

Lexington High School

Site, Safety & Security Focus Group

05/05/2025



smma dw **Turner**
DORE + WHITTIER

Introduction / Site Team

Landscape



Michael Dowhan
Landscape Architect
Lead



Andy Elliot
Landscape
Architect



Garrett Vinyard
Landscape
Architect



Ethan Fleig
Landscape
Architect



Grace Caffee
Landscape
Architect Intern

Civil



Erin Prestileo
Civil Engineer Lead



Peter Rebuck
Civil Engineer



Logan Finney
Civil Engineer

Driveways & Circulation

- Previously Reviewed and Confirmed Layout

Athletic Fields & Program

- Previously Reviewed and Confirmed Layout

Site & Landscape Design

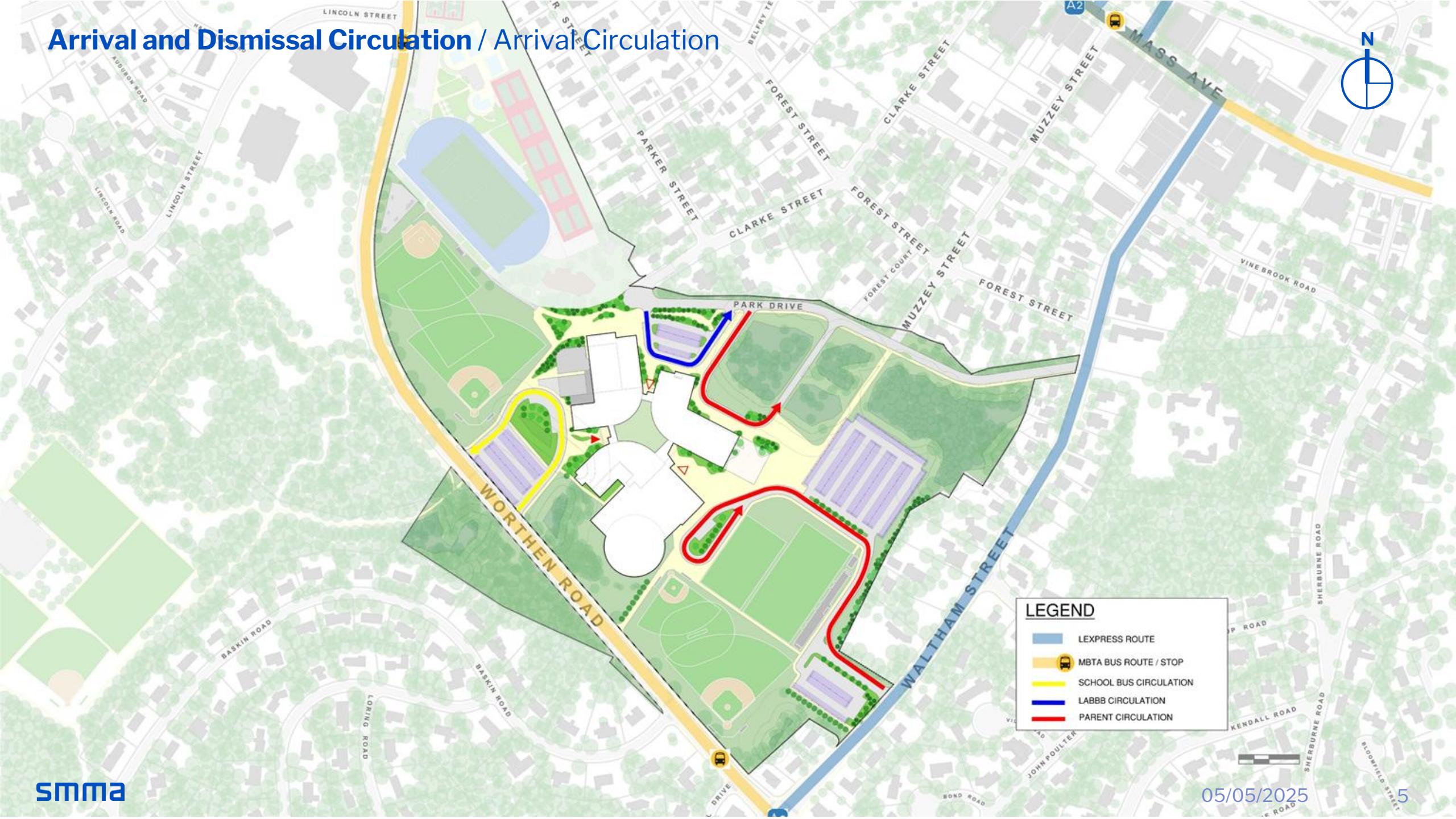
- Goals, Process, Concepts
- Overall Site Design Options – *Fluid, Understory, Tectonic*
- Outdoor Learning Environments, Entrance Plazas, New Quad, Worthen Road Reforestation
- Program and Materials

Roof Terrace

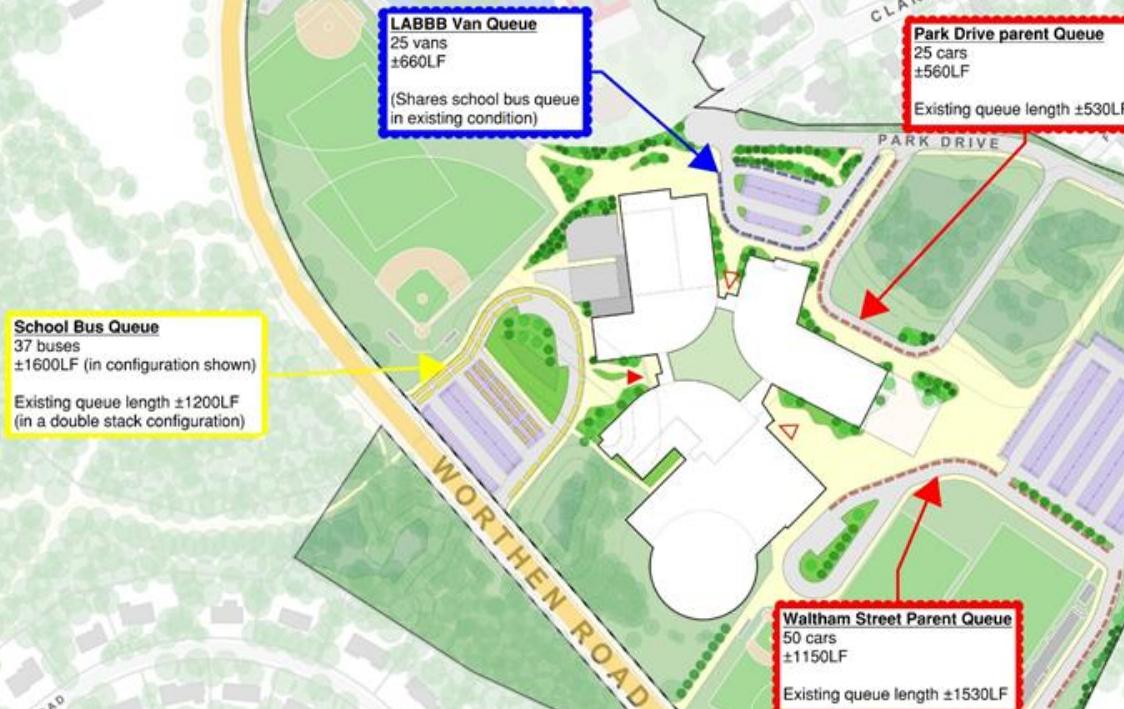
- Studies, Process, Concepts
- Roof Terrace Options - *Floral, Overstory, Mineral*
- Materials and Treatments

Driveways & Circulation

Arrival and Dismissal Circulation / Arrival Circulation



Arrival and Dismissal Circulation / Dismissal Circulation



LEGEND

- EXPRESS ROUTE
- MBTA BUS ROUTE / STOP
- SCHOOL BUS CIRCULATION
- LABBB CIRCULATION
- PARENT CIRCULATION

Bicycle Network and Facilities



- EXISTING SHARED LANE
- PROPOSED SHARED USE PATH
- PROPOSED BIKE STORAGE LOCATION

LEED Guidance for Bicycle Facilities at Schools

-Provide bicycle storage for at least 5% of all building occupants (faculty, staff, students)

386 LHS staff
100 LABBB staff
2395 students
2881 building occupants x 5%

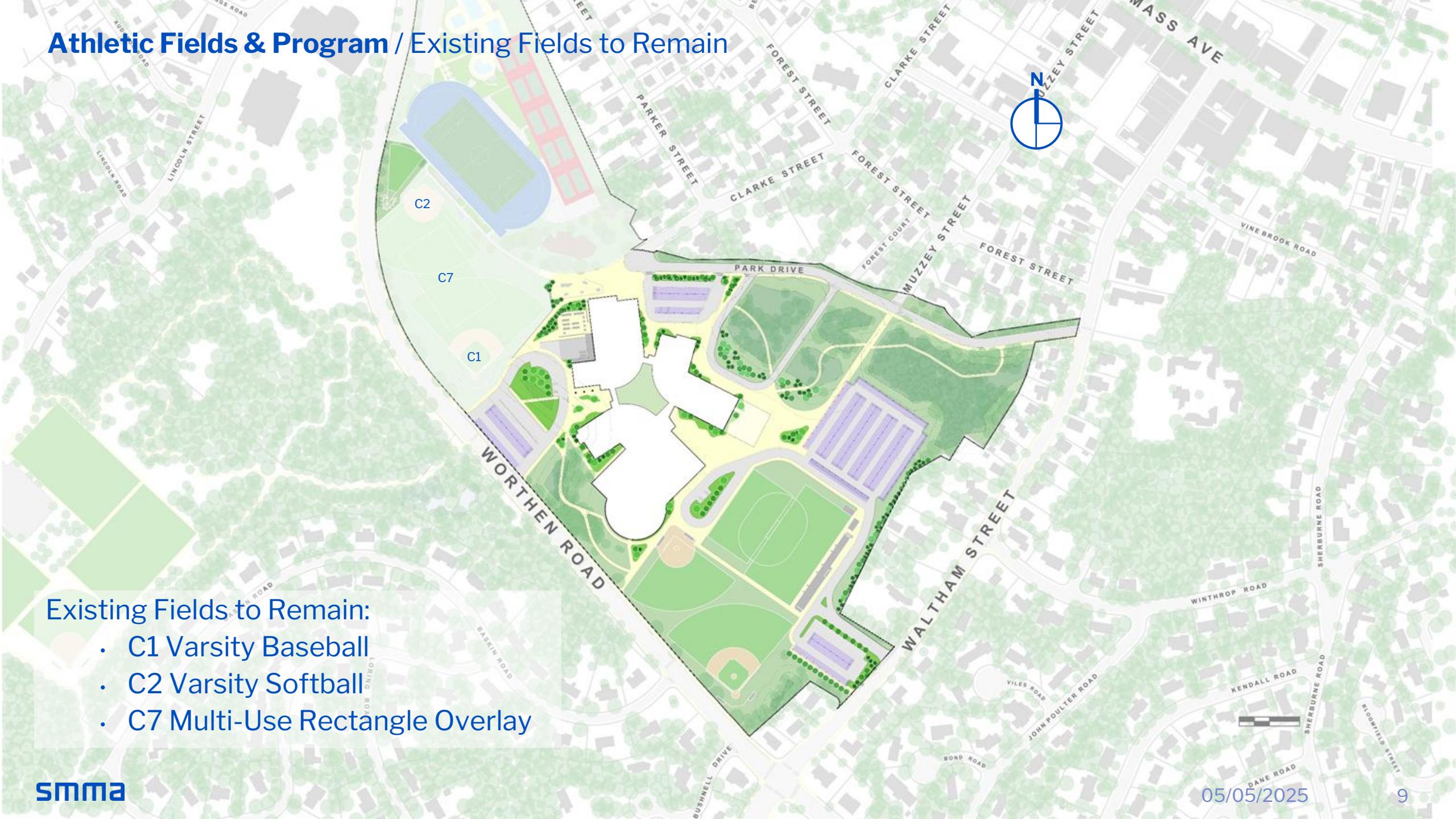
145 bicycle spaces minimum

145 spaces to be provided in base bid at SD, with an additional 75 spaces included as an add alternate

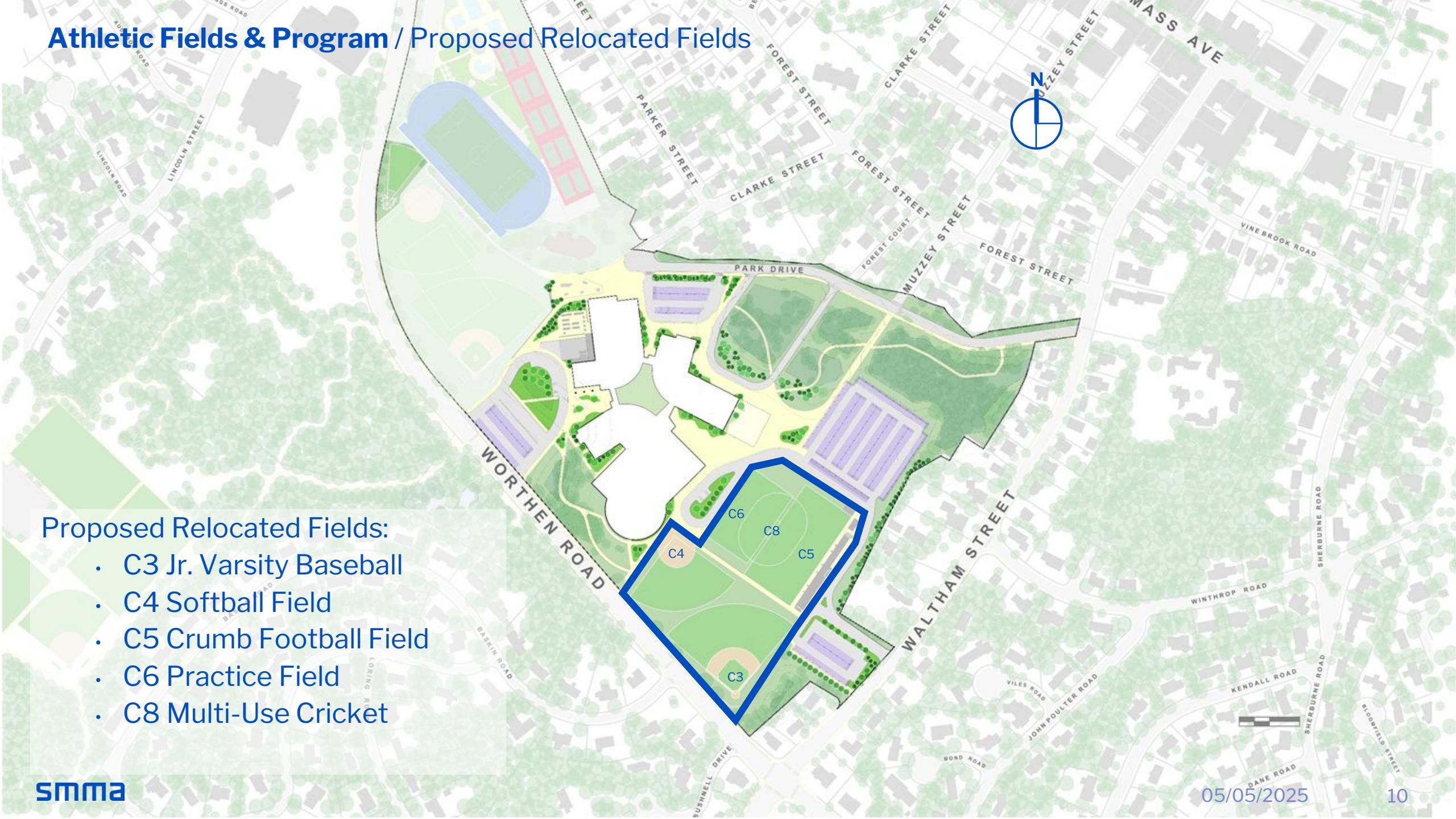
Athletic Fields & Program

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Athletic Fields & Program / Existing Fields to Remain



Athletic Fields & Program / Proposed Relocated Fields



Athletic Field Surfacing

Natural Turf (Sod)

Pros

- Natural Aesthetics
- Cooler Surface
- Environmental Benefits
 - Carbon sequestration, reduce excess stormwater runoff
- Cost Effective to Install
- **Sod Requires a Minimum of 2-3 Weeks for Root Establishment Prior To Use**

Cons

- High Maintenance
- Water Usage
- Durability Issues
 - Overuse and excessive traffic lead to compaction and bare spots; saturated soils/standing water limit playability
- Inconsistent Surface
- Pesticide and Fertilizer Use



Note: Sod was priced at PSR, and the intent is to proceed with sod upon confirmation by the SBC on 5/12.

Synthetic Turf

Pros

- Low Maintenance
- Durability
- Consistent Appearance
- Long-Term Cost Effectiveness
- **Able to Use Field Immediately**

Cons

- High Initial Cost
- Heat Retention
- Several Environmental Impacts

**Additional relevant information can also be found in the Town of Lexington Comprehensive Study of Athletic and Outdoor Recreation Facilities 2021-2022

Site and Landscape Design

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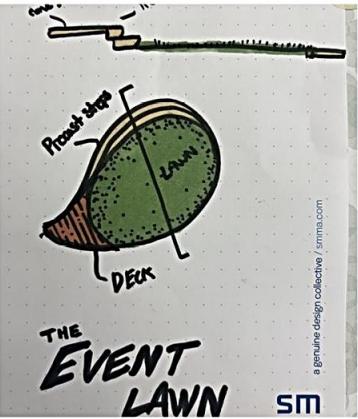
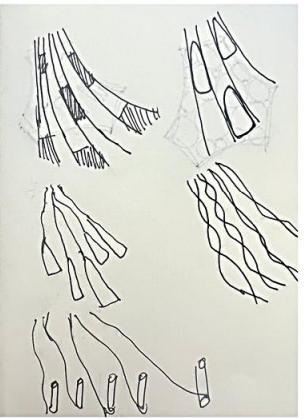
Goals, Process, and Program

Goals

- **Placemaking** that tells a story
- **Total Design** approach that shapes the student experience
- **Reimagine** the campus as part of the larger recreation complex, blending identity, resilience, and modern needs
- **Create** a campus that is both participatory and educational, creating a strong campus identity
- **Celebrate** Lexington High School's values
- **Develop** a cohesive campus with an open narrative- a living "page" where every student is free to write their own story
- **Intentional** narrative "canvas", sparking curiosity and inviting movement
- **Program** outdoor spaces based on needs of the users
- **Students, Faculty and Staff** drive the program through a dynamic participatory model
- **Goal** is not just functional spaces, but living spaces, created with and by its users



Process / From Concept to Refinement

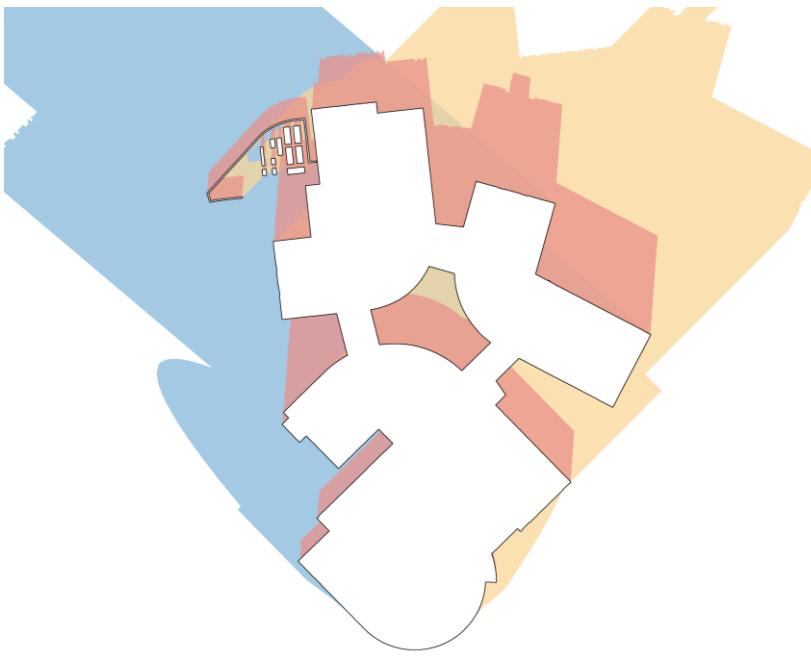


Overall Site Design Concept / Creating and Defining a Unique Sense of Place: Solar Studies



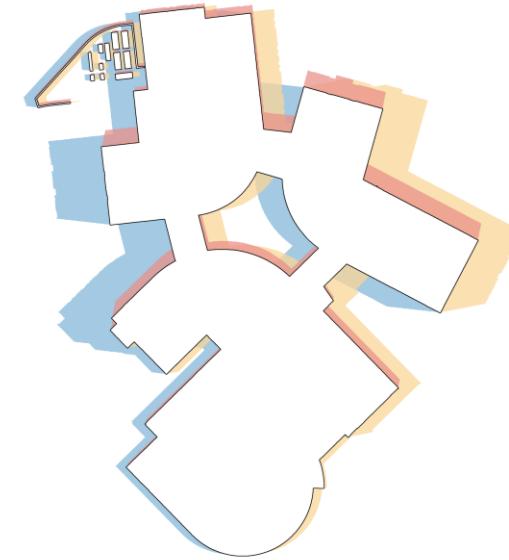
First Week of School

August



Winter Solstice

December



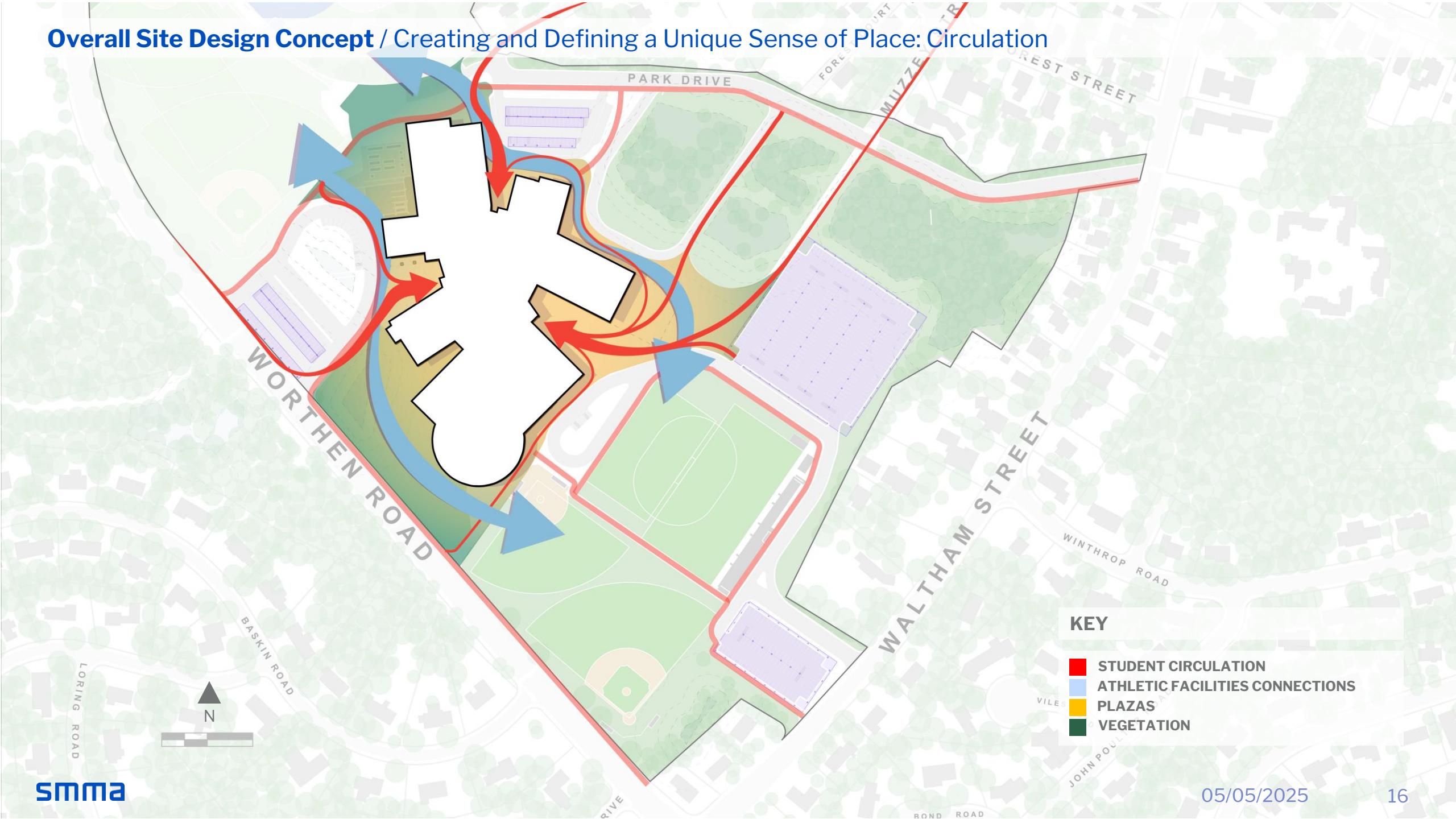
Last Week of School

June

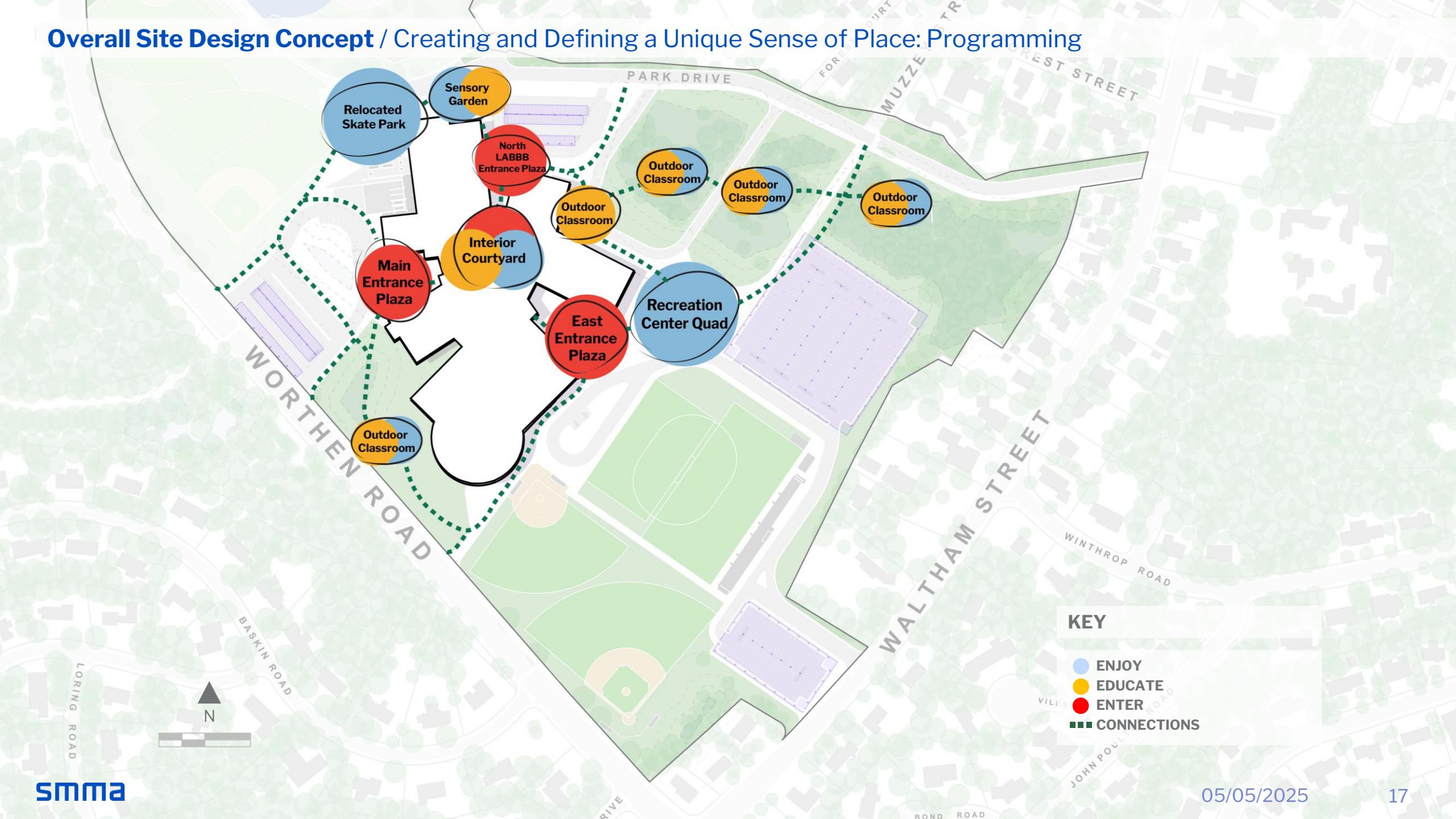
8am 12pm 3pm



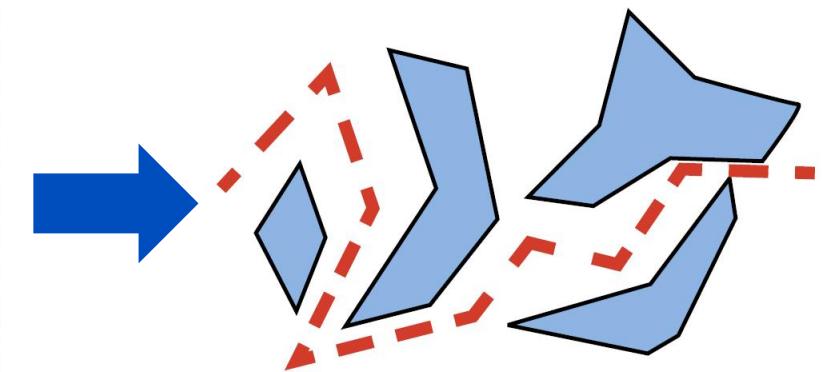
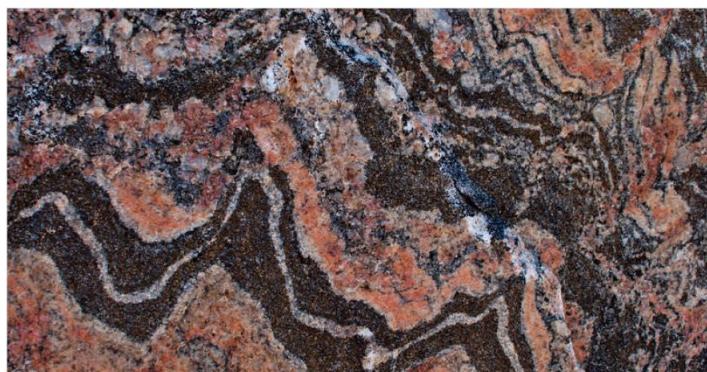
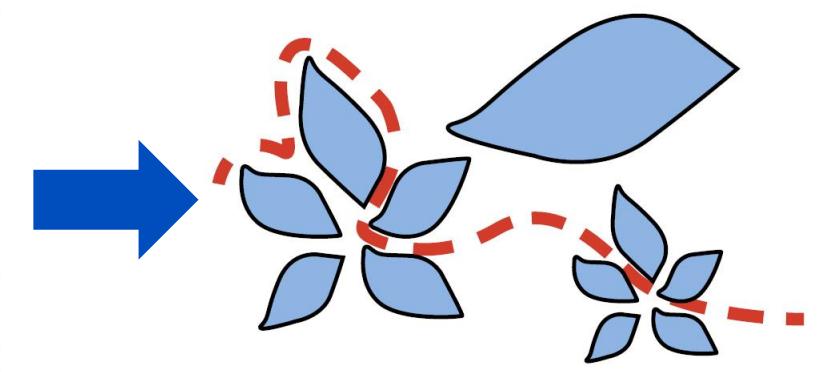
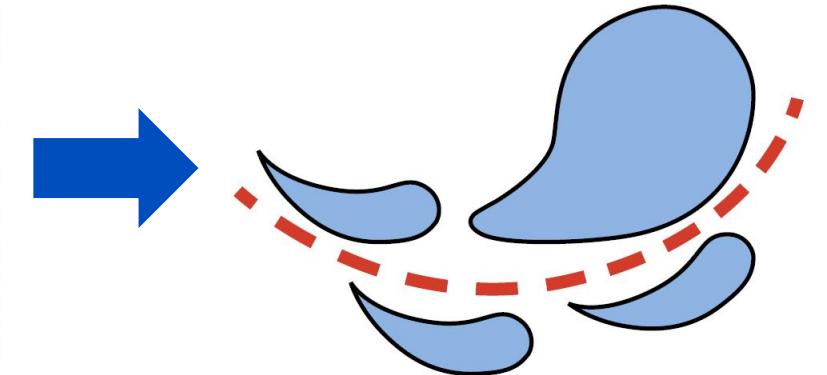
Overall Site Design Concept / Creating and Defining a Unique Sense of Place: Circulation



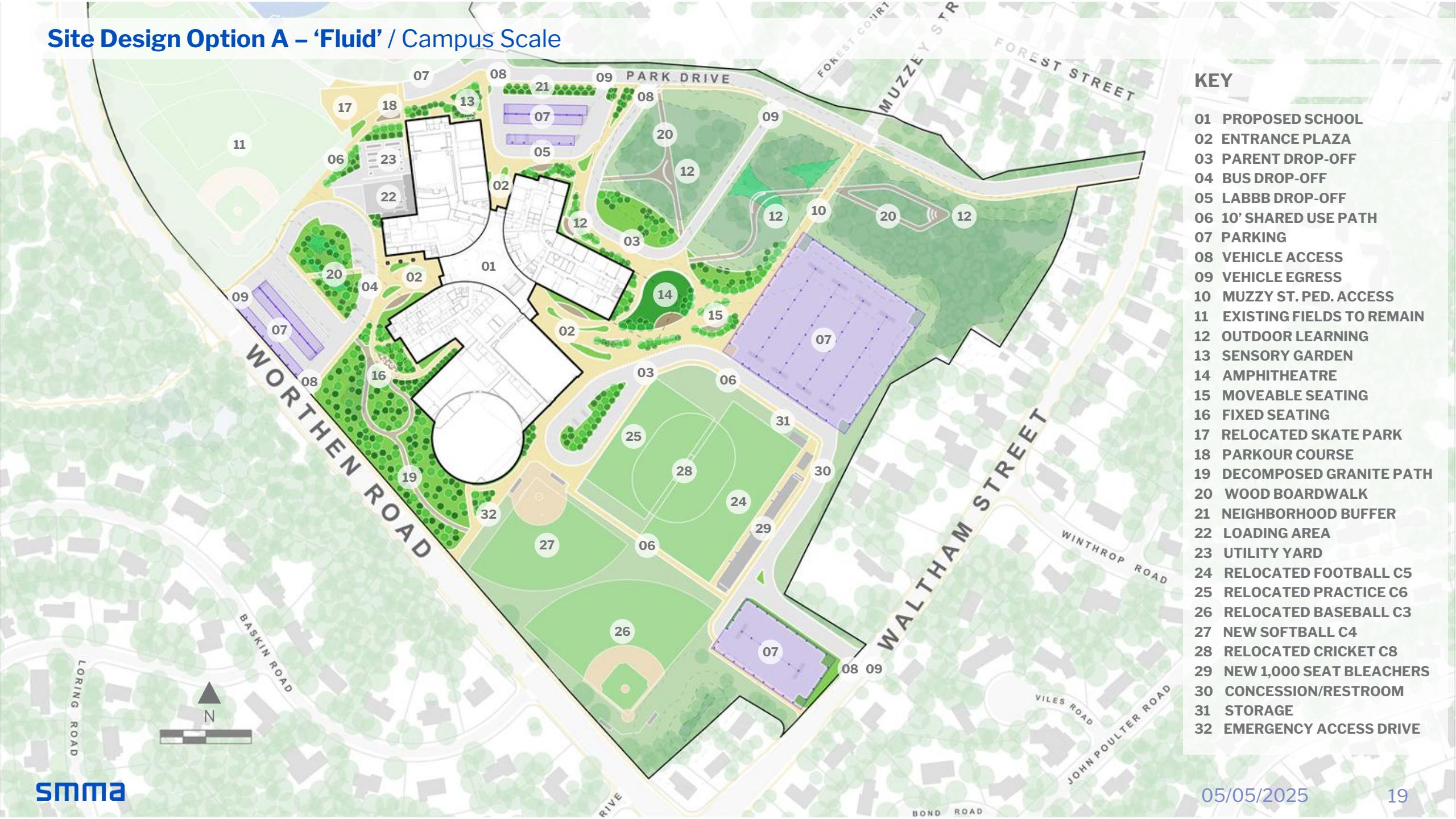
Overall Site Design Concept / Creating and Defining a Unique Sense of Place: Programming



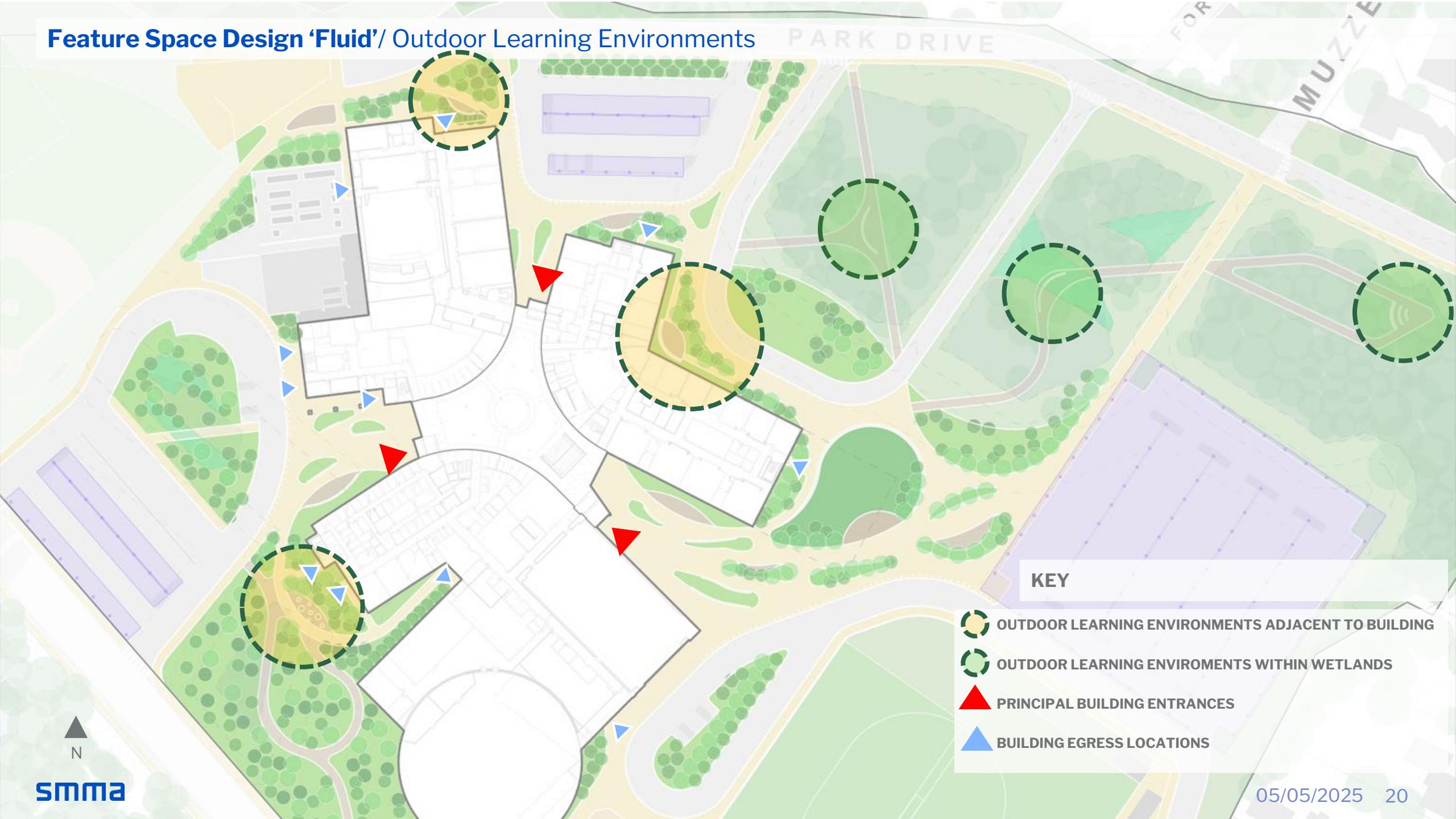
Overall Site Design Concept / Creating and Defining a Unique Sense of Place: Design Concept



Site Design Option A – ‘Fluid’ / Campus Scale



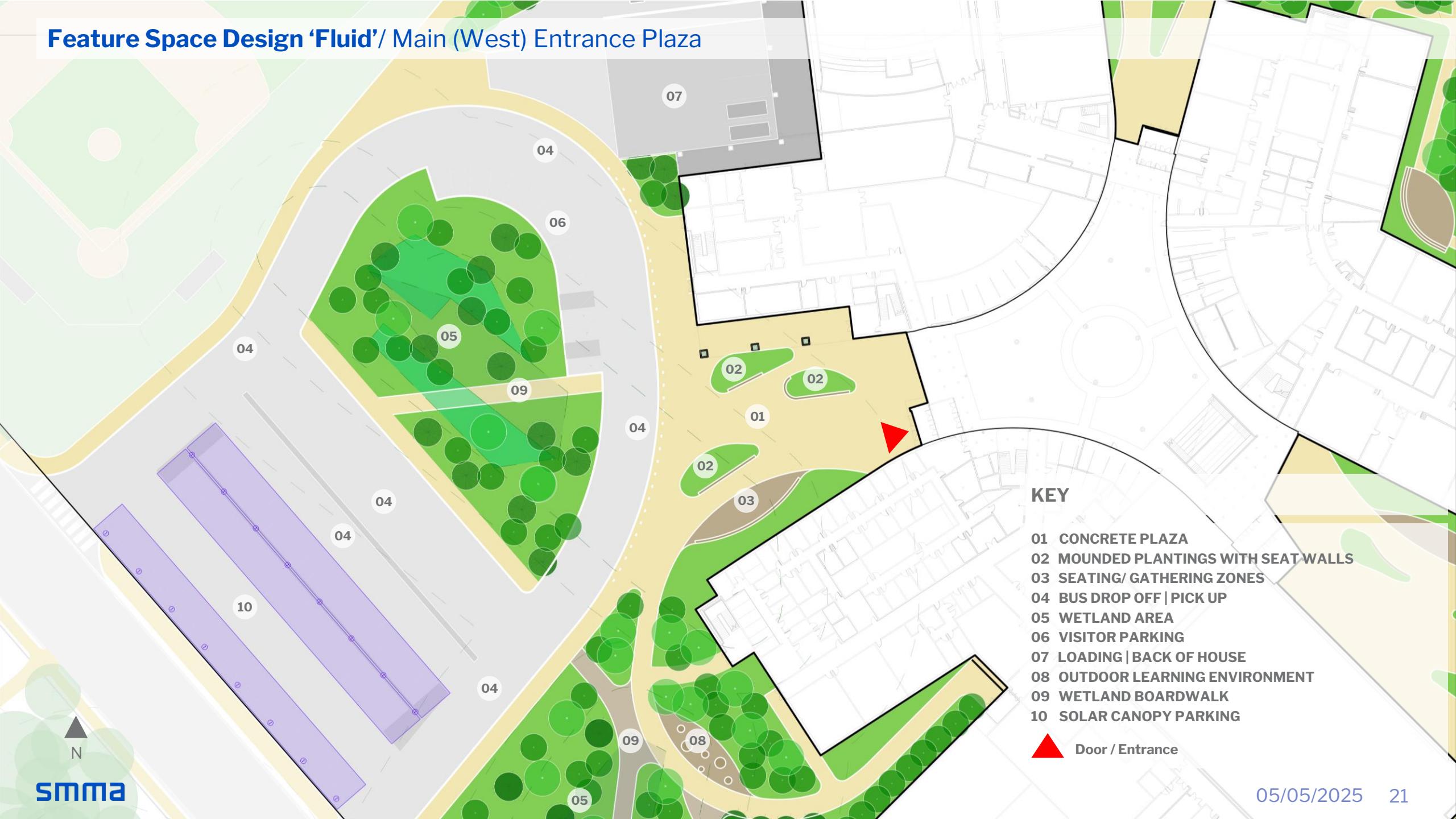
Feature Space Design 'Fluid' / Outdoor Learning Environments



KEY

- OUTDOOR LEARNING ENVIRONMENTS ADJACENT TO BUILDING
- OUTDOOR LEARNING ENVIRONMENTS WITHIN WETLANDS
- PRINCIPAL BUILDING ENTRANCES
- BUILDING EGRESS LOCATIONS

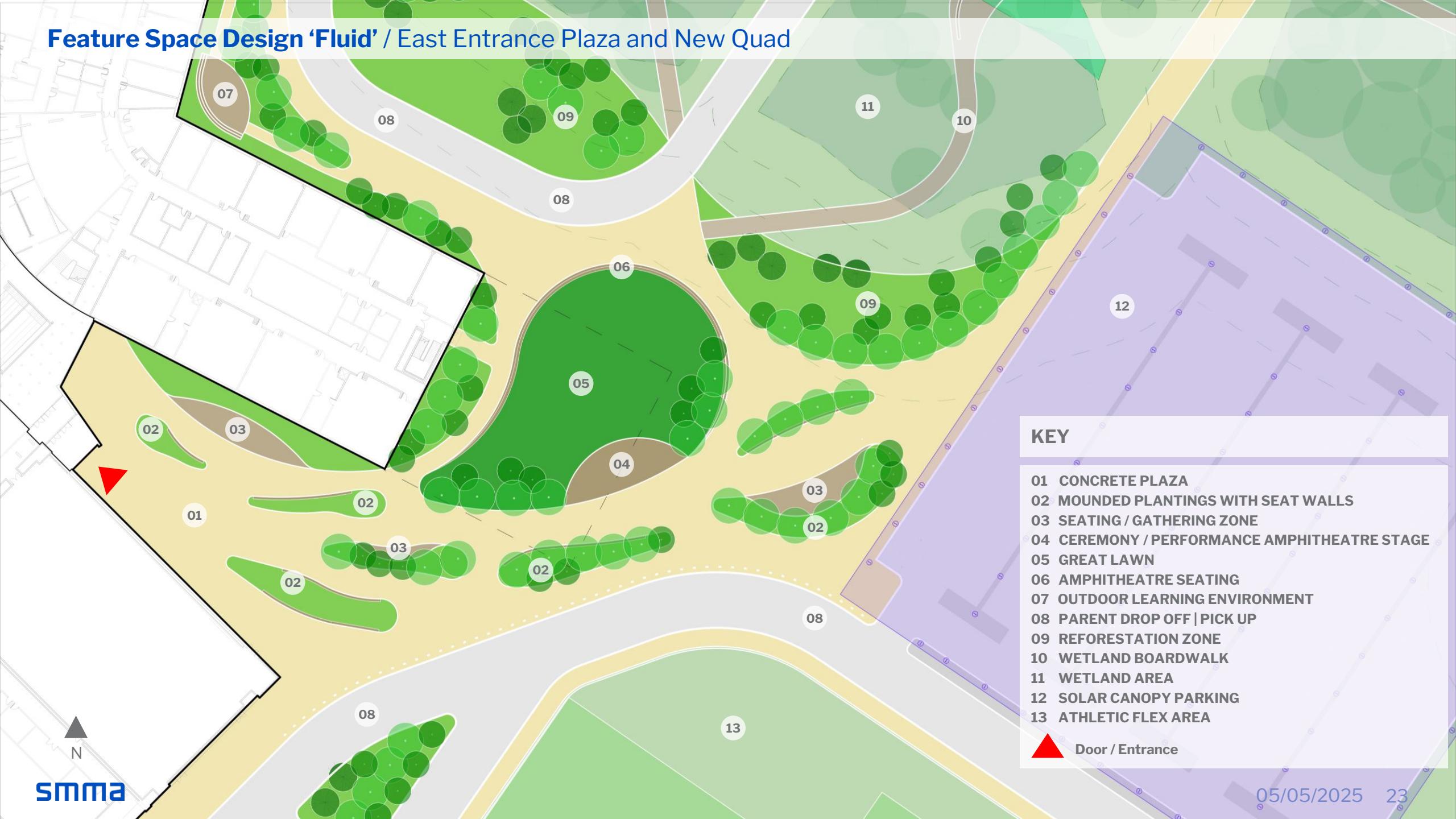
Feature Space Design 'Fluid' / Main (West) Entrance Plaza



Feature Space Design 'Fluid' / Main (West) Entrance Plaza



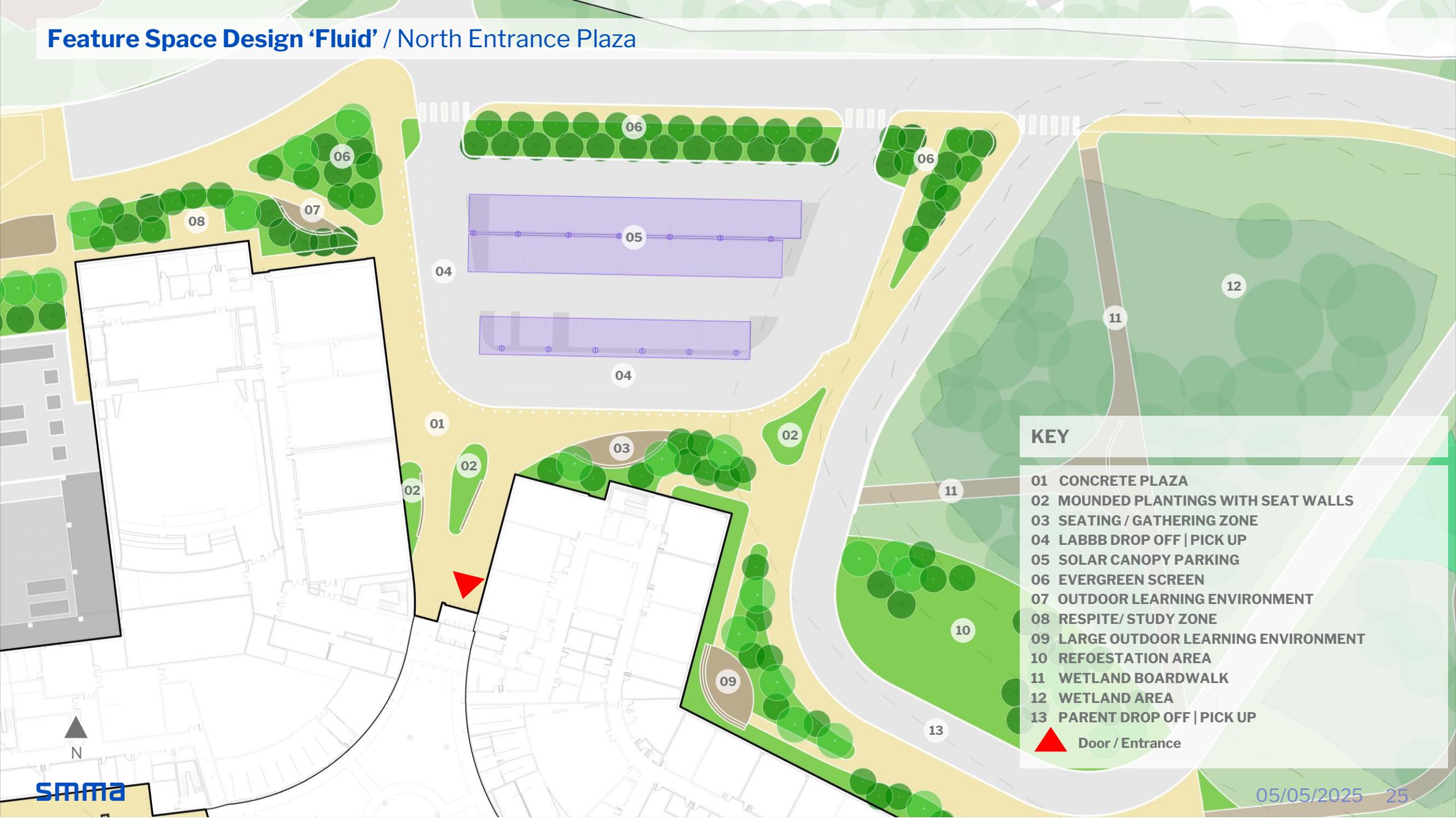
Feature Space Design 'Fluid' / East Entrance Plaza and New Quad



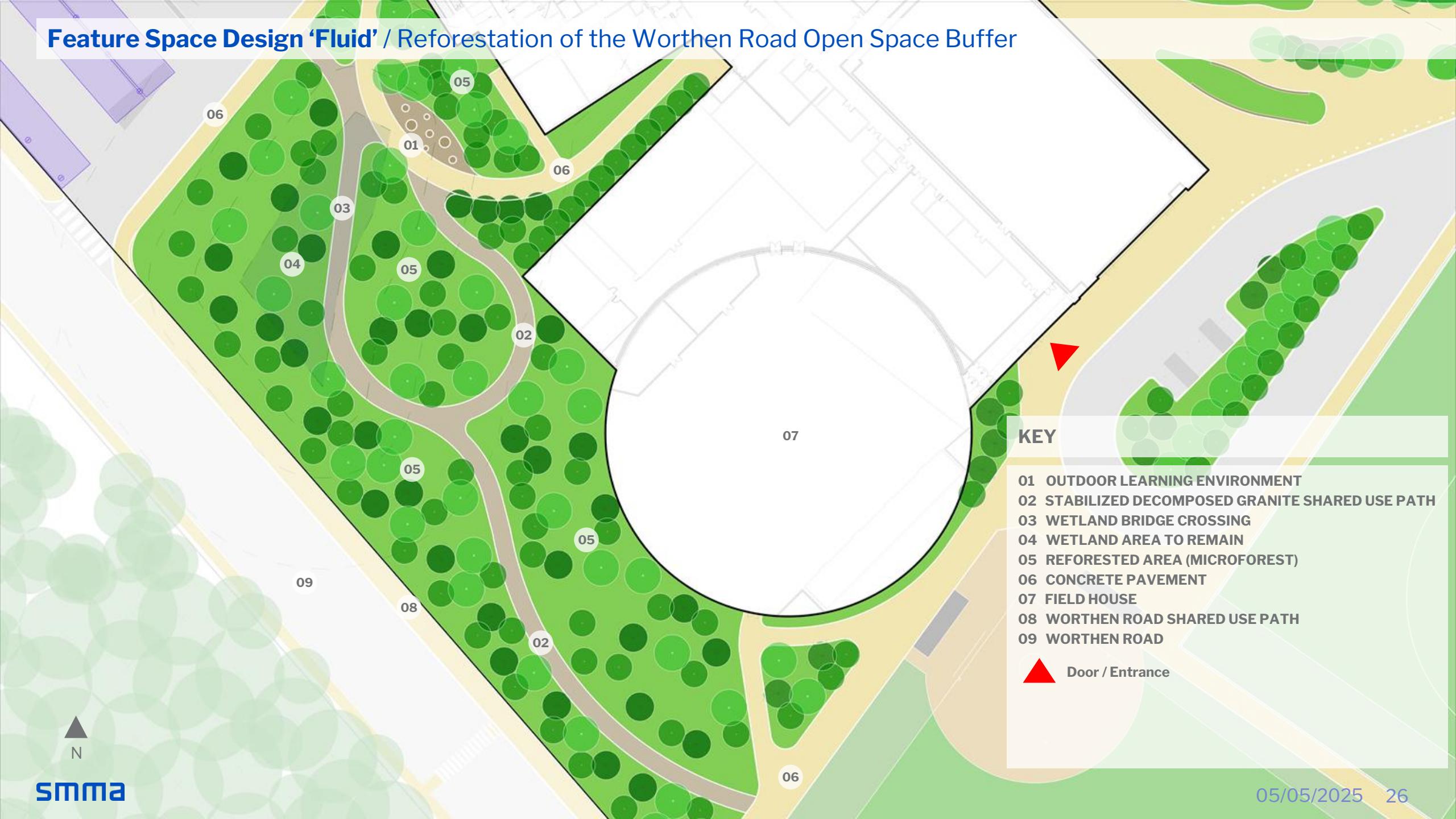
Feature Space Design 'Fluid' / East Entrance Plaza and New Quad



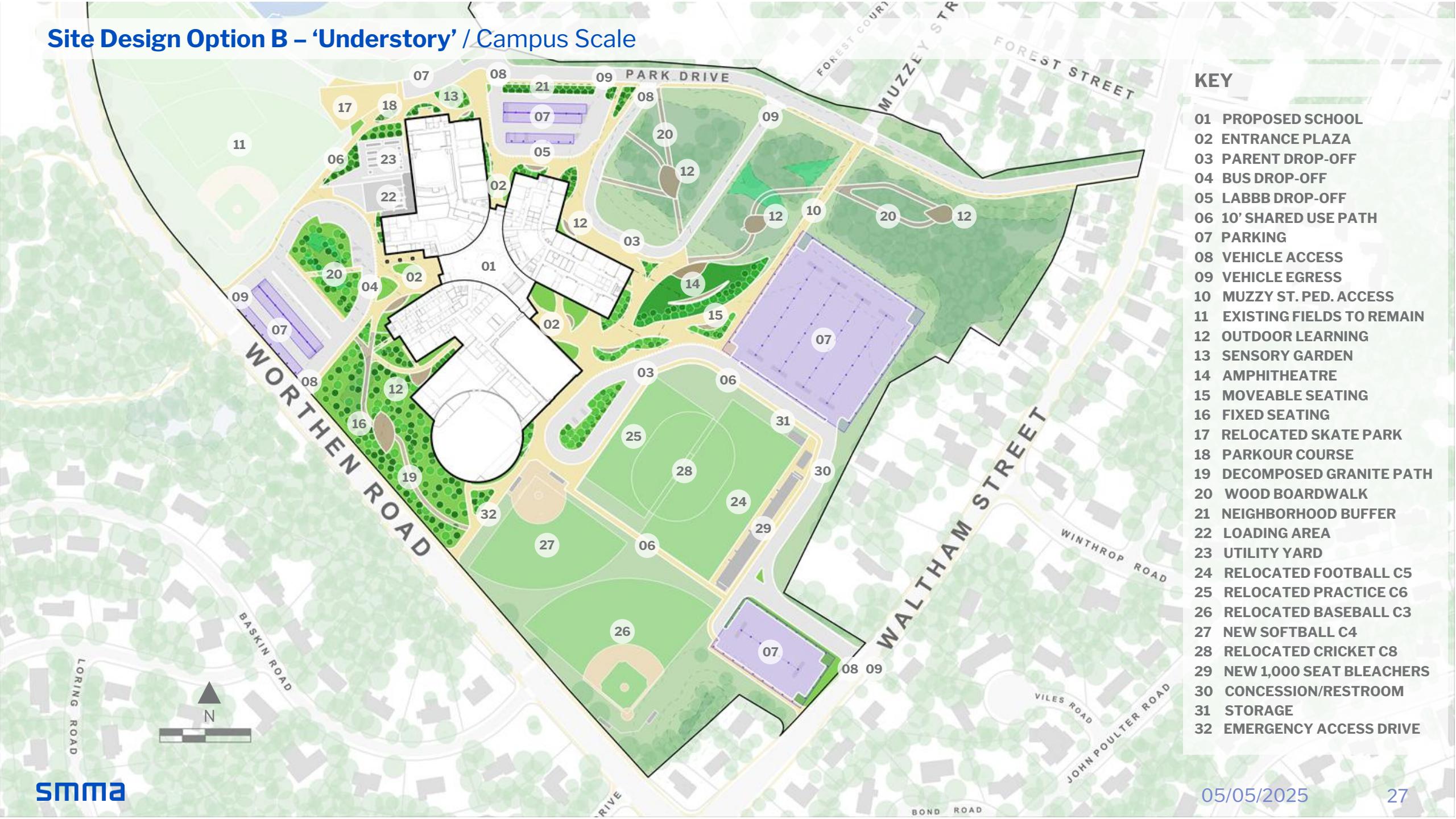
Feature Space Design 'Fluid' / North Entrance Plaza



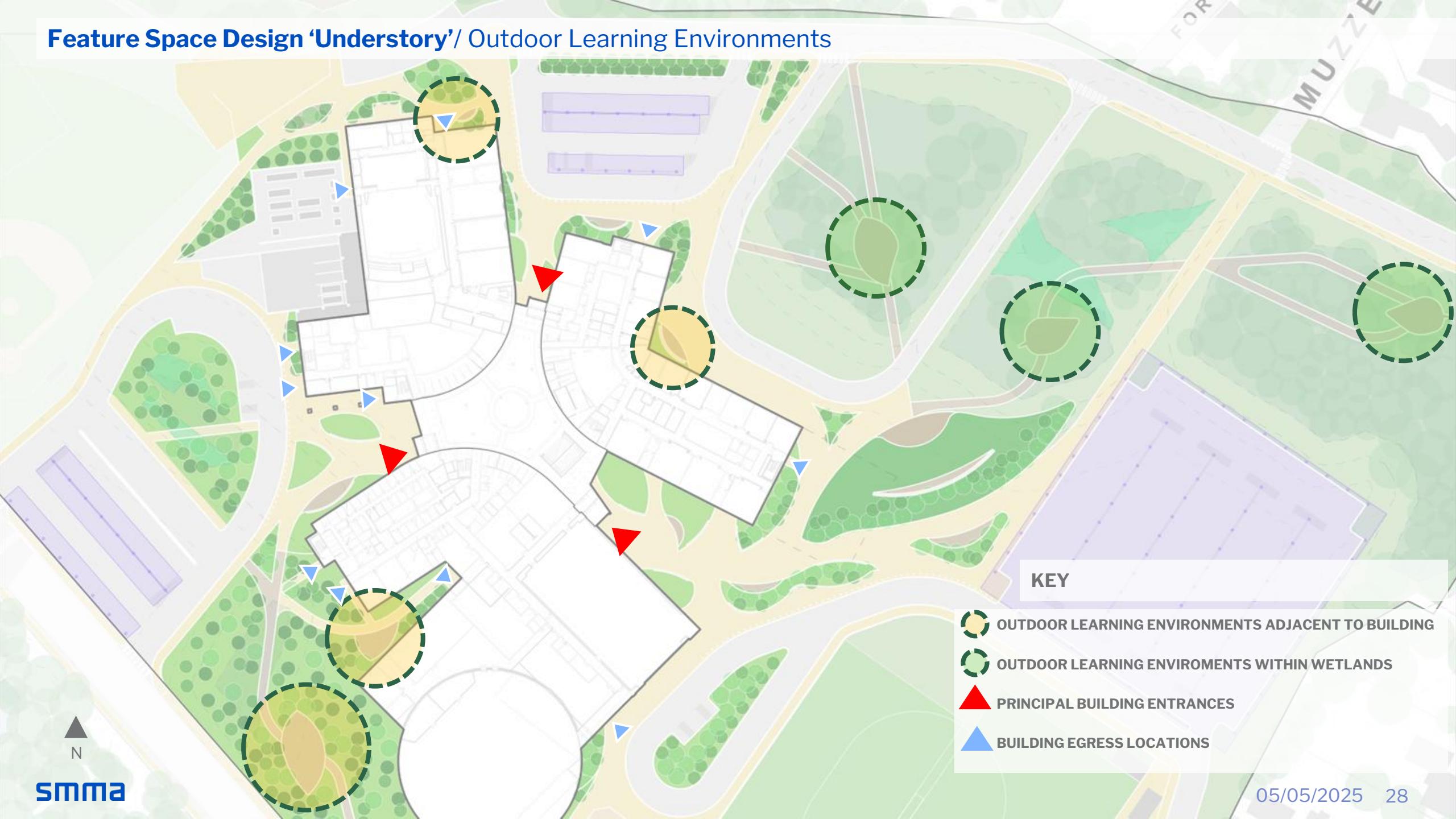
Feature Space Design 'Fluid' / Reforestation of the Worthen Road Open Space Buffer



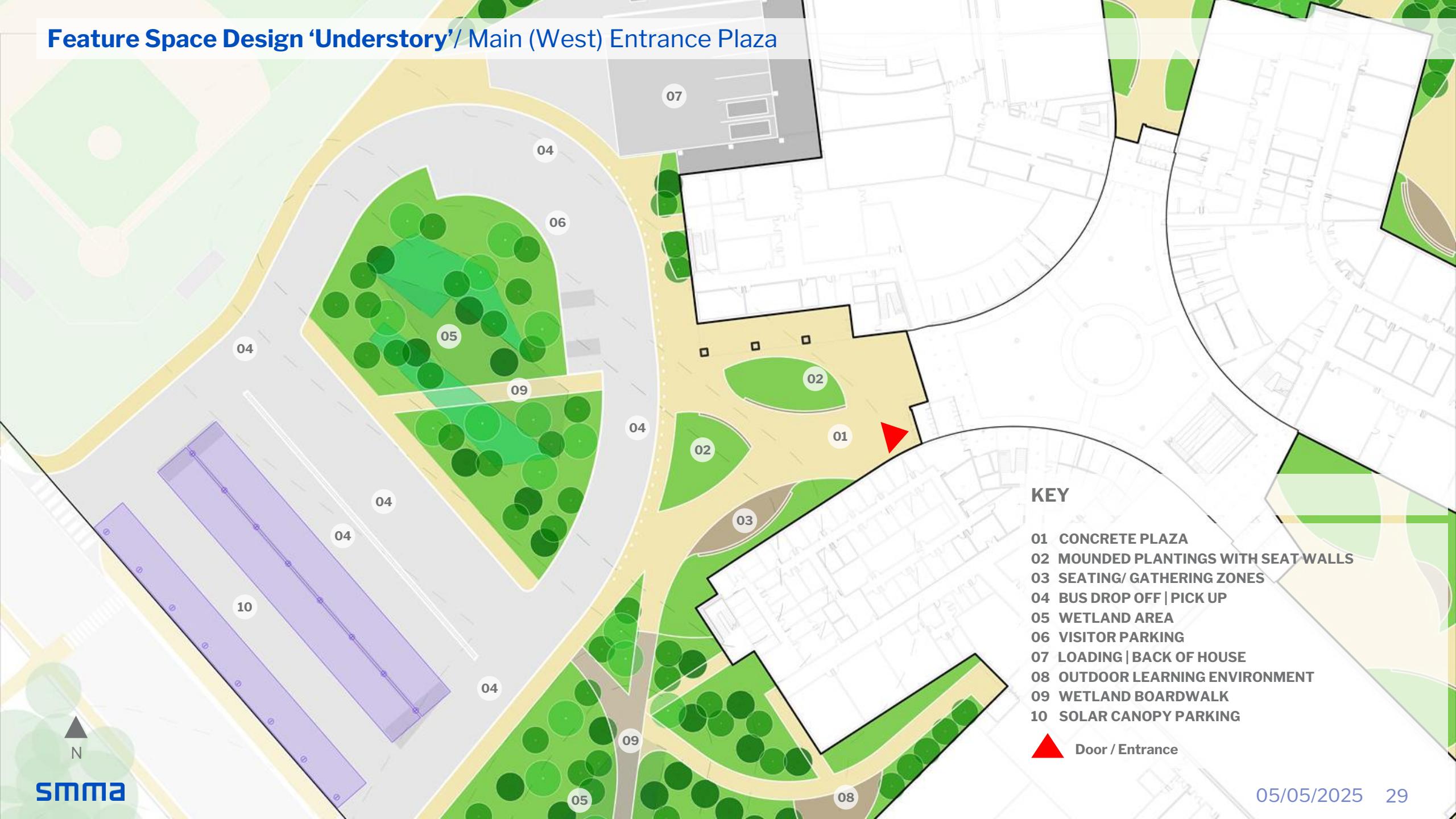
Site Design Option B – ‘Understory’ / Campus Scale



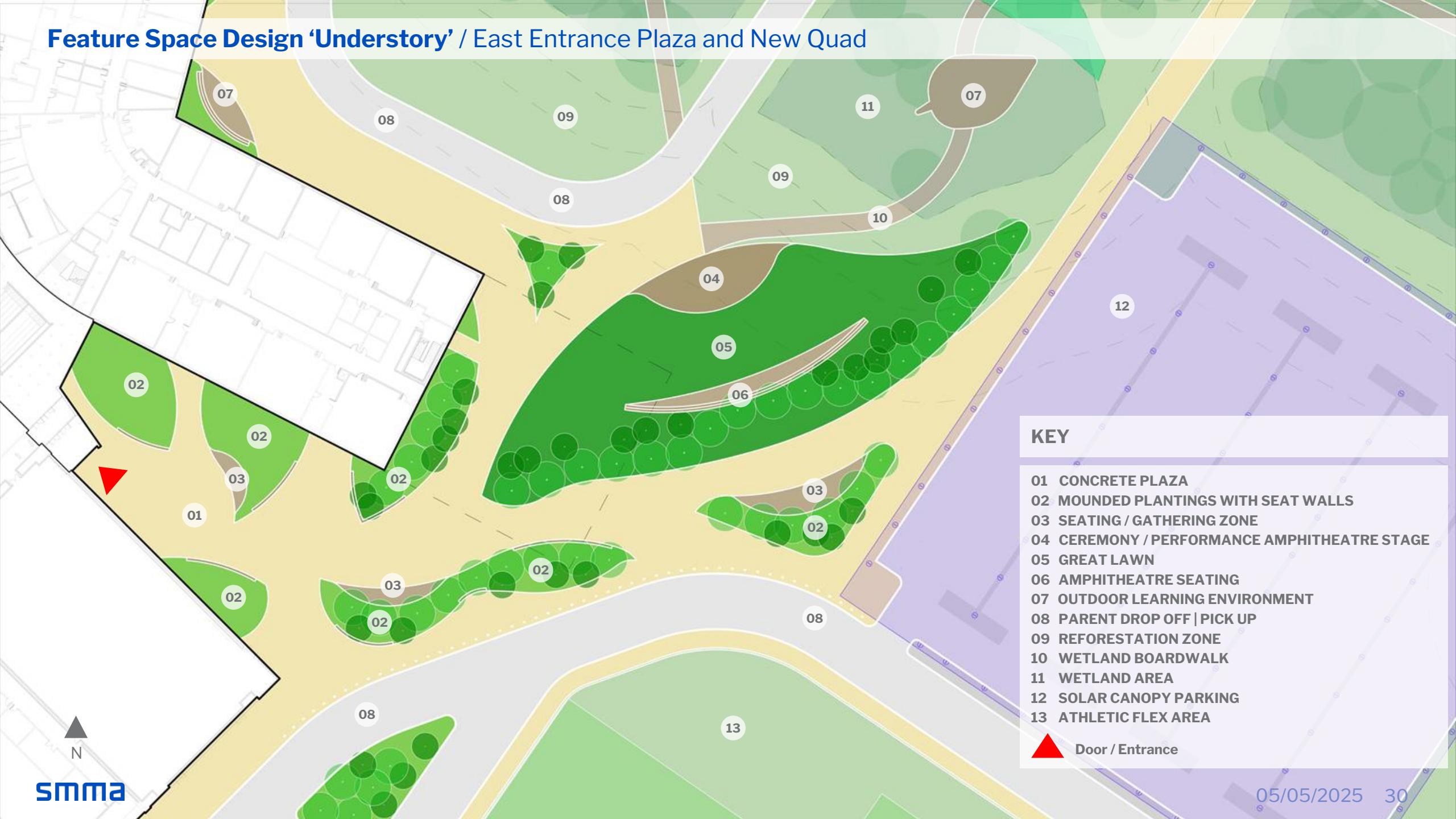
Feature Space Design 'Understory' / Outdoor Learning Environments



Feature Space Design 'Understory' / Main (West) Entrance Plaza



Feature Space Design 'Understory' / East Entrance Plaza and New Quad

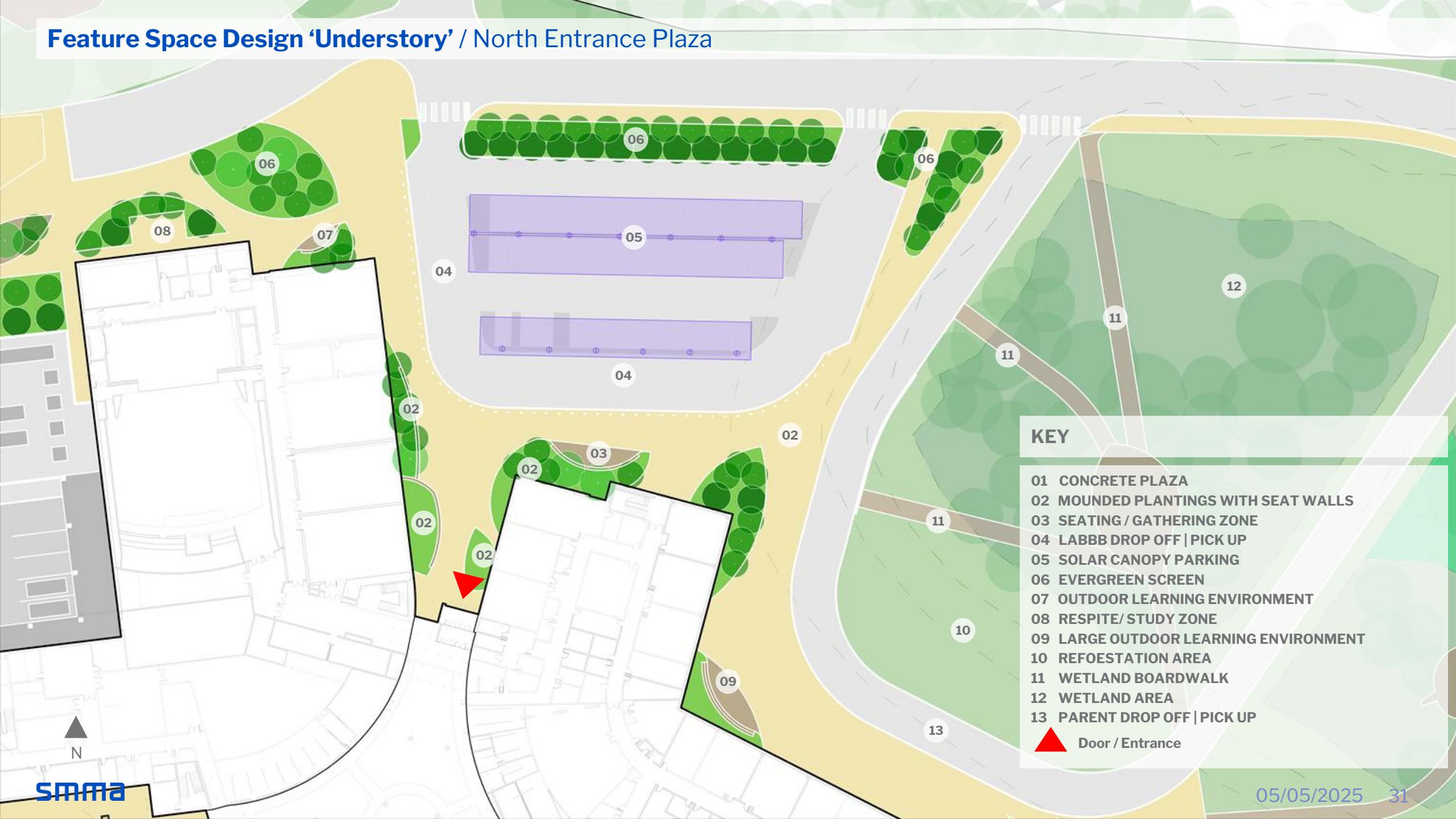


KEY

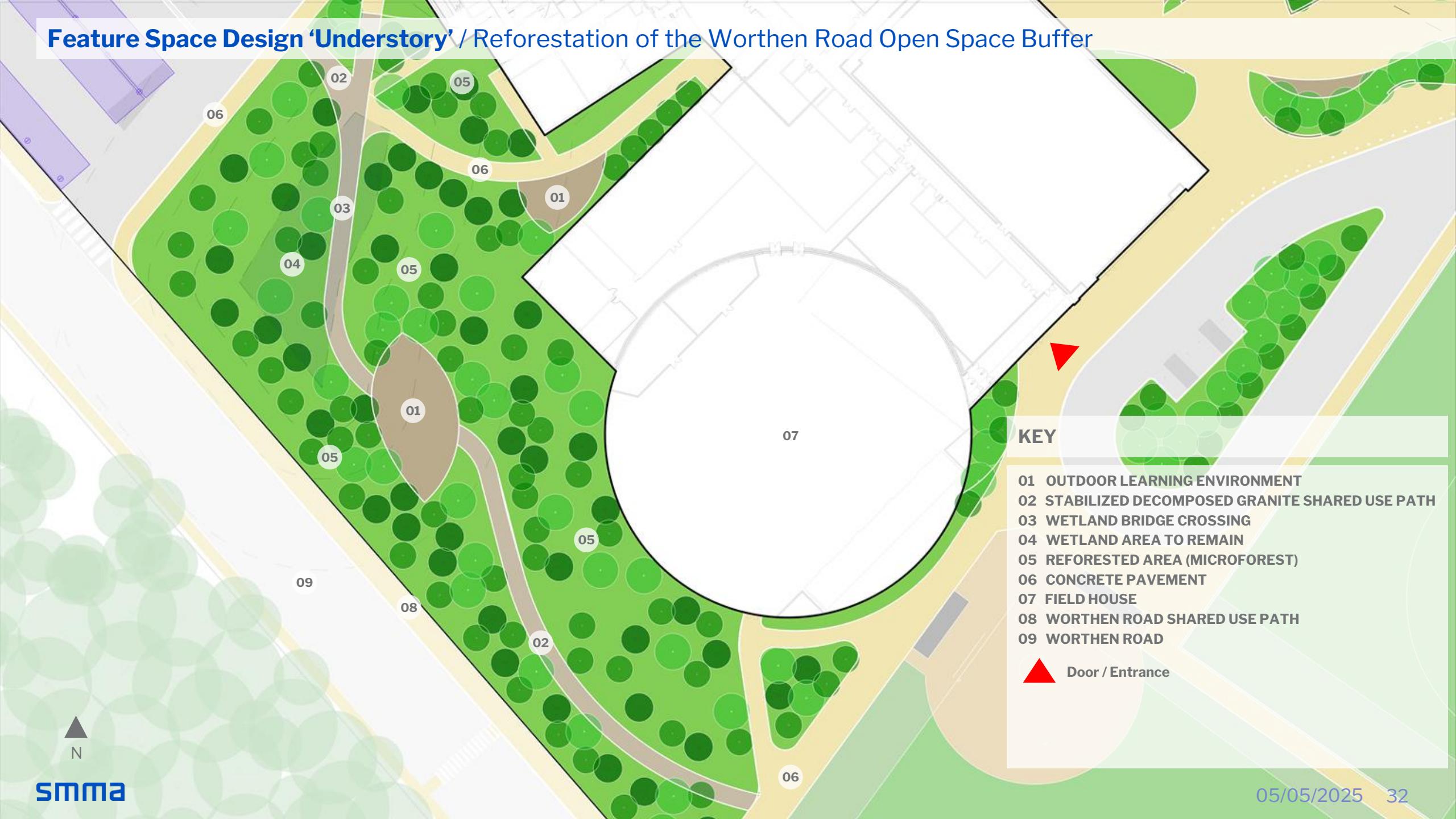
- 01 CONCRETE PLAZA
- 02 MOUNDED PLANTINGS WITH SEAT WALLS
- 03 SEATING / GATHERING ZONE
- 04 CEREMONY / PERFORMANCE AMPHITHEATRE STAGE
- 05 GREAT LAWN
- 06 AMPHITHEATRE SEATING
- 07 OUTDOOR LEARNING ENVIRONMENT
- 08 PARENT DROP OFF | PICK UP
- 09 Reforestation Zone
- 10 Wetland Boardwalk
- 11 Wetland Area
- 12 Solar Canopy Parking
- 13 Athletic Flex Area

Door / Entrance

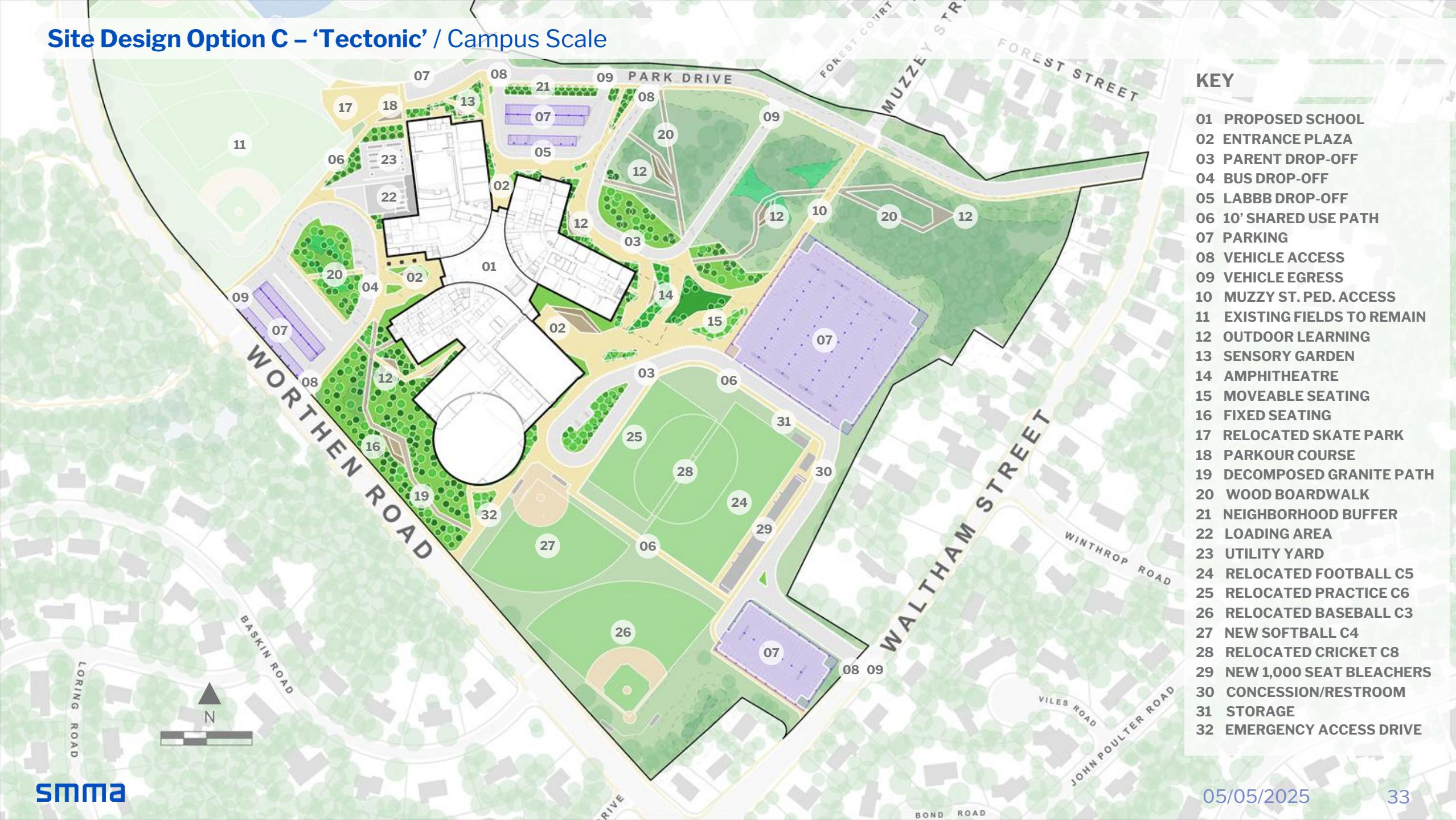
Feature Space Design 'Understory' / North Entrance Plaza



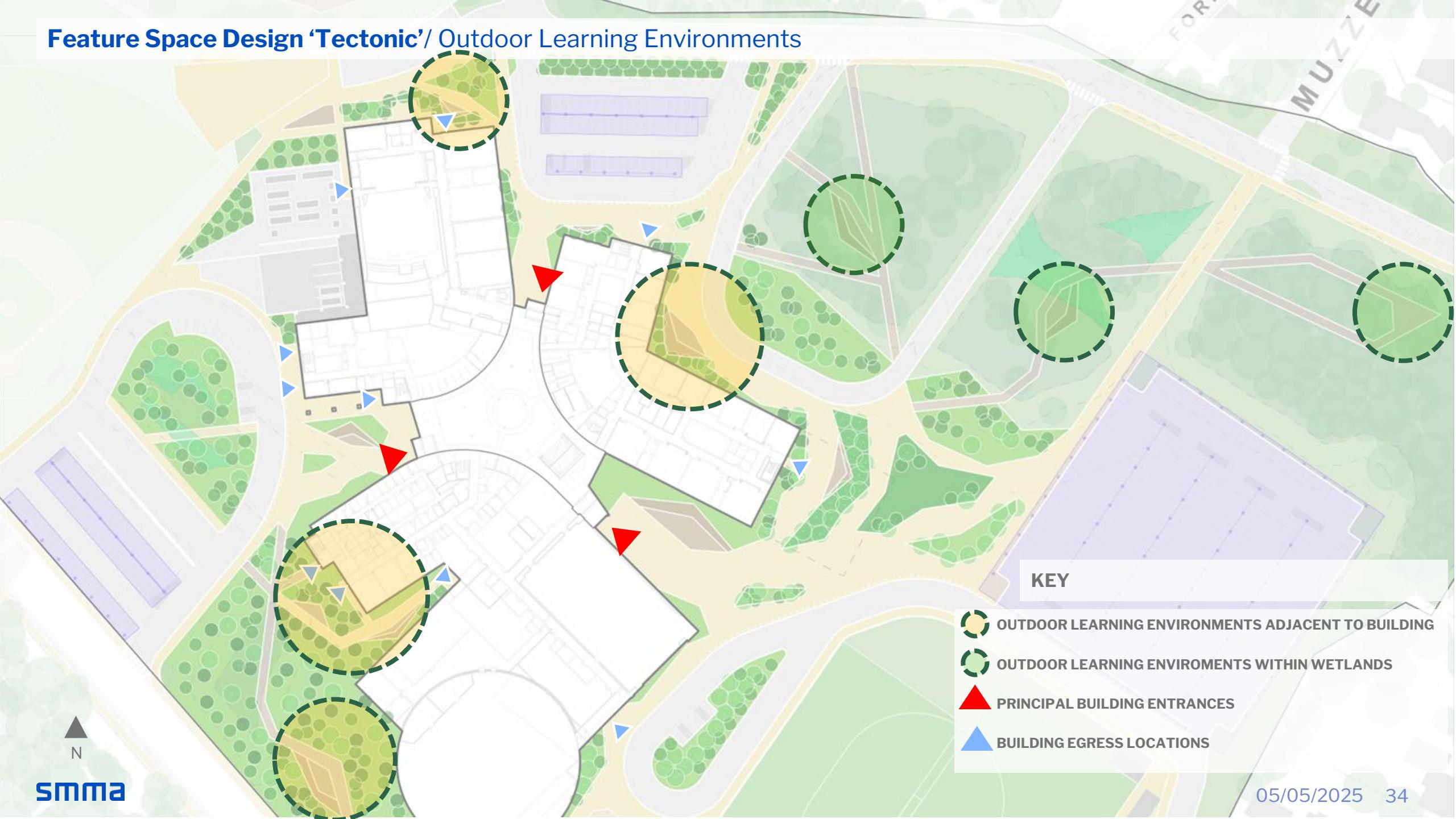
Feature Space Design 'Understory' / Reforestation of the Worthen Road Open Space Buffer



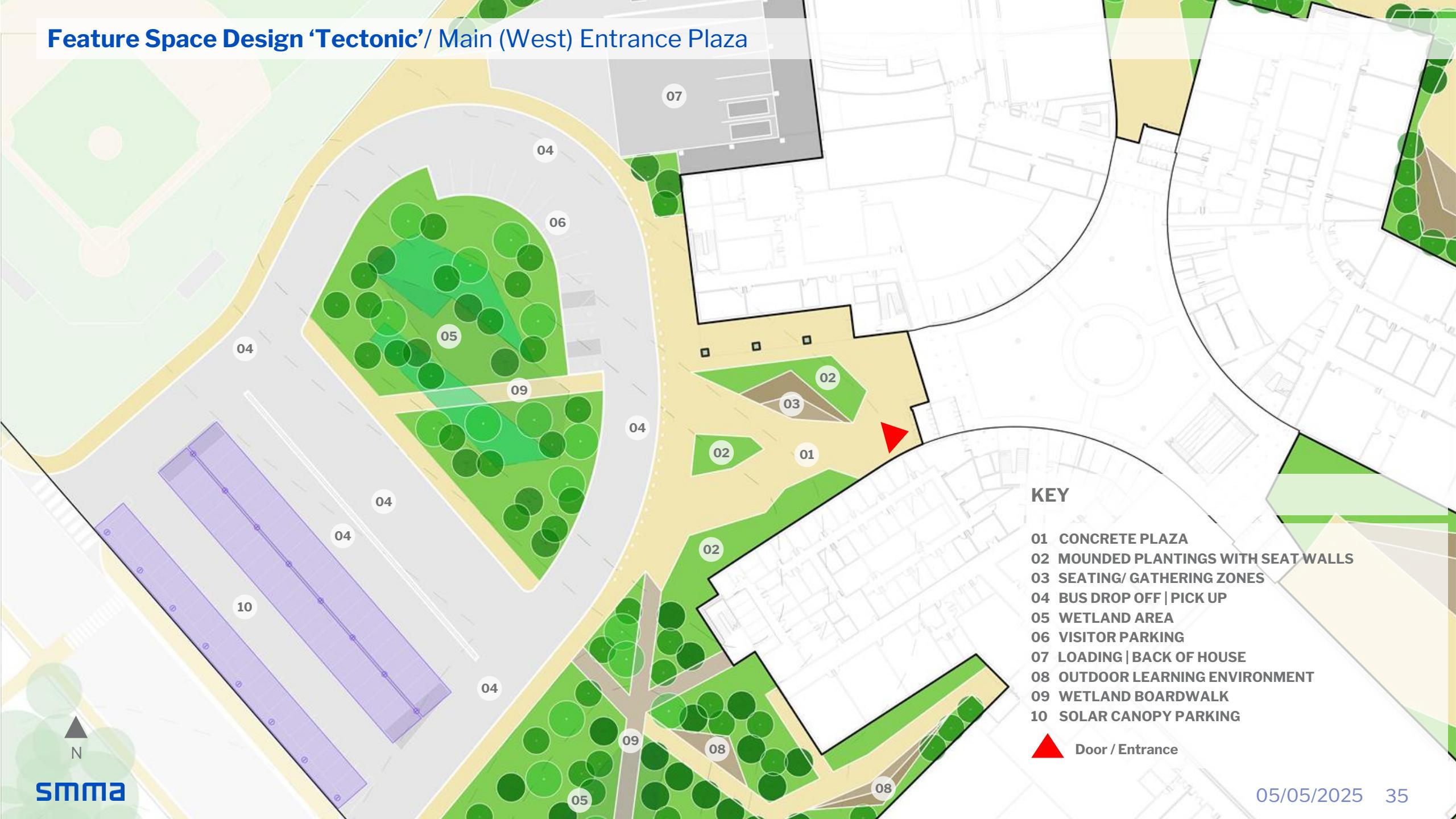
Site Design Option C – ‘Tectonic’ / Campus Scale



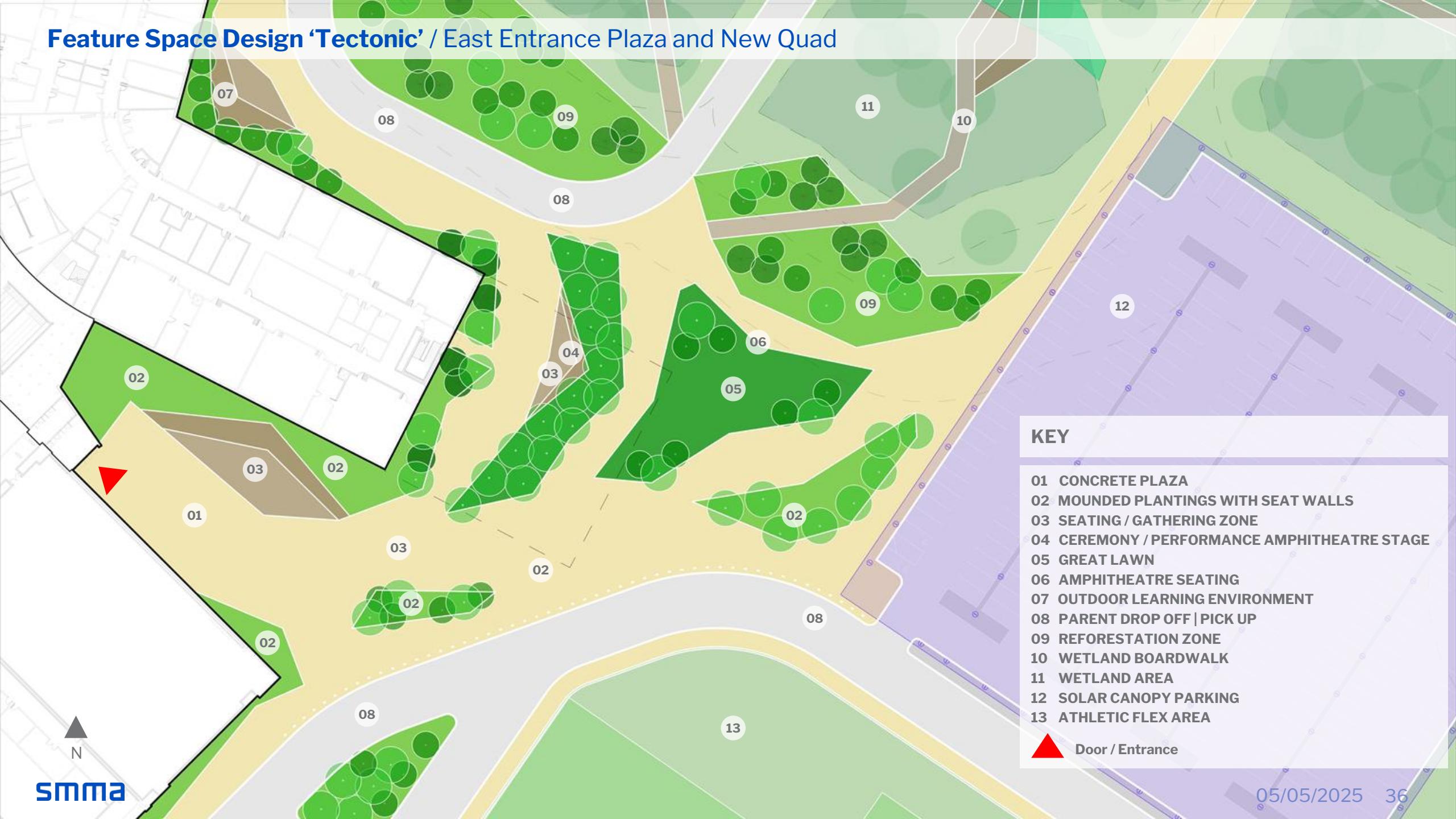
Feature Space Design 'Tectonic' / Outdoor Learning Environments



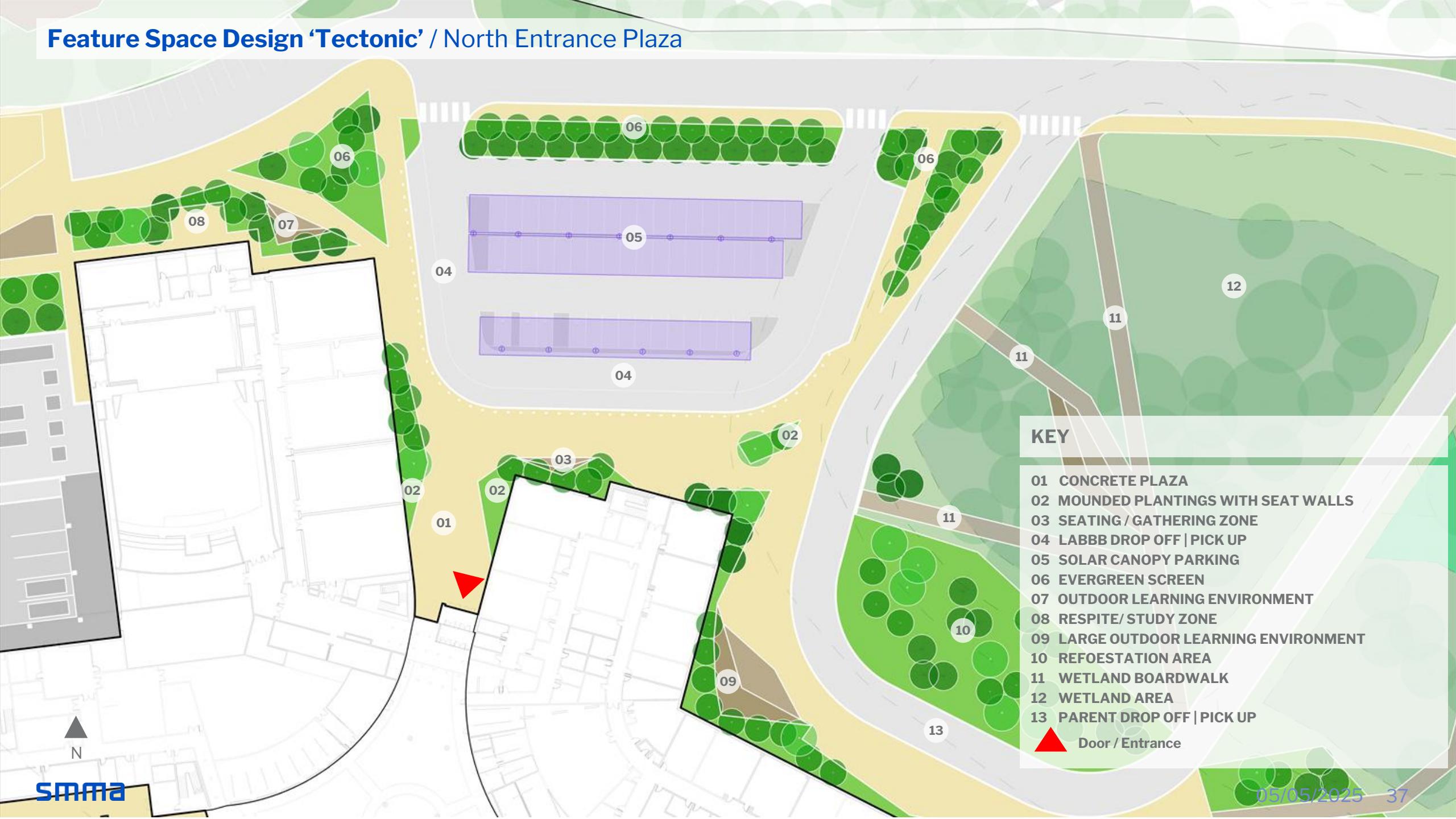
Feature Space Design 'Tectonic' / Main (West) Entrance Plaza



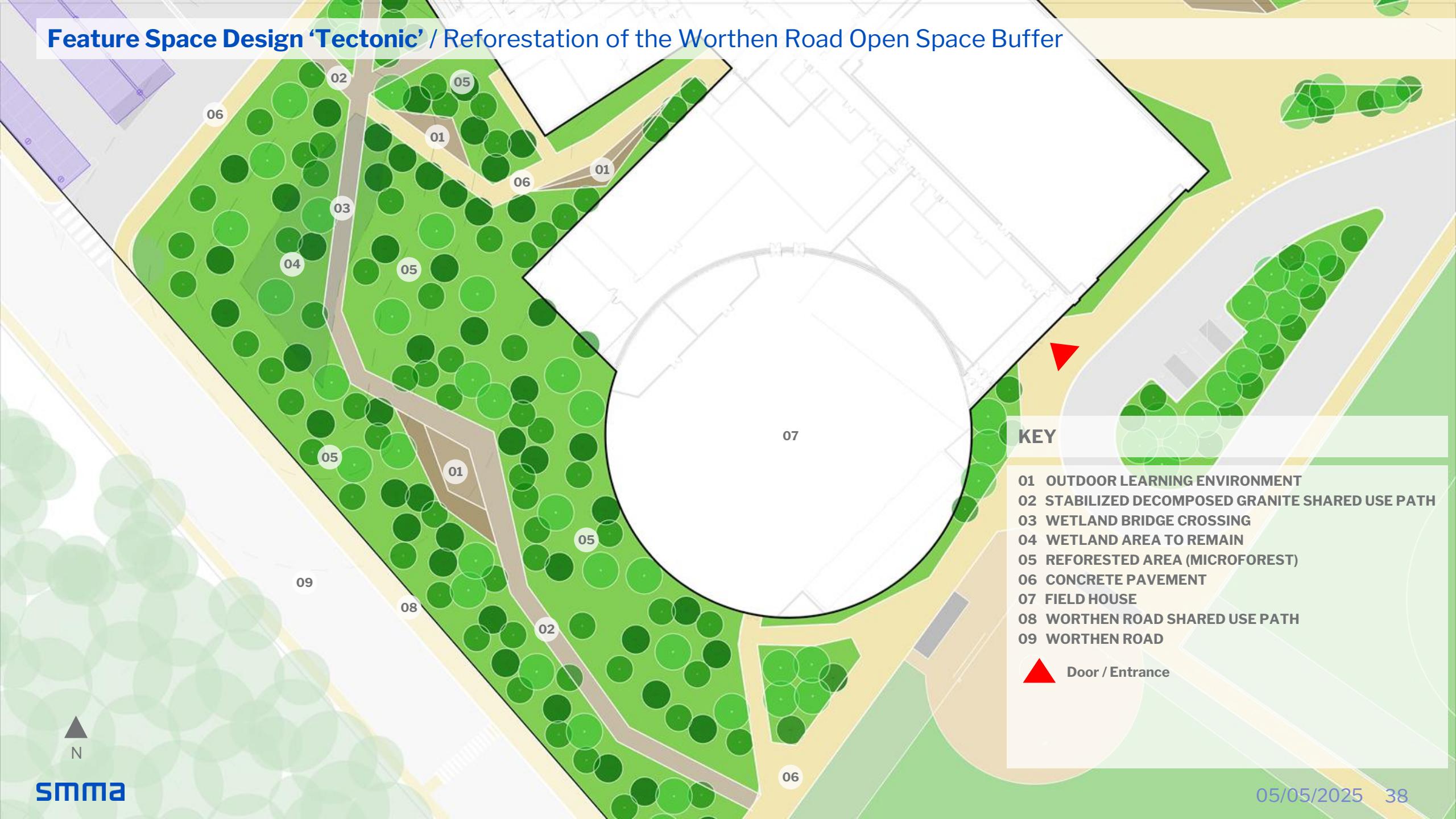
Feature Space Design 'Tectonic' / East Entrance Plaza and New Quad



Feature Space Design 'Tectonic' / North Entrance Plaza

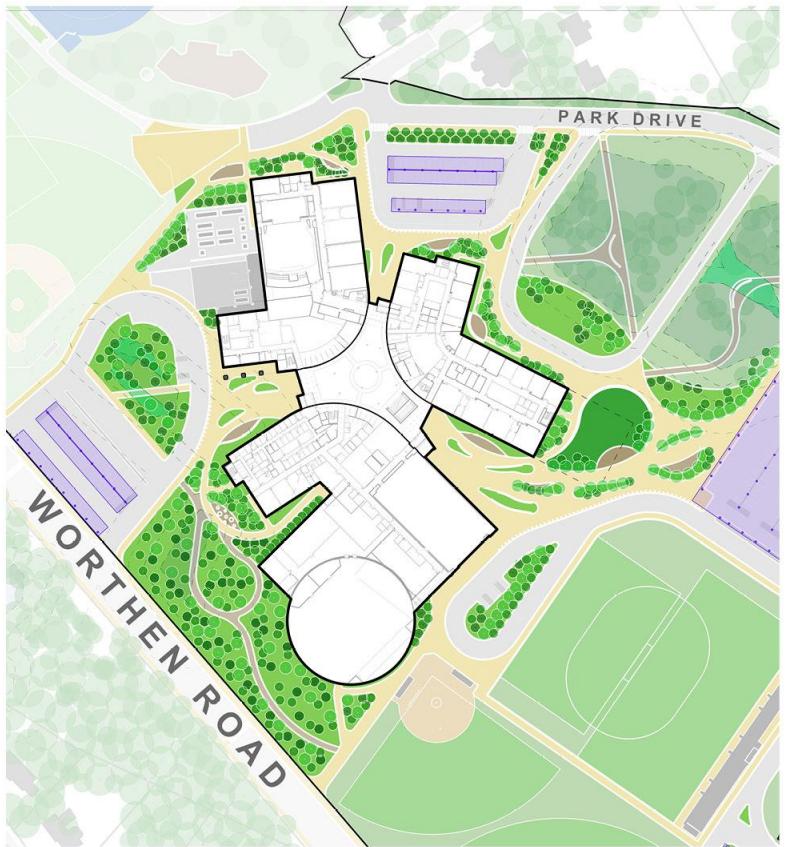


Feature Space Design 'Tectonic' / Reforestation of the Worthen Road Open Space Buffer

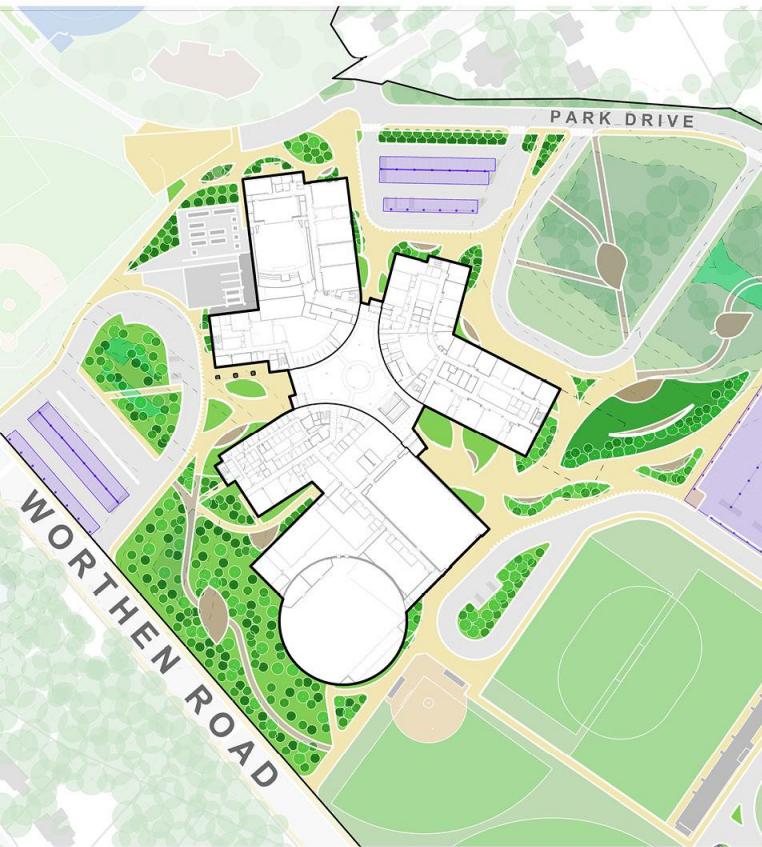


Site Design Options / Comparison

Fluid



Understory



Tectonic



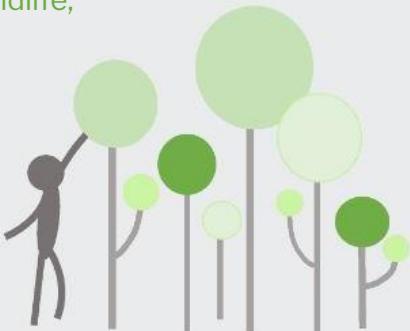
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Site Program and Materials

Micro-forests / The Miyawaki Method

The Miyawaki methodology is based on an innovative woodland establishment and management approach developed by Japanese botanist **Dr. Akira Miyawaki**.

This aims to reconstruct indigenous woodlands to enable delivery of benefits for people, wildlife, biosecurity, and ecosystem services.



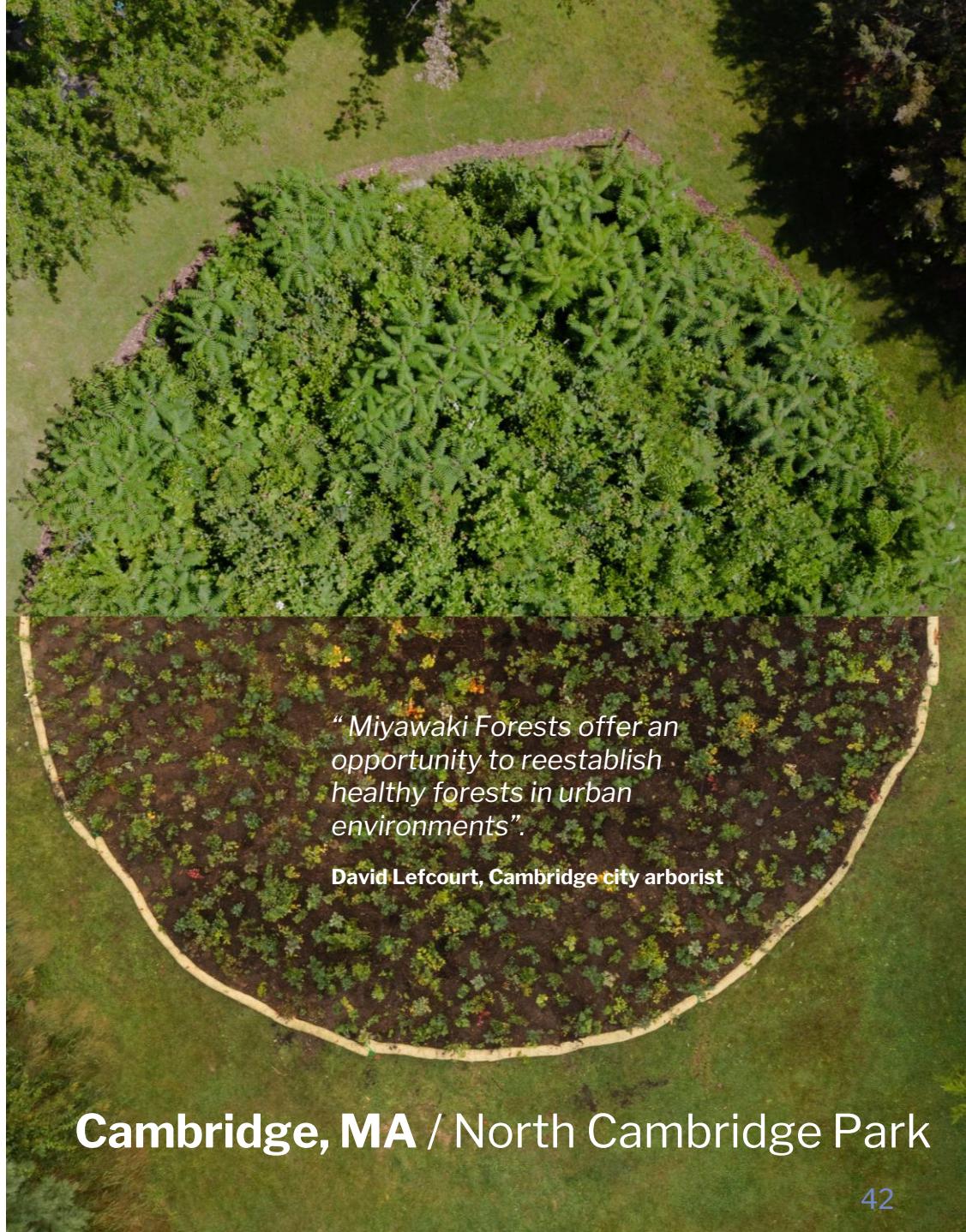
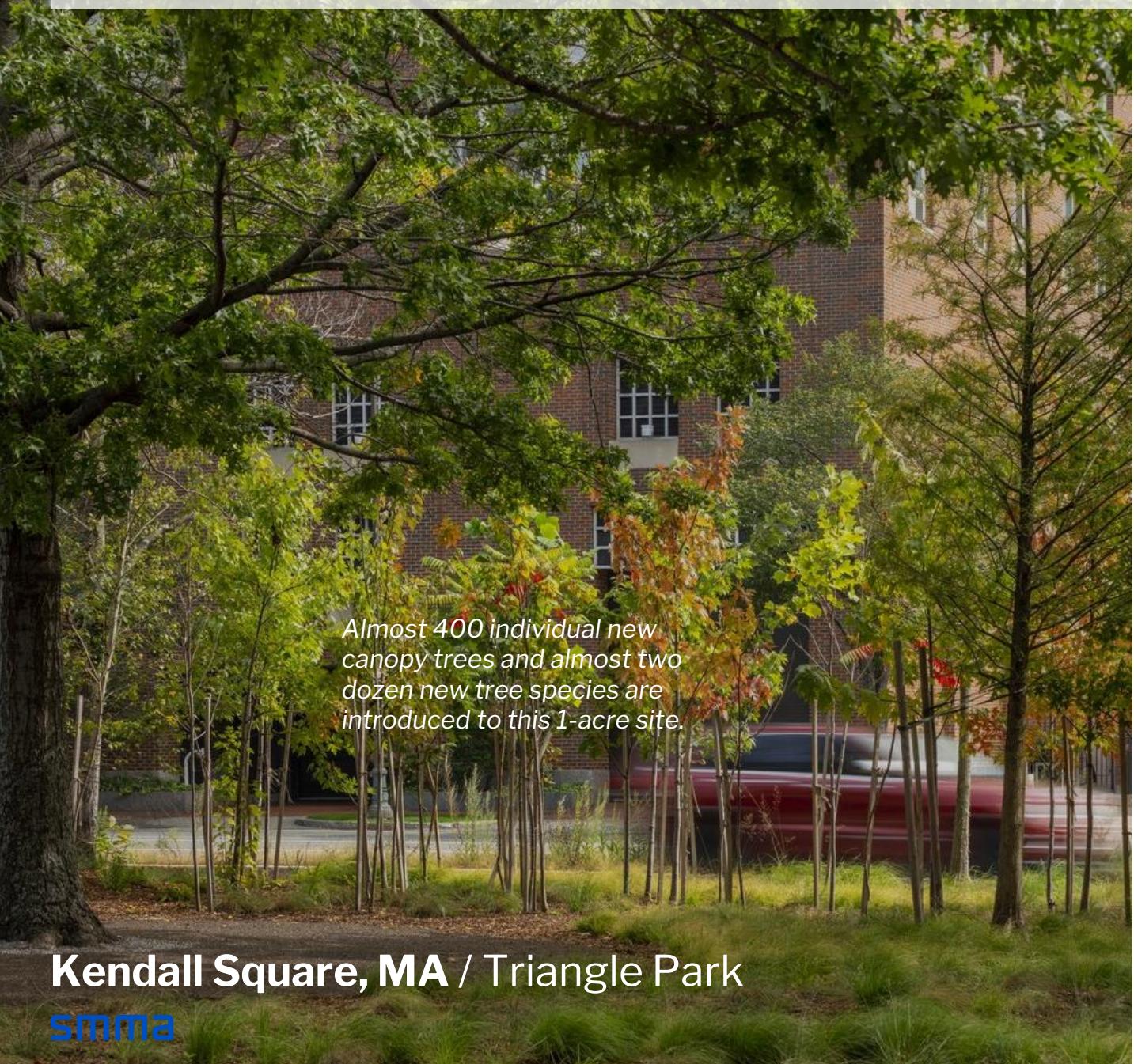
(1) Seedlings are planted densely, 3 trees/m², and randomly (not in line), mixing as many native trees of potential natural vegetation as possible.

(2) Approximately 3 years after planting, natural selection among the seedlings allows the most adapted ones to develop quickly.

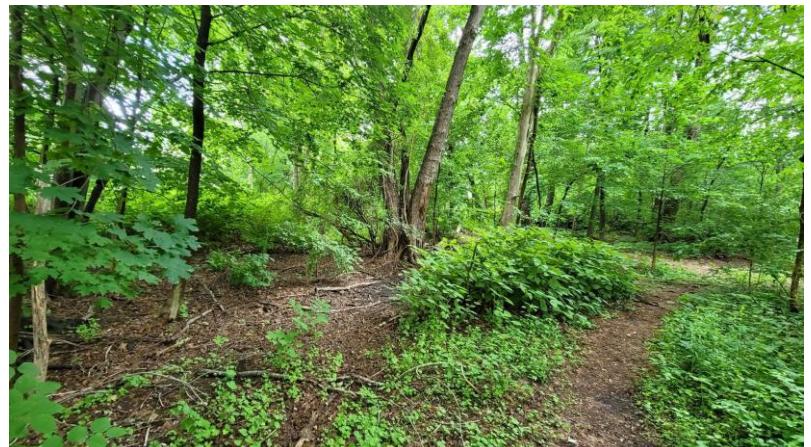
(3) By 15-20 years after planting, the early model of a dense mature forest will be established



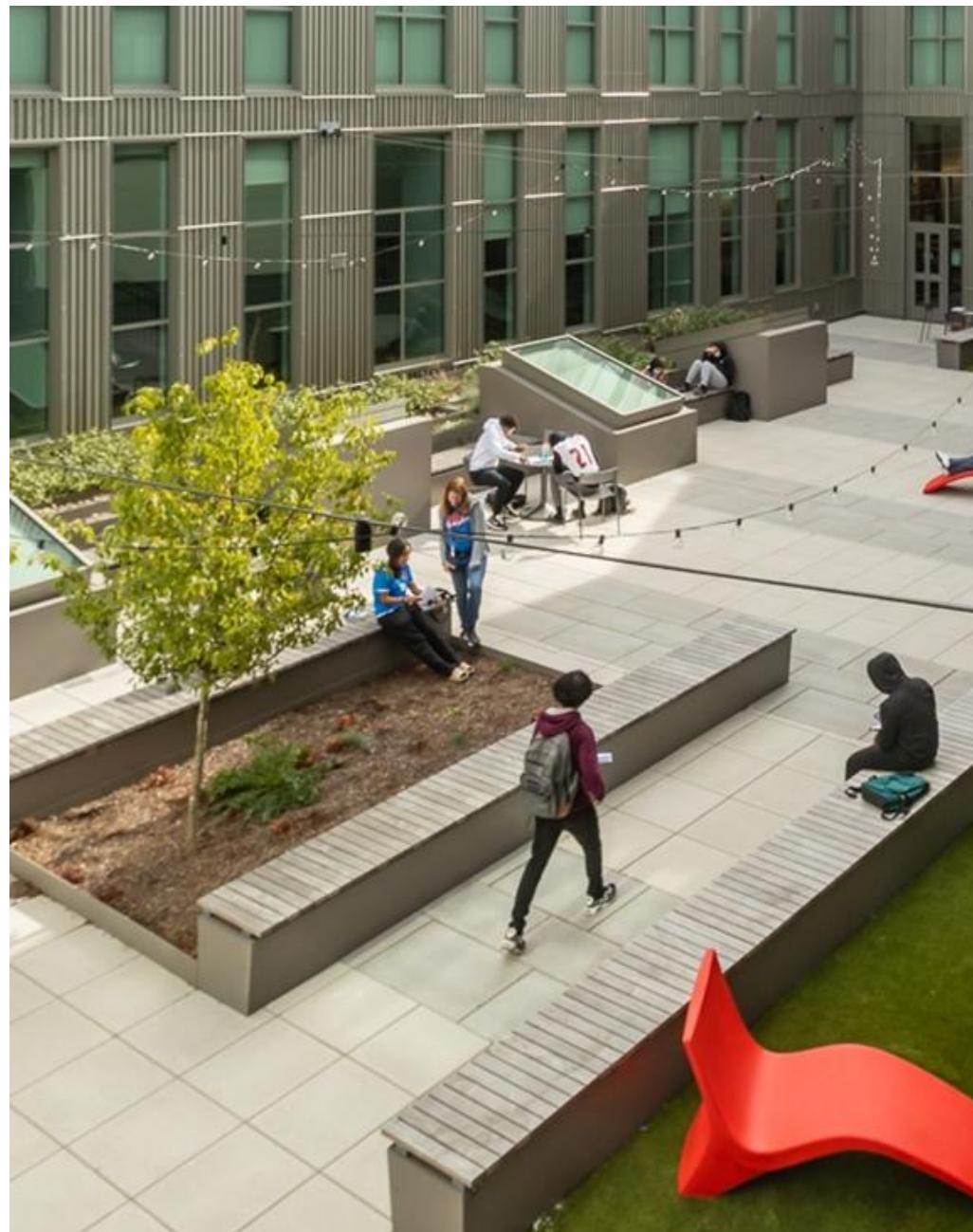
Site Program / Local Miyawaki Method Examples



Outdoor Program / Nature Walks and Paths



Site Program / Outdoor Learning Environments



Site Program / Dining



Site Program / Sensory Gardens



Site Program / Amphitheatre



Site Program / Motion



Planting / Tree Species

Canopy



Pin Oak
(*Quercus palustris*)



Swamp White Oak
(*Quercus bicolor*)



American Elm
(*Ulmus americana*)



Freeman Maple
(*Acer x freemanii*
'Armstrong')



Slender Silhouette Sweetgum
(*Liquidambar styraciflua*
'Slender Silhouette Sweetgum')



Sycamore
(*Platanus occidentalis*)

Evergreen



Eastern Hemlock
(*Tsuga canadensis*)



Norway Spruce
(*Picea abies*)



Eastern Juniper
(*Juniperus virginiana*)

Understory



Serviceberry
(*Amelanchier canadensis*)



White Fringetree
(*Chionanthus virginicus*)



Flowering Dogwood
(*Cornus florida*)

Planting / Understory

Shrubs



Sweet Bay Magnolia
(*Magnolia virginiana*)



Black Chokeberry
(*Aronia melanocarpa*)



Dwarf Sweet Pepperbush
(*Clethra alnifolia*
'Hummingbird')



Common Witchhazel
(*Hamamelis virginiana*)



Dwarf Winterberry Holly
(*Ilex verticillata*)



Arctic Fire Red Twig Dogwood
(*Cornus stolonifera* 'Farrow')

Perennials



Butterfly Weed
(*Asclepias tuberosa*)



New England Aster
(*Aster novae angiae*)



Lance-Leaf Coreopsis
(*Coreopsis lanceolata*)



Spotted Joe Pye Weed
(*Eupatorium maculatum*)



Eastern Red Columbine
(*Aquilegia canadensis*)



Blue Wonder Catmint
(*Nepeta faassenii* 'Blue Wonder')

Grasses



Little Bluestem
(*Schizachyrium scoparium*)



Yellow Prairie Grass
(*Sorghastrum nutans*)



Prairie Dropseed
(*Sporobolus heterolepis*)



Ice Dance Sedge
(*Carex* 'Ice Dance')

Bicycle Network and Facilities



Cycle Dock™



Bike Bike Rack™



Rolling Rack



Campus Rack™



Swerve Rack™

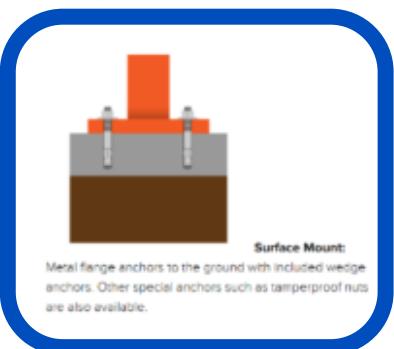


Downtown Rack™



Round Rack™

Mounting Options



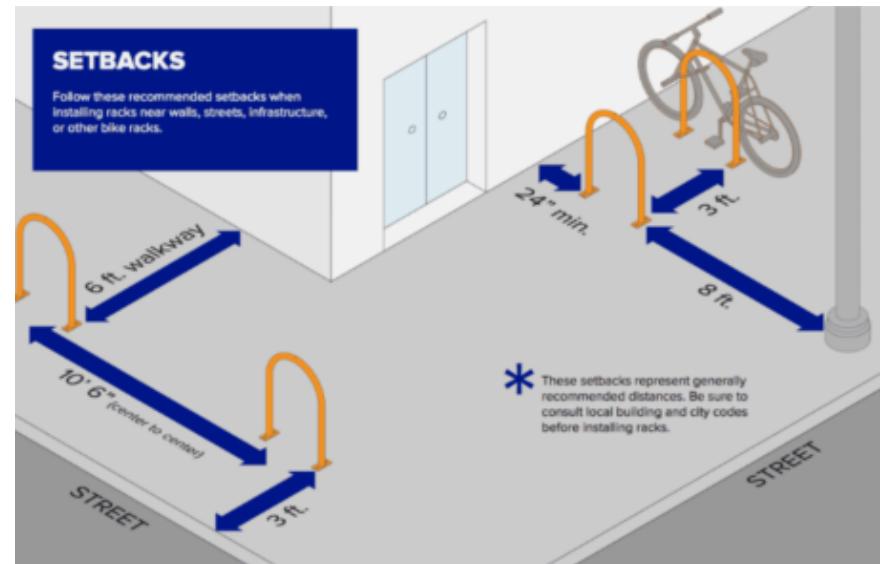
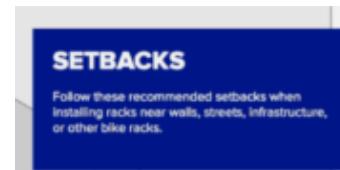
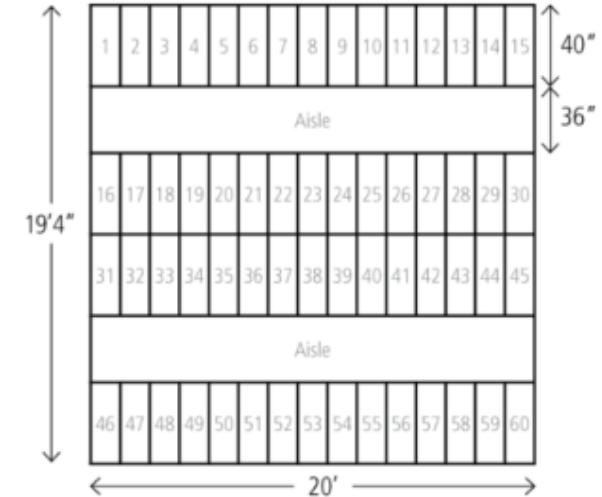
Surface Mount:
Metal flange anchors to the ground with included wedge anchors. Other special anchors such as tamperproof nuts are also available.



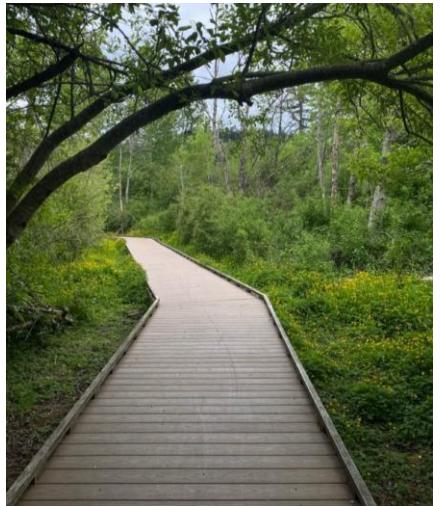
In-ground Mount:
Rack is embedded into concrete surface.



Rail Mount:
Racks are bolted to rails which may be anchored to surface or left free-standing.



Ground Plane Treatments



Wood Boardwalk



Stabilized Decomposed Granite



Bituminous Concrete Pavement



Resin Bound Aggregate



Portland Cement Concrete



Porous Asphalt

Educational | LEED Signage



Outdoor Furnishings and Lighting / Fixed Elements



Outdoor Furnishings and Lighting / Fixed Elements

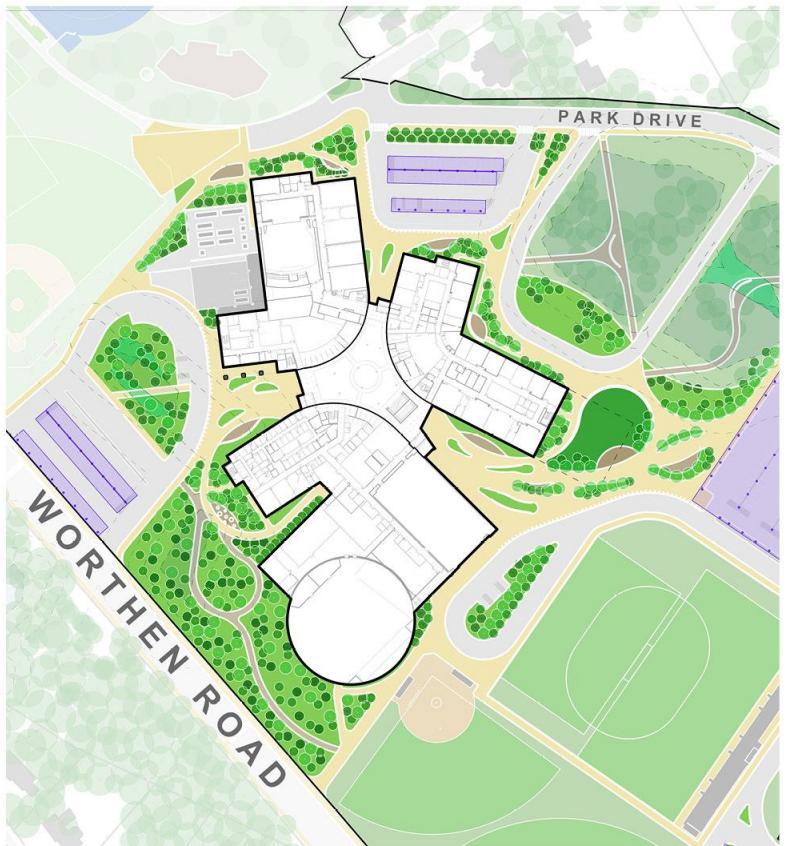


Outdoor Furnishings and Lighting / Flexible Furnishings

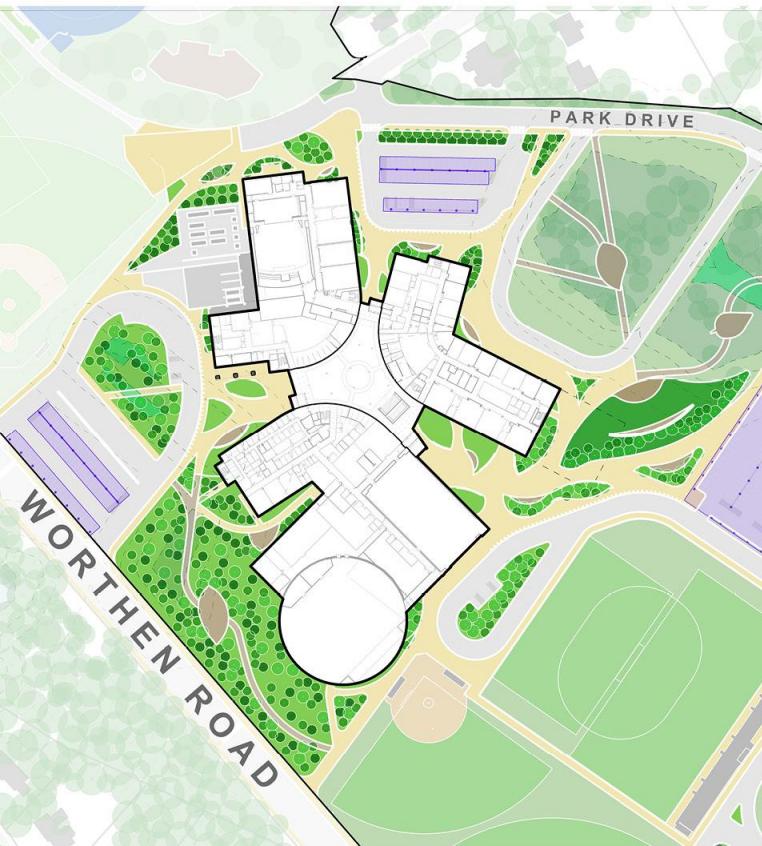


Site Design Options / Choice?

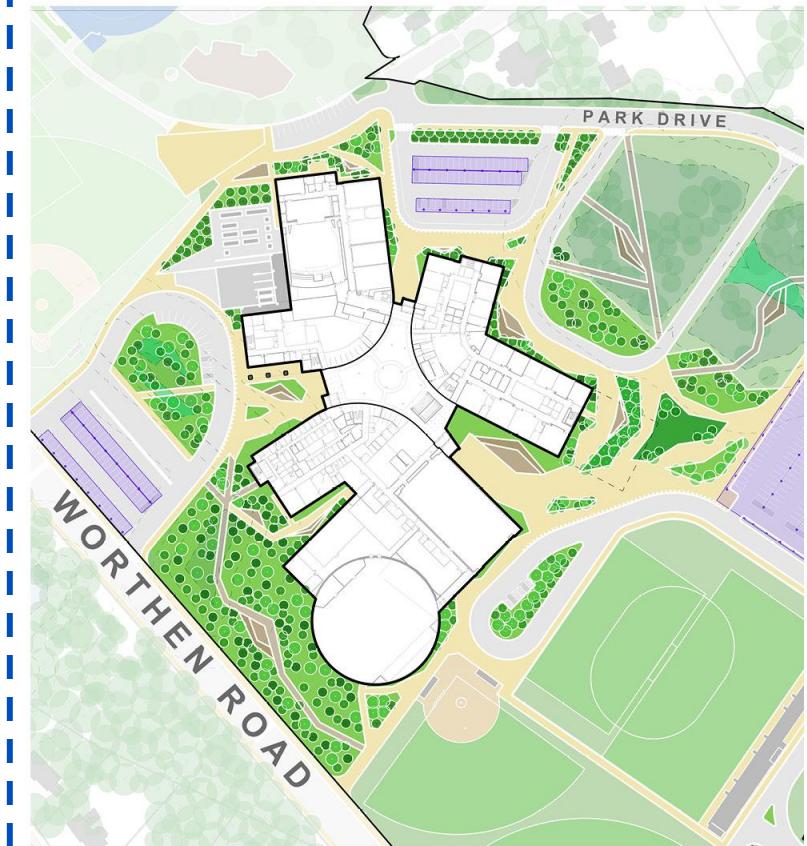
Fluid



Understory



Tectonic



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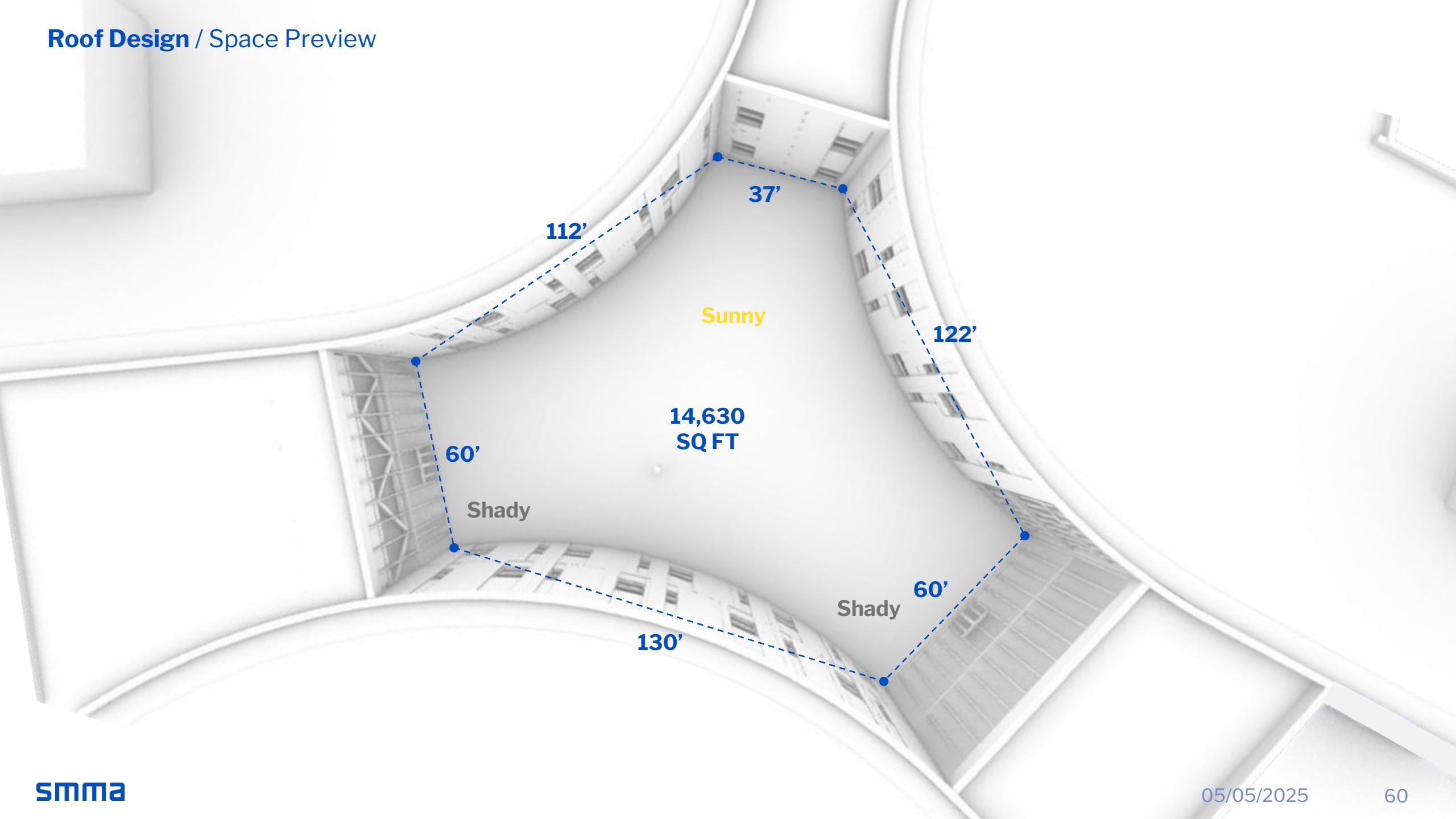
Roof Terrace

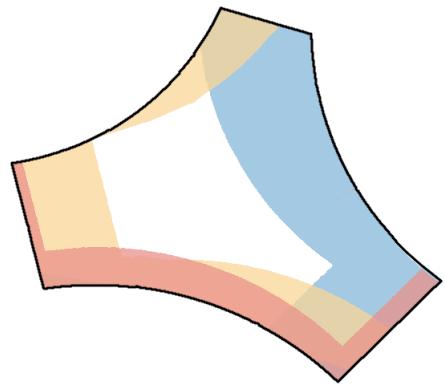
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Roof Design / Scale Comparison



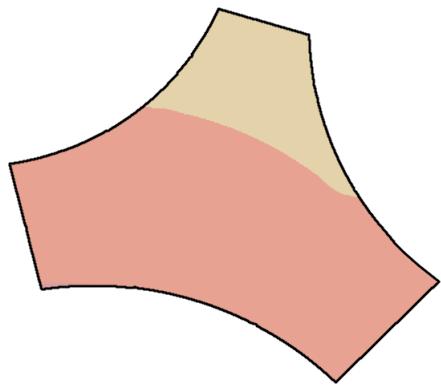
Roof Design / Space Preview





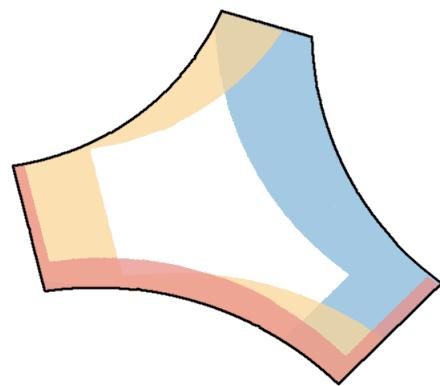
First Week of School

August



Winter Solstice

December



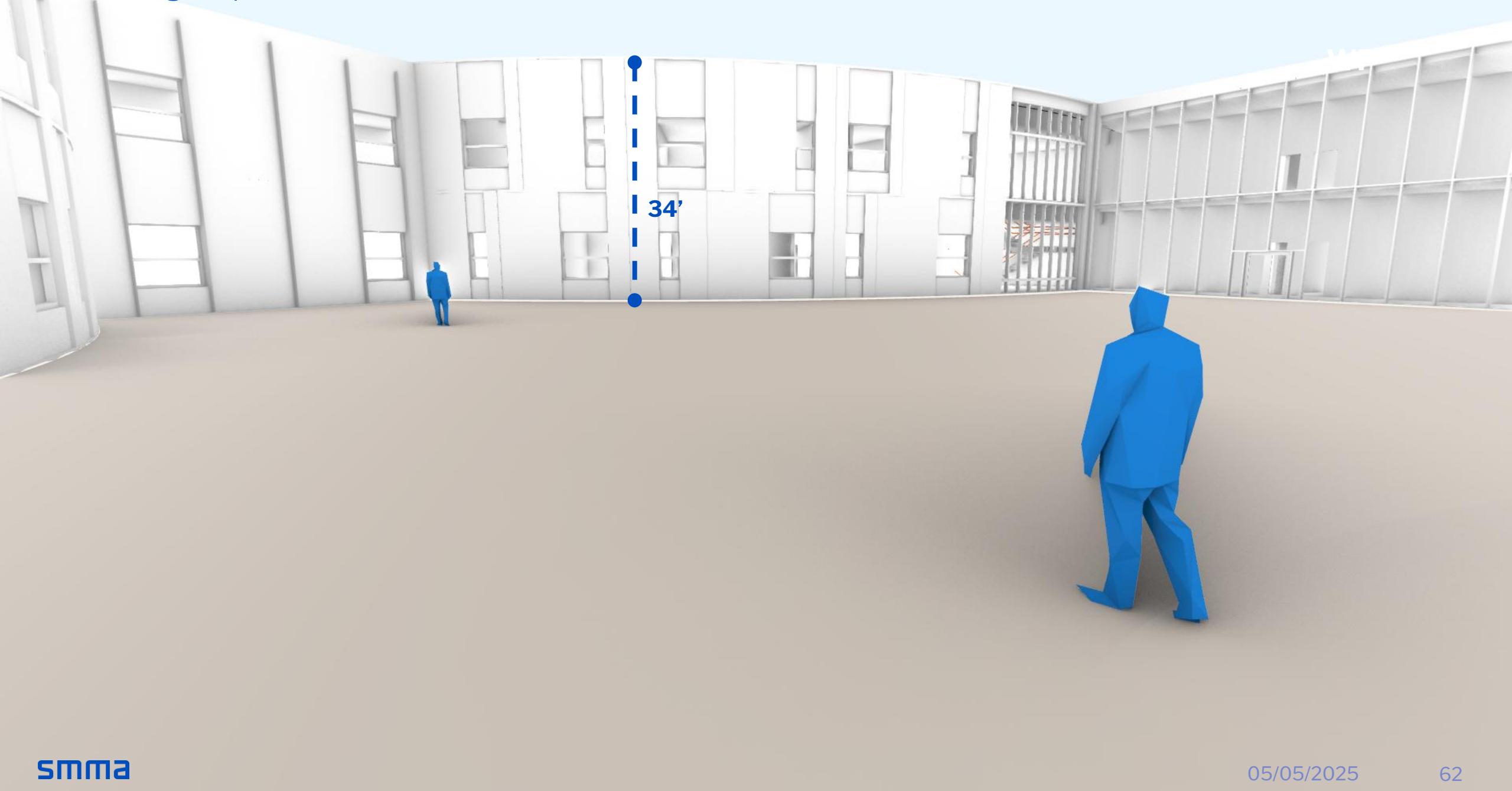
Last Week of School

May

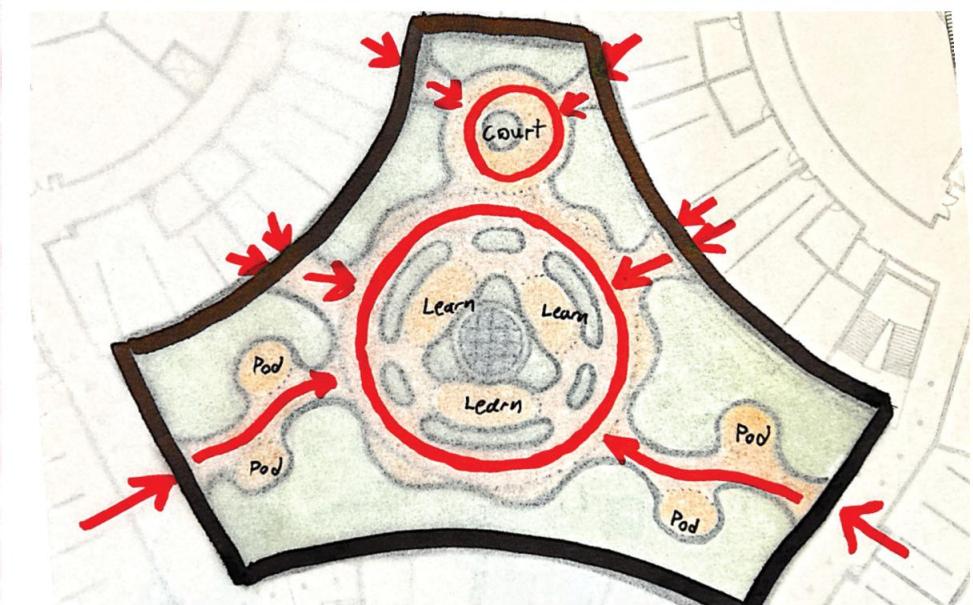
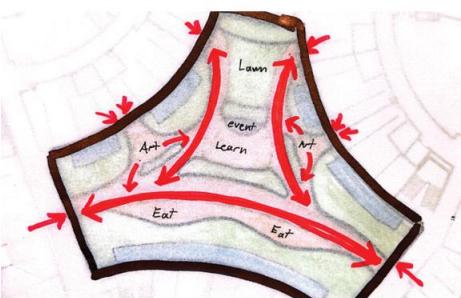
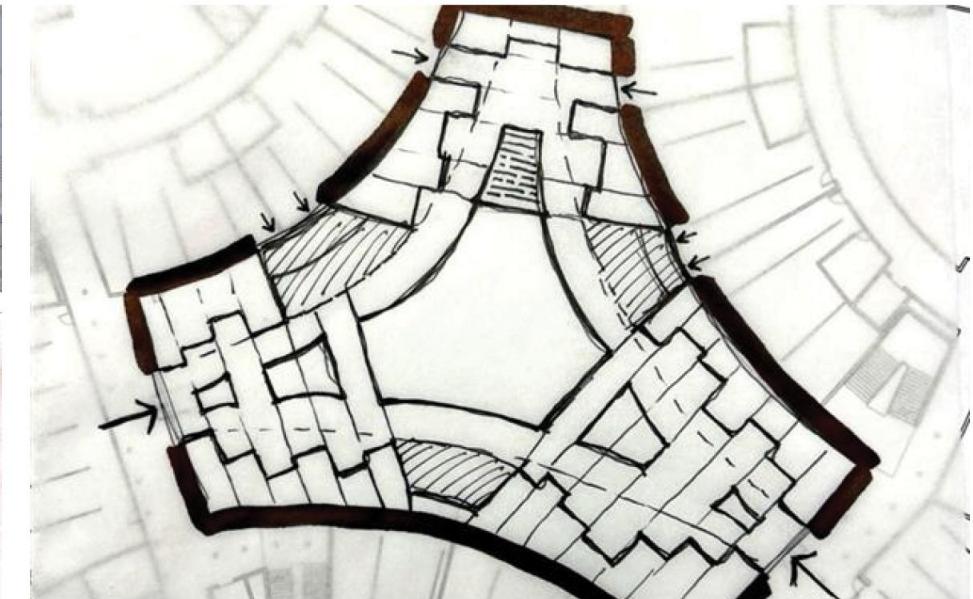
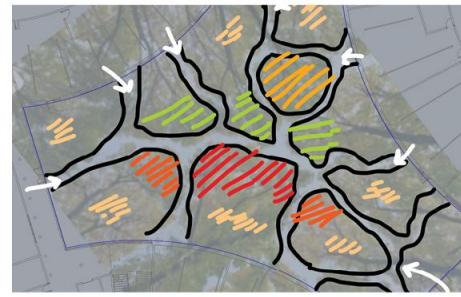
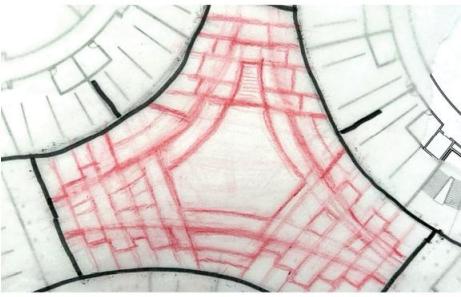
8am-12pm-3pm



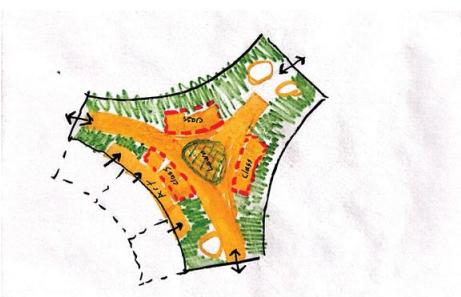
Roof Design / Space Preview



Roof Design / Design Process

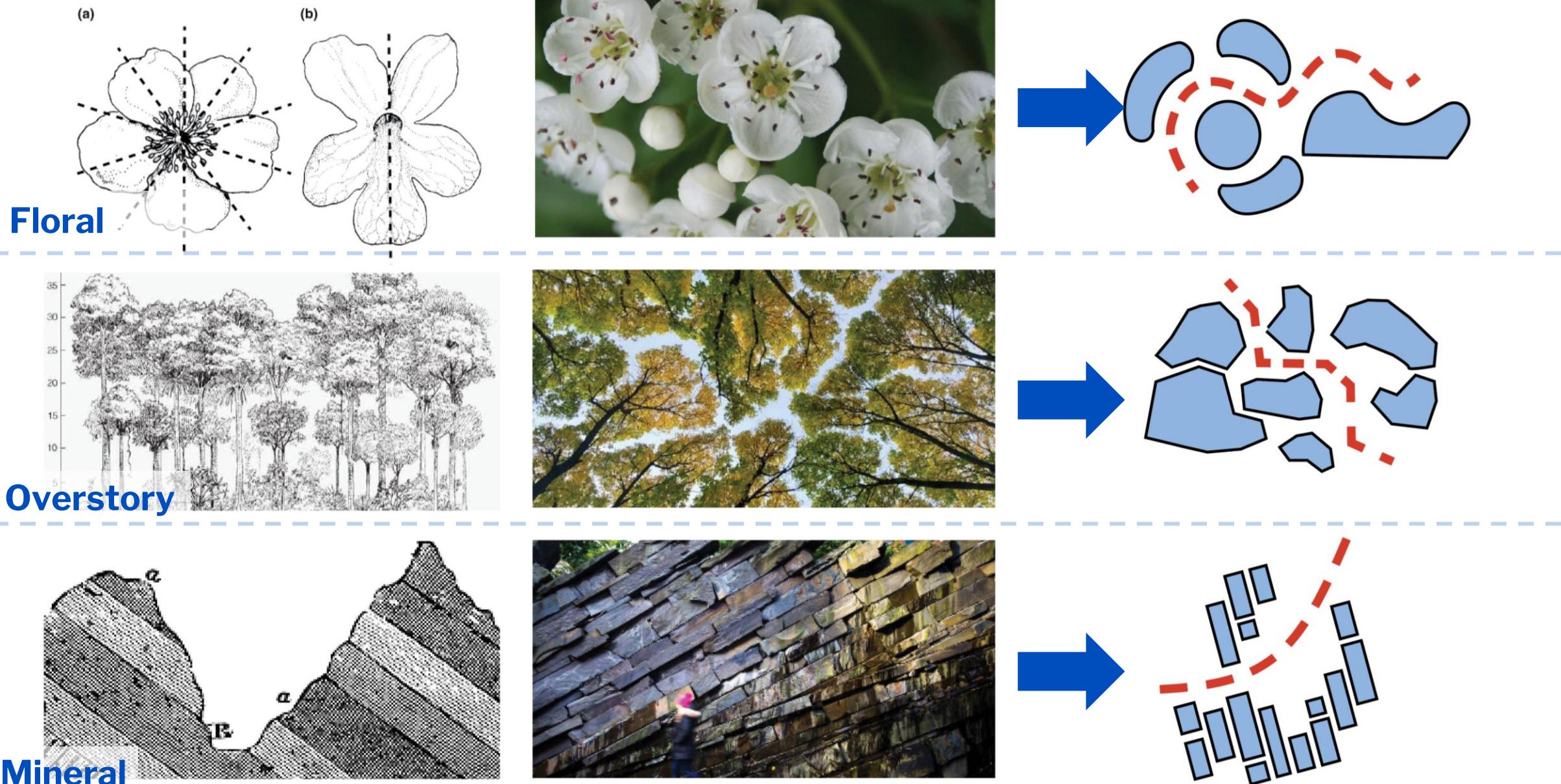


Scanned with CamScanner

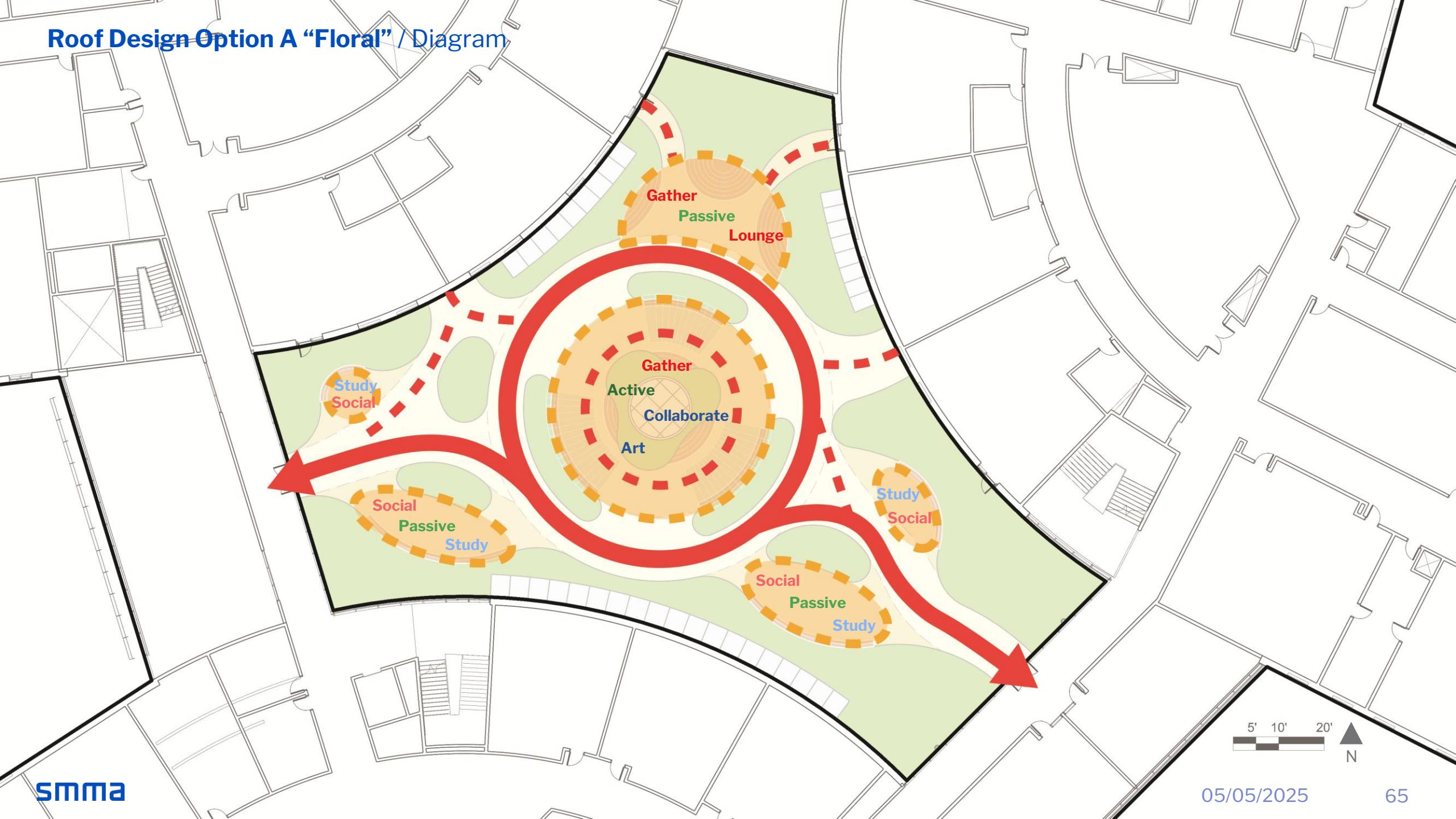


Scanned with CamScanner

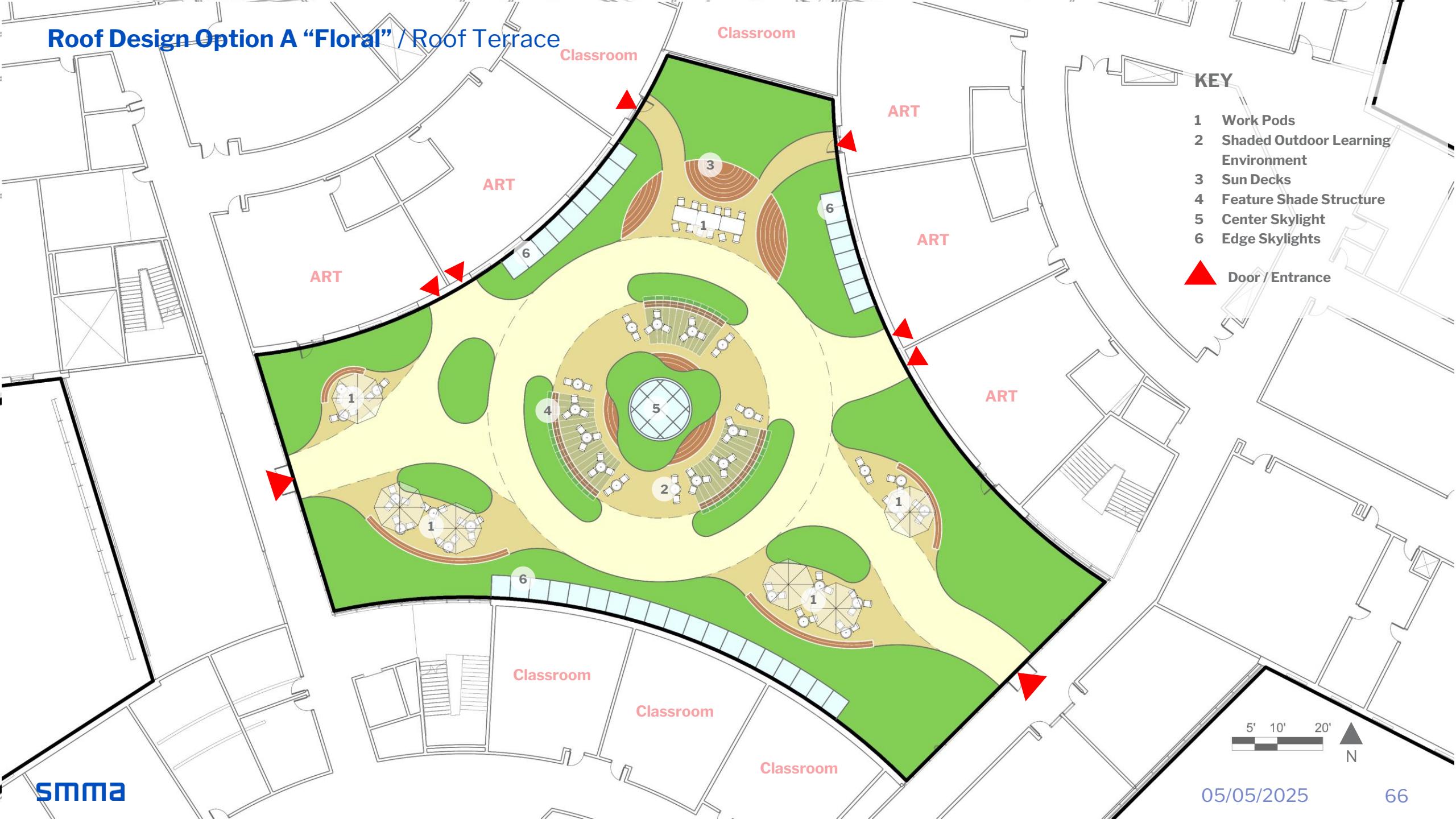
Overall Roof Design Concept / Design Concepts



Roof Design Option A “Floral” / Diagram



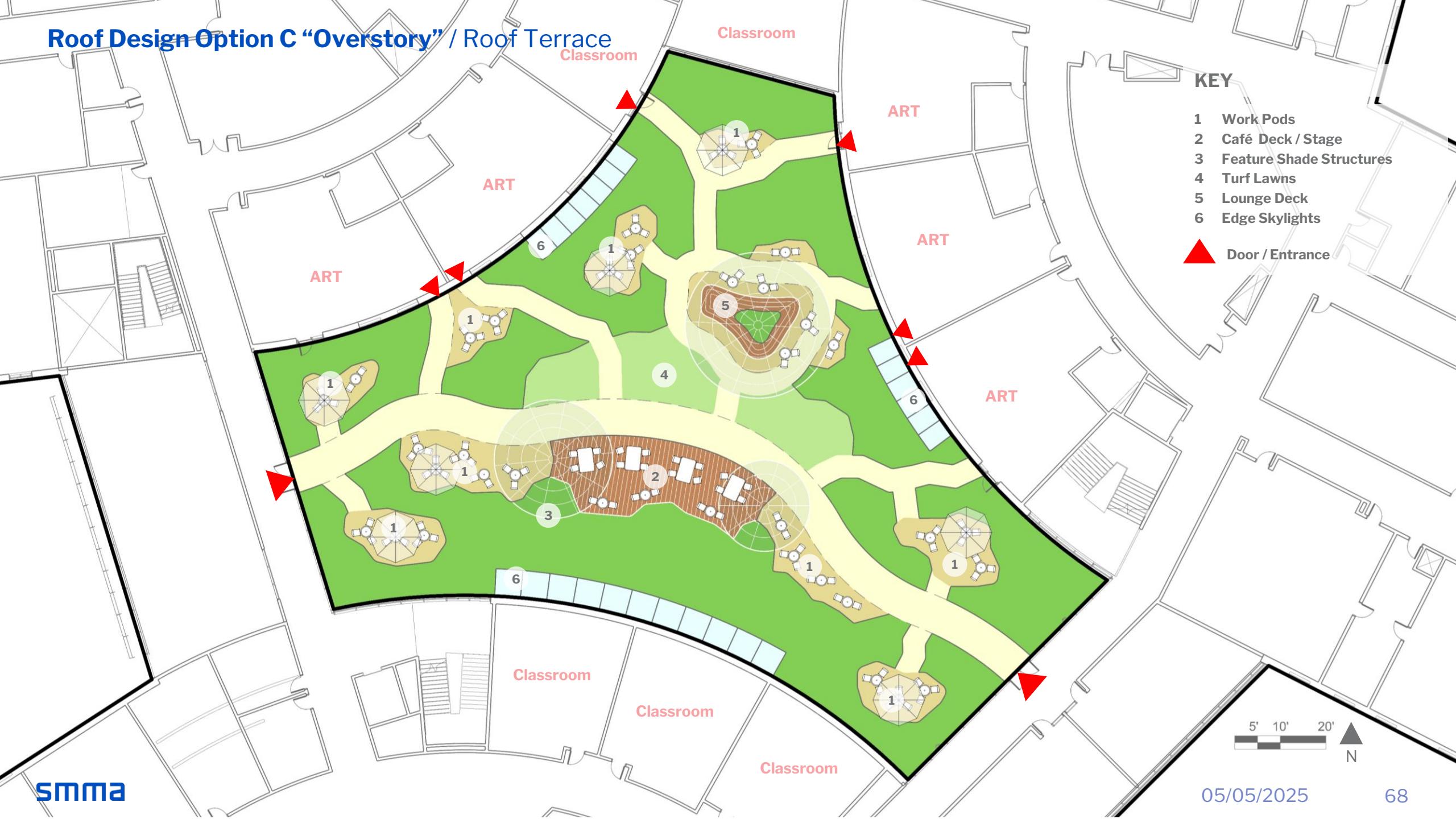
Roof Design Option A "Floral" / Roof Terrace



Roof Design Option C “Overstory” / Roof Terrace



Roof Design Option C “Overstory” / Roof Terrace



Roof Design Option B “Mineral” / Diagram



Roof Design Option B “Mineral” / Roof Terrace

Classroom

Classroom



KEY

- 1 Work Pods
 - 2 Outdoor Learning Environment
 - 3 Stage
 - 4 Feature Shade Structure
 - 5 Central Turf Lawn
 - 6 Art Terraces
 - 7 Sun Deck
 - 8 Edge Skylights



 Door / Entrance

5' 10'

05/05/2025

70

Roof Design Options / Comparison

Floral



Overstory

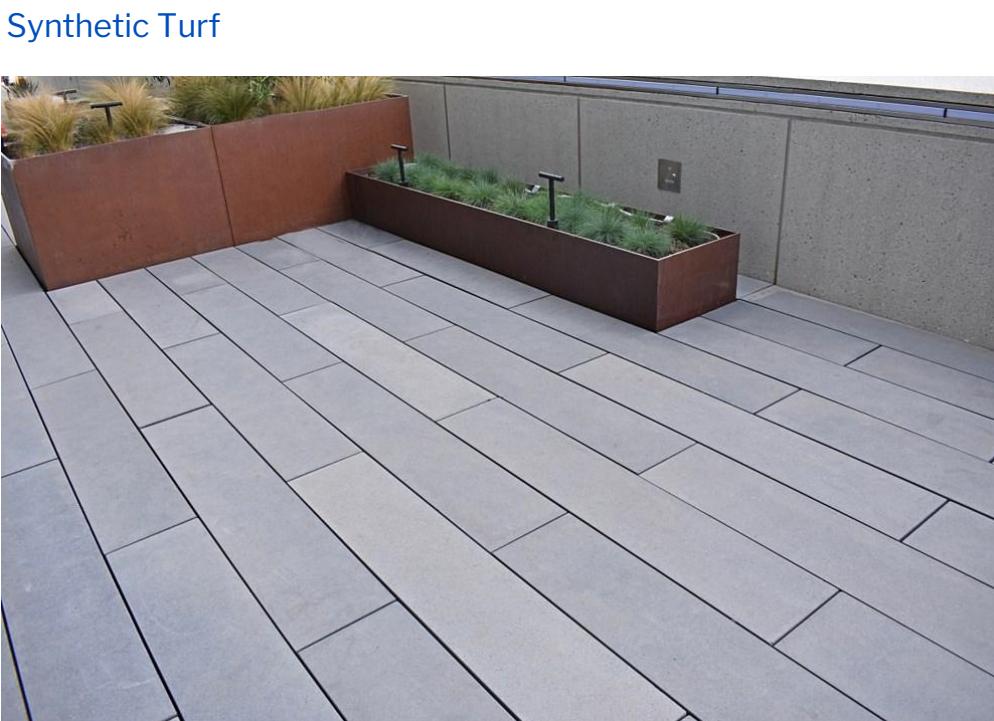


Mineral



Materiality / Roof Terrace Ground-plane Treatments

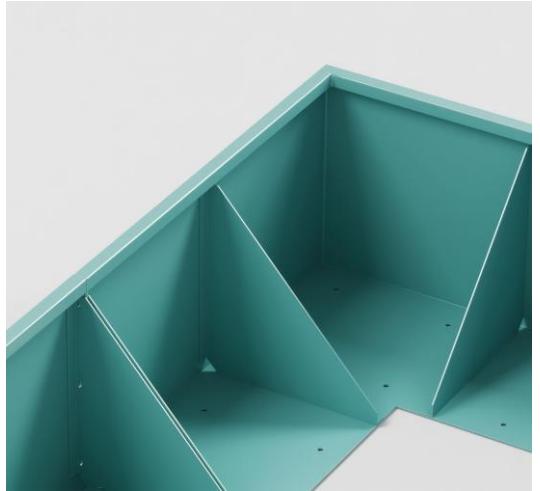
Porcelain Pavers



Synthetic Turf

Concrete Pavers

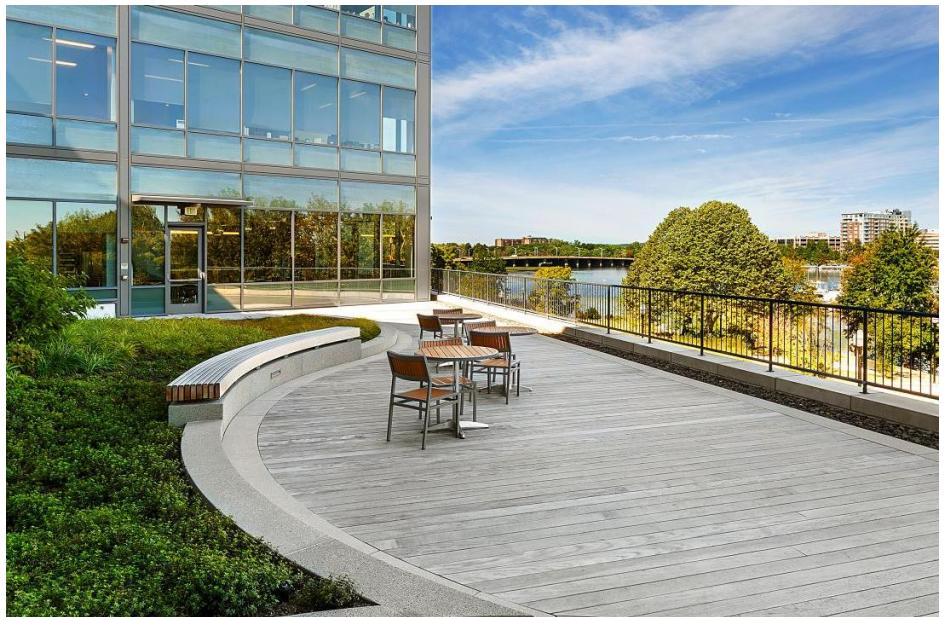
Materiality / Roof Terrace Planting Bed Edges



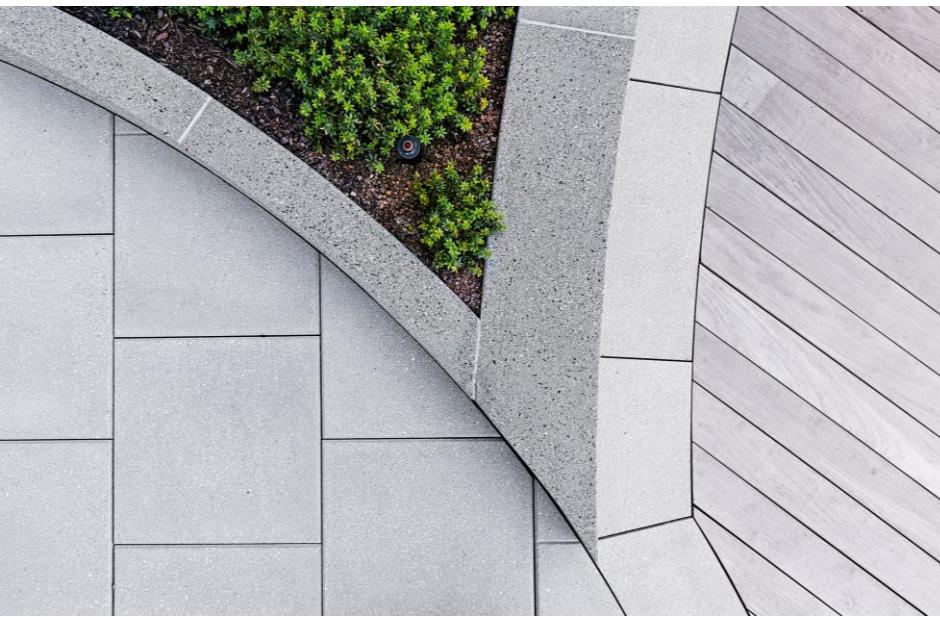
Pre-fab Edge Material



Flexible, Site-installed Metal Edging



Precast Concrete Edging/ Curbs



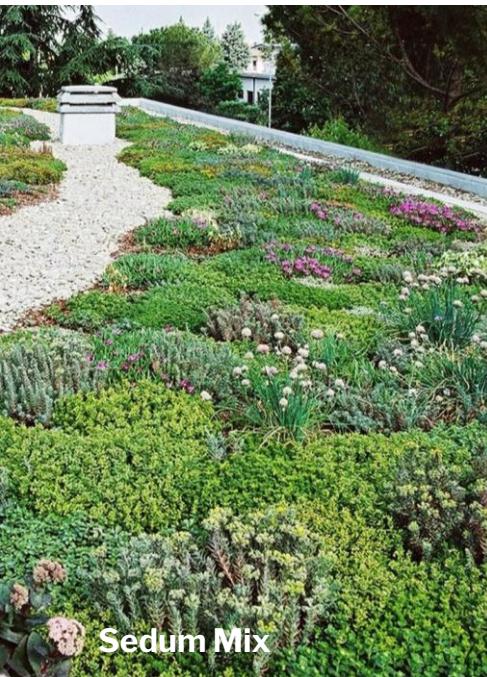
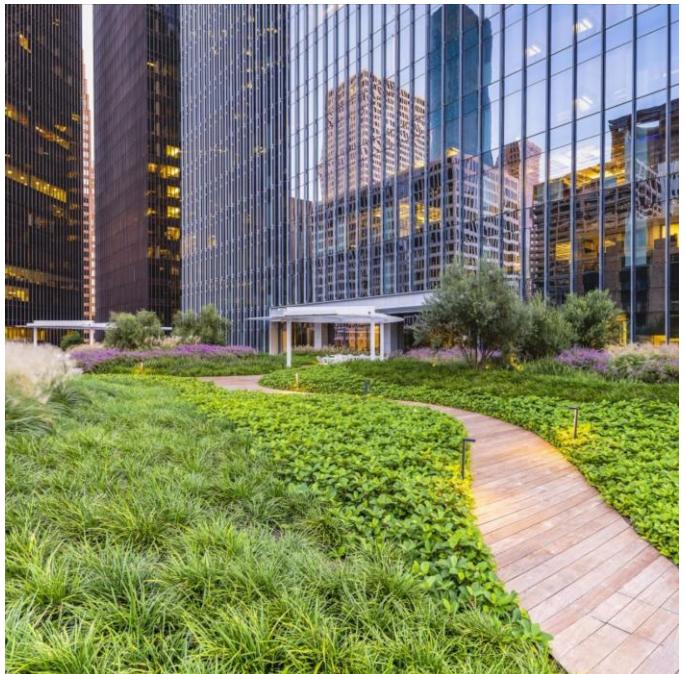
Materiality / Roof Terrace Planting



Winter Interest



Evergreen



Sedum Mix



Low Maintenance

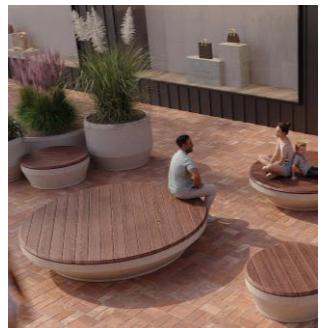
Movable Furniture

- Loose Tables and Chairs
- Formal Worktables
- Lounge Furniture



Fixed Furniture

- Raised Planters
- Integrated Bench



Shelter

- Shade Structure
- Outdoor Classroom



Roof Design Options / Comparison / Pervious vs Impervious

Floral



Pervious / Impervious
42% / 58%

Overstory



Pervious / Impervious
52% / 48%

Mineral



Pervious / Impervious
54% / 46%

- Walkways
- Program Zones
- Active Zones
- Furnishing
- Shelter

N

Thank you.