Diana Dupuis
Director

STATE OF WASHINGTON

WASHINGTON STATE PARKS AND RECREATION COMMISSION

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STATE ENVIRONMENTAL POLICY ACT

Determination of Nonsignificance

Date of Issuance: April 1, 2025

Lead Agency: Washington State Parks and Recreation Commission

Agency Contact: Devin Sola, Environmental Planner
Devin.Sola@parks.wa.gov

Project Name: Olallie Mountain Bike Trail System Expansion – Phase II

Description of Proposal: The Washington State Parks and Recreation Commission (State Parks) proposes to construct approximately 1.22 miles of new descent-only mountain biking trails that will be classified as backcountry trails. Two trail segments with difficulty ratings of easy (0.36 miles) and more difficult (0.86 miles) will be added to the existing trail network. The purpose of these new descent trails is to reduce two-way traffic and the frequency of hiker/biker encounters and to alleviate trail congestion and mixed-use conflict, thereby improving visitors' experience. In addition, the proposed trails will create stacked loop options with progressing difficulty levels to provide different opportunities based on skill level. Trail construction will typically involve creating a travel width of approximately three feet on the forest floor, exposing the mineral soil through the use of standard hand tools and/or a mini diesel-powered trail excavator. The process will include the removal of forest debris and organic material from the surface down to the mineral soil, ensuring a stable and firm trail tread.

Location of Proposal: The proposed project is located in Olallie State Park at 51350 S.E. Homestead Valley Road, North Bend, Washington. The proposed trails are in Section 36, T23N, and R8E W.M. in King County on parcel number 362308-9001.

This determination is based on the following findings and conclusions:

1. Critical areas (streams and wetlands) and their buffers will not be impacted by the proposed project. Additionally, the proposed trail alignment and bench construction areas have been designed to avoid potential landslide areas designated by King County.
2. No fill will be placed in or removed from surface waters or wetlands.
3. The proposed project will comply with the State Park's Natural Resource Management Policy No. 73-04-1 Protecting State Park's Natural Resources.
4. Construction activities will be conducted in such a manner as to limit disturbance to the minimum required to complete the work. Construction activities will take place during daylight hours.
5. Disturbances will be limited to the minimum necessary to accomplish the work.
6. Best management practices such as silt fencing, erosion control fabric, weed free straw and other methods required by permits may be implemented to control erosion.
7. Adjacent trees will be retained and protected to prevent damage during construction.
8. Vegetation clearing limits will be limited to eight feet (four feet either side of trail center line) and eight feet in height. Following construction vegetation will be allowed to re-establish adjacent to the trail to maintain an approximate three foot trail width.
9. Water from trails will be diverted from running down the trails and instead be immediately dispersed onto the forest floor to mimic the natural water runoff processes.
10. Trail design included erosion protection measures through targeting a trail tread cross slope designed to disperse runoff onto forest flow to mimic natural water runoff processes. The trails will be naturally surfaced with native mineral soil and rock; if necessary, some trail surfaces may be hardened with various sizes of rock on-site.
11. Cultural resource investigations were completed for the project. Per WSPRC archaeologist recommendations, the project will be constructed as planned utilizing an Inadvertent Discovery Plan and has been reviewed consistent with Governor's Executive Order 21-02.

The lead agency for this proposal has determined that it does not have a probable significant adverse impact to the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after a review of a completed environmental checklist and other information on file with the lead agency. This information is available at: https://parks.state.wa.us/865/SEPA-review---current.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal until the comment period has closed. Comments must be submitted by April 14, 2025 or they may not be considered.

Responsible Official: Devin Sola
Position/Title: Environmental Planner, Washington State Parks and Recreation Commission
Phone: (360) 755-2812
Address: 220 North Walnut Street
Burlington, WA 98233

Date: April 1, 2025 Signature: _____

"All Washington State Parks are developed and maintained for the enjoyment of all persons regardless of age, sex, creed, ethnic origin, or physical limitations."

There is no agency SEPA appeal; however, all comments are welcome and will be thoroughly considered.

SEPA[1] Environmental Checklist

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the Supplemental Sheet for Nonproject Actions (Part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-

[1] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/Checklist-guidance

projects) questions in "Part B: Environmental Elements" that do not contribute meaningfully to the analysis of the proposal.

A. Background

Find help answering background questions[2]

1. **Name of proposed project, if applicable:**

   Olallie Mountain Bike Trail System Expansion – Phase II

2. **Name of applicant:**

   Washington State Parks and Recreation Commission

3. **Address and phone number of applicant and contact person:**

   Joelene Boyd
   Parks Planner
   Northwest Region Headquarters
   220 N. Walnut Street
   Burlington, WA 98233
   Phone: (360) 855-5533
   Joelene.boyd@parks.wa.gov

4. **Date checklist prepared:**

   March 2025

5. **Agency requesting checklist:**

   King County

6. **Proposed timing of schedule (including phasing, if applicable):**

   This project is the second phase of a two-phase project to expand and improve trails in Olallie State Park. The first phase of the project was reviewed under a separate checklist and a Determination of Non-Significance (DNS) was issued in 2015. Construction for the second phase of the project is anticipated to begin in the summer 2025.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   This project only addresses a portion of the work identified in the Olallie Area Mountain Bike Trail Study (2002) and the Olallie Mountain Bike Trail – Phase II Trail Design Plan (2025). Should development funding and cooperative agreements with the U.S.D.A. Forest Service occur, the trail system would be expanded. Any future work, if funded, would be reviewed through a different checklist and separate SEPA determination.

[2] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-A-Background

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   - Marine Surveys & Assessments (MSA). 2025. Critical Areas Report for Olallie State Park Phase 2 Trail Alignment Project
     **including supporting materials such as MSA's 2023 wetland rating and determination forms, maps, and figures*
   - Fortin, L. 2021. Cultural Resource Investigations for the Olallie State Park – Phase 2 Trail System Expansion Project.
   - Washington State Parks and Recreation Commission. 2021. Parks Attendance Reporting System Calendar Year Summary Report: Calendar Year 2021.
   - Washington State Parks and Recreation Commission. 2015. Olallie Trail Development.
   - Washington State Parks and Recreation Commission. 2011. Olallie State Park Classification and Management Plan (CAMP).

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

   No, there are no other proposals at this time.

10. **List any government approvals or permits that will be needed for your proposal, if known.**

    - King County Environmental Review, Clearing and Grading Permit
    - Governor's Executive Order 21-02 – Archaeological and Cultural Resources

11. **Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

    Olallie State Park is a 2,329-acre day use park east of Seattle. Due to its location near urban centers, the park is a popular recreational destination and received approximately 437,000 visitors in 2023. The park currently offers 6.2 miles of hiking trails and 8.6 miles of mountain biking/mixed use trails. The proposed project will construct 1.22 miles of new descent-only mountain biking trails that will be classified as backcountry trails. Two trail segments with difficulty ratings of easy (0.36 miles) and more difficult (0.86 miles) will be added.

    The purpose of these new descent trails is to reduce two-way traffic, reduce the frequency of encounters, and to alleviate trail congestion and mixed-use conflict, thereby improving visitors' experience. In addition, the proposed trails will create stacked loop options with progressing difficulty levels to provide a different opportunities based on skill level. The full trail plan report can be seen in Attachment 1.

    The trail, construction sequencing (Mountains to Sound Greenway Trust, January 2025) will include:

Trail Brushing and Clearing *– This initial step in the construction process involves clearing of a travel corridor to the dimensions called for in the project specifications, in this case to eight feet (four foot either side of center line) and eight feet in height. Clearing vegetation down to 6" above the ground, to retain a duff layer until the excavation phase, will mitigate against any erosion from stormwater.*

Trail Grubbing and Excavation *– Once clearing of a trail segment (usually several hundred feet) is completed, the grubbing and excavation process will proceed. This work may be done by hand, or with a trail excavator (also known as a mini excavator) or other small, mechanized equipment. Grubbing involves removal of the ground layer of organic material, including any non-mineral soils, which are stockpiled for later distribution once trail excavation is completed. Removal of undesirable obstacles (e.g. stumps, boulders, etc.) will be accomplished during this phase as needed. Much of the trail length will require excavating a bench into the side slope, and the method will be full bench construction, meaning the entire tread width should rest on undisturbed mineral soil. Once the tread has been substantially shaped, the backslope of the trail will be shaped to reduce its angle of repose to one that can be sustained through field seasons without contributing to erosion. Local conditions indicate that backslopes will be avoided being greater than 1:1, with 2:1 being preferred. During the process of shaping the backslopes, which is ordinarily done with hand tools, outsloping of the trail will also be established.*

Trail Finishing *– Once rough excavations and backslope shaping have been completed on a trail segment, work will can begin on further outsloping, tread compaction, and installing any trail structures that are included in the design. Organic materials retained during the grubbing process will be distributed on any exposed soils on the fill slope. Native plants salvaged during the grubbing process will be planted on the fill slope and mulched liberally with forest debris to disperse storm water and regenerate surrounding forest conditions.*

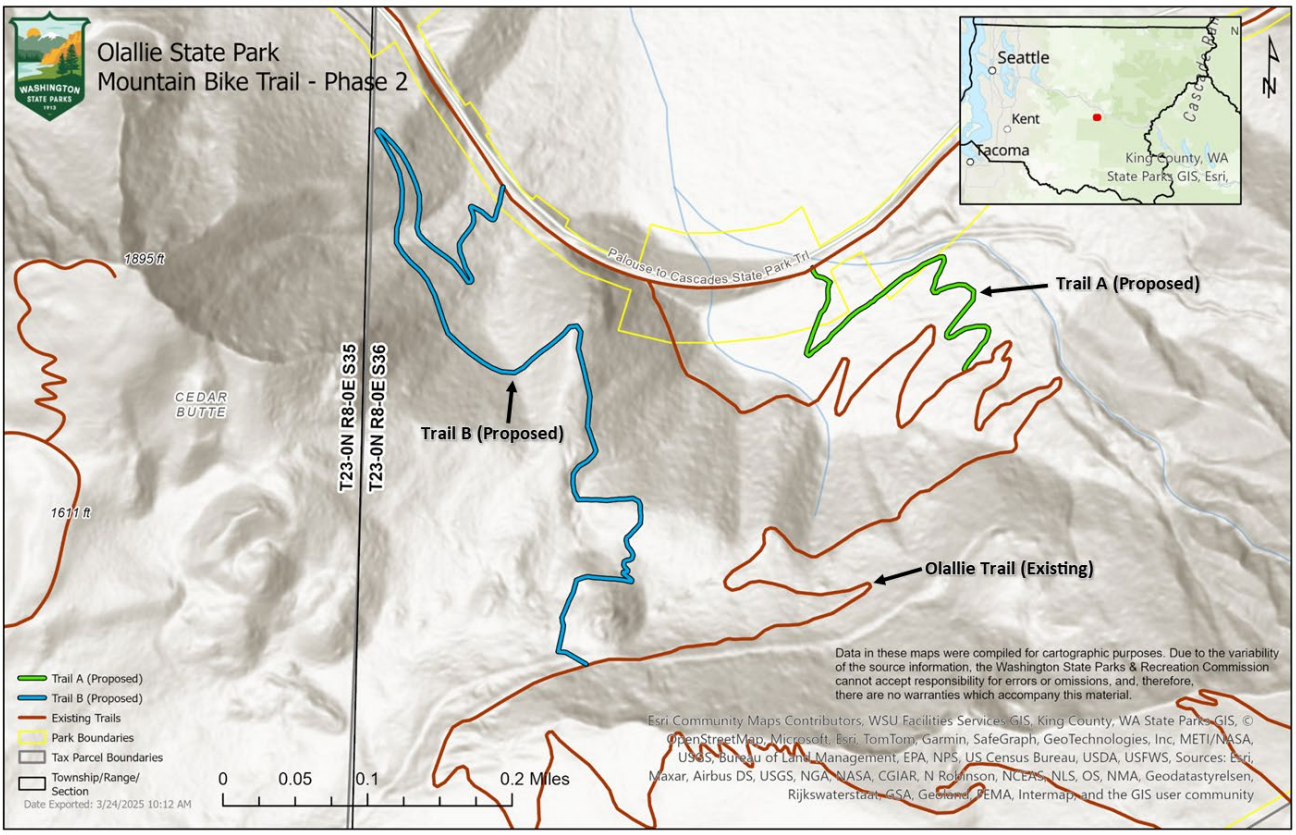
Trail Turns & Structures *– Trail turns will include climbing turns in most locations and switchback turns where necessary on steeper slopes. Careful attention to construction standards for turns is critical for successful mountain bike trails. While trail structures (walls, turnpikes, etc.) are not identified in the design, sometimes such structures need to be added during the construction process. No trail structures requiring building permits will be completed as part of the project.*

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project will result in the construction of 1.22 miles of trail in Olallie State Park (Figure 1 and Attachment 1). The park address is 51350 S.E. Homestead Valley Road, North Bend, WA, 98045. The proposed trails are in Section 36, Township 23N Range 8 East, W.M. in King

County on parcel number 362308-9001.

Figure 1. Proposed Trail Additions



B. Environmental Elements

1. Earth

Find help answering earth questions[3]

a. General description of the site:

Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other:

b. What is the steepest slope on the site (approximate percent slope)?

According to the Natural Resources Conservation Service online Web Soil Survey assessed in June of 2023, the steepest slope on site is 65%.

[3] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-earth

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

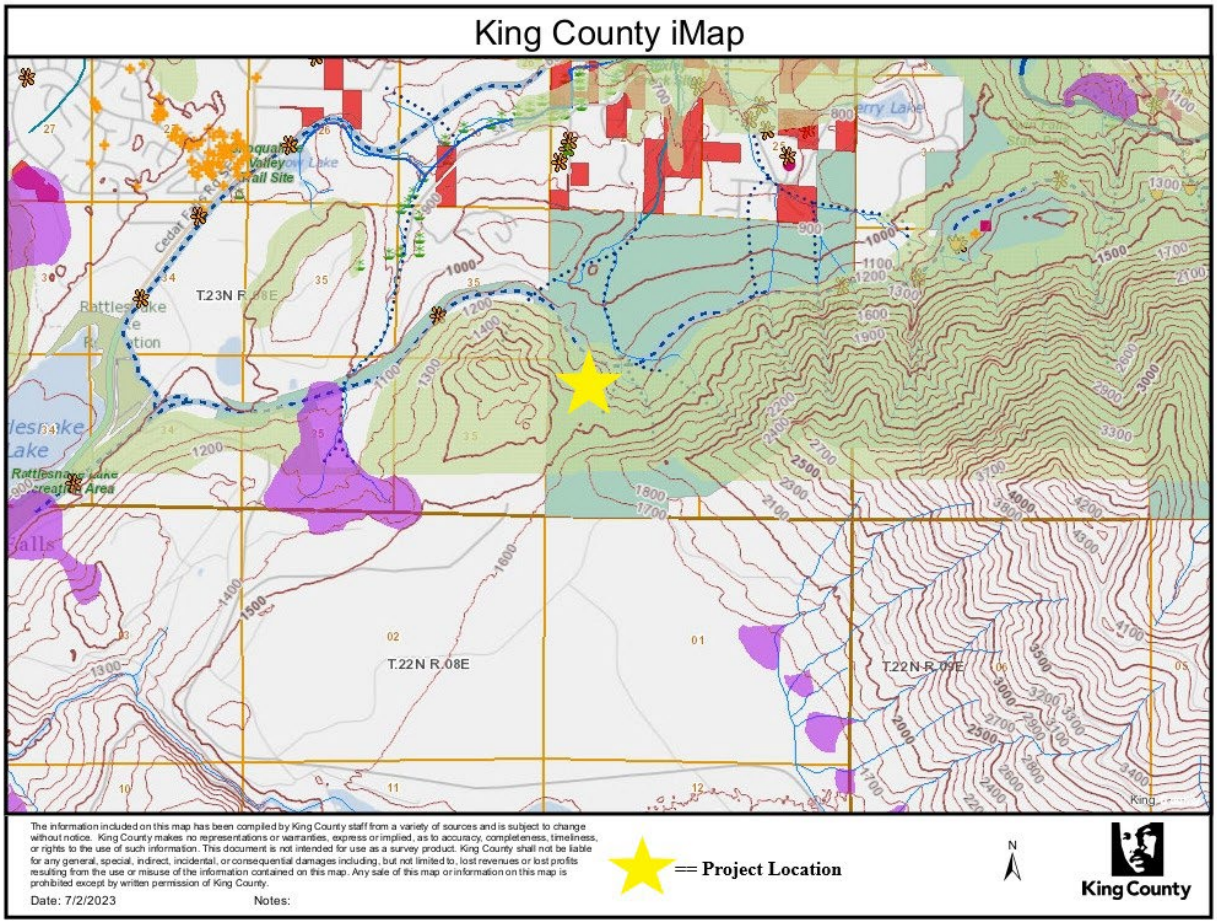
Sandy and gravelly loam soils are mapped at the Olallie site and include:

- Klaus sandy loam, 0 to 8 percent slopes,
- Skykomish gravelly sandy loam, 0 to 30 percent slopes,
- Nargar fine sandy loam, 15 to 30 percent slopes and
- Ogarty gravelly loam, 30 to 65 percent slopes.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are potential landslide hazard areas west of where the proposed trail Segment B will connect to the Palouse to Cascades Trail as per the King County iMap (accessed February 2025). However, the trail has been sited to avoid these areas (Figure 2).

Figure 2. King County iMap



e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

From the Mountains to Sound Greenway Trust trail design plan (January 2025):

To approximate the volume of soil to be excavated, a cut/fill calculation is included. Volumes are provided in cubic yards (yd^3) and are estimated based on a general assessment of side slopes traversed by each trail segment (Table).

Mineral soils excavated from the trail corridor during the construction process shall be used as fill in lower areas (generally found on 20% or less fill slopes) to raise the tread above the surrounding duff layer and allow for natural drainage to occur. Excess soil shall be disbursed onto the fill slope.

Table 1 Cut and fill, proposed lengths and side slope estimates for Trail A and B.

Cut/Fill Quantity Estimates – Olallie Phase 2			
Trail Section	*Length Estimate (ft)*	*Side Slope Estimate (%)*	*Excavation Estimate (yd^3)*
Trail A	380	10%	6 to 7.5
	760	20%	25 to 30
	760	30%	38 to 46
Trail A Totals	**1900**		**69 to 84 yd^3**
Trail Section	*Length estimate (ft)*	*Side Slope Estimate (%)*	*Excavation Estimate (yd^3)*
Trail B	228	10%	4 to 5
	683	20%	23 to 27
	910	30%	46 to 55
	1366	40%	91 to 109
	910	50%	76 to 91
	455	60%	46 to 55
Trail B Totals	**4552**		**285 to 341 yd^3**
Project Total			**354 to 425 yd^3**

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

Yes, it is possible that minor erosion could occur because of grading/excavation associated with the project. Best management practices (BMPs) will be implemented as necessary to minimize potential erosion during construction such as silt fencing, erosion control fabric, and weed-free straw, as well as any other methods that may be required by permits. Design of the trail construction will reduce erosion potential by routing trails

in sustainable locations and reducing the potential for trail widening along the existing trail corridor due to user conflicts.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The proposed trail will be created by removing vegetation/duff and grading down to mineral soil. The trails will be naturally surfaced with native mineral soil and rock; if necessary, some trail surfaces may be hardened with gravel and other various sizes of on-site rock. No asphalt, imported gravel, or trail compaction to meet WSDOT specifications is proposed.

For a definition of impervious surface, King County Code 9.04.020(P) reads "…a hard surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development."

The total measure of the proposed trail surface is 19,356 square feet over 1.22 miles (Table 3). To measure the impervious surface area of each trail, measurements of trail length were taken at the proposed trail centerline, as recorded by GPS track. Trail width is calculated based on the design tread width for the proposed trail, with a 3-foot maximum. The impervious surface was calculated by multiplying trail length times width to provide an estimate of square footage. This estimate was then compared with the total square footage of the forested township/range section in which the trails are located (Table 3).

Table 3 Surface estimate of the final trail surface.

Impervious Surfaces – Olallie Phase 2 (Design at 80% completion)				
Trail Section	*Proposed Length (ft)*	*Length (miles)*	*Maximum Tread Width (ft)*	*Total (sqft)*
Trail A	1900	0.36	3	5,700
Trail B	4552	0.86	3	13,656
TOTAL	6452	1.22	--	19,356
Percent of Section 36, T23N, R8E:				0.069%

Minimal adjustment of the trail lengths may occur during final design, and construction.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Sustainable trail design and construction techniques will reduce the need for erosion control measures through use of frequent trail grade reversals and undulations, drainage dips, cross drains, and culverts. After construction, use of significant erosion

control methods are not anticipated. However, if necessary during construction, silt fencing, erosion control fabric, weed-free straw, and other methods may be used if required by permits.

2. Air

Find help answering air questions[4]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

There is the potential for some dust and machine exhaust to be temporarily generated during the construction phase of the project. The completed project will not produce any new emissions.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No, there are no off-site emissions or odors that may affect the proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None proposed. Any potential emissions during construction will be minor and temporary.

3. Water

Find help answering water questions[5]

a. Surface:

Find help answering surface water questions[6]

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes, there are multiple streams in the project vicinity. Review of the Department of Natural Resources Water Type map (accessed February 2025) indicates these are non-fish bearing streams. These streams flow to the South Fork of the Snoqualmie River.

[4] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-Air
[5] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water
[6] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Surface-water

A critical areas survey was conducted by Marine Surveys & Assessments in July of 2023 and a Type O stream and a Category III Slope wetland with a habitat score of 7 were identified within the vicinity of the proposed project area. The project was designed to stay outside of the 75-foot wetland buffer (King County Critical Areas Code (KCCAC) 21A.24.325) and the 25-foot stream buffer (KCCAC 21A.24.355). The project will not result in any direct impacts to stream or wetlands nor their buffers.

2. **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

   The trail was routed and designed to avoid the stream and wetland. The trail will be within 200 feet of the waterbodies, but outside of the prescribed buffers per KCCAC.

3. **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

   There will be no fill or dredge material placed in/removed from the stream or wetland areas that were identified on site.

4. **Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

   No surface water will need to be withdrawn or diverted to build the proposed trails.

5. **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

   King County iMap (accessed February 2025) indicates the project is outside of the 100-year floodplain.

6. **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

   No waste materials will be discharged to surface waters.

b. Ground:

Find help answering ground water questions[7]

1. **Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

   No groundwater will be withdrawn and there will be no discharge to groundwater.

[7] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Groundwater

2. **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

   There are no septic systems or other sources of pollutants associated with infrastructure located nearby.

c. Water Runoff (including stormwater):

1. **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

   Trail development will target a 3% - 8% trail tread cross-slope to encourage precipitation delivered water flow directly across the trails to retain the natural side slope drainage of the terrain. Water from trails will be diverted from running down the trails and instead be immediately dispersed onto the forest floor to mimic the natural water runoff process of the forest ecosystem.

2. **Could waste materials enter ground or surface waters? If so, generally describe.**

   No waste materials are anticipated to enter ground or surface waters from installation of the proposed trails.

3. **Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

   Trail routes are designed to manage runoff on-site and to minimize the impact of runoff and altered drainage patterns to adjacent areas. The natural terrain's side slope drainage will be retained by out-sloping trail tread and incorporating frequent trail grade reversals and undulations to increase water flow across the trails.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Proposed measures will involve stabilizing any soils that are exposed by trail work with weed-free straw bales, re-vegetating via native plantings, and/or layering of forest floor with woody debris as needed. In addition, trail construction is expected to take place during the dry season when rain is less likely. Trail design will disperse water to the forest floor to mimic natural water runoff processes of the forest ecosystem.

4. Plants

Find help answering plants questions

a. Check the types of vegetation found on the site:

☒ **deciduous tree: alder, maple, aspen, other**

☒ **evergreen tree: fir, cedar, pine, other**

☒ **shrubs**

☐ **grass**

☐ **pasture**

☐ **crop or grain**

☐ **orchards, vineyards, or other permanent crops.**

☐ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**

☐ **water plants: water lily, eelgrass, milfoil, other**

☐ **other types of vegetation**

- **What kind and amount of vegetation will be removed or altered?**

  Trail development will require removal of small forest understory vegetation to expose mineral soil for the shaping/construction of the trail tread. This initial step in the construction process involves clearing of a travel corridor to the dimensions called for in the project specifications, in this case to eight feet (four foot either side of center line). In addition, any snags within a tree and a half length of the trail will be removed for safety reasons. Any trees greater than 10-inches diameter breast height (dbh) will be approved through State Parks Tree Removal Process. During construction and while working around trees, measures will be taken to protect the critical root zone and roots two-inches and greater.

  The total proposed trail length is approximately 1.22 miles, and the proposed width is approximately 2-3 feet. As a result, vegetation removal will occur on approximately 51,616 square feet or 1.22 acres (Table 2). This area includes the full construction corridor. Mulching and replanting of salvaged sword fern (*Polystichum munitum*) on the downslope side of the trail will occur after construction. Eventually the vegetation will re-establish adjacent to the trail so the permanent loss of vegetation will include the trail proper (up to 19,356 ft² or 0.44 acres).

Table 2 Total estimate of vegetation clearing during trail construction activities. The final trail width will be approximately 3-feet wide and result in 19,356 square feet (0.44 acre) of vegetation cleared.

Vegetation Clearing – Olallie Phase 2 (forest canopy to be left intact)				
Trail Section	*Proposed Length (ft)*	*Length (miles)*	*Maximum Trail Corridor Width (ft)*	*Total (sqft)*
Trail A	1900	0.36	8	15,200
Trail B	4552	0.86	8	36,416
TOTAL	6452	1.22	--	51,616
Percent of Section 36, T23N, R8E:				0.185%

b. List threatened and endangered species known to be on or near the site.

The Washington Natural Heritage Program (WNHP) Data Explorer shows a "rare and/or high quality ecosystem" delineated to the northeast of the project site in Section 36, Township 23N, Range 09E, over one mile away.

c. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

The trail will be constructed to the minimal width necessary to support the recreational activity (approximately 2-3-feet).

d. List all noxious weeds and invasive species known to be on or near the site.

King County's iMap (accessed February 2025) indicates that Tansy Ragwort (Senecio jacobaea) is located in the vicinity of the project.

5. Animals

Find help answering animal questions[8]

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.

Examples include:

- **Birds: hawk, heron, eagle, songbirds, other:** 21 species of birds were recorded.
- **Mammals: deer, bear, elk, beaver, other:** Coyote, Douglas squirrel, mountain beaver
- **Fish: bass, salmon, trout, herring, shellfish**
- **other:** Western toad

These animals were observed on site on July 3-7, 2023. Observations include visual, audio, and sign.

b. List any threatened and endangered species known to be on or near the site.

The U.S. Fish and Wildlife Service online IPaC website indicates the project area may have occurrence of Gray Wolf (*Canis lupus*), Marbled Murrelet (*Brachyramphus marmoratus*), Northern Spotted Owl (*Strix occidentalis caurina*), Yellow-billed Cuckoo (*Coccyzus americanus*), and Bull Trout (*Salvelinus confluentus*). There is no critical habitat associated with these species at the project location.

The Washington Department of Fish and Wildlife's Priority Habitat and Species data indicates that the project is within Green/Cedar Winter Elk Range, and, within a half mile, there are wetlands and streams with salmonids and game fish distribution. There are Northern Spotted Owl occurrences within the township.

[8] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-5-Animals

There are no known occurrences of Gray Wolf, Marbled Murrelet, Northern Spotted Owl, and Yellow-Billed Cuckoo in the park. While streams are located within the project area, they are mapped as non-fish bearing streams and BMPs will be implemented to prevent any potential runoff from reaching these streams (e.g. stabilizing any soils that are exposed by trail work with weed-free straw bales, re-vegetating via native plantings, and/or layering of forest floor with woody debris as needed). As a result, no impacts to Bull Trout, salmonids, or game fish are anticipated. Due to the implementation of these BMPs, no impacts to Green/Cedar Winter Elk Range are anticipated.

c. Is the site part of a migration route? If so, explain.

Yes, the site is part of the Pacific Flyway bird migration route.

d. Proposed measures to preserve or enhance wildlife, if any.

Disturbance will be limited to the minimum necessary to accomplish the work and BMPs included in Section 1.d., e. and f. will be implemented to minimize potential impacts within the project area (e.g. re-vegetating areas with native plants to help stabilize soils and reduce erosion from runoff).

e. List any invasive animal species known to be on or near the site.

There are no known invasive animal species on or near the site.

6. Energy and natural resources

Find help answering energy and natural resource questions[9]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The project will have no energy needs.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

There will be no effect to potential solar energy use.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

None proposed as the project will have no energy needs.

[9] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-6-Energy-natural-resou

7. Environmental health

Health Find help with answering environmental health questions[10]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

There are no known environmental health hazards.

1. **Describe any known or possible contamination at the site from present or past uses.**

   The Department of Ecology's "What's in My Neighborhood" website indicates the nearest cleanup site is over a mile from the project and outside the park boundary. There were also no records or reports of contamination from U.S. Environmental Protection Agency's (EPA) Toxic Release Inventory (TRI) within 10 miles of the project area.

2. **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

   There are no known hazardous chemicals or conditions that might affect the project development or design.

3. **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

   Diesel fuel and gasoline will be used temporarily to power equipment in order to implement the project.

4. **Describe special emergency services that might be required.**

   There are no special emergency services anticipated.

5. **Proposed measures to reduce or control environmental health hazards, if any.**

   Careful equipment fuel storage in spill proof containers will be utilized during project implementation. Machine operators are required to have proper training in order to run equipment safely and respond to spills/leaks.

b. Noise

1. **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

   Noise in the area is minimal and will not affect the project.

[10] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-7-Environmental-health

2. **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?**

   Typical construction noise is expected during the implementation of the project. Construction equipment will include small hand tools, chainsaws, and possibly motorized wheelbarrows and a mini-excavator. Work will be done during daylight hours. There will be no long term elevated noise associated with the trails.

3. **Proposed measures to reduce or control noise impacts, if any:**

   Construction noise will be limited and only during daylight hours.

8. Land and shoreline use

Find help answering land and shoreline use questions[11]

a. **What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.**

   Olallie State Park is a 2,329-acre day-use park located approximately 45 minutes east of Seattle. The site is used for recreation. Adjacent properties appear to be primarily forest land. The proposed project is consistent with park uses and will enhance recreation. No impacts to adjacent land uses are anticipated.

b. **Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

   Olallie State Park has been a park since 1950.

   1. **Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

      No, the trails will be built within the park's boundaries.

c. **Describe any structures on the site.**

   The park contains a public restroom, two picnic areas, 6 miles of hiking trails, and 8.6 miles of mountain biking/mixed use trails.

d. **Will any structures be demolished? If so, what?**

   No structures will be demolished.

e. **What is the current zoning classification of the site?**

[11] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-8-Land-shoreline-use

King County iMap (accessed February 2025) indicates the project area is zoned as "Forest".

f. What is the current comprehensive plan designation of the site?

King County iMap (accessed February 2025) indicates the project overlaps two Comprehensive Land Use designations, "Other Parks/Wilderness" and "Forestry".

g. If applicable, what is the current shoreline master program designation of the site?

The project is located outside the shoreline jurisdiction.

- **Has any part of the site been classified as a critical area by the city or county? If so, specify.**
  King County iMap (accessed February 2025) indicates the there are potential steep slope hazard areas, erosion hazards, and streams in the project area.

h. Approximately how many people would reside or work in the completed project?

No people will reside or work in the completed project area.

i. Approximately how many people would the completed project displace?

No people will be displaced.

j. Proposed measures to avoid or reduce displacement impacts, if any.

None proposed as no displacement impacts are anticipated.

k. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

King County will review the proposed project for consistency with the Department of Natural Resource's Programmatic Clearing and Grading Permit to ensure the proposed project is compatible with local laws, zoning regulations, and the comprehensive plan.

The project area is classified as "Resource Recreation" under the Olallie State Park Management Plan. Mountain bike trails are conditionally permitted under the "Resource Recreation" designation. During the adoption of the Olallie State Park Management Plan, the Washington State Parks and Recreation Commission (Commission) approved conditional use for mountain biking (Commission 2011, pg 24).

l. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Not applicable. No impacts to agricultural or forest lands are anticipated.

9. Housing

Find help answering housing questions[12]

[12] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-9-Housing

a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

Not applicable. The project will not provide any housing.

b. **Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

Not applicable. The project will not eliminate any housing.

c. **Proposed measures to reduce or control housing impacts, if any:**

Not applicable. There will be no impacts to housing.

10. Aesthetics

Find help answering aesthetics questions[13]

a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

Structures are not included in this proposal.

b. **What views in the immediate vicinity would be altered or obstructed?**

None.

c. **Proposed measures to reduce or control aesthetic impacts, if any:**

No structures (only trails) are proposed as part of the project and no aesthetic impacts are anticipated.

11. Light and glare

Find help answering light and glare questions[14]

a. **What type of light or glare will the proposal produce? What time of day would it mainly occur?**

No lights or sources of glare are proposed as part of this project.

b. **Could light or glare from the finished project be a safety hazard or interfere with views?**

No, no lights or glare are proposed as part of the project.

c. **What existing off-site sources of light or glare may affect your proposal?**

There are no existing off-site sources of light that will affect the proposal.

[13] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-10-Aesthetics
[14] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-11-Light-glare

d. Proposed measures to reduce or control light and glare impacts, if any:

No impacts are anticipated so no reduction measures are proposed.

12. Recreation

Find help answering recreation questions

a. What designated and informal recreational opportunities are in the immediate vicinity?

Olallie State Park is a 2,329-acre day-use park located approximately 45 minutes east of Seattle. The Park contains a public restroom, two picnic areas, 0.1 miles of ADA hiking trails, 6 miles of hiking trails, and 8.6 miles of mountain biking/mixed use trails. The park is used for hiking, biking, fishing, bird watching, mountain biking, rock climbing, and wildlife viewing.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Portions of the trail may be temporarily closed during construction. The completed project will maintain and enhance recreation by alleviating trail congestion and safety concerns by

•Reducing two-way traffic on the lower portion of the existing Olallie Trail,

•Reducing user conflicts related to the mixed-use designation of the existing Olallie Trail, which is open to bikers and pedestrians, and

• Creating a variety of mountain bike user opportunities based on skill level, providing options for both beginning and intermediate level mountain bikers.

The proposed project may result in increased biking and use of the trail system as the project will add different levels of difficulty biking trails and is aimed to reduce hiker / biker trail interactions.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Construction will be implemented to minimize disruption to recreational use to the maximum extent feasible and will be dependent upon weather conditions. Closures will be kept to the minimal extent possible.

13. Historic and cultural preservation

Find help answering historic and cultural preservation questions[15]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

No, no building structures or sites eligible for listing in national, state or local preservation registers were identified in the project vicinity.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The project is funded with state grants and is subject to Governor's Executive Order 21-02. The project was reviewed by a State Parks Archaeologist for cultural resources.

Fortin, L. 2021. Cultural Resource Investigations for the Olallie State Park – Phase 2 Trail System Expansion Project.

Syvertson, L. 2024 Olallie State Park Phase 2 Trails Expansion Revised Project Cultural Resource Survey Letter Report.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

This project is subject to Governor's Executive Order 21-02. State Parks has notified the Department of Archaeology and Historic Preservation (DAHP) and tribal consultation partners about the project. A cultural resources investigation has been completed. Results of the assessment were shared with DAHP and interested tribes.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

The project will be constructed utilizing an Inadvertent Discovery Plan.

[15] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-13-Historic-cultural-p

14. Transportation

Find help with answering transportation questions[16]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The nearest public road is Cedar Falls Road. Long distance regional connections can be made off the Snoqualmie Valley Trail and the Palouse to Cascades Trail. Portions of the trail are also accessible from the Homestead Valley Trailhead.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

No, the project site is a hiking trail that is not accessed by public transportation.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No new roads or streets will need to be built for the proposed project. No parking spaces will be added or eliminated.

d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No, the proposed trails will be built in the forest.

- **How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**
  No additional vehicle trips are anticipated as a result of this project. However, as a result of the trail there could be an increase in trail use as a result of the project.

e. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No, the proposed trails will be built in the forest away from main roads and streets.

f. Proposed measures to reduce or control transportation impacts, if any:

No transportation impacts are anticipated.

[16] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-14-Transportation

15. Public services

Find help answering public service questions[17]

a. **Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**
   The project is not anticipated to result in an increased need for public services.

b. **Proposed measures to reduce or control direct impacts on public services, if any.**

   There are no measures proposed as impacts are not anticipated.

16. Utilities

Find help answering utilities questions[18]

a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:**

   There are no utilities available at the site.

b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

   There are no utilities proposed for this project.

C. Signature

Find help about who should sign[19]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

X 

Type name of signee: Devin Sola

Position and agency/organization: Environmental Planner, Washington State Parks and Recreation Commission

Date submitted: April 1, 2025

[17] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-15-public-services
[18] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-16-utilities
[19] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-C-Signature

Attachment 1.

Trail Design Plan (March 2025)

Olallie Mountain Bike Trail – Phase II

Olallie State Park

INDEX

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STD_911-02	TDD/TOC	TYPICAL OBSTRUCTION CLEARANCE SECTION	6
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U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
STANDARD TRAIL PLAN

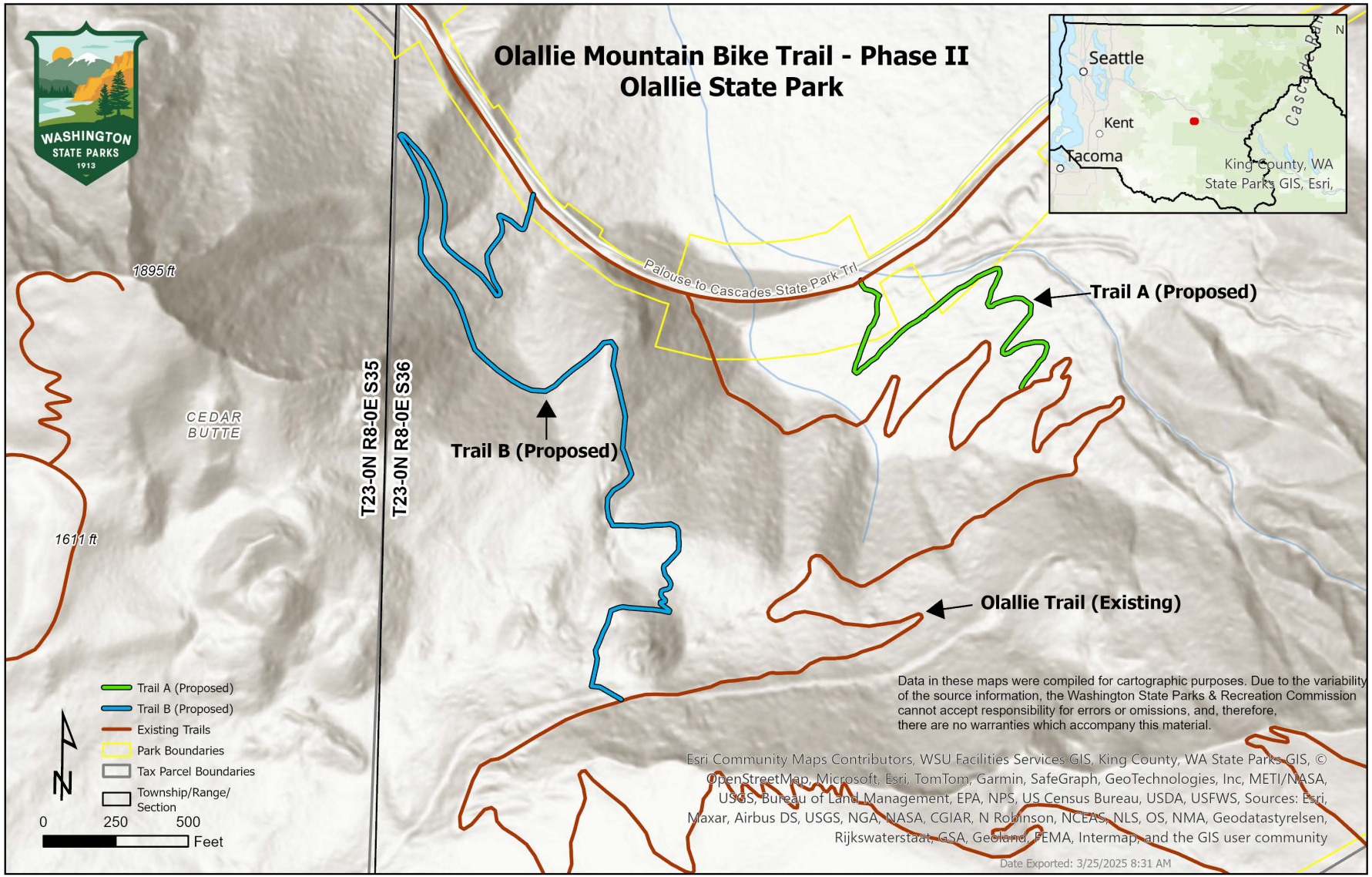
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

PROJECT NAME
Olallie Mountain Bike Trail – Phase II
SECTION **Olallie State Park 900-GENERAL** TYPICAL ID **TTL**

REVISION DATE
XX/XX/XX
NO SCALE

DRAWING NO.
STD_900-01
SHEET 1 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***



U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **STANDARD TRAIL PLAN**	PROJECT NAME & LOCATION **Olallie Mountain Bike Trail – Phase II** **Olallie State Park**	DRAWING NAME **VICINITY MAP** SECTION: **900 - GENERAL** TYPICAL ID: **VCM**	REVISION DATE **XX/XX/XX** **NO SCALE**	DRAWING NO. **STD_900-02** SHEET 2 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

Trail Design Parameters

Bicycle (FSH 2309.18, Section 23.13, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.[1] Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	Single Lane	6″ – 12″	12″ – 24″	18″ – 36″	24″ – 48″	36″ – 60″
	Double Lane	36″ – 48″	36″ – 48″	36″ – 48″	48″ – 84″	72″ – 120″
	Structures (Minimum Width)	18″	18″	36″	48″	60″
Design Surface[2]	Type	Native, ungraded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, with limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native, with some onsite borrow or imported material where needed for stabilization and occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, with improved sections of borrow or imported materials and routine grading Stable, with minor roughness	Likely imported material and routine grading Uniform, firm, and stable
	Protrusions	≤ 24″ Likely common and continuous	≤ 6″ May be common and continuous	≤ 3″ May be common, but not continuous	≤ 3″ Uncommon and not continuous	No protrusions
	Obstacles (Maximum Height)	24″	12″	10″	8″	No obstacles
Design Grade[2]	Target Grade	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill segments only	25% 35% on downhill segments only	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail
Design Cross Slope	Target Cross Slope	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	Height	6′	6′ – 8′	8′	8′ – 9′	8′ – 9′
	Width	24″ – 36″ Some vegetation may encroach into clearing area	36″ – 48″ Some light vegetation may encroach into clearing area	60″ – 72″	72″ – 96″	72″ – 96″
	Shoulder Clearance	0″ – 12″	6″ – 12″	6″ – 12″	6″ – 18″	12″ – 18″
Design Turn	Radius	2′ – 3′	3′ – 6′	4′ – 8′	8′ – 10′	8′ – 12′

[1] For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

[2] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

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

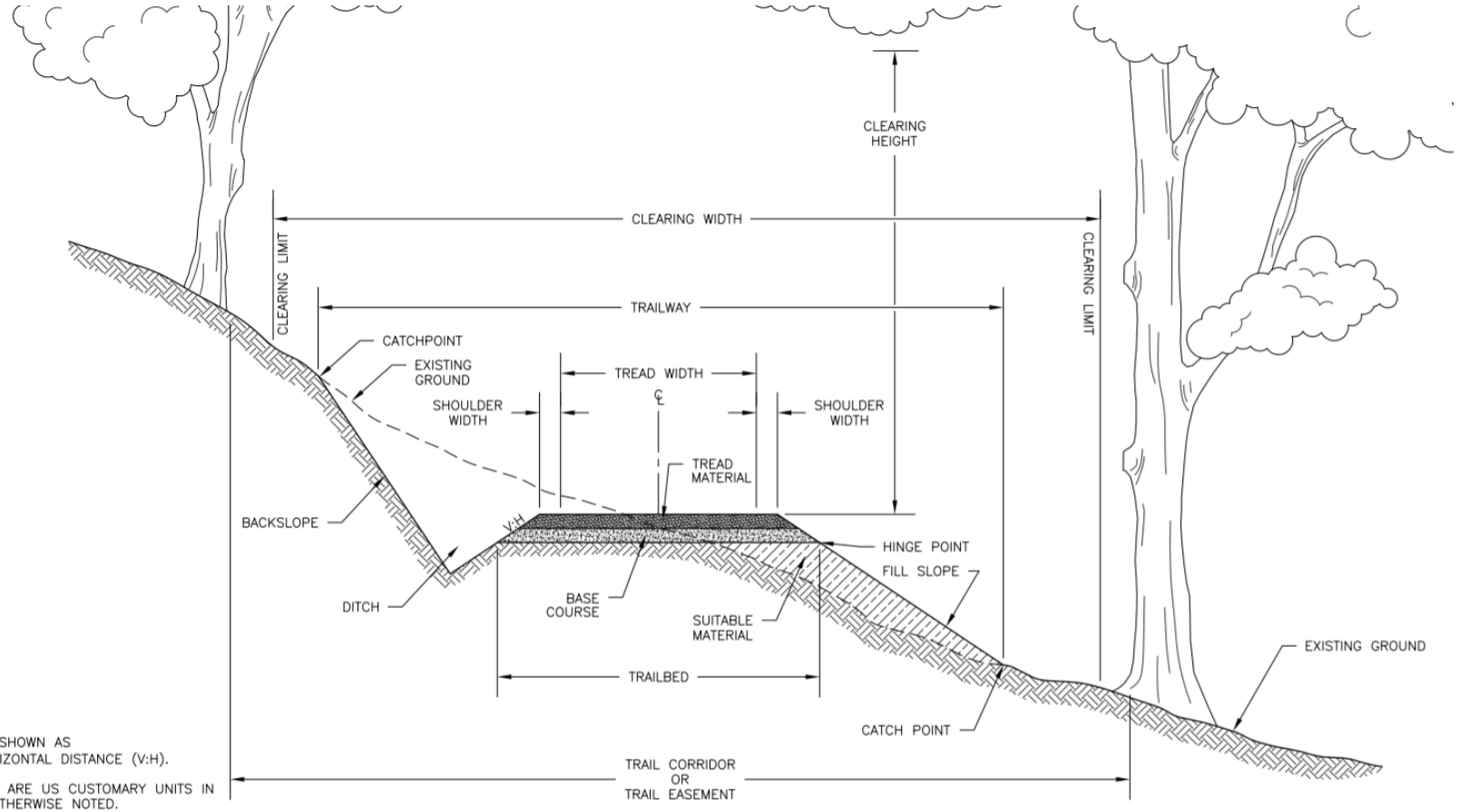
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME
GENERAL NOTES
SECTION **900 - GENERAL** TYPICAL ID **GNT**

REVISION DATE **11/17/14**
NO SCALE

DRAWING NO. **STD_900-03**
SHEET 3 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***



NOTES:

ALL SLOPES ARE SHOWN AS VERTICAL–TO–HORIZONTAL DISTANCE (V:H).

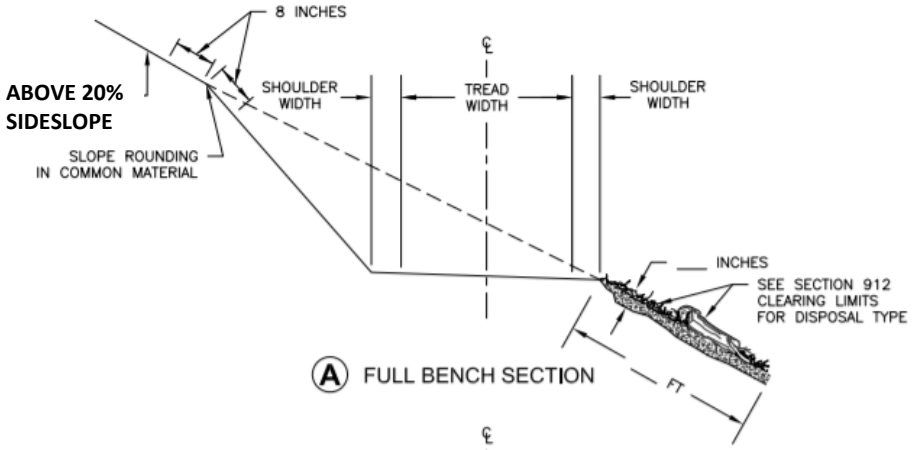
ALL UNITS SHOWN ARE US CUSTOMARY UNITS IN INCHES UNLESS OTHERWISE NOTED.

Adapted from:

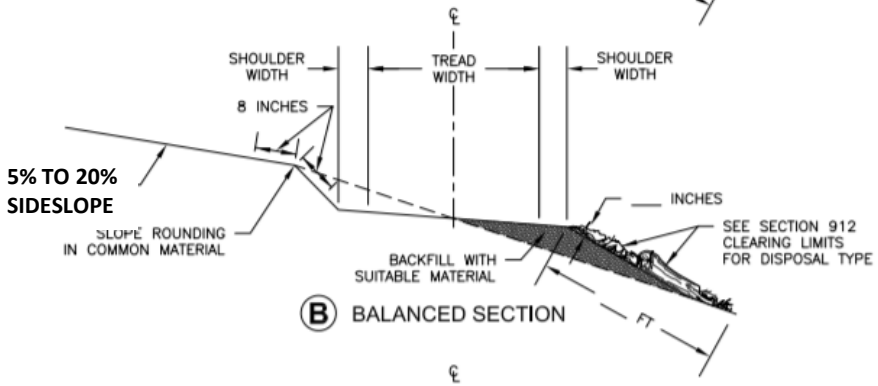
U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **STANDARD TRAIL PLAN**	PROJECT NAME & LOCATION **Olallie Mountain Bike Trail – Phase II** **Olallie State Park**	DRAWING NAME **STANDARD TRAIL TERMS** SECTION **910 - TRAILWAY** TYPICAL ID **STT**	DRAWING NO. **STD_910-01** SHEET 4 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

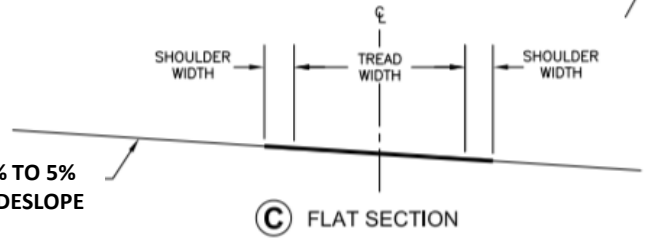
TYPICAL TRAIL CROSS SECTIONS



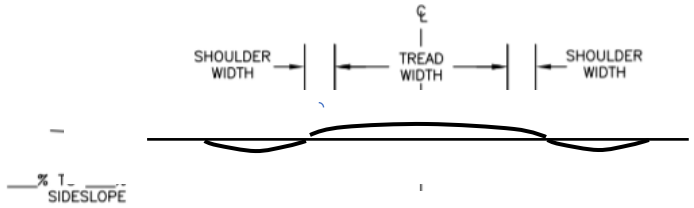
A FULL BENCH SECTION



B BALANCED SECTION



C FLAT SECTION



D CROWNED SECTION

TREAD CROSS SLOPE				
SECTION TYPE	TREAD WIDTH	SHOULDER WIDTH	CROSS SLOPE*	COMMENTS
FULL BENCH	3FT	6 IN	3% TO 5%	REMOVE AND/OR REDUCE EMBEDDED ROOT AND ROCK THAT PROTRUDES MORE THAN 3".
BALANCED				
FLAT				
CROWNED				CROWN TO PLUS 4 TO 6 IN.
*MAXIMUM FOR OUTSLOPE, INSLOPE,FLAT & CROWNED SECTION.				

NOTES:

1 **IMMEDIATE MULCHING** - PROTECT EXPOSED AREAS USING FOREST MULCH/ORGANICS DURING TRAIL EXCAVATION.

Adapted from:

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

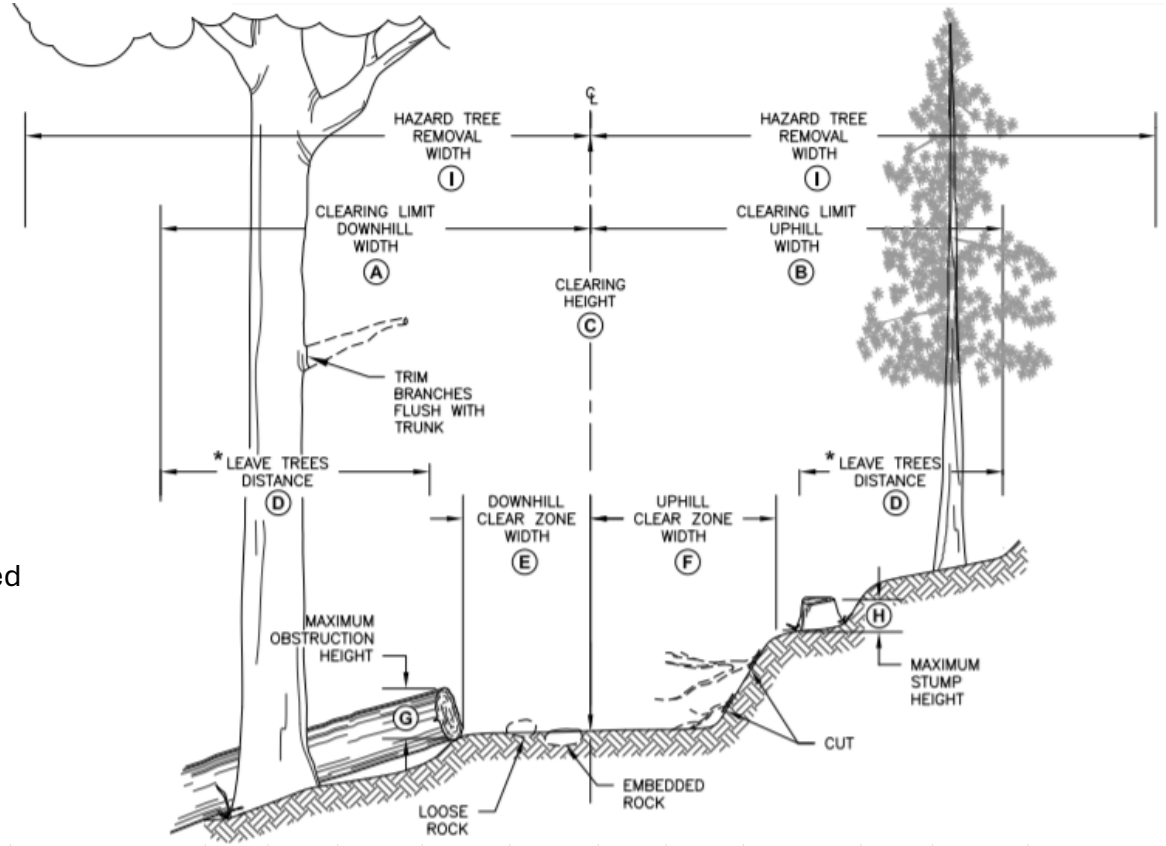
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME
TYPICAL CROSS SECTION & SLOPE FINISH
SECTION: 911 - TREAD AND PRISM
TYPICAL ID: TSF/TCS

DRAWING NO.: STD_911-01
SHEET: 5 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

No trees greater than 10” diameter shall be removed without approval of State Parks.



CLEARING LIMITS - TREES AND LOGS											
	CLEARING LIMITS			LEAVE TREES		CLEAR ZONE			STUMPS	HAZARD TREE	
CLEARING METHOD	DOWN HILL WIDTH	UPHILL WIDTH	CLEARING HEIGHT	DISTANCE (FEET)	DIAMETER (INCHES)	DOWN HILL WIDTH	UPHILL WIDTH	MAX OBSTRUCTION HEIGHT	MAX HEIGHT	REMOVAL WIDTH	COMMENTS
	A	B	C	D		E	F	G	H	I	
NEW CONSTRUCTION	5 FT	5 FT	8 FT	4 FT	>8 IN	4 FT	4 FT	32 IN	6 IN	5 FT	NO CLEARED TREES LEFT SUSPENDED ABOVE GROUND
LEAVE TREES AREA > 8 INCHES DBH AND SHOULD BE LIVE, SOUND & UNDAMAGED WITH UNCOMPROMISED ROOT SYSTEMS.											
HAZARD TREES ARE STANDING OR LEANING DEAD TREES > 8 INCHES DBH AND > 90 FEET IN HEIGHT.											

Adapted from:

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

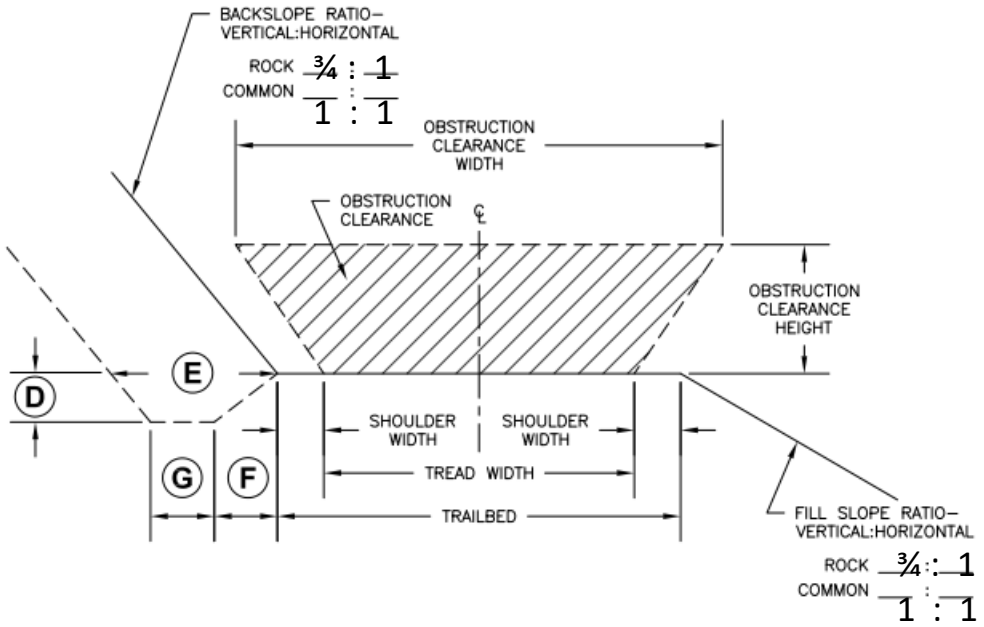
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

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
6 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***



TYPICAL DITCH AND OBSTRUCTION CLEARANCE SECTION

TYPICAL DITCH DIMENSIONS					
	DITCH DIMENSIONS (INCHES)				
TYPICAL ID	D	E	F	G	COMMENTS
ALL	12"	30"	12"	12"	N/A

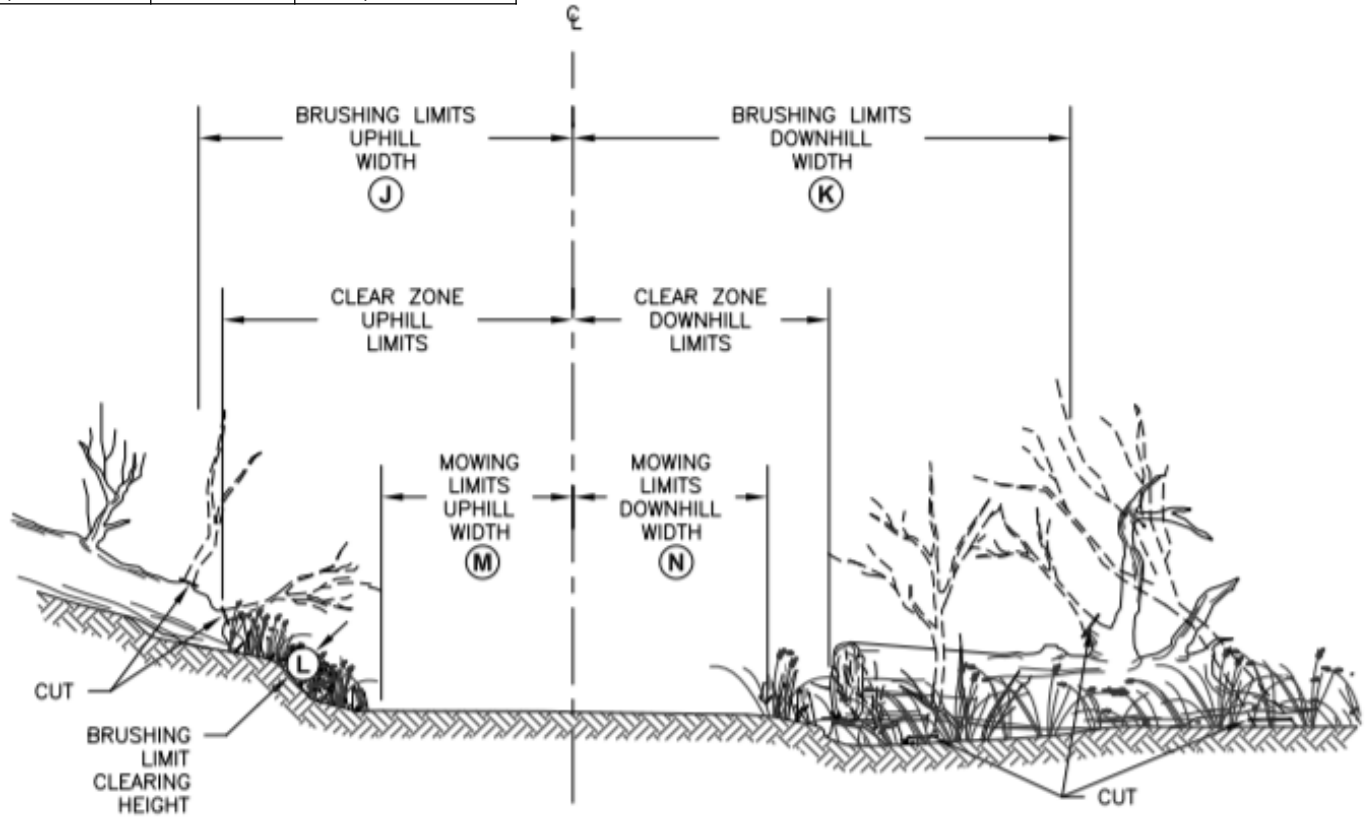
OBSTRUCTION CLEARANCE TABLE			
	OBSTRUCTION CLEARANCE		
TYPICAL ID	WIDTH	HEIGHT	COMMENTS
ALL	60"	30"	TREAD WIDTH = 36"

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE STANDARD TRAIL PLAN	PROJECT NAME & LOCATION Olallie Mountain Bike Trail – Phase II Olallie State Park	DRAWING NAME TYPICAL OBSTRUCTION CLEARANCE SECTION SECTION: 911 - TREAD AND PRISM TYPICAL ID: TDD/TOC	REVISION DATE XX/XX/XX NO SCALE	DRAWING NO. STD_911-02 SHEET 7 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

CLEARING LIMITS - TOTALS			
TRAIL	SECTION LENGTH	CORRIDOR WIDTH	TOTAL
TRAIL A	1,900 LF	8 FT	15,200 SQFT
TRAIL B	4,552 LF	8FT	36,416 SQFT
TOTAL	6,452 LF		51,616 SQFT

CLEARING LIMITS - BRUSHING						
CLEARING METHOD	UPHILL WIDTH	DOWN HILL WIDTH	CLEARING HEIGHT	UPHILL WIDTH - MOWING	DOWN HILL WIDTH - MOWING	COMMENTS
	J	K	L	M	N	
BRUSHING LIMITS	4 FT	4 FT	6 IN	N/A	N/A	LOP AND SCATTER ON FILL SLOPE.



Adapted from:

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

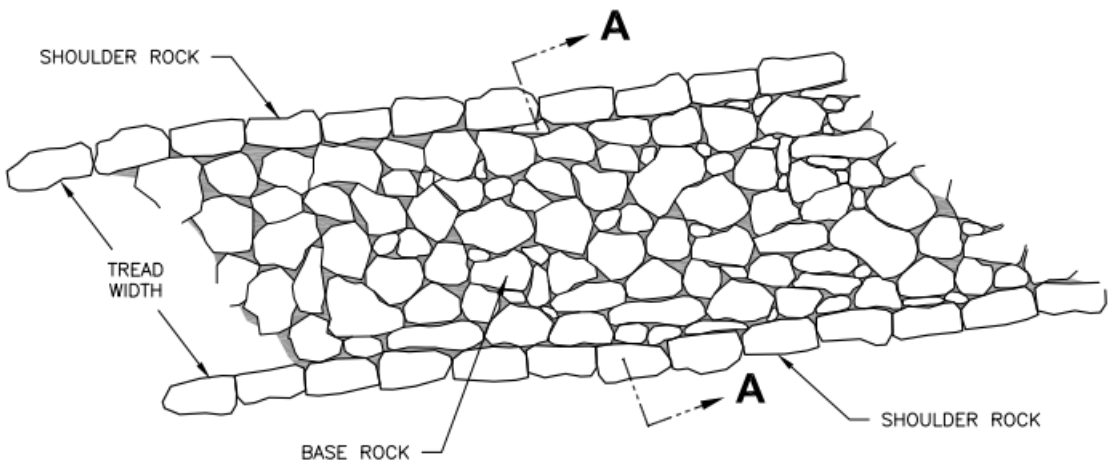
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

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
8 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

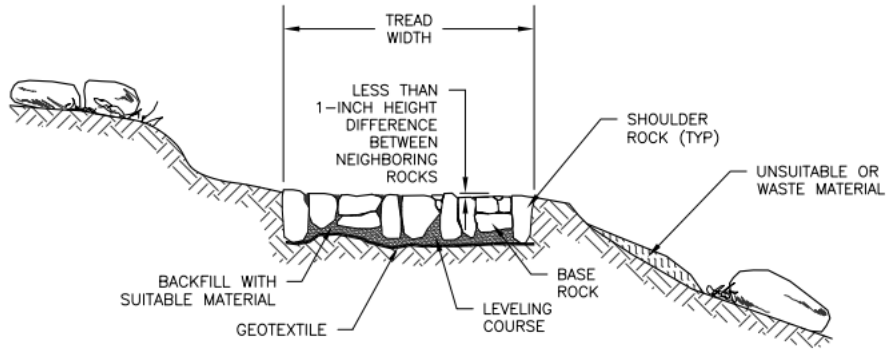


PLAN VIEW

RIPRAP SURFACING						
				MINIMUM ROCK SIZE		
TYPICAL ID	TREAD WIDTH	GEOTEXTILE TYPE	LEVELING COURSE TYPE	SHOULDER ROCKS (LBS)	BASE ROCKS (LBS)	COMMENTS
RRS-1	36"	N/A	MINERAL SOIL	75	50	ONSITE MATERIALS

NOTES:

1. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
2. PROVIDE ORGANIC–FREE BACKFILL MATERIAL WHERE SHOWN ON DRAWINGS FOR LEVELING AND SUPPORT OF BASE ROCK.
3. LAY ROCK WITH A MINIMUM OF 3 POINTS OF CONTACT WITH ADJACENT ROCKS.
4. LAY ROCKS IN A RANDOM ARRANGEMENT.
5. FILL VOIDS WITH BROKEN ROCK OR SUITABLE BACKFILL.



SECTION **A-A**

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

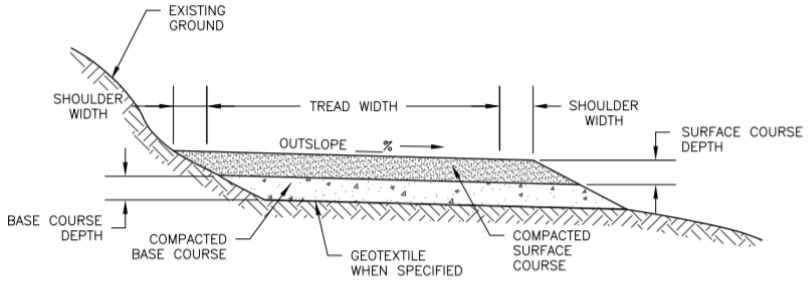
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME
RIPRAP SURFACING
SECTION **913 - SURFACING**
TYPICAL ID **RRS**

REVISION DATE **XX/XX/XX**
NO SCALE

DRAWING NO. **STD_913-50-01**
SHEET 9 OF 18

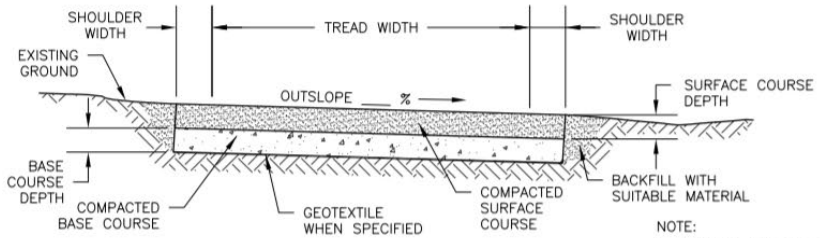
Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***



2

Ⓐ OUTSLOPED SECTION

SURFACING SECTIONS						
			BASE COURSE		SURFACE COURSE	
SECTION TYPE	TREAD WIDTH	SHOULDER WIDTH	TYPE	DEPTH	TYPE	DEPTH
OUTSLOPED			N/A		ONSITE MINERAL SOILS	N/A
EXCAVATED						
RAISED	3 FT	6 IN	N/A	N/A		

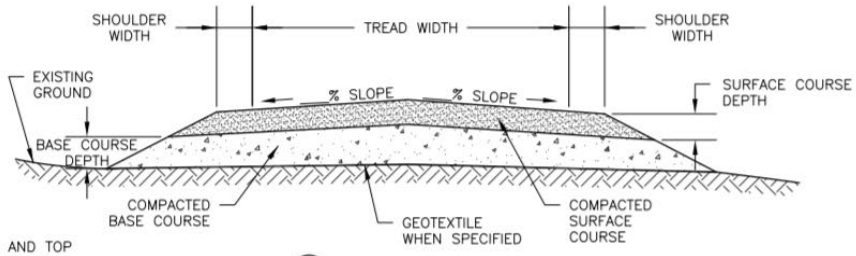


Ⓑ EXCAVATED SECTION

2

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.



Ⓒ RAISED SECTION

2 2

Adapted from:

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

PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME
TYPICAL SURFACING SECTIONS
SECTION **913 - SURFACING** TYPICAL ID **TSS**

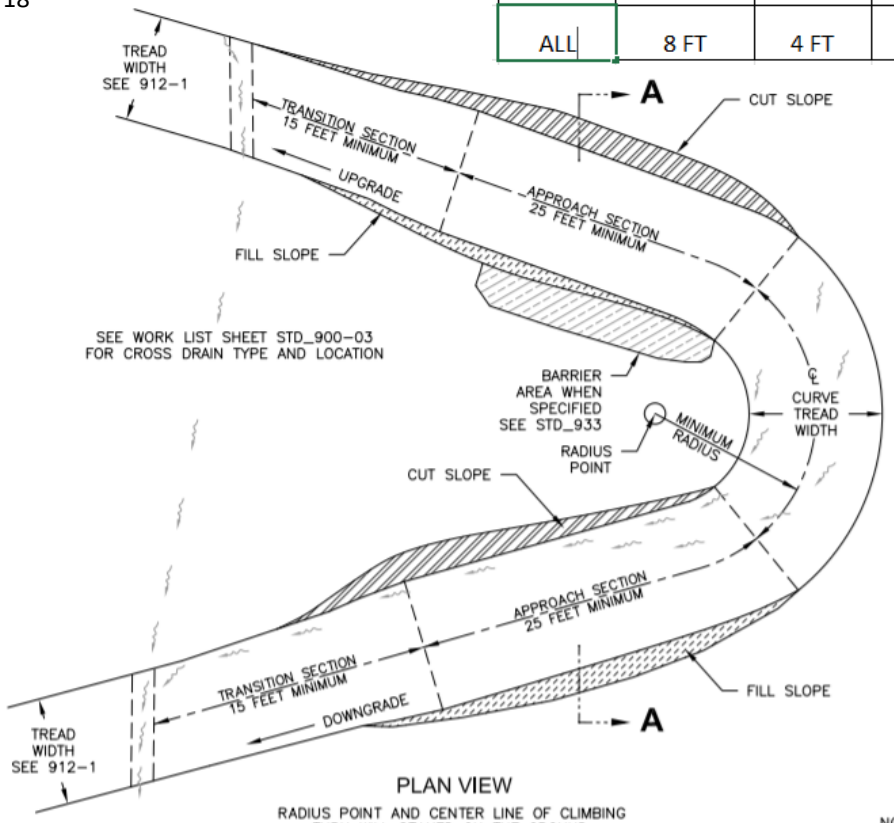
REVISION DATE **XX/XX/XX**
NO SCALE

DRAWING NO. **STD_913-01**
SHEET 10 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

1 18

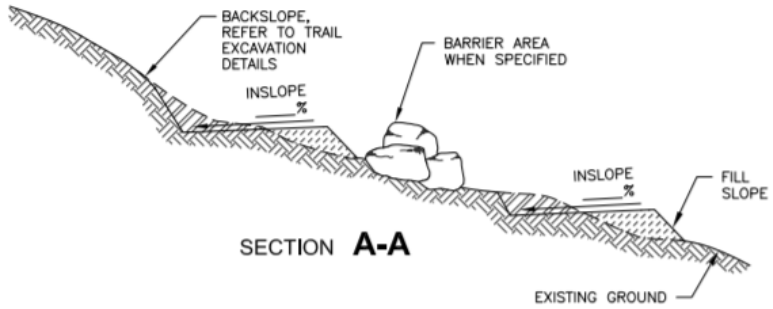
CLIMBING TURN SECTIONS				
TYPICAL ID	MINIMUM RADIUS	CURVE TREAD WIDTH	BARRIER TYPE	COMMENTS
ALL	8 FT	4 FT	NA	PROVIDE APPROACH DRAINAGE



PLAN VIEW

RADIUS POINT AND CENTER LINE OF CLIMBING TURN WILL STAKED ON THE GROUND.

All CTN's to include grade reversals and/or drain dips on each approach.



INSLOPE 5%

NOTE:
CONSTRUCT CONSTANT GRADE THROUGH BOTH APPROACH SECTIONS.

Adapted from:

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

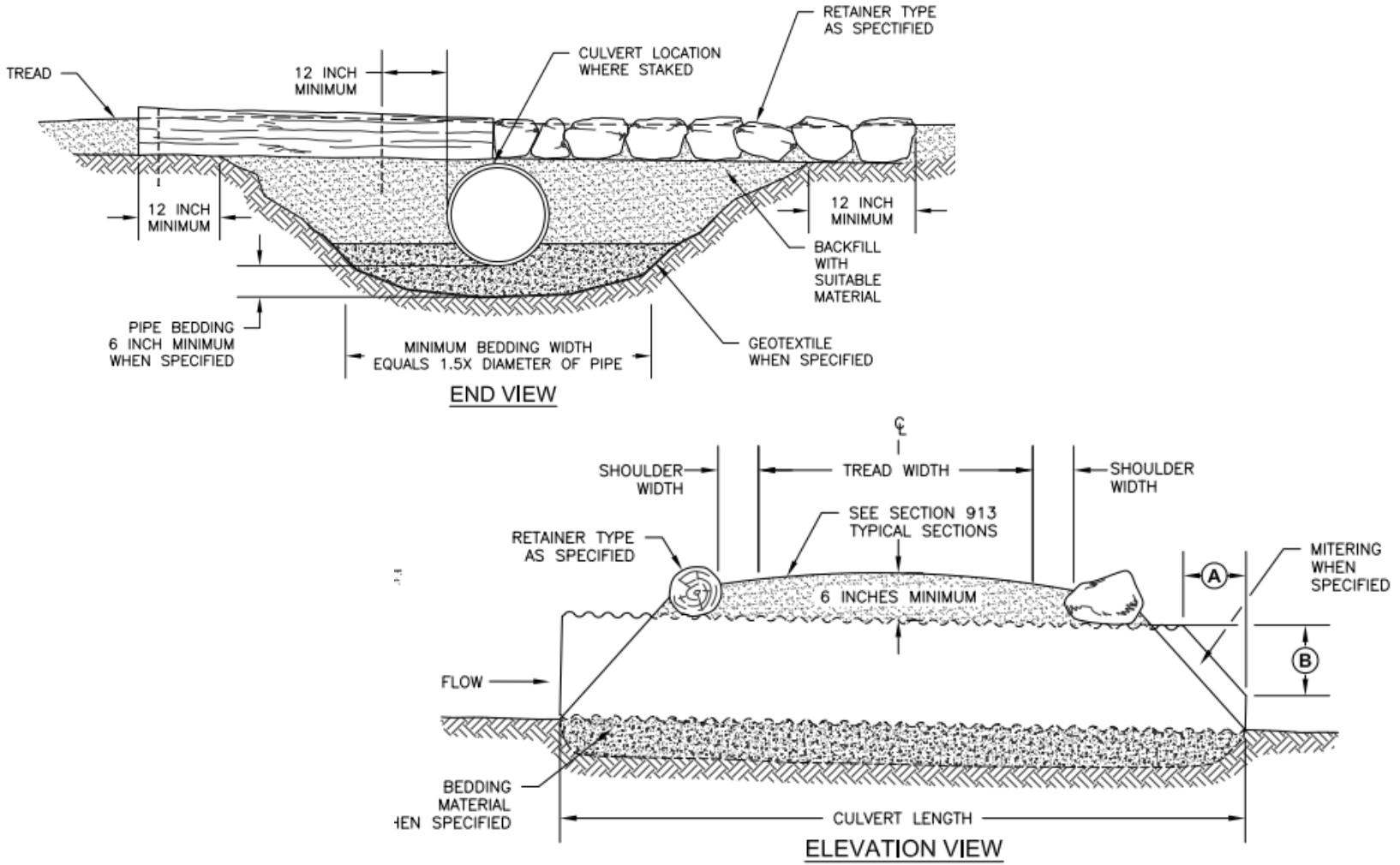
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME: **CLIMBING TURN**
SECTION: **914 - CLIMBING TURN**
TYPICAL ID: **CTN**

REVISION DATE: **XX/XX/XX**
NO SCALE

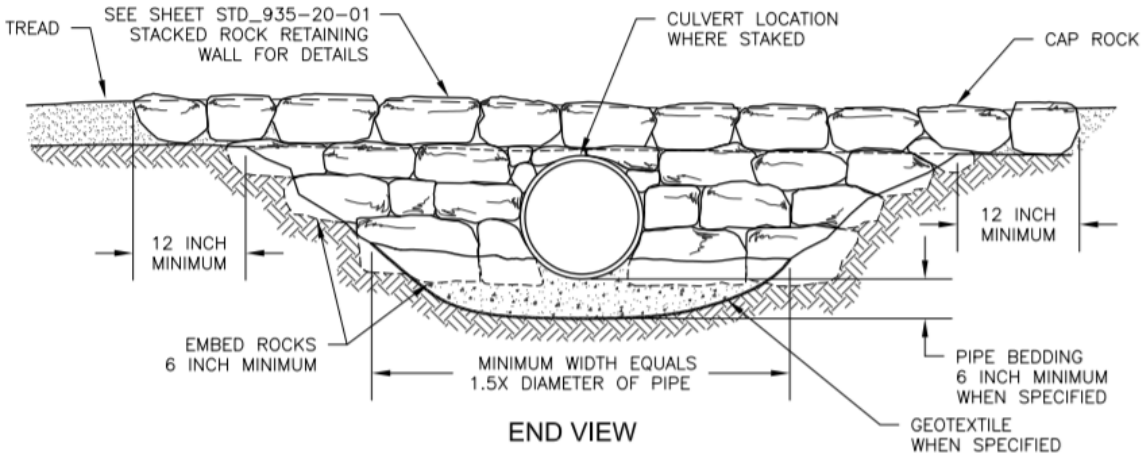
DRAWING NO.: **STD_914-01**
SHEET: 11 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***



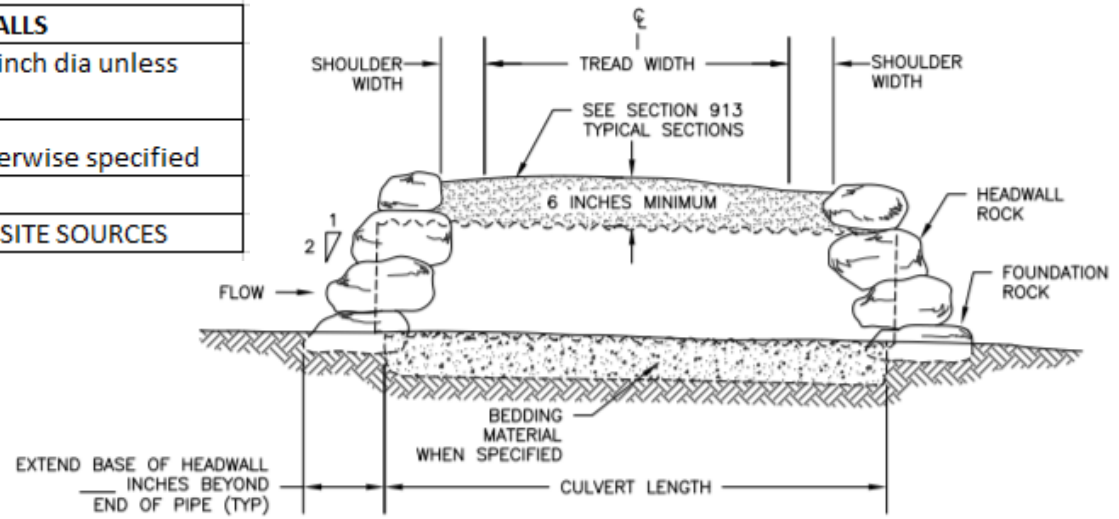
U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **STANDARD TRAIL PLAN**	PROJECT NAME & LOCATION **Olallie Mountain Bike Trail – Phase II** **Olallie State Park**	DRAWING NAME **STANDARD CULVERT** SECTION: **921 - CULVERTS** TYPICAL ID: **SCV**	REVISION DATE **XX/XX/XX** **NO SCALE**	DRAWING NO. **STD_921-10-01** SHEET 12 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***



END VIEW

CULVERT WITH HEADWALLS	
CULVERT TYPE	HDPE DUAL WALL - 12 inch dia unless otherwise specified
LENGTH	5 FT to 6 FT unless otherwise specified
BEDDING	ONSITE MINERAL SOIL
ROCK SIZING	ONE & TWO-MAN, ONSITE SOURCES



ELEVATION VIEW

Adapted from:

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

PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME **STANDARD CULVERT WITH HEADWALLS**
SECTION **921 - CULVERTS**
TYPICAL ID **CVH**

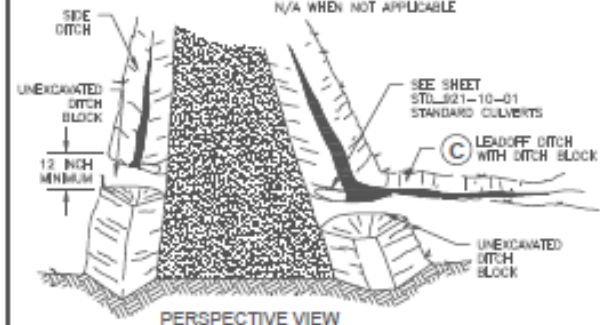
REVISION DATE **XX/XX/XX**
NO SCALE

DRAWING NO. **STD_921-20-01**
SHEET 13 OF 18

TYPICAL DITCH SECTIONS

TYPICAL ID	DITCH TYPE	GEOTEXTILE TYPE	DITCH DIMENSIONS (INCHES) Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	LINING MATERIAL Ⓙ	TYPE	DITCH BLOCK SPACING (FEET)	MATERIAL	DITCH BLOCK LT	RT	COMMENTS
	B	N/A	12"	30"–36"	12"	8"–12"	6"	N/A	N/A	++	++	X	X	++SEE CONST. LOG FOR DETAILS

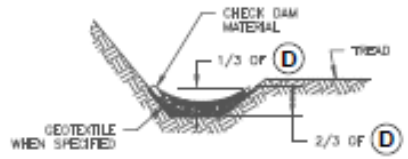
N/A WHEN NOT APPLICABLE



PERSPECTIVE VIEW

DITCH LINING OR CHECK DAM MATERIAL

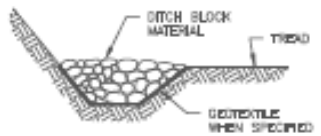
TYPE	MATERIAL	GRADATION	COMMENTS
DL1	GRAVEL	X	X
DL2	ROCK	X	
DL3	X	X	



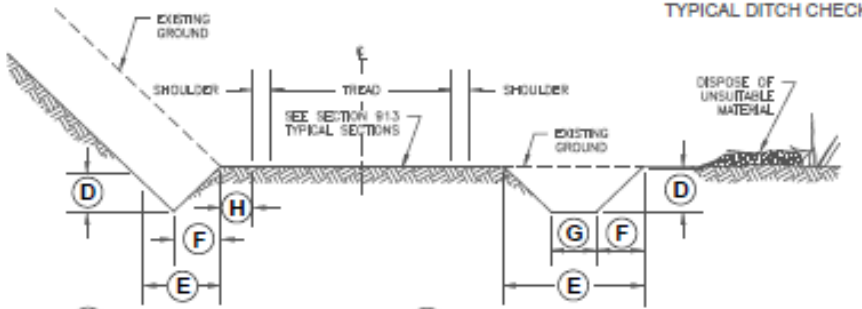
TYPICAL DITCH CHECK DAM SECTION

LEAD OFF DITCH/ CHECK DAM SPACING

DRAINAGE GRADE	DRAINAGE SPACING (FEET)
<3	OCCASIONAL
3–7	60
8–12	30
>12	18

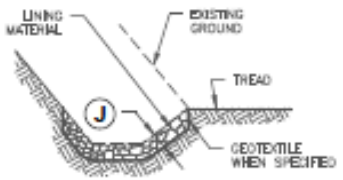


TYPICAL DITCH BLOCK SECTION



A "V" DITCH SECTION

B FLAT BOTTOM DITCH SECTION



TYPICAL LINED DITCH SECTION

NOTES:
1. LEAD–OFF DITCHES SHALL UTILIZE AS MUCH NATURAL DRAINAGE AS POSSIBLE.
2. LEAD–OFF DITCH SHALL DRAIN TO DAYLIGHT.

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

PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME: **TYPICAL DITCH SECTIONS**
SECTION: 925 - DITCHES
TYPICAL ID: TDS

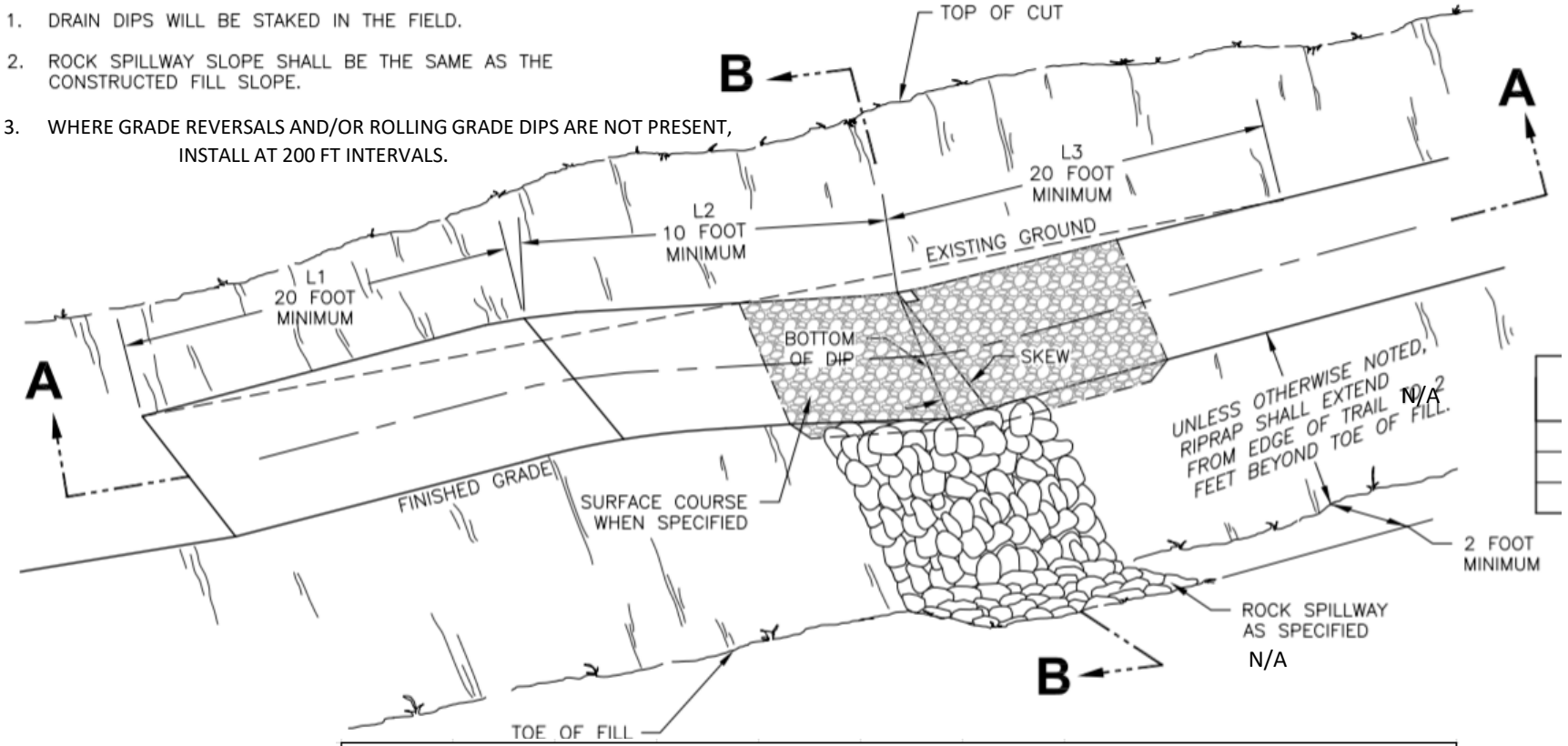
REVISION DATE: 01/06/2021
NO SCALE

DRAWING NO.: STD_925-01
SHEET: 14 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

NOTES:

1. DRAIN DIPS WILL BE STAKED IN THE FIELD.
2. ROCK SPILLWAY SLOPE SHALL BE THE SAME AS THE CONSTRUCTED FILL SLOPE.
3. WHERE GRADE REVERSALS AND/OR ROLLING GRADE DIPS ARE NOT PRESENT, INSTALL AT 200 FT INTERVALS.



DRAIN DIP DIMENSIONS							
% PROFILE GRADE	SKEW	L1	L2	L3	H	E	COMMENTS
0 - 15%	30 deg	20 ft	10 ft	20 ft	12- 18 in	48-60 in	ARMOR DIPS & SPILLWAYS ON SIDE
15% - 20%	45 deg	20 ft	10 ft	20 ft	12- 18 in	48-60 in	SLOPES >40%, WITH ONSITE MATERIALS
SUBSTITUTE W/ ROLLING GRADE DIPS WHERE INDICATED ALONG TRAIL FLAG-LINE.							

Adapted from:

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

PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

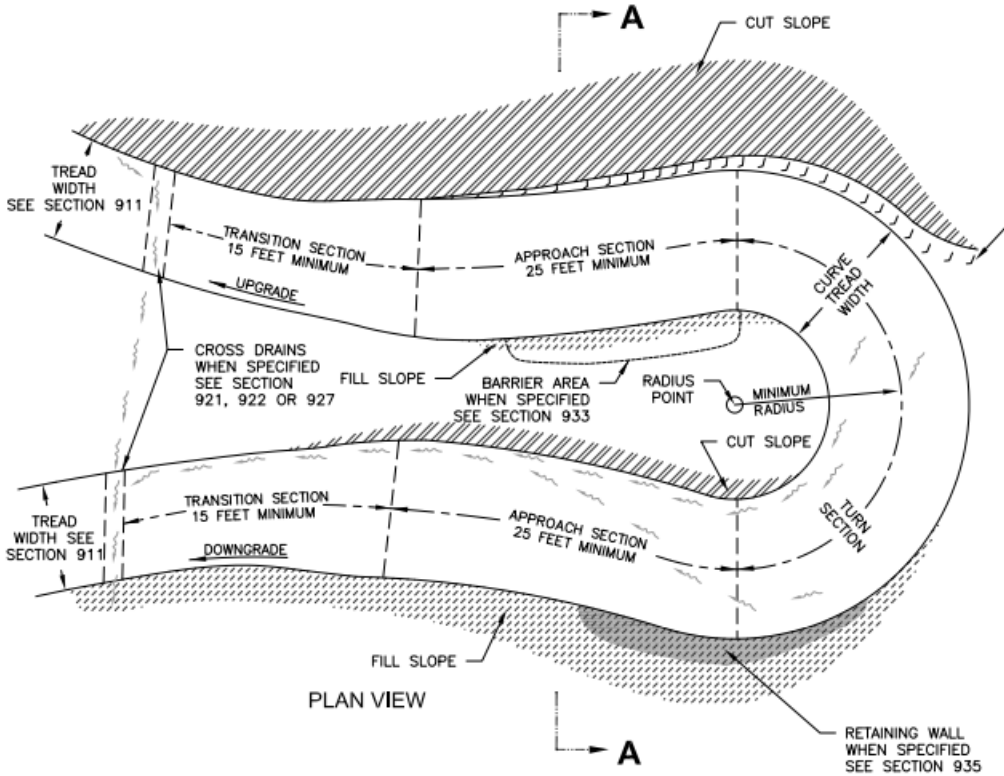
DRAWING NAME: **DRAIN DIP**
SECTION: **927 - DRAIN DIPS**
TYPICAL ID: **DD1**

REVISION DATE: **XX/XX/XX**
NO SCALE

DRAWING NO.: **STD_927-10-01**
SHEET: 15 OF 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

TYPE 1 RADIUS SWITCHBACK SECTION						
TYPICAL ID	MINIMUM RADIUS	CURVE TREAD WIDTH	BARRIER TYPE	RETAINING WALL TYPE	CROSS DRAINS	COMMENTS
ALL	8'	3 FT	ROCK	ROCK	YES	

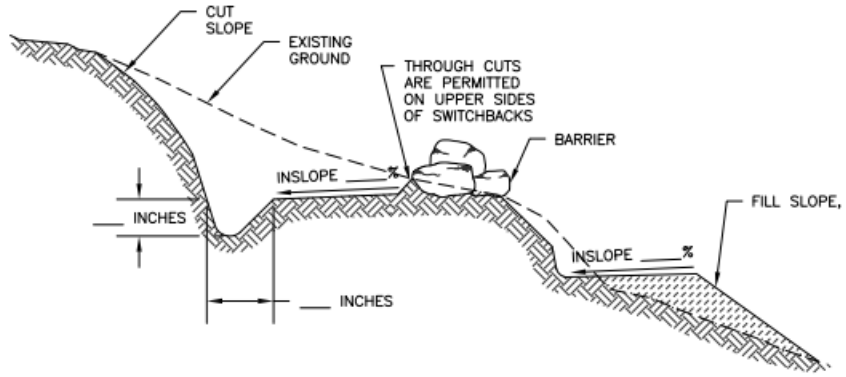


PLAN VIEW

NOTES:

1. CONSTRUCT CONSTANT GRADE THROUGH BOTH APPROACH SECTIONS AND TURN SECTION.
2. RADIUS POINT AND CENTERLINE OF SWITCHBACK AS STAKED ON THE GROUND.

All SW1's to include grade reversals and/or drain dips on each approach.



SECTION **A-A**

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **STANDARD TRAIL PLAN**	PROJECT NAME & LOCATION **Olallie Mountain Bike Trail – Phase II** **Olallie State Park**	DRAWING NAME **TYPE 1 RADIUS SWITCHBACK** SECTION: **931 - SWITCHBACKS** TYPICAL ID: **SW1**	REVISION DATE **XX/XX/XX** **NO SCALE**	DRAWING NO. **STD_931-10-01** SHEET 16 OF 18	

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

TYPE 2 - STANDARD TURNPIKE WITH FOUNDATION

NOTES:

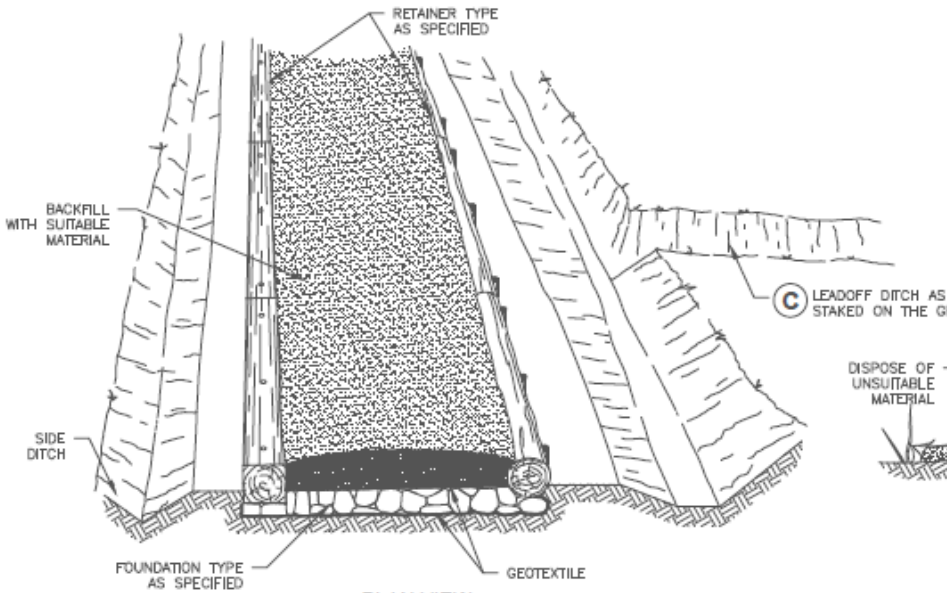
1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
3. LEADOFF DITCH TO BE CONSTRUCTED THE SAME AS SIDE DITCHES.
4. LEAD-OFF DITCH TO DRAIN TO DAYLIGHT.

TYPICAL ID	GEOTEXTILE			RETAINER*	DITCH							FOUNDATION**	
	TYPE	TOP	BTM	TYPE	TYPE	LOCATION		DIMENSIONS (INCHES)				TYPE	COMMENTS
						LT	RT	(D)	(E)	(F)	(G)		
	N/A	X	X	R 2B	B	X	X	X	X	X	X	FD 1 & 2	SEE CONST. LOG FOR DETAILS

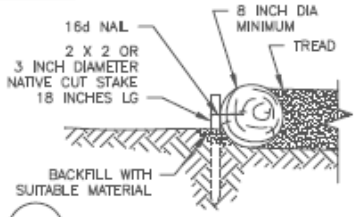
TYPE	MATERIAL	ROCK SIZE	GRADATION %	COMMENTS
FD1	AGGREGATE	5/8" MINUS		SURFACE; 4" DEPTH
FD2	COARSE ROCK	6" MINUS		NATIVE, ON-SITE BORROW, 4"-6" DEPTH

N/A WHEN NOT APPLICABLE
*FOR TYPICAL RETAINERS SEE SHEET STD_911-03
**FOR FOUNDATIONS SEE SECTION STD_918

IN-FILL MATERIAL TYPE

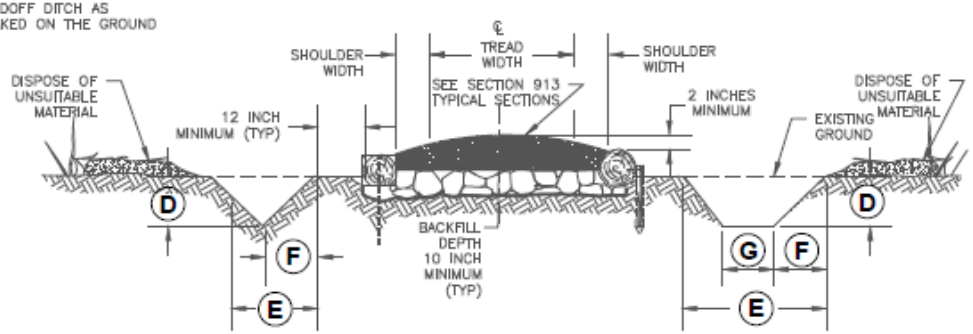


PLAN VIEW



R2b TYPICAL LOG RETAINER

TYPICAL CROSS SECTION



A "V" DITCH SECTION

B FLAT BOTTOM DITCH SECTION IN ACCORDANCE WITH STD-925-01

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

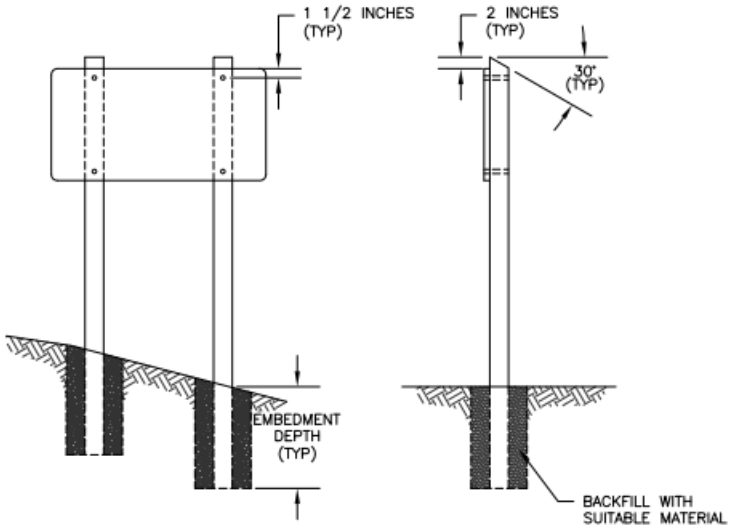
PROJECT NAME & LOCATION
Olallie Mountain Bike Trail – Phase II
Olallie State Park

DRAWING NAME **TYPE 2 - STANDARD TURNPIKE w/FOUNDATION**
SECTION 932 - TURNPIKES
TYPICAL ID TPF

REVISION DATE 01/13/2021
NO SCALE

DRAWING NO. STD_932-20-01
SHEET 16 OF 17 18

Prepared For: ***Washington State Parks and Recreation Commission***
Prepared By: ***Mountains to Sound Greenway Trust***

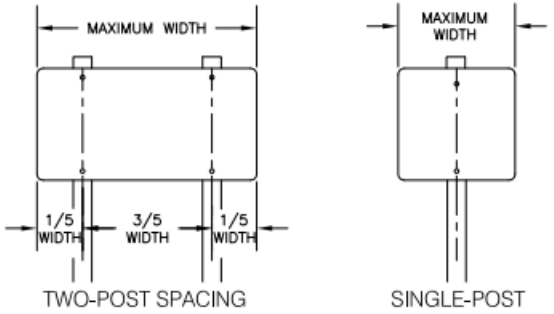


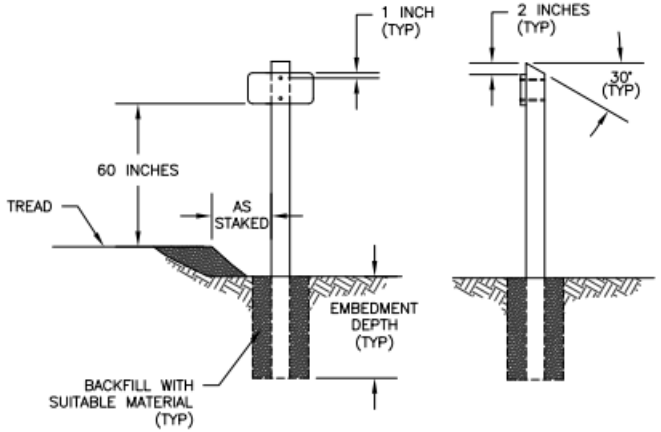
GUIDLINES FOR WOOD SIGN POSTS

WOOD SIGN POST SPACING AND SIZE REQUIREMENTS

POST SIZE (IN)	SINGLE POST		TWO–POST		MINIMUM EMBEDMENT DEPTH (FT)
	MAX SIGN WIDTH (IN)	MAX SIGN AREA (SQ.FT)	MAX SIGN WIDTH (IN)	MAX SIGN AREA (SQ.FT)	
4 X 4	*48	10	72	20	3
4 X 6	48	20	72	50	4
6 X 6	48	20	96	95	4

*THE MAXIMUM WIDTH IS 36 INCHES FOR DIAMOND–SHAPED SIGNS.





SIGN AND POST INSTALLATION

NOTES:

1. REFER TO "EM–7100–15 SIGN AND POSTER GUIDELINES FOR THE FS" FOR SIGN SPECIFICATIONS, MATERIALS, AND PLACEMENT.
2. POST SPACING APPLIES TO BOTH WOOD AND STEEL POSTS.
3. FOR SIZES OF STEEL POSTS, REFER TO EM 7100–15.
4. ALL HARDWARE SHALL BE ALUMINUM OR GALVANIZED.
5. LAG SCREW FASTENERS REQUIRE LEAD HOLES IN POSTS AND SHALL BE DRILLED PRIER TO INSTALLATION.
6. BOLT HOLES IN POSTS TO BE 1/16 INCH LARGER (MAXIMUM) LARGER THAN THE BOLT HOLE REQUIREMENT.
7. SIGN AND MARKER POSTS ONLY SHALL BE TREATED WITH CCA (CHROMATED COPPER ARSENATE) FOR UC4A GROUND CONTACT FOR GENERAL USE.
8. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE STANDARD TRAIL PLAN	PROJECT NAME & LOCATION Olallie Mountain Bike Trail – Phase II Olallie State Park	DRAWING NAME SIGN AND POST INSTALLATION SECTION 951-SIGNS TYPICAL ID SPI	REVISION DATE XX/XX/XX NO SCALE	DRAWING NO. STD_951-02 SHEET 18 OF 18