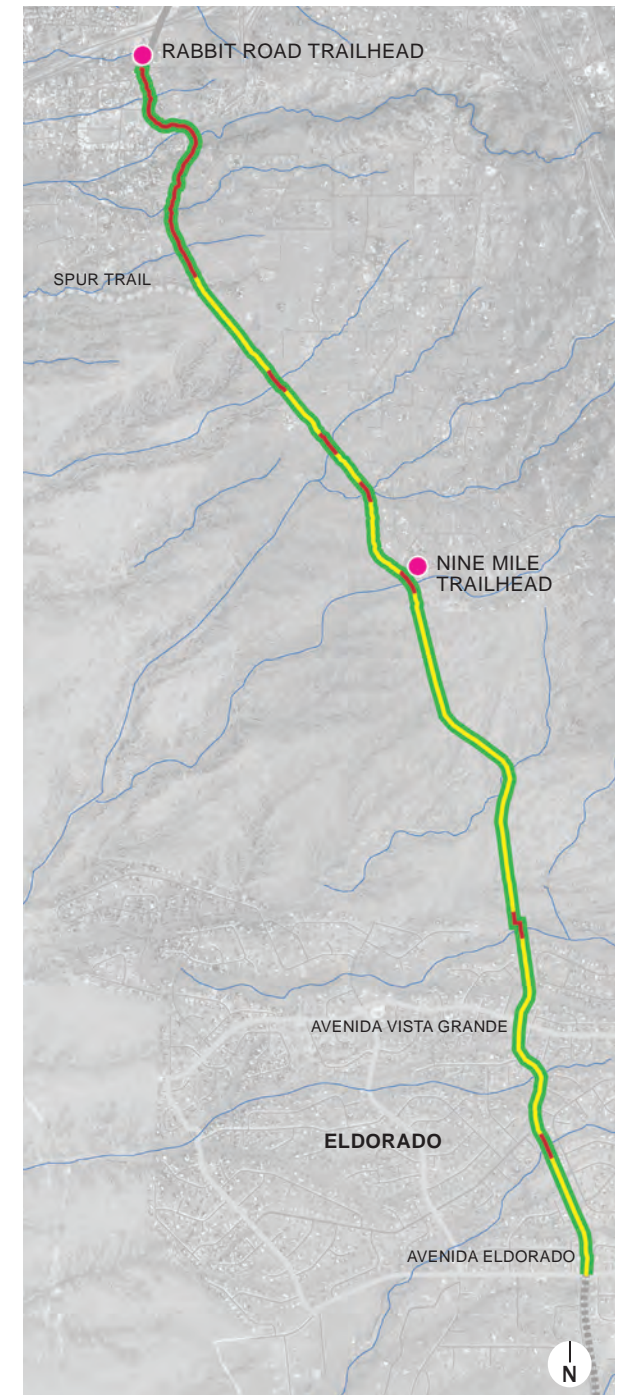


Figure 5. Santa Fe Rail Trail - Terrain Management Units





## 2.5. Terrain Unit Descriptions

### **Terrain Units**

Terrain Management Units (TMUs) delineated for the Santa Fe Rail Trail are areas that share characteristics of drainage, vegetation, soil or other characteristics that are observable or have unique assets or functional uses. Management activities for these areas are identified in the Conceptual Plan. These identified TMUs will facilitate the monitoring plan and future maintenance actions.

### **Trailhead (RT-THD)**

This unit includes developed trail access points with parking, signage, maintenance access, and site amenities. Trailheads typically have trash receptacles, dogipot stations for dog waste, and some trailheads, such as Rabbit Road Trailhead, have portable restroom facilities that require regular maintenance. The level of maintenance at each trailhead is directly proportional to the level of use.

### **Open Space (RT-OSP)**

This unit consists of the remaining open space within the railroad right of way outside the designated trail easement. The primary feature within the open space zone is the active rail line, which includes the railbed and associated trestles and drainage crossing structures. On either side of this TMU, continuous fencing delineates the extent of the right of way and controls access to the open space. Evidence of public access in this zone includes social trails and private access gates from residential properties. A series of almost 90 birdhouses to encourage nesting of Rocky Mountain Bluejays exist in the open space zone. The primary land use is the active rail line and preservation of open space.

### **Trail Corridor - Low Erosion Potential (RT-TCO-L)**

This unit consists of the designated 20 ft wide trail corridor easement managed by Santa Fe County. It includes the 8 ft wide trail tread, adjacent trail shoulders (2 ft on either side of the trail tread), and adjacent open space. The Trail Corridor - Low Erosion Potential TMU is generally located in areas with slopes less than 10% with minimal / occasional evidence of erosion in the trail tread and within the trail shoulder.

### **Trail Corridor - High Erosion Potential (RT-TCO-H)**

This unit consists of the designated 20 ft wide trail corridor easement managed by Santa Fe County as indicated above, but is located in areas with steeper slopes, erosive soils, and drainage crossings. Trail sections in these areas are more prone to erosion and require more intensive monitoring and active maintenance, particularly after storm events. High Erosion Potential Areas are located in the northern segment between Rabbit Road Trailhead and the Spur Trail connection and at locations where major drainageways and arroyos cross the trail.





## 2.6. Plan Implementation and Financing Mechanisms

Plan implementation will start with identified priorities for projects and tasks, and be balanced with staff capacity and funds available to accomplish the tasks.

Implementation of this plan will begin upon approval of the Santa Fe Rail Trail Management Plan by the Santa Fe County Board of Commissioners.

A matrix of recommended management activities over the short, mid, and long term phases is contained in *Overall Management Activities Matrix for the Santa Fe Rail Trail (see Appendix A)*.

### **Year-1 Implementation**

Recommended implementation activities for Year-1 are outlined below.

#### ***Community Relations***

- a. Meet with Rail Trail users, Trail Stewards, and adjacent community civic entities to identify a community liaison group to work with the County to distribute information and help coordinate maintenance and planning for the Santa Fe Rail Trail.
- b. Coordinate with the community liaison group to identify maintenance activities for Year-1.
- c. Meet with the general community to:
  - provide updates for on-site County activities,
  - review the status of SFRT prioritized projects, review and assess the outcome of Year-1 activities and evaluate priorities for Year-2.

#### ***Operations + Monitoring***

- a. Integrate recommendations for maintenance monitoring into County staff schedules, and budgets.
- b. Install trail counters at key locations; coordinate counter locations with Santa Fe MPO and outline a protocol for monitoring and recording.
- c. Identify and train additional trail stewards who can assist with trail monitoring with County staff and establish process to implement that monitoring.
- d. Identify potential community groups who can assist with open space conservation efforts and develop pilot programs to engage these groups.

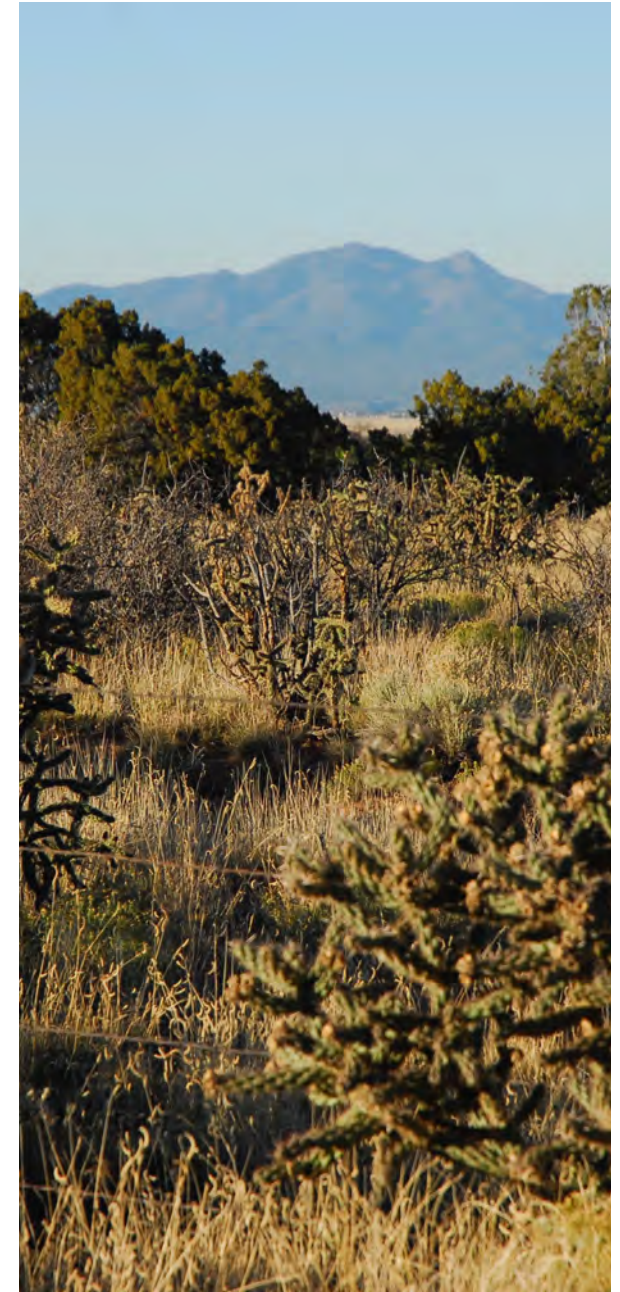


### ***Planning Projects***

- a. Begin planning for a comprehensive social trail and internal access management plan for the Santa Fe Rail Trail. Initial Year-1 tasks are:
  - consult with social trail users to assess frequency and type of trail use,
  - perform an assessment of adjacent property owner trail use / private access,
  - review potential additional internal trail access locations with adjacent communities,
  - develop a preliminary strategy for addressing social trails in coordination with NMDOT.
- b. Identify funding to conduct Road Safety Audits at Rabbit Road, Avenida Eldorado, and Avenida Vista Grande.
- c. Modify Rabbit Road trailhead access for greater safety.
- d. Install trail wayfinding signage and additional regulatory / access control signage as funding is available.

### ***Maintenance Activities***

- a. Schedule and perform more intensive trail maintenance projects (staff and/or contractor) to bring existing trail into conformance with design standards and address erosion / drainage issues.
- b. Schedule and conduct trail maintenance activities in coordination with the SFRT Trail Stewards.
- c. Evaluate Segment 1 improvement strategy to address drainage issues; install a test section utilizing soil stabilizer.





### **Financing Mechanisms, Funding Sources, and Partners**

Santa Fe County owns and manages more than 6,600 acres of open space properties and park areas. Santa Fe County will be able to implement this plan, if it successfully continues to develop new funding mechanisms, identify new funding sources, and cultivate collaborative relationships with neighbors, trail stewards, local stakeholders, and other interest groups. This collaborative approach will reduce the need for outside funding for property management and it will help build neighborly relationships and increase buy-in from and stewardship by the people with the greatest interest in the property.

Santa Fe County will pursue funding sources and explore creative funding mechanisms to ensure the financial viability of managing the Santa Fe Rail Trail according to the recommendations of this Management Plan. *(See Table 2 on the next page.)*



POTENTIAL FUNDING SOURCES	PURPOSE	ACQUISITION TIME FRAME
General Fund (Santa Fe County)	Staff costs	Annual budgeting process
Grants	Staff and consultants for various tasks, such as:	Dependent on funding source timelines
	Road Safety Audits	
	Trail drainage feature construction / reconstruction	
	Trail counter installation	
	Trailhead improvements; new trailhead construction	
	Trail surface durability test area installation	
	Rock retaining wall extension/construction and regrading	
	Revegetation ; erosion damage repairs	
	Wayfinding / Environmental / Interpretive signage program	
	Volunteer program development	Ongoing (Short-Long term)
	Ranger program development	
CIP funds	For the same as above	Annual budgeting process
General Obligation Bonds	New trail segment construction; new trailheads	Four-year bond cycle
POTENTIAL FUNDING MECHANISMS & COLLABORATIONS	PURPOSE	DEVELOPMENT TIME FRAME
Explore additional grant opportunities	Pursue more grant funding	Short-term
Cultivating community / trail stewards	Delegating work to local community stakeholders	Short-mid term
Organizing social/cultural (fund raising) events with non-profit partners	Generating discretionary income and public outreach	Mid-long term
Establishing a “Friends of SFRT” group	Generating discretionary income and public outreach	Mid-long term
Collaboration with non-profit entities for co-management activities	Sharing the burden with organized stakeholders	Mid-long term
Voter-approved Revenue Initiatives	Providing a dedicated annual revenue stream for OS, Parks and Trails	Long-term
Establishing an NGO for overarching support to OS property management	Sharing the burden with organized stakeholders	Long-term

Table 2. Potential Funding Sources / Mechanisms & Collaborations







## **SANTA FE RAIL TRAIL MANAGEMENT PLAN APPENDICES** ( *Separate document*)

APPENDIX A: Overview of Management Activities Matrix for the Santa Fe Rail Trail

APPENDIX B: Management Task Lists / Maintenance Schedules (County Maintenance, Volunteer Coordinator, Trail Steward)

APPENDIX C: Santa Fe Rail Trail - Design Standard Details

APPENDIX D: Easement Agreements for the Santa Fe Rail Trail (1997, 2009)

APPENDIX E: Santa Fe County - Adopt an Open Space Program Information



# SANTA FE RAIL TRAIL

## MANAGEMENT PLAN APPENDICES 2018



PRODUCED FOR SANTA FE COUNTY

PREPARED BY: DESIGN OFFICE



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## APPENDIX A

# OVERVIEW OF MANAGEMENT ACTIVITIES MATRIX FOR THE SANTA FE RAIL TRAIL



SANTA FE RAIL TRAIL   MANAGEMENT PLAN		Trail Maintenance Tasks / Assumptions					
Work Code	Maintenance Task Recommendation (typical tasks)	Applicable Standard / Specification	Responsibility	Level of Importance	Unit	Unit Cost	Specialized Equipment
	<b>Drainage Elements</b>						
W01	Install Swale	SFCo OS - Trail Design Standard Detail	Contractor / SFC-M (Crew)	High	LF	\$3-5	Compact Excavator
W02	Reconstruct Existing Rock Swale	SFCo OS - Trail Design Standard Detail	contractor	High	EA	\$200-400	Compact Excavator
W03	Install Rock Swale	SFCo OS - Trail Design Standard Detail	contractor	High	LF	\$12-17.5	Compact Excavator, Dump, Loader
W04	Install Rock / Cobble (lead off ditch, existing swale, slope, etc.)	SFCo OS - Trail Design Standard Detail	Contractor / SFC-M (Crew)	High	SF	\$6-10	Dump, Loader
W05	Clean Culvert and adjacent swale (free of vegetation and sediment )	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	EA	\$100-750	
W06	Clean Rock Swale or Lead Off Ditch (free of vegetation and sediment)	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	LF	\$100-200	
W07	Install Check Dam	<i>need standard detail</i>	Projects Staff / Contractor	High	EA	\$100-350	Dump, Loader
W08	Install Tread Dip at Low Point (Knick)	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	High	EA	\$150-225	Compact Excavator
W09	Install /Enhance Lead Off Ditch	SFCo OS - Trail Design Standard Detail	contractor	High	LF	\$1-2	
W10	Reconstruct Lead Off Ditch	SFCo OS - Trail Design Standard Detail	contractor	High	LF	\$0.50-1.50	
W11	Install Drainage Feature (All types, i.e. rolling dip, crest, tread dip on slope, etc.)	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	High	EA	\$400-600	Compact Excavator
W12	Reconstruct Existing Drainage Feature (All types, i.e. rolling dip, crest, tread dip, etc.)	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	High	EA	\$200-400	Compact Excavator
W13	Install Drainage Feature w/ adjacent swale (All types, i.e. rolling dip, crest, tread dip, etc.)	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	High	EA/LF	\$600 + \$5/LF	Compact Excavator
	<b>Trail Surface Elements</b>						
W20	Install Surface Material (wet and compact)	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	Medium	LF	\$18-20	Dump, Excavation, Water Truck, Compact Excavator, vibratory compactor
W21	Regrade and Resurface Trail Tread	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	Medium	LF	\$8-10	Dump, Water Truck, Compact Excavator or loader, vibratory compactor
W22	Repair Trail Surface (Gullies, Rivulets, ATV tracks, etc)	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	LF	40 hrs/quarterly	Cost assumes W20   Water Truck, vibratory compactor
W23	Anchor edge of trail to prevent cutting (large cobble, boulders)	National Forest Service Standards	contractor	Medium	LF	\$45-\$65	8-16" cobble min., small boulders
W24	Install Soil Stabilizer (i.e. Soil Tack or Technisoil G5)	<i>need standard detail / specifications</i>	contractor	Medium	LF	\$55-\$60	G5 product, aggregate, vertical mixer, compactor
W25	Regrade and Resurface Trail Tread and Install new Drainage Feature	SFCo OS - Trail Design Standard Detail	Projects Staff / Contractor	Medium	EA/LF	\$600+10/LF	Dump, Water Truck, Compact Excavator or loader, vibratory compactor
	<b>Fencing</b>						
W30	Install Fence (Buck and Rail Fence)	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	LF	\$60-\$90	
W31	Install Fence (4-strand Wire Fence)	SFCo OS - Trail Design Standard Detail	Contractor / SFC-M (Crew)	Medium	LF	\$10-\$17.50	Fencing Tools/Stretcher/Spool
W32	Install Metal Railing	SFCo OS - Trail Design Standard Detail	contractor	Low	LF	\$100	Welding Equipment / Auger / Concrete mixer
W33	Repair Fence	SFCo OS - Trail Design Standard Detail	Contractor / SFC-M (Crew)	Medium	EA	\$150-250	Fencing Tools/Stretcher/Spool/Auger
W34	Install Metal Vehicular Gate (H-Brace on Hinge Side Recommended)	SFCo OS - Trail Design Standard Detail	Contractor / SFC-M (Crew)	Medium	EA	\$2000-5000	Auger, concrete mixer, Compact Excavator
	<b>Site Elements</b>						
W40	Install / Relocate Regulatory Signage	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	EA	\$250-400	Auger, concrete mixer
W41	Install New Bench	<i>need standard detail</i>	contractor	Low	EA	\$2250	Auger, concrete mixer
W43	Service Site Element / Litter clean up (dogipot, trash cans, etc.)		SFC-M (Crew)	Medium	HR	5 hrs/wk	
W44	Remove site element (woodchip waddle, bollard, litter, barbed wire, posts, etc.)		SFC-M (Crew)	Low	HR	\$28	
W45	Modify site element (install reflective material, cut extended bolts, coordinate lock with NMDOT,etc.)		SFC-M (Crew)	Medium	HR	\$28	
W46	Repair / maintenance of signs	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	HR	\$28	
	<b>Vegetation Management</b>						
W50	Weed Control (one side)	<i>need SFCo standard</i>	SFC-M (Crew)	High	HR	36 hrs/mo for 6 months	mower
W51	Weed Control (two sides)	<i>need SFCo standard</i>	SFC-M (Crew)	High	HR	included above	mower
W52	Prune limbs/stumps flush	National Forest Service Standards	SFC-M (Crew)	High	HR	\$28	chainsaws, loppers
W53	Remove vegetation element (dead tree, invasive tree/shrub, stump, etc.)	National Forest Service Standards	SFC-M (Crew)	High	HR	\$28	chainsaws, loppers
W54	Remove vegetation from trail surface and compact	SFCo OS - Trail Design Standard Detail	SFC-M (Crew)	Medium	HR	\$28	
	<b>Reclamation / Revegetation</b>						
W60	Re-seed area (include soil amendments)	SFCo OS - Trail Standard Specifications	contractor	High	SF	\$0.20-0.40	hydroseeder
W61	Re-seed area and reduce compaction (include soil amendments)	SFCo OS - Trail Standard Specifications	contractor	High	SF	\$0.40-1.25	hydroseeder
W62	Install fiber mat slope stabilizer (on slopes >20%)	SFCo OS - Trail Standard Specifications	contractor	High	SF	\$0.30-\$0.50	
W63	Regrade uphill side slope to angle of repose to prevent deposition on trail. Reseed.	SFCo OS - Trail Standard Specifications	contractor	High	SF	\$4-5	compact excavator, hydroseeder
	<b>Monitoring</b>						
W70	Monitor (trail surface features, access points, culverts, drainageways)	SFCo OS - Trail Design Standard Detail	volunteer	High			
W71	Monitor Area of High Erosion	SFCo OS - Trail Design Standard Detail	volunteer	High			
W72	Monitor Culverts for Vegetation and Sediment build up	SFCo OS - Trail Design Standard Detail	volunteer	High			
W73	Monitor Fence Condition within Trail Corridor	SFCo OS - Trail Design Standard Detail	volunteer / SFC-M (Crew)	High	HR	\$28	
W74	Monitor Signage	SFCo OS - Trail Design Standard Detail	volunteer	High			
	<b>Miscellaneous</b>						
W80	Sweep loose sand and gravel		volunteer	Medium			
W81	Remove litter		volunteer	Low			
W82	Seed gathering	<i>need SFCo standard</i>	volunteer	Low			
W83	Weed pulling	<i>need SFCo standard</i>	volunteer	Medium			
W84	Parking lot surface maintenance		SFC-M (Crew)	Medium	HR	\$28	
W85	Recover from illegal acts of vandalism (graffiti, dumping, etc.)		SFC-M (Crew)	Low	HR	\$28	







SFRT	# (Term and Priority)	Work Code	Project or Management Activity	Objective or Purpose	Location Code*	Actor	Timeline	Recurring (R) or Not Recurring (NR)	Labor and Cost Estimates**	Funding Source
Maintenance	1.1	W22 / W54	Repair trail surface (gullies, rivulets, ATV tracks, etc.), remove vegetation from trail surface and compact	Enhance Trail Surface / Safety	Segments 1,2,3 (Trail Corridor)	SFC-M (Crew)	ST	NR/R	Quarterly; 1 day for 5-person crew (40 h, 160 h/y); 17.75 h/y/mi	GF
	1.2	W44 / W45	Remove or modify site element (keep trail side land clear of trash + debris, install reflective material, cut extended bolts, coordinate lock, etc.)	Site Cleanliness / Public Safety	Site 1,2,3,4 (Trail Corridor and Open Space)	SFC-M (Crew)	ST	NR	Once; 12 locations; up to 1 day for 2-person crew (16 h)	GF
	1.3	W52 / W53	Prune limbs / stumps flush / remove invasive vegetation or dead tree	Ecological Health / Public Safety	Segments 2,3,4 (Trail Corridor)	SFC-M (Crew)	ST	NR	Once; 60+ locations; up to 3 days for a 2-person crew (36 h)	GF, VOL
	1.4	W84	Parking lot surface maintenance	Erosion Prevention / Public Safety	Trailheads	SFC-M (Crew)	ST	R	Monthly; 2 locations	GF
	1.5	W73	Fence inspection, installation, small repairs	Public Safety / Access Control	Entire Site	SFC-M (Crew)	ST	R	Annually; 1 day for 1-person crew (8 h/y)	GF
	1.6	W46	Repair / maintenance of signs	User Experience / Public Safety	Entire Site	SFC-M (Crew)	ST	R	As Necessary	GF
	1.7	W50 / W51	Weed Control / mowing	Ecological Health	Segments 1,2,3,4 (Trail Corridor)	SFC-M (Crew)	ST	R	Monthly for 6 months; 1 day for a 4.5-person crew (36 h; 216 h/y); 25 h/y/mi	GF, VOL
	1.8	W05	Clean culverts and adjacent swales free of vegetation and sediment	Erosion Prevention	Segments 1,2,3,4 (Trail Corridor)	SFC-M (Crew)	ST	NR	\$12,750 (once); culverts -17 locations; labor	GF or CIP
	1.9	W06	Clean swales or lead off ditches free of vegetation and sediments	Erosion Prevention	Segments 1,2,4 (Trail Corridor)	SFC-M (Crew)	ST	NR	\$22,000 (once); swales - 110 LF; labor	GF, VOL
	1.10	W02 / W09 / W10	Reconstruct existing swales and enhance or reconstruct lead off ditches	Erosion Prevention	Segments 1,2,3,4 (Trail Corridor)	Contractor	ST	NR	\$1,500 (once); swales - 3 locations, lead off ditches - 60LF; labor and compact excavator	GF or CIP
	1.11	W43	Service Site Element / litter clean up (empty trash can and replenish dogi-pot bags)	Site Cleanliness	Segment 1,3,4 (Trail Corridor, Open Space)	SFC-M (Crew)	ST	R	Weekly; 5 h/wk for a 1-person crew ( 260 h/y)	GF
	1.12	W85	Cleanup from illegal acts of vandalism (graffiti, dumping, etc.)	Site Cleanliness / User Experience	Entire Site	SFC-M (Crew)	ST	R	As Necessary	GF



SFRT	# (Term and Priority)	Work Code	Project or Management Activity	Objective or Purpose	Location Code*	Actor	Timeline	Recurring (R) or Not Recurring (NR)	Labor and Cost Estimates**	Funding Source
Improvements	1.1		Install trail counters, set up protocol for documentation; coordinate w/ MPO	Maintenance / User Experience	Trail Access Locations	SFC-M (Crew) / Contractor	ST	NR / R	TBD, based on plan and bid	GF, CIP
	1.2	D13	Soil stabilizer test area identify location and install soil stabilizer	Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$60,000 (once); soil stabilizer - 1,000 LF; labor, compact excavator, vertical mixer, vibratory compactor (test area could be smaller depending on available budget)	GF, CIP
	1.3	W07 / W08 / W11 / W13	Install trail drainage features (all types, i.e. rolling grade dips, crests, tread dips, knicks, check dams, etc.) with or without adjacent swale	Public Safety / Erosion Prevention	Segments 1,2,3,4 (Trail Corridor)	Projects Staff / Contractor	ST	NR	\$18,500 (once); check dam - 1 location, knicks - 4 locations, rolling grade dip / tread dip - 19 locations, rolling grade dip / tread dip and swales - 8 locations; labor and compact excavator	GF, CIP
	1.4	D15	Rabbit Road trailhead improvements. Remove bollard and narrow access to 4FT wide. Remove wooden obstruction and close gap in fence.	Public Safety / Site Access	Segment 1 (Trailheads)	Projects Staff / Contractor	ST / MT	NR	\$1,600 (once); bollard removal - 1 location, obstruction removal - 1 location, fence - 8 LF; labor	GF, CIP
	1.5	W40	Install / relocate regulatory signage	Safety / Access Management	Segments 1,2 (Trail Corridor)	SFC-M (Crew)	SF	NR	\$800 (once); signs - 2 locations; labor, auger, concrete mixer	GF, CIP
	1.6	W01 / W03	Install new swales (with and without rock /cobble)	Erosion Prevention	Segments 1,2,3,4 (Trail Corridor)	Contractor / SFC-M (Crew)	ST	NR	\$10,750 (once); swale - 370 LF, rock / cobble swale - 510 LF ; labor compact excavator, dump truck and loader	GF, CIP
	1.7	W04	Install rock / cobble (lead off ditches, existing swales, slopes, etc.)	Erosion Prevention	Segments 1,2,3,4 (Trail Corridor)	Contractor / SFC-M (Crew)	ST	NR	\$9,800 (once); rock /cobble - 975 SF; labor, dump truck and loader	GF, CIP
	1.8		Construct Segment 5; utilize best practices established from management plan	User Experience	Segment 5	Projects Staff / Contractor	ST	NR	TBD, based on plan and bid	Funded
	1.9	D16	New trailhead and amenities at Nine Mile Road and Avenida Vista Grande	User Experience	Segment 2,4 (Trailheads)	Projects Staff / Contractor	ST / MT	NR	TBD, based on plan and bid	GF, CIP, grant
	1.10	W30	Install new fence (buck and rail)	Access Management	Segments 1, 2 (Trail Corridor)	SFC-M (Crew)	ST	NR	\$5,400 (once); fence - 60 LF	GF, CIP
	1.11	D01	Construct rock wall on trail side of grate and raise tread on trail to proper slope	Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$3,200 (once); rock wall - 20 LF, regrade / resurface - 20 LF; crew, dump truck, compact excavator, water truck, vibratory compactor	CIP
	1.12	W61 / W63	Re-seed area and reduce compaction (includes soil amendments) / re-grade uphill side slope to angle of repose	Erosion Prevention / Ecological Health	Segment 1,4 (Open Space and Trail Corridor)	Contractor	ST	NR	\$10,000 (once); reseeding area - 3500 SF, regrade - 1500 SF; labor, compact excavator, hydroseeder	GF, CIP, VOL
	1.13	D02	Add multiple courses of retaining wall and add rock / cobble to fortify slope. Reseed.	Erosion Prevention	Segment 4 (Open Space and Trail Corridor)	Projects Staff / Contractor	ST	NR	\$6,870 (once); rock wall - 50 LF, rock / cobble 300 SF, reseeding - 300SF; labor, compact excavator, hydroseeder	CIP
	1.14	D04 /D08	Repair erosion damage or regrade.	Public Safety / User Experience / Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$1,350 (once); repair trail surface - 140 LF; labor, water truck, compact excavator, vibratory compactor	GF
	1.15	D05 / D06 / D07	Repair erosion damage or regrade. Install fiber geotextile and revegetate bare slope above trail. Install swale along trail.	Public Safety / User Experience / Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$16,450 (once); repair trail surface - 475 LF, geotextile - 9500 SF, reseeding - 9500 SF, swale - 285 LF; labor, water truck, compact excavator, vibratory compactor, hydroseeder	GF, VOL
	1.16	D09	Repair erosion damage or regrade. Install swale at toe of slope.	Public Safety / User Experience / Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$1,875 (once); repair trail surface - 150 LF, swale - 75 LF; labor, water truck, compact excavator, vibratory compactor	GF, CIP
	1.17	D10 / D11	Repair erosion damage or regrade. Stabilize and revegetate bare slope above trail. Install swale at toe of slope.	Public Safety / User Experience / Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$7,655 (once); repair trail surface - 275 LF, geotextile - 4200 SF, reseeding - 4200 SF, swale - 145 LF; labor, water truck, compact excavator, vibratory compactor, hydroseeder	GF, CIP
	1.18	D12	Repair erosion damage or regrade. Install swales on both sides of trail.	Public Safety / User Experience / Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$1,600 (once); repair trail surface - 60 LF, swale - 80 LF; labor, water truck, compact excavator, vibratory compactor	GF, CIP



	1.19	D03	Re-grade and resurface trail. Add rolling grade dip / tread dip on slope and widen trail to west. Reinforce inside edge of trail with rocks / boulders and revegetate inside corner.	Public Safety / Prevent Trail Migration / Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	ST	NR	\$3,800 (once); regrade and resurface - 75 LF, widen trail - 40 LF, rolling grade dip - 1 location, rock edge - 25 LF, reseed - 75 SF; labor, water truck, compact excavator, vibratory compactor	GF, CIP
	2.1		Design + Install Wayfinding / environmental signage	Public Safety / User Experience	Entire Site	Planning Staff / Projects Staff / Contractor	ST / MT	NR	TBD, based on plan and bid	GF, CIP
	2.2	W12	Reconstruct existing drainage features (all types, i.e. rolling grade dips, crests, tread dips, knicks, etc.)	Public Safety / Erosion Prevention	Segments 1,2,3,4 (Trail Corridor)	Projects Staff / Contractor	ST	NR/R	\$19,000 (once); drainage features - 47 locations; labor, compact excavator	GF, CIP
	2.3	W20 / W21 / W25	Re-grade and resurface trail tread / install surface material (wet and compact) and install new drainage feature	Public Safety	Segments 1,2,3 (Trail Corridor)	Projects Staff / Contractor	ST	NR/R	\$7,900 (once); compacted crusher fines - 135 LF, surface regrading - 330 LF, drainage feature and regrading - 2 EA; labor, dump truck, water truck, compact excavator, vibratory compactor	GF, CIP
	2.4	W31 / W33	Install / repair new fence (4-strand wire)	Access Management	Segment 1,4 (Open Space and Trail Corridor)	Contractor / SFC-M (Crew)	ST	NR	\$1,350 (once); wire fence installation - 20 LF, wire fence repair - 4 locations; labor, fencing tools, stretcher, spool	GF, CIP
	2.5	W34	Install metal vehicular gate (H-brace on hinge side recommended)	Access Management	Segment 1 (Open Space)	Contractor / SFC-M (Crew)	SF	NR	\$5,000 (once); gate - 1 location; labor, auger, concrete mixer, compact excavator	GF, CIP
	3.1	P01	Design + implement intersection improvements according to Road Safety Audits at Rabbit Road, Avenida Vista Grande, Avenida Eldorado	Public Safety	Road Intersections	Projects Staff / Contractor	MT / LT	NR	TBD, based on plan and bids	GR
	3.2	D14	Install soil stabilizer in strategic locations (D03, D04, D05, D06, D07, D08, D09, D10, D11, D12) or entire length of Segment 1	Erosion Prevention	Segment 1 (Trail Corridor - High Erosion Prone Area)	Projects Staff / Contractor	MT / LT	NR	\$57,600 to \$614,000 (once); soil stabilizer in strategic locations - 960 LF OR soil stabilizer for Segment 1 - 10,300 LF; labor, dump truck, water truck, compact excavator, vibratory compactor	GF, CIP
	3.3		Re-establish native plant ecosystem; invasive plant removal	Ecological Health	Entire Site (Open Space)	Volunteers / SFC-M (Crew)	ST	NR / R	TBD, based on plan and bid	GF, CIP
	4.1		Construct Segment 6; coordinate alignment with new NM285 trailhead location	User Experience	Segment 6	Projects Staff / Contractor	MT / LT	NR	TBD, based on plan and bid	GF, CIP
	5.1		Design + construct Segment 7; coordinate alignment with other regional trails	User Experience	Segment 7	Projects Staff / Contractor	MT / LT	NR	TBD, based on plan and bid	GF, CIP



SFRT	# (Term and Priority)	Work Code	Project or Management Activity	Objective or Purpose	Location Code*	Actor	Timeline	Recurring (R) or Not Recurring (NR)	Labor and Cost Estimates**	Funding Source
Planning	1.1		Develop and implement protocols for maintenance work,	All management goals	Entire Site	Planning Staff	ST/MT/LT	R	TBD (20 h/y)	GF
	1.2		Emergency Response planning + improvements (access gates / codes, turnaround locations)	Public Safety Access Management	Entire Site	Planning Staff / Projects Staff / Sheriff	ST	NR	TBD (20 h/y)	GF
	1.3		Social Trail / Internal Trail Access planning	Public Safety / Site Access / User Experience	Entire Site	Planning Staff / Projects Staff / Community	ST	NR	TBD (60 h/y)	GF
	1.4	P01	Conduct intersection Road Safety Audits at Rabbit Road, Avenida Vista Grande, Avenida Eldorado	Public Safety	Road Intersections	Planning Staff / Projects Staff	ST	NR	TBD (40 h/y)	GF
	1.5	P05	Wayfinding / environmental signage plan; coordinate w/ City + NMDOT	Public Safety / User Experience	Entire Site	Planning Staff	ST	NR	TBD (40 h/y)	GF
	1.6		Expand and Formalize Trail Steward Program: Monitoring, Recording, Training	Volunteer Coordination	Entire Site	Planning Staff / Community Services Staff	ST/MT/LT	R	TBD (60 h/y)	GF
	1.7		Develop Ranger Program for SFCo Open Space + Trails	Public Safety	SF County Open Space + Trails	Planning Staff / Sheriff	ST/MT/LT	NR	TBD (60 h/y)	GF
	1.8		Develop Santa Fe County Vegetation Management Policy	County-wide Management Policy	SF County Open Space + Trails	Planning Staff / SFC-M (Crew)	ST/MT/LT	NR	TBD (60 h/y)	GF
	1.9		Develop Santa Fe County Master Naturalist Program	County-wide Program for Volunteers	SF County Open Space + Trails	Planning Staff	ST/MT/LT	NR	TBD (40 h/y)	GF
	1.10		Plan + implement - Rocky Mtn. Bluebird program, etc.	Volunteer Coordination	Entire Site	Planning Staff / Community Services Staff / Community	ST/MT/LT	NR	TBD (30 h/y)	GF
	2.1	P02	Plan + implement new trailhead and amenities at Avenida Eldorado	Site Access	Segments 2, 3, 4 (Open Space and Trail Corridor)	Planning Staff / Projects Staff	ST	NR	TBD (30 h/y)	GF
	2.2		Plan +implement Community Programming / Events	Volunteer Coordination	Entire Site	Planning Staff / Community Services Staff / Community	MT / LT	NR	TBD (120 h/y)	GF
	2.3	P04	Trail amenity improvement plan	User Experience	Entire Site	Planning Staff / Projects Staff / Community	ST/MT/LT	NR	TBD (40 h/y)	GF
	3.1	P03	Modify Rabbit Road trailhead and amenities; Investigate options to start slope of trail further back in parking lot to reduce steep grade on trail. Redesign trail access point. Assess to improve drainage and circulation.	Site Access / Erosion Control	Segment 1 (Open Space and Trail Corridor)	Planning Staff / Projects Staff	MT / LT	NR	TBD (20 h/y)	GF
	3.2		Conceptual Planning Segment 7; coordinate alignment with other regional trails	User Experience	Segment 7	Planning Staff / Projects Staff	MT / LT	NR	TBD (40 h/y)	GF
	4.1		Adjust easement agreement w/ NMDOT	Public Safety / Site Access	Entire Site	Planning Staff / Legal	MT / LT	NR	TBD (40 h/y)	GF
	4.2		Evaluate + develop programs for trail patrol / maintenance: IMBA Trail Patrol, Hot Shot Repair Crew	All management goals (effective management)	Entire Site	Planning Staff / Community Services Staff	ST/MT/LT	NR	TBD (60 h/y)	GF
	4.3		Interpretive Educational Signage	Education	Entire Site	Planning Staff	MT / LT	NR	TBD (20 h/y)	GF
	5.1		Explore activating rail line for economic benefits and 'Trails by Rails' user experience	User Experience	Entire Site	Planning Staff / Projects Staff	LT	NR	TBD (20 h/y)	GF

#### NOTES

\* Precise GPS locations of projects are available in the Santa Fe Rail Trail Management Plan GIS database

\*\* Refer to the Santa Fe Rail Trail Management Plan Trail Maintenance Tasks / Assumptions list for cost basis. Opinion of probable cost assumes contractor installation; staff installation may result in cost savings.



## APPENDIX B

### MANAGEMENT TASK LISTS / MAINTENANCE SCHEDULES (COUNTY MAINTENANCE, VOLUNTEER COORDINATOR, TRAIL STEWARD)



SANTA FE RAIL TRAIL - STAFF MAINTENANCE TASKS

SCHEDULE - DRAFT

		january				february				march				april				may				june				july				august				september				october				november			
MAINTENANCE TASKS		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
Unit	Task																																												
MANAGEMENT REVIEW TASKS (periodic as warranted by annual monitoring / Resouce Manager)																																													
RT-TCO	Evaluate buck and rail fence for new installation									x																																			
RT-OSP	Evaluate fence for repair (requires coordination with NMDOT)									x																																			
RT	Evaluate need for new regulatory signage									x																																			
RT-TCO	Annual Monitoring (schedule w/ Trail Steward)									x																																			
ROUTINE MAINTENANCE TASKS																																													
RT-THD	Service site element, litter cleanup (dogipot, trashcans, etc.)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x							
RT-THD	Parking area surface maintenance	x				x				x				x				x				x				x				x				x				x							
RT-TCO	Weed control / mowing																	x				x				x				x				x											
PERIODIC MAINTENANCE TASKS (periodic as warranted by steward / staff routine monitoring)																																													
RT-TCO	Clean culvert / swale free of vegetation and sediment																	x																											
RT-TCO	Reconstruct or extend culvert / swale																	x																											
RT-TCO	Minor trail surface repairs / clearing / vegetation removal (gullies, rivulets, ATV tracks, etc.)									x												x																							
RT-TCO	Prune limbs / stumps flush									x																																			
RT-TCO	Remove vegetation element (invasive tree / shrub)									x																																			
RT	Remove site element (litter, graffiti, barbed wire, bollard, posts, wood chip waddle)									x																																			
RT	Repair / maintain signs									x																																			
RT	Cleanup from illegal acts of vandalism / dumping									x																																			
	Tool sharpening / maintenance									x												x																							

Notes



## SANTA FE RAIL TRAIL - VOLUNTEER MONITORING TASKS

**SCHEDULE - DRAFT**

[illegible]



**SANTA FE RAIL TRAIL - DESIGN STANDARD DETAILS**



## TRAIL CONSTRUCTION NOTES:

1. CONSTRUCTION STAKING: THE CONTRACTOR SHALL STAKE THE ALIGNMENT AT NO GREATER THAN 20' INCREMENTS PRIOR TO CONSTRUCTION. CONSTRUCTION STAKING SHALL BE BASED UPON THE HORIZONTAL CONTROL AND ALIGNMENT INFORMATION INCLUDED IN THE PLANS. ALL STAKING MATERIALS SHALL BE REMOVED FROM THE SITE UPON COMPLETION OF THE PROJECT.
2. TRAIL ALIGNMENT: IT IS EXPECTED THAT THE CONTRACTOR MAKE MINOR ADJUSTMENTS TO THE ALIGNMENT DURING CONSTRUCTION TO IMPROVE DRAINAGE, AVOID IMPACTS TO VEGETATION THAT ARE NOT SPECIFICALLY IDENTIFIED FOR REMOVAL, MINIMIZE SITE IMPACTS, AND BALANCE EARTHWORK. ALIGNMENT SHIFTS OF GREATER THAN 2' SHALL BE APPROVED BY THE OWNER PRIOR TO COMPLETING CONSTRUCTION. MINOR MODIFICATIONS TO THE DESIGN DURING CONSTRUCTION ARE AN EXPECTED PART OF THE WORK AND NOT JUSTIFICATION FOR CHANGES TO THE CONTRACT.
3. GRADING: THE CONTRACTOR SHALL FOLLOW THE PLANS WHEN SPECIFIC GRADING AND/OR TRAIL PROFILE INFORMATION IS PROVIDED. IN AREAS WHERE GRADING AND/OR PROFILE INFORMATION IS NOT PROVIDED, THE CONTRACTOR SHALL CONSTRUCT THE TRAIL TO APPROXIMATELY THE EXISTING GRADES OF THE SITE. MINOR DEVIATIONS FROM EXISTING GRADES SHOULD BE MADE TO ASSURE POSITIVE DRAINAGE FROM THE TRAIL TREAD, TO CONSTRUCT DRAINAGE FEATURES IDENTIFIED IN THE PLANS OR OTHERWISE DETERMINED TO BE NEEDED AND TO BALANCE EARTHWORK. MINOR MODIFICATIONS TO THE DESIGN DURING CONSTRUCTION ARE AN EXPECTED PART OF THE WORK AND NOT JUSTIFICATION FOR CHANGES TO THE CONTRACT.
4. LONGITUDINAL GRADES: UNLESS OTHERWISE SHOWN IN THE PLANS, THE TRAIL SHALL BE CONSTRUCTED ACCORDING TO THE FOLLOWING MAXIMUM LONGITUDINAL GRADES:

1:20 (5%)	ANY DISTANCE
1:12 (8.33%)	UP TO 200 FEET
1:10 (10%)	UP TO 30 FEET
1:8 (12.5%)	UP TO 10 FEET
1:7 (14%)	UP TO 5 FEET

LONGITUDINAL GRADES THAT EXCEED THESE VALUES SHALL BE APPROVED BY THE OWNER PRIOR TO COMPLETING CONSTRUCTION UNLESS OTHERWISE SPECIFICALLY IDENTIFIED IN THE PLANS.
5. CROSS SLOPE: THE TREAD CROSS SLOPE BE GREATER THAN 2% AND LESS THAN 5% UNLESS OTHERWISE SHOWN IN THE PLANS. A CROSS SLOPE OF 5% SHALL BE PROVIDED IN WHEN THE PREVAILING CROSS SLOPE OF THE EXISTING TERRAIN EXCEEDS 5%. A CROSS SLOPE OF UP TO 10% SHALL BE PROVIDED AT THE BOTTOM OF DRAINAGE CROSSINGS. THE CONTRACTOR SHALL VERIFY CROSS SLOPE WITH A DIGITAL SMART LEVEL OR OTHER APPROPRIATE MEASURING TOOLS DURING CONSTRUCTION TO PROPERLY CONSTRUCT TREAD CROSS SLOPE.
6. VEGETATION: THE CONTRACTOR SHALL PROTECT EXISTING VEGETATION NOT SPECIFICALLY IDENTIFIED FOR REMOVAL TO THE GREATEST EXTENT POSSIBLE. REMOVAL OF TREES, UNLESS SPECIFICALLY IDENTIFIED IN THE PLANS SHALL BE APPROVED BY THE OWNER PRIOR TO REMOVAL. CLEARING SHALL BE LIMITED TO THE ALL REMOVED VEGETATION, LIVE OR DEAD, SHALL REMAIN ON THE SITE AND BE PLACED IN RESTORATION AREAS, AS SHOWN IN THE PLANS OR OTHERWISE DIRECTED BY THE OWNER.
7. USE AND DISPOSAL OF EXCAVATED MATERIAL: EXCESS SITE MATERIALS (SOILS AND ORGANIC MATERIALS) SHALL BE CONSERVED AND USED ON THE SITE. EXCESS SOILS SHALL BE DEPOSITED IN RESTORATION AREAS AND COVERED WITH ORGANIC MATERIALS STRIPPED FROM NEW TRAIL TREAD AREAS. ROCKS UNEARTHED IN EXCAVATIONS SHALL BE USED TO STABILIZE DRAINAGE AREAS. USE SUITABLE SLOUGH AND BERM MATERIAL WITHIN THE TRAILWAY TO RESTORE THE TRAILBED AS SHOWN ON THE DRAWINGS. PLACE ALL UNSUITABLE AND EXCESS MATERIAL BEYOND THE DOWNSLOPE EDGE OF THE TRAILBED AND UNIFORMLY SPREAD TO A DEPTH NOT EXCEEDING 4" AND SO AS NOT TO OBSTRUCT DRAINAGE OR INTERFERE WITH THE DRAINAGE OF OUTSLOPED TREAD.
8. DITCHES: CONSTRUCT DITCHES TO BE FREE OF LOOSE ROCKS, ROOTS, STICKS, AND OTHER OBSTRUCTIONS UNLESS OTHERWISE SHOWN IN THE PLANS.
9. SITE ACCESS: THE CONTRACTOR SHALL USE THE PROPOSED TRAIL ALIGNMENT FOR THE TRANSPORT OF MATERIALS AND EQUIPMENT DURING CONSTRUCTION. THE CREATION OF ADDITIONAL PARALLEL ACCESS ROUTES WILL NOT BE ALLOWED. DISTURBANCE OF CURRENTLY UNDISTURBED AREAS, UNLESS PART OF THE NEW TRAIL ALIGNMENT, MUST BE AVOIDED. ANY AREA DISTURBED OUTSIDE OF THE FINISHED TRAIL TREAD MUST BE RESTORED TO PRECONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE PROJECT.
10. CONSTRUCTION EQUIPMENT: THE CONTRACTOR SHALL USE EQUIPMENT APPROPRIATELY SIZED FOR TRAIL CONSTRUCTION. THE EQUIPMENT MUST BE WITHIN THE EXPECTED AREA OF DISTURBANCE OF THE TRAIL WITHOUT ADDITIONAL CLEARING OR DISTURBANCE NEEDED SOLELY TO ACCOMMODATE THE OPERATION OF EQUIPMENT OR TRANSPORT OF MATERIALS.



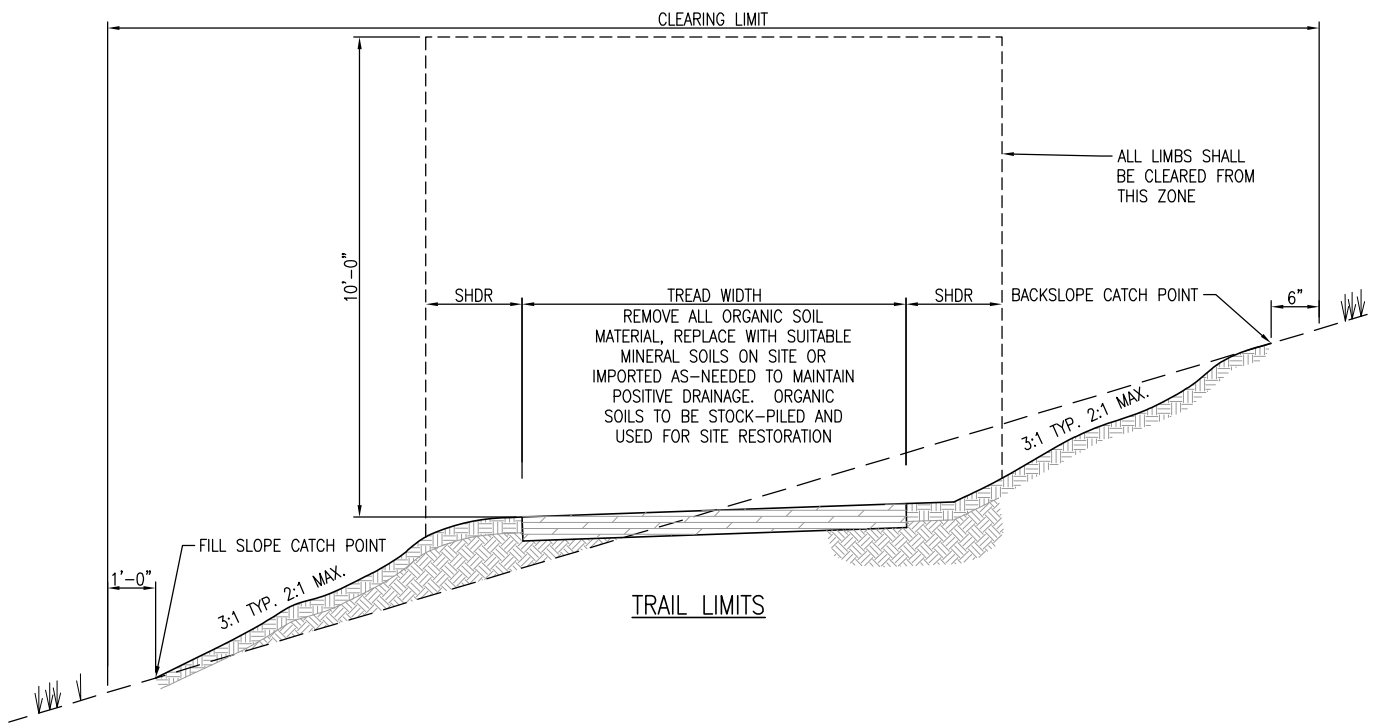
## SANTA FE COUNTY, NEW MEXICO

### COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

#### TRAIL CONSTRUCTION NOTES

ISSUED	JUNE 28, 2011
REVISED	
DRAWN BY	LX
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SHEET NUMBER	OST.01



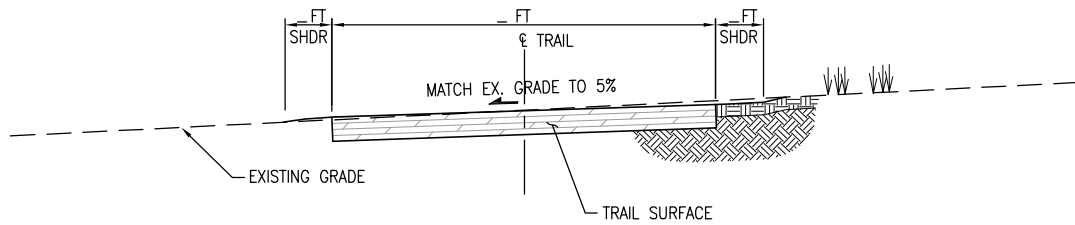


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

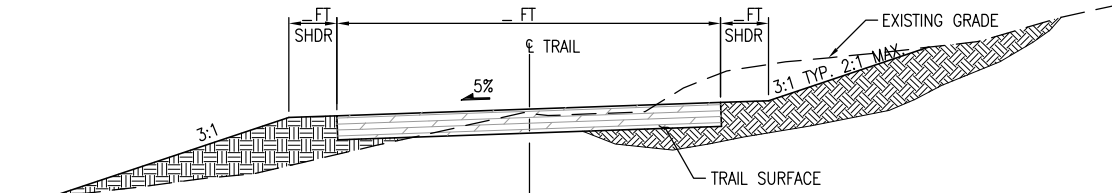
TRAIL LIMITS

ISSUED	JUNE 28, 2011
REVISED	
DRAWN BY	LX
CHECKED BY	SJB
SHEET NUMBER	OST.02

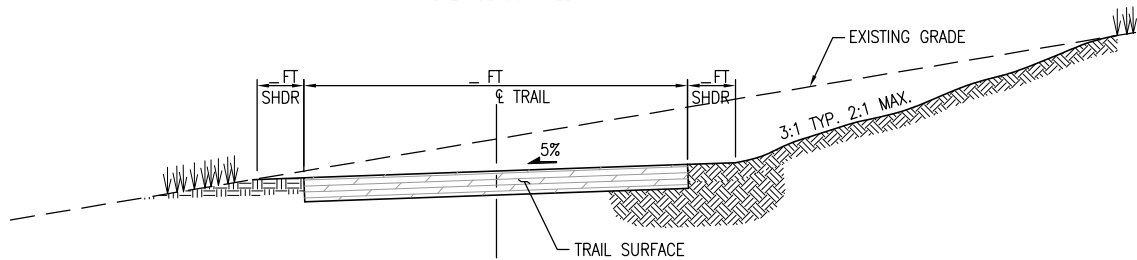




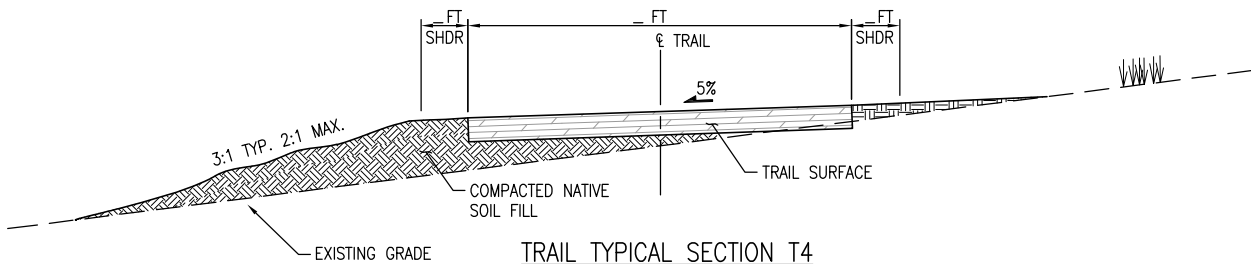
TRAIL TYPICAL SECTION T1  
AT-GRADE



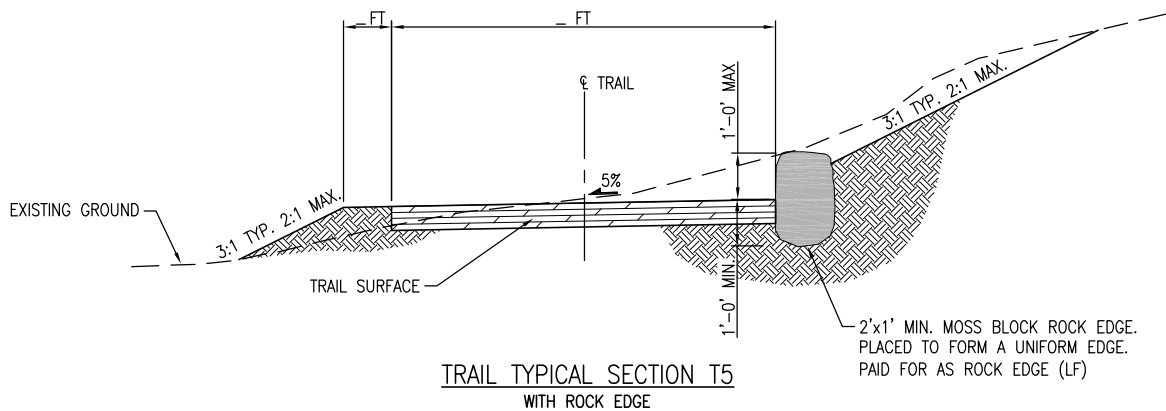
TRAIL TYPICAL SECTION T2  
BALANCE CUT-FILL



TRAIL TYPICAL SECTION T3  
CUT SECTION



TRAIL TYPICAL SECTION T4  
FILL SECTION



TRAIL TYPICAL SECTION T5  
WITH ROCK EDGE

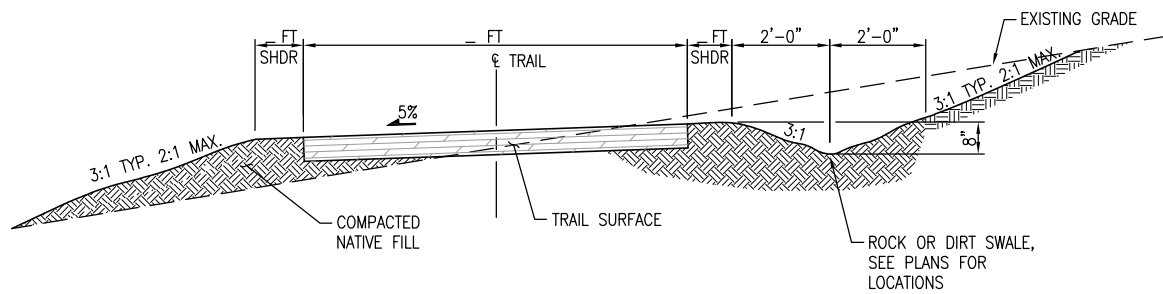


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

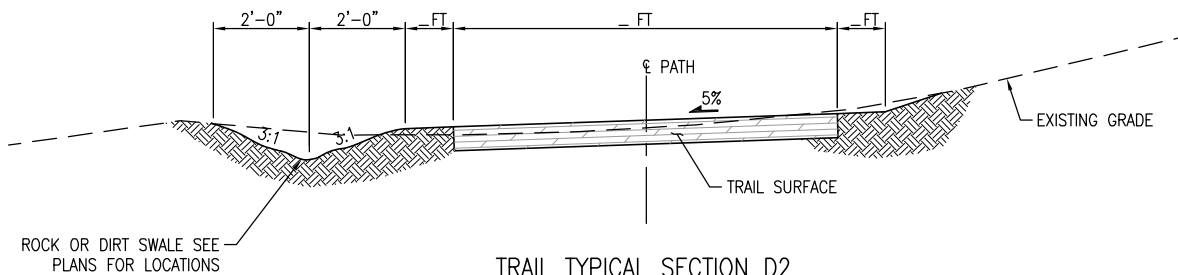
TRAIL TYPICAL SECTIONS

ISSUED	JUNE 28, 2011
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CHECKED BY	SJB
SHEET NUMBER	OST.03

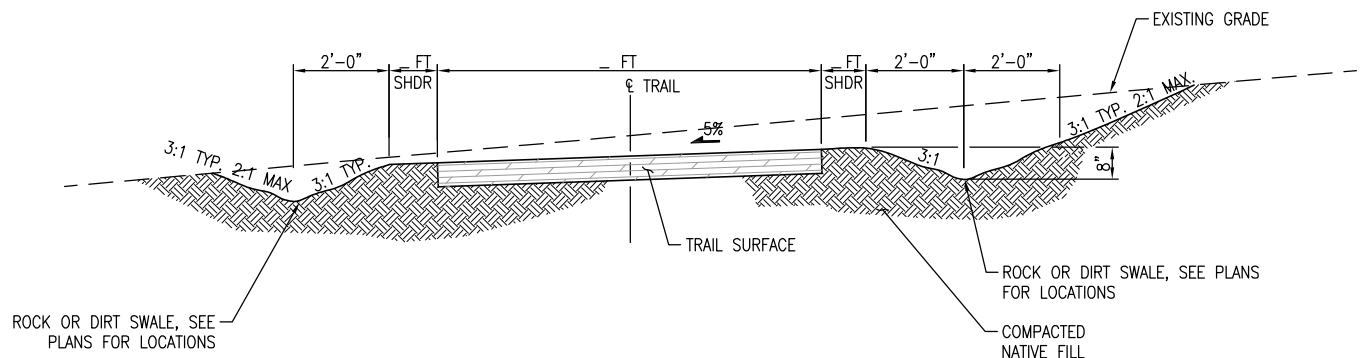




**TRAIL TYPICAL SECTION D1**  
CONSTRUCT UPHILL SWALE



**TRAIL TYPICAL SECTION D2**  
CONSTRUCT DOWNHILL SWALE



**TRAIL TYPICAL SECTION D3**  
CONSTRUCT SWALES



**SANTA FE COUNTY, NEW MEXICO**  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

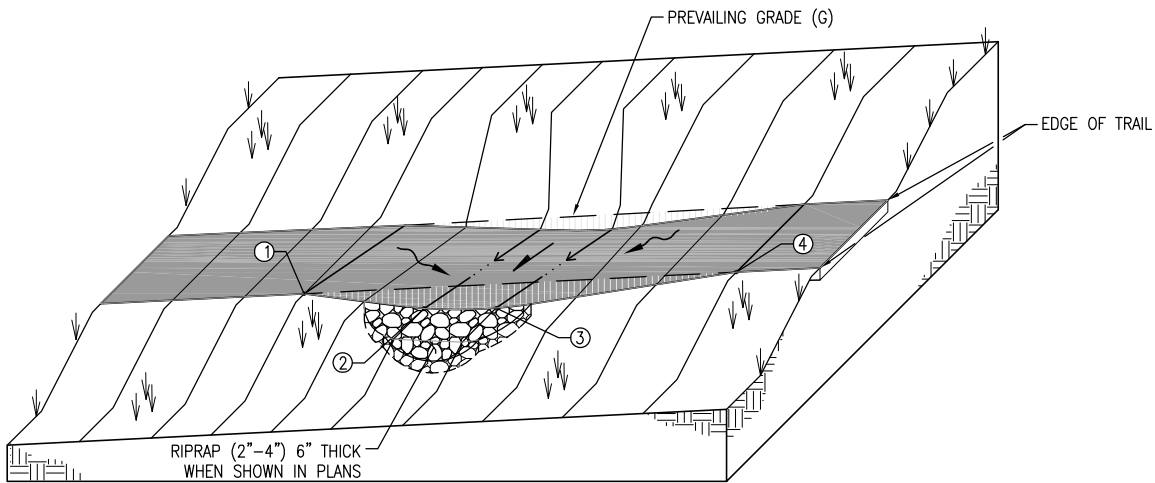
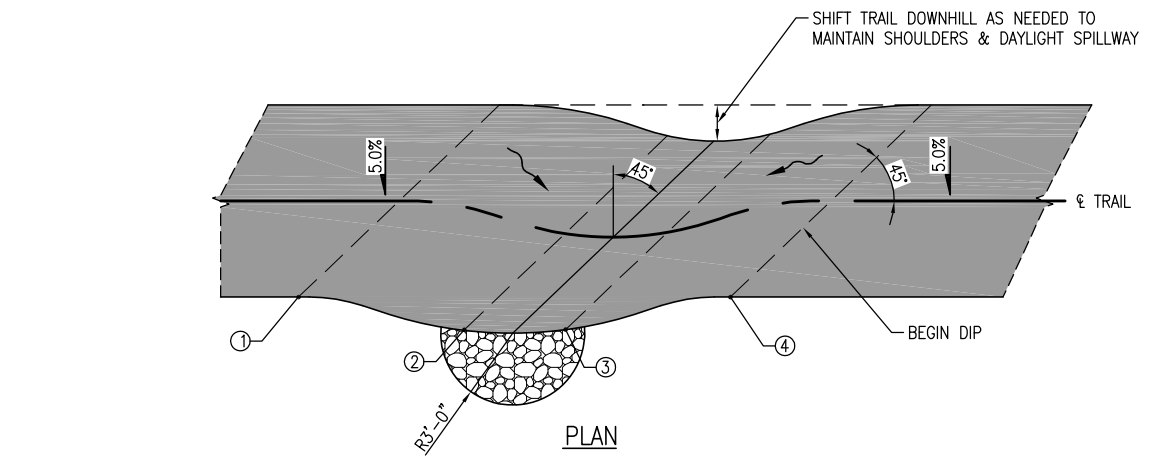
TRAIL TYPICAL SECTIONS (DITCH SECTIONS)

ISSUED	JUNE 28, 2011
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SHEET NUMBER	OST.04

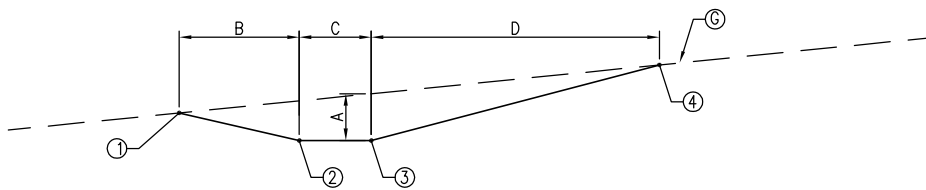


ISSUED		JUNE 28, 2011	
REVISED			
DRAWN BY		LX	
CHECKED BY		SJB	
SHEET NUMBER		OST.05	





ISOMETRIC



PROFILE

⑤	A		B		C		D	
	FT	%	FT	%	FT	%	FT	%
0%-5%	0.9	-	4.5	-	1.5	-	12.0	-
5%-8%	0.9	-	4.0	-	1.5	-	15.0	-
8%-10%	-	-	-	-	-	-	-	-

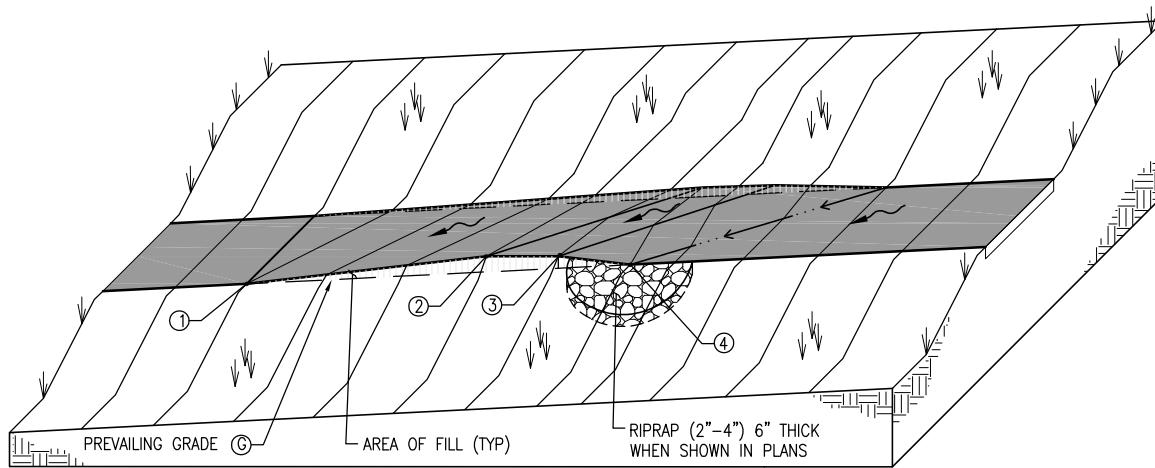
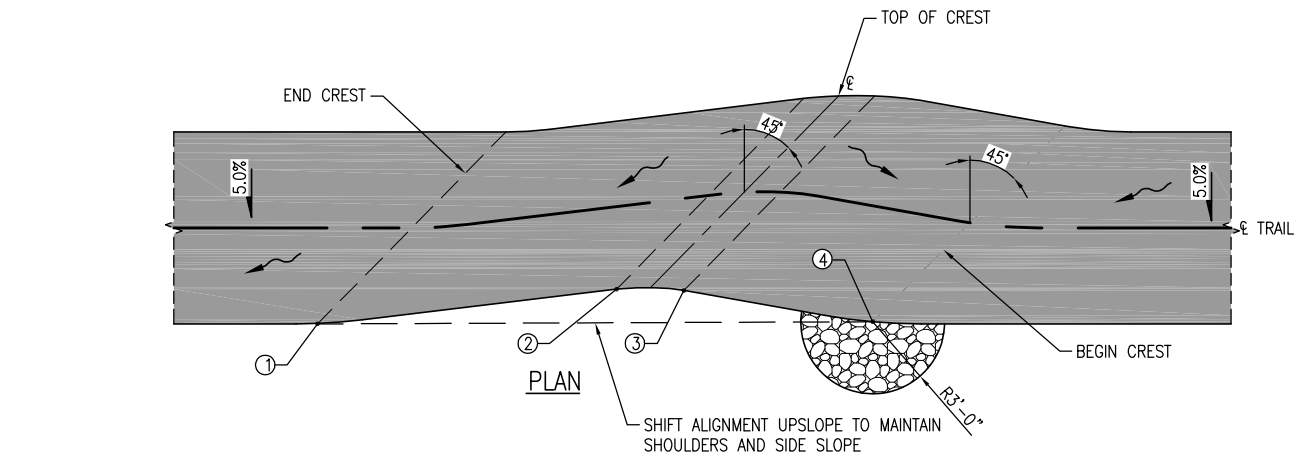


SANTA FE COUNTY, NEW MEXICO  
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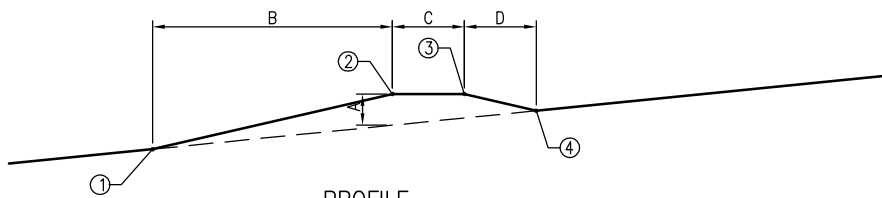
DRAINAGE FEATURE - TREAD DIP - ON SLOPE

ISSUED	JUNE 28, 2011
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DRAWN BY	LX
CHECKED BY	SJB
SHEET NUMBER	OST.06





ISOMETRIC



PROFILE

⑥	A		B		C		D	
	FT	%	FT	%	FT	%	FT	%
0%–2%	0.50	–	8.0	10.0	1.5	–	3.0	–12.0
2%–5%	0.67	–	10.0	12.0	1.5	–	3.5	–12.0
5%–8%	–	–	–	–	–	–	–	–

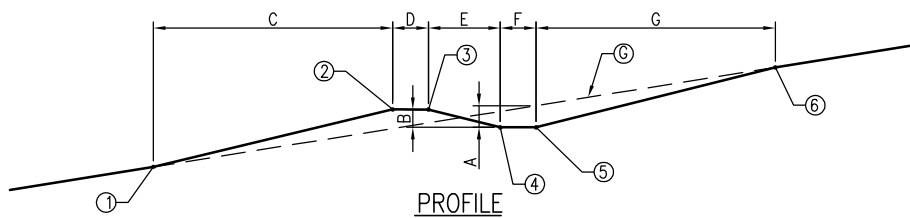
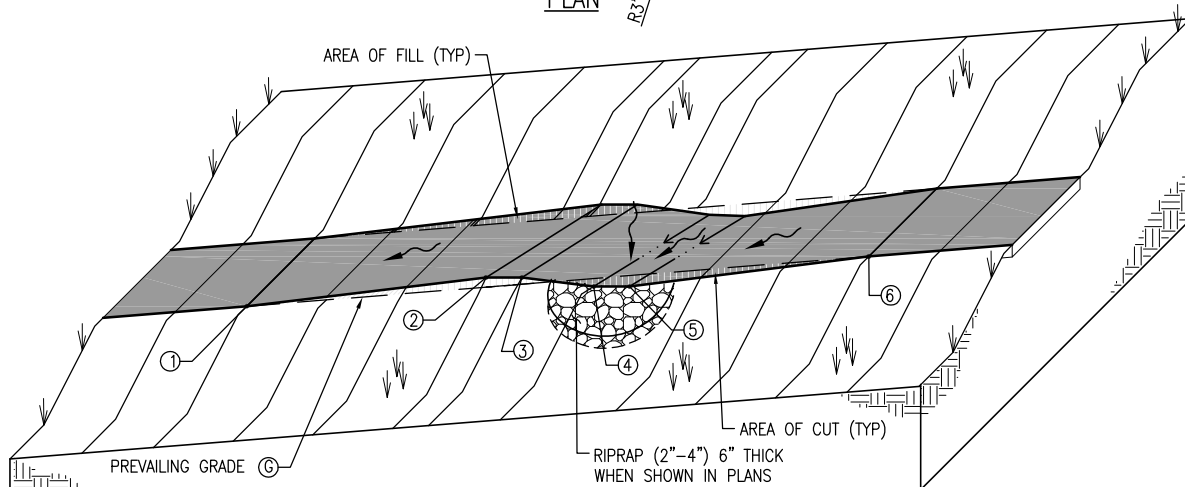
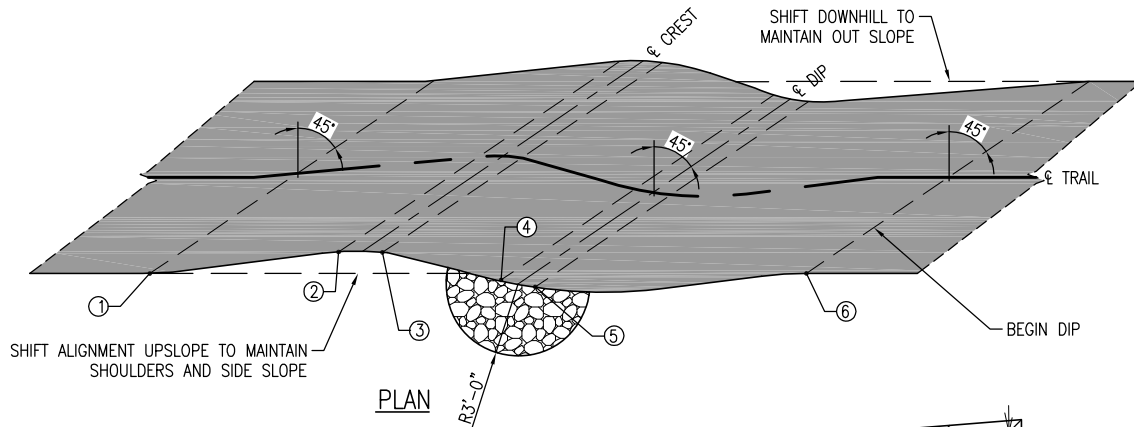


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

DRAINAGE FEATURE – FILLED – CREST

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SHEET NUMBER	OST.07





G	A		B		C		D		E		F		G	
	FT	%	FT	%	FT	%	FT	%	FT	%	FT	%	FT	%
0%-5%	0.42	-	0.42	-	4	-	1.5	-	3	-	1.5	-	6	-
5%-8%	0.48	-	0.42	-	10.5	-	1.5	-	3	-	1.5	-	12	-
8%-10%	0.56	-	0.42	-	11.5	-	1.5	-	3	-	1.5	-	14	-
10%-12%	0.45	-	0.28	-	14.0	-	1.5	-	2	-	1.5	-	15	-

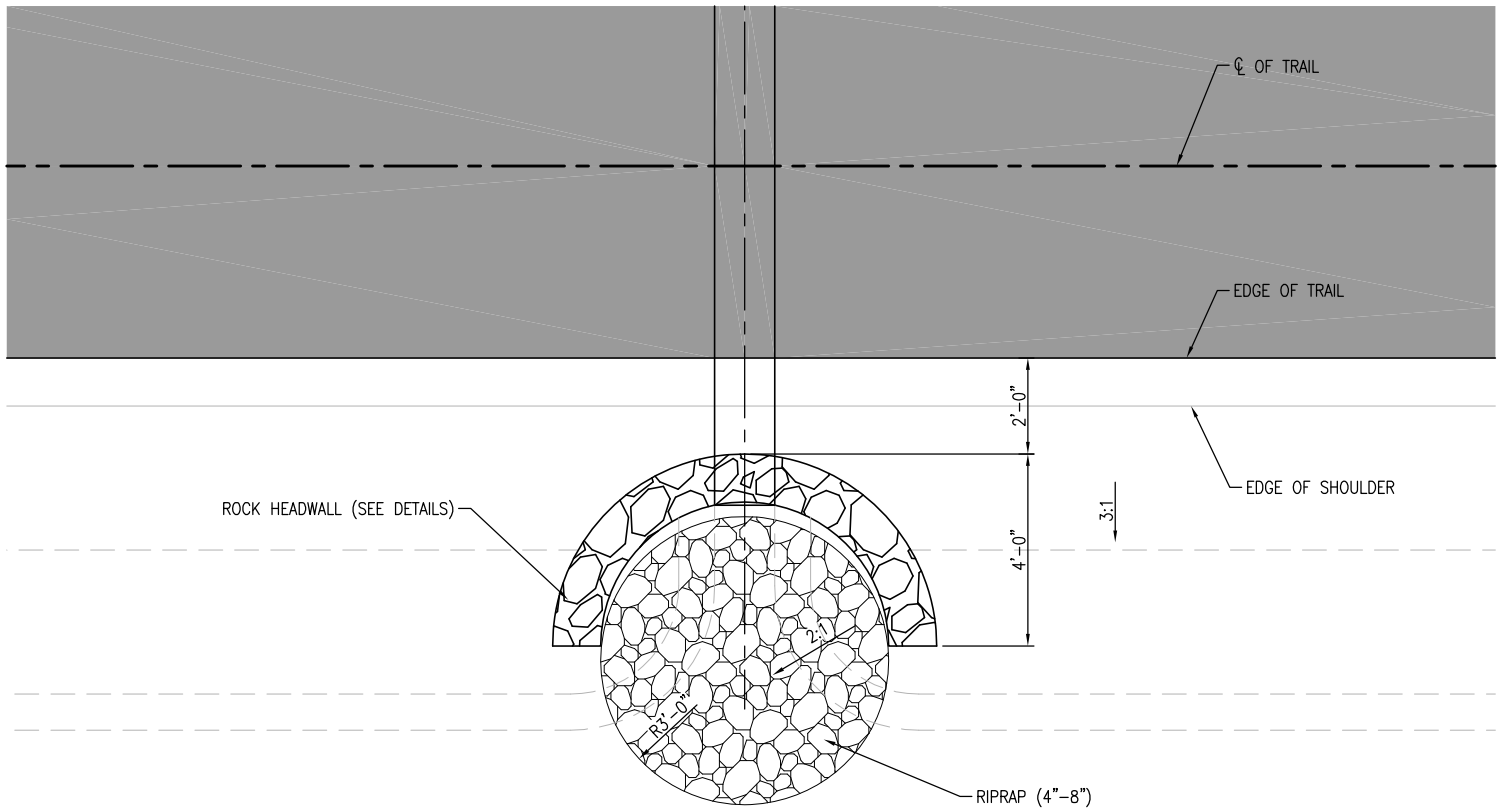


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

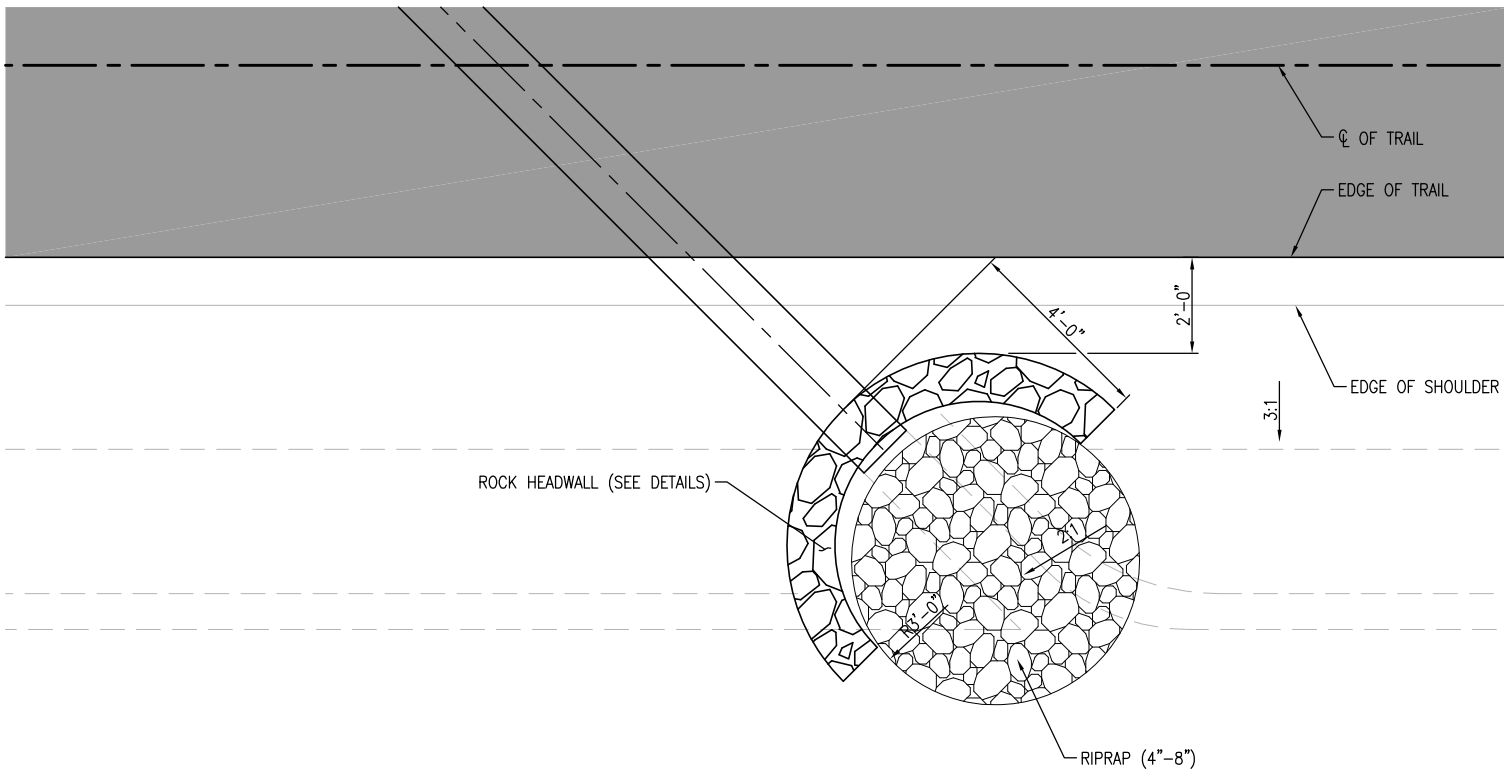
DRAINAGE FEATURE – ROLLING DIP

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SHEET NUMBER	OST.08





CULVERT ROCK HEADWALL PLAN  
PERPENDICULAR LAYOUT  
N.T.S.



CULVERT ROCK HEADWALL PLAN  
SKEWED LAYOUT  
N.T.S.

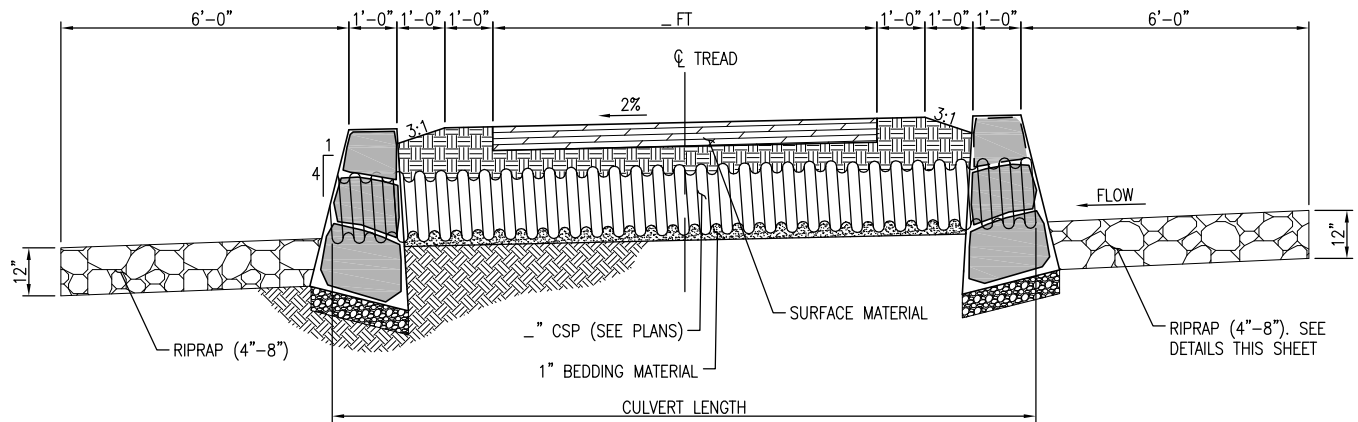


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

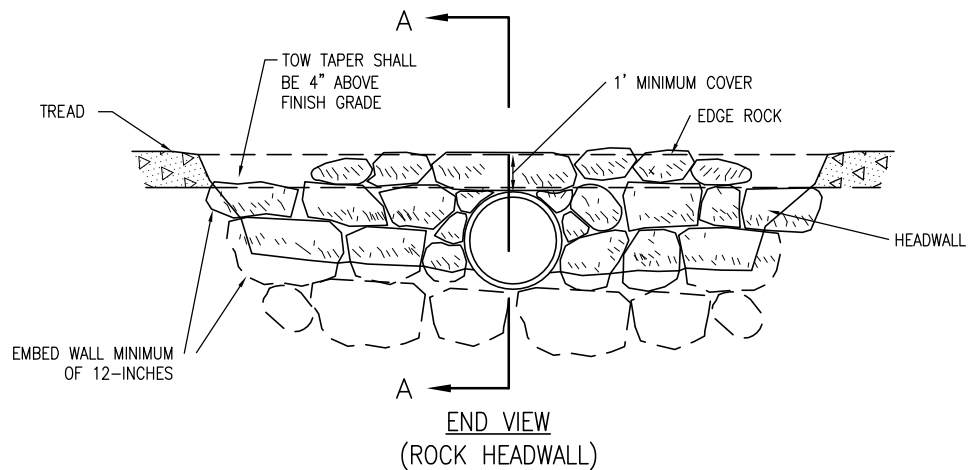
CULVERT DETAILS (1 OF 2)

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SHEET NUMBER	OST.09A





SECTION A-A  
(ROCK HEADWALL)



NOTE:  
1. TOP COURSE AND ROCKS WITHIN 12" OF PIPE SHALL BE NEATLY GROUTED. ALL GROUT SET BACK A MINIMUM OF 1" FROM FACE OF WALL

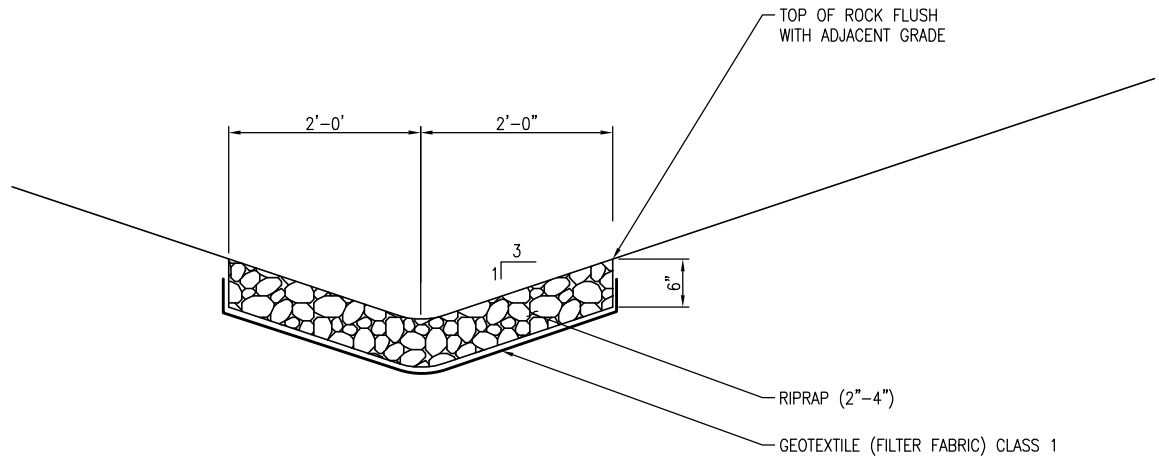


SANTA FE COUNTY, NEW MEXICO  
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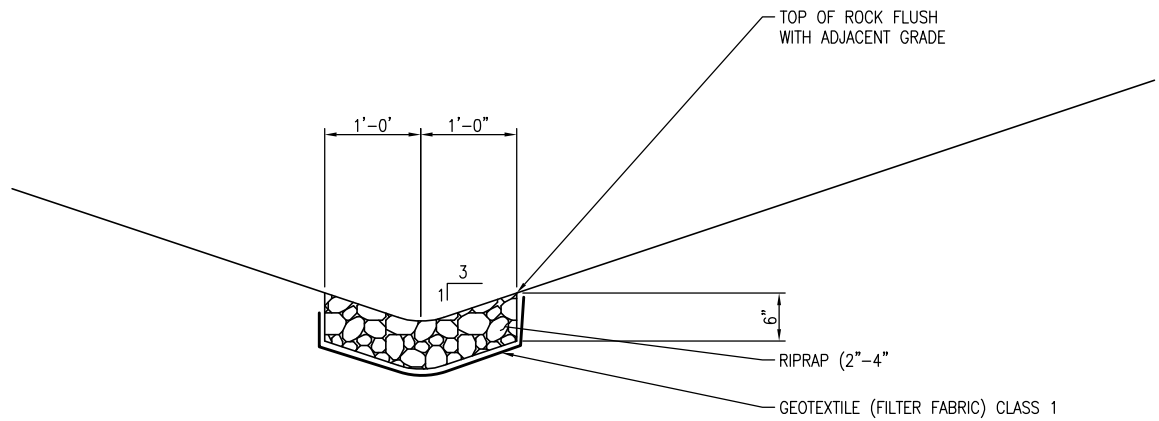
CULVERT DETAILS (2 OF 2)

ISSUED	JUNE 28, 2011
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SHEET NUMBER	OST.09B





ROCK SWALE (4 FOOT)  
N.T.S.



ROCK SWALE (2 FOOT)  
N.T.S.



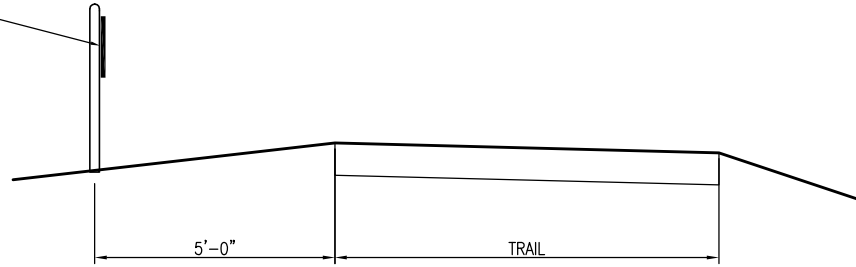
SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

ROCK SWALE DETAILS

ISSUED	JUNE 28, 2011
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SHEET NUMBER	OST.10

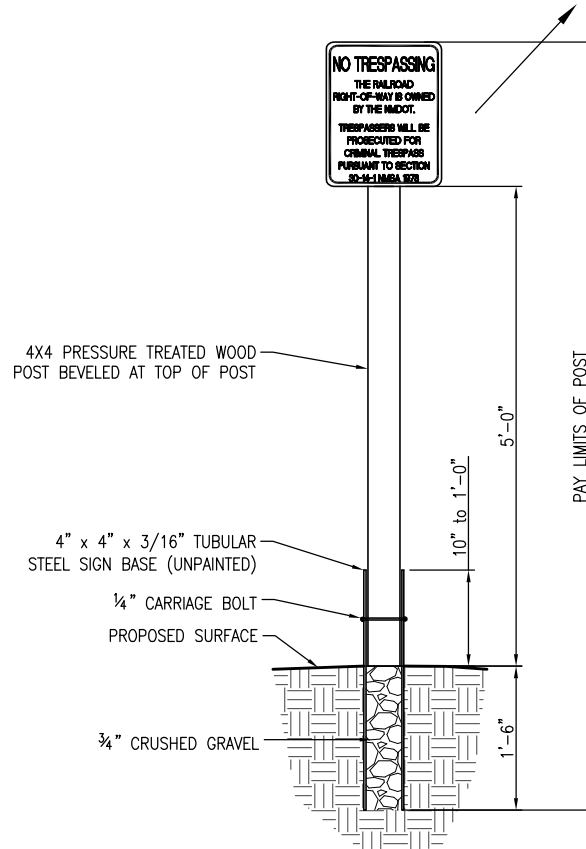
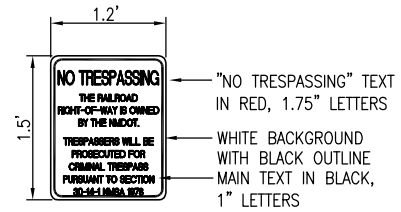


'NO TRESPASSING' SIGN (TYPE 7)



"NO TRESPASSING" SIGN LOCATION DETAIL

"NO TRESPASSING" SIGN PLACED ALONG TRAIL AT 500 FT MAXIMUM SPACING (SEE PLAN & PROFILE FOR LOCATIONS, ENDS OF WIRE FENCE (POST NOT REQUIRED), AND AT ALL FOUR CORNERS OF A CROSSING.



"NO TRESPASSING" SIGN DETAIL  
N.T.S.

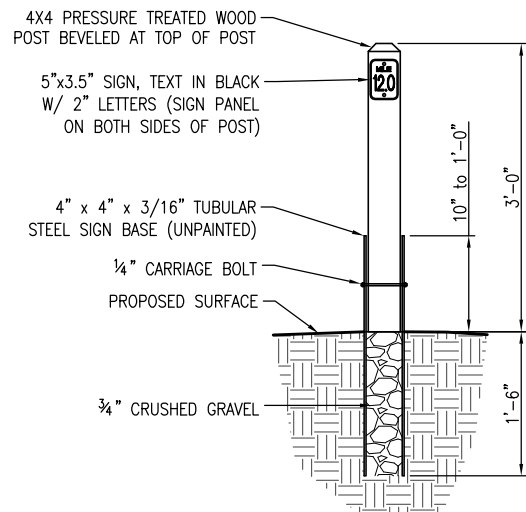


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

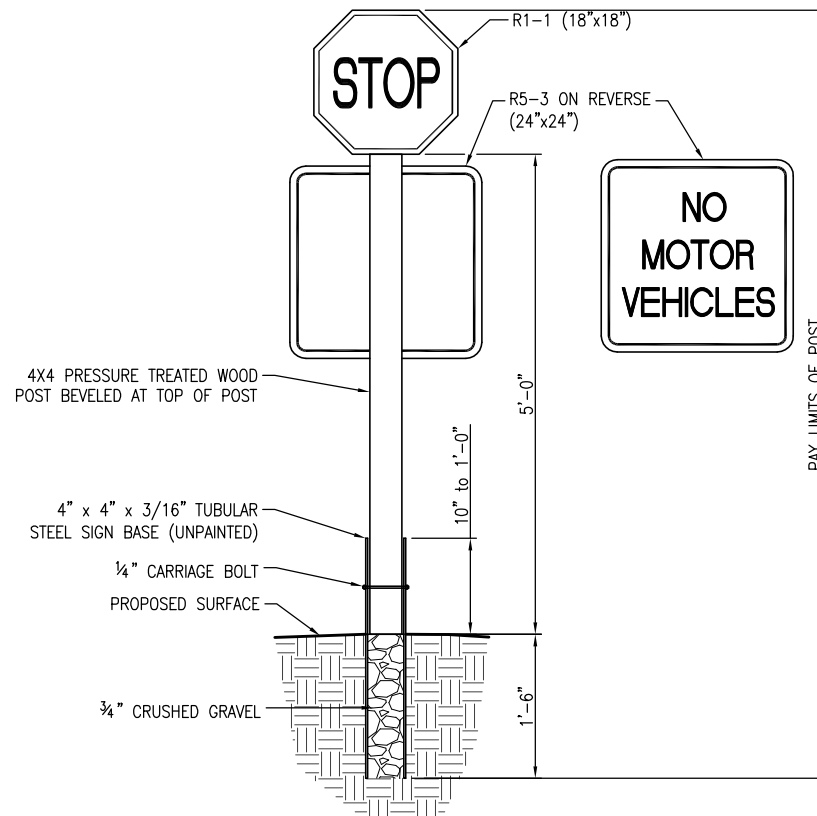
SIGN DETAILS

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SHEET NUMBER	OST.11





"MILE MARKER" SIGN DETAIL  
N.T.S.



"STOP/NO MOTOR VEHICLE" SIGN DETAIL  
N.T.S.

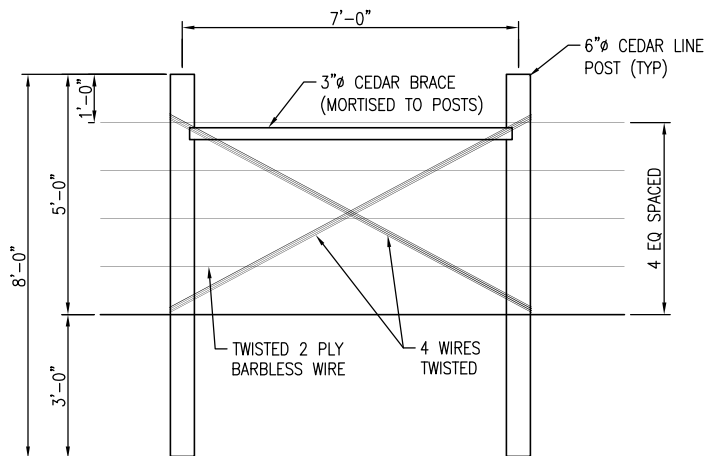


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

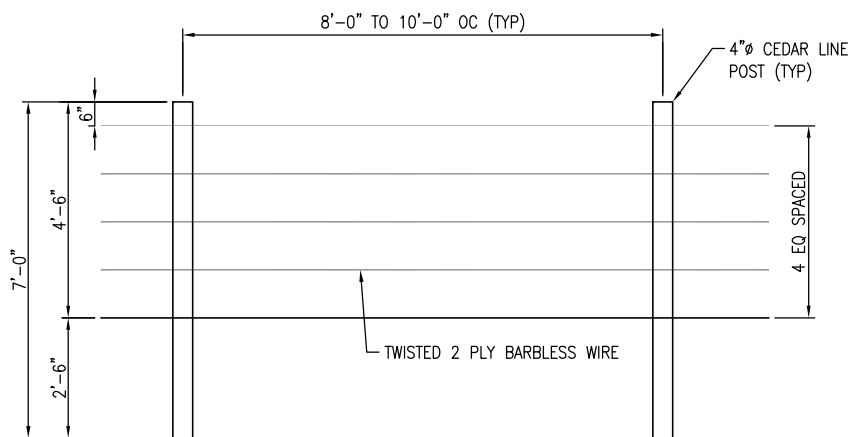
SIGN DETAILS

ISSUED	JUNE 28, 2011
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SHEET NUMBER	OST.12

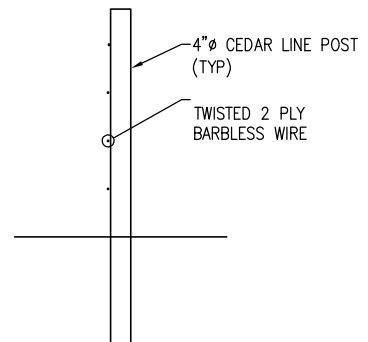




TYPICAL BRACE DETAIL



FENCING ELEVATION



SECTION

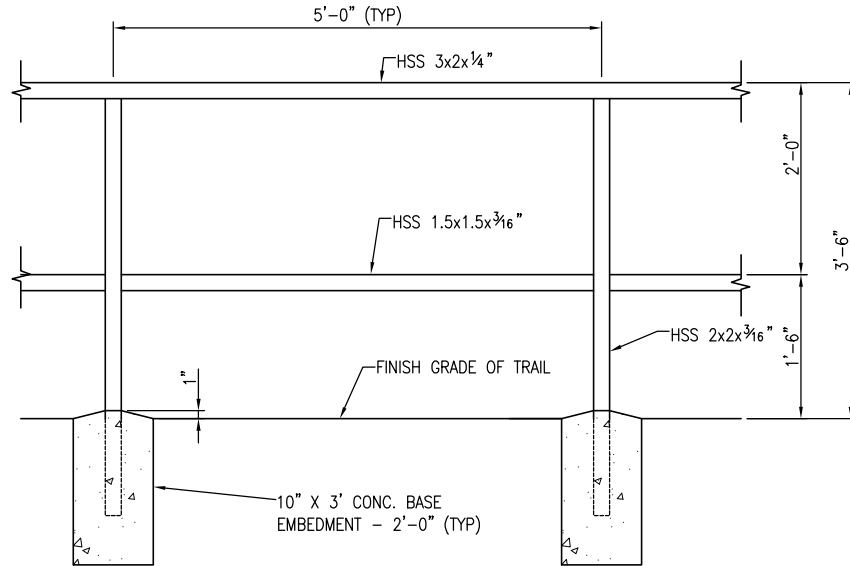


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COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

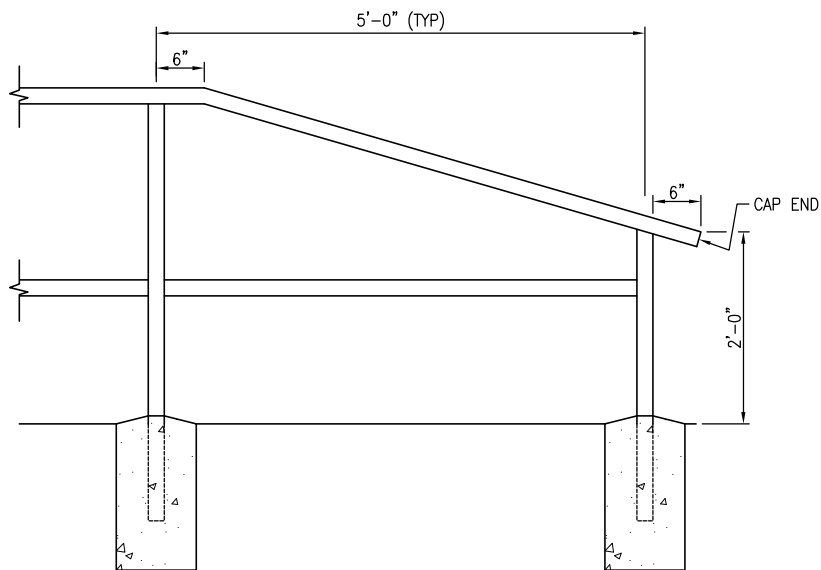
WIRE FENCE DETAILS

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SHEET NUMBER	OST.13





INTERIOR SECTION



END SECTION

- NOTES:
1. CONCRETE INCLUDED IN THE COST OF THE RAILING
  2. TOP OF HANDRAIL TO MATCH TRAIL GRADE.
  3. HSS MATERIAL SHALL BE ASTM A847

METAL RAILING

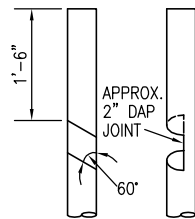
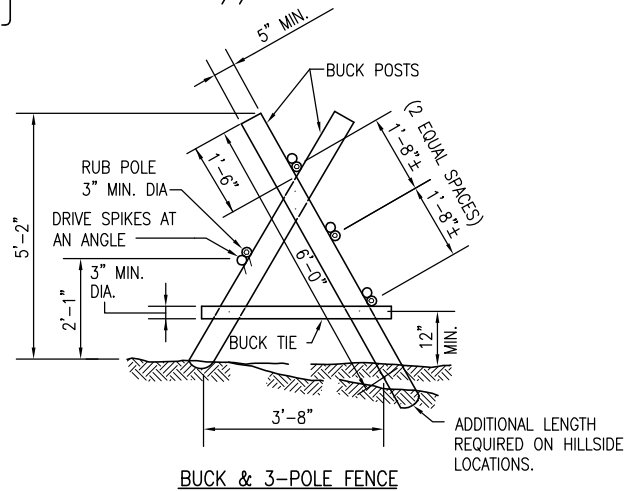
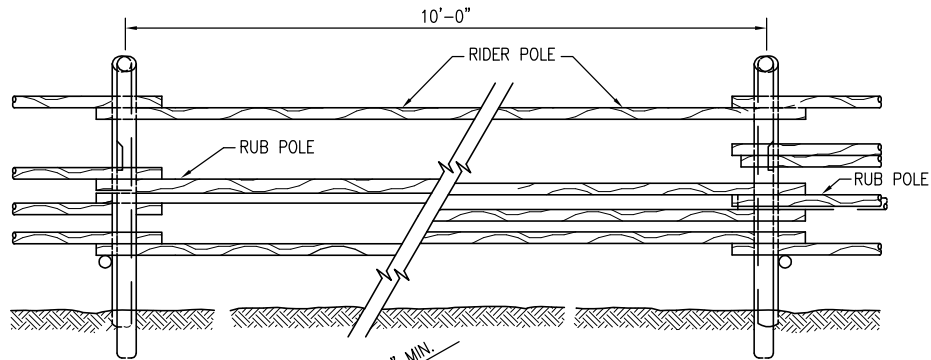


SANTA FE COUNTY, NEW MEXICO  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

METAL RAILING DETAILS

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CHECKED BY	SJB
SHEET NUMBER	OST.14





**BUCK POST JOINT DETAIL**

**NOTE:**  
BOTH BUCK POSTS TO  
BE NOTCHED AS SHOWN.

**NOTES:**

1. SPIKES SHALL BE USED AS FASTENERS. TWO SPIKES SHALL BE USED TO FASTEN BUCK POSTS TOGETHER. ONE SPIKE SHALL BE USED TO FASTEN POLES, BRACES & BUCK TIES TO BUCK POSTS.
2. POLES, TIES, & BUCK POSTS SHALL BE OF MATERIAL AS SHOWN IN THE SPECIFICATIONS.



**SANTA FE COUNTY, NEW MEXICO**  
COMMUNITY SERVICE DEPARTMENT/OPEN SPACE AND TRAILS

**BUCK AND POLE FENCE DETAILS**

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SHEET NUMBER	OST.15

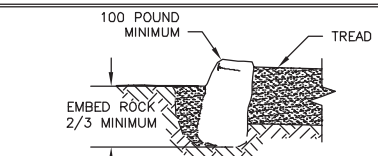




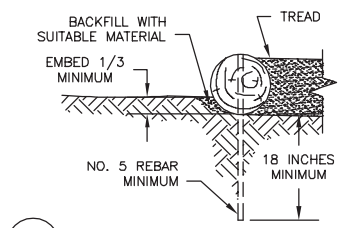




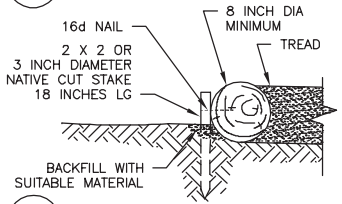




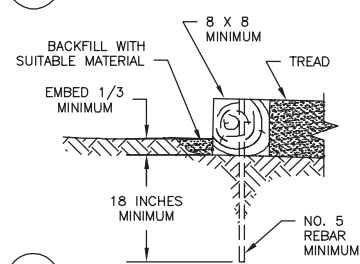
**R1** TYPICAL ROCK RETAINER



**R2a** TYPICAL LOG RETAINER



**R2b** TYPICAL LOG RETAINER

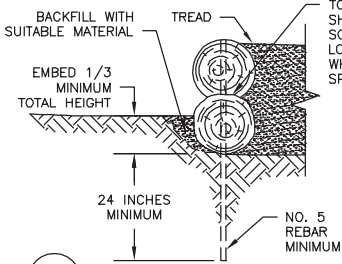


**R3a** TYPICAL TIMBER RETAINER

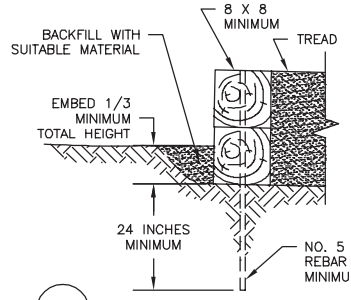
**TYPICAL RETAINER TYPE**

RETAINER TYPE	MATERIAL	SIZE	SPECIES/ GRADE	PRESERV. TYPE	JOINT TYPE	COMMENTS
R1	ROCK					
R2a	LOG	8 IN	OAK	NA	L 1	USE LOCAL NATIVE TREES
R2b	LOG					
R2c	LOG					
R3a	SAWN TIMBER	6X6	SP/#2	P 1	L 2	
R3b	SAWN TIMBER					
R3c	RAIL ROAD TIES					
	X					
	X					
	X					
	X					

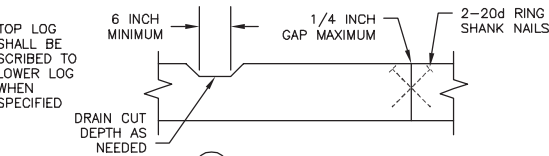
N/A WHEN NOT APPLICABLE



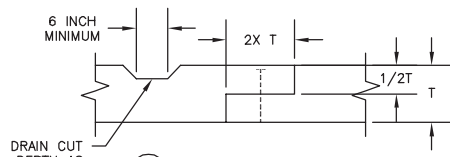
**R2c** TYPICAL STACKED LOG RETAINER



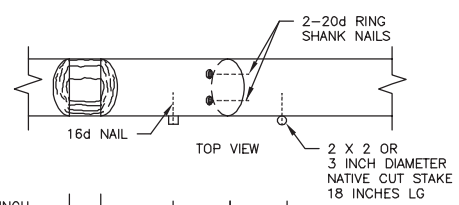
**R3b** TYPICAL STACKED TIMBER RETAINER



**L1** TYPICAL BUTT JOINT



**L2** TYPICAL LAP JOINT  
T = THICKNESS OF RETAINER



**L3** TYPICAL SCARF JOINT  
T = THICKNESS OF RETAINER

**NOTES:**

- PRE-DRILL HOLES FOR REBAR TO PREVENT SPLITTING OF LOGS OR SAWN TIMBERS. RECESS END OF REBAR 1/2 INCH BELOW TOP OF TIMBER.
- PLACE REBAR, ANCHOR BOLT OR STAKE 6 INCHES FROM EACH END OF TIMBER WITH MAXIMUM SPACING OF 36 INCHES. FOR STACKED RETAINERS STAGGER JOINTS 24 INCHES MINIMUM.
- COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
- ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
- REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.

PRESERVATIVE TREATMENT - (REFER TO AWPA USE CATEGORY SYSTEM)			
PRESERVATIVE TYPE	TREATMENT TYPE	USE CATEGORY	COMMENTS
P1	WB	UC4A	X
P2	WB	UC3B	
P3	XX	XXXX	

**TREATMENT TYPE**

WB = WATERBORNE  
OT = OIL-BORNE

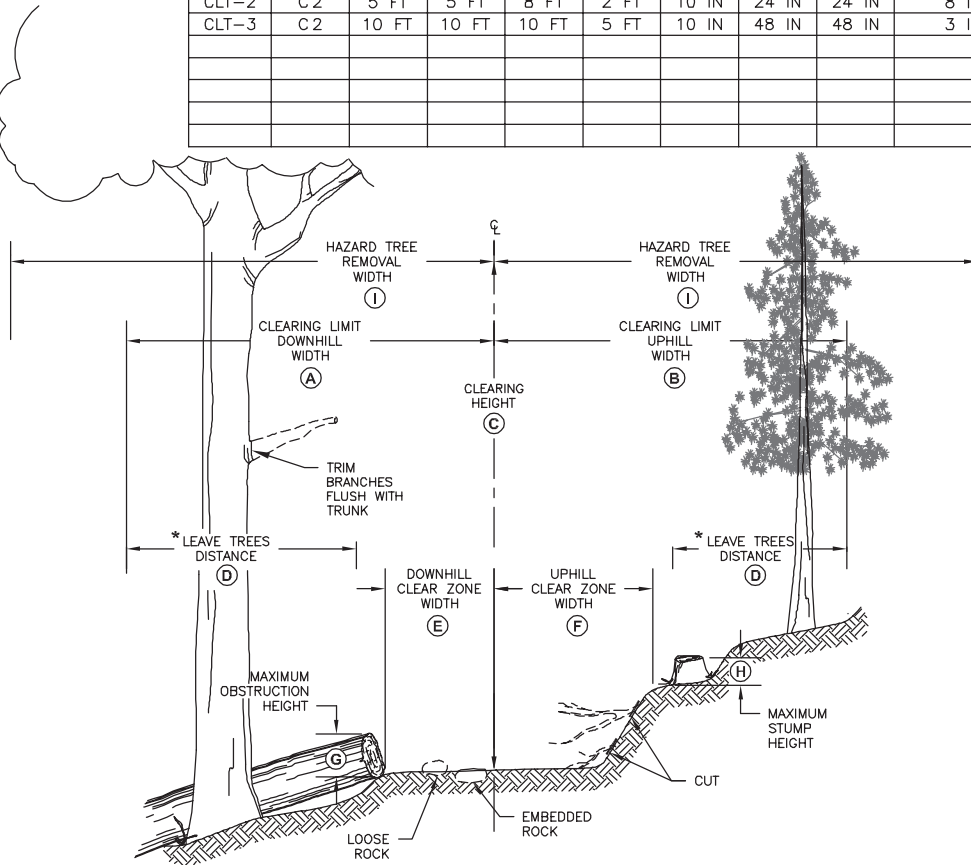
**USE CATEGORY**

UC3B = ABOVE GROUND - EXPOSED  
UC4A = GROUND CONTACT - GENERAL USE  
UC4B = GROUND CONTACT - HEAVY DUTY



# CLEARING LIMITS - TREES AND LOGS

TYPICAL ID	CLEARING METHOD	CLEARING LIMITS			* LEAVE TREES		CLEAR ZONE			STUMPS	HAZARD TREE		COMMENTS
		DOWNHILL WIDTH (A)	UPHILL WIDTH (B)	CLEARING HEIGHT (C)	DISTANCE (FEET) (D)	DIAMETER (INCHES)	DOWNHILL WIDTH (E)	UPHILL WIDTH (F)	OBSTRUCTION MAXIMUM HEIGHT (G)	MAXIMUM HEIGHT (H)	REMOVAL WIDTH (I)	DISPOSAL METHOD	
CLT-1	C 1	5 FT	5 FT	8 FT	2 FT	10 IN	24 IN	24 IN	8 IN	9 IN	45 FT	D 3	HIKING USE
CLT-2	C 2	5 FT	5 FT	8 FT	2 FT	10 IN	24 IN	24 IN	8 IN	9 IN	45 FT	D 3	HIKING USE
CLT-3	C 2	10 FT	10 FT	10 FT	5 FT	10 IN	48 IN	48 IN	3 IN	9 IN	45 FT	D 1	OHV USE



## CLEARING METHOD

CLEARING TYPE	CLEARING METHOD	COMMENTS
C1	NEW CONSTRUCTION	TREES, PRUNING, & BRUSH
C2	CLEARING LIMIT RESTORATION	TREES, PRUNING, LOGS, BRUSH & MAINTENANCE
C3	TRAIL OPENING	LOGGING OUT, LOOSE ROCK & DRAINAGE CLEARING
C4	HAZARD TREE REMOVAL	ALONG TRAIL CORRIDOR
C5	HAZARD TREE REMOVAL	INDIVIDUAL (AS MARKED)
C6	LOOSE ROCK & ROOT REMOVAL	X
C7	X	X

LEAVE TREES: LEAVE TREES SHOULD BE LIVE, SOUND & UNDAMAGED WITH UNCOMPROMISED ROOT SYSTEMS.

HAZARD TREES: HAZARD TREES ARE TREES THAT ARE STANDING OR LEANING DEAD TREES LARGER THAN 8 INCHES IN DIAMETER AND GREATER THAN 90 FEET IN HEIGHT.

## DISPOSAL METHOD

DISPOSAL TYPE	DISPOSAL METHOD	COMMENTS
D1	LOP AND SCATTER OUTSIDE TRAILWAY	X
D2	LOP AND SCATTER ON FILL SLOPE	
D3	PILE AND BURN	
D4	CHIP	
D5	HAUL TO DISPOSAL SITE	
D6	X	

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE



STANDARD TRAIL PLAN

PROJECT NAME & LOCATION

YOUR PROJECT NAME  
YOUR FOREST NAME  
YOUR DISTRICT NAME

DRAWING NAME

CLEARING LIMITS-TREES AND LOGS

SECTION

912 - CLEARING LIMITS

TYPICAL ID

CLT

REVISION DATE

XX/XX/XX

NO SCALE

DRAWING NO.

STD\_912-01

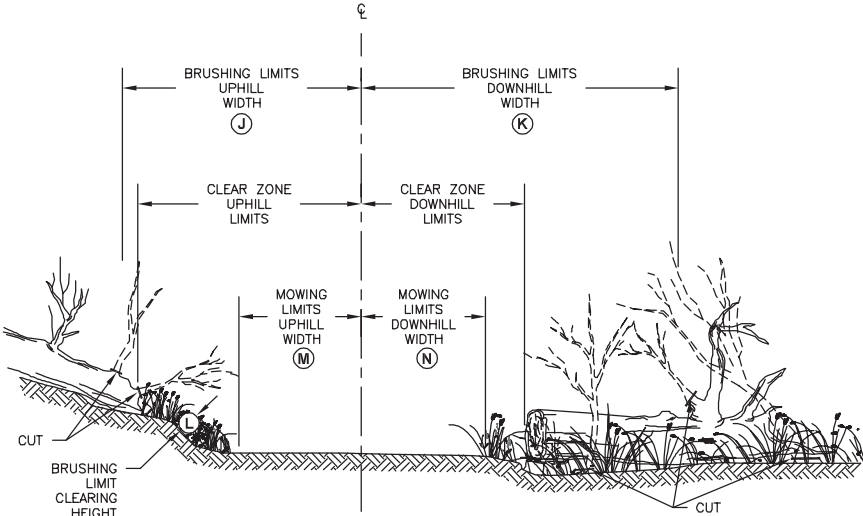
SHEET

11 OF 19



CLEARING LIMITS - BRUSHING

TYPICAL ID	CLEARING METHOD	BRUSHING LIMITS			MOWING LIMITS		DISPOSAL METHOD	COMMENTS
		UPHILL WIDTH (J)	DOWNHILL WIDTH (K)	CLEARING HEIGHT (L)	UPHILL WIDTH (M)	DOWNHILL WIDTH (N)		
CLB-1	C 9/10	5 FT	5 FT	8 FT	24 IN	24 IN	D 1	HIKING USE
CLB-2	C 9/10	10 FT	10 FT	10 FT	48 IN	48 IN	D 1	OHV USE



NOTE:  
SEE SHEET STD\_912-01 FOR  
CLEAR ZONE LIMITS

CLEARING METHOD

CLEARING TYPE	CLEARING METHOD	COMMENTS
C9	BRUSHING	X
C10	MOWING	
C11	X	

DISPOSAL METHOD

DISPOSAL TYPE	DISPOSAL METHOD	COMMENTS
D1	LOP AND SCATTER OUTSIDE TRAILWAY	X
D2	LOP AND SCATTER ON FILL SLOPE	
D3	PILE AND BURN	
D4	CHIP	
D5	HAUL TO DISPOSAL SITE	
D6	X	



U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

STANDARD TRAIL PLAN

PROJECT NAME & LOCATION

YOUR PROJECT NAME  
YOUR FOREST NAME  
YOUR DISTRICT NAME

DRAWING NAME

CLEARING LIMITS - BRUSHING

SECTION

912 - CLEARING LIMITS

TYPICAL ID

CLB

REVISION DATE

XX/XX/XX

NO SCALE

DRAWING NO.

STD\_912-02

SHEET

12

OF

19







**APPENDIX D****STANDARD SPECIFICATIONS****SANTA FE RAIL TRAIL CONSTRUCTION SEGMENT 1  
IFB # 2011-0279-OS/PL**

The New Mexico State Department of Transportation Standard Specifications, 2007 Edition, shall govern construction of this project except where revised or amended by the Supplemental General Provisions, Special Provisions, and Supplemental Specifications – August, 2011, and are hereby made a part of the Contract Documents.

Whenever, in the Special Provisions and Supplemental Specifications the word “Section” is followed by a number and a caption (such as “Section 102.4 – Rejection of Proposals”) reference is made to that specific section of the “New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction,” 2007 Edition. The Supplemental General Conditions, Special Provisions and Supplemental Specifications shall govern over the Standard Specifications and are hereby made a part of the Contract Documents.

Where a conflict occurs between NMDOT and Special Provisions or Instructions to Bidders, the Special Provisions and Instructions to Bidders shall control.

New Mexico Department of Transportation Standard Specifications, Special Provisions, and Supplemental Specifications shall be interpreted using the following list where not covered by the Supplemental General Conditions contained herein. References listed to the right are to replace those on the left where those on the left appear in the text.

<u>REFERENCE:</u>	<u>REPLACE WITH:</u>
Commission, Department, District, District Engineer, The State Highway Commission or Department Cabinet Secretary or Secretary	Santa Fe County except where such reference is to rules, codes, or regulations, or pre-qualification of bidders of the New Mexico Department of Transportation
Department	Santa Fe County or its Designated Representative
Engineer	Santa Fe County acting through his duly authorized representative who is normally the Project Engineer, Project Manager or Consulting Engineer
Project Manager	The individual designated by the Engineer who is responsible for observing construction and the administration of the project
State	County or Owner



**APPENDIX E****SUPPLEMENTAL TECHNICAL SPECIFICATIONS**

The following revisions and/or additions to the Technical Specifications of the Standard Specifications are hereby made a part of the Contract Document.

Supplemental Technical Specifications to Standard Specifications:

Section	Description
201	Clearing and Grubbing
203	Excavation, Borrow, and Embankment
207	Subgrade and Trail Surface Preparation
304	Base Course
308	Blended Trail Surface Stabilization
507	Rock Retaining Walls, Headwalls and Edging
543	Metal Railing
570	Pipe Culvert
602	Slope and Erosion Protection Structures
607	Fence
623	Drop Inlets
632	Seeding
701	Traffic Signs and Sign Structures



## **SECTION 201 CLEARING AND GRUBBING**

Delete the entire Section 201 and substitute the following:

### **201.1 DESCRIPTION:**

This Work consists of clearing, grubbing, scalping, removing, and relocating of vegetation and debris. This Work includes protecting vegetation **NOT** specifically identified for removal. The project manager must approve the removal of any vegetation that is not specifically identified for removal. Clearing and grubbing shall be limited to the grading limits shown in the plans unless otherwise approved. Scalping includes the removal of material such as brush, roots, sod, stumps, and the residue of agricultural crops. Dead and dead standing trees within the trail corridor and those specifically designated on the plan to be relocated shall be disposed of in accordance with section 201.3.3. below.

### **201.2 MATERIALS – Vacant**

### **201.3 CONSTRUCTION REQUIREMENTS**

#### **201.3.1 General**

Remove surface debris, trees, stumps, roots, organic matter, and other obstructions. When approved by the Project Manager, the Contractor may leave undisturbed stumps and other solid objects within the Trail Prism that do not extend more than 6 in above existing ground and will be at least 2 ft below the finished Subgrade elevation.

Remove hazardous objects and debris from the project. Backfill and compact stump holes and other holes in accordance with Section 203.3.5, "Embankments." Remove low-hanging branches from trees or shrubs not designated for removal in accordance with the clearing limits shown on the plans. Trim overhanging tree branches to provide a clearance 10 ft above the trail surface. All cuts should be made as close as possible with less than ¼ inch above the main branch or trunk. All cuts should be cleanly executed with little to no ragged edges or tearing. All tools and equipment should be in good general condition, clean, and free of disease and pests.

#### **201.3.2 Scalping**

Scalp before excavation or placement of Embankment. Remove organic material under pipe Culvert bedding, regardless of Embankment height.

#### **201.3.3 Relocation and Disposal of Material**

Materials from removed trees, shrubs and limbs within the project area shall be used to close existing social trails and/or restore existing disturbed areas. All material under four (4) inches in diameter from trees, trimmed limbs, dead, or dead standing trees within the project area (including those trees specifically designated on the plan to be relocated) shall be "lopped and scattered" and shall be located as shown in the plans or as otherwise directed by the Project Manager. This material shall be placed to provide a natural appearance and to maximize it's intended effect of providing a physical and visual obstruction in areas to be closed or restored. All roots and removed materials over four (4) inches in diameter shall be mulched and spread to a depth not to exceed four (4) inches; or removed from the site; or otherwise legally disposed off site as approved by the Project Manager.



**201.4 METHOD OF MEASUREMENT—Vacant****201.5 BASIS OF PAYMENT****Pay Item***Clearing and Grubbing***Pay Unit**

Lump Sum

**201.5.1 Work Included in Payment**

The cost involved in obtaining offsite disposal locations and in making the disposal will be considered incidental to the completion of the work and no measurement or direct payment will be made therefore. The Lop and Scatter placement of removed trees or dead trees for existing trail closure and/or site restoration as shown in the plans or otherwise directed shall be considered incidental to the cost of Clearing and Grubbing.

## **SECTION 203**

### **EXCAVATION, BORROW, AND EMBANKMENT**

Delete the entire Section 203 and substitute the following:

**203.1 DESCRIPTION**

This Work consists of performing excavation, providing borrow, constructing embankment, hauling, disposing, placing, and compacting materials.

**203.2 MATERIALS**

The Department will provide geotechnical investigation results in the Contract documents or will make them available at the project office. Use the results for information only. The results are not a representation or warranty of the continuity of the conditions that exist beyond the subsurface investigation's test holes or test pits. The Contractor is solely responsible for interpretations and conclusions drawn from this geotechnical information.

**203.2.1 Material Classifications****203.2.1.2 Unclassified Excavation**

Unclassified excavation is material other than rock excavation or standard excavation.

**203.2.1.3 Borrow**

Material from Contractor-provided sources required for Embankment, subexcavation replacement or other Work approved by the Department.

**203.2.1.4 Subexcavation**

Subexcavation is existing material that is unsuitable or unstable. Unsuitable material is that with an R-value less than the Contract R-value. Unstable material is that which is saturated and pumping.

**203.3 CONSTRUCTION REQUIREMENTS****203.3.1 General**

Finish excavation and Embankment for the trail to reasonably smooth and uniform surfaces. Do not remove materials from the project limits without the approval of the Project



Manager. Preserve the materials below and beyond the lines and grades while conducting excavation operations. Before beginning excavation, grading, and Embankment operations, perform the necessary clearing and grubbing in accordance with Section 201, "Clearing and

Grubbing." Notify the Project Manager before opening excavation or borrow areas.

Terminate operations in the immediate area of environmental or Cultural Resources not listed in the Contract, until the Department reviews and completes appropriate mitigation actions in accordance with Section 107.12, "Environmental and Cultural Resource Discoveries."

Place excess or unsuitable excavated material (including rock and boulders unsuitable for Embankments) in the toe of any fills, use to flatten slopes of nearby fills or to fill in restorations areas as shown in the plans or otherwise directed by the owner. Place at least 2 ft of cover soil over the rocks and boulders. Dispose of excess or unsuitable material in accordance with environmental requirements and as approved by the Project Manager.

### **203.3.2 Excavation**

Unclassified excavation shall be to the lines and grades shown on the plans.

All clearing and grubbing shall be done before excavation operations begin.

The Project Manager may require the Contractor to remove unsuitable materials beyond the lines of cut shown on the plans, and backfill these areas with approved material. Take cross sectional measurements before and after removal of unsuitable material, or use other approved means to measure the quantity of unsuitable material to be removed and replaced with suitable material.

### **203.3.3 Borrow**

Obtain the borrow source, unless otherwise specified. Use Roadbed excavated Material for Embankment before using borrow Material, unless approved by the Project Manager.

### **203.3.4 Embankments**

Do not place Embankment Material on frozen earth, or incorporate frozen soils in Embankments. Suspend Embankment construction if Embankment Materials become frozen. Do not resume until the Materials are thawed and suitable for compaction. Before beginning Embankment construction, perform scalping in accordance with Section 201, "Clearing and Grubbing." Bench new Embankments into the following:

1. Natural slopes including rock;
2. Existing Embankments; or
3. Phased Embankment construction.

Ensure benches are wide enough to allow operation and placement of compacting Equipment. Re-compact new Embankment Material and Material that is cut out at no additional cost to the Department. Do not place rock, broken concrete, or other solid materials in Embankment areas where driven pilings, drilled caissons, utility lines, or other Structures are specified in the Plans.

Break up the original ground surface to at least 6 in by plowing, scarifying, or stepping up. Compact this area to 95% of maximum density in accordance with Section 203.3.6,



“Moisture and Density Control.” Place Material for Trail Embankment in horizontal layers not exceeding 8 in thick and compact in accordance with Section 203.3.6, “Moisture and Density Control.”

The Department will allow rocks no larger than 3 ft (in any dimension) as long as the Contractor distributes and fills the interstices to form a dense mass. Do not use rock fragments that may degrade with time or may be water sensitive (such as shale or gypsum) as rock fill in Roadbed Embankments. The Department considers this material to be unsuitable.

Place large rocks in the toe of the slope in accordance with the following requirements:

1. No rock is larger than one-half the Embankment height or 10 ft;
2. No rock is placed in fill height less than 8 ft, measured at the edge of the Roadway Shoulder;
3. Place rocks inside a line 6 in from the slope stake, space a minimum of 3 ft from edge to edge, and cover with approved Embankment Material.

Construct rock Embankments to a maximum of 6 in below Subgrade elevation. Consolidate rock fills by using the appropriate Equipment and methods approved by the Project Manager.

### **203.3.5 Subexcavation**

Remove unsuitable and unstable materials from the Subgrade unless an alternative treatment is specified in the Contract or agreed upon by the Project Manager.

### **203.3.6 Moisture and Density Control**

Construct Trail Embankment with moisture and density control. Compact each layer of Embankment to at least 95% of maximum density. Ensure the moisture content of the soil, at the time of compaction, is not greater than or 5% less than the optimum level in accordance with AASHTO T 224 and AASHTO T 180, Method D (TTCP Modified). For soils with a plasticity index of 15 or greater, ensure the moisture content of the soil at the time of compaction is from optimum moisture to 4 percentage points greater than the optimum level. If the moisture content at the time of compaction is not within the specified range, moisten or dry the Material, then thoroughly mix the Material to the full lift depth before re-compacting. Trail Embankments that contain mostly rock or coarse-grained Material (65% or greater retained on the No. 4 sieve) does not require moisture and density control, except the top 6 in of the Embankment; construct in accordance with Section 207.3, “Construction Requirements.” Non-trail embankments of rock Material will not require moisture and density control unless otherwise specified.

Ensure that maximum densities are in accordance with AASHTO T 224 and AASHTO T 180, Method D (TTCP Modified), and field densities are in accordance with AASHTO T 310 or other approved methods. Measure densities at each lift before the next subsequent lift is placed.

Unclassified excavation will be paid for based upon plan quantity without measurement.

## **203.4 METHOD OF MEASUREMENT**

### **203.4.1 Unclassified Excavation, Borrow, and Subexcavation**

Excavation will be paid for based upon the plan quantity without measurement. If actual quantities vary from plan quantities by greater than 10%, the contractor may request additional payment at the contract unit price. In that case, measure Unclassified Excavation, Borrow, and Subexcavation in its original position. The measurements will include approved excavation of



rock, shale, muck, or other unsuitable material, and its placement in the required Embankment or disposal as directed by the Project Manager.

Submit the original ground surface and final surface data for each excavation area using an electronic XML-compatible format approved by the Project Manager. Submit volume summary reports to the Project Manager based on this electronic data for each phase of construction including a report that summarizes the basis for the final volumes. Use a licensed New Mexico professional engineer or professional surveyor to certify these volumes.

<b>Pay Item</b>	<b>Pay Unit</b>
<i>Unclassified Excavation</i>	Cubic Yard

### **203.5 BASIS OF PAYMENT**

#### **203.5.1 Extra Work**

If the quantity of Unclassified Excavation varies from the plan quantities by greater than 10%, additional Unclassified Excavation will be paid for at the contract unit price. If payment for additional Unclassified Excavation is requested, it shall be measured according to Subsection 203.4.1

#### **203.5.2 Work Included in Payment for Excavation, Backfill, and Embankments**

The Department will consider as included in the payment for the pay item(s) listed in this section and will not measure or pay separately for the following Work:

1. Material required to fill the voids and irregularities in the Subgrade below the tolerance limit from the specified elevation, except where the Project Manager requires removal of unsuitable materials designated as subexcavation;
2. Surveying, for the purpose of payment, is considered incidental to the excavation Work and is the Contractor's responsibility;
3. Hauling related to *Unclassified Excavation, Borrow, and Subexcavation*

## **SECTION 207 SUBGRADE AND TRAIL SURFACE PREPARATION**

Delete the entire Section 207 and substitute the following:

### **207.1 DESCRIPTION**

This Work consists of compacting and finishing the Subgrade beneath base course material and Trail Surface preparation for trail segments not requiring other surface treatments.

### **207.2 MATERIALS—Vacant**

### **207.3 CONSTRUCTION REQUIREMENTS**

Scarify and compact the top 6 in of the trail to 95% of maximum density.

Ensure the soil moisture content (at the time of compaction) is from optimum to optimum minus 5%, in accordance with AASHTO T 180, Method D (TTCP Modified) and AASHTO T 224. For soils with a PI of 15 or greater, ensure the moisture content of the soil at the time of compaction is from optimum moisture to 4 percentage points greater than the optimum level.



Determine densities in accordance with AASHTO T 180, Method D (TTCP Modified) and conduct field density tests at locations according to minimum testing requirements, in accordance with AASHTO T 310, or by other Department-approved methods.

Grading required for Drainage Features shall be performed according to the plan details in the locations shown in the plans. The final surface shall be prepared according to these specifications. The contractor will be expected to make minor adjustments to the location and or grading of the drainage features to assure positive drainage away from the trail.

#### **207.3.1 Tolerances**

Ensure the top surface elevation of the finished grade does not vary more than 0.050 ft above or below the specified elevation. The surface shall not vary by more than ½" when measured with an 8' straight edge applied parallel or at right angles to the center-line except as shown in the plans and details for Drainage Features.

#### **207.4 METHOD OF MEASUREMENT—Vacant**

#### **207.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Pay Unit</b>
Trail Surface Preparation	Square Yard
Drainage Features	Each

#### **207.5.1 Work Included in Payment**

No payment will be made for rehandling or reworking material to meet moisture and density requirements.

Drainage Feature (Each) includes the cost of additional grading and workmanship required to form the drainage feature. Compaction and surface preparation is paid for as Trail Surface Preparation (Drainage Feature areas are included in the plan quantities for Trail Surface Preparation). Riprap at drainage features, where called for in the plans, will be paid for separately.

## **SECTION 304 BASE COURSE AND CRUSHER FINES**

Delete the entire Section 304 and substitute the following:

#### **304.1 DESCRIPTION**

This Work consists of providing, hauling, and placing Base Course and Crusher Fines.

##### **304.1.1 Stockpiling**

This Work consists of providing, hauling, and stockpiling Base Course and Crusher Fines at specified locations.



**304.1.2 Removing, Processing, and Placing Base Course**

This Work consists of removing, hauling, processing, placing existing Base Course Material.

**304.2 MATERIALS****304.2.1 General**

Base Course consists of Santa Fe Brown 7/8" Base Course, as supplied by Santa Fe Classic Rock, or approved equal. The color of the material shall be brown. Base Course does not contain organic matter or other Deleterious Materials, including silt and clay balls.

Crusher Fines consists of Santa Fe Brown Crusher Fines, as supplied by Santa Fe Classic Rock, or approved equal. The color of the material shall be brown. Base Course does not contain organic matter or other Deleterious Materials, including silt and clay balls.

The following gradation requirements apply to aggregate Materials:

**Table 304.2.1:1**  
**Base Course Gradation**

<b>Sieve size</b>	<b>% passing</b>
1 in	100
3/4 in	80–100
No. 4	30–60
No. 10	20–45
No. 200	3.0–10.0

Use the gradation, as shown in Table 304.2.1:1, "Base Course Gradation," unless otherwise specified.

Ensure that at least 50% of the Materials retained on the No. 4 sieve have at least two Fractured Faces (FF) when evaluated by NMDOT Method FF-1, *Fractured Face Determination for Coarse Aggregate*. Provide Base Course with a maximum AI of 35 (calculated in accordance with Section 910, "Aggregate Index," a maximum LL of 25, and a maximum PI of 6. Determine the AI per source at the untreated natural aggregate source only when using RAP with or without processed glass in combination with an untreated aggregate.

**304.2.2 Aggregate Acceptance**

The Department will accept Base Course based on periodic random samples taken by the Contractor from the trail in accordance with Section 901, "Quality Control/Quality Assurance (QC/QA).

**304.3 CONSTRUCTION REQUIREMENTS****304.3.1 Preparation of Subgrade**

Clean the Subgrade of loose and Deleterious Material. Ensure that the top 6 in of the trailbed meets the density requirements of Section 207, "Subgrade Preparation." Proof-roll the Subgrade with a 27 ton roller or alternate Equipment as approved by the Project Manager to expose and correct soft areas.



**304.3.2 Mixing and Placing**

Mix the Base Course Material or Crusher Fines Material to a homogenous mixture. Place maximum 6 in (compacted) lifts, unless specified otherwise. Do not place on frozen Subgrade. Use AASHTO T 180, Method D (TTCP Modified) to determine density requirements. Use nuclear testing methods to determine densities in accordance with AASHTO T 310. Correct nuclear moisture contents for residual hydrocarbons before computing in-place dry densities when using RAP.

**304.3.3 Surface Tolerance**

The Department will allow a surface tolerance of 1/2 in within 8 ft. If the depth is deficient, the Project Manager can accept the Work and reduce the Contractor's payment, or reject the Work with subsequent replacement by the Contractor.

**304.3.4 Plan Base Course and Subbase Depths**

If the placed thickness deviates from the requirements by more than minus 1/2 in, the Project Manager may:

1. Accept and approve the payment for the measured quantity only; or
2. Accept the in-place layer of Base Course Material along with another layer of Base Course Material up to the specified thickness.

**304.3.5 Stockpiled Base Course**

Prevent segregation of Materials at each stockpile. Maintain each stockpile in accordance with Section 423.2.2.3, "Stockpiling."

**304.3.6 Sampling and Testing****304.3.6.1 Contractor Quality Control**

Sample the stockpiled Material and conduct gradation testing, FF, LL, and PI testing in accordance with applicable AASHTO test procedures in accordance with Section 901. A minimum of one test shall be done for every 500 tons of material to be placed. Test results shall be provided to the project manager for approval prior to placing the material.

**304.4 METHOD OF MEASUREMENT**

Payment will be made based upon the actual area of Base Course or Crusher Fines placed and accepted.

**304.4.1 Stockpiling**

See Section 303.1.1, "Stockpiling."

**304.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Pay Unit</b>
<i>Base Course 6 in Depth</i>	Square Yard
Base Course 6 in Depth (As Directed)	Square Yard
Crusher Fines 6 in Depth (Bid Alternate)	Square Yard



### 304.5.1 Work Included in Payment

Base Course 6 in Depth shall include all materials and workmanship, including subgrade preparation according to Section 207.

Base Course 6 in Depth (As Directed) shall include all materials and workmanship to replace the natural trail surface, as shown in the plans, with Base Course 6 in Depth. This item is intended to allow the owner to identify, during construction, additional specific areas to be surfaced with base course material. This item includes removal of the site materials, subgrade preparation, and placement of imported base course material according to these specifications. Payment will be made based on the actual area of Base Course 6 in depth placed and accepted, as specifically directed by the owner or their assigned representative during construction.

Crusher Fines 6 in Depth (Bid Alternate) shall include all materials and workmanship to replace the natural trail surface, as shown in the plans, with Crusher Fines 6 in Depth. This item is intended to allow the owner to choose to replace the existing site materials with crusher fines for the trail surface, based upon the bid results and the results of the Blended Trail Surface (100 LF Test Section)(Bid Alternate). This item includes removal of the site materials, subgrade preparation, and placement of imported Crusher Fines material according to these specifications. Payment will be made based on the actual area of Crusher Fines 6 in depth placed and accepted, as specifically directed by the owner or their assigned representative during construction. Trail Surface Preparation will not be paid for separately for areas receiving Crusher Fines 6 in Depth.

## SECTION 308 BLENDED TRAIL SURFACE STABILIZATION

Add the following section:

### 308.1 DESCRIPTION

This Work consists of providing, hauling, placing and blending imported granular material with existing site materials to stabilize the trail tread. The intent of this work is to improve the quality of the trail surface by blending the existing clayey soils with imported granular material to provide a balanced, well graded mixture of particle sizes that will compact, and remain firm and cohesive in both wet and dry conditions.

### 308.2 MATERIALS

Imported granular material shall consist of consists of Santa Fe Brown 3/8" Crushed Gravel, as supplied by Santa Fe Classic Rock, or approved equal. The color of the material shall be brown.

Ensure that at least 50% of the Materials retained on the No. 4 sieve have at least two Fractured Faces (FF) when evaluated by NMDOT Method FF-1, *Fractured Face Determination for Coarse Aggregate*.



### **308.3 CONSTRUCTION REQUIREMENTS**

#### **308.3.1 Preparation, Placement, and Blending**

1. Perform rough grading and construct embankments according to Section 203.
2. Prepare subgrade according to Section 207.
3. Then scarify the top 4 inches to aid in blending the imported granular material.
4. Place 2 inches of imported granular material across the full tread width.
5. Disc, rake, mill, or use other physical means to blend the imported material with the underlying soils to provide a 6 inch thick blend of existing and imported materials.
6. Prepare the final finish surface according to Section 207.

#### **308.3.2 Blended Trail Surface Stabilization 100 LF Test Section**

Prior to commencing with trail surfacing on the entire project, the contractor shall construct the 100' long test section according to these specifications, in a location identified by the Owner. Upon completion of the test section, the contractor shall wet a portion of the test section (with water supplied by the contractor) to allow the owner to evaluate the performance of the surface in both wet and dry conditions. The cost of the test section shall include the cost of removal of the test section if found unsatisfactory by the owner. The removed materials can be used in the bases of embankments in other locations within the project.

Depending on the results of this evaluation, the owner may elect to proceed with construction using the blended trail stabilization as outlined in this Section, utilize crusher fines as the trail surface as specified in Section 304, utilize existing site materials as the trail surface, prepared according to Section 207, or a combination of any of these options for trail surfacing.

Should the Owner desire to evaluate alternate stabilization designs and to have additional Test Sections constructed in a manner similar to this Section, they will be paid for as an extra to the contract.

### **308.4 METHOD OF MEASUREMENT**

Payment will be made based upon the actual area number of Test Sections constructed and the Actual Square Yards of Blended Trail Surface Stabilization placed and accepted.

### **308.5 BASIS OF PAYMENT**

#### **Pay Item**

100 LF Test Section Blended Trail Surface Stabilization  
Blended Trail Surface Stabilization (Bid Alternative)

#### **Pay Unit**

Each  
Square Yard

#### **308.5.1 Work Included in Payment**

The 100 LF Test Section Blended Trail Surfacing shall include all materials and workmanship including subgrade and surface preparation according to Section 207. This shall also include removal of the surfacing material if found unsatisfactory by the owner.

Blended Trail Surfacing shall include all materials and workmanship, including subgrade preparation according to Section 207. Trail Surface Preparation shall be paid for separately according to Section 207.



## SECTION 507

### ROCK RETAINING WALLS, HEADWALLS AND EDGING

The following Section shall be added:

#### 507.1 DESCRIPTION

This work will consists of furnishing and placing rock gravity retaining walls, headwalls, and edging in accordance with these Specifications and in conformity with the lines, grades, and dimensions as shown on the Plans or as established. The material for the rock and grout used and the construction of these walls shall be as specified herein.

The firm producing the rock retaining wall work of this section shall have 7 years experience in work of similar scope and nature to that specified. The proposed contractor must provide a minimum of 3 examples of similar work which are accessible to the owner for inspection.

#### 507.2 MATERIALS

Materials shall meet the following requirements:

- (a) **Rock.** The rock used for the construction of the rock retaining walls shall be locally available Moss Block Rock, generally reddish in color.
  - 1. Rock Retaining Walls, Seat Walls and Headwalls: The rocks for the construction of the Rock Walls shall be well graded and vary in size from 6 inches to 24 inches. Control of gradation will be by visual inspection. However in the event the Project Manager determines rock to be unacceptable, the Project Manager will pick two (2) random truckloads to be dumped and checked for gradation. The Contractor at no additional cost shall provide mechanical equipment and labor needed to assist in checking gradation to the Owner.
  - 2. Rock Edge: Rocks for the construction of Rock Edge shall be similar in size, as shown in the plans, with random lengths, suitable to provide a uniform edge.
- (b) **Grout.** Provide Portland cement, aggregates and water for grout in accordance with Section 509.
- (c) **Underdrain:** The underdrain system, including perforated collector pipe, granular material, and geotextile shall be as shown in the plans and according to Section 605.

#### 507.3 CONSTRUCTION REQUIREMENTS

Construction Requirements for Rock Walls shall be as follows:

- 1. The rock for the rock walls shall be placed tightly, without obvious grout on the outside face of the rock wall. Rocks should be hand shaped as needed to provide a maximum gap between rocks of 1/2 inch. All exposed rocks in the final wall configuration must have at least have the dimension of one side greater than 8 inches and no side less than 4 inches. Chinking gaps with small rocks (under 4 inches) will not be allowed.



2. Subgrade under walls shall be compacted to 95% of maximum density determined in accordance with AASHTO T180, with a minimum bearing capacity of 2000 psf.
3. The rock walls shall be constructed to the dimensions and in the locations shown on the drawings. The walls shall be constructed with a 1 horizontal to 4 vertical batter on the front and back face, with a minimum width of 1 foot at the top of the wall.
4. The stone for the wall shall be laid to form substantial masonry presenting a neat, finished appearance. Headers shall hold the heart of the wall to the face. Headers shall occupy at least 20% of the area and they shall be evenly distributed. The length of stretchers shall not exceed three times their rise. Face stones shall be laid to break joint so that each rock laid rests on two beneath it. Spalls and pinners will not be allowed in the face and shall be used in the backing only where necessary.
5. All face stones shall be pitched to a string line on straight walls or laid to batter stakes for curved walls. The batter shall be consistent with respect to all parts of the wall and shall meet the minimum requirements set forth in the detail. The degree of roughness on the exposed face shall be measured with a six-foot straight edge supported between adjacent projections on the stone face. Variations in the face in excess of 2 inches, measured from the straight edge to the extreme depression in the stone will not be permitted. Rear faces shall present approximately plane surfaces and shall in general conform to the detail.
6. The top course of rock shall be grouted in place.
7. Prior to placing the grout, any type of debris, fines, smaller rock or silt shall be removed from around the rocks. Dewatering shall be implemented to guarantee that the grout will not be placed in water and the area will remain dewatered for a period of ten (10) hours after the grout has been placed. The surface of the rocks receiving grout shall be wet at all times prior to receiving grout.
8. Clean and wash any spillage before the grout sets on the outside face and top of walls. The visual surfaces of the rocks will be free of grout to provide a clean natural appearance. If washing does not clean off grout residue, the Contractor shall wash off any grout residue with muratic acid and water, using a brush to scrub off the residue.
9. The underdrain system, as shown on the drawings, will not be paid for separately but is included in the work.
10. Examine the substrates, adjoining construction and the conditions under which the work is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected.
11. Verify dimensions before proceeding with the work. Obtain field measurements for work required to be accurately fitted to other construction. Be responsible for the accuracy of such measurements and precise fitting and assembly of finished work.
12. Job Mock-up: Prior to the construction of any rock walls, the Contractor, or Subcontractor who is constructing the walls for the Contractor, shall show the Project Manager, an example of similar rock walls that they had constructed previously. After acceptance of this previous work, the Contractor or Subcontractor shall construct approximately 40 square feet of rock wall as shown on the drawings for approval by the Project Manager. If the construction is approved, the Contractor or Subcontractor shall



construct the remainder of the rock walls as approved. If the construction is not approved, the Contractor shall make any changes required by the Owner and Engineer to obtain approval, and construct the remainder of the walls as approved.

#### **507.4 METHOD OF MEASUREMENT**

Rock Retaining Walls and Seat Walls will be measured by the square foot of front face surface area using the pay limits as shown on the Rock Retaining Wall Typical Section(s) in the plans.

Rock Edging will be measured by the linear foot of edging placed and excepted as measured along the length of the trail.

#### **507.5 BASIS OF PAYMENT**

The unit price of Rock Retaining Wall, Rock Seat Wall, Rock Headwall and Rock Edging shall be compensation for complete installation including but not limited to subgrade compaction, water, structure excavation and backfill, rock, grout, underdrain system, construction dewatering, delivery and installation.

Grout hot and cold weather operations shall be performed in accordance with Section 511 of the Standard Specifications. Hot and cold weather concreting will not be paid for separately, but shall be included in the work.

Dewatering for rock retaining walls shall not be paid for separately, but shall be included in the work.

Payment will be made under:

<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
Rock Retaining Wall	Square Foot
Rock Seat Wall	Square Foot
Rock Headwall	Each
Rock Edge	Linear Foot



## **SECTION 543 METAL RAILING**

Delete the entire Section 543 and substitute the following:

### **543.1 DESCRIPTION**

This Work consists of providing and placing metal railing.

### **543.2 MATERIALS**

#### **543.2.1 Steel Railings**

Provide plates, shapes, and bars tube steel in accordance with ASTM A588 (Self Weathering).

Provide square or rectangular tube steel in accordance with ASTM A847 (Self Weathering).

#### **543.2.2 Concrete**

Provide concrete with a 28-day compressive strength of 3000 psi minimum. Quikrete or other similar packaged, pre-blended concrete mixtures to be mixed at the site according to the manufacturer's directions may be used.

### **543.3 CONSTRUCTION REQUIREMENTS**

Fabricate, weld, and erect railing in accordance with Section 541, "Steel Structures."

Submit railing shop drawings and erection plans in accordance with Section 541.3.3, "Shop and Erection Drawings."

#### **543.3.1 Erection Tolerances**

For a Railings on a tangent, ensure the railing is visually straight. In general, ensure that the railing does not deviate more than 3/8 in within 20 horizontal feet. For a railings on a curve, do not deviate more than 13/16 in from the curve within 20 horizontal feet. Ensure the rail posts are plumb within 1/4 in over the full height.

### **543.4 METHOD OF MEASUREMENT**

The Department will measure in place metal railing from end to end.

### **543.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Unit</b>
Metal Railing	Foot
Metal Railing (Wall)	Foot

#### **541.5.1 Work Included in Payment**

The following work and items will be considered as included in the payment for the main items and will not be measured or paid for separately:

- A. Shop drawings
- B. Additional weight of heavier sections provided solely for the Contractor's convenience;
- C. All incidentals necessary for the completion of the work, including footing concrete.



## SECTION 570 PIPE CULVERTS

1. Subsection 570.2 MATERIALS: Delete the first paragraph and replace it with the following:

All pipe shall be Corrugated Metal Pipe in accordance with Section 570.2 of the Standard Specifications.

2. Subsection 570.4: Delete the last paragraph and replace it with the following:

Structure excavation, bedding material, and backfill will not be paid for separately but shall be included in the linear foot cost of the pipe.

Rock headwalls will be paid for separately according to section 507.

## SECTION 602 SLOPE AND EROSION PROTECTION STRUCTURES

Delete the entire Section 602 and substitute the following:

### 602.1 DESCRIPTION

This Work consists of providing and placing riprap on the Embankment slopes and the sides and bottoms of channels, drain outlets, ditches, and other such locations.

### 602.2 MATERIALS

#### 602.2.1 Rock

Riprap will be classified as shown below. Provide riprap with at least 80% of the stones meeting the specified size requirements. Use stones less than the minimum dimensions to fill voids.

Class	Description	Material	Min Dimension (In.)
H	Rock Swales:	Golden Buck	2 - 4
I	Non-Enclosed Riprap	Golden Buck	4 - 8

Golden Buck Stone as available at:

Albert Montano Sand & Gravel  
4519 Agua Fria Street  
Santa Fe, NM 87507  
505-989-7921  
or approved equal



**602.2.2 Base Course**

Provide Base Course shall be in accordance with Section 304 “Base Course”.

**602.2.3 Geotextile**

Provide geotextile (filter fabric) Class 1 as per section 604 “Soil and Drainage Geotextiles”

**602.3 CONSTRUCTION REQUIREMENTS****602.3.1 General Placement Requirements**

Place riprap stones forming a continuous blanket in accordance with the Contract. Place stones with the long axis parallel to the toe of the slope, with a stable bearing upon the underlying soil or stones.

Place large stones as close together as possible. Use smaller stones to fill the areas between the larger stones.

Ensure that the finished riprap surface varies no more than 3 in from the specified slope unless others-wise shown.

Unless otherwise specified, place the riprap foundation course in a trench excavated to 24 in below the toe of the slope of the Embankment or side of channel.

Place a layer of Class 1 geotextile filter fabric between the riprap and the backfill Material.

**602.3.2 Placement of Geotextile**

Place Class 1 non-woven geotextile (filter fabric) between the riprap or revetment mattresses and the supporting soil. Ensure that the fabric is in accordance with Section 604, “Soil and Drainage Geotextiles.”

**602.4 METHOD OF MEASUREMENT**

The Department will measure *Riprap Class H* based on the specified thickness and accepted surface area.

**602.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Pay Unit</b>
Riprap Class H	Square Yard
Riprap Class H (As Directed)	Square Yard
Riprap Class I	Cubic Yard
Riprap Class I (As Directed)	Cubic Yard

**602.5.1 Work Included in Payment**

The following work and items will be considered as included in the payment for the main item(s) and will not be measured or paid for separately:

- Dewatering;
- Drainage geotextile(s).
- Base Course Material.

Excavation for placement of riprap is included in the plan quantities for Unclassified Excavation except as stated below.



Riprap (Class) (As Directed) shall include all materials and workmanship to place additional riprap not shown in the plans, but specifically directed by the owner or their assigned representative during construction. This item is intended to allow the owner to identify, during construction, additional specific areas to receive slope protection treatments. This item includes removal of the site materials and placement of imported riprap material according to these specifications. Payment will be made based on the actual quantity of additional riprap placed and accepted, as specifically directed by the owner or their assigned representative during construction.

## **SECTION 607 FENCE**

Delete the entire Section 607 and substitute the following:

### **607.1 DESCRIPTION**

This Work consists of constructing fence and gates.

### **607.2 MATERIALS**

#### **607.2.1 Wire**

Provide wire and wire components with at least a Class 1 zinc coating in accordance with ASTM A 121 or ASTM A 116, unless otherwise specified in the Contract. Instead of Class 1 coating, the Contractor may coat the wire with aluminum alloy covering at least 0.3 oz per square foot of wire surface.

Provide coated brace wire with a size of at least 12 ½ gauge; use for constructing line wire, end braces and intermediate braces with wood posts.

#### **607.2.2 Post Fasteners**

Provide coated staples with a diameter of at least 0.148 in and a length of at least 1 1/2 in; use for fastening fence wire to wood posts.

#### **607.2.3 Spikes**

Provide 60D galvanized common nails, use for fastening Fencing (Type 3).

#### **607.2.4 Posts**

Provide metal or wood corner, brace, intermediate brace gate, and line posts of the specified type, size, and length in accordance with the Contract.

#### **607.2.5 Wood Posts**

Provide wood posts cut from live cedar. Provide straight posts that are free of decay and other defects, trimmed smooth of knots and projections, and with both ends sawed off perpendicular to the centerline. Provide an average nominal diameter at the top of each post of at least 3 in. Ensure the diameter of corner, brace, intermediate brace, and gate posts is at least 6 in, measured 6 in below the top of the post.

The Contractor may provide line posts with a slight crook in one direction, but the post may not vary more than 1 1/2 in from a straight line connecting both ends of the post.



**607.2.6 Gates**

Contractor shall provide tubular steel or steel panel frame gates.

Galvanize gates in accordance with Section 607.2.2.2.1, "Metal Posts," or coat in accordance with Section 545, "Protective Coating of Miscellaneous Structural Steel." Use "Interstate Green" as the finished color coating, except for galvanized gates and unless otherwise specified in the Contract.

**607.2.7 Fittings**

Provide fittings, hardware, and appurtenances for fences and gates that are of commercial-quality steel, malleable iron, or wrought iron, and galvanized in accordance with ASTM A 153.

**607.2.8 Concrete**

Provide concrete with a 28-day compressive strength of 3000 psi minimum. Quikcrete or other similar packaged, pre-blended concrete mixtures to be mixed at the site according to the manufacturer's directions may be used.

**607.3 CONSTRUCTION REQUIREMENTS****607.3.1 General**

Clear the fence lines of trees, bush, stumps, logs, weeds, existing fences, and other obstructions that may interfere with fence construction, unless the Project Manager requires certain trees to remain in place. Dispose of removed material in accordance with Section 201, "Clearing and Grubbing."

The Contractor is to embed gate posts in concrete and shall install temporary guys or bracing to hold the posts in position until the concrete sets. Unless otherwise specified, do not install Materials on posts and do not strain posts, braces, or anchors set in concrete until 7 Days after concrete placement, or until the concrete has reached a compressive strength of 2,500 psi, whichever occurs first. Crown the concrete at the top of the foundation to shed water.

Only cut the tops of posts as approved by the Project Manager. Repair of Damaged Coating on Pull Cables and Tension Wires.

Firmly attach wire and fencing to the posts and braces. Tightly stretch wire and install it at the required elevations. Place fence wire on the field side of the posts, except on the inside of curves.

At each location where an electric transmission, distribution, or secondary line crosses new fence, provide and install a ground connection in accordance with the NEC®. Build new fences adjacent to existing fence before removing existing fences. When removing and rebuilding fences, maintain the security of livestock and protect adjacent properties and the traveling public. Remove the existing fence or unused Materials and neatly roll it up in single strand rolls. Remove the fence posts without damaging them and place the posts with the rolls of wire within the Right of Way for property owners to salvage, unless otherwise directed by the Project Manager. If the property owners do not pick the fence up within the allotted time, dispose of the fence as directed by the Project Manager.

**607.3.2 Wire Fence**

Set posts plumb and in accordance with the Plans. The Contractor may drive metal line posts. Excavate for footings and anchors in accordance with the Plans or as directed by the Project Manager. Place post hole backfill in thin layers and compact each layer.



**607.3.2.1 Fence Tensioning**

Stretch fence wire with a mechanical stretcher or other similar device. Do not allow the length between pull posts to exceed 300 ft.

**607.3.2.2 Braces and Corner Posts**

Place intermediate braces at equal intervals of not more than 300 ft or less and at every fence grade-change, such as edges of arroyos, bottoms and tops of hills, and as directed by the Project Manager. Maintain the required distance between the bottom wire and the ground. Space intermediate braces evenly between end braces and gateposts. Place end post and brace at end of fence segments. Stretch the wires and firmly attach them to the corner posts.

**607.3.3 Gates**

Fabricate and construct gates in accordance with the Contract.

**607.4 METHOD OF MEASUREMENT**

The Department will measure fences and gates along the top from outside to outside of end posts for each continuous run of fence or gate.

**607.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Pay Unit</b>
Wire Fence	Linear Foot
Buck and Pole Fence	Linear Foot
Buck and Pole Fence (As Directed)	Linear Foot
Vehicular Gate	Each

**607.5.1 Work Included in Payment**

The following work and items will be considered as included in the payment for the main item(s) and will not be measured or paid for separately: clearing and grubbing, grading, excavation, backfill, disposal of surplus material, concrete, fasteners, galvanizing, coating repairs and all additional bracing required for grade changes.

Buck and Pole Fence (As Directed) shall include all materials and workmanship to place additional buck and pole fence not shown in the plans, but specifically directed by the owner or their assigned representative during construction. This item is intended to allow the owner to identify, during construction, additional fence locations. Payment will be made based on the actual quantity of additional fence placed and accepted, as specifically directed by the owner or their assigned representative during construction.



## SECTION 623 DROP INLETS

### 623.1 DESCRIPTION

This Work consists of providing and installing drop inlets.

### 623.2 MATERIALS

Provide Class A concrete in accordance with Section 510, "Portland Cement Concrete."

Provide reinforcing steel in accordance with Section 540, "Steel Reinforcement."

Provide Neenah R-3359 concave gutter inlet grate and frame produced by Neenah Foundry, or approved equal.

Provide coatings for Structural Steel in accordance with Section 545, "Protective Coating of Miscellaneous Structural Steel."

Provide precast units in accordance with Section 517, "Precast Concrete Structures."

### 623.3 PROVIDE DEWATERING CONSTRUCTION REQUIREMENTS

Construct drop inlets in accordance with Section 511, "Concrete Structures;" Section 540,

"Steel Reinforcement;" and Section 541, "Steel Structures."

Precast the drop inlets or cast in place.

#### 623.3.1 Foundation Requirements

Compact the foundations of drop inlets and junction boxes to at least 100% of maximum density in accordance with Section 207, "Subgrade Preparation."

Replace unstable material with structurally adequate Material before constructing new foundations.

#### 623.3.2 Backfilling

Backfill in accordance with Section 206, "Excavation and Backfill for Culverts and Minor Structures."

### 623.4 METHOD OF MEASUREMENT—Vacant

### 623.5 BASIS OF PAYMENT

#### Pay Item

*Drop Inlet, (Special)*

#### Pay Unit

Each

#### 623.5.1 Work Included in Payment

The following work and items will be considered as included in the payment for the main items and will not be measured or paid for separately:

- A. Subgrade preparation;
- B. Compaction;
- C. Replacement of unsuitable foundation material;
- D. Excavation and backfilling for drop inlets;
- E. Coating of structural steel;
- F. Reinforcing steel, concrete, and structural steel including grates and frames
- G. Removal of the top 6 in on extensions;



H. Gravel for drain pocket and hardware cloth for the weep holes.

## **SECTION 632 SEEDING**

Replace this section with the following technical specification for Native Grass Seeding.

### **NATIVE GRASS SEEDING**

#### **PART 1 - GENERAL**

##### **1.01 SCOPE**

- A. Furnish all labor, materials, and equipment necessary for preparation of seedbed, installation of seed, hydro-mulching and tackifying, and related work specified herein.

##### **1.02 APPLICABLE STANDARDS**

- A. All native grass seed shall be certified by state of origin. The certification authority for the state of New Mexico is the New Mexico Crop Improvement Association.

##### **1.03 QUALIFICATIONS**

- A. All work specified herein shall be performed by a licensed landscape contractor experienced with the type and scale of work required, which includes hydro-mulching, and having equipment and personnel adequate to perform the work satisfactorily.
- B. Contractors may submit alternate but equal seeding specifications to the client and Landscape Architect for written approval for use in substitution of these specifications.

##### **1.04 COORDINATION**

- A. Determine the acceptability of subgrade preparation prior to the start of native grass seeding operations. Protect all existing items to remain and new work of other trades to ensure proper timing of each phase of work.

##### **1.05 SUBMITTALS**

- A. Proposed source of all native grass and shrub seed which shall indicate the location from which the seed was harvested.
- B. Sources of supply for hydromulch, tackifier and fertilizer.
- C. Seed bag tags and weights per bag and copies of invoices identified by project name.



## 1.06 MAINTENANCE AND GUARANTEE

- A. The work included in this section is intended to cover performance only during construction period with no guarantee or maintenance after project is completed.

## PART 2 - MATERIALS

### 2.01 SEED

- A. The seed mix shall be a mixture of the Dryland Blend (30 lbs per acre) and the High Plains Mix (3 lbs per acre), available from Plants of the Southwest ([www.plantsofthesouthwest.com](http://www.plantsofthesouthwest.com)) or approved equals. The seed mixtures shall be blended at the nursery.
- B. Contractor shall furnish certification showing origin of all seed and pure live seed (P.L.S.) content as determined by a certified authority. Pure live seed shall be the product of percent purity times percent germination. Each bag of seed shall be tagged and sealed by the seed dealer in accordance with the State Department of Agriculture or other local certification authority within the state of origin. The tag or label shall indicate analysis of seed and date of analysis, which shall not be more than 9 months prior to delivery date. Seed may be premixed by the seed dealer and appropriate data indicated on the bag label for each variety.
- C. The seed mix shall be as noted on the plans.

### 2.02 MULCH AND TACKIFIER

- A. The mulch shall include a colloidal polysaccharide or grain starch tackifier. This tackifier shall be adhered to the fibers, during manufacturing, to prevent separation during shipment and to avoid chemical agglomeration during mixing in the hydraulic mulching equipment. The tackifier shall be homogeneous within the unit package. It shall have no growth or germination inhibiting factors and be nontoxic.
- B. The mulch material shall consist of virgin wood fibers manufactured expressly from whole wood chips. The chips shall be processed in such a manner as to contain no growth or germination inhibiting factors. Fiber shall not be produced from recycled material such as sawdust, paper, cardboard, or residue from pulp and paper plants.
- C. The wood cellulose fibers of the mulch must maintain uniform suspension in water under agitation. Upon application, the mulch material shall form a blotter-like mat covering the ground. This mat shall have the characteristics of moisture absorption, percolation and shall cover and hold grass seed in contact with the soil.
- D. The wood fiber mulch shall conform to the following specifications:
  - Percent moisture content: 10.0% +/- 3.0%
  - Percent organic matter: 96.2% +/- .8% O.D. Basis
  - Percent tackifier: 3.0% +/- 0.5% O.D. Basis



- Percent ash content: 0.8% +/- 0.2% O.D. Basis
- pH: 4.8% +/- 0.5%
- Water holding capacity (minimum) 1,000 grams water/100 grams fiber.

E. The rate of application of the mulch/tackifier on this project shall be 4,000 lbs. per acre.

## 2.03 SOIL RETENTION BLANKET

- A. Slopes steeper than 3:1 shall be covered with soil retention blanket according to Section 603.2.3.2 as shown in the plans.

## 2.04 FERTILIZER

- A. Shall be as noted on the Drawings, or Gro Power Plus ([www.gropower.com](http://www.gropower.com)) applied as per manufacturer's recommendation if not noted on plans.

# PART 3 - EXECUTION

## 3.01 SOIL PREPARATION

- A. Areas for seeding shall be cleared of all debris. Acceptability of the grades shall be determined by the contractor prior to seed bed preparation.
- B. The seed bed shall be prepared to a maximum depth of 4 inches by tilling with a rotovator or disc. All competitive vegetation, with the exception of existing shrub material (including Chamisa, 4-Wing Salt Bush, and others) shall be uprooted during seed bed preparation and the soil shall be uniformly worked to a smooth surface free of clods, large stones of over 3 inches in any dimension, or other foreign material that would interfere with the seeding operations.
- C. Tilling will not be required on ground which in the opinion of the Landscape Architect is already loose to a depth of 2 inches or more which has undergone re-grading and fill. All newly cut slopes will require tilling.
- D. Tilling must be performed across the slope when practical and shall be performed in two directions whenever one is insufficient to adequately break up the soil in the Project Manager's opinion. Tilling shall not occur when the wind is over 10 mph and is causing a dust problem to adjoining areas.
- E. Leave surface roughed state. Do not rake smooth
- F. The extent of seed bed preparation shall not exceed the area on which the entire seeding operation can be accomplished within a 24 hour period.



### 3.02 SEEDING

- A. Seed shall be applied by hand, rotary seed spreader, or hydro seeding without mulch.
- B. If by hand: spread seed by mixing with small amounts of
  - 1. Sand or clean soil for even distribution
  - 2. Spread evenly at rate per acre. Cross entire area in two directions perpendicular each other.
- C. If by rotary seed spreader:
  - 1. Spread seed using spreader. Cross over in two directions perpendicular to each other.
- D. If by hydroseed:
  - 1. Spray using lowest pressure practical
  - 2. Spray area in two directions approximately perpendicular to each other.

### 3.03 RAKING - CHAINING

- A. Lightly rake over small areas to cover spread seed approximately ½"
- B. Chain over large areas to cover seed approximately ½"

### 3.04 FERTILIZATION

- A. Fertilizer of the type and formulation and rate of application as designated shall be applied uniformly to the prepared seed bed.

### 3.05 MAINTENANCE

- A. Contractor shall keep all native grass areas free of weeds until acceptance by the Project Manager.

### 3.06 CLEANUP AND PROTECTION

- A. During the work, keep trail clear and work areas in orderly condition.
- B. Protect work and materials from damage due to seeding operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged work as directed.

### 3.07 INSPECTION AND ACCEPTANCE

- A. When work is completed including maintenance, Project Manager upon request, will make an inspection to determine acceptability.



- B. Where inspected seeding work does not comply with requirements, replace rejected work and continue specified maintenance until re-inspected by Architect and found to be acceptable.
- C. Final acceptance shall be granted when the seeding area is at least 70% covered with living vegetation.
- D. Seeding areas that have not germinated after season shall have seed and mulch reapplied at no additional cost to the project.

## **SECTION 701**

### **TRAFFIC SIGNS AND SIGN STRUCTURES**

#### **701.1 DESCRIPTION**

This Work consists of providing and installing trail signs in accordance with the *MUTCD*.

#### **701.2 MATERIALS**

##### **701.2.1 General**

Provide Materials manufactured in accordance with the requirements of ASTM D 4956, current version.

##### **701.2.2 Sign Components**

##### **701.2.2.1 Retroreflective Sheeting**

Use retroreflective sheeting included in the Department's *Approved Products List*. Provide certification that sheeting is in accordance with ASTM D 4956, current version. Provide sheeting that has a smooth, flat exterior film with retroreflective elements homogeneous in appearance, weather resistant, and with a protected, pre-coated adhesive backing.

##### **701.2.2.2 Color**

Use a sign face color in accordance with ASTM D 4956, current version.

##### **701.2.2.3 Aluminum Panel Signs**

Use 0.08 in minimum thickness 6061-T6 or 5052-H38 aluminum alloy for signs 24 in wide or less. Use 1/8 in minimum thickness 6061-T6 or 5052-H38 aluminum alloy for signs wider than 24 in.

Provide aluminum panel signs with smooth edges and corners.

##### **701.2.2.4 Corners**

Cut corner radii in accordance with the FHWA Standard Highway Signs manual.

##### **701.2.2.5 Aluminum Sign Substrate**

Prepare aluminum sign substrate for retroreflective sheeting as specified by the sheeting material manufacturer. Apply sheeting, legend, and clear coat in accordance with the manufacturer's recommendations. Keep a copy of the manufacturer's recommendations on file as specified in Section 701.2.1.1, "Sign Manufacturer's Quality Control." Punch or drill a hole in the aluminum sign panel to receive tamper proof hardware.



**701.2.3.1 Posts**

Provide 4 x 4 pressure treated wood posts with beveled tops.

**701.2.3.2 Post Assembly Hardware**

Use post assembly hardware that is:

1. Hot dipped galvanized or cadmium plated in accordance with ASTM B766-86;
2. Stainless steel; or
3. Mechanically galvanized in accordance with ASTM B545 (Class Fe/Sn 20).

**701.2.3.4 Fasteners**

Use size M8 tamper-proof carriage bolts to attach signs that are:

1. Hot dipped galvanized, or cadmium plated in accordance with ASTM B766-86;
2. Stainless steel; or
3. Mechanically galvanized in accordance with ASTM B 545 (Class Fe/Sn 20).

The Contractor may use rivets to attach signs. Follow manufacturer's recommendations for installation procedures.

Use size M8 tamper-proof nuts fabricated from C 1008 hot rolled steel, case hardened to R55-60, and plated with zinc yellow dichromate, from 0.002 in to 0.005 in thick.

**701.2.4 General Fabrication Requirements**

Ensure arrangement, letter spacing and height, letter series, symbols, and borders for each sign face are in accordance with the *FHWA Standard Highway Signs* manual.

Shear, blank, saw, or mill Material 1/2 in thick or less. Ensure that cut edges are true, smooth, and free from excessive burrs or ragged breaks. Fillet re-entrant cuts by drilling before cutting. Flame cutting is prohibited. Drill bolt holes to finish sizes.

**701.3.1 General****701.3.2 Installation Requirements**

Compact sign Structure footing foundations and backfill to 95% of maximum density as determined by AASHTO T 99.

Set posts plumb. Ensure that the mounting faces of multiple sign posts lie in the same plane.

**701.3.3 Mileposts Installation**

Notify the Project Manager two weeks before placing mileposts; the project manager will mark the milepost locations.

**701.4 METHOD OF MEASUREMENT - Vacant****701.5 BASIS OF PAYMENT**

<b>Pay Item</b>	<b>Pay Unit</b>
Panels Signs	Square Foot
Timber Posts	Linear Foot
Mile Marker Signs	Each



**701.5.1 Work Included in Payment**

The following work and items will be considered as included in the payment for the main items and will not be measured or paid for separately:

- A. Hardware;
- B. Excavation, backfill, and compaction for sign installation and/or removal;
- C. Mile Marker Signs will include both the sign panel and the post.

## **SECTION 901**

### **QUALITY CONTROL/QUALITY ASSURANCE**

Replace this section with the following technical specification.

**DEFINITIONS:**

**Direct Supervision.** The required supervision of a TTCP trainee by a certified TTCP technician who is on a project with the trainee and who is both signing off and is personally responsible for all of that trainee's sampling and testing procedures, results and reports.

**Qualified Sampling and Testing Technician.** A technician who has been certified under TTCP to independently perform inspections, sampling, and testing in specified Materials testing area(s) for either quality control or acceptance testing.

The term "qualified" and "certified" have the same meaning.

**TTCP Trainee.** A technician who has attended the appropriate TTCP training class and has a certificate of completion, and is receiving required "on-the-job-training" under the direct supervision of a TTCP certified technician, as such is eligible to take a particular TTCP certification exam.

**901.1 INSPECTIONS AND TESTING OF MATERIALS****901.1 General**

This work shall consist of compaction testing and material testing in accordance with the plans and specifications. This work is to be done by a commercial materials testing laboratory run by a licensed professional engineer. The testing lab will be a sub-contractor to the general contractor. A Testing Allowance has been set up in accordance with this contract to pay for the costs associated with performing the applicable agency testing requirements of the contract only. All other costs related to further testing requirements of the contract shall be considered as included in the unit bid price for the applicable item and no separate measurement or payment will be made therefore.

Materials are subject to inspection, sampling, and testing before acceptance of the work. References in the Contract to test methods or specifications are to the latest versions as of the Bid Advertisement date, unless otherwise noted. Test methods may be subject to modification at the discretion of the Owner. The Department's current *TTCP Manual* contains AASHTO and ASTM test method modifications.

**901.2 Technician Certification**

Ensure that testing is performed under the direct supervision of an individual certified by the State Materials Bureau's TTCP. Certification is based on demonstration of abilities for test



methods and procedures, and a written test. The TTCP Board of Directors, in conjunction with the State Materials Bureau and the State Construction Bureau, will establish term and expiration date of certification and requirements for renewal of certification. If the competence of a certified individual is questioned, the question of competence must be documented in accordance with the *TTCP Manual*.

## **901.2 Quality Control**

### **901.2.1 Quality Control Laboratory**

Perform the quality control testing using a private testing Laboratory or a Contractor provided Laboratory. Calibrate or check testing Equipment in accordance with AASHTO R 18. Maintain calibration documentation at the Laboratory and provide this to the Project Manager upon request. The Project Manager will determine acceptability of the quality control Laboratory. Allow the Department unrestricted access to the Laboratory. The Department will conduct independent inspection of the Contractor's field Laboratory. The Project Manager will provide the Contractor a written accounting of Laboratory deficiencies.

### **901.2.2 Sampling**

The sampling plan shall contain a random sampling selection technique in accordance with specified Department, AASHTO, or ASTM procedures, as modified by the State Materials Bureau. Allow the Project Manager to witness all sampling and testing. Take additional samples if directed by the Project Manager.

### **901.2.3 Testing**

Compaction and material testing will be done at the frequency required by the Specifications and by the Construction Engineer. Generally these frequencies will be outlined in the following paragraphs.

Embankment Material: Compaction tests will be required for each lift at approximately every 250 lineal feet and in accordance with Section 203.34.

Trail Subgrade and Surface Preparation: Compaction tests will be required at approximately every 250 lineal feet and in accordance with Section 207.3.

Base Course: Compaction tests will be required at approximately every 250 lineal feet and in accordance with Section 304.3.2. Material shall be tested in accordance with Section 304.3.6.1.

Wall Subgrade: Compaction tests will be required at approximately every 100 lineal feet and in accordance with Section 507.3

It will be the responsibility of the Contractor to schedule testing. The Owner shall be notified daily of the intended testing times.

### **901.2.4 Records**

Maintain a complete set of original test records (written in non-black ink), including supporting documents (calculations, scratch sheets, internal forms etc.) and, upon request, make them available to the Project Manager within 4 hours. No hard copy laboratory testing



documentation will be destroyed for any reason, even after the data is entered into the computer spreadsheet for analysis. Maintain all original test documentation for a minimum of three years after the Physical Completion Date.

### **901.3 METHOD OF MEASUREMENT—Vacant**

### **901.4 BASIS OF PAYMENT**

Construction Material Testing by the Contractor will be paid at the invoice amount billed to the Contractor by the Testing Laboratory, and submitted to and approved by the **Owner**.

Payments to the Contractor will be made only after the Owner has received all current test and analysis reports including moisture/density curves for each proctor for the invoicing period.



## APPENDIX D

### EASEMENT AGREEMENTS FOR THE SANTA FE RAIL TRAIL (1997, 2009)



## **FIRST AMENDMENT TO GRANT OF TRAIL EASEMENT**

This First Amendment to Grant of Trail Easement ("First Amendment") is made this \_\_\_\_\_ day of \_\_\_\_\_, 2009, by and between the NEW MEXICO DEPARTMENT OF TRANSPORTATION, an agency of the State of New Mexico ("Grantor"), and THE COUNTY OF SANTA FE, a County duly organized under the laws of the State of New Mexico ("Grantee").

### **RECITALS**

A. Santa Fe Southern Railway, Inc. and Grantee previously entered into that certain Grant of Trail Easement dated October 15, 1997 and recorded on October 15, 1997, Book 1418, Pages 732-786 (the "Trail Easement"), pertaining to a railroad right-of-way located in the County of Santa Fe, New Mexico.

B. Grantor is successor in interest to Santa Fe Southern Railway, Inc.

C. The parties desire to amend the Trail Easement as set forth below.

### **TERMS**

#### **THE PARTIES AGREE AS FOLLOWS:**

1. The original Trail Easement is amended to delete in its entirety the original Exhibit 2 to the Trail Easement and replace it with a new Exhibit 2, which is attached hereto. The general location of the Trail Easement is shown on the attached Exhibit 2, which is incorporated herein and made a part of this First Amendment.
2. It is agreed and understood by and between the parties hereto that the grant of the Trail Easement by the Grantor as to the Grantee is amended to add the following additional terms and conditions:
  - a. Grantee shall have the following rights, liabilities and obligations regarding the Trail Easement: to design, lay out, mark, develop, construct, maintain or relocate a trail ("Trail"); to make minor topographical changes to the Trail for the necessity and convenience of locating the Trail (to the extent the same do not alter the natural course and drainage of the water); and to manage vegetation through selective planting or removal of trees or exotic or nuisance plant species in order to maintain and enhance the scenic, natural and ecological value of the Trail corridor and the Trail Easement.
  - b. The Trail Easement shall be at least twenty (20') feet wide, and any Trail constructed within the Trail Easement shall be no more than ten feet (10') wide. The Trail's surface shall be unpaved, except by mutual consent of the Grantee and Grantor evidenced in an instrument in writing.



- c. The Grantee agrees to survey the exact location of the Trail Easement within sixty (60) days after completion of the Trail.
3. All other terms of the Trail Easement not modified or changed by this amendment are and hereby shall remain the same and in full force and effect between the parties.

**IN WITNESS** of the foregoing provisions the parties have executed this First Amendment below intending to be legally bound thereby.

GRANTOR:

STATE OF NEW MEXICO  
DEPARTMENT OF TRANSPORTATION

By: [Signature]  
Name: GARY E. J. GIRON  
Title: CABINET SEC. designate  
Date: 02/09/09

Approved as to Form:

[Signature]

Office of General Counsel

Date: 1/23/09

GRANTEE:

THE COUNTY OF SANTA FE

By: [Signature]  
Name: RONAN ASHTON  
Title: County Manager  
Date: 2/13/09

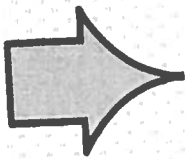
[Signature]

Approved as to Form:

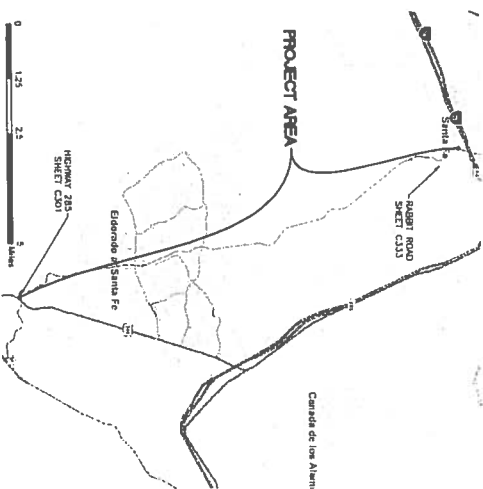
[Signature]

STEPHEN C. ROSS  
Santa Fe County Attorney

Date: 5 January 2009





[illegible][illegible][illegible]



GENERAL NOTES

GOVERNING SPECIFICATIONS

1) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CONDITIONS SET FORTH IN THE PROJECT'S 2007 SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION AND THE LOCALS THAT GOVERN THE CONSTRUCTION AND MAINTENANCE OF THE PROJECT.

WASTE DISPOSAL REQUIREMENTS

2) DIRT DISPOSED FOR REMOVAL WITHOUT SALVAGE, SUCH AS INSTALLED CONSTRUCTION MATERIALS AND DEBRIS FROM CLEANING AND GRABBING, ARE TO BE PLACED IN AN THE APPROPRIATE DESIGNATED AREA.

HAZARDOUS SPILLS REQUIREMENTS

3) DIRT DISPOSED FOR REMOVAL WITHOUT SALVAGE, INSTALLED CONSTRUCTION MATERIALS AND DEBRIS FROM CLEANING AND GRABBING, ARE TO BE PLACED IN AN ENVIRONMENTALLY APPROPRIATE DESIGNATED AREA. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER IN WRITING OF THE DETAILS OF DISPOSAL OPERATIONS, EXCESS MATERIAL, REPAIR MATERIAL, AND THE LOCATION OF DISPOSAL OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER OF ANY HAZARDOUS MATERIALS, SUCH AS FERTILIZERS, PESTICIDES, AND OTHERS, THAT MAY BE APPLIED DURING THE PROJECT. HAZARDOUS MATERIALS, SUCH AS FERTILIZERS, PESTICIDES, AND OTHERS, THAT MAY BE APPLIED DURING THE PROJECT SHALL BE IDENTIFIED BY THE CONTRACTOR BEFORE DISPOSAL AND THE LOCATION SHALL BE IDENTIFIED BY THE CONTRACTOR BEFORE DISPOSAL.

4) LAMPREY FISHES THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LAMPREY DURING THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF LAMPREY FISHES FROM THE PROJECT AREA.

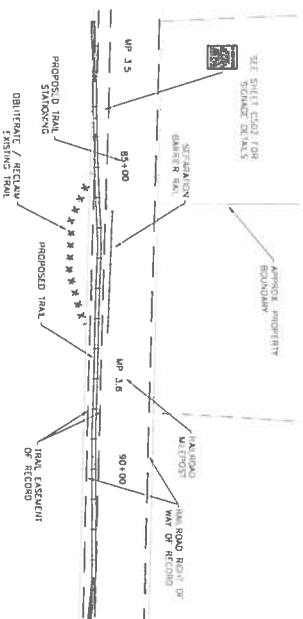
ENVIRONMENTAL COMPLIANCE

5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS ASSOCIATED WITH PROJECT CONSTRUCTION AND SHALL REPORT AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER.

GENERAL CONSTRUCTION

6) THE CONTRACTOR IS TO COORDINATE ALL WORK WITH THE COUNTY'S CONSTRUCTION PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING AND CLEANUP OF SPILLS OF OIL, FUEL, AND OTHER HAZARDOUS MATERIALS TO THE PROJECT MANAGER.

LEGEND



NOTES



REVISIONS

NO. KEY DATE DESCRIPTION

DESIGNED BY: PJO  
DRAWN BY: CP  
REVIEWED BY: GREGG  
DATE: 08/08/08

BENCH MARK

ZONE MAP NO.

SANTA FE  
RAIL TRAIL

PROJECT NO. 001-170  
SHEET 002 TOTAL 40



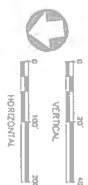


KEYED NOTES

## 2. FUTURE ACCESS CONTROL, BY OTHERS

## GENERAL NOTES

1. SEE SHEET C502 FOR SKINAGE DETAILS.



## TRAIL PLAN AND PROFILE



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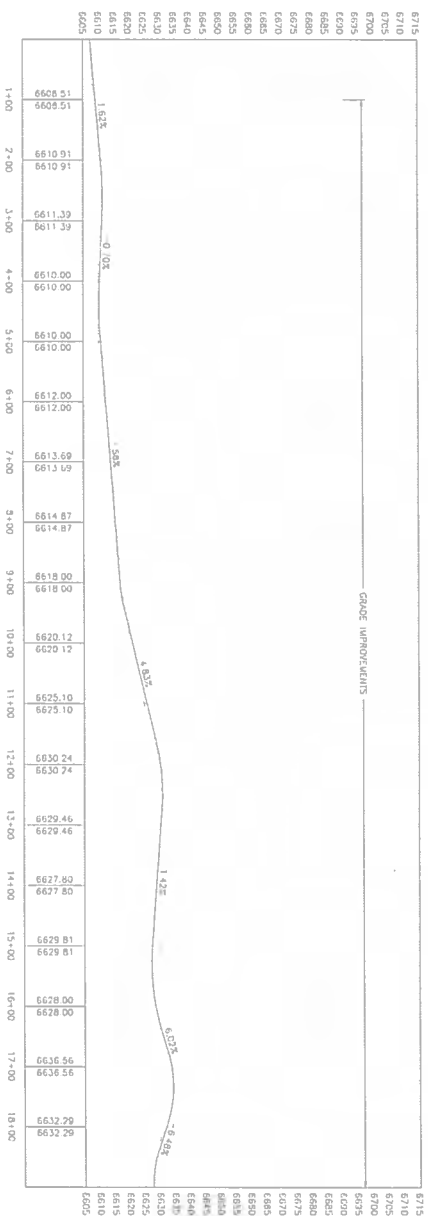
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BENCH MARK

ZONE MAP NO.

SANTA FE  
RAIL TRAIL

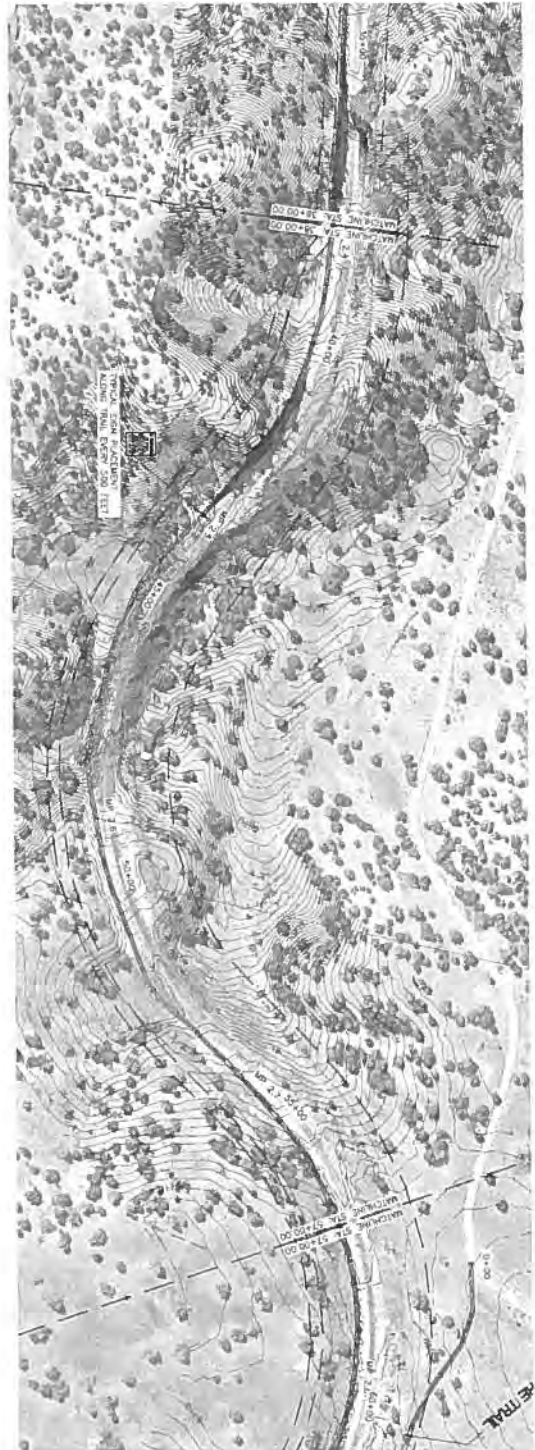
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SHEET	TOTAL
C301	40







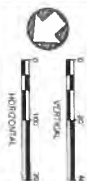




KEYED NOTES

GENERAL NOTES

# TRAIL PLAN AND PROFILE



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DRAWN BY: CJD  
CHECKED BY: MCK/SGR  
DATE: 08/03/00

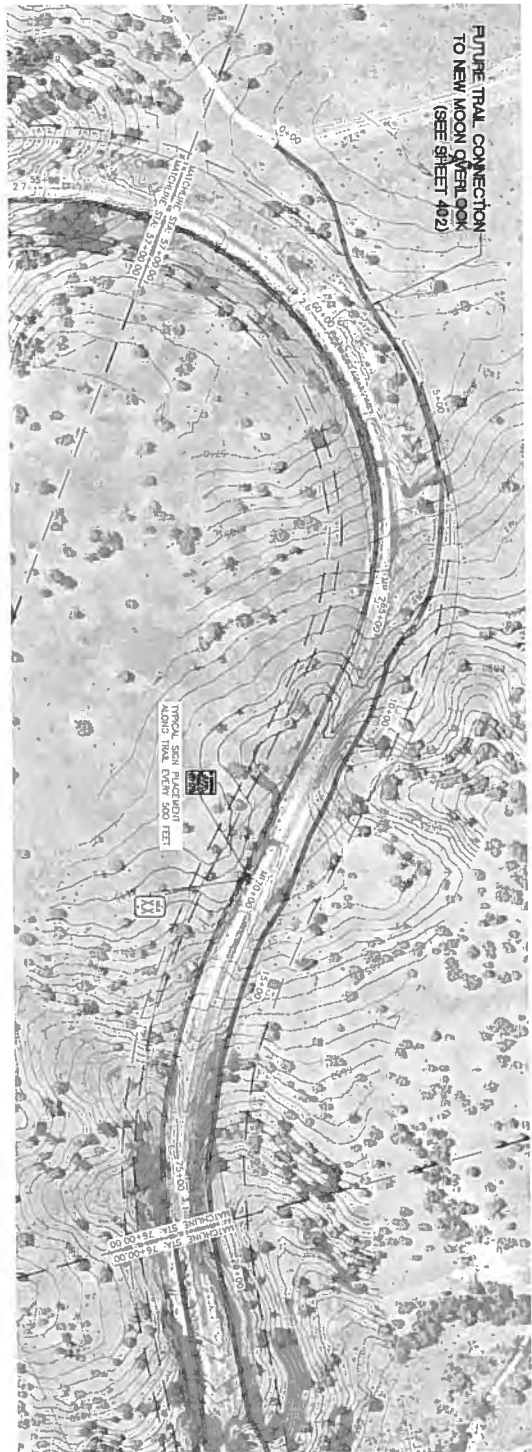
SIGNATURE

TRAIL MAP NO.

SANTA FE  
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PROJECT NO. 001-175  
SHEET 1001 1000 40

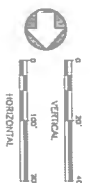




KEYED NOTES

GENERAL NOTES

### TRAIL PLAN AND PROFILE



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DESIGNED BY: RAO  
DRAWN BY: CP  
CHECKED BY: DSC/COB  
DATE: 12/12/06

BENCH MARK

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SANTA FE  
RAIL TRAIL

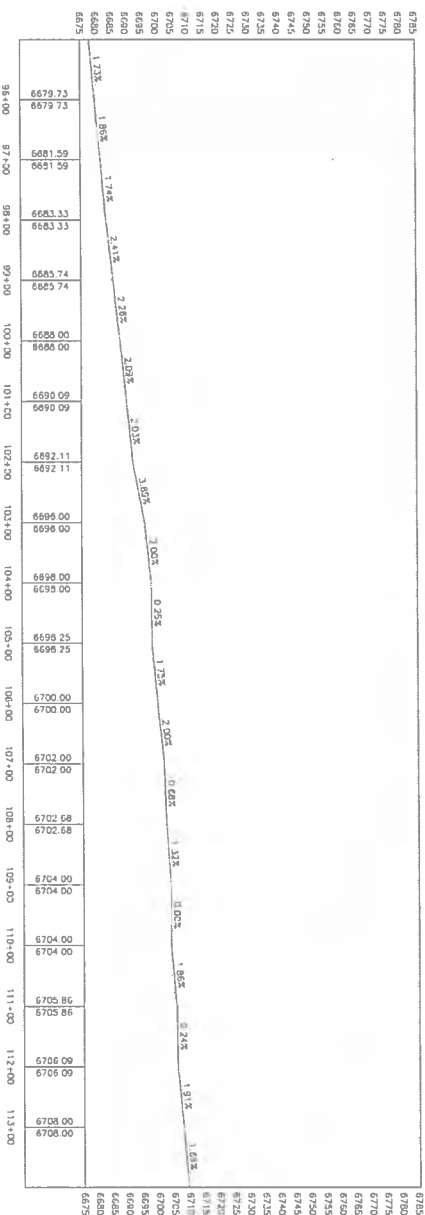
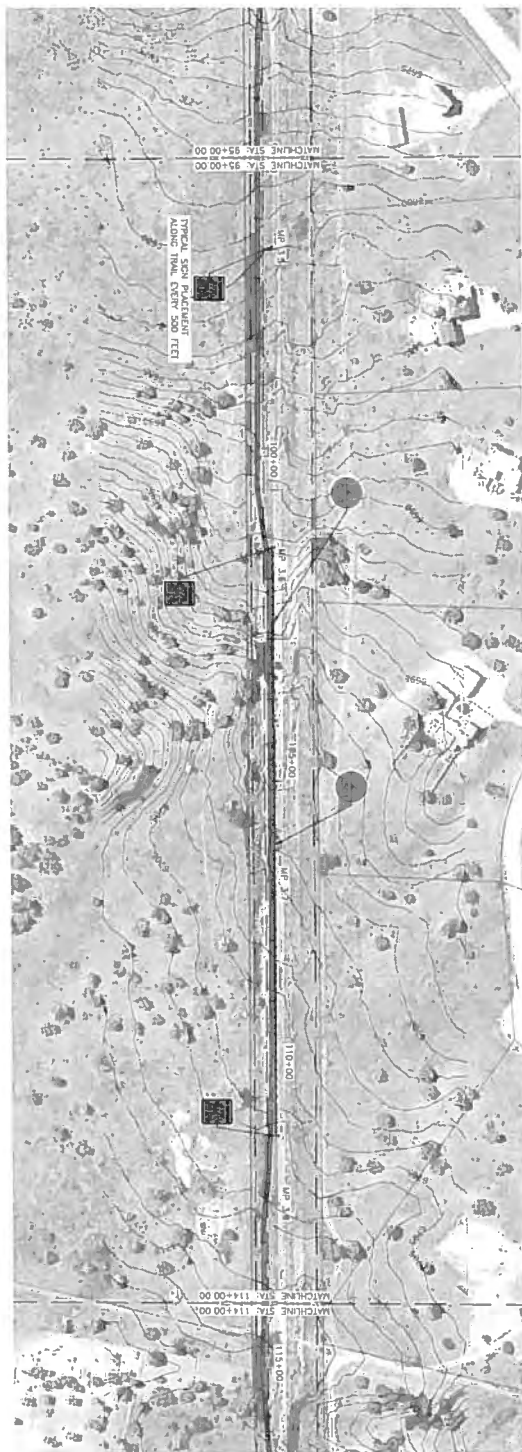
PROJECT NO. RT 03-175  
SHEET C304 TOTAL 40



SPUR RANCH ROAD

0.085  
N 23° 22' E  
2.322  
S 41° 42' E  
1.06  
N 10° 16' E  
2.542  
S 23° 42' E  
0.468  
N 46° 42' E  
0.095  
S 3° 50' E  
0.905  
N 1° 35' E  
1.725  
S 1° 25' E  
1.125  
S 2° 00' E  
4.005  
N 4° 00' E  
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S 0° 00' E  
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S 3° 27' E  
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S 2° 25' E  
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S 1° 57' E





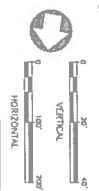
TRAIL PROFILE

KEYED NOTES

GENERAL NOTES

1 SEE SHEET C202 FOR SOUNDGE DETAILS

TRAIL PLAN AND PROFILE



REVISIONS  
NO. KEY DATE DESCRIPTION

DESIGNED BY: RND  
DRAWN BY: CP  
CHECKED BY: DRS/CJS  
DATE: 07/25/2013  
BENCH MARK

20' E. MAP NO.  
SANTA FE  
RAIL TRAIL  
PROJECT NO. RTD 05-112  
SHEET C206 TOTAL 40



A vertical scale bar with markings at 0 and 100'. To the right of the scale bar is a circular north arrow pointing upwards, with the letter 'N' inside.

Diagram showing a vertical beam with a 20' section and a horizontal beam with a 100' section.

↑ SEE SHEET CS02 FOR SIGNAGE DETAILS.

↑ SEE SHEET CS02 FOR SIGNAGE DETAILS.



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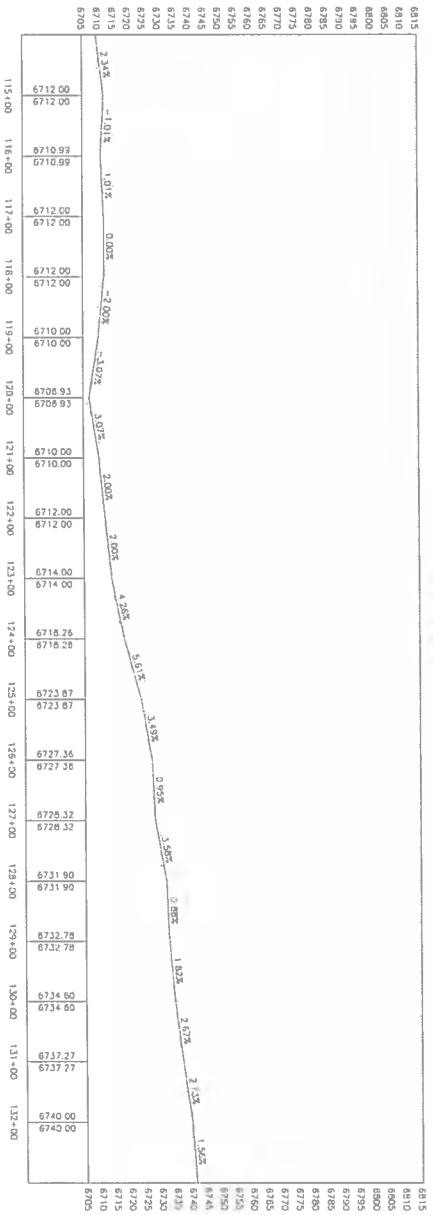
DESIGNED BY: RMJ  
DRAWN BY: CP  
REVIEWED BY: \_\_\_\_\_  
DATE: 09 DEC 90

BENCH MARK

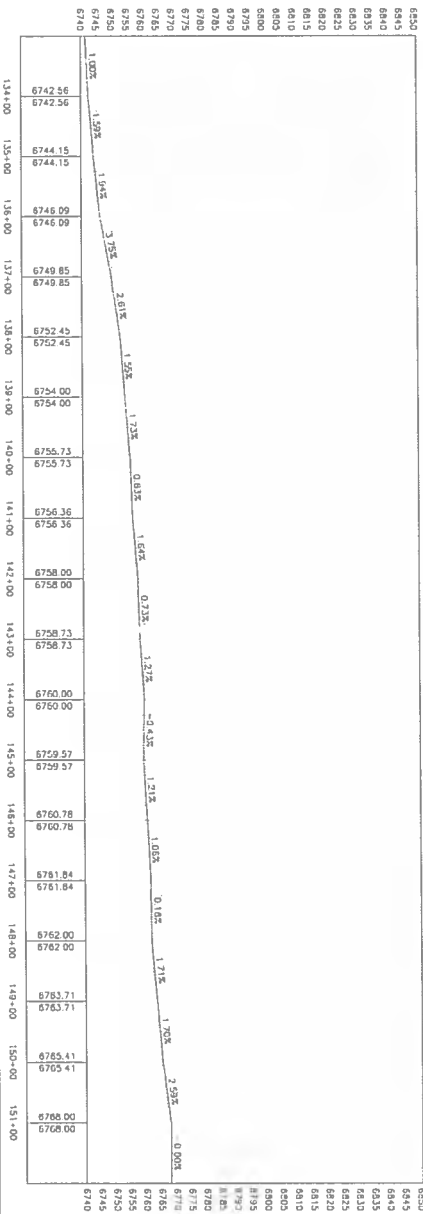
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SANTA FE  
RAIL TRAIL

PROJECT NO.	RII 05-170
SHEET	C307 TOTAL 40





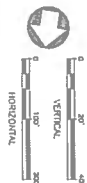


TRAIL PROFILE

KEYED NOTES

GENERAL NOTES  
1. SEE SHEET C502 FOR SOURCE DETAILS.

TRAIL PLAN AND PROFILE



REVISIONS

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DESIGNED BY: RUD  
DRAWN BY: CP  
CHECKED BY: JGK/COR  
DATE: 03/26/09

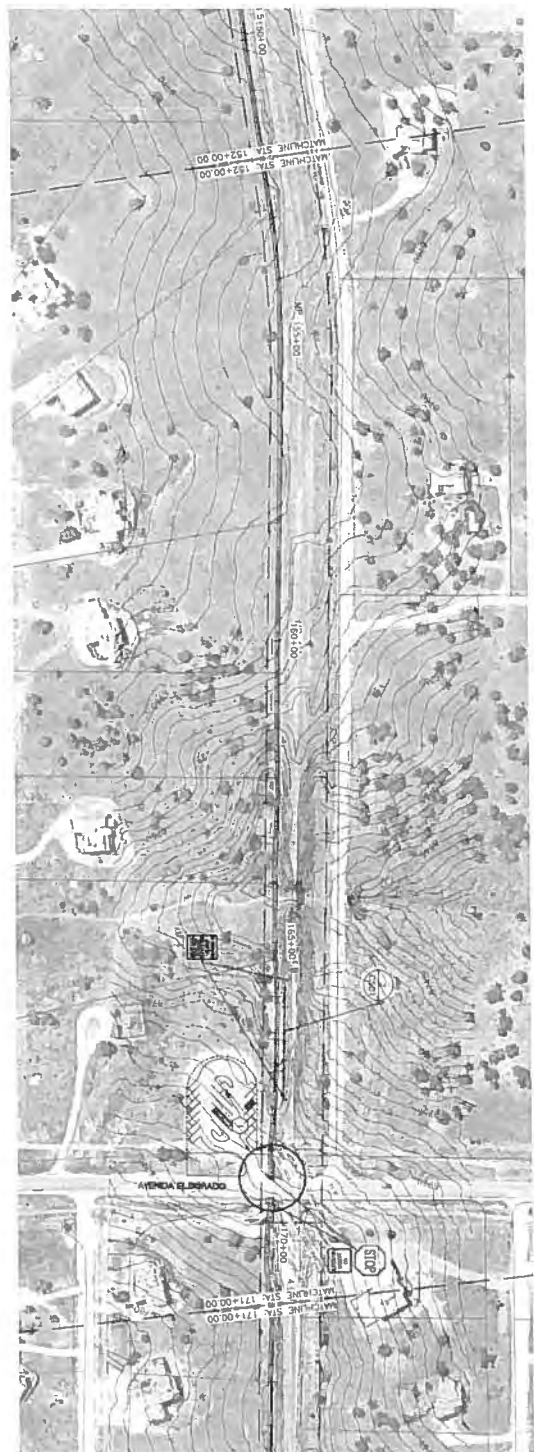
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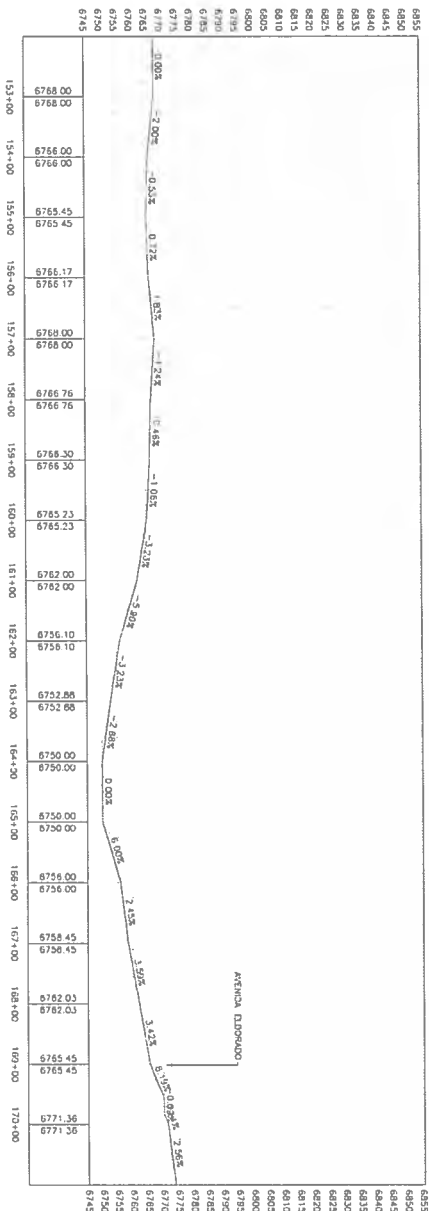
SANTA FE  
RAIL TRAIL

PROJECT NO. RT 03-170  
SHEET C508 TOTAL 40



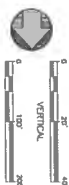


## TRAIL PROFILE



## GENERAL NOTES

SEE SHEET C502 FOR SCAFFOLD DETAILS



## TRAIL PLAN AND PROFILE



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DESIGNED BY RMH  
DRAWN BY CP  
REVIEWED BY \_\_\_\_\_  
DATE 09DEC03

BENCH MARK

ZONE MAP NO

SANTA FE  
RAIL TRAIL

PROJECT NO.	RTI 05-170
SHEET	TOTAL
C309	40







GENERAL NOTES



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99			
100			

RECUMENS

DESIGNED BY	TRAD
DRAWN BY	CP
REVIEWED BY	
DATE	09/06/09

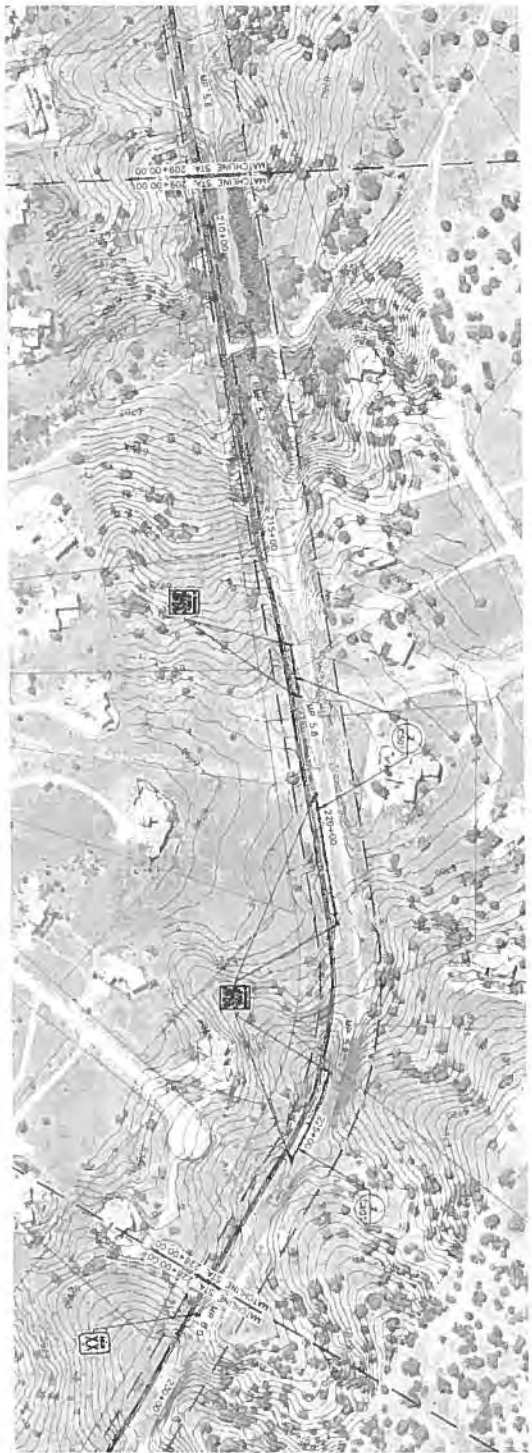
DEUTSCH

ON THE WAY

SANTA FE  
RAIL TRAIL

PROJECT NO.	HTI 05-579
SHEET	TOTAL NO





KEYED NOTES

GENERAL NOTES  
SEE SHEET 2009 FOR DAMAGE DETAILS

# TRAIL PLAN AND PROFILE



REVISIONS  
NO. KEY DATE DESCRIPTION

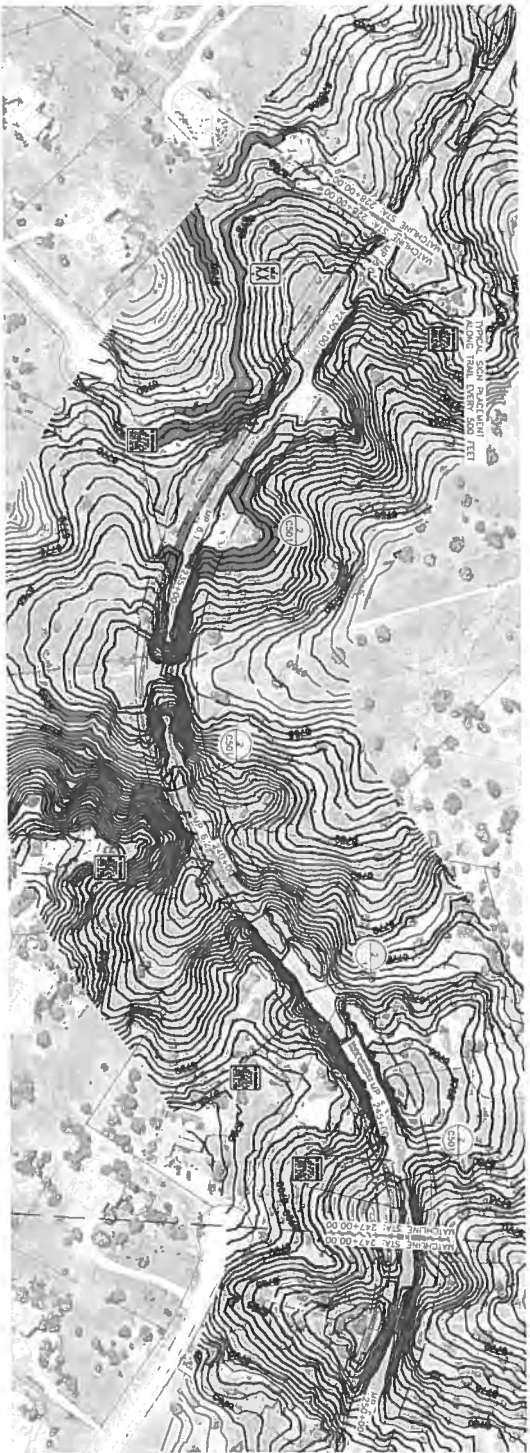
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: 12/2/2008

ESCH MARK

70% MAX. 40%  
SANTA FE  
RAIL TRAIL

PROJECT NO.: RTR 03-02  
SHEET 213 TOTAL 47

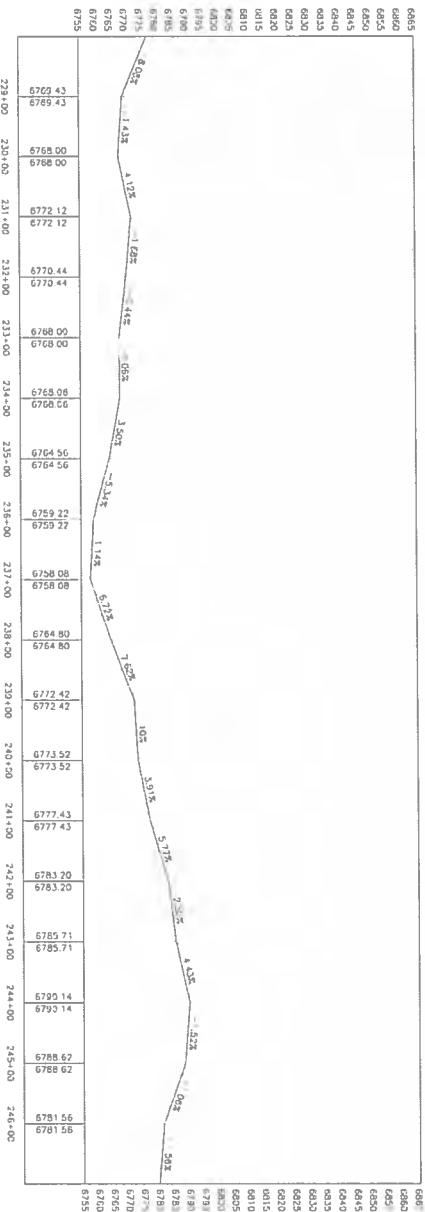




KEYED NOTES

GENERAL NOTES  
1 SEE SHEET CS02 FOR SQUARE DETAILS.

TRAIL PROFILE



TRAIL PLAN AND PROFILE



REVISIONS  
NO. REV. DATE DESCRIPTION

DESIGNED BY: RND  
DRAWN BY: SP  
CHECKED BY: JRE  
DATE: 09/26/2018

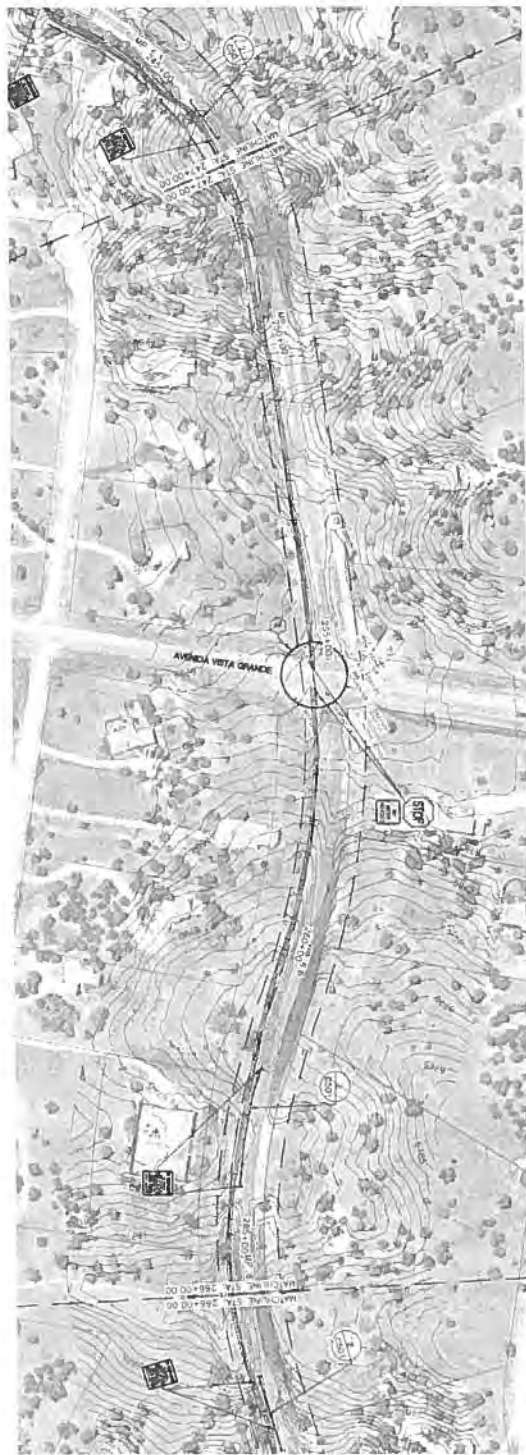
BENCH MARK

ZONE MAP NO.

SANTA FE  
RAIL TRAIL

PROJECT NO.: RM 04-175  
SHEET C313 TOTAL 40





KEYED NOTES  
2. FUTURE ACCESS CONTROL BY OTHERS

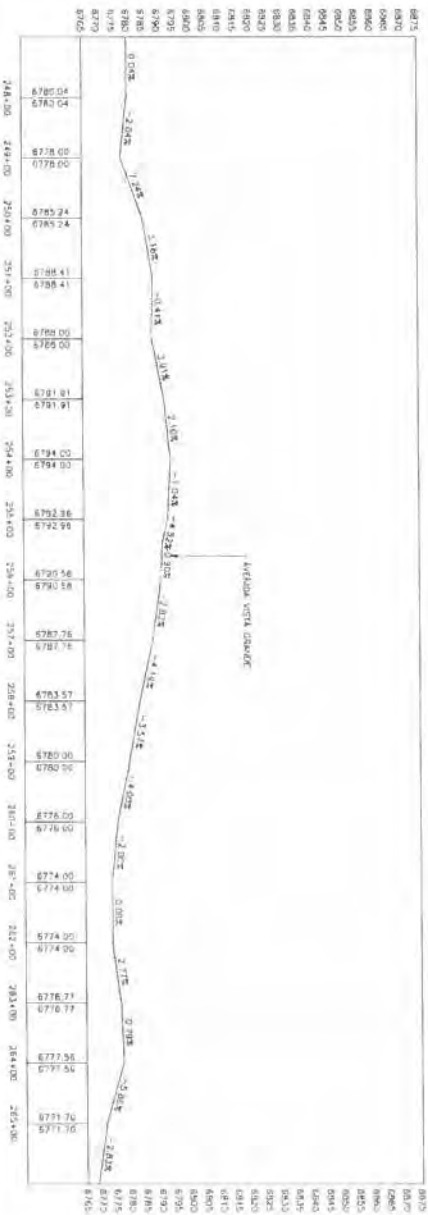
# TRAIL PLAN AND PROFILE



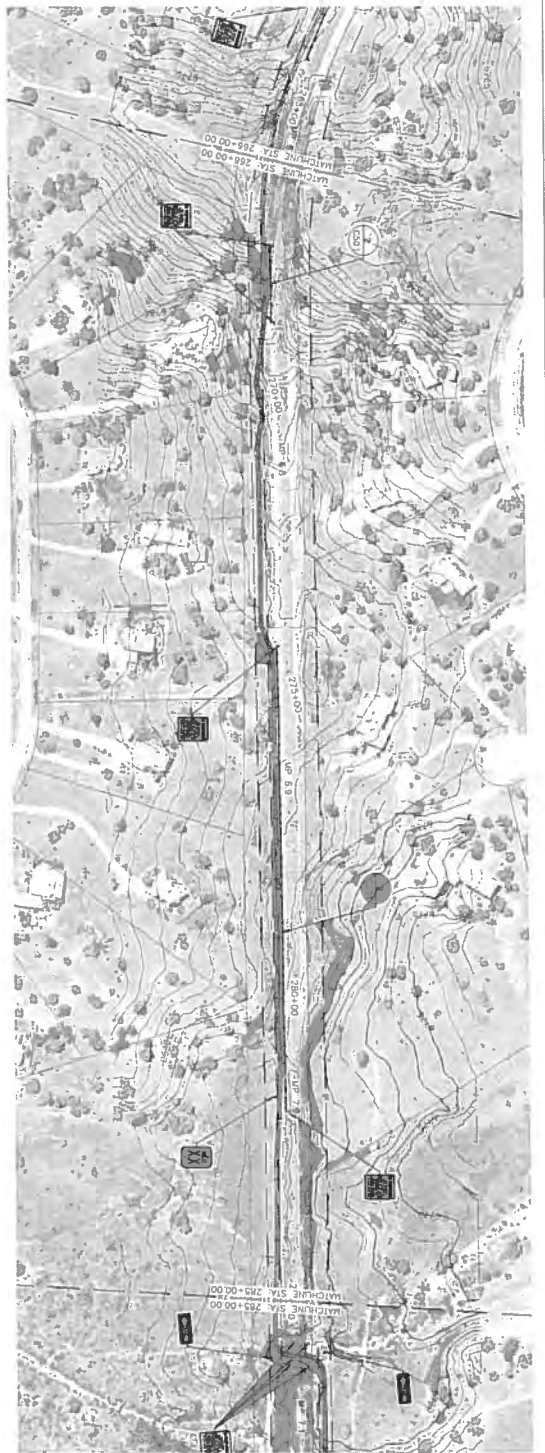
REVISIONS  
NO. KEY DATE DESCRIPTION

DESIGNED BY: BNC  
DRAWN BY: CS  
REVIEWED BY: JGZ/ECR  
DATE: 10/1/00  
SHEET: 1 OF 1  
PROJECT: 10000

## TRAIL PROFILE







## KEYED NOTES

## TRAIL PLAN AND PROFILE



GENERAL NOTES

REVISIONS	
NO. KEY	DATE, DESCRIPTION
1	10/1/78
2	10/1/78
3	10/1/78
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100	10/1/78

DESIGNED BY: RUC  
DRAWN BY: CP  
REVIEWED BY: \_\_\_\_\_  
DATE: 09DEC09

BENCH MARK

ZONE MAP NO

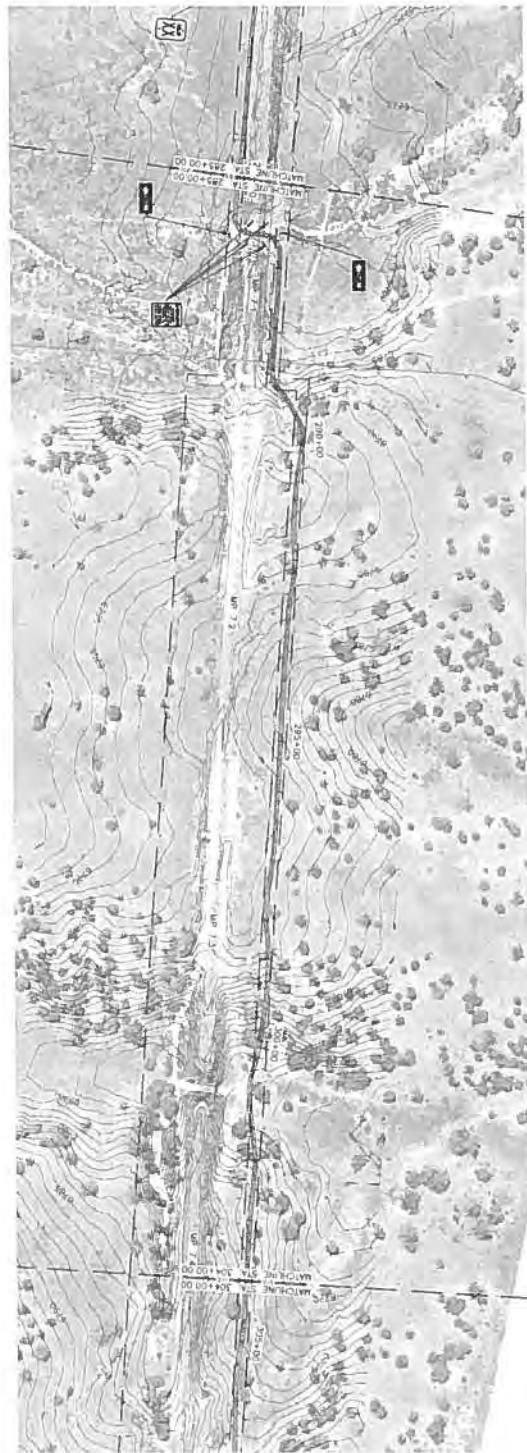
SANTA FE  
RAIL TRAIL

PROJECT NO.	RTM 05-170
SHEET	C315 TOTAL 40

6870	6871	6872	6873	6874	6875	6876	6877	6878	6879	6880	6881	6882	6883	6884	6885	6886	6887	6888	6889	6890	6891	6892	6893	6894	6895	6896	6897	6898	6899	6900	6901	6902	6903	6904	6905	6906	6907	6908	6909	6910	6911	6912	6913	6914	6915	6916	6917	6918	6919	6920	6921	6922	6923	6924	6925	6926	6927	6928	6929	6930	6931	6932	6933	6934	6935	6936	6937	6938	6939	6940	6941	6942	6943	6944	6945	6946	6947	6948	6949	6950	6951	6952	6953	6954	6955	6956	6957	6958	6959	6960	6961	6962	6963	6964	6965	6966	6967	6968	6969	6970	6971	6972	6973	6974	6975	6976	6977	6978	6979	6980	6981	6982	6983	6984	6985	6986	6987	6988	6989	6990	6991	6992	6993	6994	6995	6996	6997	6998	6999	7000
6970	6971	6972	6973	6974	6975	6976	6977	6978	6979	6980	6981	6982	6983	6984	6985	6986	6987	6988	6989	6990	6991	6992	6993	6994	6995	6996	6997	6998	6999	7000	7001	7002	7003	7004	7005	7006	7007	7008	7009	7010	7011	7012	7013	7014	7015	7016	7017	7018	7019	7020	7021	7022	7023	7024	7025	7026	7027	7028	7029	7030	7031	7032	7033	7034	7035	7036	7037	7038	7039	7040	7041	7042	7043	7044	7045	7046	7047	7048	7049	7050	7051	7052	7053	7054	7055	7056	7057	7058	7059	7060	7061	7062	7063	7064	7065	7066	7067	7068	7069	7070	7071	7072	7073	7074	7075	7076	7077	7078	7079	7080	7081	7082	7083	7084	7085	7086	7087	7088	7089	7090	7091	7092	7093	7094	7095	7096	7097	7098	7099	7100

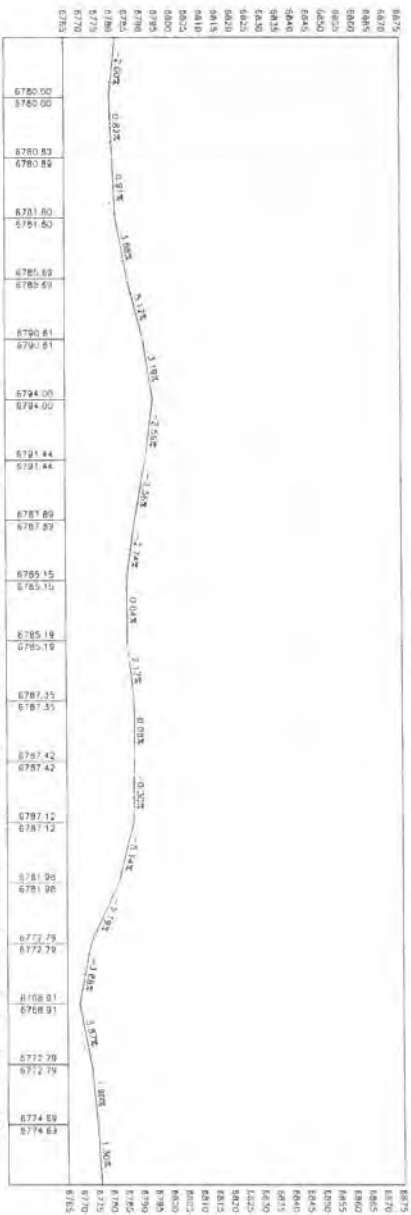
## TRAIL PROFILE





KEYED NOTES

GENERAL NOTES  
SEE SHEET C502 FOR SPOKE DETAILS



# TRAIL PLAN AND PROFILE

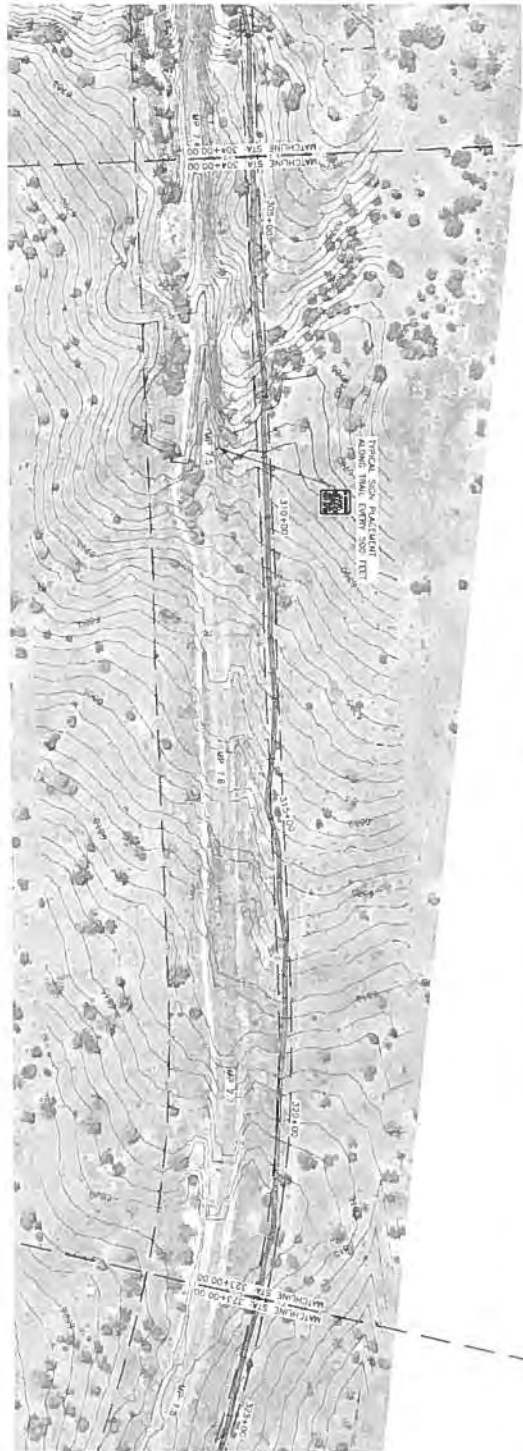


PROJECT  
NO. RY DFT. 2008 PCH

DESIGNED BY: BMD  
DRAWN BY: GP  
CHECKED BY: JWC/CRB  
DATE: 12/15/08  
SHEET: 1218 OF 1218

214C sub 10  
SAU'A FE  
RAIL TRAIL

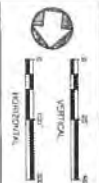




KEYED NOTES

GENERAL NOTES

# TRAIL PLAN AND PROFILE



REVISIONS  
NO. KEY DATE DESCRIPTION

DESIGNED BY: RMD  
DRAWN BY: DS  
REVIEWED BY: GSK/CSB  
DATE: 12/06/08

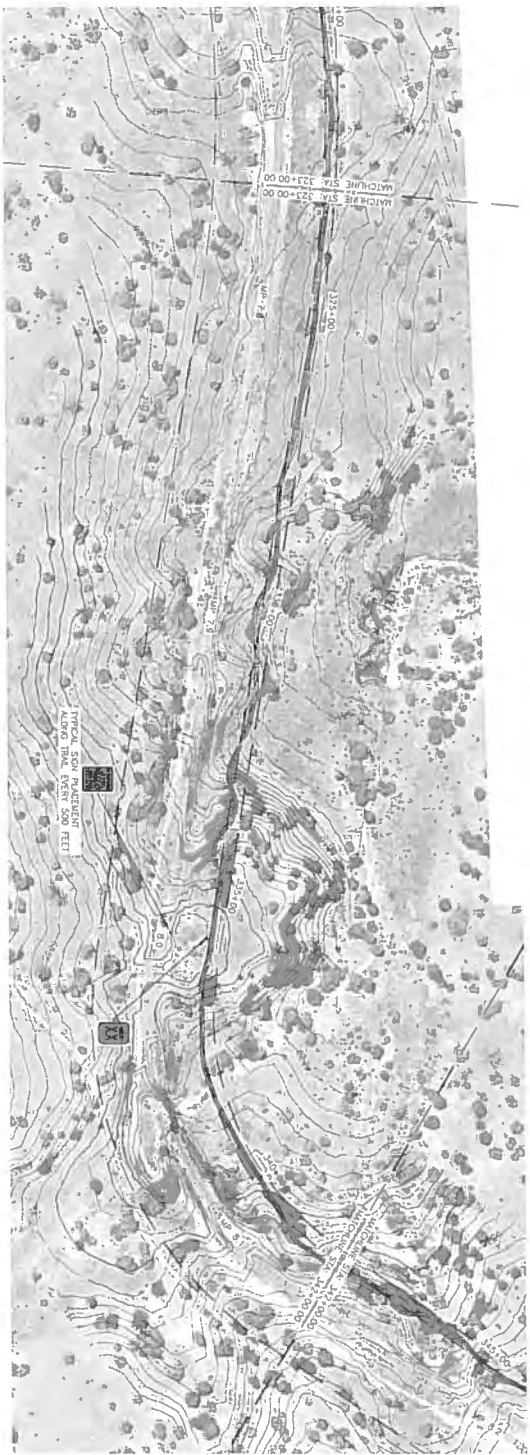
FIELD WORK

DATE: 12/06/08

SANTA FE  
RAIL TRAIL

PROJECT NO. RT 03-179  
SHEET 1317 TOTAL 40





KEYED NOTES

GENERAL NOTES  
1 SEE SHEET C502 FOR SOURCE DETAILS

## TRAIL PLAN AND PROFILE



REVISIONS  
NO KEY DATE DESCRIPTION

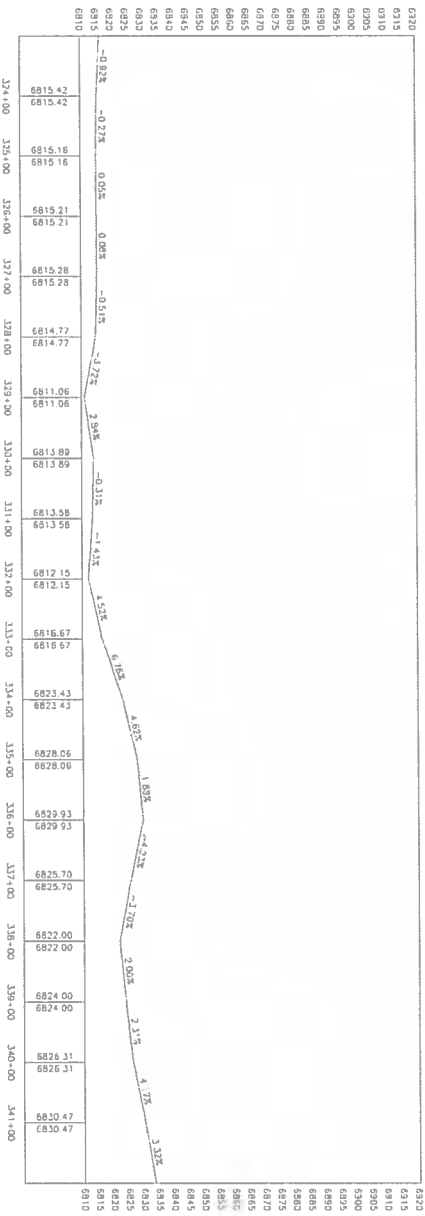
DESIGNED BY: [Signature]  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]  
DATE: 09/25/2012  
BRANCH MARK

ZONE MAP NO.

SANTA FE  
RAIL TRAIL

PROJECT NO. RRI 05-172  
SHEET C-116 TOTAL 40

### TRAIL PROFILE





Normalized Depth, $z/h$	Normalized Vertical Displacement, $u_p/h$
0.00	0.28
0.05	0.24
0.10	0.20
0.15	0.16
0.20	0.12
0.25	0.08
0.30	0.04
0.35	0.00
0.40	0.04
0.45	0.08
0.50	0.12
0.55	0.16
0.60	0.20
0.65	0.24
0.70	0.28
0.75	0.24
0.80	0.20
0.85	0.16
0.90	0.12
0.95	0.08
1.00	0.00

PROJECT NO.	RTM 05-173
SHEET	C319 TOTAL 40



Station	Distance (m)	Height (m)	Angle (°)
1000	0	1000.00	0
1001	10	1000.10	0.1
1002	20	1000.20	0.2
1003	30	1000.30	0.3
1004	40	1000.40	0.4
1005	50	1000.50	0.5
1006	60	1000.60	0.6
1007	70	1000.70	0.7
1008	80	1000.80	0.8
1009	90	1000.90	0.9
1010	100	1001.00	1.0
1011	110	1001.10	1.1
1012	120	1001.20	1.2
1013	130	1001.30	1.3
1014	140	1001.40	1.4
1015	150	1001.50	1.5
1016	160	1001.60	1.6
1017	170	1001.70	1.7
1018	180	1001.80	1.8
1019	190	1001.90	1.9
1020	200	1002.00	2.0
1021	210	1002.10	2.1
1022	220	1002.20	2.2
1023	230	1002.30	2.3
1024	240	1002.40	2.4
1025	250	1002.50	2.5
1026	260	1002.60	2.6
1027	270	1002.70	2.7
1028	280	1002.80	2.8
1029	290	1002.90	2.9
1030	300	1003.00	3.0
1031	310	1003.10	3.1
1032	320	1003.20	3.2
1033	330	1003.30	3.3
1034	340	1003.40	3.4
1035	350	1003.50	3.5
1036	360	1003.60	3.6
1037	370	1003.70	3.7
1038	380	1003.80	3.8
1039	390	1003.90	3.9
1040	400	1004.00	4.0
1041	410	1004.10	4.1
1042	420	1004.20	4.2
1043	430	1004.30	4.3
1044	440	1004.40	4.4
1045	450	1004.50	4.5
1046	460	1004.60	4.6
1047	470	1004.70	4.7
1048	480	1004.80	4.8
1049	490	1004.90	4.9
1050	500	1005.00	5.0

## GENERAL NOTES

### TRAIL PLAN AND PROFILE



NO.	QTY	DATE	DESCRIPTION
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DESIGNED BY	RMJ
DRAWN BY	CR
PREPARED BY	
DATE	09/26/88

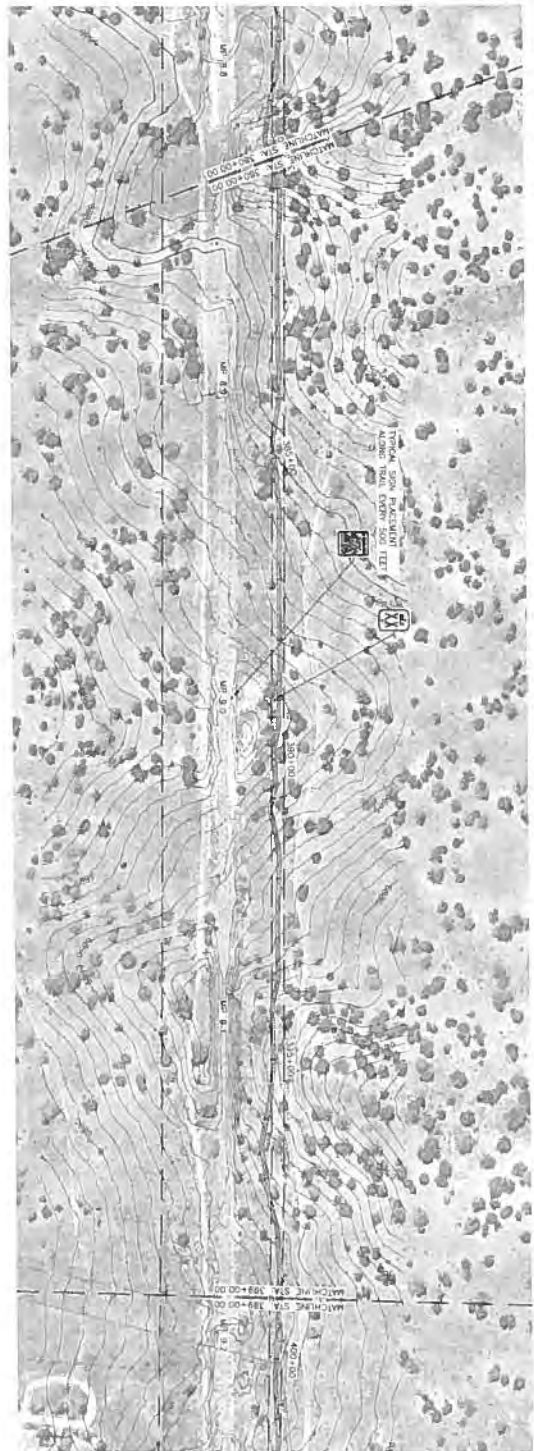
BENCH MARK

2008 MAR 20

SANTA FE  
PAL TRAIL

PROJECT NO.	REV.
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1000	40





KEYED NOTES

GENERAL NOTES  
SEE SHEET 0202 FOR SIGNAL DETAILS

# TRAIL PLAN AND PROFILE



REVISIONS  
NO. 429 DATE DESCRIPTION

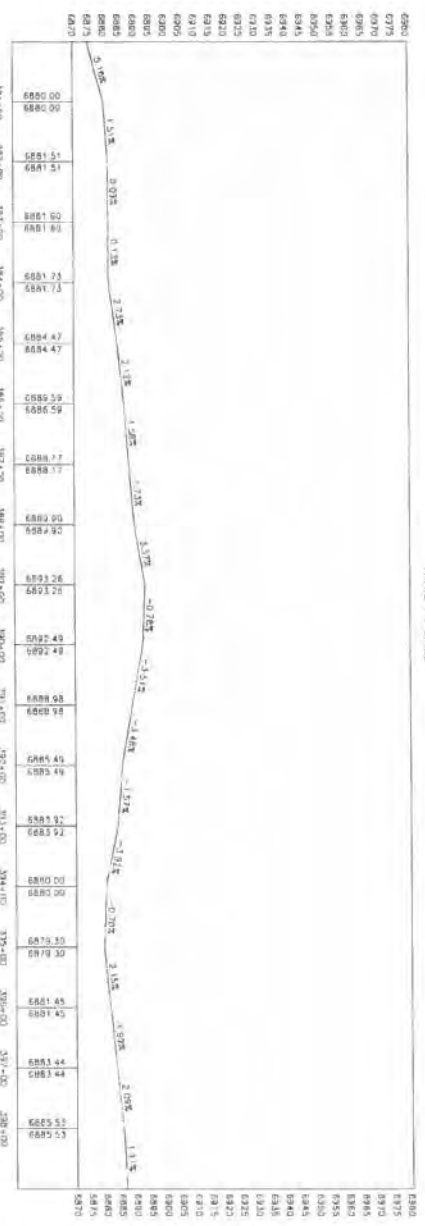
DESIGNED BY: BJA  
DRAWN BY: GP  
REVIEWED BY: JSC/ECR  
DATE: 05/03/09  
SHEET NAME

70% MAP NO.

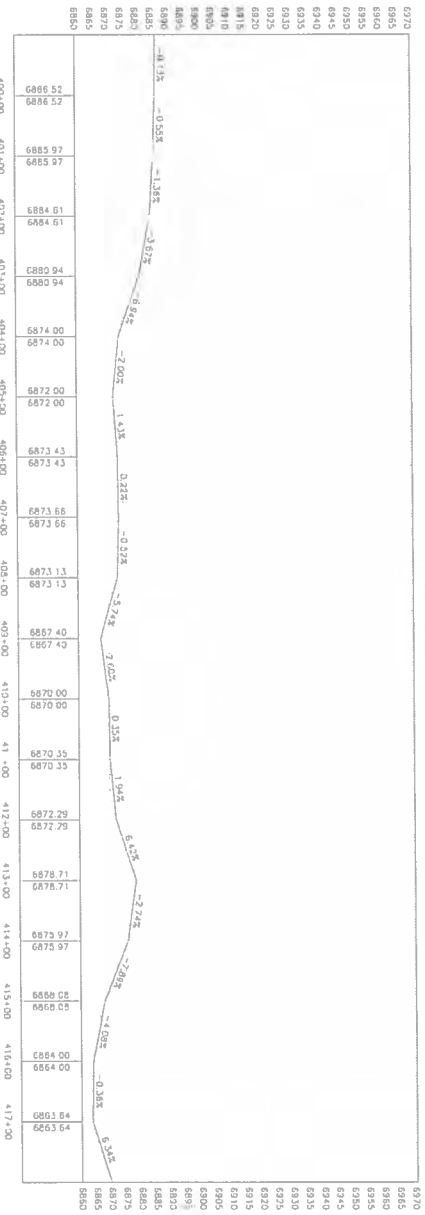
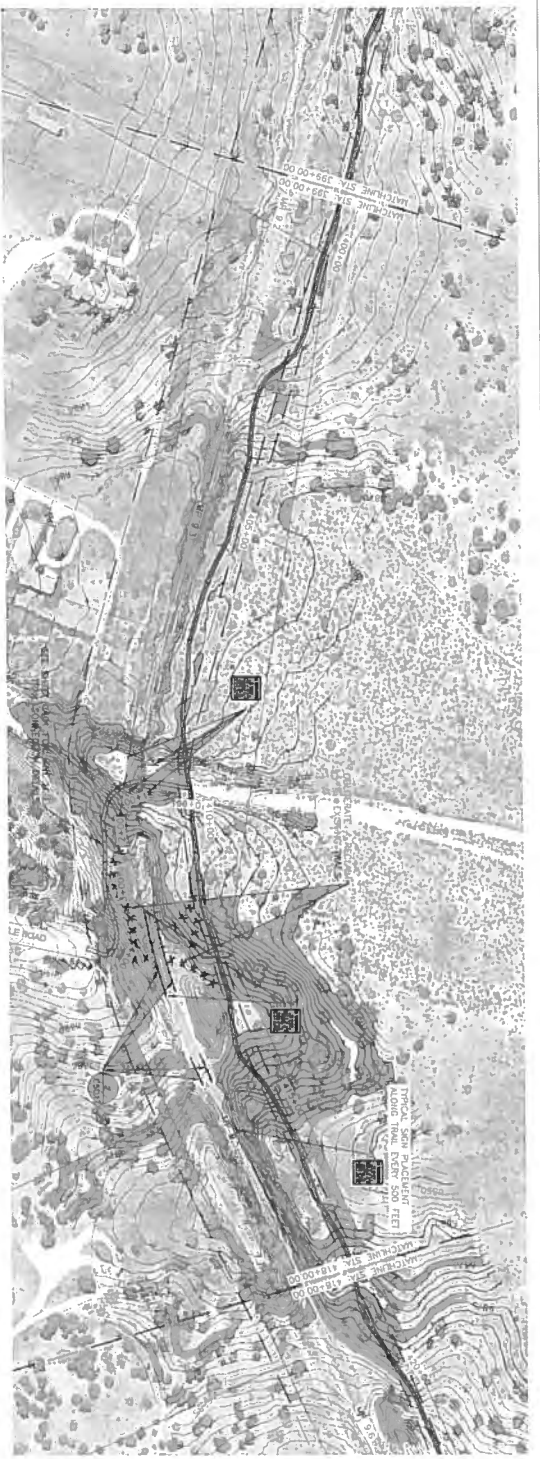
5407.4 FE.  
RAIL TRAIL

PROJECT NO.: 000 EC-173  
SHEET: 0201 TOTAL: 49

TRAIL PROFILE







TRAIL PROFILE

KEYED NOTES

GENERAL NOTES

1 SEE SHEET C302 FOR SKIAGE DETAILS

TRAIL PLAN AND PROFILE



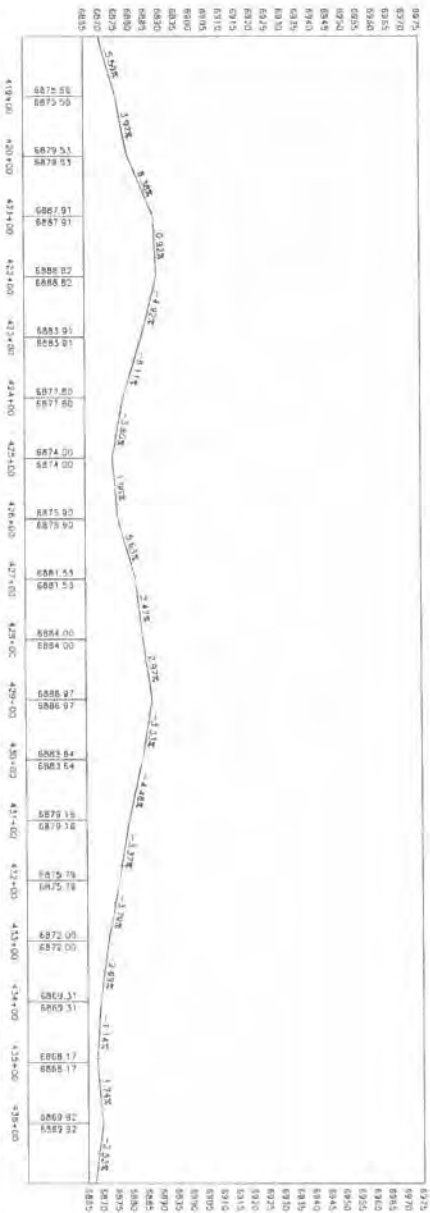
DESIGNED BY:                       
 DRAWN BY:                       
 REVIEWED BY:                       
 DATE:                       
 BRANCH MARK:                     

PROJECT NO.                       
 SHEET                      OF                       
 ZONE MAP NO.                       
 SANTA FE  
 RAIL TRAIL





### KEYED NOTES



### TRAIL PROFILE

## GENERAL NOTES



### TRAIL PLAN AND PROFILE



NO.	REV	DATE	DESCRIPTION
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RECEIVED BY (NAME)  
ORIGIN BY (CITY)  
RECEIVED BY (CITY)  
DATE (DATE) (TIME)

20th May 2003

SANTA FE  
RAIL TRAIL

PROJECT NO.	REF. 63-173
SHEET	TOTAL
222	40





☐ KEYED NOTES

## GENERAL NOTES

1. GET THE CASE FOR SCIENCE DONE



NO.	REV	DATE	DESCRIPTION
1			REVISIONS

SNOWS (1971)

### ABSTRACT

UNIT

\_\_\_\_\_

999999

RENDON MARTIN

 NO. |

1

SANTA FE

RAIL TRAIL

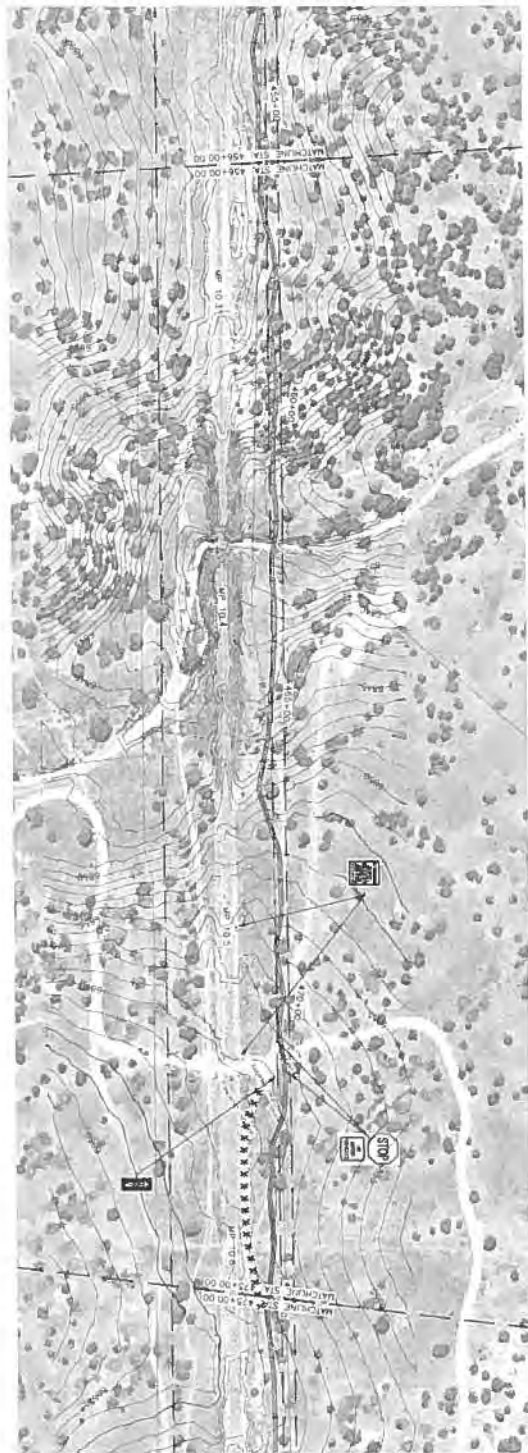
10

NO. 1711 05-10

10/1/2010

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KEYED NOTES

GENERAL NOTES  
1. SEE SHEET C502 FOR SOURCE DETAILS

# TRAIL PLAN AND PROFILE



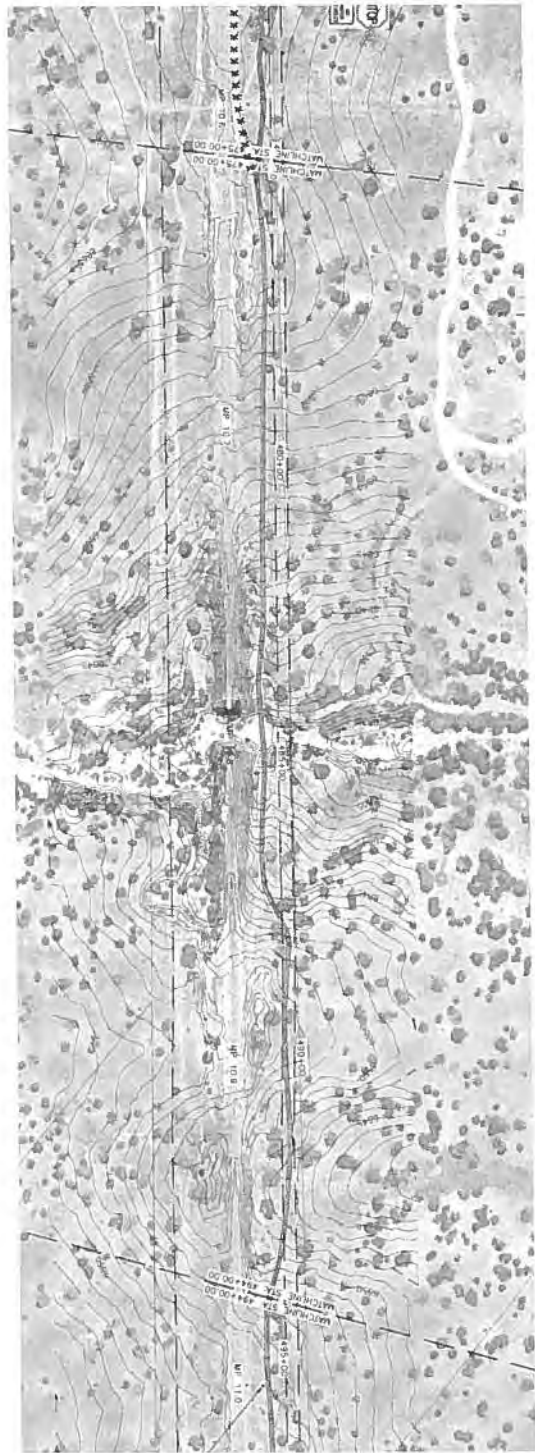
REVISIONS  
NO. KEY DATE DESCRIPTION

DESIGNED BY: RMT  
DRAWN BY: TSP  
CHECKED BY: GSC/CSS  
DATE: 08/03/16  
SHEET NUMBER

20% MAP NO.  
SANTA FE  
RAIL TRAIL

PROJECT NO. RFB 05-170  
SHEET C502 TOTAL 40





KEYED NOTES

GENERAL NOTES

# TRAIL PLAN AND PROFILE



REVISIONS  
NO. KEY DATE DESCRIPTION

DESIGNED BY: RMJ  
DRAWN BY: CJ  
CHECKED BY: JYK/08  
DATE

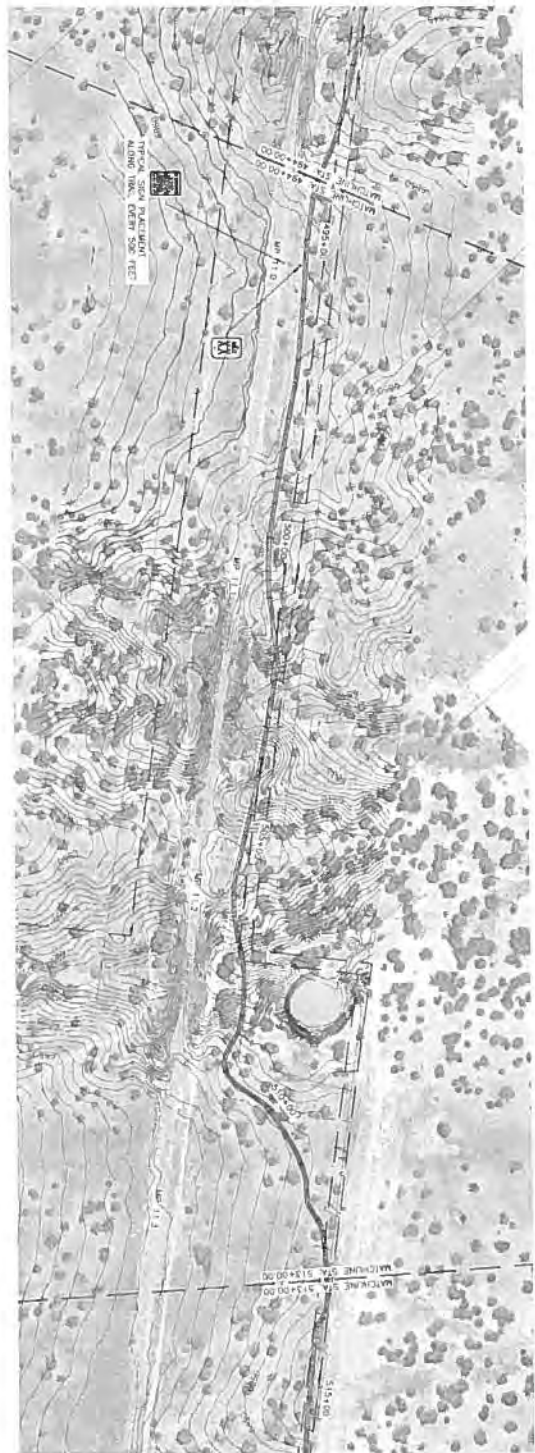
TOTAL SHEETS

TOTAL SHEETS

SANTA FE  
RAIL TRAIL

PROJECT NO.: MT 03-172  
SHEET 1296 TOTAL 46





KEYED NOTES

GENERAL NOTES

SEE SHEET C502 FOR SOUND DETAILS

### TRAIL PLAN AND PROFILE



REVISIONS

DESIGNED BY: RND  
DRAWN BY: GP  
CHECKED BY: RND  
DATE: 10/20/07

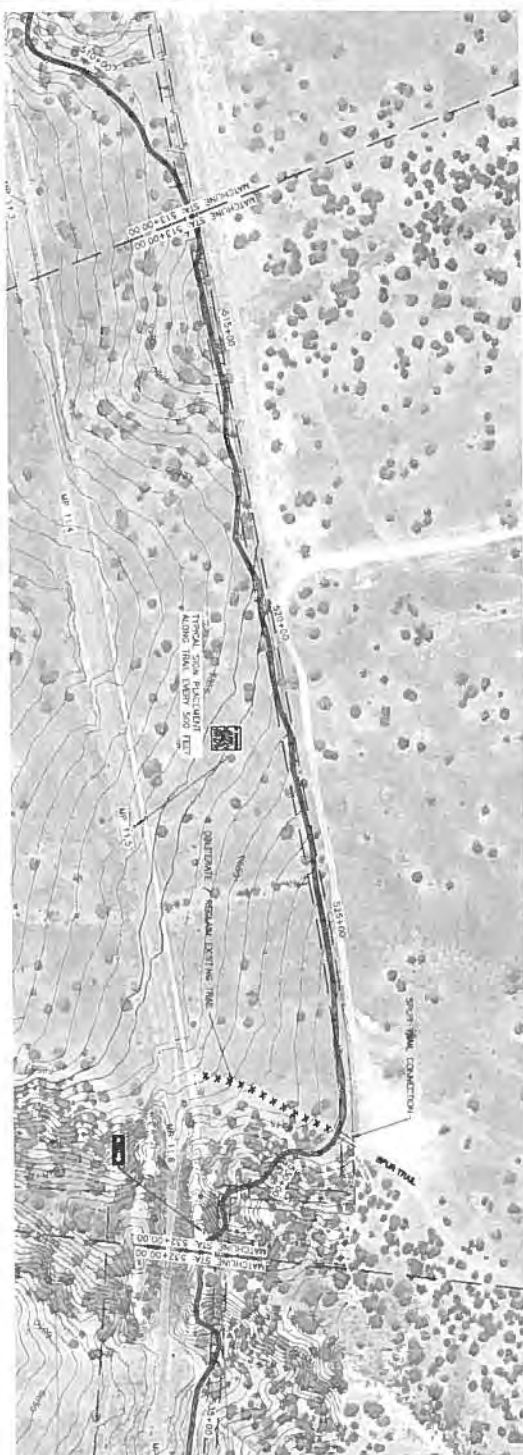
REVISIONS

2004 UTM NO.

SANTA FE  
RAIL TRAIL

PROJECT NO. RND 03-179  
SHEET C502 100% 40



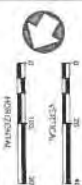


### TRAIL PLAN AND PROFILE

## KEYED NOTES

### GENERAL NOTES

SEE SHEET C502 FOR SOME OF DETAILS



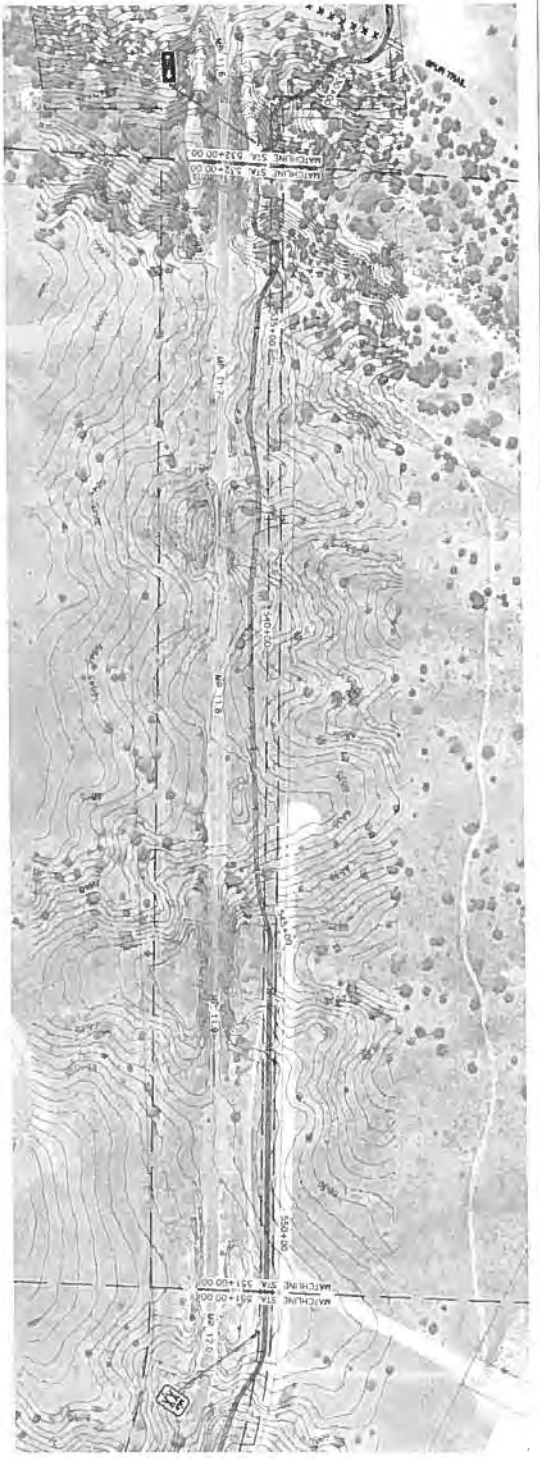
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DESIGNED BY \_\_\_\_\_ ROAD \_\_\_\_\_  
DRAWN BY \_\_\_\_\_ CP \_\_\_\_\_  
REVIEWED BY \_\_\_\_\_  
DATE \_\_\_\_\_ 09/02/09

SANTA FE  
RAIL TRAIL

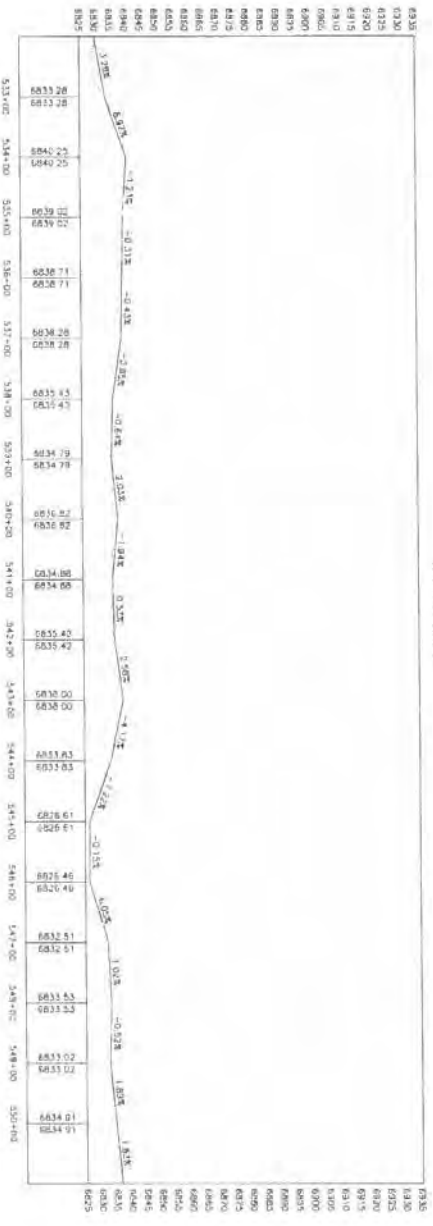
PROJECT NO.	MT 65-170
SHEET	TOTAL 40





KEYED NOTES

GENERAL NOTES



TRAIL PROFILE

TRAIL PLAN AND PROFILE



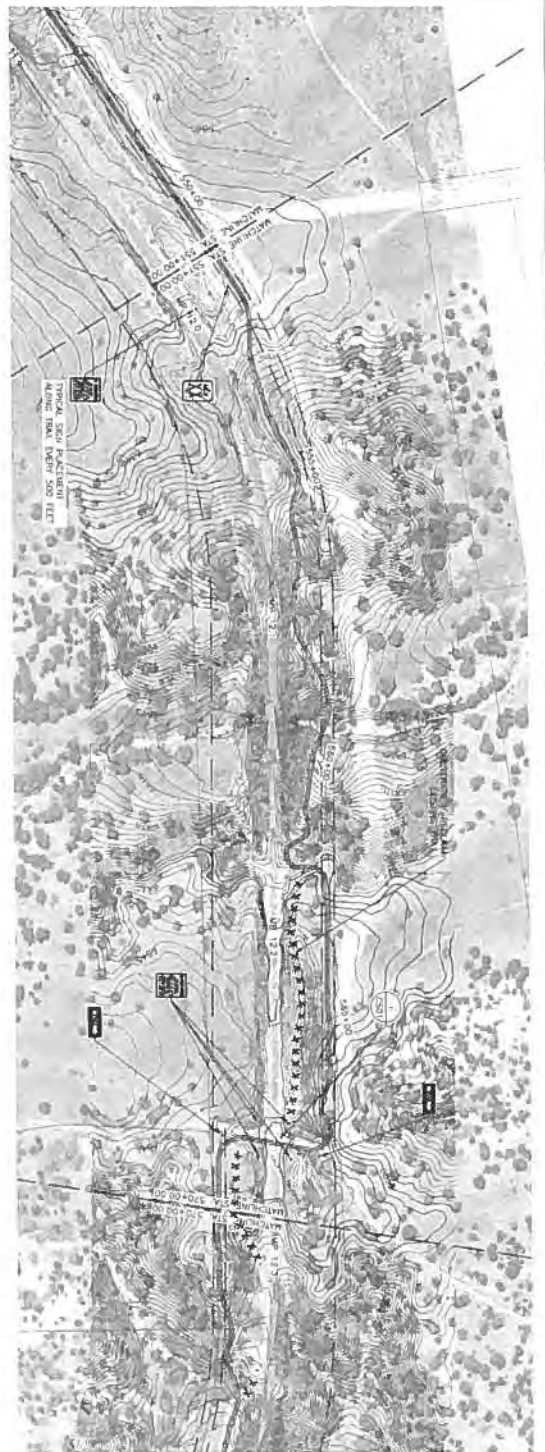
REVISIONS  
NO KEY DATE DESCRIPTION

DESIGNED BY: [Name]  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: [Date]

SHEET MAPS

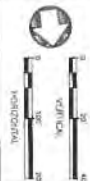
TRAIL MAP NO.  
SANITA FE  
TRAIL TRAIL  
PROJECT NO. RTD 25-172  
SHEET 219 TOTAL 40



☐ KEYED NOTES

### GENERAL NOTES

1 GET SHEET C502 FOR STORAGE DETAILS

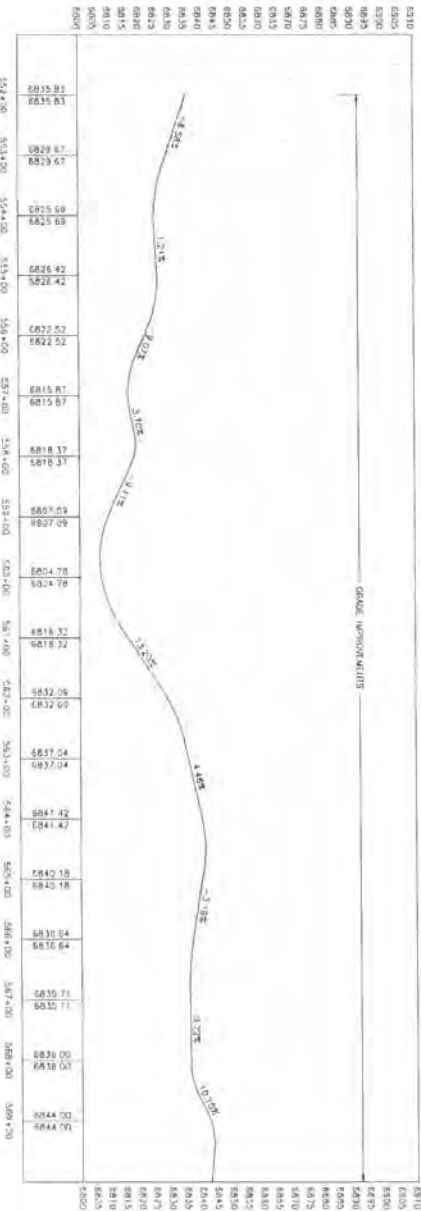


REVIEWS	NO. KEY DATE DESCRIPTION
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DESIGNED BY \_\_\_\_\_ FILED \_\_\_\_\_  
DRAWN BY \_\_\_\_\_ CAP \_\_\_\_\_  
REVIEWED BY \_\_\_\_\_  
DATE 5/9/2009

RECEIVED DATE \_\_\_\_\_

ZONE MAP NO.	
SANTA FE RAIL TRAIL	
PROJECT NO.	MT 05-170
SHEET	40
CITY	WYOM.

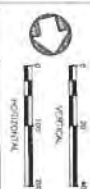
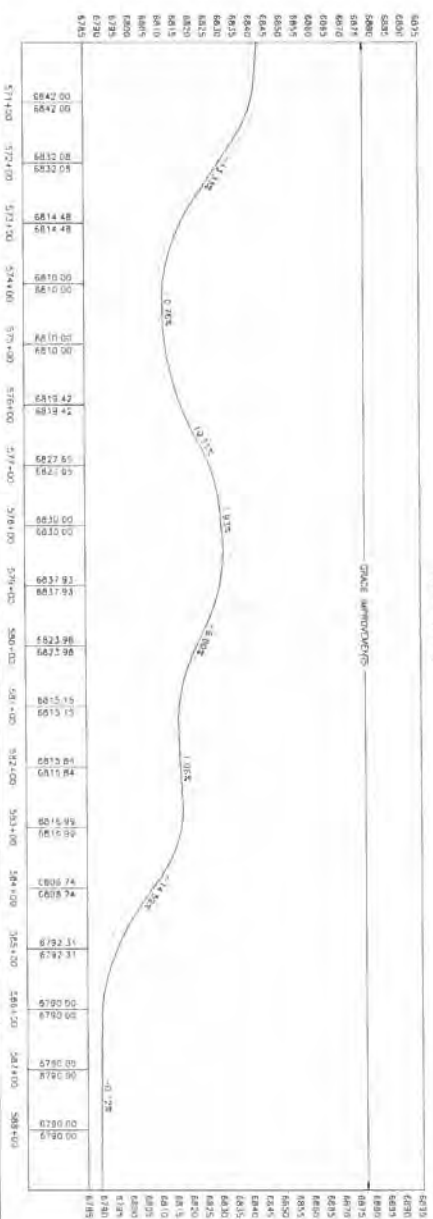






KEYED NOTES

## GENERAL NOTES



### TRAIL PLAN AND PROFILE

[illegible]

CLASSIFIED BY	FOUO
ORIGINATING AGENCY	CP
REVIEWED BY	
DATE	09/04/99

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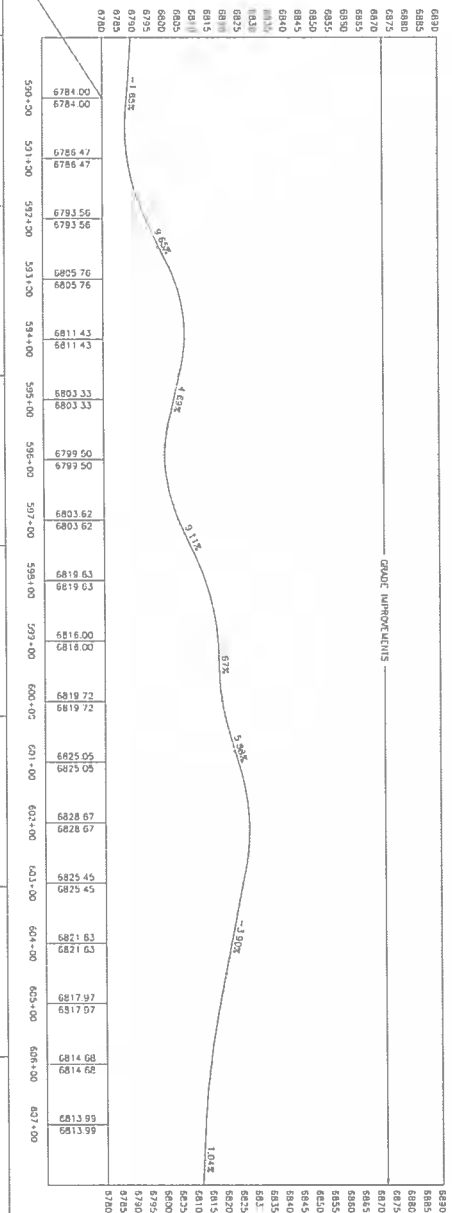
ZORIE WAP INC.

SANTA FE  
RAIL TRAIL

PROJECT NO.	RI 05-176
SHEET	10TH RD



GENERAL NOTES



REVISIONS	
NO.	KEY DATE DESCRIPTION

DESIGNED BY: RMJ  
DRAWN BY: CP  
REVIEWED BY: \_\_\_\_\_  
DATE: 09 DEC 88

GLEICH MARK

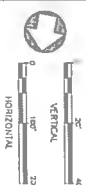
SANTA FE  
RAIL TRAIL

PROJECT NO.	RTI 05-173
SHEET	C332 TOTAL 40



1. FUTURE ACCESS CONTROL AND PARKING AREA BY OTHERS.

1. SEE SHEET C502 FOR STORAGE DETAILS



## REVISIONS

NO	KEY	DATE	DESCRIPTION
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DESIGNED BY: RUD  
DRAWN BY: CP  
REVIEWED BY: \_\_\_\_\_  
DATE: 09 DEC 01

BENCH MARK

ZONE WAP NO

SANTA FE  
RAIL TRAIL

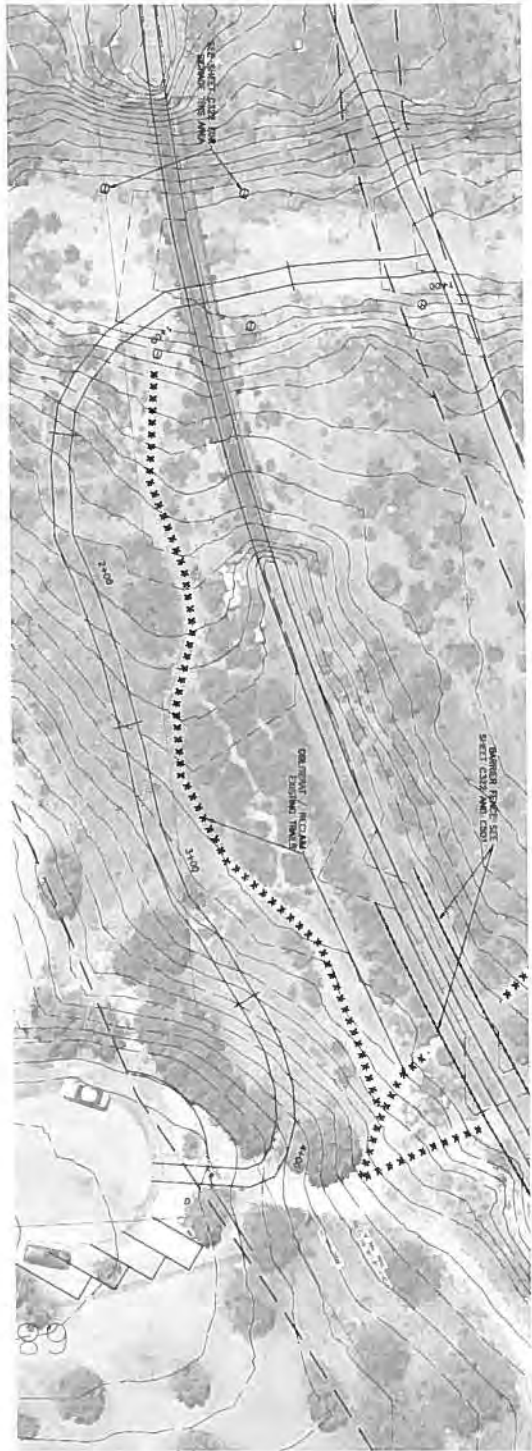
PROJECT NO. RTI 05-172

SHEET	TOTAL
C333	40

### TRAIL PLAN AND PROFILE

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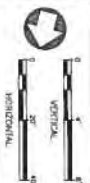




KEYED NOTES

GENERAL NOTES

### NINE MILE ROAD TRAIL CONNECTION



REVISIONS  
NO. KEY DATE DESCRIPTION

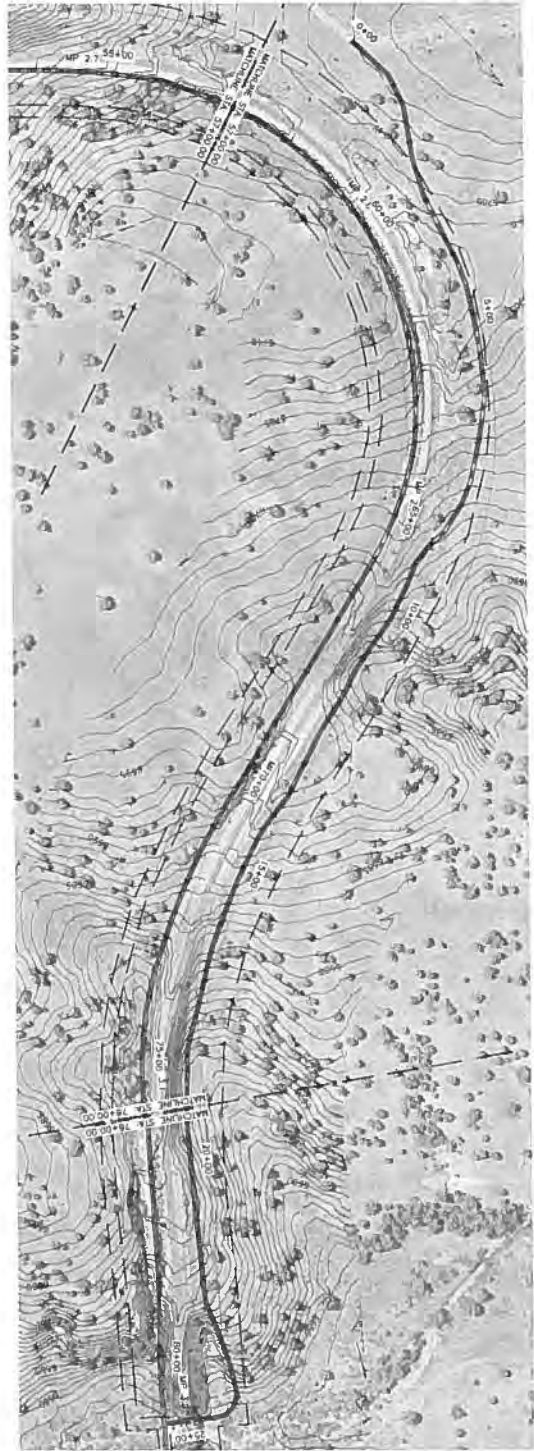
DESIGNED BY: RAO  
DRAWN BY: CP  
REVIEWED BY: JONAS  
DATE: 10/1/08  
BENCH MARK

ZONE MAP NO.

SANTA FE  
RAIL TRAIL

PROJECT NO.: 100-01-178  
SHEET: C-401 TOTAL: 40





KEYED NOTES

GENERAL NOTES

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6710	6703.41	6703.41
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6685	6709.28	6709.28
6680	6700.16	6700.16
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6480	6656.00	6656.00

20% MAP NO.

SANTA FE  
RAIL TRAIL

PROJECT NO. 101-175

SHEET 1 OF 2

DESIGNED BY: RND  
DRAWN BY: C  
CHECKED BY: J  
DATE: 10/05/08

BENCH MARK

REVISIONS

NO. KEY DATE DESCRIPTION

1 10/05/08 100% TO 100%

FULL MOON TRAIL  
CONNECTION (FUTURE)

10/05/08







## **GRANT OF TRAIL EASEMENT**

**THIS GRANT OF TRAIL EASEMENT** (the "Agreement") is made this 15<sup>th</sup> day of October, 1997 between the **SANTA FE SOUTHERN RAILWAY, INC.**, a New Mexico Corporation (hereinafter called "Grantor"), and **THE COUNTY OF SANTA FE** a County duly organized and existing under the laws of the State of New Mexico (hereinafter, called "Grantee").

**WITNESSETH**, that the parties hereto for the consideration hereinafter expressed covenant and agree as follows:

**WHEREAS**, The Grantor is the owner of the property shown in Exhibit 1 attached hereto and incorporated by reference herein (the "Property"); and

**WHEREAS**, the Grantee wishes to provide opportunities for public recreation along a trail located within the Property; and

**WHEREAS**, the Grantee desires to obtain a right-of-way for a trail within the County of Santa Fe; and

**WHEREAS**, Grantor and the Grantee desire to establish the public's right of access along a trail on the Property; and

**WHEREAS**, the Grantee wishes the Grantor to grant a trail easement on a portion of the Property; and

**WHEREAS**, the Grantee agrees by accepting this Grant to honor the intentions of the Grantor stated herein and to preserve the undeveloped trail easement granted hereby for the benefit of the public.



**NOW, THEREFORE**, in consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of New Mexico, the parties agree as follows:

1. **Grant.** Grantor hereby grants to the Grantee a trail easement of approximately twenty (20) feet in width across the Property set forth in Exhibit 1, and subject to valid existing rights of record. The exact location and extent of the trail easement is more particularly described in Exhibit 2 attached hereto and incorporated by reference herein. The location shall be established with full regard to safety of the railroad and trail users. The Grantee agrees in concept to changing the alignment of the trail easement, at the behest of Grantor, from one side of the right of way to the other in select locations at some future date, provided that the Grantee has made no significant improvements and further provided that such change will not disrupt continuity of the trail.
2. **Purpose.** It is the purpose of this Agreement to preserve an existing undeveloped trail for commuter and recreational use, limited to non-commercial and non-motorized traffic, and subject to the further use restrictions set forth in Section 5 hereof. The Grantor intends that this trail easement will confine the use of the trail to such activities as are consistent with recreational and commuting purposes.
3. **Term and Compensation.** This trail easement shall run with and burden the property in perpetuity. Grantee shall pay Grantor as compensation for this license the total sum of ONE HUNDRED THOUSAND DOLLARS (\$100,000) to be paid in three installments. The first installment of NINETY THOUSAND DOLLARS (\$90,000) will be paid upon closing. The second installment FIVE THOUSAND DOLLARS (\$5,000) will be paid within three (3) months from the closing date. The third installment of FIVE THOUSAND DOLLARS (\$5,000) will be paid within one (1) year from the closing date.



4. **Rights of Grantee.** To accomplish the purpose of this Agreement the following rights and obligations are conveyed to Grantee by the Grantor:
- a. to preserve and protect the trail easement granted hereby;
  - b. to enter upon this Property at reasonable and necessary times to maintain and patrol the trail, to monitor Grantor's compliance with and otherwise enforce the terms of this trail easement provided that Grantee shall not unreasonably interfere with Grantor's use and quiet enjoyment of its Property and provided that Grantee shall give Grantor prior notice anytime they will use motorized vehicles on the trail easement;
  - c. to make improvements consistent with the undeveloped nature of the trail and consistent with railroad safety and State and Federal regulations at the option of the Grantee. Notice of any improvements such as, but not limited to, culverts, fill, grading, fencing and signage will be given to the Grantor, which shall have the right to provide comments to the Grantee. The Grantee shall give due consideration to such comments.
5. **Prohibited Use.** Any activity on or use of the trail easement that is inconsistent with the intended purpose or which by its nature inhibits the operation of the railway is prohibited. Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited: commercial and/or motorized vehicles, except in emergencies or in conjunction with necessary construction or maintenance of existing fences, road and utilities easements, if any, and the maintenance of the trail; smoking, fires, fireworks and firearms; camping; signs other than those necessary to mark the trail; littering and dumping; cutting and removing trees or other vegetation; and altering or interfering with water courses or natural drainage features. Grantee covenants that it will not handle or transport along the trail on Grantor's property "hazardous waste" or "hazardous substances", as "hazardous substances" may now or in the future be defined by any Federal or State law.



6. **Reserved Rights.** Grantor reserves to itself and to its agents, representatives, heirs, successors, and assigns, all rights accruing from its ownership of the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited herein and that are not inconsistent with the purpose of this trail easement.
7. **Costs and Liabilities.** Grantee is responsible for maintaining required comprehensive general liability insurance coverage for the trail easement at a minimum at least equal to the amount required for the County by the State.
8. **Hold Harmless.** Grantee shall hold harmless, indemnify and defend Grantor and its representatives, directors, officers, employees and agents and their heirs, personal representatives, successors and assigns of each of them (collectively, the "Indemnified Parties") from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims, demands, or judgments, including, without limitation, court costs and reasonable attorneys' fees, arising from or in any way connected with: injury to or death of any person or damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on the Easement or arising out of or involving in any way the use of the trail as a result of Grantee's actions, unless due to the negligence or willful and wanton misconduct of any of the Indemnified Parties.
9. **Assignment.**
  - a. If at any time the Grantee fails to perform any of its material obligations under this trail easement, Grantor shall provide Grantee with written notice specifying such failure. Grantee shall have ninety (90) days from the date of such notice to cure the failure. If, at the end of such ninety (90) day period, Grantee has neither cured nor assumed the responsibility to cure the failure, Grantee shall assign its interest in this Easement to an organization described in Subsection (c) hereof and approved by Grantor. Any transfer shall be to an organization that has financial strength and stability sufficient to meet all obligations of this agreement as spelled out in



paragraphs 7 and 8 above. In such case, Grantor and Grantee agree to execute and record the documentation necessary to effect an assignment of this trail easement.

- b. Grantee may elect to assign its interest in the trail easement to an organization described in Subsection (c) provided that the Grantor grants its approval, which approval shall not be unreasonably withheld.
  - c. Grantee may assign its rights and obligations hereunder only to an organization that is a "qualified organization" at the time of transfer under Section 170 (h) of the Internal Revenue Code of 1986, as amended (or any successor provision applicable), and the applicable regulations promulgated thereunder, and which is authorized to acquire and hold conservation and recreation easements under the Land Use Agreement Act, Section 47-12-1 to 47-12-6 NMSA 1987 (1991 Supp.) (or any successor provision then applicable). In addition, unless such assignment is required by the Grantor pursuant to Subsection (9) above, the Grantee shall provide ninety (90) days prior written notice to Grantor of its election to assign this Easement. The notice shall describe the proposed assignee in sufficient detail to permit Grantor to make an informed judgment as to the assignee's ability to hold and monitor the trail easement. Grantor shall grant or withhold its approval of the proposed assignment in writing within ninety (90) days of receipt of Grantee's written request therefore. Grantor's approval shall not be unreasonably withheld.
10. **Compliance.** Notwithstanding any other provision of this Agreement, Grantee shall comply with all applicable statutes, ordinances, rules, regulations, and all applicable orders and decisions of the Surface Transportation Board and the Federal Railroad Administration or their successors (hereinafter referred to as "Standards") relating to Grantee's use of Grantor's property hereunder. In its use of the premises, Grantee shall at all times be in full compliance with the applicable Standards, including by not limited to, Standards concerning air quality, water quality, noise, hazardous substances and hazardous waste. In the event Grantee fails to be in full compliance with standards set



by any applicable authority, Grantor may give reasonable notice of the failure to Grantee. If Grantee, within ninety (90) days of such notice, fails either correct such non-compliance, has assumed no responsibility to correct, or has not given written notice to the Grantor of its intent to contest the allegation of non-compliance before the authority establishing the Standard or in any other proper forum, Grantor may take whatever reasonable action is necessary to protect the premises and Grantor's railroad and other adjacent property. Grantee shall reimburse the Grantor for all costs (including but not limited to, consulting, engineering, cleanup and disposal costs and legal costs) reasonably incurred by the Grantor in complying with such Standards in any proceeding before any applicable Authority or court, and paying any fines or penalties imposed for such violation for which Grantee is responsible. Grantee shall assume liability for and shall save and hold harmless the Grantor from any claim of a violation of such Standards regardless of the nature thereof or the Authority or person asserting such claim, provided such liability is sole responsibility of Grantee which results from Grantee's use of Grantor's premises. Grantee, at its cost, shall assume the defense of all such claims regardless of whether they are asserted against Grantee or Grantor; provided such claims are sole responsibility of Grantee.

11. **Litigation Costs** Grantee shall defend any lawsuit regarding the trail easement to which it is a party.
12. **Subsequent Transfers** Grantor agrees to incorporate the terms of this Agreement in any legal instrument by which it divests itself of any interest in all or a portion of the trail easement, including, without limitation, a leasehold interest. Grantor further agrees to give written notice to Grantee of the transfer of any interest at least sixty (60) days prior to the date of such transfer.
13. **Notices** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by certified mail, postage prepaid addressed as follows:



**To Grantor:**

**Santa Fe Southern Railway, Inc.  
410 South Guadalupe Street  
Santa Fe, New Mexico 87501  
Ph: 505-989-8600**

**To Grantee:**

**Santa Fe County  
P.O. Box 276  
Santa Fe, New Mexico 87504  
Attn: County Manager  
w/ copy to County Attorney  
Ph: 505-986-6200**

and to such other address as either party from time to time shall designate by written notice to the other.

14. **Governing Law.** This agreement shall be interpreted under the laws of New Mexico.

15. **Liberal Construction.** Any general rule of construction to the contrary notwithstanding, the trail easement shall be liberally construed in favor of the grant to effect the purpose of this trail easement. If any provision in this trail easement is found to be ambiguous, an interpretation consistent with the purpose of this Agreement that would render the provision valid shall be favored over any interpretation that would render it invalid.

16. **Leniency.** Leniency in enforcement of provision shall not preclude enforcement or execution at a later date.

17. **Severability.** If any provision of this Agreement, or the application therefore to any person or circumstance, is found to be invalid, as the case may be, it shall not affect the total agreement as written.

18. **Entire Agreement.** This instrument with exhibits 1 and 2 sets forth the entire agreement of the parties with respect to the trail easement and supersedes all prior discussions, negotiations, understandings, or agreements relating to the trail easement,



all of which are merged herein. No alteration or variation of this instrument shall be valid or binding unless contained in an amendment that complies with paragraph 19 hereof.

19. **Amendment**. If circumstances arise under which an amendment to or modification of this Agreement would be appropriate, Grantor and Grantee are free to jointly amend this trail easement. Any such amendment shall be recorded in the official records of Santa Fe County, New Mexico.
20. **No Forfeiture**. Nothing contained herein will result in a forfeiture or reversion of Grantor's title to its real property in any respect.
21. **Termination of Rights and Obligations**. A party's rights and obligations under the Agreement shall terminate upon the approved transfer of the party's interest in the trail easement except that liability for acts or omissions occurring prior to transfer shall survive transfer.
22. **Captions**. The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.
23. **Counterparts**. The parties may execute this instrument in two or more counterparts, which shall, in the aggregate, be signed by both parties; each counterpart shall be deemed an ordinal instrument as against any party who has signed it. In the event of any disparity between the counterparts produced, the recorded counterpart shall be controlling.
24. **Successors**. Every provision of this trail easement that applies to the Grantor or Grantee shall also apply to their respective agents, heirs, executors, administrators, assigns, and all other successors in interest.



25. **Recordation.** Grantee shall record this instrument in a timely fashion in the official records of Santa Fe County, New Mexico and may re-record it at any time as may be required to preserve its rights to the trail easement.

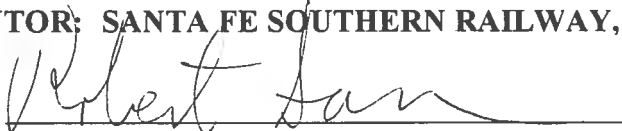
To have and to hold, this Grant of Trail Easement unto the Grantee, its successors and assigns for the term set forth herein.

**IN WITNESS WHEREOF**, the parties have executed this agreement in duplicate the day and year first above written.

AGREED TO THIS 15th DAY OF OCTOBER, 1997.

**GRANTOR: SANTA FE SOUTHERN RAILWAY, INC.**

BY:

  
ROBERT SARR, CHAIRMAN

**GRANTEE: SANTA FE COUNTY  
BOARD OF COUNTY COMMISSIONERS**

BY:

  
JAVIER M. GONZALES, CHAIRMAN

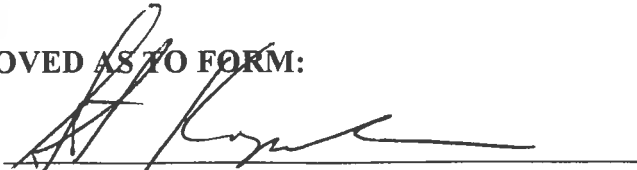
**ATTEST:**

BY:

  
for: REBECCA BUSTAMANTE, COUNTY CLERK 10/15/97

**APPROVED AS TO FORM:**

BY:

  
STEVEN KOPELMAN, COUNTY ATTORNEY



**ACKNOWLEDGEMENT**

**STATE OF** )  
 )ss  
**COUNTY OF** )

The foregoing instrument was acknowledged before me this 15th day of October  
1997, by **ROBERT A. SARR and JAVIER M. GONZALES.**

SEAL

Robert A. Sarr  
NOTARY PUBLIC  
Expiration: Feb. 21, 2000



## **EXHIBIT 2**

### **Trail Easement**

Exhibit 1 contains the A.T. & S.F. RY Co. Right of Way and Track Maps, revised 16 October, 1985. The Right of Way and Track Map mileposts on the maps correspond with those listed below.

The twenty foot (20') trail easement (Easement) begins at milepost 1.7, the intersection of U.S. Highway 285 and the main track of the Santa Fe Southern Railway. The Easement then parallels the main track of the Santa Fe Southern Railway and is adjacent to the fence on the eastern side of the right-of-way (R.O.W.) to the marker at approximately milepost 7.13.

At the marker at approximately milepost 7.13, the Easement crosses the main track of the Santa Fe Southern Railway. The Easement then parallels the main track and is adjacent to the western side of the R.O.W. until the marker at approximately milepost 12.4.

At the marker at approximately milepost 12.4, the Easement crosses the main track of the Santa Fe Southern Railway. The Easement then parallels the main track and is adjacent to the eastern edge of the R.O.W. to milepost 13.2, Old Agua Fria Road.

At milepost 13.2, the Easement crosses the main track in the right of way of Old Agua Fria Road. The Easement then parallels the main track of the Santa Fe Southern Railway and is adjacent to the western side of the R.O.W. to the intersection with Interstate-25. The Easement ends at I-25.



## **APPENDIX E**

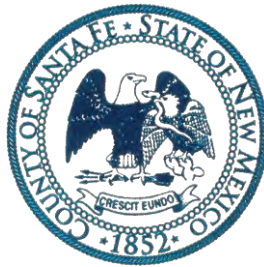
### **SANTA FE COUNTY - ADOPT AN OPEN SPACE PROGRAM INFORMATION**



**Daniel “Danny” Mayfield**  
*Commissioner, District 1*

**Miguel Chavez**  
*Commissioner, District 2*

**Robert A. Anaya**  
*Commissioner, District 3*



**Kathleen Holian**  
*Commissioner, District 4*

**Elizabeth Stefanics**  
*Commissioner District 5*

**Katherine Miller**  
*County Manager*

### **Santa Fe County Adopt-an-Open Space Program**

Are you interested in becoming a Steward for a trail, park or any Open Space in Santa Fe County?

Here is what you should know:

- To participate in the program, Stewards must complete an application and will receive a packet of information about the program.
- Adopt an Open Space Steward duties include: reporting on overall land condition, hazards, wildlife issues and signage issues.
- Stewards are expected to assess adopted land at least 4 times a year and submit a report to the Santa Fe County Volunteer Coordinator after each trip
- All land maintenance should be approved by the Volunteer Coordinator.
- All volunteer maintenance events need to be approved, including cleanups and all volunteers must sign release of liability forms.

**Our Objective** –To assess, report, and maintain Santa Fe County Open Spaces and Trails and to create awareness within our communities also to provide an example of the impact of community involvement on public lands and to illustrate the importance and need of volunteer efforts across Santa Fe County.

**Who can participate?** We encourage private businesses, schools, community groups, churches, non-profit organizations and individual residents to participate in the Adopt-an-Open Space Program.

#### **Your commitment:**

- Adopting an Open Space requires monitoring the land and keeping it in good shape by picking up litter, removing small branches, and reporting larger maintenance needs to the Volunteer Coordinator.
- Stewards are expected to hike adopted land at least 4 times a year (one time quarterly) and submit a report after each trip.



- Read and sign Liability Release Agreement –This form must be completed, signed and returned to the Volunteer Coordinator by all those who will be working on the trail prior to work done on the Trail. The agreement will release Santa Fe County from liability in case of accidental injury or death.

### **Santa Fe County's Commitment:**

Furnish and install trail steward sign identifying you or your organization and the Open Space adopted.

- Provide maintenance tools, safety orientation and safety tools to you before and after scheduled cleanup activities.
- Provide trained technicians and volunteers to maintain and beautify the land.
- Support you or your organization in any way possible to help keep Santa Fe County Open Spaces beautiful.

Safety: This section outlines some of the general precautions Stewards should take while working along county trails, parks, and all other open spaces. Please remember this is for reference only, and a complete safety orientation is required once you have adopted an open space.

1. When assessing the trail, park or Open Space, take a partner.
2. Don't work in bad weather.
3. Avoid overexertion.
4. Only work during daylight hours.
5. Always wear appropriate clothing-long pants, long sleeve shirts, and good work gloves.
6. Never pick up hazardous substances-dead animals, hypodermic needles, and other dangerous materials
7. Watch out for snakes.

### **What Santa Fe County Open Spaces are adoptable?**

Only County-maintained Open Spaces are adoptable through this program. If you are not sure of the status of an Open Space, trail, or park, call the Volunteer Coordinator at 992-3053. Open Spaces that are already adopted may not be adopted by a second group. At the discretion of the County, an Open Space may be deemed unsafe for adoption and will therefore be "unadoptable."

For more information please contact Carol Branch, Volunteer Coordinator, Santa Fe Community Services Department at (505) 992-3053 [adoptopenspace@santafecountynm.gov](mailto:adoptopenspace@santafecountynm.gov)









Bernalillo County Open Space,  
Master Naturalist Program  
111 Union Square St. SE, Suite 200  
Albuquerque, NM 87102  
505.314.0398  
calangan@bernco.gov  
[www.bernco.gov/openspace](http://www.bernco.gov/openspace)

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## Master Naturalist Program Application

Master Naturalists are trained volunteers with the Bernalillo County Open Space. Participants will embark on a fun, active training program. You can:

- experience the wide diversity of Open Spaces within Bernalillo County;
- learn about the local environment through such topics as ecology, biomes, water in NM, observations of nature and more;
- share the values and benefits that natural areas add to our lives;
- make connections between species and landscapes;
- understand management affecting natural areas;
- meet others who love nature, too!

The Bernalillo County Open Space Master Naturalist Program aims to instill the pursuit of lifelong learning and stewardship of the local environment by engaging citizens in providing education and service dedicated to the beneficial management of natural resources on Open Space properties. This program provides an excellent opportunity to participate in conserving, preserving and restoring the local environment. Through the program, a select group of dedicated participants experience a wide range of classes, training, and hands-on experiences. Once the class and field studies have concluded, participants complete a 40 hour service project on Open Space properties with the assistance of the County, Advisory Committee, and local partners. Participants are awarded a certificate at the end of their service project identifying them as a Master Naturalist.

### 2017 Application for the Master Naturalist Program Volunteer Position with Bernalillo County Open Space



Please print or type, except for the signature at the end of the application.

Name: \_\_\_\_\_

Address: \_\_\_\_\_ Zip \_\_\_\_\_

Telephone Number: \_\_\_\_\_ (home) \_\_\_\_\_ (business)

Email: \_\_\_\_\_

How did you hear about the Master Naturalist Program? \_\_\_\_\_

Please review the training schedule:

2017 Training Schedule:

Participants must attend all classes. Weekday classes will take place in the North Valley at 9521 Rio Grande Blvd. NW, and weekend classes will be held at different sites throughout Bernalillo County.

Classes will be held every Thursday from 5:30pm - 8:30pm during June and July, as well as four Saturdays including June 10 & 24 and July 8 & 22. The Saturday classes will range from 8:00am-4:00pm. (total of 55 hours).

Application deadline: March 31, 2017.

Are there any sessions that you are unable to attend?

☐ no ☐ yes If yes, which ones(s)? \_\_\_\_\_

*The training schedule may be subject to changes. Please note that it is extremely important that you attend every class. Each class provides valuable information that is not available elsewhere. If you are unable to attend all the classes please consider applying at another time. If you miss classes, you may be asked to reapply to a subsequent training when you are able to attend.*



## EMPLOYMENT AND VOLUNTEER HISTORY

**Your resume may be substituted for this form if it includes all the information requested.**  
List most recent experiences first.

Name of Business or Organization: \_\_\_\_\_

Address of Business or Organization: \_\_\_\_\_  
\_\_\_\_\_

Name of Supervisor: \_\_\_\_\_ Telephone No. \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Worked with them from: \_\_\_\_\_ to: \_\_\_\_\_

Paid Employment? ☐ yes ☐ no Volunteer Work? ☐ yes ☐ no

Name of Business or Organization: \_\_\_\_\_

Address of Business or Organization: \_\_\_\_\_  
\_\_\_\_\_

Name of Supervisor: \_\_\_\_\_ Telephone No. \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Worked with them from: \_\_\_\_\_ to: \_\_\_\_\_

Paid Employment? ☐ yes ☐ no Volunteer Work? ☐ yes ☐ no

Name of Business or Organization: \_\_\_\_\_

Address of Business or Organization: \_\_\_\_\_  
\_\_\_\_\_

Name of Supervisor: \_\_\_\_\_ Telephone No. \_\_\_\_\_

Responsibilities: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Worked with them from: \_\_\_\_\_ to: \_\_\_\_\_

Paid Employment? ☐ yes ☐ no Volunteer Work? ☐ yes ☐ no



Describe what a Master Naturalist is and does.

Why do you want to join the Master Naturalist Program?

Do you have education, vocational, or technical training that is relevant to the Master Naturalist Program?

What additional skills or hobbies do you have related to nature studies?

What additional information do you want to share about yourself for the interview committee?



Applicants are considered for volunteer positions for which they have applied without regard to race, religion, sex, age, national origin, disability and other characteristics protected by law. However, applicants do need to be 18 years or older to apply.

I understand that any false answers or misleading statements as well as misrepresentations by omission made by me as part of my application, will be sufficient for rejection of my application or for my immediate discharge should one be discovered after I have started volunteer activities.

I understand that nothing in this volunteer application, in the County's statement of personnel policies or in my communication with any County employee or official, is intended to create an employment contract between the County and me. Accordingly, either the County or I may terminate my volunteer status at-will at any time with or without cause or notice. I understand that I will not be paid or receive any other remuneration for my services as a volunteer with the County.

I understand that successful completion of a background check is a qualification to volunteer with school children in the Master Naturalist Program.

I hereby acknowledge that I have read, understand, and agree to the preceding statements.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Please submit your application:

Mail: Colleen McRoberts, 111 Union Square St. SE, Suite 200, Albuquerque, NM 87102

Email: calangan@bernco.gov

**Application deadline is March 31, 2017.**



**THE BOARD OF COUNTY COMMISSIONERS OF  
THE COUNTY OF SANTA FE  
RESOLUTION NO. 2019-\_\_\_\_\_**

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**A RESOLUTION ADOPTING THE SANTA FE RAIL TRAIL MANAGEMENT PLAN**

---

**WHEREAS**, Santa Fe County (County) owns and maintains a network of over 6,600 acres of open space and parks, and 60 miles of trails, including the Santa Fe Rail Trail; and

**WHEREAS**, the 2015 Sustainable Growth Management Plan and the Open Land and Trails Plan call for developing management plans for open space properties; and

**WHEREAS**, the Santa Fe County Board of Commissioners and the County Open Land, Trails and Parks Advisory Committee (COLTPAC) support the development of management plans for open space properties; and

**WHEREAS**, management principles were developed with community input to guide the development, management, and maintenance of Santa Fe County Open Space and Trail properties; and

**WHEREAS**, specific management principles were developed for the Santa Fe Rail Trail which include appropriate public access, minimal maintenance needs, limited capital investments, protection of resources, diverse use opportunities, and increased youth and community participation in site stewardship; and

**WHEREAS**, the planning process for the Santa Fe Rail Trail included numerous stakeholders, community members, adjacent property owners, trail users, trail stewards and relevant public entities who assisted County staff to develop a long range vision for the trail through a vigorous community planning process; and

**WHEREAS**, the Santa Fe Rail Trail Management Plan (Management Plan) prioritizes projects for implementation in the short-term, mid-term, and long-term; and

**WHEREAS**, the Management Plan defines Best Management Practices (BMPs) in order to guide maintenance in a responsible and effective manner; and

**WHEREAS**, according to the Management Plan, additional staffing and expertise would enhance the County's ability to address deferred maintenance needs, and increase the likelihood of implementing the Management Plan in a timely and efficient manner; and

**WHEREAS**, the Management Plan includes implementation phasing timelines and preliminary estimated implementation costs; and



**WHEREAS**, COLTPAC has reviewed and recommends approval of the Santa Fe Rail Trail Management Plan (Exhibit A).

**NOW, THEREFORE, BE IT RESOLVED** by the Board that:

1. The Management Plan attached hereto as Exhibit A is hereby adopted;
2. Staff is directed to implement the Management Plan to the extent possible with available resources and to request amendment of the plan as needed; and
3. Staff is directed to involve community members and the public in the outlined management projects and activities contained within the Management Plan when appropriate.

**PASSED, APPROVED, AND ADOPTED** this 12th day of March, 2019.

**BOARD OF COUNTY COMMISSIONERS**

---

Anna T. Hamilton, Chair

**Attest:**

---

Geraldine Salazar, Santa Fe County Clerk

**Approved As To Form:**

---

R. Bruce Frederick, County Attorney