







# KOHLER RIDGE PARK PROPOSED PARK PLAN

**PATH TYPES**

-  SMALL GRAVEL PATH
-  MOWN MEADOW PATH
-  PRIMARY MEADOW PATH / FIREBREAK
-  MULCH FOREST PATH
-  ELEVATED CANOPY WALK
-  WETLAND BOARDWALK



The master plan for Kohler Ridge Park offers a design for an accessible and inclusive place for people to engage with nature and participate in environmental education. It was developed through a robust community engagement process and ecological site analysis.



# DEMOGRAPHIC AND EXISTING PARKS ANALYSIS



## EXISTING PARK ASSETS

### COMMUNITY PARKS

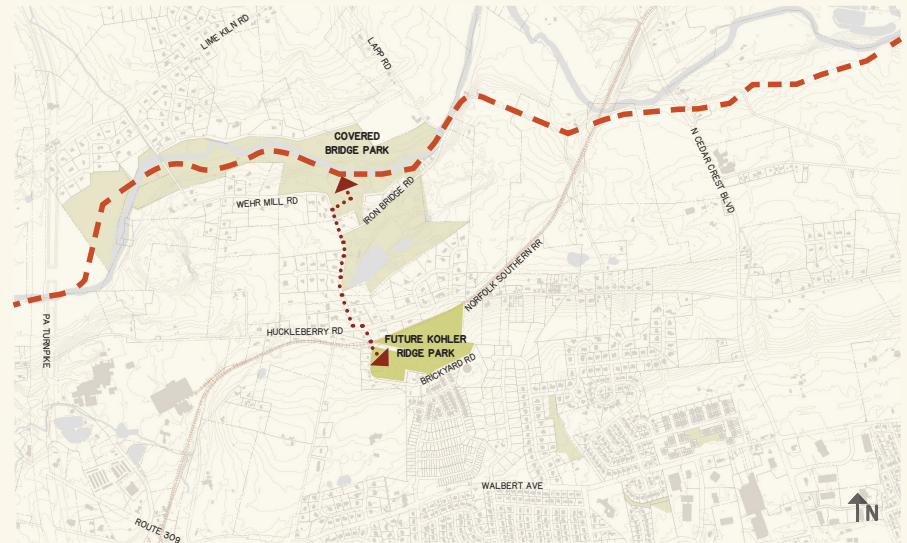
- 1 Covered Bridge Park
- 2 Kohler Ridge

### POCKET PARKS

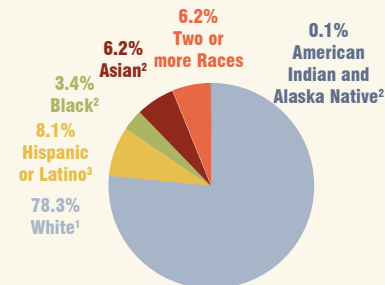
- 3 Bungalow Park
- 4 Cedar Creek Farms
- 5 Devon Circle Park
- 6 Fernwood Park
- 7 Grandlawn Park
- 8 Grove Street Park
- 9 Hampshire Court Park
- 10 Jacoby Park
- 11 Martha Nolan Memorial Park
- 12 South Whitehall Chase Park
- 13 Spring Valley Estates Park
- 14 Springhouse West Park
- 15 The Vistas Park
- 16 The Vistas Playground
- 17 Winchester Heights Park

### OPEN SPACE

- 18 Beverly
- 19 Cedar Crest Gardens
- 20 Deerfield
- 21 Golden Oaks
- 22 Parkland Drive
- 23 Stoneridge terrace
- 24 Twin Grove
- 25 Wedgewood



## RACE AND HISPANIC ORIGIN



<sup>1</sup> Not Hispanic or Latino  
<sup>2</sup> Includes persons only reporting one race  
<sup>3</sup> Hispanics may be of any race, so also are included in applicable race categories  
 Not Shown - 0.0% Native Hawaiian and Other Pacific Islander alone

## AVERAGE HOUSEHOLD SIZE

**2.49**

## MEDIAN HOUSEHOLD INCOME

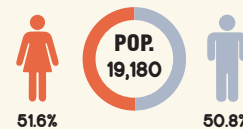
**\$85,540**  
 in 2020 dollars

## EDUCATION

**93.8% HIGH SCHOOL GRADUATE OR HIGHER**  
PERCENT OF PERSONS AGE 25+ YEARS • 2016-2020

**44.0% BACHELOR'S DEGREE OR HIGHER**  
PERCENT OF PERSONS AGE 25+ YEARS • 2016-2020

## POPULATION - GENDER



## AGE

**5.3% PERSONS UNDER 5 YEARS**

**22.4% PERSONS UNDER 18 YEARS**

**23.6% PERSONS 65 YEARS AND OVER**

Data Source: U.S. Census Bureau, QuickFacts South Whitehall township, Lehigh County, Pennsylvania.  
<https://www.census.gov/quickfacts/southwhitehall1townshiplehighcountypennsylvania>

Kohler Ridge Park is a unique, passive, nature-based park experience compared with denser, highly programmed parks in the area. The planning team developed an understanding of the community's demographics and prospective park users.



# HISTORICAL AND CULTURAL CONTEXT



**Before**

**1682**

The Lenape people occupy the area now known as Lehigh County, using the land primarily for hunting, fishing, and travel routes without permanent villages.

**Early**

**1700s**

German settlers (primarily from the Rhine region) are drawn to the Lehigh Valley, attracted by productive limestone soils.

**Late**

**1800s**

The majority of the Valley is inhabited, and extensive logging leaves much of the area deforested.

**1896**

A vitrified brick plant and shale quarry begins operations along the north slope of Huckleberry Ridge.

**1913**

Industrial operations cease on site. Subsequently, level portions of the site were likely used for farms or pasture, and the steeper slopes were left to return to forest.

**1950s**

Chestnut blight kills off the majority of American chestnut trees in the region, altering the composition of the ecosystem. Forest shifts to an oak / hickory base instead of Chestnut.

**Between**

**1939-1958**

Sunoco High Pressure Petroleum Pipeline is installed at the southeastern corner of the site.



- Property Line
- High Pressure Petroleum Pipeline
- Norfolk Southern Railroad (Old Catasauqua and Fogelsville Railroad)
- Vehicular Access
- Potential Buffer Zones
- ◊ Potential Site Access
- Approximate Extents of Quarry
- Existing Public Works Stockpiles
- Existing Wetland
- Existing Structures
- Remnant Structure
- ← Natural Swale



Remnants of an underground structure and archway from brick manufacturing operations, c. 1890s

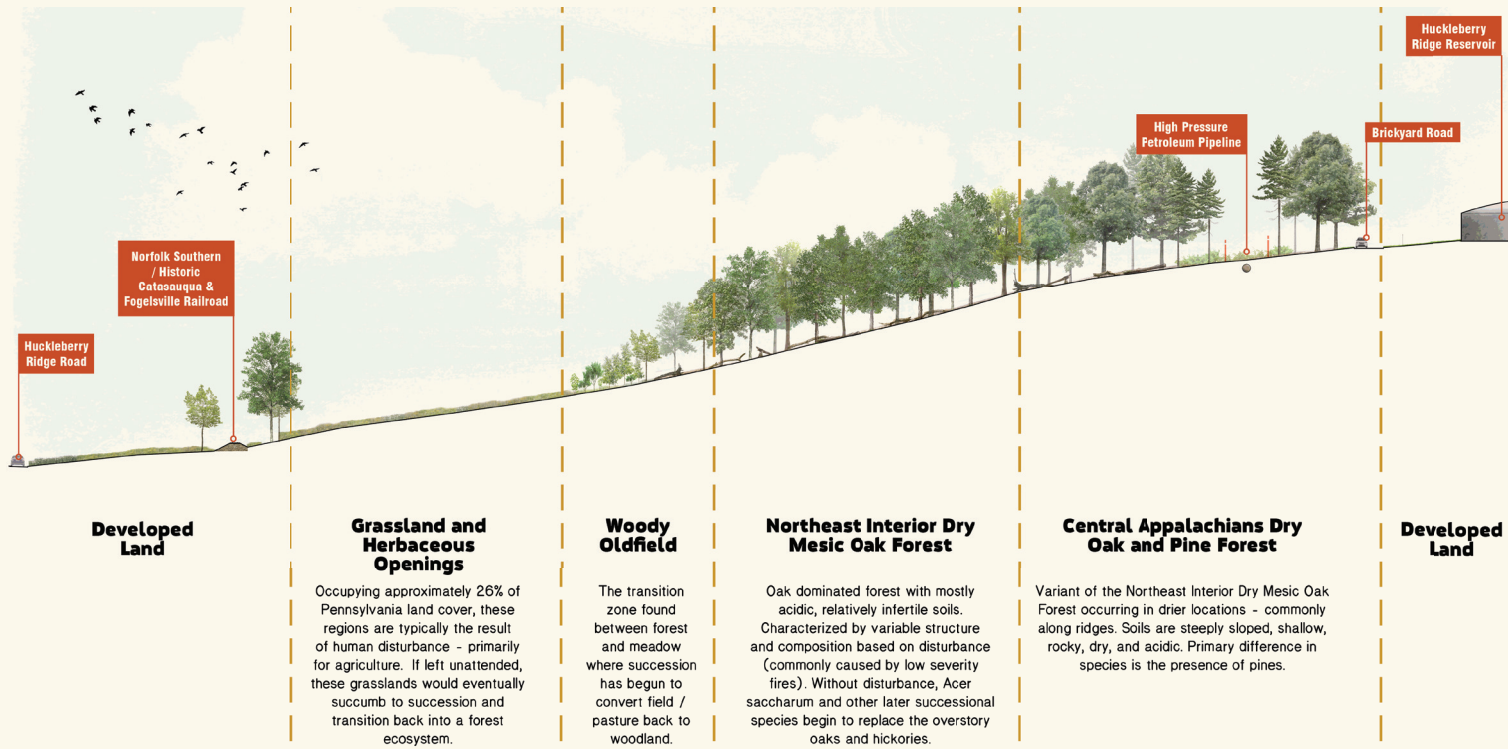


Remnant quarry topography with extreme side slopes and a level floor

Indigenous habitation and agriculture, colonial settlement, and industrialization shaped the cultural-ecological context of the site. Remnants of the Allentown Brick Company are found across the site, along with a sloped woodland, post-agricultural meadow, and the remnants of a shale quarry.



# ECOLOGICAL ANALYSIS



## Developed Land

## Grassland and Herbaceous Openings

Occupying approximately 26% of Pennsylvania land cover, these regions are typically the result of human disturbance - primarily for agriculture. If left unattended, these grasslands would eventually succumb to succession and transition back into a forest ecosystem.

## Woody Oldfield

The transition zone found between forest and meadow where succession has begun to convert field / pasture back to woodland.

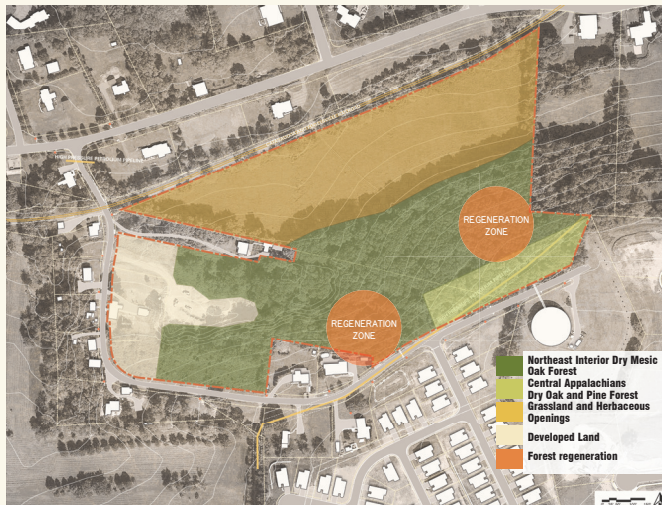
## Northeast Interior Dry Mesic Oak Forest

Oak dominated forest with mostly acidic, relatively infertile soils. Characterized by variable structure and composition based on disturbance (commonly caused by low severity fires). Without disturbance, *Acer saccharum* and other later successional species begin to replace the overstory oaks and hickories.

## Central Appalachians Dry Oak and Pine Forest

Variant of the Northeast Interior Dry Mesic Oak Forest occurring in drier locations - commonly along ridges. Soils are steeply sloped, shallow, rocky, dry, and acidic. Primary difference in species is the presence of pines.

## Developed Land



**BLACK-BILLED CUCKOO**  
Found in woodlands and thickets. They hide their nests among leaves and tangles of deciduous trees and feed upon caterpillars (particularly gypsy moth), katydids, cicadas, and grasshoppers. Species is secure, though the population is in decline.

**LEAST WEASEL**  
Habitat includes open forests, farmlands, grassy fields and meadows, and hedgerows. Dens are made in burrows abandoned by other mammals (voles, moles etc.) or nests made in holes in buildings or other similar sites. Status in PA is secure.

**\*MOUNTAIN EARTHSNAKE**  
Small, non-venomous snake reaching a length of only 13" and living most of its life underground; only emerges during heavy summer rains. Requires loose soil for burrowing into and rotting stumps and logs are a favorite shelter. Most frequently found in short grassy slopes with sandstone rocks near deciduous forests and streams.

**\*EASTERN SMOOTH EARTHSNAKE**  
A small snake reaching up to 15.5" in length. Similar to the Mountain Earthsnake, the Eastern Smooth Earthsnake spends much of its life underground. Habitat includes forests, abandoned fields in varying stages of succession, dry upland ridges, pastures, urban and suburban woodlots, forest fields and moist lowlands.

**\*FROSTED ELFIN MOTH**  
Non-migratory butterfly dependent on lupine and wild indigo to complete its annual life cycle. Lupine and wild indigo are specialist species that only occur in well established meadow ecosystems.

**REDBACK SALAMANDER**  
Found in damp micro habitats within wooded areas - inside logs, under leaf litter or under objects during the day. Timber harvest causes declines in populations and creation of roads serve as partial barriers to movement. Population is currently secure.

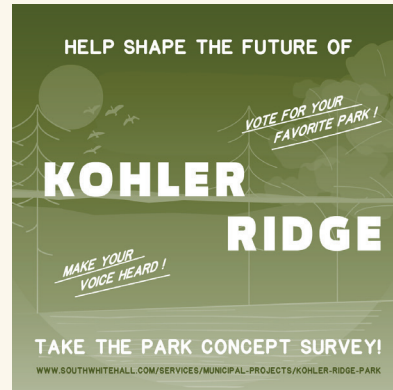
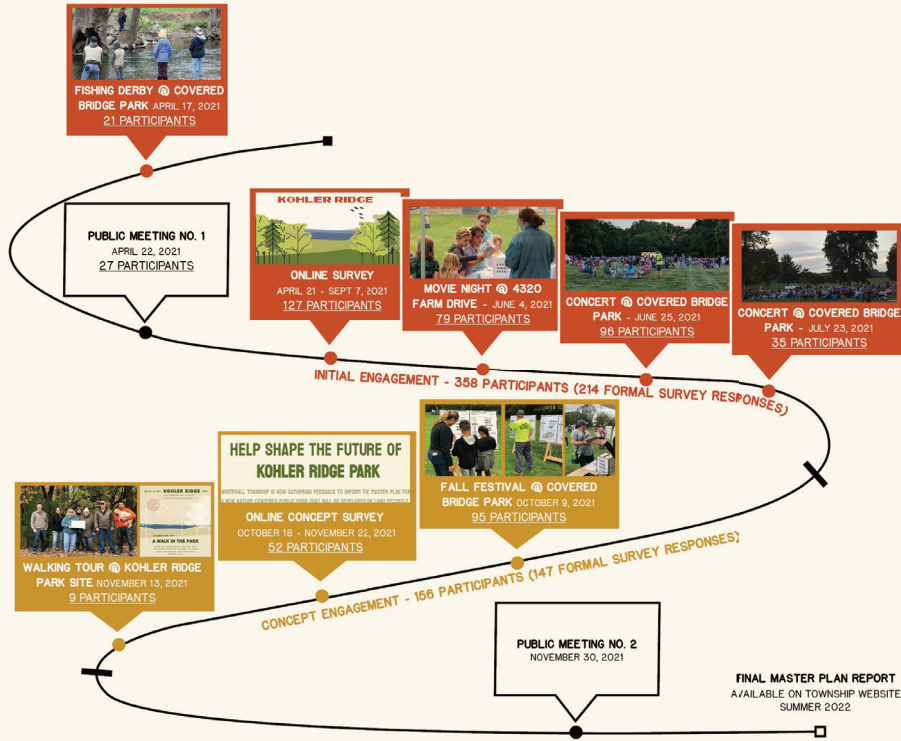
**SOUTHERN FLYING SQUIRREL**  
Rarely seen due to their nocturnal nature, the flying squirrel is a highly social species (particularly during winter nesting time). Threats include loss of habitat and loss of cavity bearing and mast producing trees. Status is currently secure.

**\*NORTHERN COAL SKINK**  
Though not specifically noted in Lehigh County (secretive and difficult to find), the coal skink lives in similar ecosystems. Habitat includes open areas with rock or log cover. Species reach 5-7" in length.

A site walk with ecologists identified a large number of invasive species, as well as areas with deadfall that can be used for ecological regeneration. Ecosystems include developed land, Class I wetlands, grasslands, dry mesic oak forest, and dry oak and pine forest.



# COMMUNITY ENGAGEMENT



## ARE YOU FAMILIAR WITH THE KOHLER RIDGE PARK SITE (ON THE NORTH SIDE OF HUCKLEBERRY RIDGE) LOCATED AT 2007 BRICKYARD ROAD, ALLENTOWN, PA 18104?

54% | 14 YES I AM FAMILIAR WITH THE KOHLER RIDGE PARK SITE  
47% | 10 NO I AM NOT FAMILIAR WITH THE KOHLER RIDGE PARK SITE

Source: 2021 Kohler Ridge Park Survey

## DO YOU LIVE IN SOUTH WHITEHALL TOWNSHIP?

74% | 97 YES I LIVE IN SOUTH WHITEHALL TOWNSHIP  
26% | 30 NO I DO NOT LIVE IN SOUTH WHITEHALL TOWNSHIP

Source: 2021 Kohler Ridge Park Survey

## WHICH ACTIVITIES WOULD YOU MOST LIKE TO DO AT KOHLER RIDGE?

PARTICIPANTS ARE ABLE TO CHOOSE UP TO 5 ACTIVITIES

77% | 104 WALK/ RUN ON TRAILS  
33% | 70 ATTEND PERFORMANCES  
33% | 70 FISHING  
32% | 68 ENJOY PLAY EQUIPMENT (NATURAL PLAY)  
32% | 68 RELAX IN A LAUNDRY  
27% | 64 CASUAL SPORTS ON AN OPEN LAWN (E.G. THROW A FRISBEE, PLAY FLAG FOOTBALL)  
27% | 64 FACE PINTOOG TO A DOG PARK  
26% | 64 CLIMB A VIEW TOWER  
21% | 43 LEARN ABOUT WILD PLANTS + SUSTAINABLE HARVESTING IN NATURE EDUCATION PROGRAM  
21% | 43 MOUNTAIN BIKING  
20% | 43 SWING IN THE WOODS OR RELAX IN A HAMMOCK  
15% | 32 BASKETBALL  
8% | 17 RENT RECREATION EQUIPMENT (E.G. CROSS COUNTRY SKI, SNOWSHOES, ETC.)  
6% | 15 ATTEND A YOUTH SUMMER CAMP  
1% | 3 OTHER

Source: 2021 Kohler Ridge Park Survey

## WHAT WOULD YOU MOST LIKE TO SEE AT KOHLER RIDGE?

PARTICIPANTS ARE ABLE TO CHOOSE UP TO 5 OPTIONS

47% | 69 POLLINATOR GARDENS (FOR BEES, BUTTERFLIES, BIRDS, AND OTHERS)  
39% | 60 TREE CANOPY WALK  
36% | 75 RESTORATION OF NATIVE PLANTS  
35% | 74 VISTAS AND OVERLOOKS  
31% | 65 BEACHY AREAS  
29% | 62 RECYCLED RAINWATER FOUNTAIN  
24% | 61 NATURE CENTER (OFFICE/RESTROOMS, GLASSROOM, ETC.)  
23% | 48 NATURE AND ADVENTURE-BASED PLAY EQUIPMENT (E.G. LOG CRAWLING, ROCK CLIMBING, ETC.)  
21% | 44 NATURAL WATER PLAY OR SPLASH PAD  
21% | 44 NATURE AND HISTORY EDUCATION SIGNAGE  
18% | 38 SENSORY EXPERIENCE GARDENS  
18% | 37 BIKES COURSE  
16% | 31 BIRDHOUSE OR CONSERVATORY  
14% | 30 WOODS AND ART  
13% | 27 BENCH FOR PURCHASING REFRESHMENTS  
13% | 27 CASUAL OUTDOOR GAMES (E.G. FRISBEE, GOLF, ETC.)  
13% | 27 BIKING GOLF COURSE  
1% | 3 OTHER

Source: 2021 Kohler Ridge Park Survey

## HOW WILL YOU GET TO KOHLER RIDGE PARK?

PARTICIPANTS ARE ABLE TO CHOOSE UP TO 5 OPTIONS

71% | 82 DRIVE  
15% | 31 WALK  
11% | 24 BIKES  
2% | 4 PUBLIC TRANSPORTATION  
0% | 0 I HAVE NO WAY OF GETTING TO THE PARK  
1% | 2 OTHER

Source: 2021 Kohler Ridge Park Survey

## WHAT IS YOUR AGE?

29% | 81 50+  
21% | 43 30-50  
21% | 44 30-40  
19% | 41 50-60  
6% | 12 UNDER 15  
0% | 10 20-30  
1% | 1 18-20

Source: 2021 Kohler Ridge Park Survey

## DO YOU HAVE CHILDREN UNDER THE AGE OF 18 LIVING WITH YOU?

41% | 84 YES I HAVE CHILDREN UNDER AGE 18 LIVING WITH ME  
60% | 103 NO I DO NOT HAVE CHILDREN UNDER AGE 18 LIVING WITH ME

Source: 2021 Kohler Ridge Park Survey

## HOW OFTEN DO YOU USE PUBLIC PARKS IN SOUTH WHITEHALL TOWNSHIP?

42% | 8 ONCE OR TWICE A WEEK  
37% | 7 ONCE OR TWICE A MONTH  
16% | 3 EVERY DAY (OR ALMOST EVERY DAY)  
5% | 1 ONCE OR TWICE A YEAR  
0% | 0 NEVER

Source: April 22, 2021 Virtual Public Meeting

## WHAT KIND OF OPEN SPACE SHOULD BE PRIORITIZED AT KOHLER RIDGE?

73% | 16 MEADOW / GARDENS WITH WALKING PATHS  
14% | 3 SUSTAINABLE STORMWATER GARDENS  
9% | 4 OPEN SPACE FOR PONCHOING, SUNBATHING AND PLAY  
0% | 1 FENCED DOG PARK AREA  
0% | 1 SOMETHING ELSE

Source: April 22, 2021 Virtual Public Meeting

## WHICH TYPE OF PLANTING WOULD YOU MOST LIKE TO SEE AT KOHLER RIDGE?

53% | 6 POLLINATOR GARDENS (FOR BEES, BUTTERFLIES, BIRDS, AND OTHERS)  
26% | 6 NATIVE PLANT RESTORATION  
11% | 4 BIRDBATHS (OR HONEYEATERS, BLUEBERRIES, ETC.)  
1% | 1 I DON'T HAVE AN OPINION ABOUT PLANTS

Source: April 22, 2021 Virtual Public Meeting

## WOULD YOU LIKE TO SEE A TREE CANOPY WALK OR VIEW TOWER AT KOHLER RIDGE?

78% | 18 YES I WOULD LOVE TO SEE A DIFFERENT PERSPECTIVE OF THE PARK  
22% | 6 NO I WOULD RATHER STAY ON THE GROUND

Source: April 22, 2021 Virtual Public Meeting

## WHAT KIND OF STRUCTURE WOULD YOU MOST LIKE TO SEE AT KOHLER RIDGE?

25% | 6 GAZEBO OR DECK/RESTROOM STAND  
22% | 5 GREENHOUSE / CONSERVATORY  
17% | 4 BENCHES (WOULDN'T HAVE ANY BUILDING STRUCTURES)  
13% | 3 NATURE EDUCATION CENTER  
13% | 3 BIKING LESS HALL FOR YOUTH CAMPS OR EVENTS  
9% | 2 RECYCLED OPEN AIR PAVILION

Source: April 22, 2021 Virtual Public Meeting

## WHAT KIND OF EVENTS OR PROGRAMS WOULD YOU MOST LIKE TO SEE AT KOHLER RIDGE?

33% | 7 YEAR-ROUND NATURE EDUCATION PROGRAMS  
24% | 5 CONCERT PERFORMANCES  
24% | 5 OPEN-AIR THEATER  
10% | 2 YOUTH SUMMER CAMPS  
10% | 2 SOMETHING ELSE  
0% | 0 MOVE NIGHTS

Source: April 22, 2021 Virtual Public Meeting

## SHOULD ART / SCULPTURE BE INTEGRATED AT KOHLER RIDGE?

67% | 18 YES I WOULD LOVE TO SEE NATURE-CENTERED ART OR SCULPTURE AT  
33% | 9 NO PARK SHOULDN'T INCLUDE ART ELEMENTS

Source: April 22, 2021 Virtual Public Meeting

## WHAT TYPE OF SEATING WOULD YOU MOST LIKE TO USE AT KOHLER RIDGE?

27% | 6 GROUP GATHERING SPACES  
27% | 6 PICNIC TABLES  
27% | 6 SWINGS  
18% | 4 LOUNGE CHAIRS  
0% | 0 HAMMOCKS

Source: April 22, 2021 Virtual Public Meeting

## WHICH KIND OF NATURE / ADVENTURE BASED PLAY WOULD YOU MOST LIKE TO SEE AT KOHLER RIDGE?

45% | 11 LOG AND BOULDER CLIMBING STRUCTURES  
40% | 10 TREE HOUSE  
10% | 12 ROCKS / OBSTACLE COURSE  
5% | 12 SLAY ZIP-LINE  
0% | 0 PLAY ROCK CLIMBING WALL

Source: April 22, 2021 Virtual Public Meeting

## WHAT KIND OF WATER FEATURE WOULD YOU MOST LIKE TO SEE AT KOHLER RIDGE?

39% | 9 NONE  
30% | 7 SPLASH PAD OR NATURAL WATER PLAY FOR COOLING OFF IN THE SUMMER  
26% | 6 BIKING EDUCATIONAL WASTEWATER TREATMENT SYSTEM  
4% | 1 RECYCLED RAINWATER FOUNTAIN

Source: April 22, 2021 Virtual Public Meeting

Site elements identified by community input included walking/running trails, picnic spots, play equipment, pollinator gardens, tree walks, restoration, and vistas. A “Whimsical Woodland” concept, which includes ecological education, picnic area, and nature play equipment, was selected from three presented schemes.











# FOREST THINNING AND REGENERATION



**Present**

**CLOSED CANOPY**  
DOESN'T LET LIGHT OR AIR INTO UNDERSTORY,  
MAKING IT LESS BIODIVERSE AND SUSCEPTIBLE TO  
INVASIVE SPECIES

**SINGLE AGE OF TREES**  
SUSCEPTIBLE TO DISEASE, PESTS, STORMS AND  
EXTREME WEATHER

**Unmanaged, even-aged forest**



**Year 5**

**SELECTIVE CLEARING INTRODUCES AIR + LIGHT**  
LETS IN LIGHT TO NOURISH UNDERSTORY,  
ENHANCING FLORA + FAUNA DIVERSITY

**Managed multi-aged forest 5 years after initial clearing**



**Year 10**

**RESILIENT DIVERSITY**  
DIVERSE RANGE OF TREE AGE  
AND TREE SPECIES

**Managed multi-aged forest after 10 years**

The plan's forest management strategy comprises multi-functional thinned clearings (breezeways and regeneration zones) to bring in new life, allow light and air flow, and provide pathways for a healthier, multi-aged, resilient ecosystem managed through a thinning cycle of 10-15 years.



# FOREST REGENERATION



**CRIB LOG + LIVE STAKING FOR EROSION CONTROL**



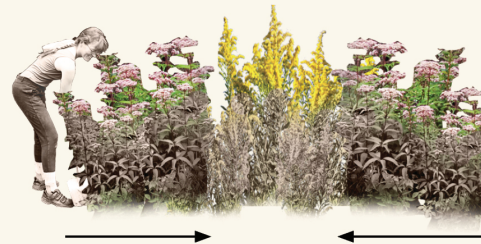
**HUGELKULTUR PLANTING MOUNDS**  
(GARDEN AREAS ONLY, NOT IN FOREST)



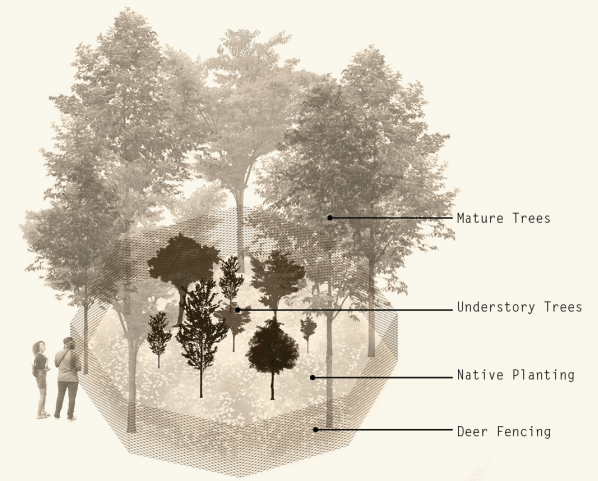
**BRUSH PILES FOR WILDLIFE HABITAT**



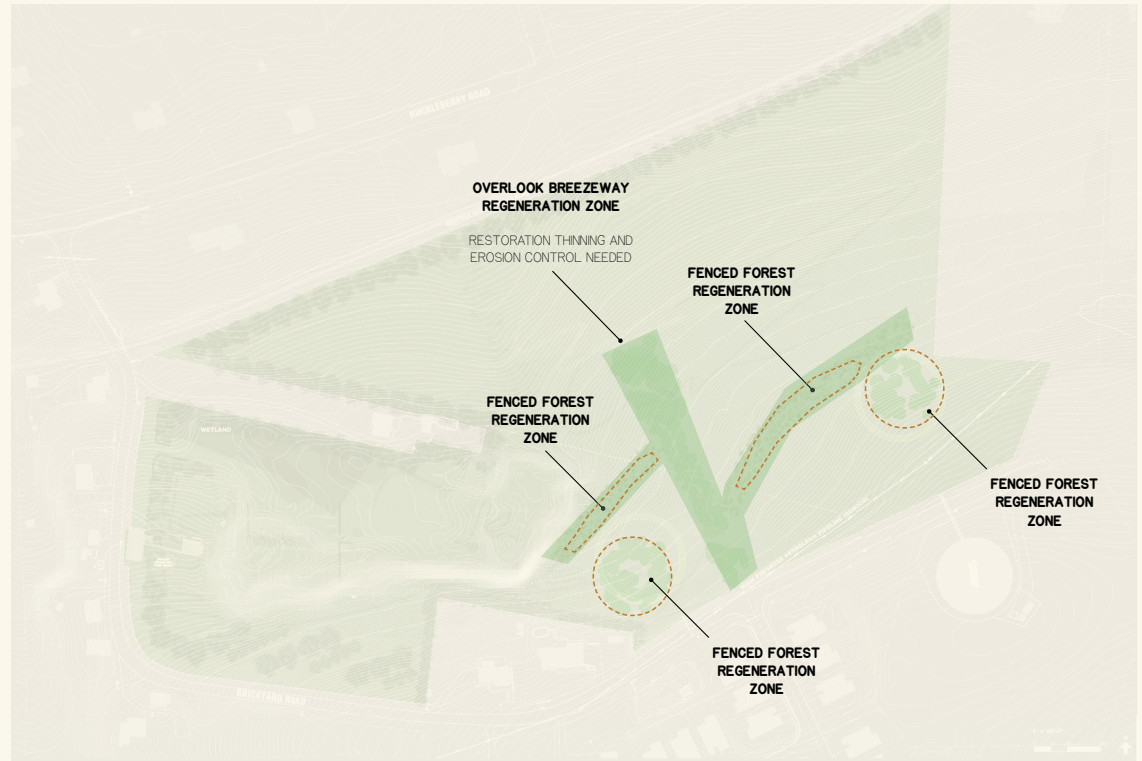
**WOOD CHIPS FOR MULCH PATHS + SOIL NOURISHMENT**



**PATCH PLANTING**



**FOREST REGENERATION ZONES**



Native plants are recommended for planting within regeneration zones using patch planting and companion planting techniques. Harvested wood from thinnings can be used for erosion control, wildlife habitat, gardening, and mulch paths.

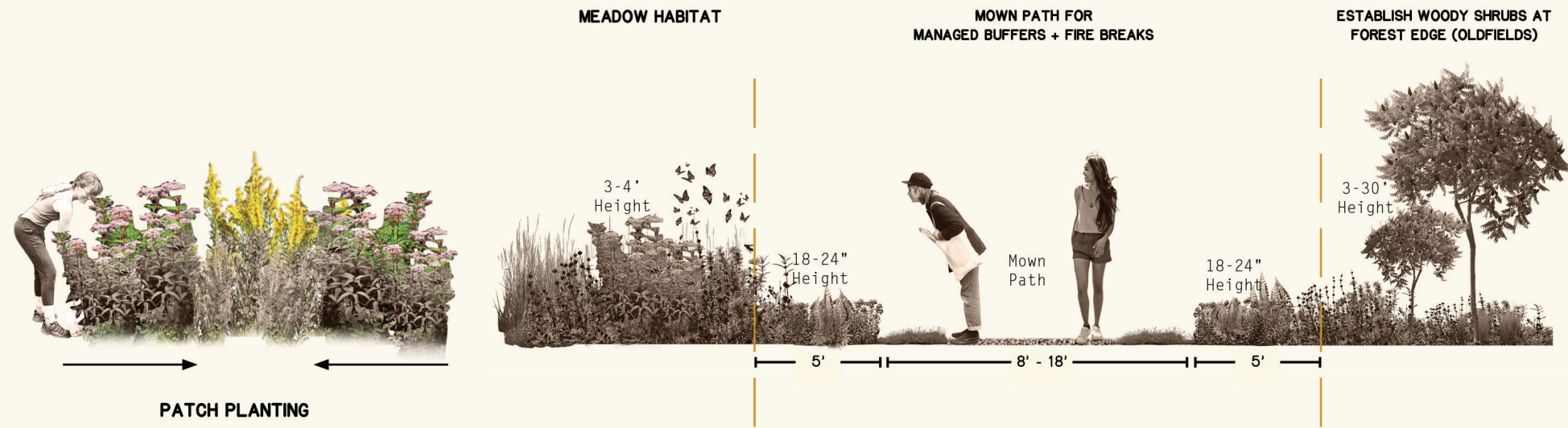


# MEADOW RESTORATION

## MEADOW RESTORATION CYCLES + SEASONS

RE - ESTABLISHING A DIVERSE, NATIVE CONDITION

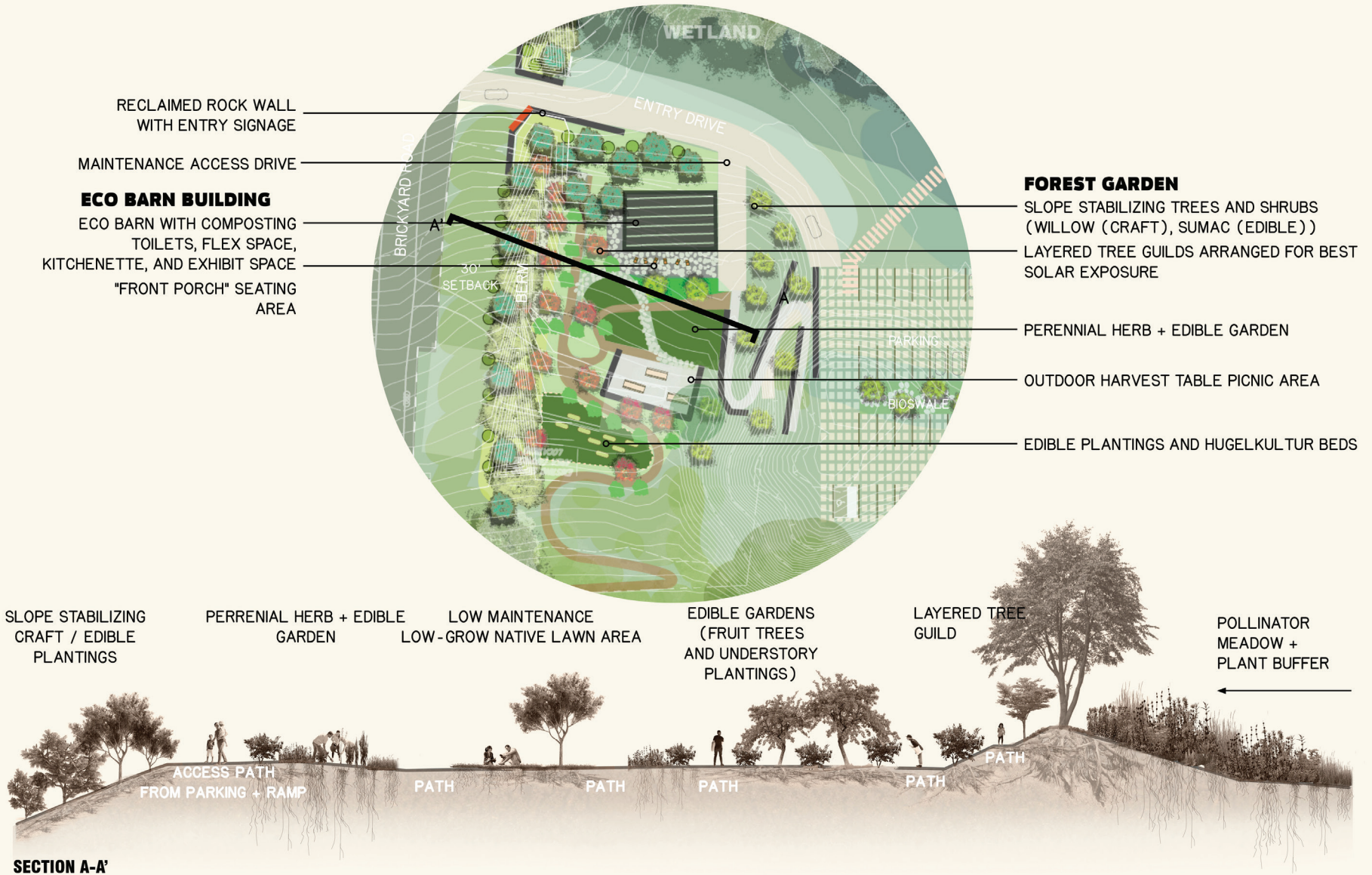
	winter	spring	summer	fall	winter	spring	summer	fall	winter	spring	summer	fall	winter	spring	summer	fall
Mowing/ weed control		March mow before ground bird breeding	Monthly mowing to allow light to reach seed bank	Leave plants un-mowed after September		March mow to 4" HT before ground bird breeding				March mow to 4" HT before ground bird breeding				Every 1-3 years, March mow to 4" HT before ground bird breeding		
Weed Control			Spot treat invasive sp. with pre- emergent herbicide (monthly)	Spot treat invasive sp. with pre- emergent herbicide (monthly)			Monitor & spot treat invasive sp. with pre- emergent herbicide	Monitor & spot treat invasive sp. with pre- emergent herbicide			Monitor & spot treat invasive sp. with pre- emergent herbicide					Potential Prescribed Burns, only as necessary
Seeding & Blooms		If desired, plant cover crop for nitrogen- fixing function			Spread seed in early March for cold stratifi- cation	Spread seed in early May for warm stratifi- cation	Initial Blooms Emerge			Biennials emerge (rudbec- kia, echi- nacea, monarda) after initial seeding	Biennials emerge (rudbec- kia, echi- nacea, monarda) after initial seeding					
	<b>YEAR ONE SITE PREPARATION</b>				<b>YEAR TWO SEEDING</b>				<b>YEAR THREE MEADOW ESTABLISHMENT</b>				<b>ONGOING MAINTENANCE</b>			



The meadow is dominated by aggressive *Solidago canadensis*, with a small number of other species present. The team's restoration strategy focuses on introducing more diverse species to support a wider range of insects, birds, and other living things.



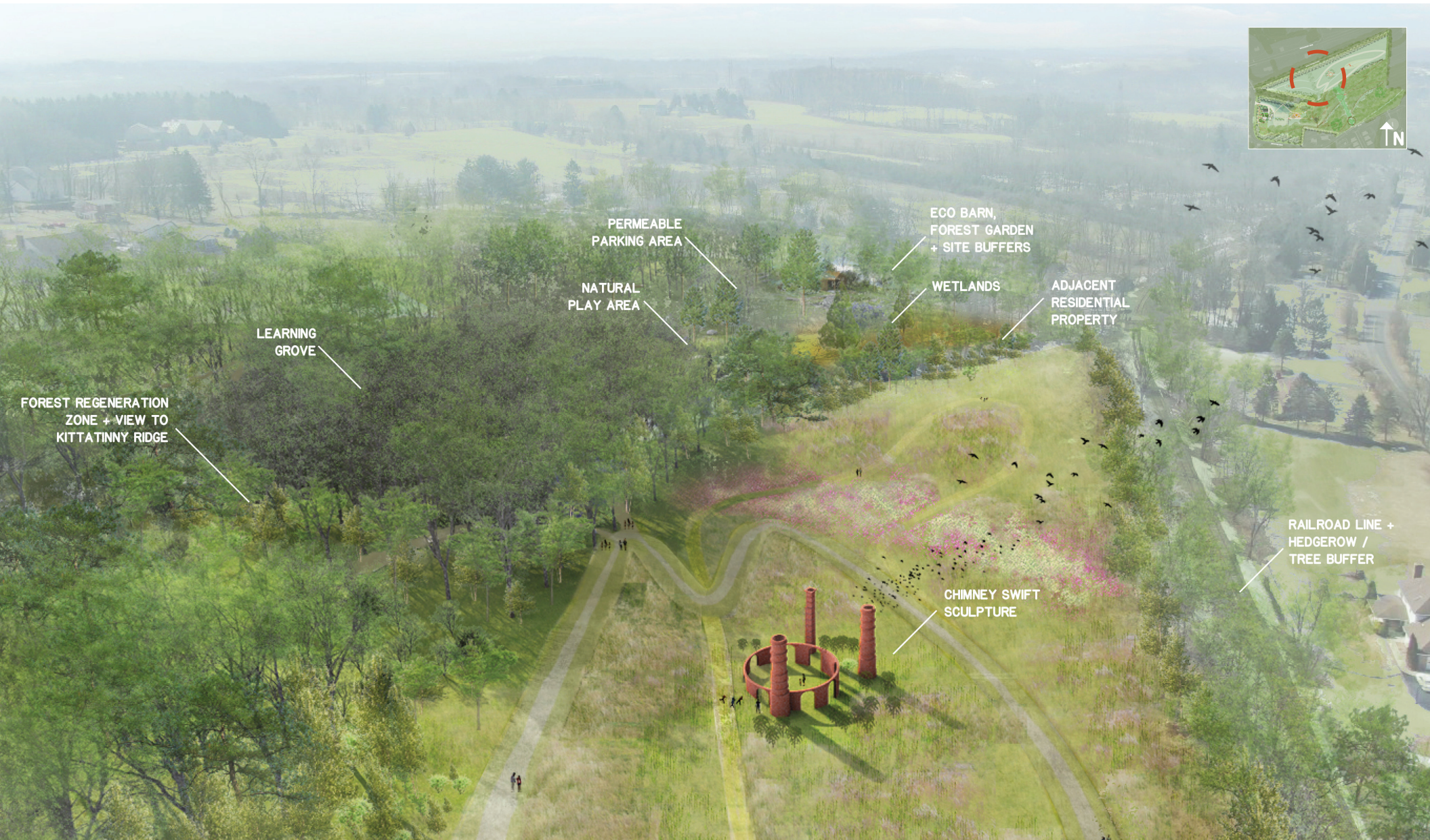
# ECO-BARN



The Eco-Barn is a sustainable building surrounded by an edible Forest Garden. Guided by permaculture principles and featuring pollinator gardens, it serves as a multi-function space for educational programs, events, and summer camp use.



# THE MEADOW



The meadow features winding paths through wildflowers and grasses. An arched brick structure and sculptural towers are designed as nesting sites for Chimney Swifts. These birds have a special relationship to the industrial landscape of the Lehigh Valley.



## BRICK QUARRY OVERLOOK



An elevated boardwalk has views at either end: one towards the quarry/learning grove and the other towards the forest regeneration zone. The modern wooden form is embedded in the tree canopy, providing a unique perspective of the forest.



# LEARNING GROVE



FOREST OVERLOOK

STEEP QUARRY SLOPE

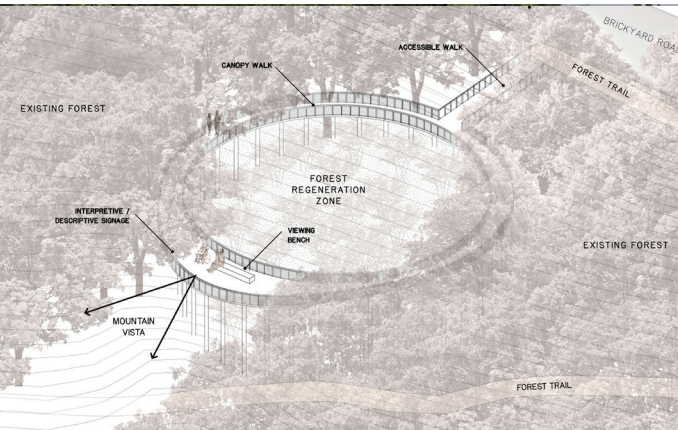
GABION SEATING

HISTORIC QUARRY + FOREST SIGNAGE

The Learning Grove at Kohler Ridge is a central location for environmental education, featuring an amphitheater-like area, an elevated overlook, and metal slides and stone steps for climbing, located near the natural play area.



# BLUE MOUNTAIN OVERLOOK: AN ACCESSIBLE FOREST EXPERIENCE



The Overlook Loop offers an ADA-accessible elevated loop through mature tree canopy and a north-facing overlook point with a view of the meadow and mountains in the distance, as well as a central forest regeneration zone below.