

## **Notice to Bidders Professional Trail Building**

### **Fuller Bros. Property Trail System** a portion of the Deadwood Trail System – 2024

A NON-MOTORIZED, NATURAL-SURFACE TRAIL PROJECT ON  
CITY OF DEADWOOD LAND NORTH OF DEADWOOD SD.

#### **POINT OF CONTACT**

Kevin Kuchenbecker  
Planning, Zoning and Historic Preservation officer  
(605) 578-2082  
[kevin@cityofdeadwood.com](mailto:kevin@cityofdeadwood.com)

#### **PROJECT MANAGER**

Randy Adler  
Parks, Recreation and Events Director  
(605) 578-2082  
[randy@cityofdeadwood.com](mailto:randy@cityofdeadwood.com)

Notice to Bidders  
Professional Trail Building  
**Fuller Bros. Property Trail System**

**Introduction**

The City of Deadwood [DEADWOOD] is requesting formal bids for the construction of 16,450 +/- linear feet of non-motorized, multi-use, 24” – 36” natural surface trail as a portion of the overall Deadwood Trail System. Once built the trail will be flowy moderately difficult with rolling contours, grade reversals, banked turns, small to medium optional features using only natural materials providing a quality experience for both up and down hill travel. Emphasis on using natural features as positive control points. Concept of work is to start and progress without interruption until the trail work under this project is complete. The project construction will be supervised by the City of Deadwood. The project will be on land owned by the City of Deadwood or Deadwood Historic Preservation Commission on the north side of Deadwood, Lawrence County, South Dakota.

**Background**

Once fully constructed, the Deadwood Trail System will be a professionally designed, 25 +/- mile natural-surface, non-motorized trail network accessible from Deadwood via multiple designated parking areas. The full trail system will be situated on lands administered by the City of Deadwood, the Bureau of Land Management (BLM), and the United States Forest Service (USFS).

This request for bids is for the construction of approximately 16,450 +/- linear feet of non-motorized, multi-use, 24” – 36” natural surface trail as part of the Deadwood Trails System. This project is for trail on land owned and administered by the City of Deadwood. The trail to be constructed as a result of this project will be multi-use for biking and hiking.

This notice to bidders is divided into the following sections:

1. Introduction
2. Background
3. Call for Bids
4. General Provisions
5. Bid Form
6. General Specifications
7. Individual Trail Specifications

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## **Call for Bids**

Each formal bid shall be limited to no more than ten (10) pages (8½” x 11”), not including appendices. The following elements must be included in each submittal:

1. Qualified individuals or firms are invited to submit any questions on the project to the following Point of Contact for this solicitation:

Contact: Kevin Kuchenbecker  
Title: Planning, Zoning and Historic Preservation Officer  
Address: City of Deadwood  
108 Sherman Street  
Deadwood, SD 57732  
Phone: 605-578-2082  
Email: [kevin@cityofdeadwood.com](mailto:kevin@cityofdeadwood.com)

2. Submit one (1) hard copy in sealed envelope by 2:00 p.m. on Thursday, March 28, 2024 to the Finance Office at 102 Sherman Street, Deadwood, SD 57732. Please address the exterior of the envelope with the project name as follows:

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3. Bids must be received by the time and date specified.
4. No Bid will be considered which is not submitted on the attached Bid Form, signed by a proper official of the company bidding, in the space provided and delivered in a sealed envelope.
5. No Bid will be considered which modifies in any manner any of the general provisions, specifications, or the bid form.
6. A Bid in the possession of DEADWOOD may be altered by the person authorized for bidding, provided it is prior to the time and date of the bid opening and returned in a sealed envelope.
7. A Bid in the possession of DEADWOOD may be withdrawn by the bidder up to the time and date of the bid opening. Bids may not be withdrawn for a period of 30 days after the bid opening.
8. A formal contract will be issued, and the work contemplated will be covered by a SERVICE CONTRACT.
9. Acceptance of the SERVICE CONTRACT will be deemed to mean acceptance of the contract work as specified in the Bid.
10. Progress payments can be made for completed work for that period.
11. Final payment will be made after the acceptance of all work.
12. Failure of the successful bidder to furnish the equipment, materials, supplies, or perform the service awarded from their Bid shall eliminate the bidder from subsequent phases of the Deadwood Trail project.
13. DEADWOOD will supply materials for bridges, culverts, and fence crossings. However, in consultation with DEADWOOD, the Contractor may provide materials when deemed necessary or desirable in order to fully complete the work contemplated. Such work shall be performed as directed or agreed upon and will be paid for at the specified item prices, approved rental rates, or lump sum

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stipulated in the order authorizing the work.

14. DEADWOOD hereby notifies all prospective bidders that DEADWOOD will affirmatively assure that minority business enterprises will be afforded full and equal opportunity to submit bids in response to this invitation and are specifically encouraged to do so. DEADWOOD further assures that it will not discriminate against anyone on the grounds of race, sex, age, color or national origin or disability in consideration for an award.
15. A Pre-bid Site Walkthrough is not scheduled; however, additional information can be requested via email from DEADWOOD's point of contact or project manager and will be shared with all prospective bidders according to the Project Timeline and Schedule.
16. Project Timeline and Schedule:

March 04, 2024	Notice to Bidders released
March 14, 2024	Deadline for request for clarifications/questions
March 21, 2024	Response to request for clarifications distributed
March 28, 2024	Bid submission deadline at <b>2:00 p.m.</b>
April 01, 2024	Anticipated award announcement
April 15, 2024	Contract signed

### **General Provisions:** Deadwood Trail System – Fuller Project – 2024

1. **LICENSES, PERMITS AND TAXES:** The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.
2. **LAWS TO BE OBSERVED:** The Contractor shall be kept fully informed on all Federal and State laws, all local bylaws, regulations, ordinances and decrees of bodies or tribunals having any jurisdiction or authority which in any manner affects those engaged or employed on the work, or which in any way affects the conduct of the work. They shall at all times observe and comply with all such laws, bylaws, ordinances, regulations, orders and decrees in force at the time of award. The Contractor shall protect and indemnify DEADWOOD and its representatives against any claim or liability arising from or based on the violation of any such law, bylaw, ordinance, regulation, order of decree whether by themselves or their employees. No extension of time or additional payment will be made for loss of time or disruption of work caused by any actions against the Contractor for any of the above reasons.
3. **CONTRACTOR'S INSURANCE:**
  - a. The Contractor shall not commence work under this contract until they have obtained all the insurance required hereunder and such insurance has been approved by DEADWOOD. Approval of the insurance by DEADWOOD shall not relieve or decrease the liability of the Contractor. The Contractor shall file a Certificate of Insurance with DEADWOOD, verifying each type of

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coverage required including a certificate of insurance specifically naming DEADWOOD as additionally insured.

- i. Workers' Compensation and Employer's Liability Insurance. The Contractor shall provide proof of workers' compensation coverage for all its employees who are to work on the project described in this Contract. Contractor's coverage shall be under the South Dakota Workers' Compensation program, if statutorily required, or such workers' compensation insurance as appropriate. The Contractor shall also supply to DEADWOOD proof of workers' compensation and employers' liability insurance, if required, on each and every subcontractor prior to allowing that subcontractor on the job site.
  - ii. Commercial General Liability Insurance. The Contractor shall provide coverage, during the entire term of this contract, against claims arising out of bodily injury, death, damage to or destruction of the property of others, including loss of use thereof, and products and completed operations, in an amount not less than One Million Dollars (\$1,000,000) per occurrence.
  - iii. Business Automobile Liability Insurance. The Contractor shall maintain, during the entire term of the contract, automobile liability insurance in an amount not less than Five Hundred Thousand Dollars (\$500,000) per occurrence.
  - iv. Unemployment Insurance. The Contractor shall be duly registered with the Employment Security Commission, Unemployment Compensation Division. The Contractor shall supply an official notice of Unemployment Insurance Coverage for itself and on each and every subcontractor prior to beginning work under this contract.
  - v. Certificate of Good Standing. The Contractor shall provide a Certificate of Good Standing verifying compliance with the unemployment insurance and workers' compensation programs prior to performing work under this Contract.
  - vi. Payment of Premiums and Notice of Revocation. All policies required under this Contract shall be in effect for the duration of this Contract and project. All policies shall be primary and not contributory. Contractor shall pay the premiums on all insurance certificates which must include a clause stating that the insurance may not be revoked, canceled, amended, or allowed to lapse until the expiration of at least thirty (30) days advance written notice to DEADWOOD.
  - vii. DEADWOOD May Insure for Contractor. In case of the breach of any provision of this Section, DEADWOOD may, at DEADWOOD's option, purchase and maintain, at the expense of the Contractor, such insurance in the name of the Contractor, or subcontractor, as DEADWOOD may deem proper and may deduct the cost of taking out and maintaining such insurance from any sums which may be found to be due or become due to the Contractor under this Contract.
- b. DEADWOOD's right to reject: DEADWOOD reserves the right to reject a

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certificate of insurance if the Contractor's insurance company is widely regarded in the insurance industry as financially unstable. This includes, but is not limited to, insurance companies with an "Omit" rating in the A.M. Best insurance rating guide.

- i. DEADWOOD's right to contact insurer: DEADWOOD shall have the right to consult with the Contractor's insurance agent for disclosure of relevant policy information. Relevant information includes, but is not limited to: exclusions endorsed; claims in progress which could significantly reduce the annual aggregate limit; or, if the policy is a "claims made" policy instead of an "occurrence" policy, the information provided shall include, but not necessarily be limited to:
  1. Retroactive dates;
  2. Extended reporting periods or tails; and
  3. Any applicable deductibles.
4. PRE-BID MEETING: Before submitting, the Contractor should familiarize themselves as best as possible with the area and the conditions affecting the work. Be advised the project location may be currently under snow cover, with limited access and will likely remain so into May. A Pre-bid Site Walkthrough may not be possible; however, additional information can be requested via email from DEADWOOD and will be shared with all prospective bidders according to the Project Timeline and Schedule.
5. CONTRACT TIME: Said work shall commence upon receipt of the Notice to Proceed and shall be completed within the contract dates. Concept of the work is to start at a time selected by the Contractor and conveyed to DEADWOOD and to progress without interruption until the job is complete.
6. EXTRA WORK: In consultation with the DEADWOOD, the Contractor shall perform unforeseen work whenever it is deemed necessary or desirable in order to complete fully the work contemplated. Such work shall be performed as directed or agreed upon and will be paid for a specified time and material rates, approved rental rates, or a lump sum stipulated in the order authorizing the work.
7. BASIS OF AWARD:

Right of Rejection: DEADWOOD reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the successful bidder, and the right to disregard all non-conforming, non-responsive or conditional bids.

Qualifications and Experience: In evaluating Bids, DEADWOOD shall consider the qualifications and experience of the Bidders in constructing purpose-built, natural-surface trail with specialized machinery, as well as experience with design layout and modification, whether or not the Bids comply with the prescribed requirements and hourly rates and unit prices, if requested in the bid forms, are extended correctly.

Additional Information: DEADWOOD may conduct such investigation as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed sub-

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Contractors, employees, and other persons and organizations to do the work in accordance with the Contract Documents to DEADWOOD's satisfaction within the prescribed time.

Partial Award: DEADWOOD reserves the right to award a partial award of only a portion of the project contained within the solicitation, or to award separate portions of the project to separate bidders. Unless otherwise specified by DEADWOOD or the bidder, DEADWOOD may accept any item or groups of items in the Bid as may be in the best interest of DEADWOOD.

If the contract is to be awarded, it will be awarded to the bidder whose evaluation by DEADWOOD indicates to DEADWOOD that the award will be in the best interest of DEADWOOD.

8. **TERMINATION:** The contract may be terminated by either party without cause with a thirty (30) day written notice, delivered by certified mail.
9. **WARRANTY PERIOD:** If DEADWOOD determines Contractor's work is defective after the approved final payment and prior to the expiration of one year after the date of Final Completion or such longer period as may be prescribed by law or by the terms of any applicable special guarantee, the Contractor shall promptly, without cost to DEADWOOD and in accordance with DEADWOOD's written instructions, either correct such defective work or, if it has been rejected by DEADWOOD, remove it from the site and replace it with non-defective work. If the Contractor does not promptly comply with the terms of such instruction, DEADWOOD may have the defective work corrected or the rejected work removed and replaced, and all costs incurred therefore, including compensation for additional professional services, shall be paid by the Contractor and its sureties. The remedies provided in this section are in addition to all other remedies available to DEADWOOD under applicable laws and shall not be construed as exclusive of any other legal right or remedy available to the DEADWOOD.
10. **INDEMNIFICATION:** The Contractor shall indemnify, defend, and hold harmless the City of Deadwood, and its officers, agents, employees, board members, successors, volunteers and assignees from any and all claims, lawsuits, losses, and liability arising out of Contractor's failure to perform any of Contractor's duties and obligations hereunder or in connection with the negligent performance of Contractor's duties or obligations, including but not limited to any claims, lawsuits, losses, or liability arising out of Contractor's malpractice.
11. **PROJECT SUPERVISION:** DEADWOOD will provide oversight and coordination of the trail building project. DEADWOOD will regularly inspect to ensure completed work meets all requirements set forth.

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### **BID FORM**

In compliance with the Call for Bids, General Provisions, Specifications, Maps and Drawings, the undersigned hereby proposes to furnish all labor and equipment to mobilize and perform all work necessary for the **Fuller Brothers Trail System – 2024** for considerations in the following amount:

\$ \_\_\_\_\_

This figure shall be known as the Bid. The Bid shall include sales tax and all other applicable taxes and fees.

1. That for and in consideration of the amounts specified below, this Contractor shall perform the work of constructing Fuller Brothers Trail System – 2024, as further outlined in this RFP, in a good skillful and substantial manner and to the full satisfaction of and under the supervision of the Representative in charge of the Project. In the prosecution of the work, the Contractor shall, at his own cost and expense, furnish all labor, machinery, tools, equipment, materials, and supplies except such equipment and materials which shall be furnished by DEADWOOD, as provided in the General Provisions, General Specifications, or Individual Trail Specifications, and shall perform the work in strict conformity with the General Provisions, General Specifications, or Individual Trail Specifications relative to this work.
2. In consideration of the covenants and agreements to be kept and performed by the Contractor and for the faithful performance of this Bid and the completion of the work embraced herein according to the plans, specifications, drawings and conditions herein contained and referred to, DEADWOOD shall pay and the Contractor shall receive and accept as full compensation for everything furnished and done by the Contractor under this proposal and also for all loss or damage arising out of the nature of the work, the action of the elements or from any unforeseen contingencies or difficulties encountered in the prosecution of the work.
3. The contract will be for a one-year period, with an option to extend, by agreement of both parties in writing and subject to the required approvals. There is no right or expectation of extension and any extension will be determined solely at the discretion of the DEADWOOD.
4. Said work shall be commenced upon notice to proceed and shall be completed per contract documents; however, should the Contractor be delayed in the prosecution of the work by any act, neglect or fault of DEADWOOD, or by any damage caused by fire, flood or other casualty over which the Contractor has no control, then the time herein set for the completion of the work may be extended as determined by mutual agreement of the parties hereto. DEADWOOD hereby reserves the right to accept and make use of any portion of said facilities before completion of the entire work without invalidating the contract, or binding DEADWOOD and accept the remainder of the work or any portion thereof, whether completed or not. DEADWOOD also reserves the right to eliminate or delay parts of the project depending upon Bid and funds available.
5. It is also agreed by the parties hereto that the Call for Bids, Drawing, General Provisions and Specifications, herein referred to, form an essential part of this



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agreement and whether the same are attached hereto or on file in the office of DEADWOOD they shall have the same force and effect as if spread at length herein.

6. If written Notice of Acceptance of this Bid is delivered to this bidder within Twenty (20) calendar days after date of bid opening, this bidder will within Twenty (20) calendar days after date of such notice, execute and deliver the Contractor's Certificate(s) of Insurance in accordance with the General Provisions and Bid as accepted.
7. The bidder hereby agrees that should they be awarded this contract, Contractor shall not discriminate against any person who performs work because of age, race, religion, color, sex, national origin or ancestry.
8. The bidder also covenants and agrees and that this Bid is made without collusion with any other person, firm or corporation; that they have carefully examined the Call for Bids, General Provisions, Drawings and Specifications, and any and all Addenda governing the work included in this Bid, and fully understands the physical conditions under which the work must be performed.
9. The bidder will perform all extra work that may be required and on the conditions set forth in the General Provisions.

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1. **BY SUBMISSION OF A BID, THE BIDDER CERTIFIES:**

- 1.1 Prices in this Bid have been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition.
- 1.2 No attempt has been made nor will be by the bidder to induce any other person or firm to submit a Bid for the purpose of restricting competition.
- 1.3 The person signing this Bid certifies that they are authorized to represent the company and is legally responsible for the decision as to the price and supporting documentation provided as a result of this advertisement.
- 1.4 Bidder will comply with all applicable Federal regulations, policies, guidelines, and requirements.

2. **GENERAL INFORMATION:**

Company Name \_\_\_\_\_ Phone \_\_\_\_\_

Signatory's Name \_\_\_\_\_ Fax \_\_\_\_\_

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

Title \_\_\_\_\_

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email Address \_\_\_\_\_

SSN/Employer Identification Number \_\_\_\_\_

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**3. OWNERSHIP AND CONTROL:**

Bidder's Legal Structure:

- |  |  |
|--|--|
| <input type="checkbox"/> Sole Proprietorship | <input type="checkbox"/> General Partnership |
| <input type="checkbox"/> Corporation         | <input type="checkbox"/> Limited Partnership |
| <input type="checkbox"/> Limited Liability   | <input type="checkbox"/> Other _____         |

If Bidder is a sole proprietorship, list:

Signatory's Name \_\_\_\_\_ Phone \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email Address \_\_\_\_\_

SSN/Employer Identification Number \_\_\_\_\_

Beginning date as owner of sole proprietorship \_\_\_\_\_

Provide the names of all individuals authorized to sign for the bidder:

NAME (printed or typed)	TITLE
_____	_____
_____	_____

Contractors must provide:

- 1) A minimum of three (3) references with the Bid form to include name, address, telephone number, date of project, and description of services performed, period of performance, and contracted amount.
- 2) Proposed approach to this project, including machines/materials to be utilized, identification and experience of on-site personnel on similar projects with similar machines/materials.
- 3) Please list at least three (3) similar past projects with brief narratives.
- 4) Please provide one (1) letter of recommendation from previous shared use trail construction projects with contact information (phone number and email address).
- 5) Provide a recommended schedule/timetable that discloses your window of availability to meet the expectations of this contract.
- 6) Experience constructing sustainable and shared-use (bike/hike) trails?  
Yes \_\_\_\_\_ No \_\_\_\_\_

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### **VERIFICATION**

I certify under penalty of perjury, that I am a responsible official (as identified above) for the business entity described above, that I have personally examined and am familiar with the information submitted in this disclosure and all attachments, and that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including criminal sanctions which can lead to imposition of a fine and/or imprisonment.

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(Name and Title)

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(Date)

## **General Specifications**

The trail constructed through this Request for Proposal (RFP) is on the slope north of the City of Deadwood South Dakota. Work includes completion of an on-site investigation of local conditions, furnish all labor, equipment, supplies and materials in performing all operations necessary for the complete and proper development of identified trail infrastructure associated with the project. This contract is for the mobilization and construction of approximately 16,450 +/- linear feet of non-motorized, multi-use, 24” – 36” natural surface trail as part of the Deadwood Trail System. Work must be completed according to trail standards as contained within this scope of work. Trail lengths are estimates derived from design data files completed in 2023. Preliminary layout of the trail corridor has been completed and flagged representing the center line of a twenty-five-foot right-of-way. As part of this project the Contractor is responsible for final field alignment and design within this corridor. The trail to be constructed through this RFP is multi-use for biking and hiking.

Contractor will adhere to Sustainable Trail Construction best practices and guidelines accepted in the industry as standards providing the foundation for all design and construction decisions ("half rule", frequent grade reversals, maximum grades, function of soils and use, etc.).

## **Section 1: General Requirements**

- 1.1 Project Location - The work is located just North of the City of Deadwood SD The project is located within off the area known as Aspens Trailhead. For work and equipment access, there is one entry point at the Aspens Trailhead. There are no restrictions on access, however snow or mud can be limiting in extreme circumstances. Exact location is shown on the attached map. If needed, KMZ Google Earth files and or shapefiles may be requested from DEADWOOD via email.
- 1.2 Description of work - The general components of the work to be performed under these plans and specifications include, but are not limited to, furnishing and installing approximately 16,450 +/- linear feet of non-motorized, multi-use, 24” – 36” natural surface trail as part of the Deadwood Trail System. Monthly invoices may be submitted to DEADWOOD. DEADWOOD will monitor the progress of the project regularly.
- 1.3 Layout- Preliminary layout of the trail centerline has been completed. The Contractor will collaborate with DEADWOOD on decisions and alterations prior to any construction.
- 1.4 Submittals - Submittals shall be interpreted to include drawings, data, manuals, certifications, warranties, samples, charts, weekly timesheets and other items furnished by the Contractor for approvals. Submittals will be given to DEADWOOD. The following submittals will be required for this project:
  - a. Proposed Construction Schedule and Bid Forms.
- 1.5 Materials - Materials as used in these specifications shall mean equipment, machinery, product, component or any other item to be incorporated in the work, “Alt-Adds” included. The Contractor will use on-site, native materials whenever possible. Native materials such as rocks, trees, soils, etc. within 100-feet of the general trail corridor can be used to construct trail features/structures. It is determined that their use will not adversely impact natural resources based on a

field review between DEADWOOD and Contractor during the design and layout approval.

The Contractor shall make a diligent effort to procure such materials, but, if materials become unavailable, substitute materials may be used, provided no substitute materials shall be used without prior approval by DEADWOOD. off-site materials furnished by the Contractor shall be of the type and quality described in these specifications. The DEADWOOD's determination as to whether substitution will be permitted will be final and conclusive.

- 1.6 Equipment restrictions, access and haul routes - Trails are to be constructed using machine labor with hand labor employed for finish work and along any area ill-suited for machine construction. To minimize environmental impact and keep the footprint of disturbance within immediate trail construction area only, equipment shall be limited to hand tools or small (mini or micro) walk-behind or ride on mechanized equipment. Use of and types of mechanical equipment will need to be detailed in Bid documents and approved by DEADWOOD prior to construction. The Contractor shall inspect the access for suitability and will need DEADWOOD approval for any access outside the general construction corridor. Any trail-construction-related damage to lands located outside the trail corridor will be the responsibility of the Contractor. Equipment must be cleaned prior to commencing construction to ensure that weeds are not transported from off-site projects.

In the case of major equipment failure, it is the responsibility of the Contractor to immediately contact DEADWOOD.

- 1.7 Staging area - There are no staging areas within the project area due to parking limitations. All equipment will need to be off loaded and moved directly onto the work site.
- 1.8 Preservation of Vegetation - The Contractor shall exercise care to preserve the natural landscape, including trees and shrubs, and shall conduct construction operations as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works or excavation operations, all trees, native shrubbery, and vegetation, shall be preserved and protected from damage by the Contractor's construction operations and equipment.

All unnecessary destruction, scarring, damage or defacing of the landscape resulting from the Contractor's operations, shall be repaired, replanted, reseeded or otherwise corrected as directed by DEADWOOD and at the Contractor's expense. After completion of the work, all areas disturbed by construction that do not require landscaping or planting, shall be scarified and left in a condition which will facilitate natural vegetation, provide for proper drainage and prevent erosion.

- 1.9 Clean-up - General clean-up will be conducted by the Contractor over the limits of the entire project to the satisfaction of DEADWOOD unless otherwise arranged. This includes touch-up work, patching, and clean-up of all materials related to this contract and Contractor. Clean-up will not be paid for separately but will be included in the Bid.
- 1.10 Guarantee and warranty - A one (1) year guarantee and warranty will be provided by the Contractor on all work of this project. Any portions needing replacement or repair within one (1) YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY

DEADWOOD, shall be completed by the Contractor at their expense, within a time frame agreed upon by DEADWOOD. All manufacturer warranties shall be transferred to DEADWOOD.

### **Section 2: Trail Construction Guidelines**

- 2.1 General - Contractor will adhere to *Sustainable Trail Construction* best practices and guidelines that are accepted in the industry as standards providing the foundation for all design and construction decisions ("half rule", frequent grade reversals, max grades function of soils and use, etc.). The City of Deadwood understands that all trails comprise a creative process driven by local conditions and the involved parties' collaborative efforts. Modifications to the specifications may be allowed, however, they must be made in collaboration with the DEADWOOD and in writing.

All costs for earthwork of this project; excavation, stripping and backfilling, are considered subsidiary to the installation of natural surface trail and associated costs are to be included with the associated Bid items, not to be paid separately. Bidders and the Contractor shall assume all responsibility for deductions and conclusions as to the nature of the materials to be excavated and the difficulties of making and maintaining the required excavations. Excavation shall be made to the lines, grades and dimensions prescribed in the various paragraphs of these specifications.

No excavation shall be made in frozen materials without written approval from DEADWOOD.

All necessary precautions shall be taken to preserve the material below and beyond the established lines of all excavation. Any damage to the work due to the Contractor's operations shall be repaired at the expense of and by the Contractor. Material beyond the required or prescribed excavation lines which is loosened or disturbed by the Contractor's operations shall be removed or fine graded at the expense of the Contractor.

Where additional excavation is prescribed by DEADWOOD to remove unsuitable foundation material, all earthwork due to such additional excavation shall be in accordance with these specifications.

The trail surfaces to be constructed shall be finished to the dimensions shown on the drawings or prescribed by DEADWOOD. When applicable the surfaces shall be moistened with water and tamped or rolled with suitable tools or equipment to form a compacted trail foundation

- 2.2 Excavation for Drainage - The Contractor shall perform excavation for drainage, and as may be instructed by City staff. The drainage channels shall have side slopes and bottom widths to conform to the topographic and hydraulic conditions to be met and contained herein.
- 2.3 Surface Water Control Features - Drainage structures will be incorporated into the trail tread and trail layout to minimize the effects of water flow and prevent excessive erosion. The Trail shall follow the contour, minimize stream crossings and felling of large trees, and stay at least four (4) feet from stream banks except at crossings.

Alignment shall take advantage of natural drainages to minimize the need for major

drainage modifications.

In areas where there is a potential for trail erosion, grade reversals shall be incorporated into the trail tread to create natural appearing drainage dips at appropriate intervals.

- 2.4 Backfill - Any backfill shall be placed and compacted to the trail surface. The material to be compacted shall be deposited in approximately horizontal layers which shall not be more than 8 inches in thickness. Use of organic or duff is prohibited. Backfill material shall be obtained from material moved in required excavations. Backfill shall be placed to the same elevation on both sides of the structures, culverts, or other work.

### **Section 3: Detailed Guidelines for Construction**

- 3.1 Trail Flagging- DEADWOOD will flag the center line of a ten foot right of way. The Contractor may place supplementary flagging of the final alignment.
- 3.2 Water for Construction- Upon approval, nearest water available for trail construction is from miscellaneous springs and a stock tank if permission is granted from owner.
- 3.3 Features- Difficulty on bike trails will be constructed as described below for each individual trail. Earthen structures will be composed entirely of mineral soil and/or rock, stabilized and compacted. Hand tamping only is not acceptable. Use of organic material or duff is prohibited. Where suggested by Contractor and DEADWOOD, short alternate lines of increased/decreased difficulty may be considered.
- 3.4 Clearing of Corridor- Clearing of corridor will be performed by Contractor. The maximum width of the corridor is five feet, less is preferred and whenever possible, with narrower gateways through natural obstacles (trees, rock outcrops) are encouraged with a height of 8-12 feet. Clearing and grubbing will be done with minimal disturbance to surrounding soils, vegetation, and viewshed. Taking of trees larger than four inches will be avoided and only done with no other option. Limbing and pruning will be done using techniques and industry standards that protect trees/shrub from undue harm. Vegetation will be lopped to the ground no more than a few inches high and scattered away from the trail edge, making visibility of debris minimal.
- 3.5 Spoils- Spoil material, including dirt, duff, rock and vegetation loosed during trail construction must be distributed such that no berm is left along trail edge to a minimum distance of ten feet from edge of trail. Spoil material will be not more than four inches in depth, spread in a manner that does not bury existing vegetation, does not interfere with drainages, and is scattered to blend with surrounding landscape. Piling debris in stream beds, gullies, or suspected wetlands is prohibited. If borrow pits are created they will be restored to finish requirements.
- 3.6 Trail Tread- Trail tread will be 24"- 36", larger where necessary for landing platforms, turning radius and features. Full bench construction whenever possible. If fill is required, it will be properly retained and discussed with DEADWOOD prior to action. Mainly firm trail surfaces with smooth paths through obstacles. Rock material may be left in tread in instances of increased difficulty or to achieve a particular goal of a specific segment. All stumps, roots, brush will be removed from

tread with holes filled and compacted.

- 3.7 Water Diversions- A 5-7% outslope will be incorporated on all applicable tread. When not possible or desirable due to purpose-built in-sloping, resource concerns, or obstructions, water can be directed down the trail for short distance before a water diversion feature is incorporated. Frequent grade reversals are encouraged. To promote self-cleaning drains, grade reversals will be >15%. If >25% riprap or armor will be installed. Water bars will not be used in the construction of this project.
- 3.8 Turns- All berm turns or insloped switchbacks will be created with an insloped turn pad. Turning radii should be consistent throughout the turn. Turns with a running grade of twenty percent (20%) or greater in the apex should have a rock armored drain two feet wide following the inside of the turn. Any fill structure for a turn pad will comply with composition, compaction, and fill slope requirements. If a retaining wall is employed in place of a fill slope, the structure will be constructed of stone and comply with all industry standards and specifications for rock retaining walls. A grade reversal or rolling grade dip will be constructed before and after each bermed turn or insloped switchback. If multiple switchbacks are required, they will be situated to minimize “stacking”. The grade reversals or rolling grade dips are part of the entire feature and will not be billed as separate units. The Contractor will create short-cutting deterrents at each turn.
- 3.9 Rollers & Brollers (Bermed Rollers)- A broller is defined as tilted tread surface that is insloped or off camber in excess of the standard tread out slope of 5%. Brollers do not result in a change of direction across the landscape and do not cross the fall line. Typical rollers and brollers will be included in the Bid price for all trail construction types and are not considered berms or turns.
- 3.10 Grade Reversals/Rolling Grade Dips- A designed grade reversal or rolling grade dip should occur approximately every 20-70 feet. Grade dips will be incorporated uphill and downhill from every significant turn unless acceptable substitute is available. Typically, six feet long or greater in bottom, and ten feet long or greater on top, a height differential of 12”, with a grade between 15%- 25% grade, and sides slope of 2:1. Specific details will be determined by the Contractor in partnership with the City of Deadwood. Reversals constructed of fill >12” are considered features.
- 3.11 Armor- Tread hardening using native stone will be implemented where needed for unavoidable erosion control using native stone as available and done to known industry standards in grade, stability, width, and length. Visible rocks that can be easily collected without significant disturbance will be used. Any alternative manufactured armoring products that the Contractor would like to use must be preapproved by the City of Deadwood.
- 3.12 Finish Work- Finish work to be performed by the Contractor. Trails will be finished as the project advances to minimize erosion, control sediment, and reduce exposure of the tread. All equipment marks will be smoothed and blended prior to completion. Back slope will be graded to 3:1 or matched to existing slope wherever possible, and stumps or exposed roots will be flush-cut or removed. Contractor will assure that down slope spoils are visually minimal and will not interfere with drainage off tread. Rocks unearthed that are not used in construction will be spread away from trail edge, natural side up and anchored to avoid rolling. All finish work will be completed to the satisfaction of the City of Deadwood. Signage



is the responsibility of the City of Deadwood.

**Section 4: Completion Requirements**

- 4.1 Payment – The Contractor will provide monthly progress reports along with monthly invoices. Any previously agreed upon expenses for materials will be included in the monthly invoice. Payment shall be made monthly.
- 4.2 General Comments:
  - 4.2.1 DEADWOOD will work with the Contractor to ensure that any and all site-related permits or permissions have been secured to build the entire project.
  - 4.2.2 Contractors must have experience constructing non-motorized trails to IMBA standards. In addition, Contractors must have a minimum of five (5) years of experience building trails of comparable size and scope to the trails in this document. This includes following flagging, clearing the general corridor, final trail alignment, and directing machine and hand- build construction methods. As described per the formal Bid sheet, Contractors must provide a minimum of three (3) references with the Bid form to include name, address, phone number, date of project, description, and location of project.
  - 4.2.3 Workmanship shall be of the best quality. The professional appearance of finished work shall be of equal importance with its intended use. All portions of the work shall be so laid out and installed so that the work, as a whole, is of uniform quality and appearance.
  - 4.2.4 Contractor shall prepare a construction schedule showing major construction activities before any construction begins.
  - 4.2.5 Contractor acknowledges that they have satisfied themselves as to the nature and location of the work and the general and local conditions of the site by visiting the site or otherwise becoming thoroughly familiar with the site.
  - 4.2.6 A pre-construction conference shall be scheduled by the Contractor as soon as practical after the Service Contract has been received by the Contractor. The meeting shall include DEADWOOD and appropriate representatives of the Contractor who will be responsible for the management of the project. Major subcontractors shall also attend.
  - 4.2.7 The Contractor shall make every effort to verify the availability of materials for this project by the time of the pre-construction conference. Cost of delays because of non-availability of specified items when such delays could have been avoided by the Contractor, shall not be borne by DEADWOOD. Burden of proof for substituted materials rests with the Contractor. Sufficient documentation must be provided in ample time for review by DEADWOOD. Contractor must not assume that substitutions will be granted.
  - 4.2.8 It shall be the responsibility of the Contractor to become familiar with local or regional code enforcement if any applies to this project.
  - 4.2.9 Before performing any work or ordering any materials, the Contractor shall verify all dimensions of any existing and new work and shall be responsible for their accuracy.
  - 4.2.10 Contract Time. Said work may commence upon receipt of the Notice to

## Fuller Brothers Trail System – 2024

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Proceed. Concept of the work is to start and to progress without interruption until the job is complete.

- 4.2.11 The Contractor is responsible for securing equipment from theft and vandalism within the staging area and throughout the build areas. DEADWOOD will not be held responsible for repair or replacement of items.

### **Section 5: Local Environment - Project Area**

- 5.1 Soils- Soils in the Fuller project area typically range from shallow (<20”) to moderately deep (20-40”) to bedrock and well drained, with coarse fragments ranging in size from channers to cobbles, with surface textures dominantly gravely silt loam. Slope ranges identified in the soil mapping units were described as steep, with the dominant map unit ranging from 10-65%.
- 5.2 Precipitation- 15-19” annually
- 5.3 Vegetation- Predominant vegetation includes conifers, an understory of forbs and grasses and open grassland/shrubland parks. Dominant plant community- ponderosa pine, oak, and aspen depending upon slope, aspect, and elevation.
- 5.4 Archaeological/Environmental Constraints- Per cultural survey, the significant resources reported in project area have been circumvented There are no significant lakes, ponds, or wetland areas intersected by trail. One drainage (City Creek) with annual flow intersects the project area where trail hardening will need incorporated.

### **Section 6: Individual Trail Specifications**

Trail Placeholder Name: “Fuller Segment” Trail Usage: Shared biking and hiking.

Desired Trail Experience: Flowy moderately difficult with rolling contours, grade reversals, bermed turns, small to medium optional features using only natural materials. Generally uphill travel but built to be a good experience coming down also. Emphasis on using natural features as positive control points.

Length: 16,450 +/- linear feet of non-motorized, multi-use, 24” – 36” natural surface trail as part of the Deadwood Trail System. The entire route was flagged in September 2023.

Grade: 5 to 7%

Side-Slopes: 10 – 25% with sections >30%

Elevation Change: Ranges from approximately +/-4,500 feet to +/-5,000 feet.

Preferred Equipment: The upper portions of this trail can be easily accessed by mini excavator from US Hwy 85 or Denver Avenue.

Tread Width: 24” – 36” (width based on side slope)

Tread Surface: As uniform as terrain allows within a moderate difficulty level. Include rock armor when appropriate.

Corridor Width: 36-48 inches, less when possible, with narrow gateways through natural obstacles (trees, rock outcrops) encouraged.

Features (>12 inches in Height): Features >12” in height must be optional and paired with an easier line.

## Fuller Brothers Trail System – 2024

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Number of Features: Spread appropriately for enjoyable experience over the span of the trail.

Rock: Expect limestone outcropping and some thin soil material with rock beneath.

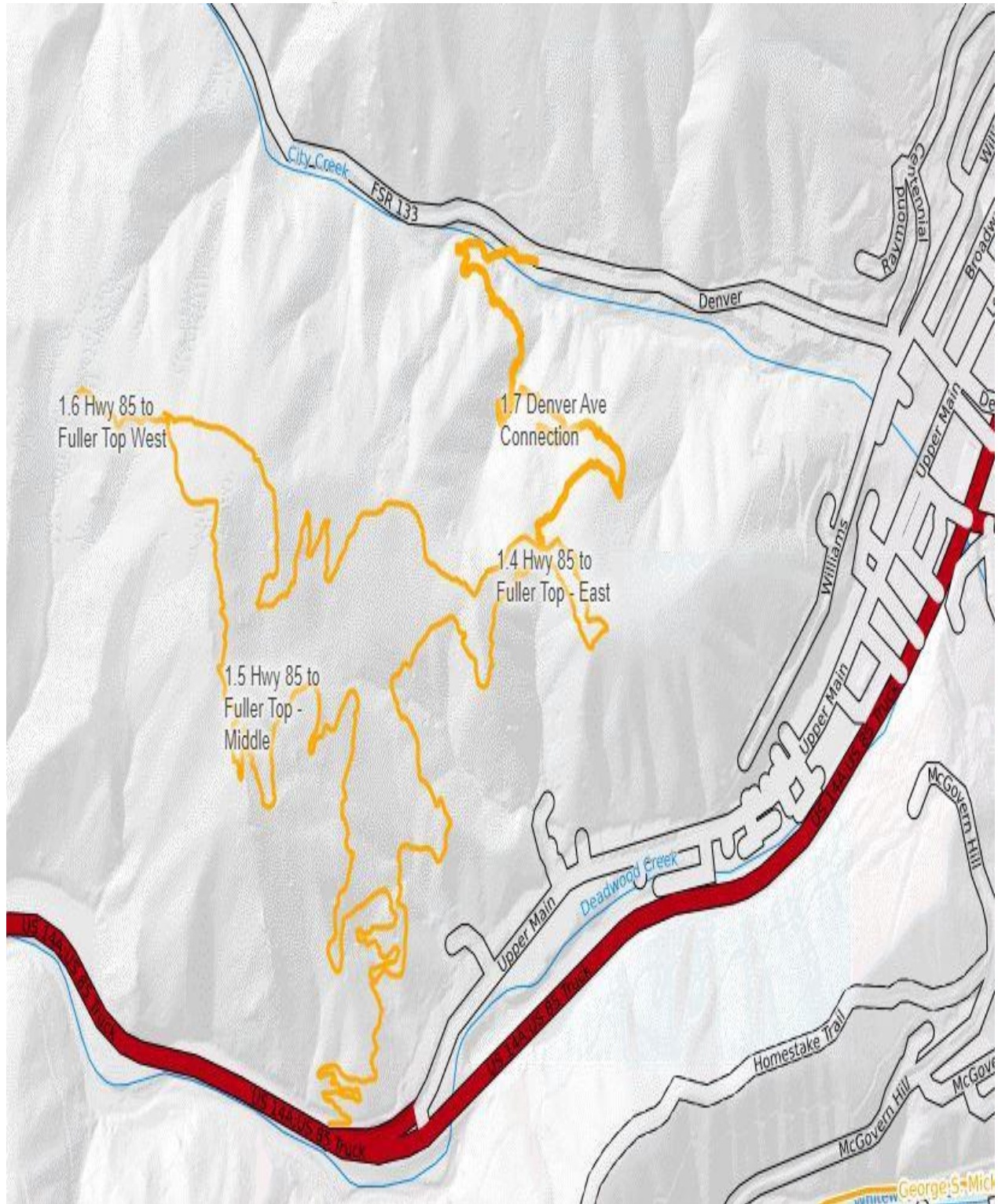
Environment: Approximately 50% forest, 50% scrub brush mixed.

Vegetation: Mainly Ponderosa, Spruce, and Oak.

Hydrology: The water drainages in this section of trail are minimal.

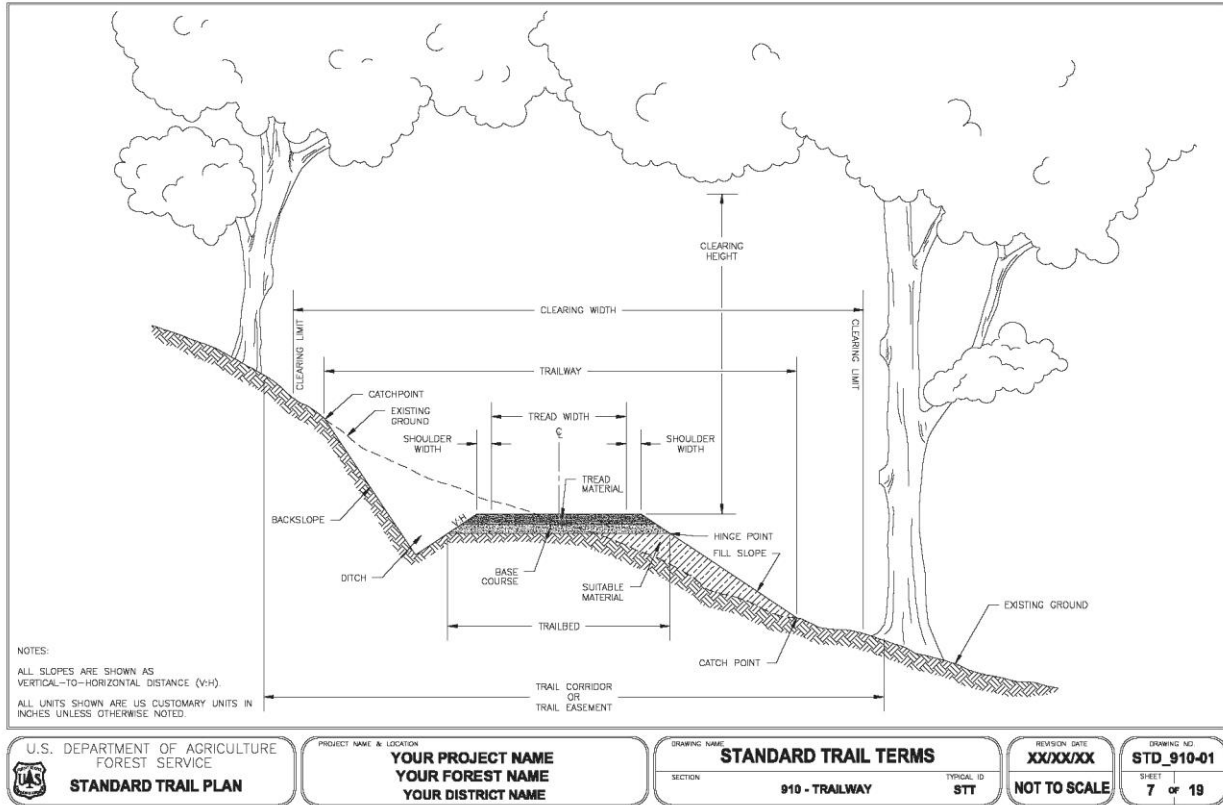
# Fuller Brothers Trail System – 2024

## Project Map



# Fuller Brothers Trail System – 2024

The following plans are made available for reference only on the trail building and to provide guidance to the project. Plans are from the U.S. Department of Agriculture Forest Service and are to be used as reference for the project.



# Fuller Brothers Trail System – 2024

### TYPICAL TRAIL CROSS SECTIONS

**A FULL BENCH SECTION**  
 8 INCHES SHOULDER WIDTH  
 TREAD WIDTH  
 SHOULDER WIDTH  
 ABOVE 30% SIDESLOPE  
 SLOPE ROUNDING IN COMMON MATERIAL  
 6 INCHES  
 SEE SECTION 912 CLEARING LIMITS FOR DISPOSAL TYPE  
 20 FT

**B BALANCED SECTION**  
 8 INCHES SHOULDER WIDTH  
 TREAD WIDTH  
 SHOULDER WIDTH  
 6 INCHES TO 29% SIDESLOPE  
 SLOPE ROUNDING IN COMMON MATERIAL  
 BACKFILL WITH SUITABLE MATERIAL  
 6 INCHES  
 SEE SECTION 912 CLEARING LIMITS FOR DISPOSAL TYPE  
 20 FT

**C FLAT SECTION**  
 SHOULDER WIDTH  
 TREAD WIDTH  
 SHOULDER WIDTH  
 0 INCHES TO 5% SIDESLOPE

### TYPICAL TRAIL TREAD AND SHOULDER WIDTH

TYPICAL ID	SECTION TYPE	TREAD FINISH	TREAD WIDTH	SHOULDER WIDTH UPHILL	SHOULDER WIDTH DOWNHILL	COMMENTS
TSF-1	B	T1	24 IN	12 IN	12 IN	HIKING USE
TSF-2	A	T2	18 IN	6 IN	6 IN	MOUNTAIN BIKE USE
TSF-3	C	T2	48 IN	12 IN	12 IN	OHV USE

### TREAD CROSS SLOPE

TYPICAL ID	OUTSLOPE	INSLOPE	CROWNED SECTION	COMMENTS
TCS-1	3%	NA	NA	TYPICAL UNLESS OTHERWISE STAKED

### SLOPE AND TRAILBED FINISH

TREAD FINISH	ROOTS	LOOSE ROCK	EMBEDDED ROCK	COMMENTS
T1	1	1	1	
T2	3	3	3	TRAIL CLASS 4
T3				
T4				
T5				
T6				

### TRAILBED AND SLOPE FINISH

**SLOPE FINISH**  
 REMOVE ROOTS THAT PROTRUDE FROM THE BACKSLOPE WITH DIAMETERS GREATER THAN SHOWN IN THE SLOPE AND TRAILBED FINISH TABLE.

**TRAILBED FINISH**  
 REMOVE LOOSE ROCK ON THE TRAILBED WITH A DIMENSION GREATER THAN SHOWN IN THE SLOPE AND TRAILBED FINISH TABLE.  
 REMOVE OR REDUCE EMBEDDED ROCK THAT PROTRUDES MORE THAN THE DIMENSIONS SHOWN IN THE SLOPE AND TRAILBED FINISH TABLE.

NOTES:  
 1. SLASH CONSISTS OF LOGS, LIMBS, BRUSH, AND ROCKS PLACED RANDOMLY IN A WAY TO CATCH SEDIMENT MOVEMENT.  
 2. LIMB ALL TREES AND SHRUBS AND TAMP SLASH INTO GROUND SO THAT 80% OF SLASH IS IN CONTACT WITH THE GROUND.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **STANDARD TRAIL PLAN**

PROJECT NAME & LOCATION  
**YOUR PROJECT NAME**  
**YOUR FOREST NAME**  
**YOUR DISTRICT NAME**

DRAWING NAME  
**TYPICAL CROSS SECTION & SLOPE FINISH**

SECTION **911 - TREAD AND PRISM** TYPICAL ID **T8F/TCS**

REVISION DATE **XX/XX/XX** DRAWING NO. **STD 911-01**

**NO SCALE** SHEET **8** OF **19**

### TYPICAL RETAINER TYPE

RETAINER TYPE	MATERIAL	SIZE	SPECIES/ GRADE	PRESERV. TYPE	JOINT TYPE	COMMENTS
R1	ROCK					
R2a	LOG	8 IN	OAK	NA	L1	USE LOCAL NATIVE TREES
R2b	LOG					
R2c	LOG					
R3a	SAWN TIMBER	6X6	SP/#2	P1	L2	
R3b	SAWN TIMBER					
R3c	RAIL ROAD TIES					
X						
X						
X						
X						

### TYPICAL ROCK RETAINER (R1)

100 POUND MINIMUM  
 TREAD  
 EMBED ROCK 2/3 MINIMUM

### TYPICAL LOG RETAINER (R2a, R2b, R2c)

BACKFILL WITH SUITABLE MATERIAL  
 TREAD  
 EMBED 1/3 MINIMUM  
 NO. 5 REBAR MINIMUM  
 18 INCHES MINIMUM

16d NAIL  
 2 X 2 OR 3 INCH DIAMETER NATIVE CUT STAKE  
 18 INCHES LG  
 8 INCH DA MINIMUM  
 TREAD

### TYPICAL TIMBER RETAINER (R3a)

BACKFILL WITH SUITABLE MATERIAL  
 TREAD  
 EMBED 1/3 MINIMUM  
 NO. 5 REBAR MINIMUM  
 18 INCHES MINIMUM

### TYPICAL STACKED LOG RETAINER (R2c)

BACKFILL WITH SUITABLE MATERIAL  
 TREAD  
 EMBED 1/3 MINIMUM  
 TOTAL HEIGHT  
 24 INCHES MINIMUM  
 NO. 5 REBAR MINIMUM

### TYPICAL STACKED TIMBER RETAINER (R3b)

BACKFILL WITH SUITABLE MATERIAL  
 TREAD  
 EMBED 1/3 MINIMUM  
 TOTAL HEIGHT  
 24 INCHES MINIMUM  
 NO. 5 REBAR MINIMUM

### TYPICAL BUTT JOINT (L1)

8 INCH MINIMUM  
 1/4 INCH GAP MAXIMUM  
 2-20d RING SHANK NAILS  
 DRAIN CUT DEPTH AS NEEDED

### TYPICAL LAP JOINT (L2)

6 INCH MINIMUM  
 2X T  
 1/2T  
 DRAIN CUT DEPTH AS NEEDED

### TYPICAL SCAFF JOINT (L3)

6 INCH MINIMUM  
 T  
 T  
 30°  
 DRAIN CUT DEPTH AS NEEDED

### TYPICAL ROCK SPACING

1/2 INCH MAXIMUM  
 TREAD  
 EMBED 1/3 MINIMUM

NOTES:  
 1. PRE-DRILL HOLES FOR REBAR TO PREVENT SPLITTING OF LOGS OR SAWN TIMBERS. RECESS END OF REBAR 1/2 INCH BELOW TOP OF TIMBER.  
 2. 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.  
 3. COMPACT BACKFILL IN 8 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.  
 4. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.  
 5. 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		USE CATEGORY	
WB = WATERBORNE	OT = OIL-BORNE	UC3B = ABOVE GROUND	UC4A = GROUND CONTACT
		UC4B = GROUND CONTACT	UC4C = HEAVY DUTY

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **STANDARD TRAIL PLAN**

PROJECT NAME & LOCATION  
**YOUR PROJECT NAME**  
**YOUR FOREST NAME**  
**YOUR DISTRICT NAME**

DRAWING NAME  
**TYPICAL RETAINERS**

SECTION **911 - TREAD AND PRISM** TYPICAL ID **TRT**

REVISION DATE **XX/XX/XX** DRAWING NO. **STD 911-03**

**NO SCALE** SHEET **9** OF **19**

# Fuller Brothers Trail System – 2024

**A BROKEN DOWN SECTION**

**B TRENCHED SECTION**

**C SLOUGHED SECTION**

**D WASHED SECTION**

**EXISTING TRAIL RESTORATION**

TYPICAL ID	SECTION TYPE	TREAD WIDTH	SHOULDER WIDTH UPHILL	SHOULDER WIDTH DOWNHILL	COMMENTS
ETR-1	ALL	48 IN	12 IN	12 IN	OHV USE
ETR-2	B	24 IN	12 IN	12 IN	HIKING USE

**NOTES:**

- RE-ESTABLISH ORIGINAL DRAINAGE STRUCTURES TO MATCH NEW TREAD SURFACE.
- INSTALL CHECK DAMS, DRAINAGE DIPS OR OTHER DRAINAGE STRUCTURES WHEN SPECIFIED.
- DRAINAGE DIPS WILL BE STAKED IN THE FIELD WHEN REQUIRED AND WILL BE PAID SEPARATELY UNDER SECTION 927.
- USE ONLY SUITABLE MATERIAL TO CONSTRUCT RESTORED TRAIL PRISMS. DISPOSE OF UNSUITABLE MATERIAL AS SHOWN ON PLANS.
- SEEDING, FERTILIZING & MULCHING WHEN REQUIRED WILL BE PAID UNDER SECTION 981.

<p>U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE <b>STANDARD TRAIL PLAN</b></p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>YOUR PROJECT NAME</b> <b>YOUR FOREST NAME</b> <b>YOUR DISTRICT NAME</b></p>	<p>DRAWING NAME</p> <p><b>EXISTING TRAIL RESTORATION</b></p> <p>SECTION <b>911 - TREAD AND PRISM</b></p>	<p>REVISION DATE</p> <p><b>XX/XX/XX</b></p> <p>TYPICAL ID <b>ETR</b></p>	<p>DRAWING NO</p> <p><b>STD_911-30-01</b></p> <p>SHEET <b>10</b> OF <b>19</b></p>
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**CLEARING LIMITS - TREES AND LOGS**

TYPICAL ID	CLEARING METHOD	CLEARING LIMITS			* LEAVE TREES		CLEAR ZONE		STUMPS MAXIMUM HEIGHT (H)	HAZARD TREE REMOVAL WIDTH (I)	DISPOSAL METHOD	COMMENTS	
		DOWNHILL WIDTH (A)	UPHILL WIDTH (B)	CLEARING HEIGHT (C)	DISTANCE (FEET) (D)	DIAMETER (INCHES) (E)	DOWNHILL WIDTH (F)	UPHILL WIDTH (G)					
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 & UNDAUNGED 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	

<p>U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE <b>STANDARD TRAIL PLAN</b></p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>YOUR PROJECT NAME</b> <b>YOUR FOREST NAME</b> <b>YOUR DISTRICT NAME</b></p>	<p>DRAWING NAME</p> <p><b>CLEARING LIMITS-TREES AND LOGS</b></p> <p>SECTION <b>912 - CLEARING LIMITS</b></p>	<p>REVISION DATE</p> <p><b>XX/XX/XX</b></p> <p>TYPICAL ID <b>CLT</b></p>	<p>DRAWING NO</p> <p><b>STD_912-01</b></p> <p>SHEET <b>11</b> OF <b>19</b></p>
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# Fuller Brothers Trail System – 2024

### 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	DHV USE

**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	

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

<p><b>STANDARD TRAIL PLAN</b></p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>YOUR PROJECT NAME</b></p> <p><b>YOUR FOREST NAME</b></p> <p><b>YOUR DISTRICT NAME</b></p>	<p>DRAWING NAME</p> <p><b>CLEARING LIMITS - BRUSHING</b></p> <p>SECTION <b>912 - CLEARING LIMITS</b></p>	<p>REVISION DATE</p> <p><b>XX/XX/XX</b></p> <p>NO SCALE</p>
		<p>TYPICAL ID</p> <p><b>CLB</b></p>	<p>DRAWING NO</p> <p><b>STD_912-02</b></p> <p>SHEET <b>12</b> of <b>19</b></p>

### SURFACING SECTIONS

TYPICAL ID	SECTION TYPE	TREAD WIDTH	SHOULDER UPHILL	SHOULDER DOWNHILL	GEOTEXTILE TYPE	BASE COURSE		SURFACE COURSE		COMMENTS
						TYPE	DEPTH	TYPE	DEPTH	
TSS-1	B	24 IN	12 IN	12 IN	YES	B 1	6	S 2	6 IN	HIKING USE--GEOTEXTILE--NON--WOVEN
TSS-2	A	18 IN	6 IN	6 IN	NA	B 1	6	S 2	6 IN	MOUNTAIN BIKE USE
TSS-3	C	48 IN	12 IN	12 IN	NA	B 1	6	S 2	6 IN	OHV USE

N/A WHEN NOT APPLICABLE

**A OUTSLOPED SECTION**

**BASE COURSE MATERIAL TYPE**

TYPE	MATERIAL	GRADATION	COMMENTS
B1	PITRUM	3" MINUS	NATIVE MATERIAL SOURCE
B2	AGGREGATE	X	
B3	X	X	

**SURFACE COURSE MATERIAL TYPE**

TYPE	MATERIAL	GRADATION	COMMENTS
S1	PITRUM	X	X
S2	AGGREGATE	3" MINUS	COMMERCIAL SOURCE
S3	CLAY	X	
S4	WOODCHIPS	X	
S5	X	X	

**B EXCAVATED SECTION**

NOTE:  
1. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.  
2. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.

**C RAISED SECTION**

<p><b>STANDARD TRAIL PLAN</b></p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>YOUR PROJECT NAME</b></p> <p><b>YOUR FOREST NAME</b></p> <p><b>YOUR DISTRICT NAME</b></p>	<p>DRAWING NAME</p> <p><b>TYPICAL SURFACING SECTIONS</b></p> <p>SECTION <b>913 - SURFACING</b></p>	<p>REVISION DATE</p> <p><b>XX/XX/XX</b></p> <p>NO SCALE</p>
		<p>TYPICAL ID</p> <p><b>TSS</b></p>	<p>DRAWING NO</p> <p><b>STD_913-01</b></p> <p>SHEET <b>13</b> of <b>19</b></p>



# Fuller Brothers Trail System – 2024

### ROCK FOUNDATIONS

TYPICAL ID	SECTION TYPE	GEOTEXTILE TYPE	FOUNDATION		RETAINER*		COMMENTS
			DEPTH	WIDTH	IN-FILL MATERIAL TYPE	TYPE	
RKF-1	C	G1	12 INCH	36 IN	FM3	R30	X

N/A WHEN NOT APPLICABLE  
\*FOR TYPICAL RETAINERS SEE SHEET STD\_911-03

**A EXCAVATED SECTION**

**B RAISED SECTION**

**C RETAINER SECTION**

**NOTE:**

- REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
- COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
- OVERLAP GEOTEXTILE A MINIMUM OF 12 INCHES AT CENTER AND AT ENDS.
- A 6 INCH MINIMUM COVER IS REQUIRED OVER ALL GEOTEXTILE AND GEDCELL FOUNDATIONS.

**GEOTEXTILE TYPE**

TYPE	MATERIAL	COMMENTS
G1	NON-WOVEN	X
G2	WOVEN	
G3	X	

TYPE	MATERIAL	ROCK SIZE	GRADATION %	COMMENTS
FM1	AGGREGATE	1 INCH MINUS	X	
FM2	COARSE AGGREGATE	3 INCH MINUS	X	
FM3	ROCK	3 TO 6 INCH	X	GABION ROCK
FM4	ROCK	4 TO 8 INCH	X	
FM5	HEAVY ROCK	8 INCH PLUS	X	
FM6	X	X	X	

**STANDARD TRAIL PLAN**

PROJECT NAME & LOCATION

**YOUR PROJECT NAME**

**YOUR FOREST NAME**

**YOUR DISTRICT NAME**

DRAWING NAME

**ROCK FOUNDATIONS**

SECTION: **918 - FOUNDATIONS**

TYPICAL ID: **RKF**

REVISION DATE

**XX/XX/XX**

NO SCALE

DRAWING NO

**STD\_918-10-01**

SHEET **14** OF **19**

### STANDARD CULVERT

TYPICAL ID	GEOTEXTILE TYPE	BEDDING		CULVERT		RETAINER*		COMMENTS
		TYPE	TYPE	MITERING (A) (B)	TYPE			
SCV-1	NA	B1	C2	NA	NA	R20		

N/A WHEN NOT APPLICABLE  
\*FOR TYPICAL RETAINERS SEE SHEET STD\_911-03

**END VIEW**

**ELEVATION VIEW**

**CULVERT TYPE**

TYPE	MATERIAL	COMMENTS
C1	CMP - GALV	X
C2	HDPE	
C3	PLASTIC	
C4	ALUMINUM	
C5	CONCRETE	
C6	X	

**NOTE:**

- COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
- NO ROCKS LARGER THAN 1 1/2 INCHES WITHIN 12 INCHES OF PIPE.

**BEDDING MATERIAL TYPE**

TYPE	MATERIAL	GRADATION	COMMENTS
B1	PITRUN	3" MINUS	NATIVE MATERIAL
B2	AGGREGATE	X	
B3	X	X	

**STANDARD TRAIL PLAN**

PROJECT NAME & LOCATION

**YOUR PROJECT NAME**

**YOUR FOREST NAME**

**YOUR DISTRICT NAME**

DRAWING NAME

**STANDARD CULVERT**

SECTION: **921 - CULVERTS**

TYPICAL ID: **SCV**

REVISION DATE

**XX/XX/XX**

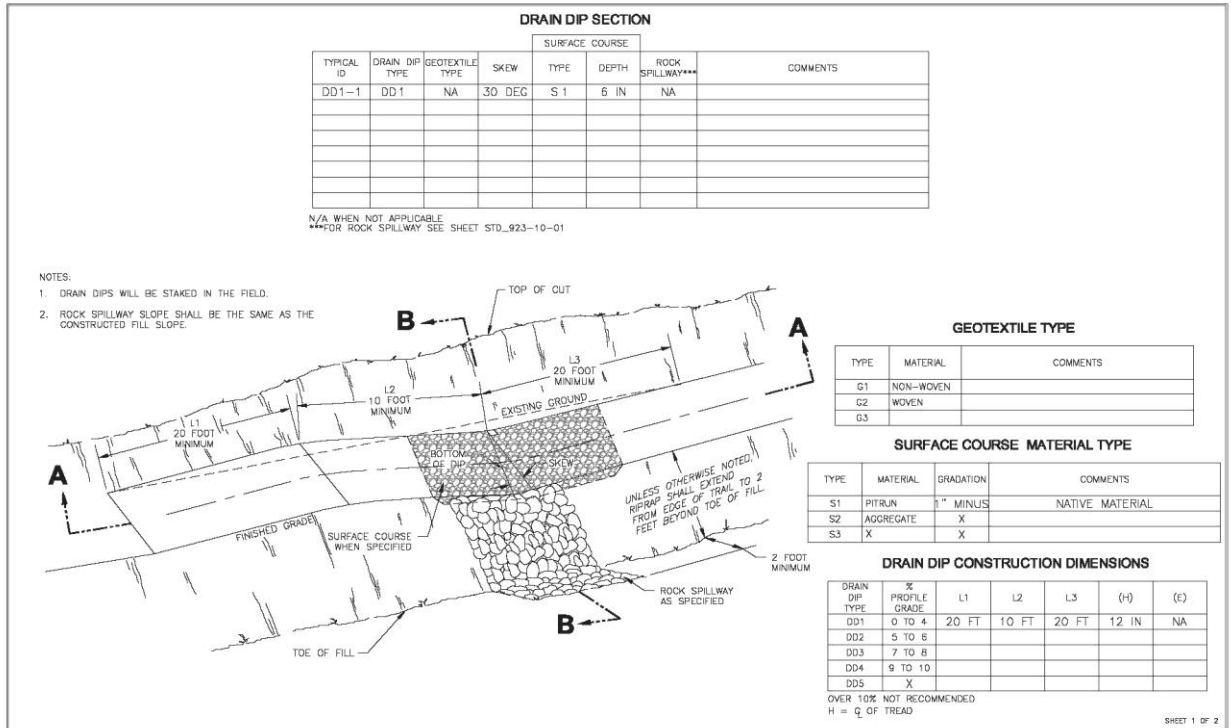
NO SCALE

DRAWING NO

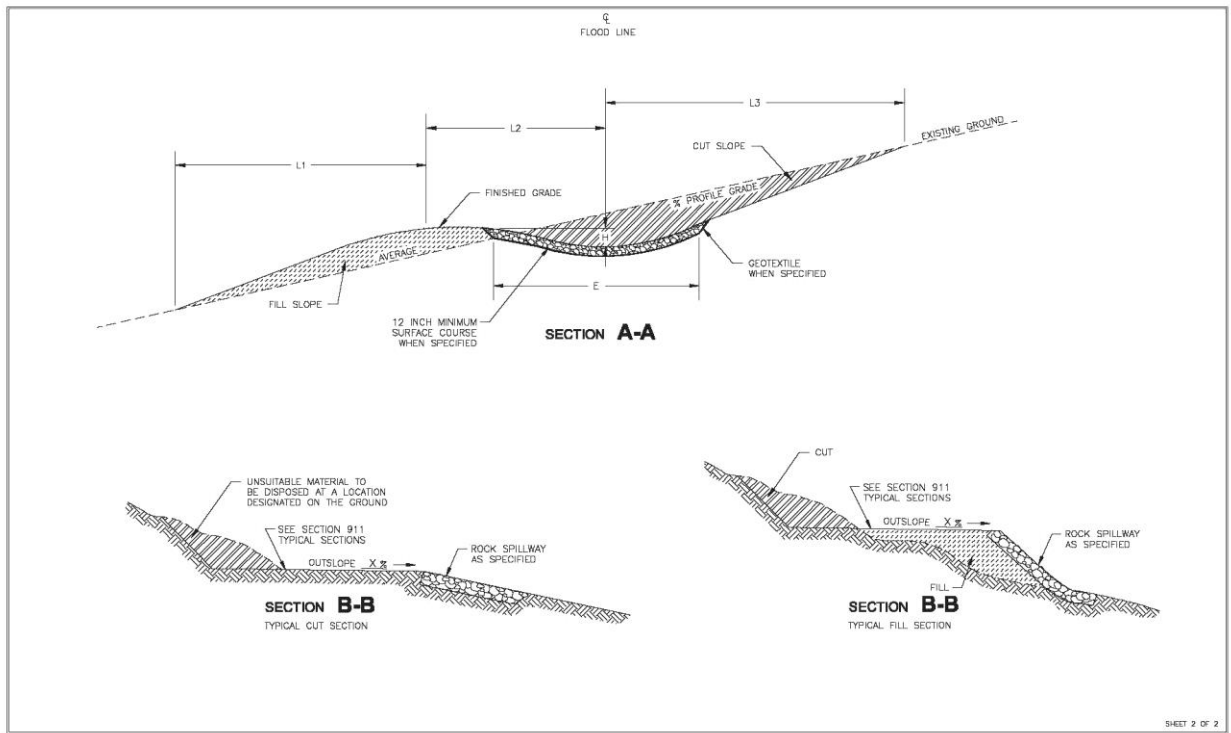
**STD\_921-10-01**

SHEET **15** OF **19**

# Fuller Brothers Trail System – 2024



<p>U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE <b>STANDARD TRAIL PLAN</b></p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>YOUR PROJECT NAME</b> <b>YOUR FOREST NAME</b> <b>YOUR DISTRICT NAME</b></p>	<p>DRAWING NAME</p> <p><b>DRAIN DIP</b></p> <p>SECTION <b>927 - DRAIN DIPS</b></p>	<p>REVISION DATE</p> <p><b>XX/XX/XX</b></p> <p><b>NO SCALE</b></p>	<p>DRAWING NO.</p> <p><b>STD_927-10-01</b></p> <p>SHEET <b>16</b> OF <b>19</b></p>
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<p>U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE <b>STANDARD TRAIL PLAN</b></p>	<p>PROJECT NAME &amp; LOCATION</p> <p><b>YOUR PROJECT NAME</b> <b>YOUR FOREST NAME</b> <b>YOUR DISTRICT NAME</b></p>	<p>DRAWING NAME</p> <p><b>DRAIN DIP DETAILS</b></p> <p>SECTION <b>927 - DRAIN DIPS</b></p>	<p>REVISION DATE</p> <p><b>XX/XX/XX</b></p> <p><b>NO SCALE</b></p>	<p>DRAWING NO.</p> <p><b>STD_927-10-02</b></p> <p>SHEET <b>17</b> OF <b>19</b></p>
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