

Preliminary Heritage Trail Staking for Segment 9

OHM Consultants, under the direction of TART and NPS, have been hired for the design of the multi-use recreational trail called "The Heritage Trail." On May 10, 2023, OHM did a preliminary staking of the center line of the trail routing from CR 669 to CR 651, otherwise known as Segment 9. This routing is subject to changes and is not final. The stakes have pink ribbons attached to them. When completed, trail users will be able to bike from Empire to Good Harbor Bay at CR 669, with the exception of an on-road trail along Glen Lake (trail ends at either end of Northwood Drive) and ending before reaching the neighborhoods in Empire and Glen Arbor.

Segment 9 begins at the corner intersection of CR 669 and M-22 and then progresses east along M-22 to Traverse Lake Road (TLR) crossing in front of two private properties. The trail turns north along TLR to the large west curve with the trail being mostly an elevated boardwalk across wetlands adjacent to the road within the right of way traversing two more private properties and also crossing Shalda Creek. The trail then meanders eastward through mature woods (up to 100 ft from the road) until it reaches the old Swanson / Juniper Trail where it begins to be routed closer to the road edge due to the presence of dunes as well as crossing a fifth private property. On the eastern end of TLR, the trail will traverse critical dunes adjacent to the road (retaining walls required) before headed north past the former Bufka farm to reach CR 651. There will be limited access points for TLR residents (via private driveways and two trail intersections).

One can walk the stake line to see the preliminary routing with some portions being located close to the road (staying within 33 ft of road centerline in the road right away across private property) and other portions setback into woods (not extending beyond the wilderness boundary which starts at 100 ft from road). Portions of the trail will include board walk construction across wetlands, a bridge across a creek, retaining wall construction with excavation through critical dune areas, and clearing through forests. Portions of scenic TLR will look different with more extensive tree clearing and retaining wall construction alongside the road edge.

Trail planning is expected to be completed summer 2023. After final engineering plans are completed, the following permits will need to be acquired (there is a public comment opportunity as part of the permit approval process): County Road Commission and MDOT approval for right of way use, Critical Dune permit, stream crossing permit, wetlands permit and soil erosion permit. TART is undergoing fund raising and planning for trail construction beginning fall 2024. Trail costs are expected upwards of \$10 Million, more than was spent for the first 22 miles of the Heritage Trail.

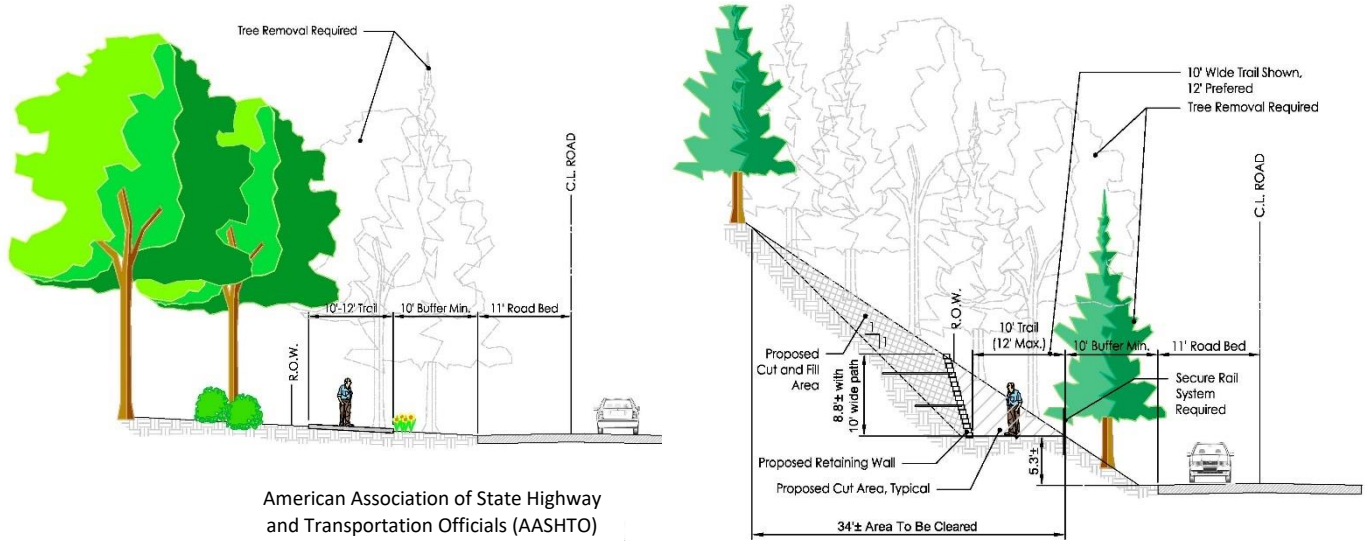
Trail Construction Designs

Historical trail construction of the Heritage Trail includes a 25 ft (or more) wide vegetative clearing swath before deeper excavation in preparation for 10 ft wide asphalt path with 2 ft gravel shoulders (14 ft in total). Additional excavation may be required for topography considerations where hills and slopes may need to be cut back. For steeper hills, or where soils are unstable (critical sand dunes), retaining walls are constructed and can have one or multiple tiers of retaining walls based on design or large scale excavation and removal of hill material is required.

A 10 ft safety space must exist between road edge and the trail path to meet American Association of State Highway and Transportation Officials (AASHTO) safety guidelines, meaning tree clearing would be required for the entire road right of way 33 ft from centerline or more.

Wetlands are usually traversed with an elevated boardwalk that has side rails. Elevated board walks will be constructed at the east end of TLR alongside the roadway and for some portions adjacent to the Bufka cedar swamp between TLR and CR 651.

ILLUSTRATION OF VARIOUS DESIGN CONSIDERATIONS



EXAMPLES OF VARIOUS RETAINING WALL DESIGNS



Height and type of retaining wall is dependent on total elevation, degree of slope and how far back the slope needs to be cut to create hillside stability (all factors determining volume of material needed to be removed). Actual design for TLR still to be released to the public.

EXAMPLES OF ELEVATED BOARD WALK TO TRAVERSE WETLANDS



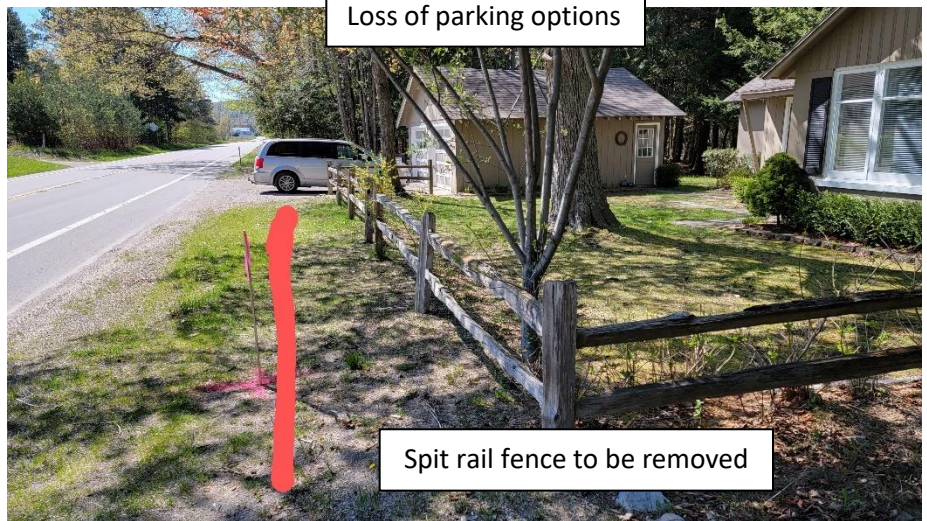
EXAMPLES OF HERITAGE TRAIL CONSTRUCTION



ROUTING ALONG M-22 FROM CR 669 EAST TO TLR



As the trail progress east along M-22, the former house on National Park property will be torn down to create a parking lot for trail users. Then the trail will be routed closer to M-22 roadway as it crosses two private properties before reaching TLR. This will require cutting back trees along the road to facilitate trail construction and will be routed in front of residences.



TRAVERSING WETLANDS ON WEST END OF TLR

The trail then turns north, traversing wetlands with an elevated board walk being construction along TLR as it crosses two more private properties. The trail will also cross Shalda Creek with the construction of a new bridge.



Shalda Creek Bridge Crossing

TLR West Curve Eastward

After the trail crosses the fourth private property at the west end of TLR, it is routed into the woods up to 100 ft from the trail (wilderness boundary) until it reaches the old Swanson / Juniper Trail where the critical dunes begin. The trail would be cut through the woods similar to other parts of the Heritage Trail. Hundreds of trees will be removed to construct the 5+ mile trail from CR 669 to CR 651.



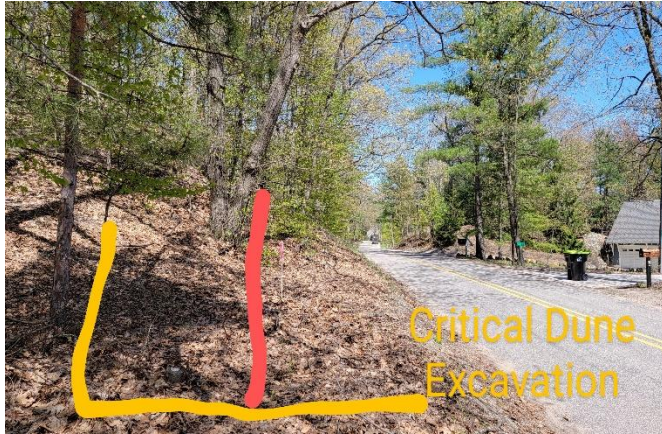
Swanson / Juniper Trail Eastward Towards Dunes



As the trail continues eastward from the Swanson / Juniper Trail, the route is closer to the road due to the presence of dunes and crossing in the road right of way across the fifth private property. Where the trail is in closer proximity to the road, additional tree clearing along the road way will take place for the trail (usually a vegetative-clear width 33 feet from center line).



TLR Critical Dune Area



The trail will traverse about 700 ft of protected Critical Dunes along TLR. These dunes are high and steep, with slopes often greater than 1:3. Extensive cutting back of the dunes will be required along with construction of retaining walls along this section of the trail.



Bufka Farm Trail

Once reaching the east big curve of TLR, the trail continues northward alongside the wilderness area between critical dunes and a cedar swamp, passes west of Bufka Farm, and then ends at the top of CR 651 near the M-22 intersection. This section will have some wetland board walk construction and several hill excavations north of Bufka Farm due to the rolling topography west of M-22. It also dissects a significant wildlife habitat between TLR and Bufka Farm that is adjacent to the wilderness area.

TRAIL ROUTING ALTERNATIVES

LTLPOA has historically raised concerns over the impact of the Heritage Trail as well as proposing alternative solutions which include constructing a trail along CR 669 to access Good Harbor Bay with existing parking and facilities, stopping trail at TLR like has been done at Northwood Drive, Empire and Glen Arbor, creating an on-road trail with a lower speed limit, or suggesting a study to determine the feasibility of adding 5 ft road shoulders. This will be the greatest change for the scenic character of TLR since it was first paved decades before the formation of the Sleeping Bear National Lakeshore.



For more information on design guidelines, a benchmark resource is the “Guide for the Development of Bicycle Facilities” published by the American Association of State Highway and Transportation Officials (AASHTO).