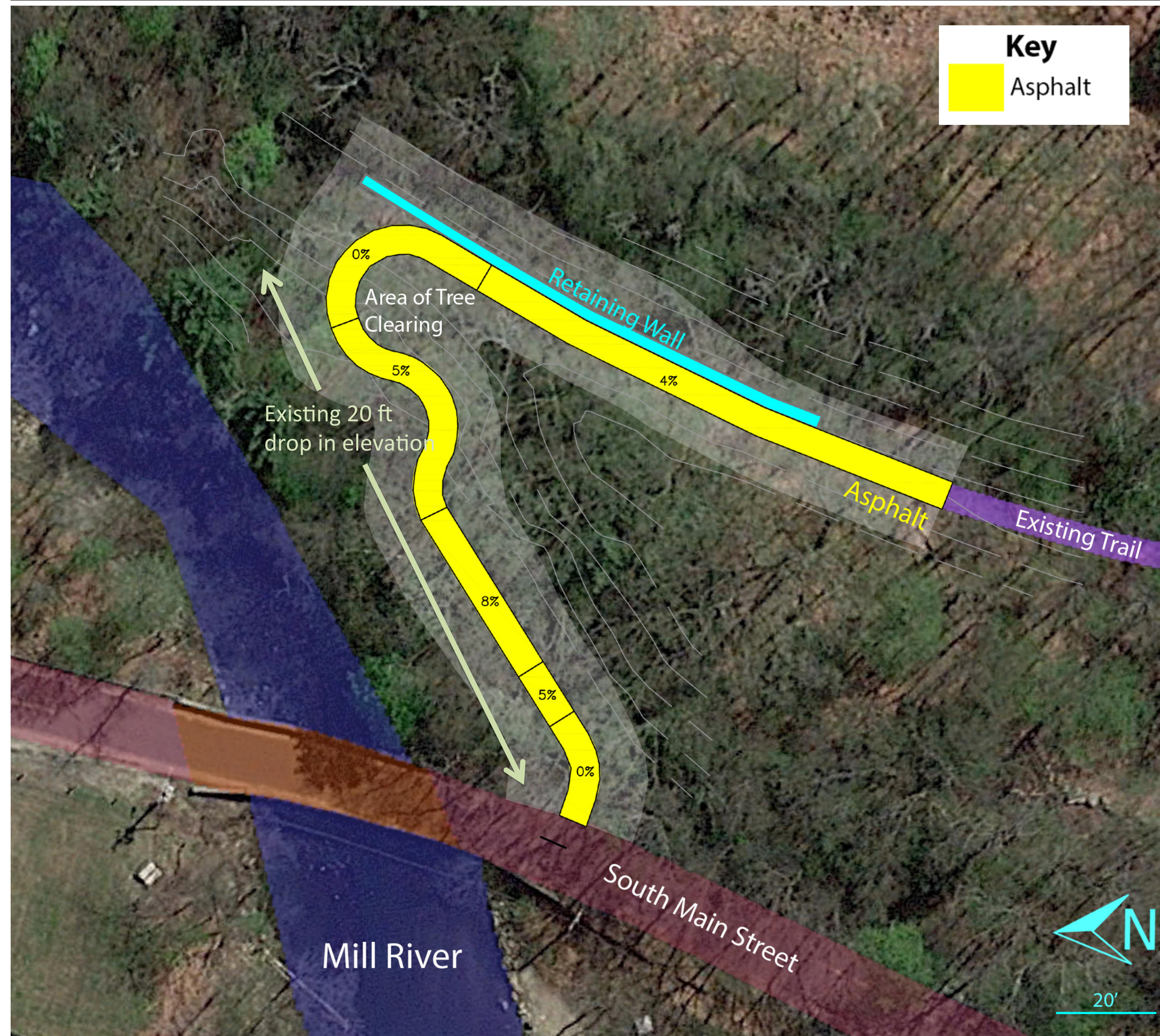


## Option 1: Earthwork Design



## Design Considerations

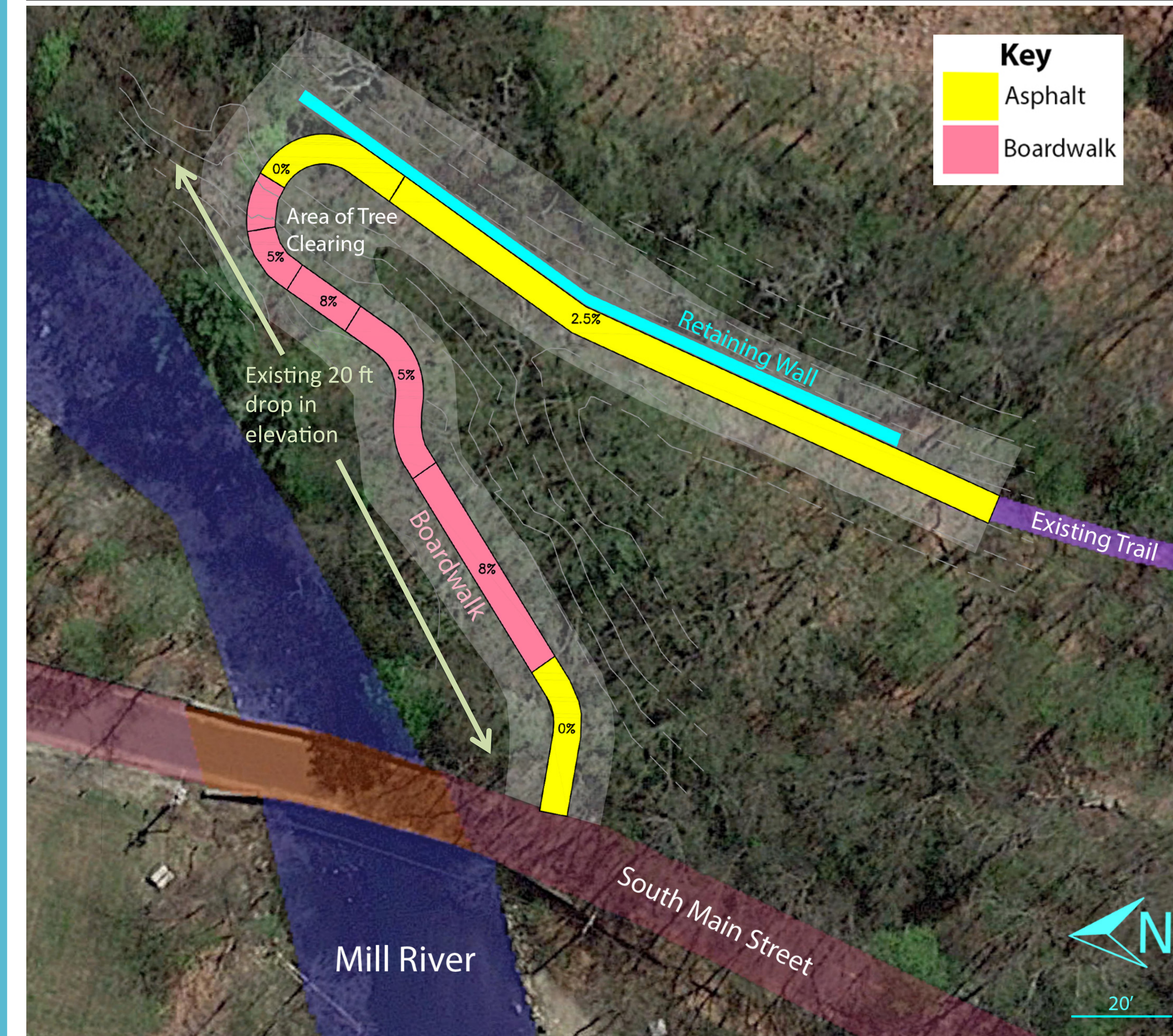
Cost  
Safety  
Accessibility  
Environmental Impact  
Sustainable stormwater management  
Pickup truck access  
Historical Fit  
Aesthetic Continuity

## Retaining Wall



Both designs require retaining walls up to 9 feet tall similar to this wall in Leeds, MA.

## Option 2: Boardwalk Design



- Requires regrading the slope down to the road
- Must be further away from river due to the amount of earthwork

### Existing Conditions



### Paved Path



The earthwork design would have the same appearance as trails in Northampton (left). The trail would be sloped similar to the image above.

### Larger environmental impact

Materials and labor: \$ 590,000

Excavated material: 5600 yards<sup>3</sup>

Material removed: 4700 yards<sup>3</sup>

Retaining wall length: 175 feet

Max. retaining wall height: 9 feet

More tree removal needed

Asphalt surface like existing trail

Aesthetics match existing trail

Wood railing

### Smaller environmental impact

Materials and labor: \$ 860,000

Excavated material: 1500 yards<sup>3</sup>

Material removed: 1400 yards<sup>3</sup>

Retaining wall length: 260 feet

Max. retaining wall height: 9 feet

Less tree removal needed

Concrete surface on boardwalk

Different look from existing trail

Wood railing

- 200 foot boardwalk length
- Concrete surface less slippery than metal, wood, and composites often used on boardwalks
- Supported by shallow footing foundation



Boardwalks with concrete surfacing and wood railings. Top left shows concrete boardwalk with shallow footings in Hadley, MA on the Norwottuck Rail Trail. Boardwalk images from PermaTrak.