

MONTGOMERY COUNTY LIFE SCIENCES CENTER

LOOP TRAIL

15% CONCEPT DESIGN

DRAFT 05/26/15



EXISTING CONDITIONS

EXISTING CONDITIONS



DISCOVERLY DRIVE
(North of Diamondback Drive)



DISCOVERLY DRIVE
(South of Diamondback Drive)

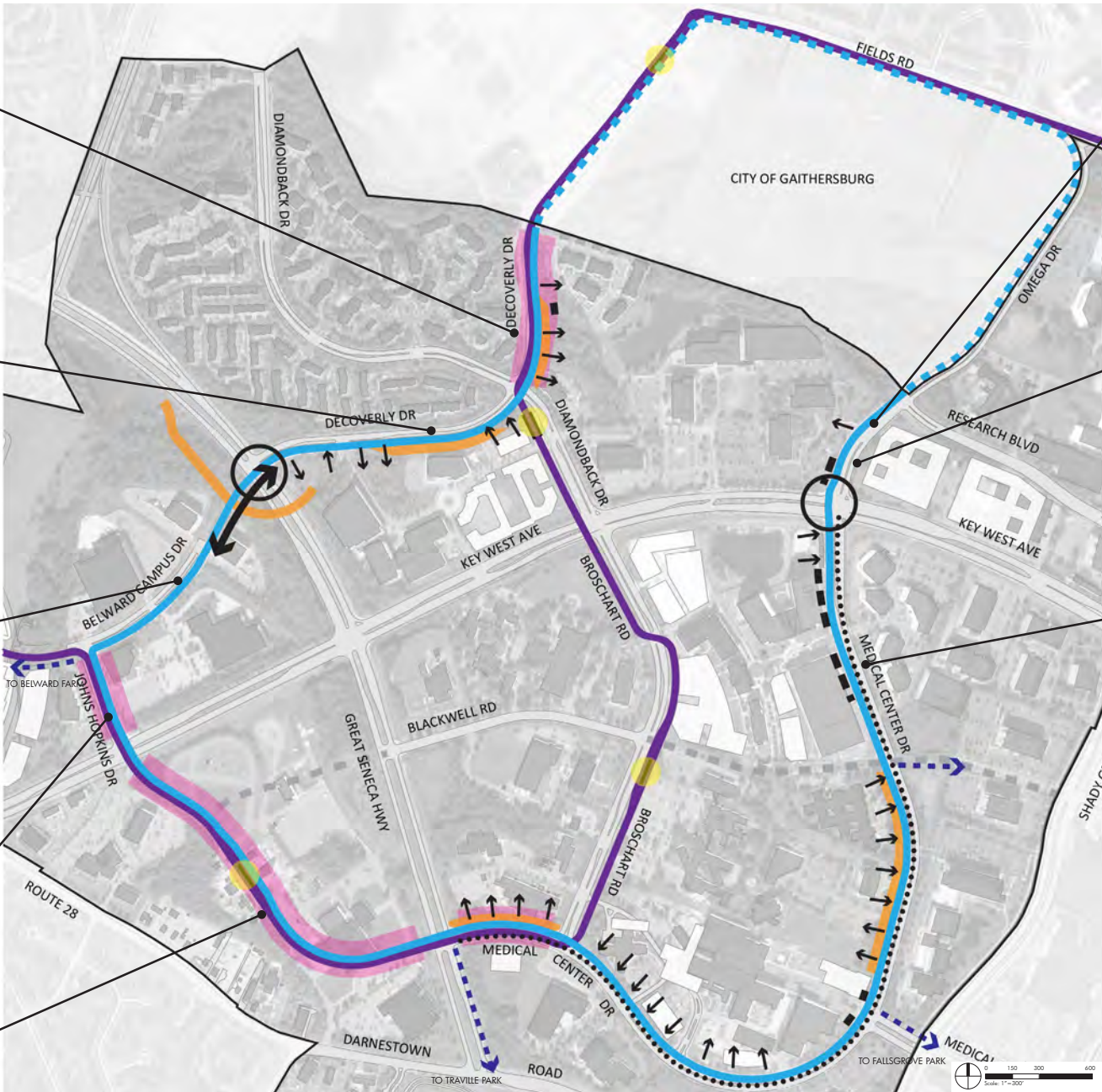


BELWARD CAMPUS DRIVE



JOHNS HOPKINS DRIVE

PSTA PROPERTY: NEW ROAD



OMEGA DRIVE
(Northern Segment)

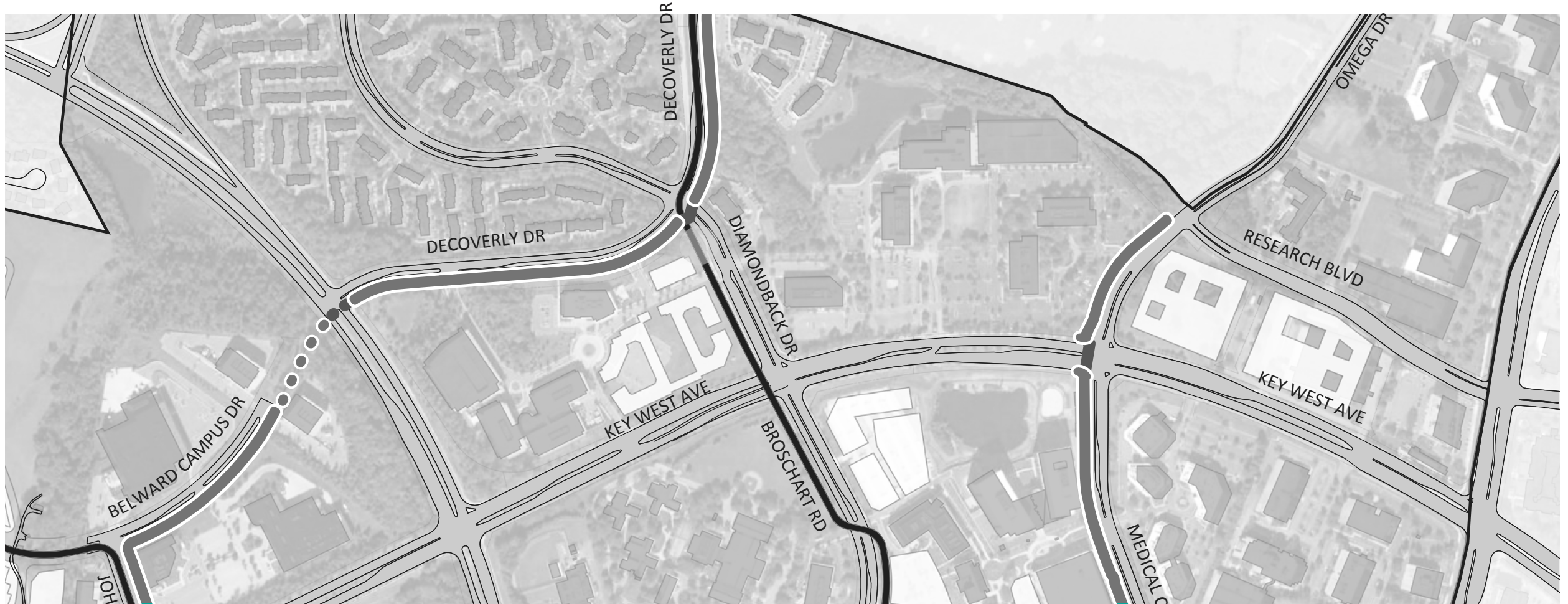


OMEGA DRIVE
(Southern Segment)



MEDICAL CENTER DRIVE

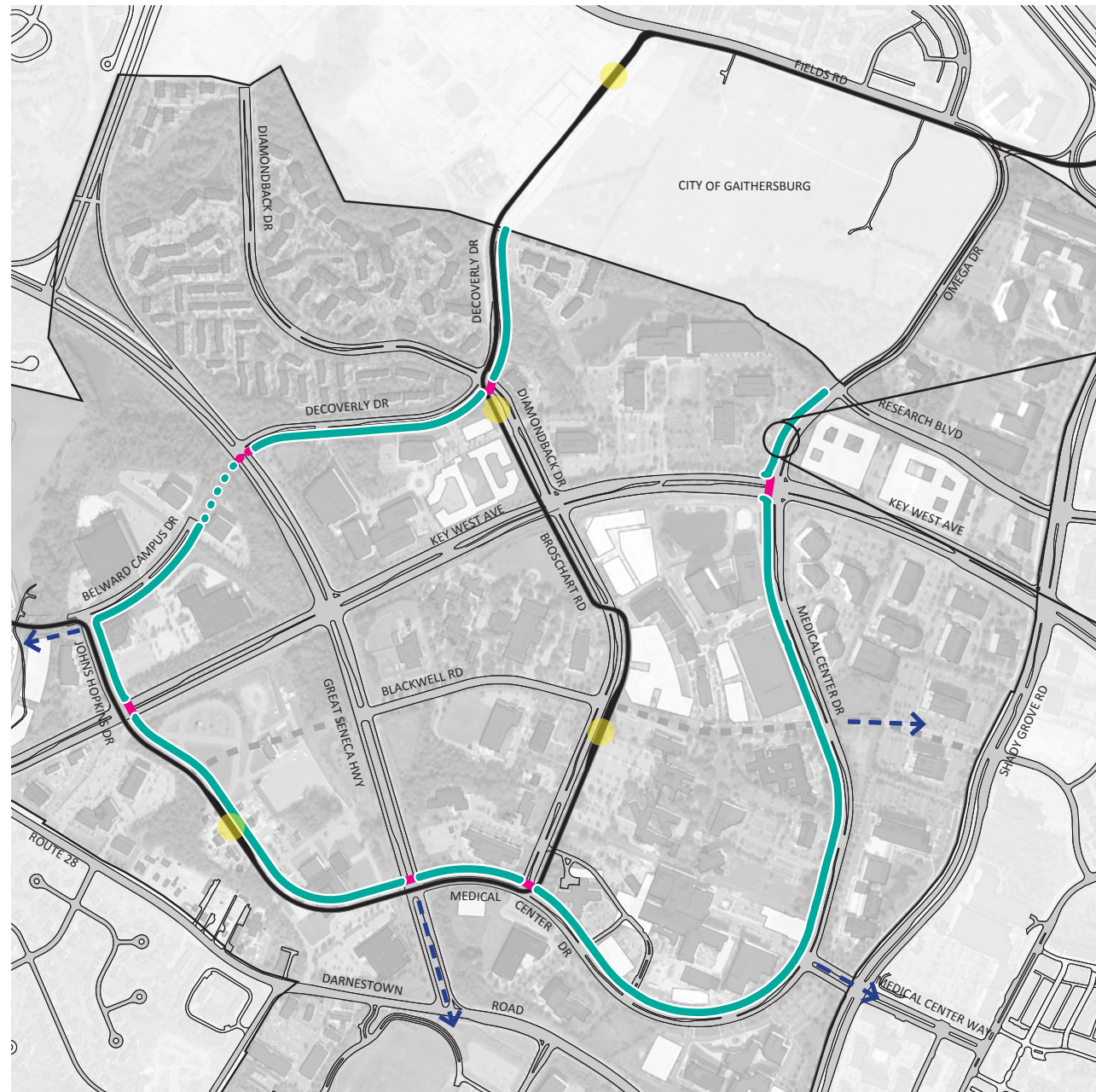
- Potential loop trail
 - Future CCT
 - Future CCT station
 - CCT/roadway reconstruction
 - Possible loop extension
- Existing Conditions Analysis**
- Transit easement
 - Slope at inner edge
 - Mature trees
 - Structure
 - Missing connection
 - Major road crossing



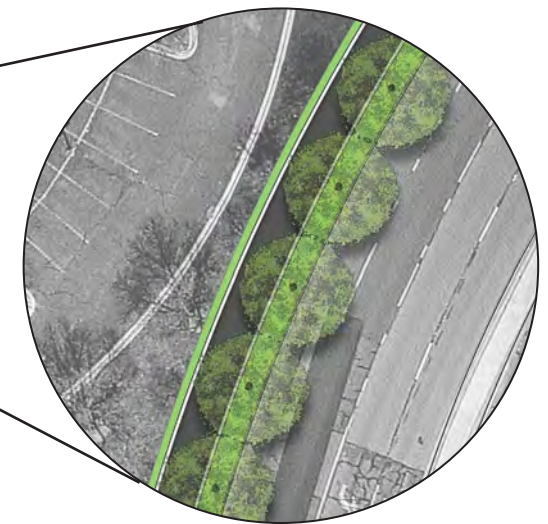
OVERALL PLAN

OVERALL PLAN

- Trail is positioned on the inside of the LSC Loop
- Typical trail cross section includes a paved shared use path with planted buffers on each side
- Enhanced street crossings are recommended for all intersections
- Potential trail spurs should connect to routes and destinations beyond the LSC Loop Trail



- Loop Trail
- Crossings
- Potential Trail Spurs
- Future CCT
- Future CCT Station



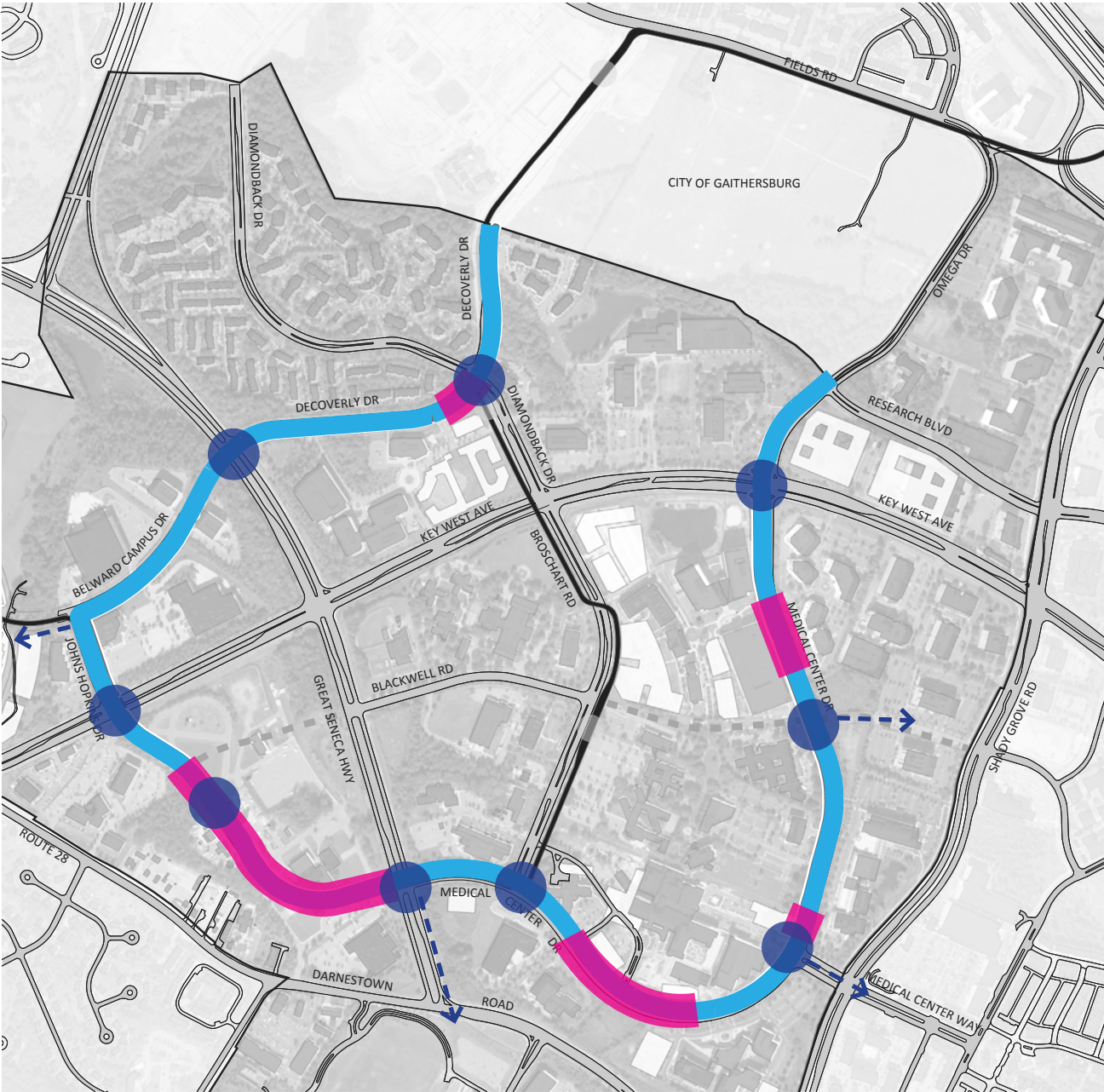
Typical Plan Enlargement



AMENITIES & ENHANCEMENTS

AMENITIES & ENHANCEMENTS

- Enhancements along the Loop Trail include a distinctive paving treatment; a continuous line of street trees (preserved or planted in all possible locations); seating areas along the trail; signage/wayfinding elements; and public art in select locations
- Urban/activity areas should incorporate special paving and furnishings, larger gathering areas, enhanced plantings, and public art elements
- Gateways can use art pieces and informational signage to emphasize entry into new areas and direct users to their destinations



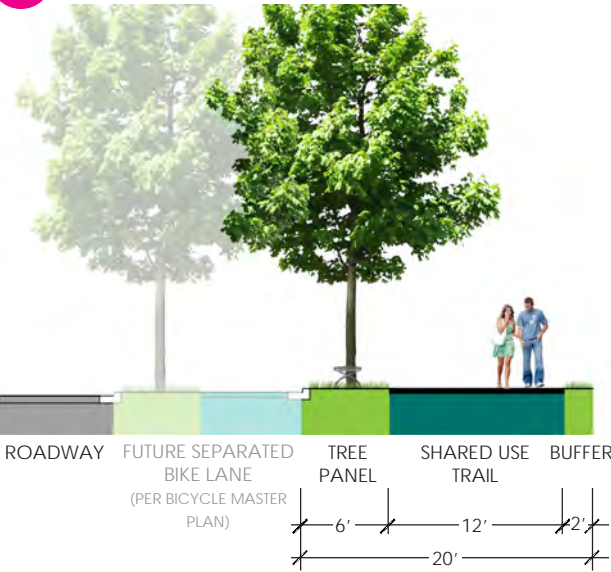
- Distinctive trail treatment
- Urban/activity areas
- Gateways
- Recommended trail spurs
- Future CCT



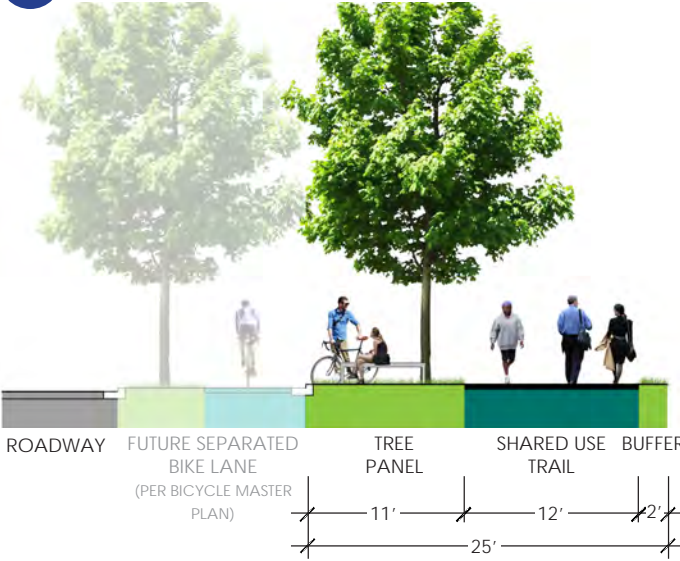
TRAIL CROSS SECTIONS

SECTION TYPES

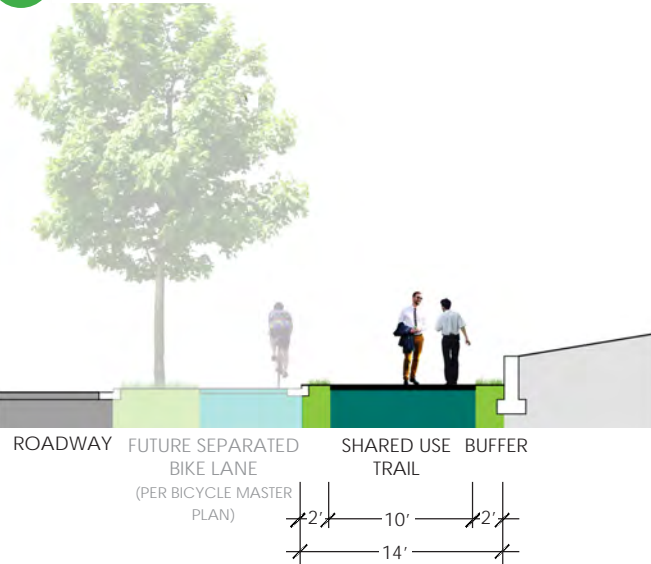
1 TYPICAL CROSS SECTION



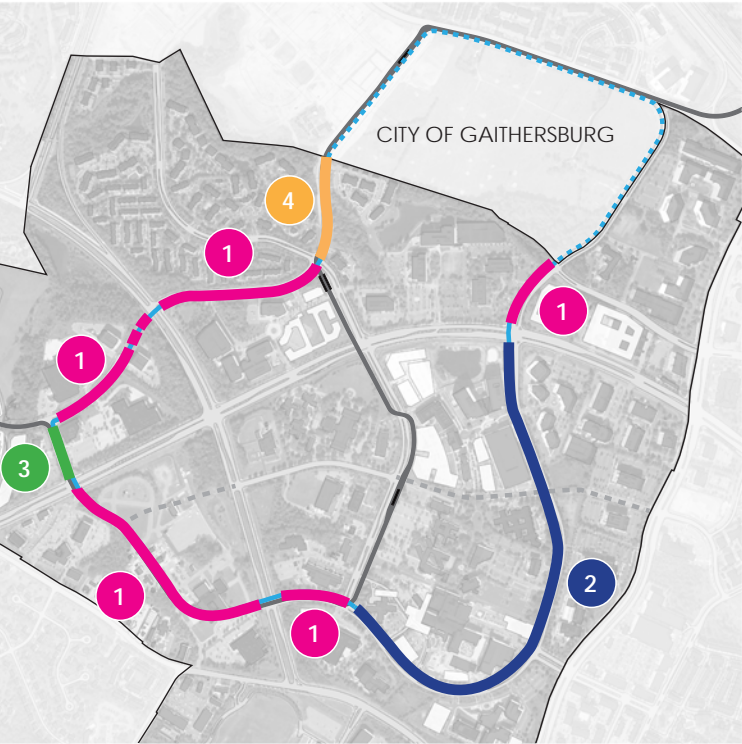
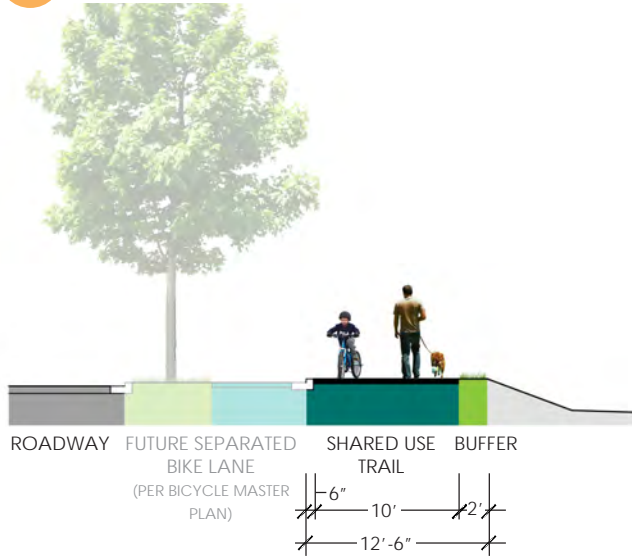
2 WIDE TREE PANEL AND BUFFER

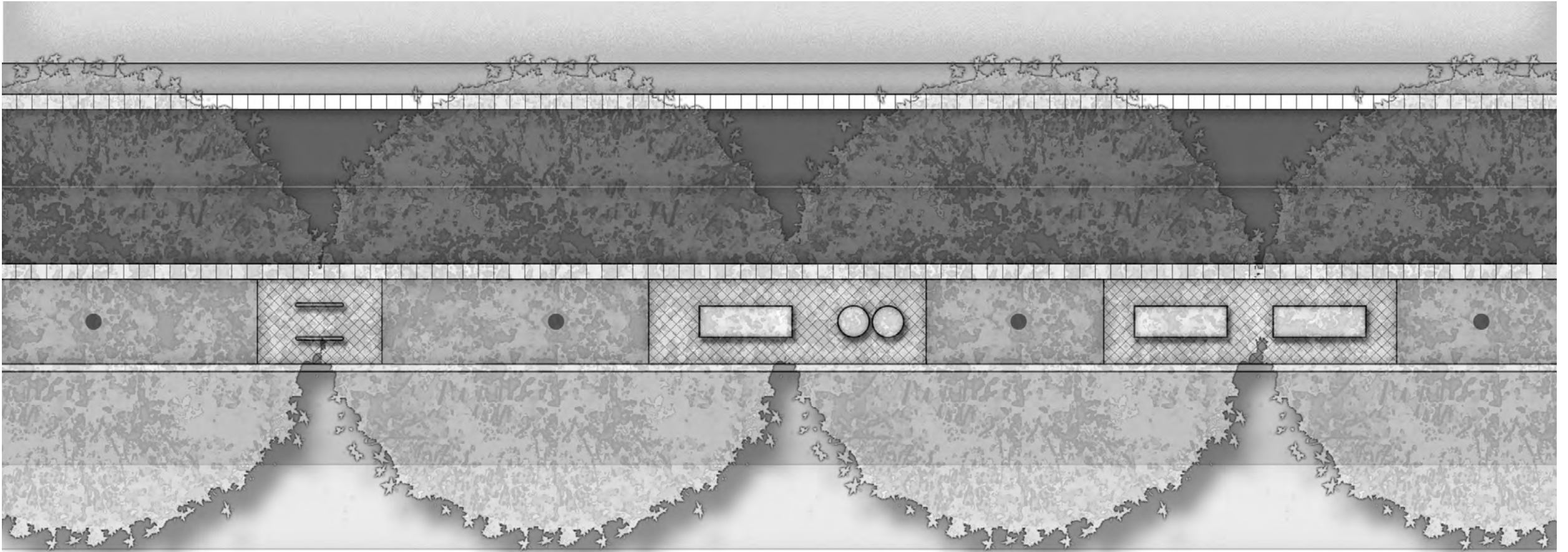


3 DUAL TWO-FOOT BUFFERS



4 SINGLE TWO-FOOT BUFFER

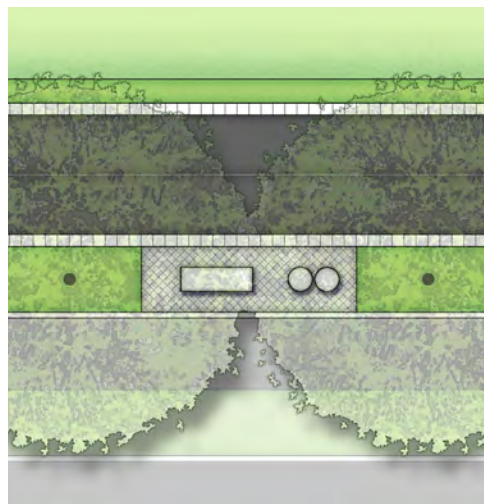




TYPICAL PLAN DIAGRAMS

AMENITY AREAS IN TREE PANEL

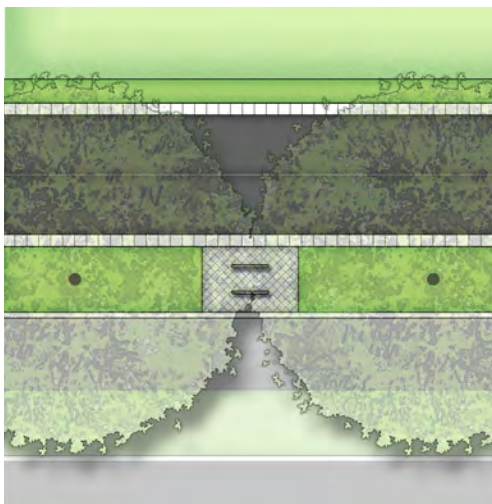
TYPICAL AMENITY AREAS



Bench and trash/recycling receptacles



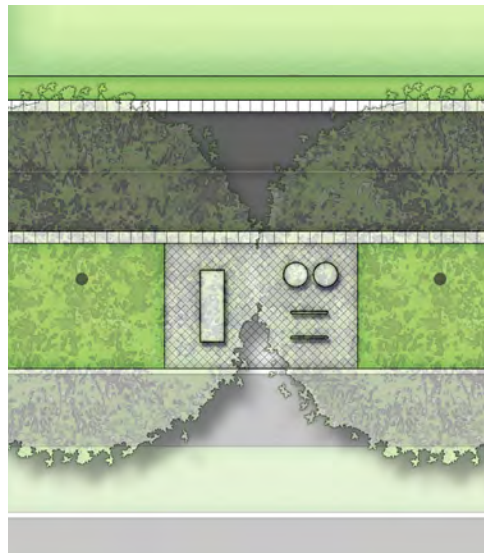
Multiple benches



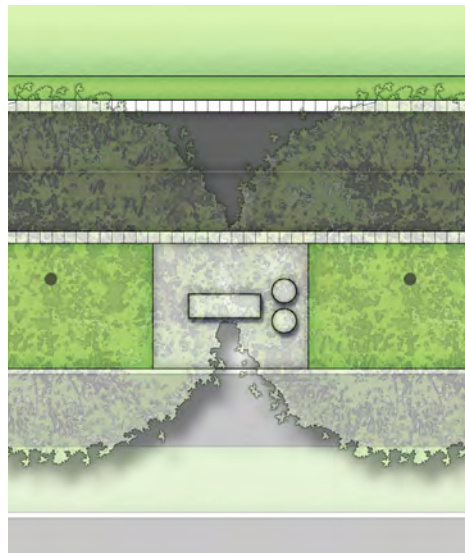
Bike racks



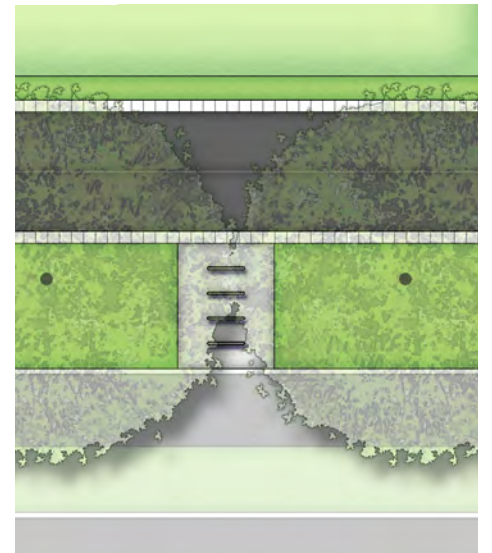
AMENITY AREAS IN WIDE TREE PANEL (MEDICAL CENTER DRIVE)



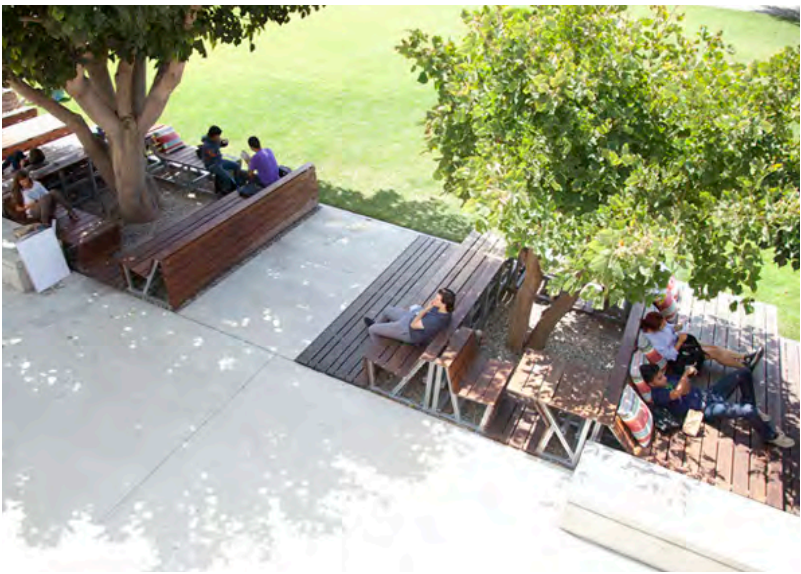
Bench, bike racks and trash/recycling receptacles



Bench and trash/recycling receptacles



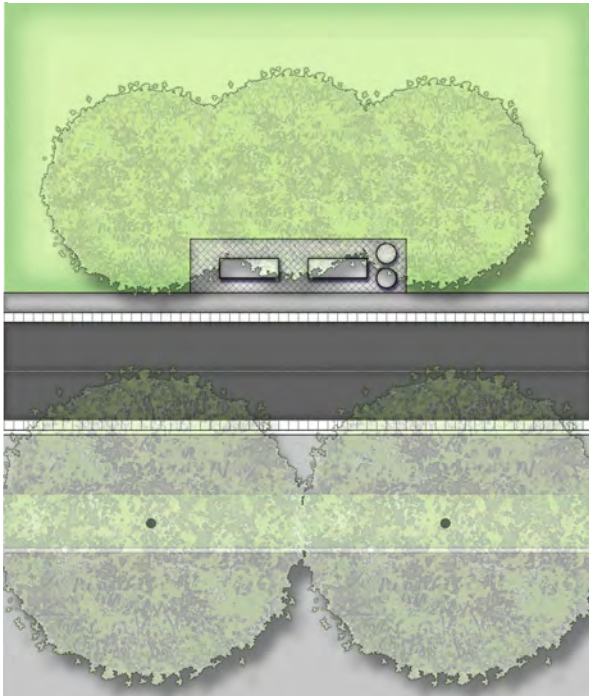
Bike racks



Precedent Images

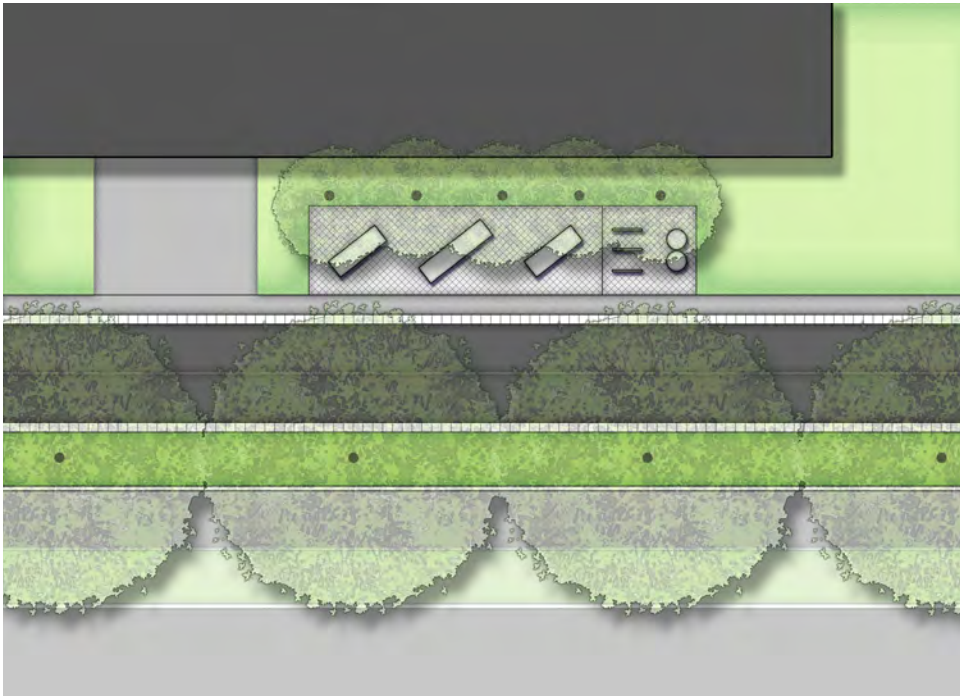
AMENITY AREAS INSIDE THE LOOP

SMALL AMENITY AREA



Benches and trash/recycling receptacles (may also include bike racks)

LARGE AMENITY AREA/PLAZA

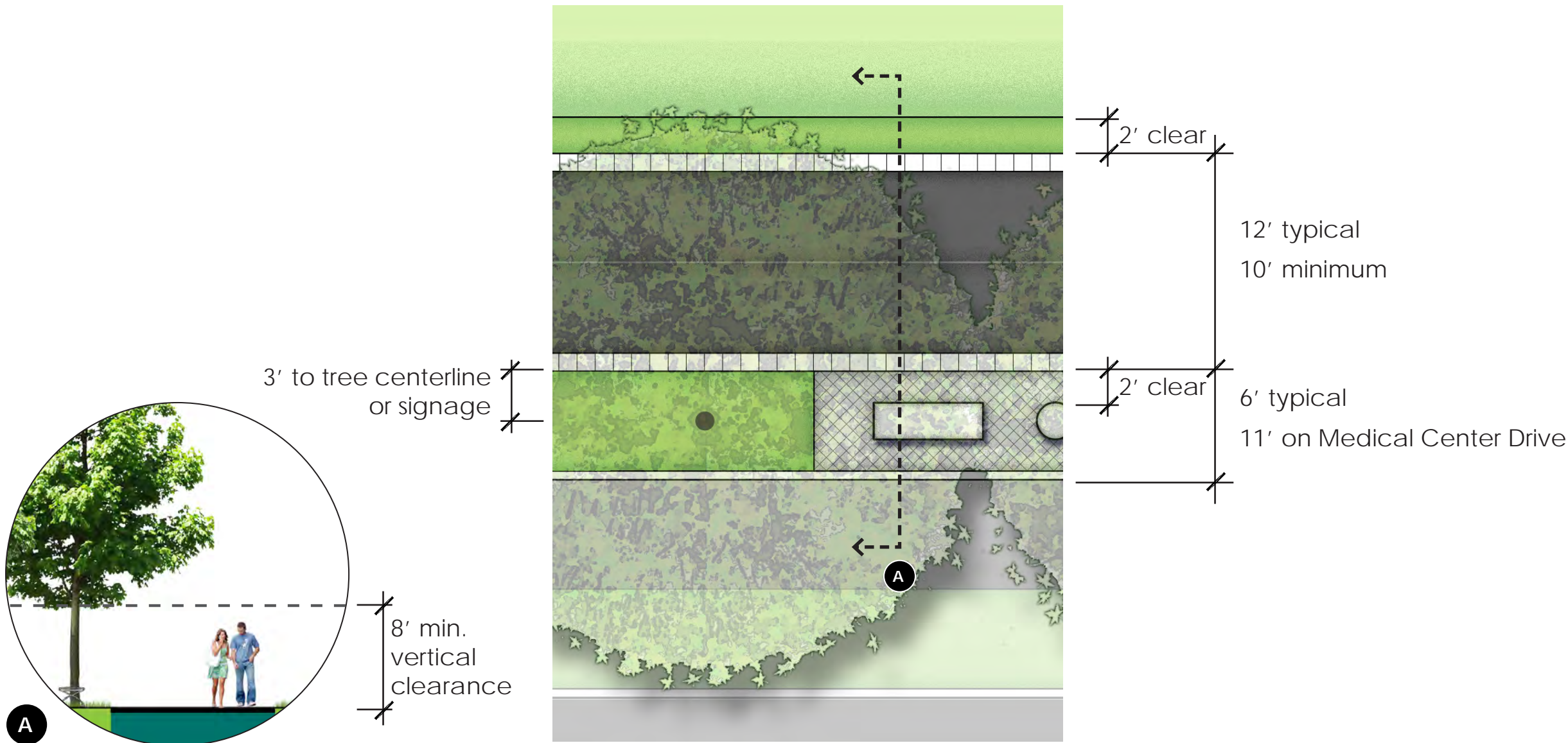


Benches, bike racks and trash/recycling receptacles (may also include tables and chairs, public art, etc.)



Precedent Images

REQUIRED OFFSETS AND DIMENSIONS



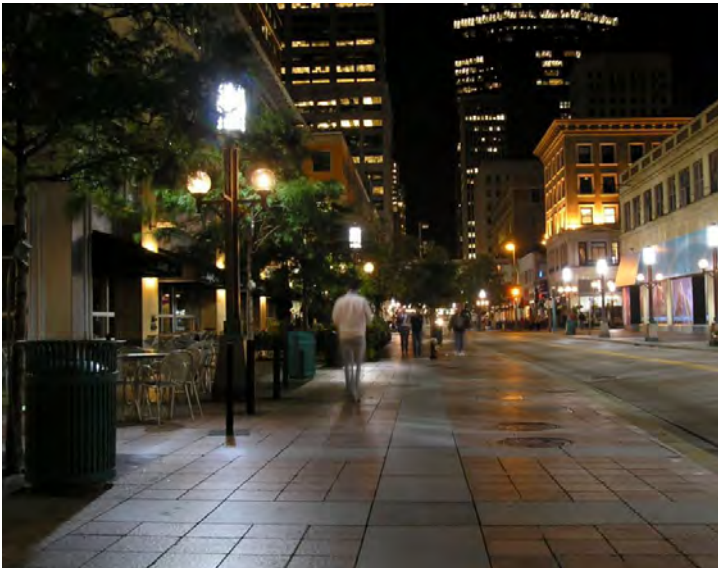


CHARACTER AREAS

URBAN/ACTIVITY AREAS



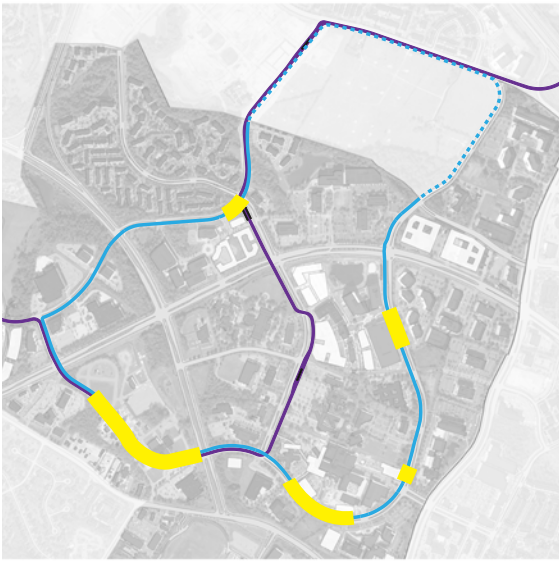
Plazas and outdoor seating along trail (outside of right-of-way)



Furnishings and public art in wide tree panel



Precedent Images



OPEN SPACE/NATURAL AREAS



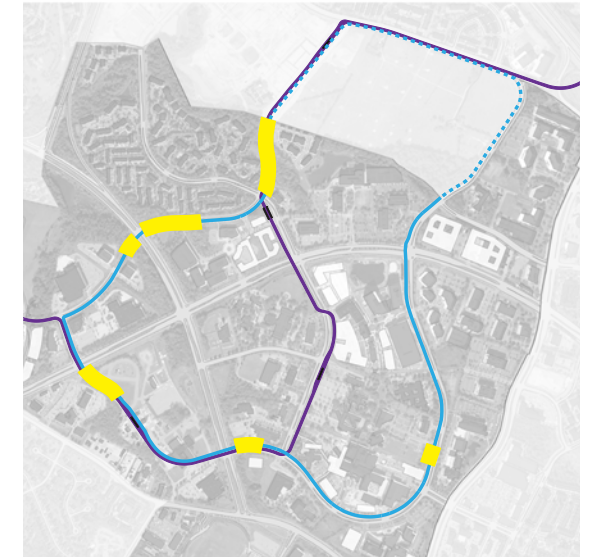
Seating areas



Play or fitness equipment



Precedent Images



GATEWAYS



Public art, vibrant plantings, and informational signage at major intersections



Plantings and informational signage at transit nodes and entrances



Precedent Images

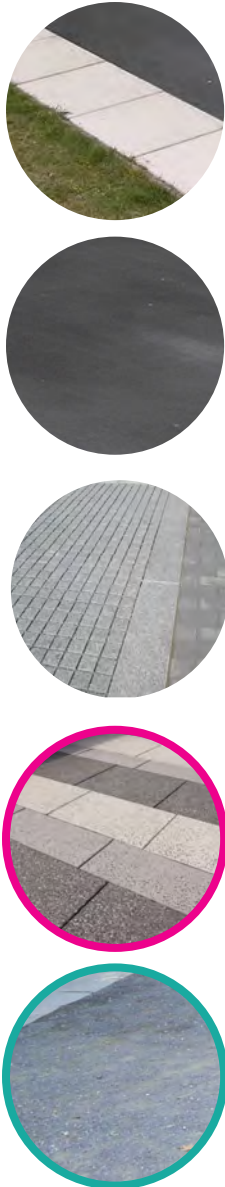




DESIGN LANGUAGE

DESIGN ELEMENTS

PAVING



PLANTINGS



FURNISHINGS



CROSSINGS



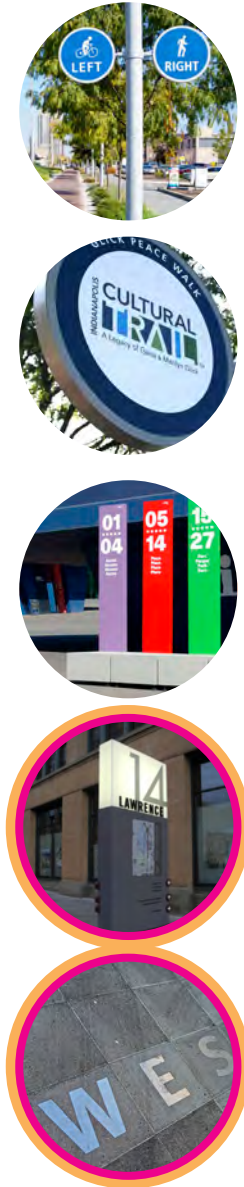
WALLS & RAILS



LOW-IMPACT DEVELOPMENT



SIGNAGE & WAYFINDING



ART



- The following section provides an overall design language for both common design elements and areas with special treatments. The recommended design elements constitute a suggested style language to guide subsequent phases of design, rather than specific design specifications.
- Design elements most appropriate for Urban/Activity Areas (UA), Open Space/Natural Area (ON), and Gateways (G) are labeled as such, per the legend; however, if desired, these design treatments may be applied to other segments of the trail, as feasible.

LEGEND

- UA** Urban/Activity Areas
- ON** Open Space/Natural Area
- G** Gateways

PAVING



Paver edging on asphalt path



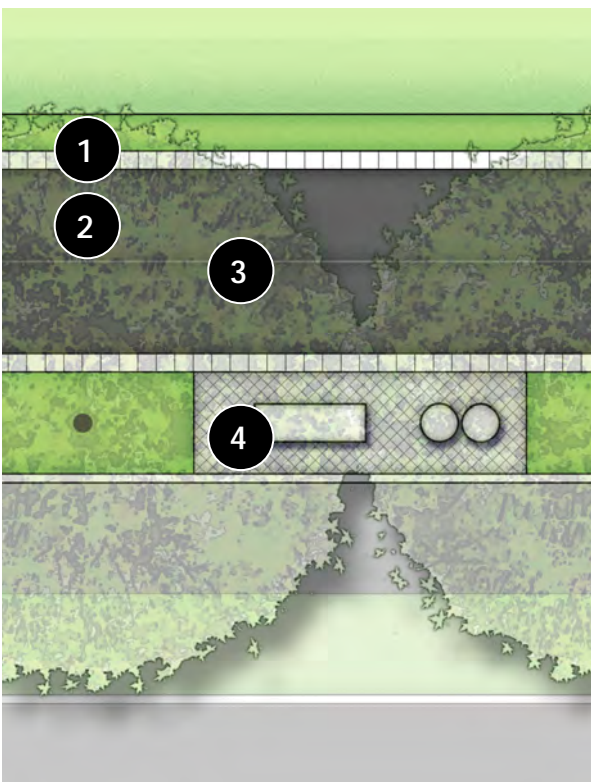
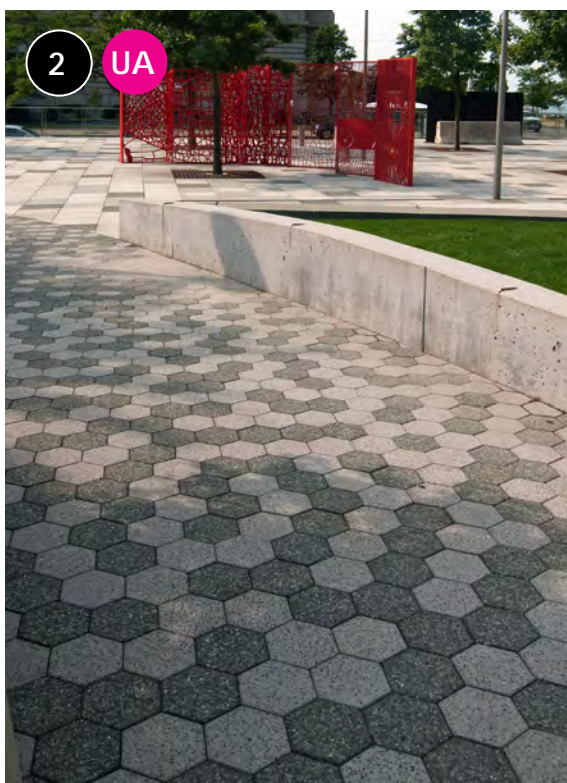
Crushed stone



Permeable pavers in seating areas along trail



Unit pavers



Paving Diagram

1 Paving band at trail edges should be uniform in material, color, and dimensions along the entire length of the loop trail.

2 Paving field may be comprised of unit pavers or asphalt. Unit pavers should be used in urban/activity areas.

3 Dividing line at center of loop trail can be marked with unit pavers in paver field and painted striping in asphalt areas.

4 Permeable pavers or crushed stone should be used in amenity areas along the trail.

Special pavement markings should be used at merge zones and intersection approaches to alert users of potential conflict points.

LEGEND

UA Urban/Activity Areas

ON Open Space/Natural Area

PLANTING



Street trees



Mown turf at trail edge

- Tree panels should be planted with shade trees and turf grass. Shrubs and perennial plantings can be considered to enhance amenity areas, particularly within urban zones.
- When planted, the 2' buffer should contain mown turf only, so as to not impede travel along the trail and for use as a pull-off shoulder.
- Plantings can vary within additional amenity spaces along the Loop Trail (within or outside of the right-of-way). Shrubs, perennial plantings, and additional shade trees can be considered to enhance amenity areas, particularly within urban zones. Where parking lots or secondary roadways are adjacent to the trail, wider planted buffers should be used.



Tall grasses and colorful perennials frame seating and activity areas and emphasize gateways



Layered shrubs and perennials



Shade trees at seating/gathering areas

TREE PRESERVATION (MEDICAL CENTER DRIVE)



To preserve existing trees on Medical Center Drive, tree panel should be widened to allow more space between tree and adjacent paving.

LEGEND

- UA Urban/Activity Areas
- ON Open Space/Natural Area
- G Gateways

FURNISHINGS AND LIGHTING



Distinctive custom benches



Palette of simple metal furnishings



Distinctive lighting elements



- Furnishings within the tree panel should include seating, trash and recycling receptacles, pedestrian lighting, and bike racks, and should be consistent to support the continuity of the loop trail.
- Custom furnishings may be used in urban/activity zones and in amenity spaces outside of the right-of-way.

LEGEND

UA Urban/Activity Areas

G Gateways

PUBLIC ART



Patterns or words embedded in paving



Organic sculptures






Art integrated into walls and other vertical elements



Sculptural pieces as focal points



LEGEND

-  Urban/Activity Areas
-  Open Space/Natural Area
-  Gateways



Art elements on light poles

- Public art may be included along the entire trail, but particularly at urban/activity areas and gateways
- Art elements can be sculptural pieces or incorporated into walls, paving, etc.

WALLS



Metal guard rail

- Where needed, retaining walls on the inner edge of the Loop Trail should reference existing site walls, if present.
- If required, guard railing should be simple and unobtrusive.
- Seat walls may provide additional seating where feasible



Existing walls in the Life Sciences Center



Potential retaining walls along the trail

SIGNAGE, WAYFINDING, & BRANDING



Signage to identify pedestrian and bicycle facilities



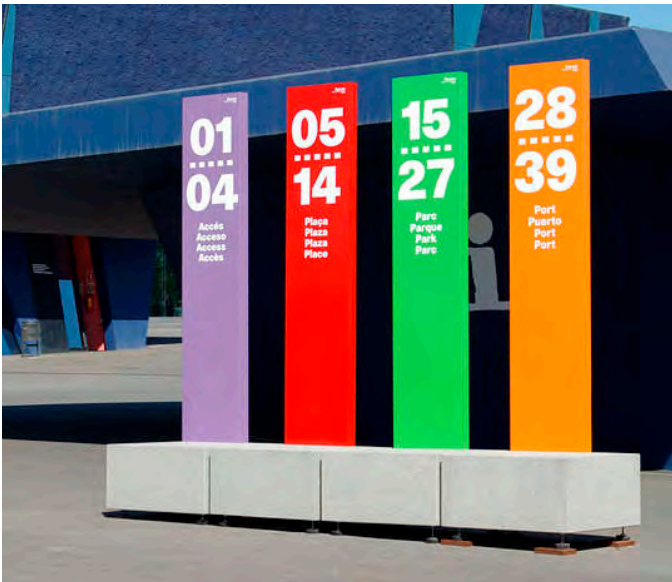
Wayfinding signage to clearly identify trail route and brand identity



Branding or wayfinding embedded in paving





Maps and directional signage



Bold, identifiable signage along Loop Trail

- Signage serves both a functional role and creates an identifiable visual image or brand for the trail.
- Highly visible and distinctive signage should be used to alert passers-by to the presence of the trail.

LEGEND

-  Urban/Activity Areas
-  Gateways

CROSSINGS



Distinctive painted crossings at driveways and entry roads



Identifiable crosswalks at road intersections



- Bright and high-visibility crossing treatments at entry drive should be used to reduce possibility of conflicts with vehicles.
- Distinctive roadway crossings should be considered to clearly identify Loop Trail route.
- Driveway crossings should be highlighted by distinctive paving treatments.

LOW-IMPACT DEVELOPMENT (LID) OPPORTUNITIES



Planted bioretention areas



Bioretention in tree boxes



Planted bioretention areas



Street trees

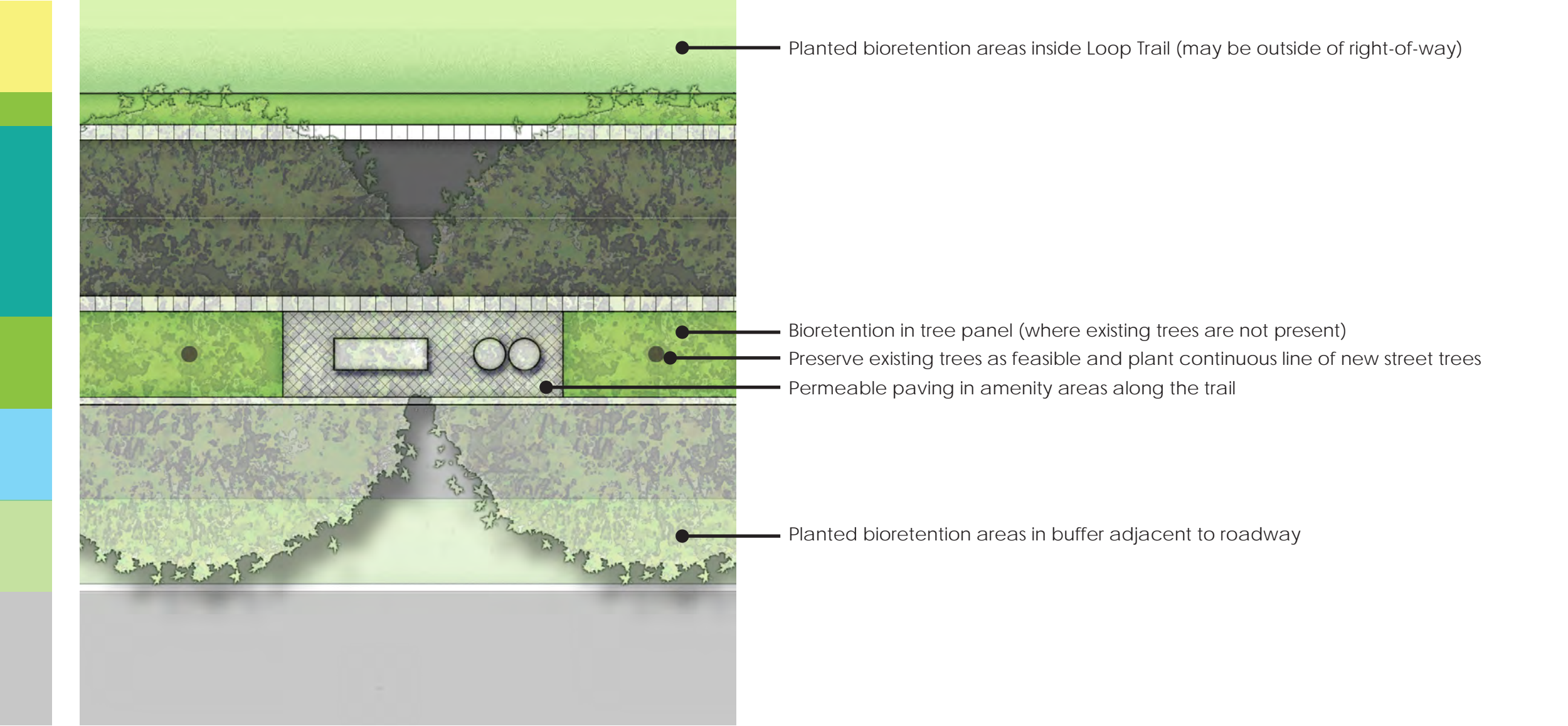


Permeable pavers in seating areas along trail



- LID should serve as both a stormwater management tool and a placemaking element
- Preserve existing trees as possible and plant a continuous line of shade trees along trail
- Permeable pavers should be used in seating areas along trail
- Bioretention may be incorporated in planting areas along the trail, including tree boxes, planting strips, and larger planted areas

LOW-IMPACT DEVELOPMENT OPPORTUNITIES

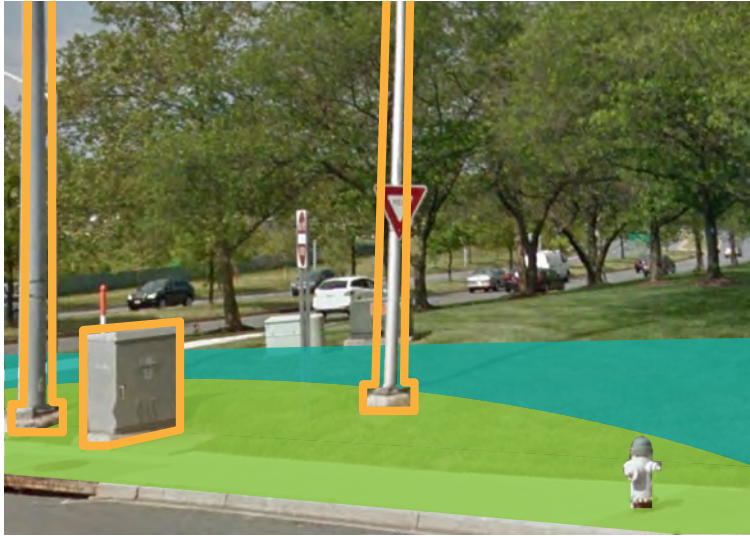


UTILITY CONFLICTS

TYPICAL UTILITY CONFLICTS



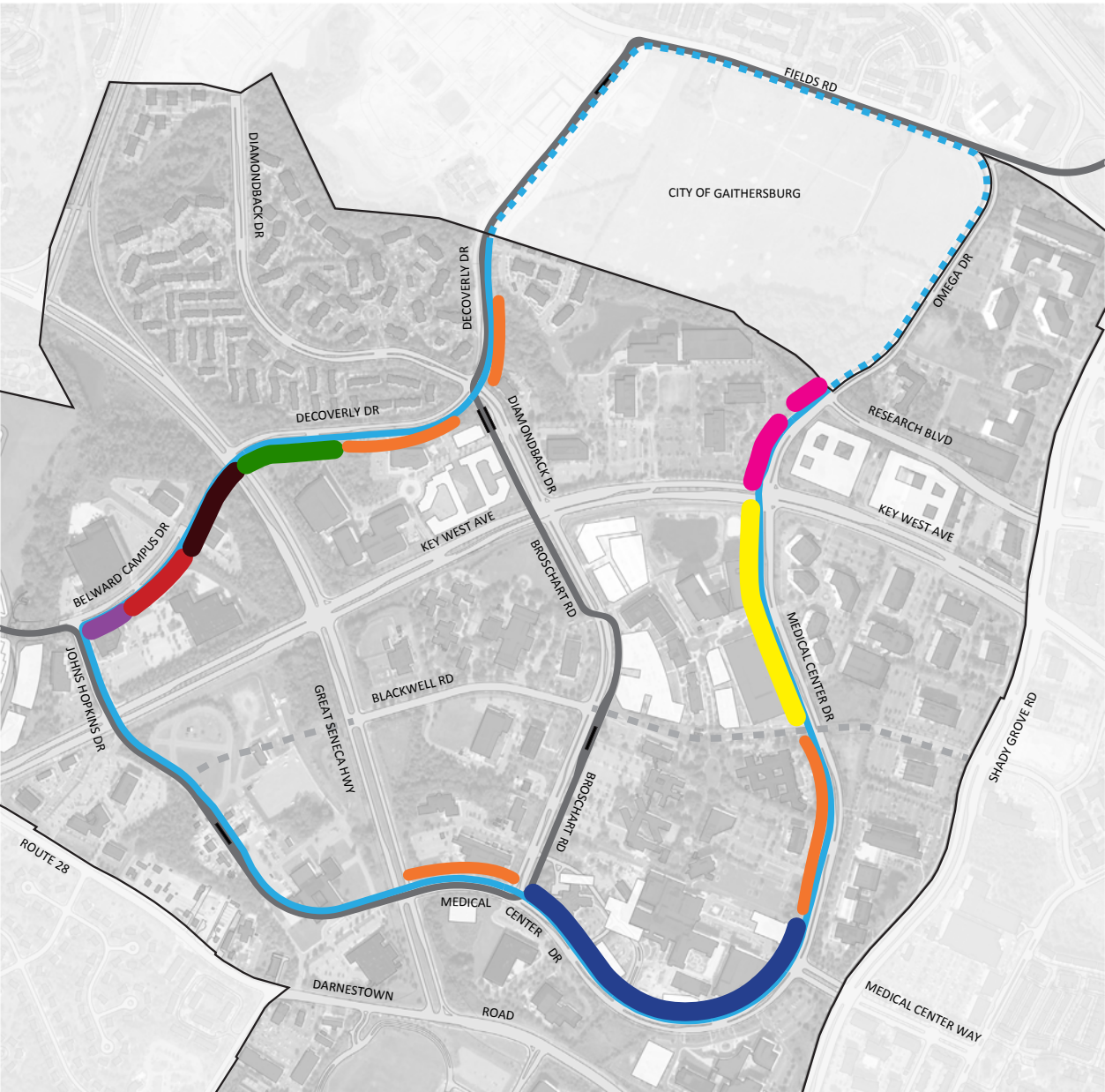
OMEGA DRIVE/KEY WEST AVENUE



- Where feasible, relocate utilities out of trail path or construct trail around utility covers.
- Where utilities cannot be moved, trail may be narrowed or rerouted.

ADDITIONAL CONSIDERATIONS

EASEMENTS REQUIRED

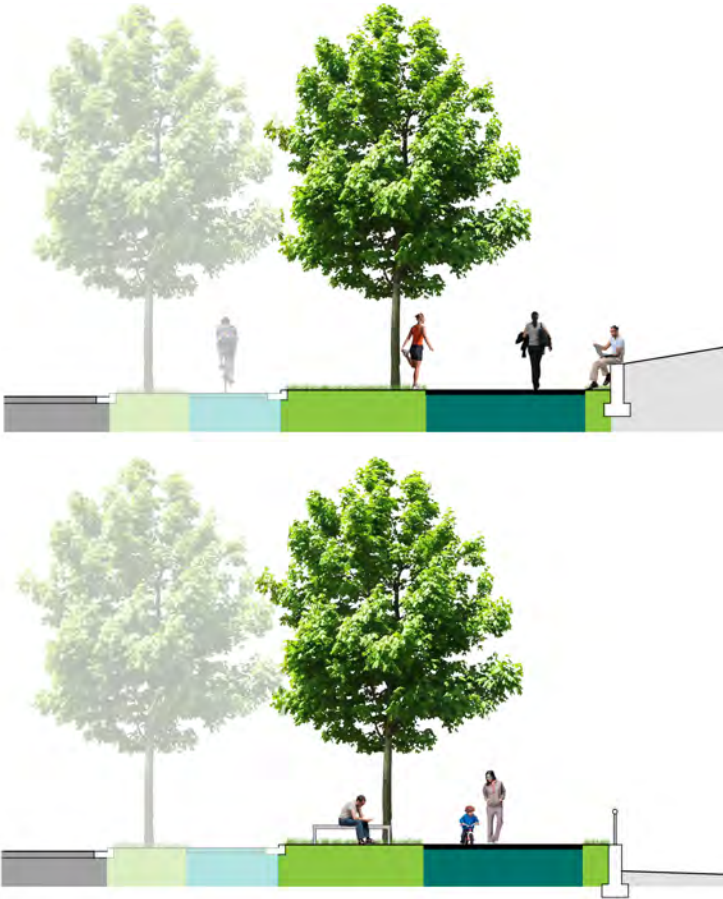
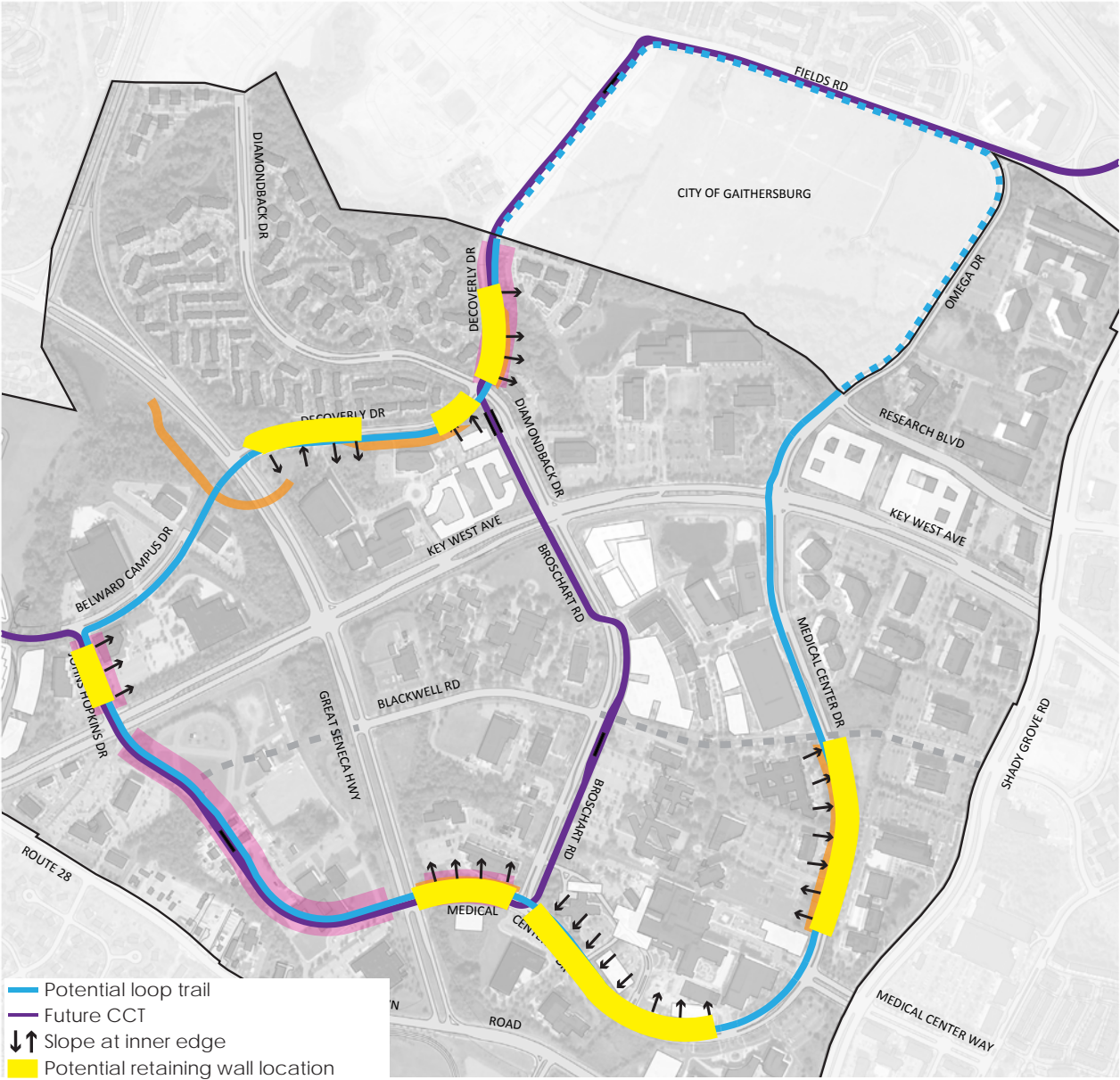


KEY	OWNER	EASEMENT REQUIRED
	JPMCC 2005-CIBC13 Omega Drive LLC	0' - 9.5'
	Johns Hopkins University	14.25' - 16.25'
	Adventist Healthcare, Inc.	7.5' - 17'
	GP Rock One LLC	7.5' - 8.5'
	Maryland Economic Development Corp.	10' - 14.75'
	BMR-9900 Campus LLC	12.5' +
	Jaeger, John F TR	2.5' - 6.25'

Unused transit easements

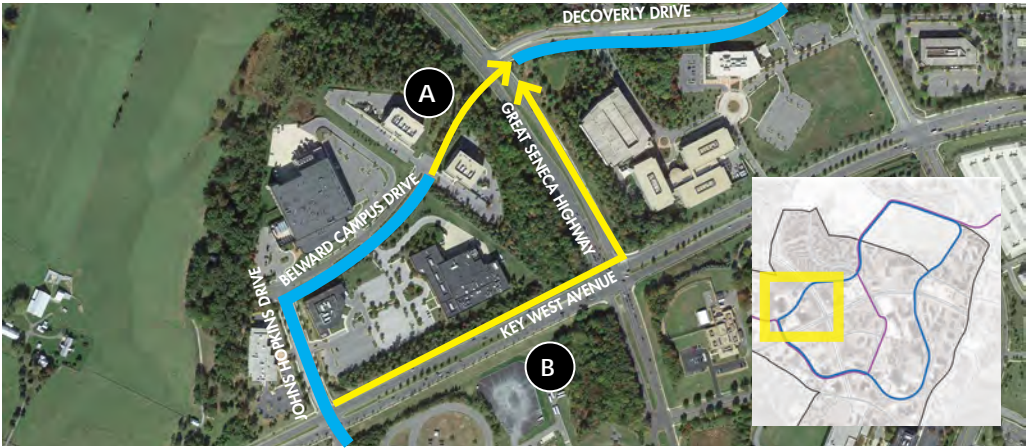
Note: does not include easement requirements associated with CCT construction

POTENTIAL RETAINING WALL LOCATIONS



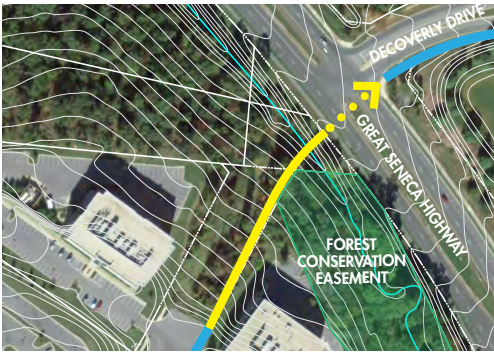
Potential retaining walls along the trail

BELWARD CAMPUS DRIVE CONNECTION

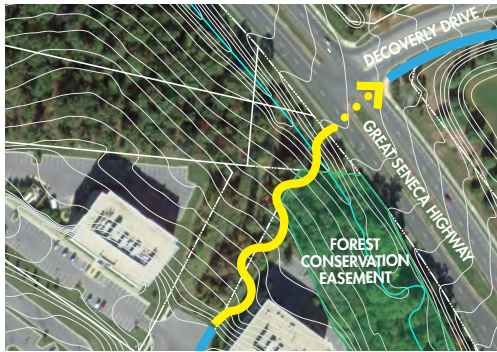


- Missing roadway connection per GSSC Master Plan between Belward Campus Drive and Great Seneca Highway/Decoverly Drive leaves a gap in the Loop Trail
- If roadway is constructed per Master Plan recommendation, the Loop Trail should be incorporated according to the 15% Concept Design typical alignment and cross section
- Options A and B, below, provide alternatives to continue the trail which do not require construction of this roadway

A LOOP CONTINUATION PER MASTER PLAN



≈ 6.5% SLOPE



< 5% SLOPE WITH SWITCHBACKS

B ALTERNATE OR INTERIM ROUTE



PROS:

- Achieves Master Plan loop trail alignment
- Provides direct connection between Belward Campus Drive and Decoverly Drive

CONS:

- Requires significant regrading and removal of existing vegetation
- May require encroachment into forest conservation easement
- No existing crossing at Great Seneca Highway (would need to be coordinated with SHA)*

* Crossing of Great Seneca Highway may be (1) two-stage unsignalized crossing utilizing existing median or (2) signalized with continuous crosswalk (if area-wide development necessitates a signal at this intersection). To be determined in consultation with SHA.

PROS:

- Does not require significant regrading and removal of existing vegetation
- Does not require new crossing at Great Seneca Highway

CONS:

- Creates "dead end" at Belward Campus Drive
- Does not achieve Master Plan loop trail alignment
- Existing sidewalks may not be sufficient to support shared use

NEXT STEPS:

IMPLEMENTATION STRATEGY