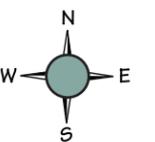


Oak Creek Preserve Trail Feasibility

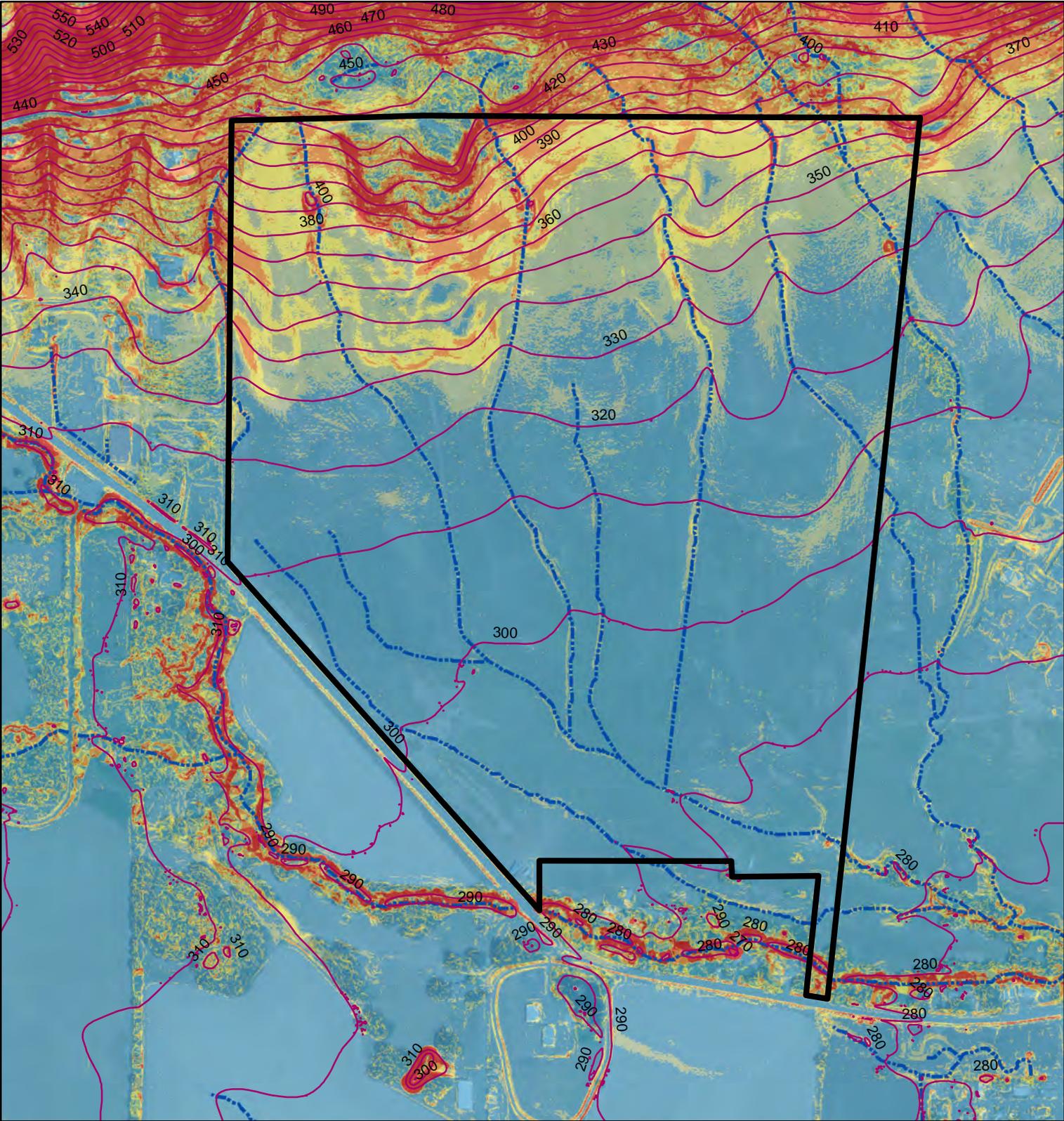
Context Perspective - Looking North

Legend

- OCP Site Boundary
- Public and Conserved Lands
- Conceptual Regional Trail Connections
- Existing Soft-Surfaced Trails
- Existing Hard-Surfaced Paths

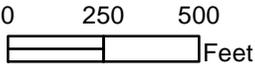


Oak Creek Preserve - Slope and Topography Map



Legend:

- 0 - 5 % Slope
- 5 - 10 % Slope
- 10 - 15 % Slope
- 15 - 25 % Slope
- 25 - 45 % Slope



Scale

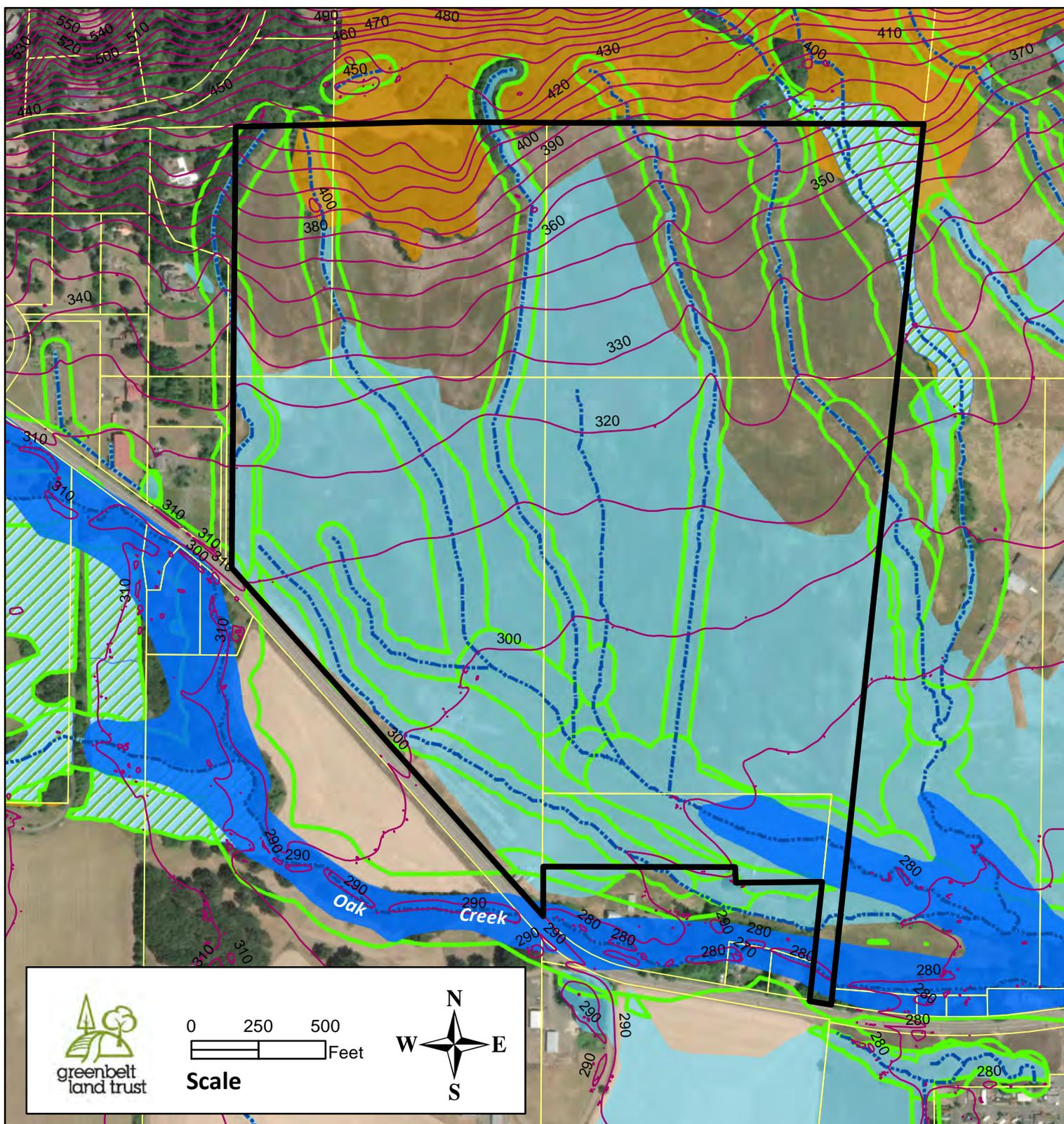
Contour Interval: 10 feet

August 2020

Prepared by JKE
Derived from LiDAR data
provided by DOGAMI



Oak Creek Preserve - Natural Features and Overlays



Legend:

-  All Mapped Wetlands (LWI)
-  100-Year Floodplain (FEMA)
-  Seasonal Waterways
-  10-Foot Contours (LiDAR derived)
-  Tax Lot Lines

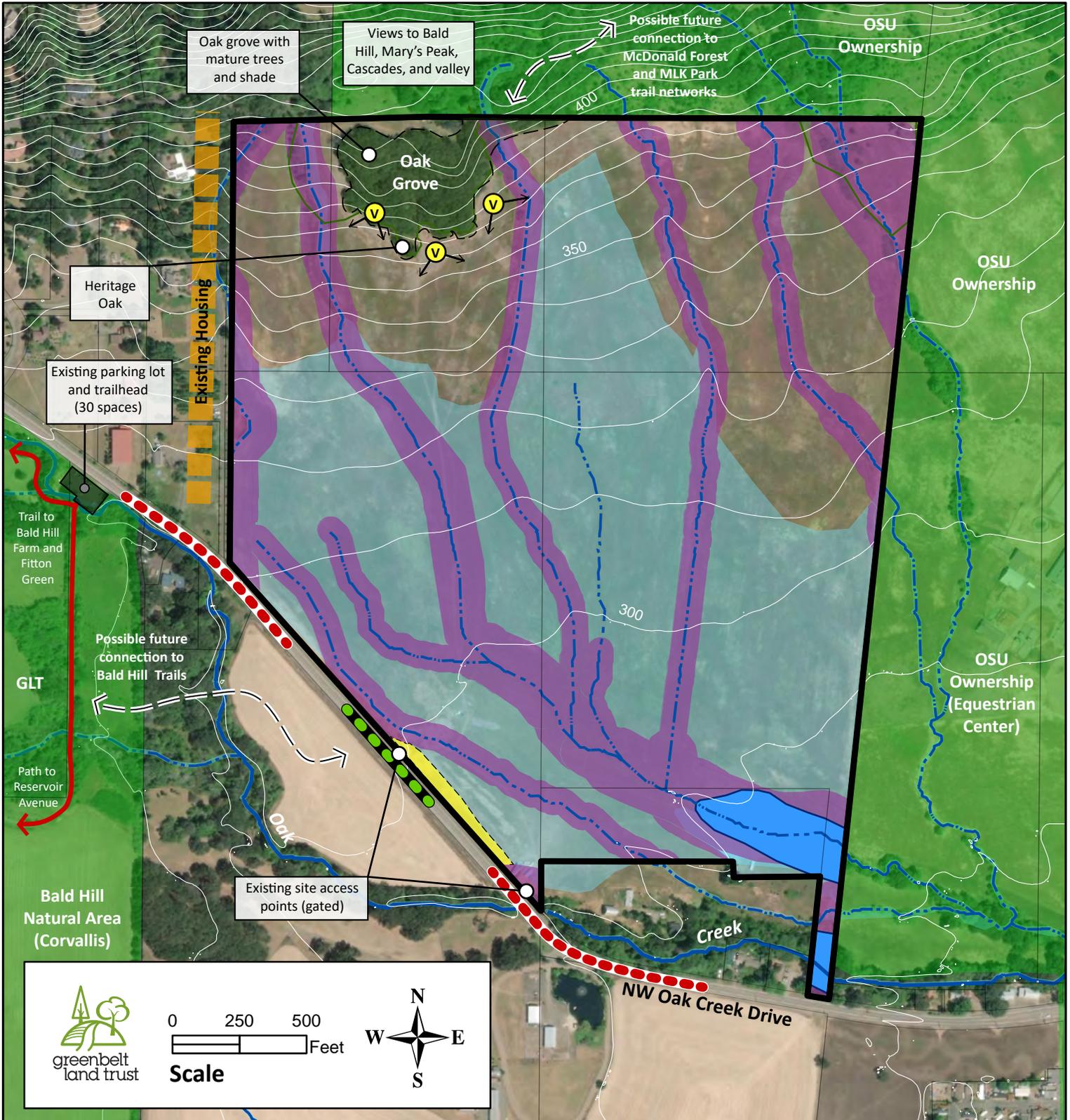
Natural Features Overlays:

-  Protected Riparian Corridor
-  Protected System Critical Wetland
-  Protected Significant Vegetation Area

Draft: August 2020

Prepared by JKE
Aerial Base: 7/28/2019

Oak Creek Preserve - Opportunities and Constraints for Trails



Potential Constraints

- Seasonal Wetlands
- 100-Year Floodplain (FEMA)
- Seasonal Waterways
- Riparian Corridor Overlay (County)
- Poor Line of Sight for Road Crossing

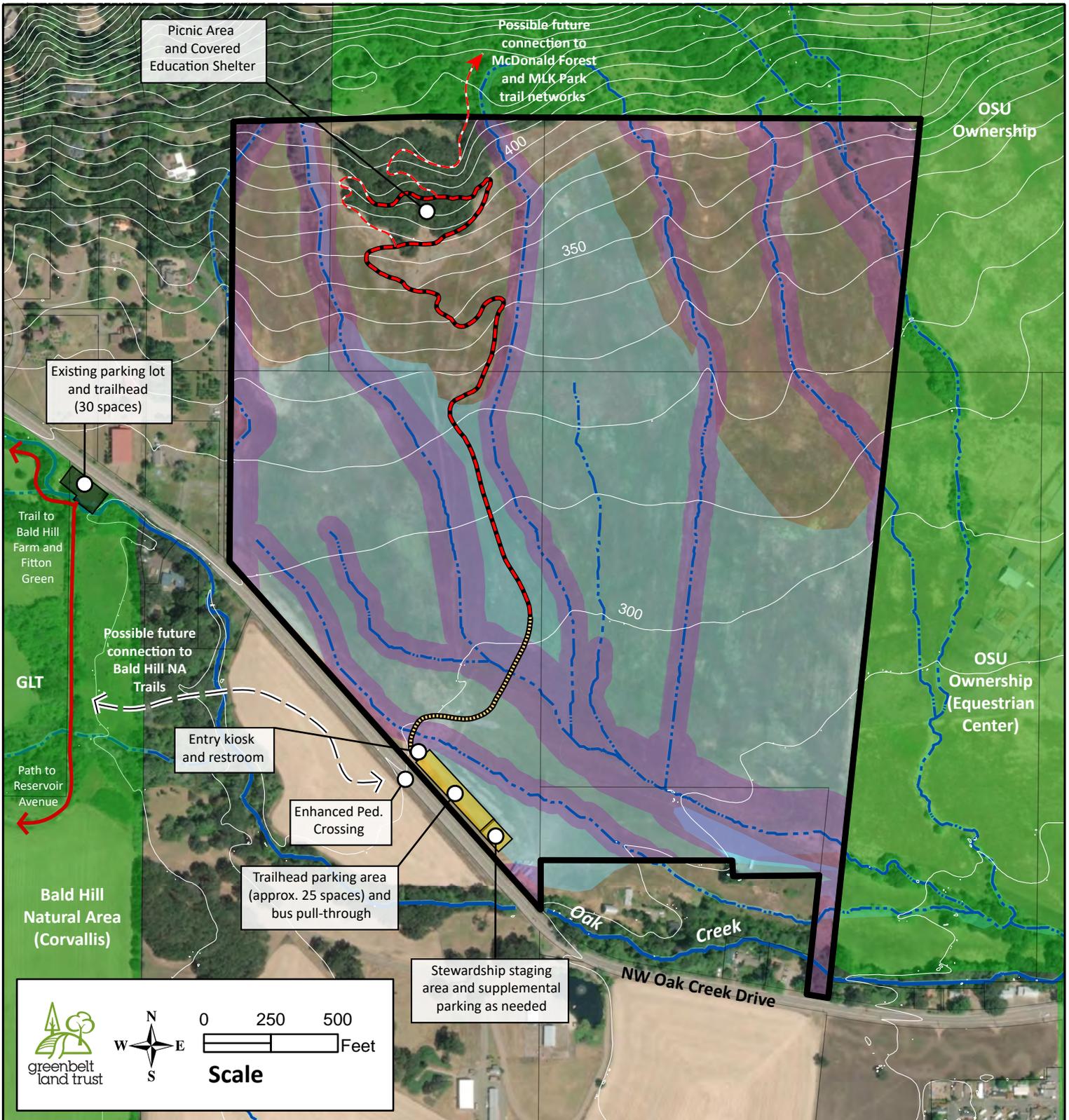
Opportunities and Attributes

- Conserved or Public Lands
- V Highest Quality Viewpoints
- Best Line of Sight for Road Crossing
- Least Constrained Area for Future Parking
- Existing Trail or Multi-Use Path

August 2020

Prepared by JKE
 Aerial Base: 7/28/2019
 10-Foot Contours
 — = Tax Lot Lines

Oak Creek Preserve - Recommended Trail Alignment and Facilities



Legend

- Seasonal Wetlands
- Seasonal Waterways
- Riparian Corridor Overlay (County)
- Conserved or Public Lands
- Existing Trails or Multi-Use Paths
- Site Boundary

Potential Trails*

- Universal Access Trails
- Boardwalk
- Other Soft-Surfaced Trails

* Trail classification and exact location may be adjusted in the future based on refined analysis and input.

August 2020

Prepared by JKE
 Aerial Base: 7/28/2019
 10-Foot Contours
 — = Tax Lot Lines

Oak Creek Preserve - Potential Trail Alignment and Facilities



Legend:

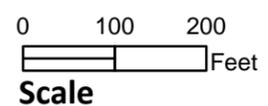
- 2-Foot Contours
 - Seasonal Waterways
 - Site Boundary
 - Direction of Sheet Flow*
- *Indicates post construction flow

Potential Trails and Facilities**

- Elevated Boardwalk (750 lf)
- Standard Universal Access Trail (2,200 lf)
- Elevated Universal Access Trail (825 lf)
- Other Soft-Surfaced Trails (1,275 lf)
- Wayfinding Signage
- Interpretive Signage
- Benches

Note: Aerial photo base has modified to reflect possible future habitat restoration.

** Trail alignment and facilities to be refined based on further analysis and input.



Prepared by JKE
August 2020

Oak Creek Preserve Trail Vision

Upper Trail Viewpoint Concept



Existing condition

The upper trail will pass through restored prairie on its way to the existing oak woodland, offering views of Bald Hill and Mary's Peak (shown here) and the Cascade peaks to the east. The trail will be constructed for universal access, allowing users of all abilities the opportunity to enjoy abundant wildflowers, expansive views, and wildlife such as native butterflies, raptors, and unique birds such as the Acorn Woodpecker, White-breasted Nuthatch, and Western Meadowlark.



Beginning at a future trailhead located on Oak Creek Drive, the universal access trail would start off as an elevated boardwalk, passing over two seasonal waterways and restored wetland before transitioning to a gravel surfaced trail. The trail will be constructed of highly compacted gravel and have a shallow grade to maximize accessibility as it passes through restored prairie and savanna on the way to the oak woodland approximately a half mile in the distance. Tree frogs, Great Blue Heron, and Western Bluebird could be found in this area.



Existing condition



Oak Creek Preserve Trail Vision Lower Trail Viewpoint Concept

Oak Creek Preserve Trail Feasibility - Construction Guidelines

Elevated Universal Access Trail - Construction Guideline

Prepared by Jeff Krueger, August 2020

Background

This universal access trail segment will cover approximately 825 linear feet and will traverse seasonal agricultural wetland (mapped hydric soil). The trail has been sited between and parallel to two seasonal waterways to avoid blocking natural sheet flow (see plan). This trail segment will be excavated to a depth of six inches, lined with geotextile fabric, and backfilled with large quarry rock to prevent settling. A standard universal access trail will be constructed on this base course and elevated approximately four inches above the adjacent surface grade to avoid seasonal flooding. The average running grade of this segment is approximately 2.5 %.

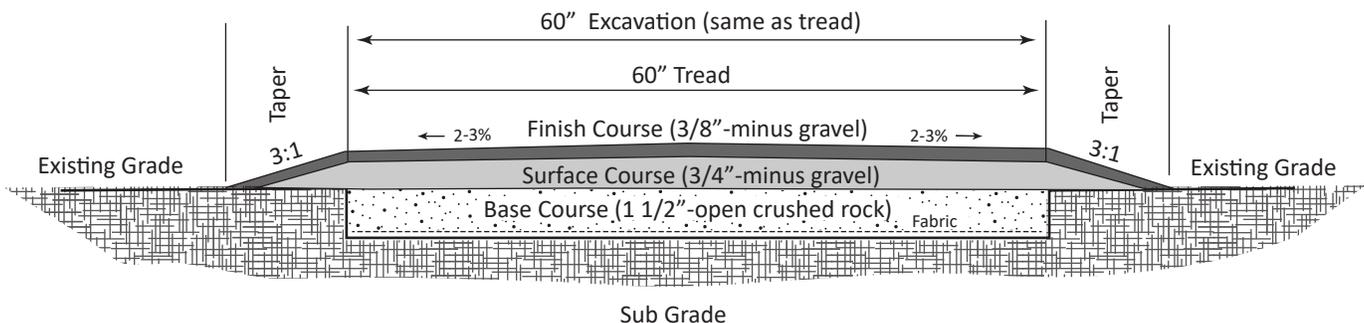
Standard

- Tread width: 60" (5 feet)
- Side slope: 2-3% from crown
- Additional drainage features: None required (trail drains to sides)

Excavation and Surfacing

- Excavate and remove 6" of existing sub grade and line with geotextile fabric to prevent settling
- Base Course: 6" depth of 1 1/2"-open crushed rock (or modified as recommended by contractor)
- Surface Course: 3" depth of 3/4"-minus gravel heavily compacted
- Finish Course: 1 1/2" depth of 3/8"-minus crushed rock (or 1/4"-minus based on contractor recommendation) heavily compacted
- Side Slope: 2-3% with crown in the middle (drains to both sides)
- Final Path Surface: Should be 4-5" above surrounding finish grade after final compaction
- Taper path edges to meet surrounding grade at a 3:1 slope

Trail Detail



Sample of Similar Trail

(Delta Ponds in Eugene)



Standard Universal Access Trail - Construction Guidelines

August 31, 2020

Background

The standard universal access trail segment will cover approximately 2,200 linear feet and will climb toward the oak woodland at an average running grade of 4% with a maximum of 8% for a short segment on the upper climbing turn (see plan). This trail will be cut into the side slope as shown on the detail below.

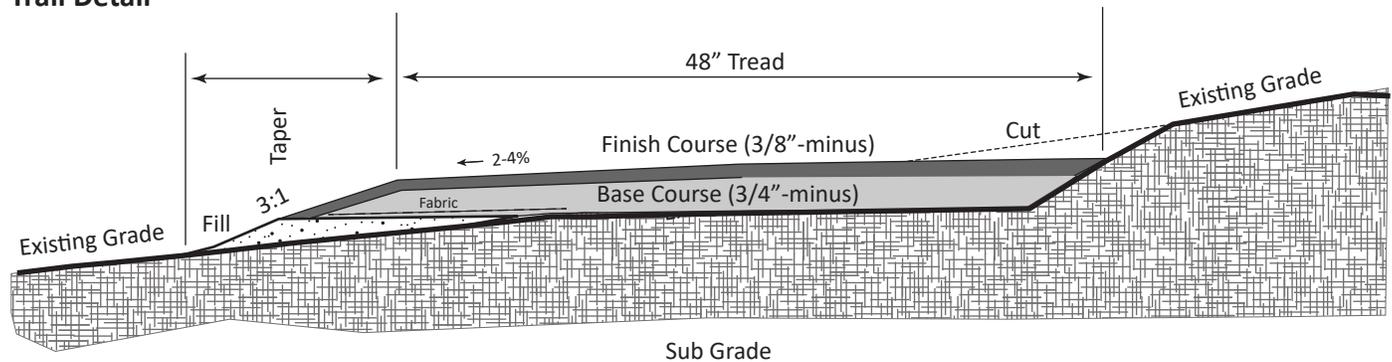
Standard

- Tread width: 48" (4 feet) with 60" (5 feet) passing zones a minimum of every 250 linear feet (at least 60" length)
- Minimum horizontal clearance of 24" (2 feet) on either side of trail
- Additional drainage features: A grade reversal (rolling dip) will be placed at intervals of approximately every 200 linear feet (dip should not exceed 5%)

Excavation and Surfacing

- Set trail into side slope as shown below as needed (balance cut and fill on site)
- Base Course: 3" depth (finished depth) of 3/4"-minus gravel heavily compacted (or modified as recommended by contractor)
- Place geotextile fabric on top of fill area to help support base course
- Finish Course: 1" depth of 3/8"-minus crushed rock heavily compacted (or 1/4"-minus based on contractor recommendation)
- Cross slope: 2-4% pitched to the downslope side
- Taper path edges to meet surrounding grade at a 3:1 slope

Trail Detail



Sample of Similar Trail
(Wild Iris Ridge in Eugene)



Elevated Boardwalk - Construction Guideline

August 31, 2020

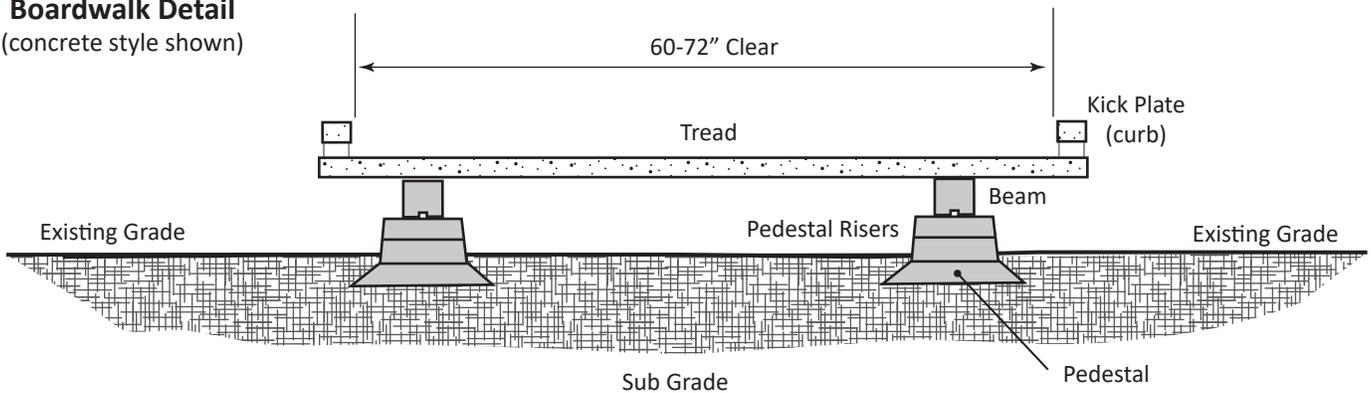
Background

Starting at a future trailhead on Oak Creek Drive, an elevated boardwalk will traverse restored wetlands and two seasonal waterways over approximately 750 feet. A boardwalk is recommended in this lower area so that flow from the waterways and wetlands can pass through this area unobstructed. The finished elevation of the boardwalk would be determined based upon further observation of wintertime flow, but the decking would likely be 24 - 30 inches high and would not require railings. The average running grade of this segment will be less than one percent. A variety of boardwalk styles and materials are available, and each has its pros and cons. Pressure treated wood construction is the most cost effective and perhaps the most aesthetically pleasing, but has a limited life span, can become slippery, and could leach chemical preservatives. Composite (plastic) wood is made from biologically inert material and is a good boardwalk option, but is more expensive than wood, needs more expansive framing, and can also become slippery over time. Prefabricated vinyl and precast concrete boardwalks are by far the most long lasting and slip resistant options, but also the most expensive. The material and design of the boardwalk will be determined at a later date based on evaluation of these factors.

Standard

- Tread width: 60-72" (5-6 feet) recommended to allow easy passing including wheeled mobility devices
- Side slope: 0%
- Additional drainage features: None required
- Excavation: Required for footings (based on boardwalk style)

Boardwalk Detail (concrete style shown)



Sample Boardwalk (Prefabricated Concrete - PermaTrak)

