

# Survey of Rural Challenges Preliminary Results in 2024

## Top 5 Rural Small Business Challenges

1. Not enough help or support for business owners
2. Not enough good employees
3. Can't find a usable building
4. Online competition
5. Marketing isn't working

## Top 5 Rural Community Challenges

1. Conflict and old-way thinking
2. Not enough good housing
3. Downtown is dead
4. Losing our young people
5. Not enough volunteers

## Rural Community Optimism

Most people were optimistic or neutral about the future of their town. Fewer than a quarter were pessimistic.



Full Report available late 2024  
Use the QR code to view this  
preliminary report online

**SAVE  
YOUR**  
*.town*

The survey is a project of [SaveYour.Town](https://SaveYour.Town) and [SmallBizSurvival.com](https://SmallBizSurvival.com), and it is open for responses every other year. People participate mostly from across the US, Canada and other countries including Australia, the UK and New Zealand.

**SMALL BIZ  
SURVIVAL**

THE RURAL AND SMALL  
TOWN BUSINESS  
RESOURCE

# A Modern View and Approach to Measuring, Reporting, and Designing with Mass Flux Data

Brett Hicks (REGENESIS, Indianapolis, IN)



## INTRODUCTION

The *in situ* remediation of contaminated aquifers continues to be one of the most cost and energy-efficient means of restoring and protecting natural water resources. To properly implement any *in situ* remedy, the extent and magnitude of contamination must be well understood as well as the site's geology and hydrogeology. Remedial

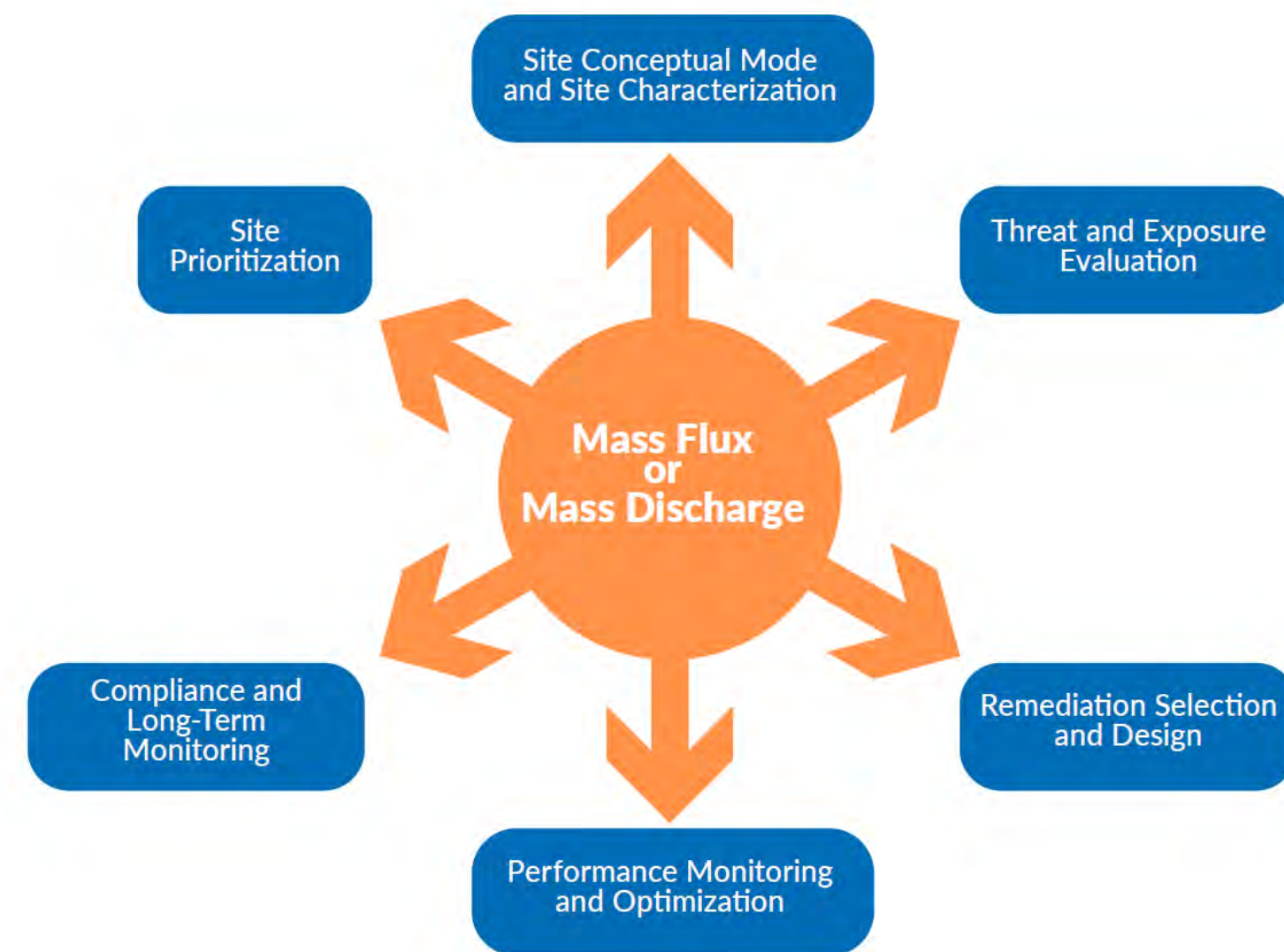
underperformance or failure can be attributed to a mismatch between amendment placement and key contaminant transport locations. The vertical extent of contaminant and groundwater flux are key data sets that better guide remedial efforts and help ensure long-term project success.

### What is Mass Flux?

- Mass flux refers to the rate at which mass flows through a specific unit area
- Mass flux is proportional to flow, and is the quantity of something that is moving through a unit area defined by a function of time

### Why is Mass Flux Important?

- Most contaminant flux occurs in a small fraction of the aquifer
- 80% of the mass flows through 20% of the aquifer
- Mass flux identifies and quantifies the "mass that moves"
- Delineates vertical zones controlling size and shape of plumes
- Permeable Reactive Barriers (PRBs) are highly sensitive to contaminant mass flux
- Mass flux affects short and long-term performance
- Results are directly used in remedial designs

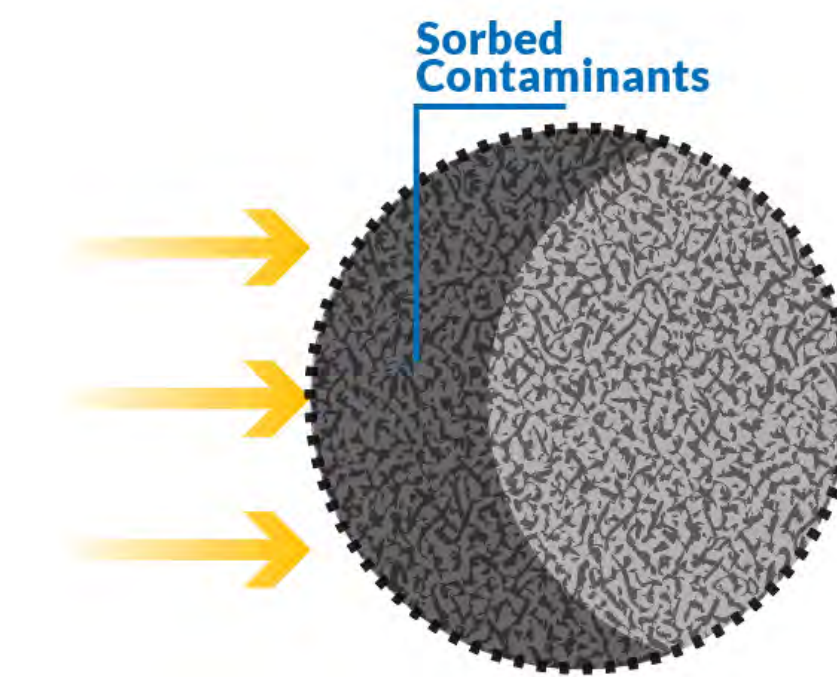


Potential applications of mass discharge and mass flux data for contaminated groundwater management (ITRC (Interstate Technology & Regulatory Council), 2010)

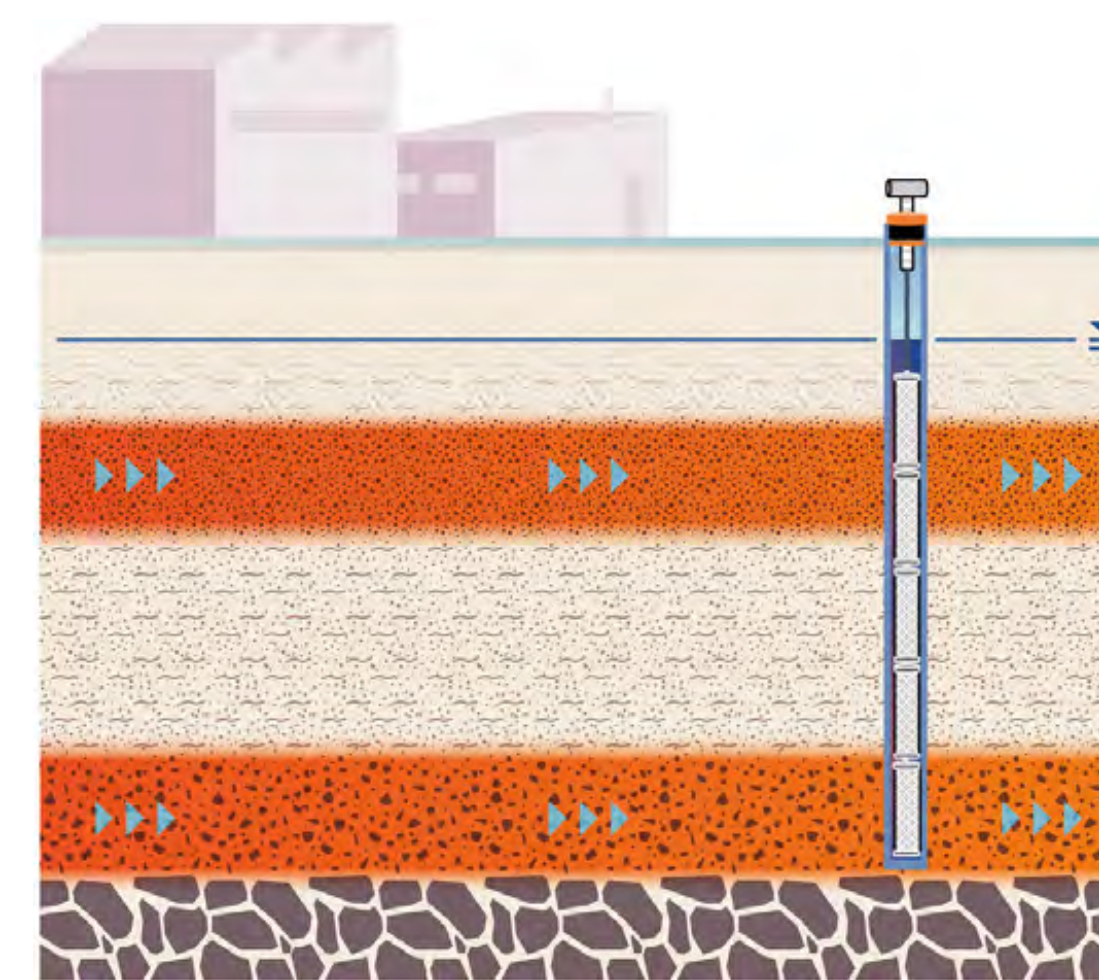
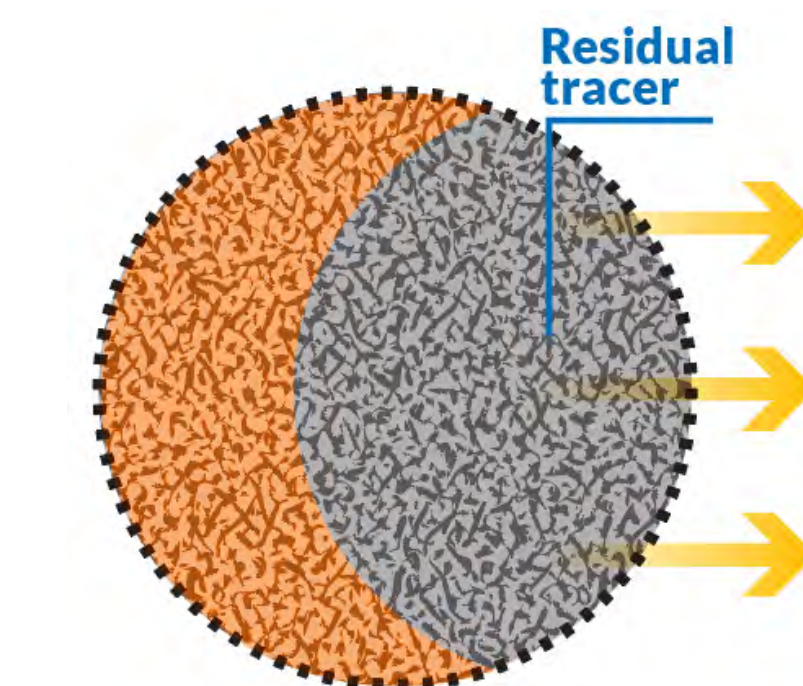
## APPROACH/ACTIVITIES

### Technology Behind Permeable Sorbent Media

Contaminants accumulate as groundwater flows through media

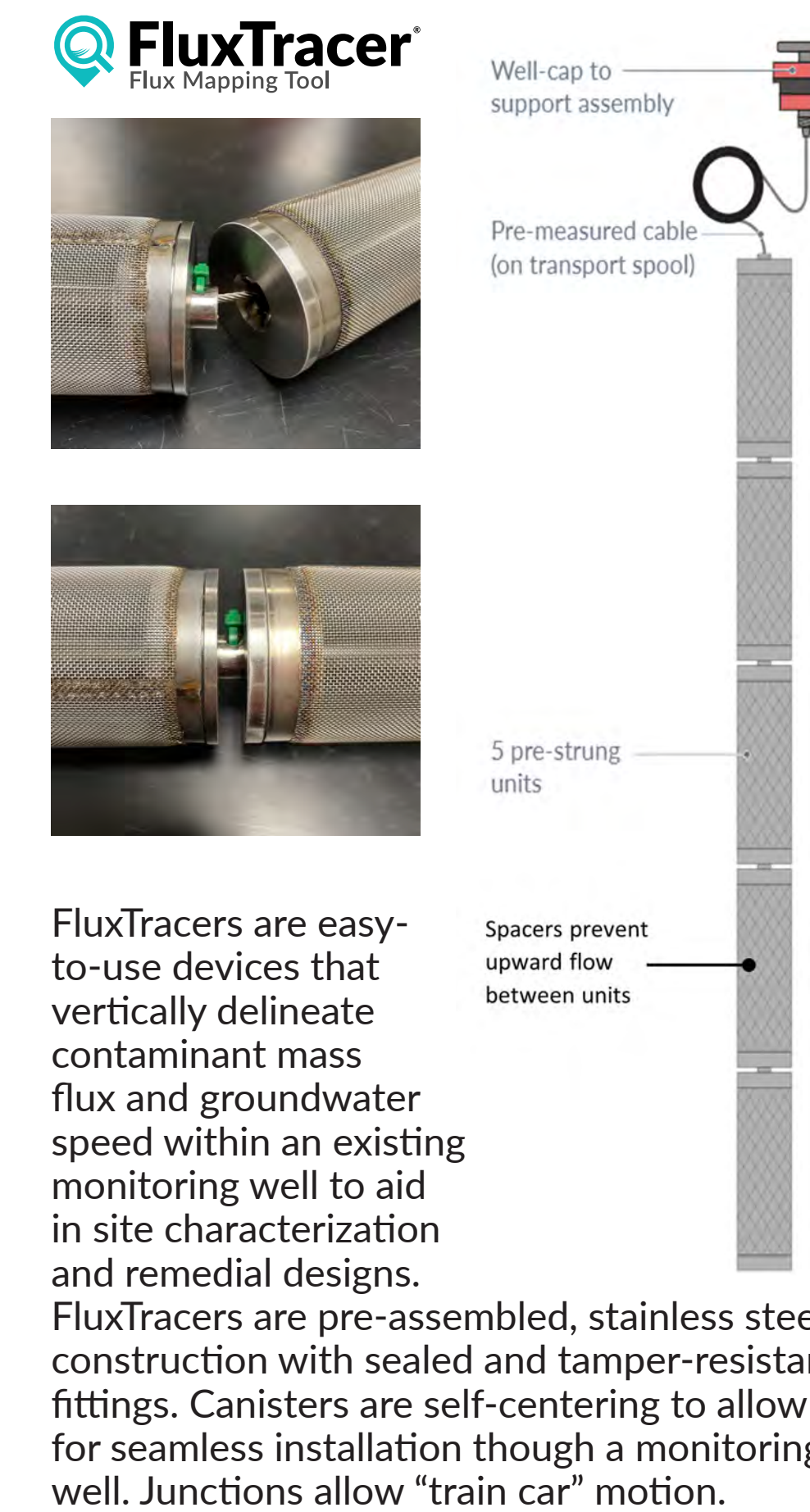


Soluble tracers are removed from the sorbent media as groundwater flows through



FluxTracers are deployed in existing monitoring wells intersecting the target study area.

### REGENESIS's FluxTracer Flux Mapping Tool

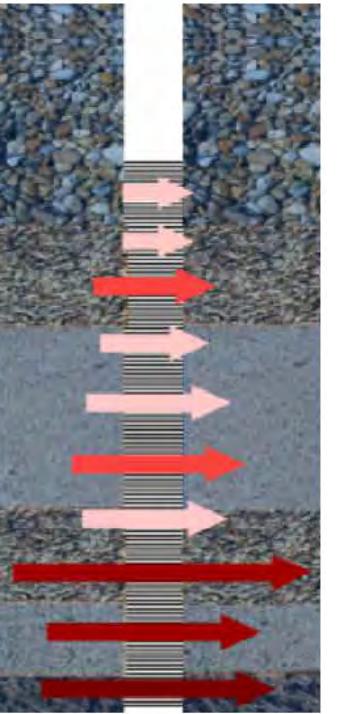


FluxTracers are easy-to-use devices that vertically delineate contaminant mass flux and groundwater speed within an existing monitoring well to aid in site characterization and remedial designs. FluxTracers are pre-assembled, stainless steel construction with sealed and tamper-resistant fittings. Canisters are self-centering to allow for seamless installation through a monitoring well. Junctions allow "train car" motion.

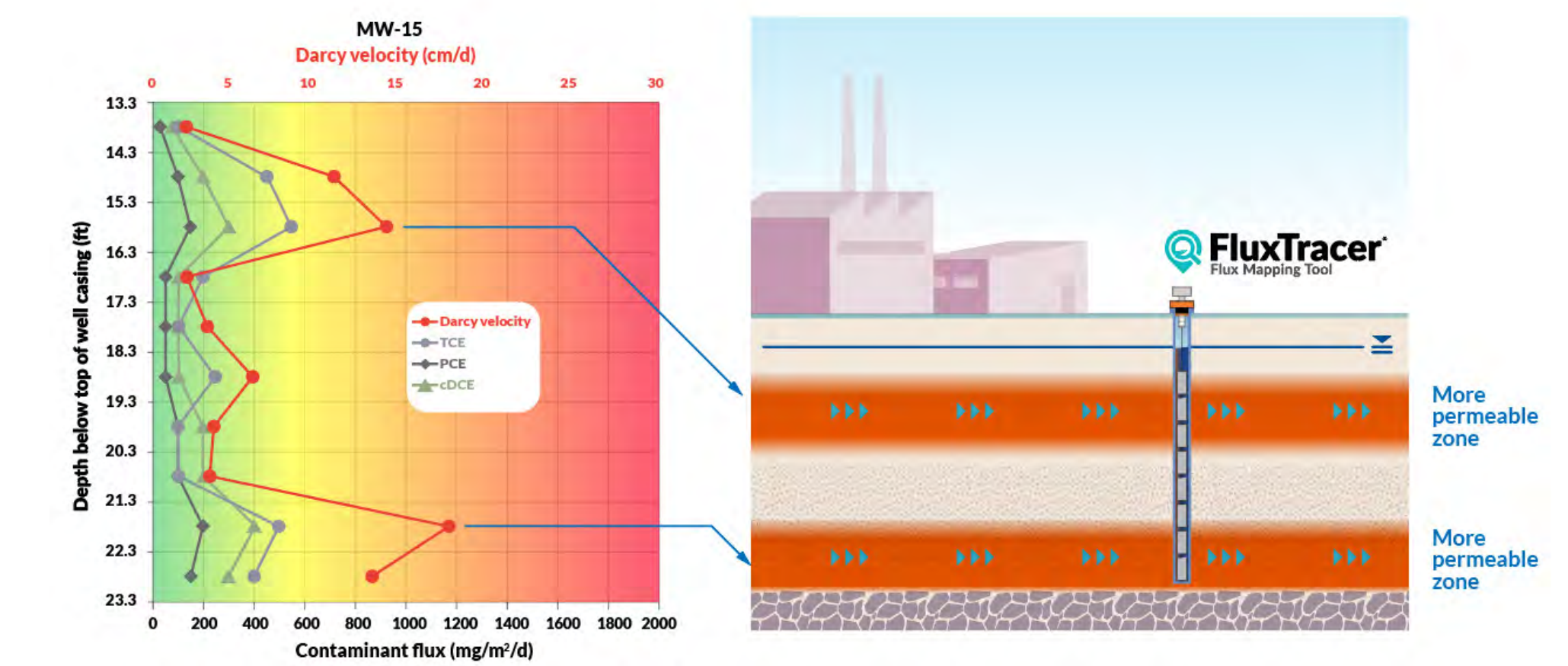
## RESULTS

### Project Data and Interpretation

Depth below top of well casing (ft)	Darcy Velocity (cm/day)	PCE (mg/m <sup>2</sup> /day)	TCE (mg/m <sup>2</sup> /day)	cDCE (mg/m <sup>2</sup> /day)
13.8	2.0	ND	20	8
14.8	9.3	ND	500	240
15.8	10.0	ND	650	300
16.8	6.0	ND	50	10
17.8	3.0	ND	40	20
18.8	3.8	ND	200	90
19.8	3.0	ND	100	50
20.8	4.0	ND	120	100
21.8	15.0	ND	410	300
22.8	12.0	ND	450	350



### Resulting Data Identifies Zones of Varying Flux



The site data above shows mass flux of chlorinated contaminants (PCE, TCE, cDCE). The graph shows highest TCE mass flux at 15.75' depth below casing and highest cDCE

at 21.75' depth below casing. The mass flux data can be used to design with more certainty through applying additional focus on areas of the interval with the highest flux.

## CONCLUSION

- Direct flux study results provide a detailed vertical profile of a target treatment zone's (TTZ's) groundwater velocity and contaminant migration rates across a well's screened interval.
- Flux study results yield useful information that directly informs the remedial design, including TTZ interval definition and characterization.
- Flux studies improve a practitioner's overall understanding of those sections of the saturated zone that likely control the size and shape of the plume.
- Flux studies result in a more focused delivery of remedial reagents and thereby optimize the overall remedial design.

# Ronceverte Senior Living Eco-Village



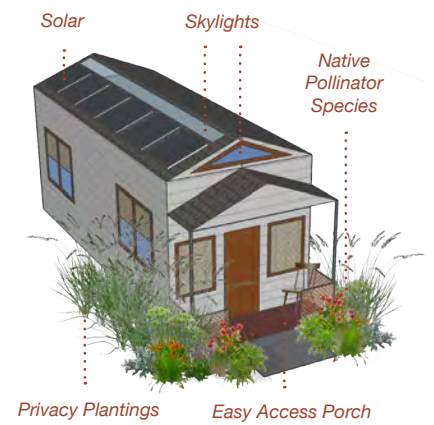
James Ranson - 2024



## Masterplan



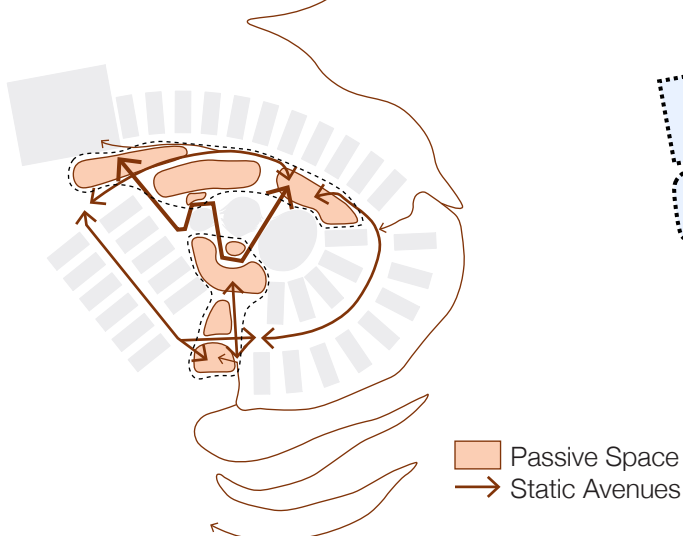
In Southern West Virginia, Ronceverte is using **blighted land** to solve communal issues such as accessibility, green space, and housing options that can assist the **“grey wave”**. The living community connects local seniors with nature in safe and diverse methods while maintaining **privacy and individuality**.



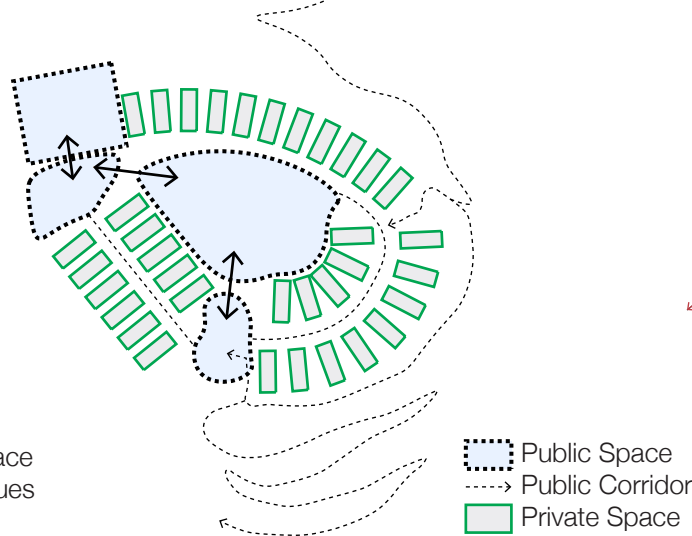
Corridors for pedestrian mobility are essential to achieve **accessible public spaces** for locals. These paths must be safe, such as the potential **pedestrian bridge** that would safely connect downtown to the riverfront park.

The **400 sqft** “micro-homes” are potentially self-functioning with sustainable and **cost-saving** features such as solar, rain-barrels, and skylights to minimize lighting and heating costs **up to 60%**.

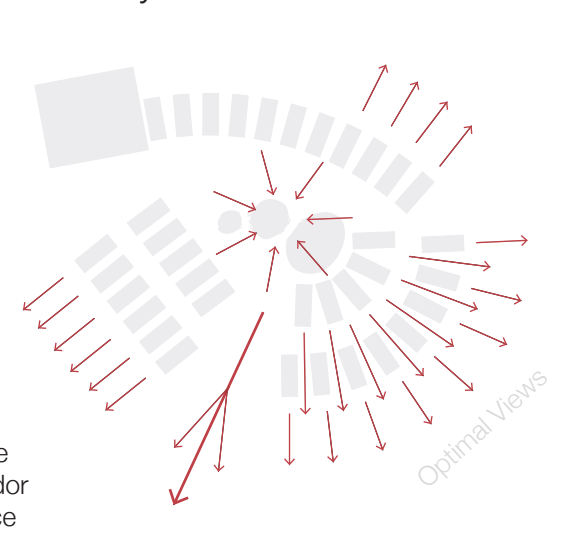
### Static vs Passive



### Public vs Private



### Viewshed Analysis



# Ronceverte Culture and Community Center



Kitchen



Recording Studio



Classroom



Dance Studio

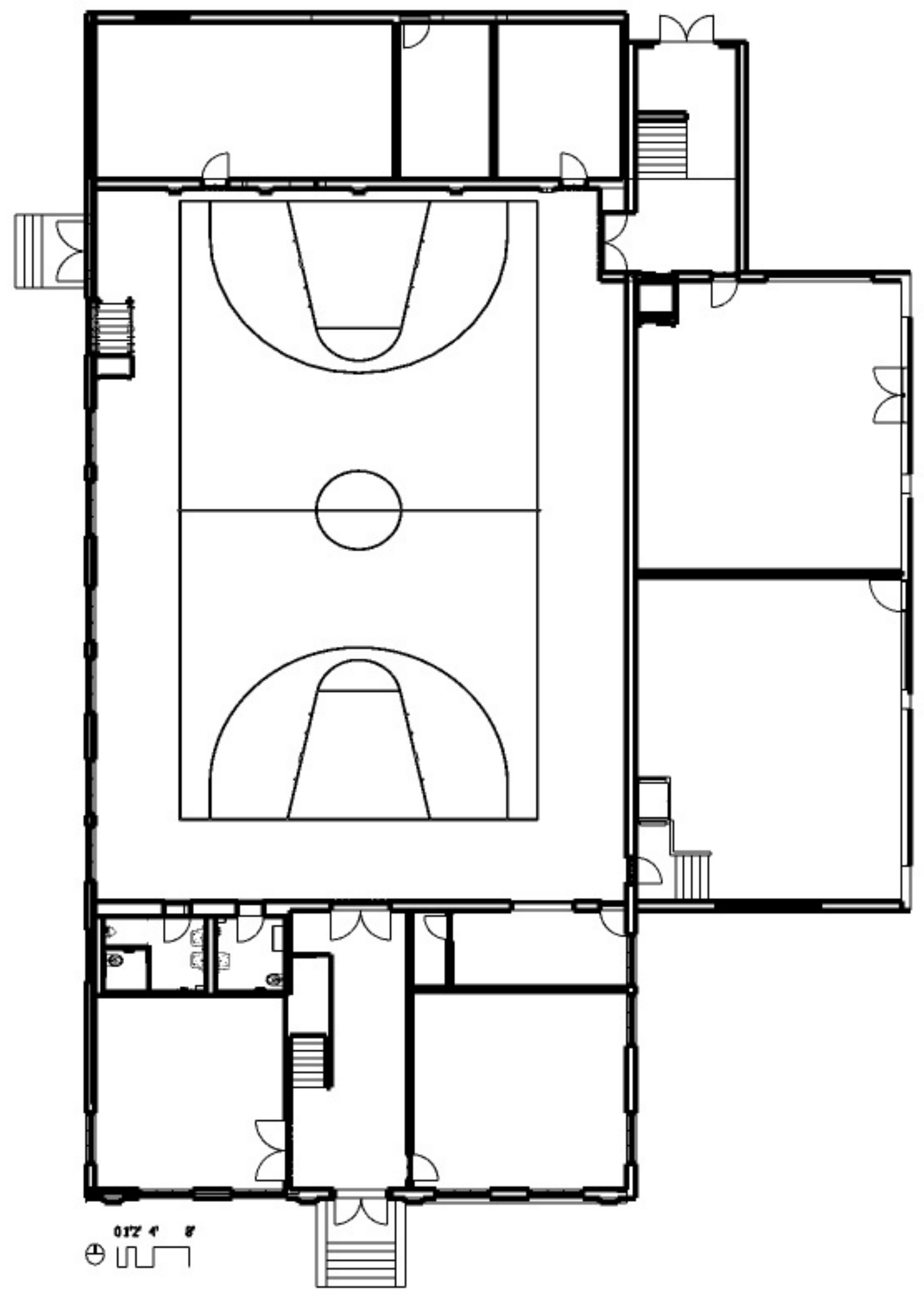
Tenant use examples



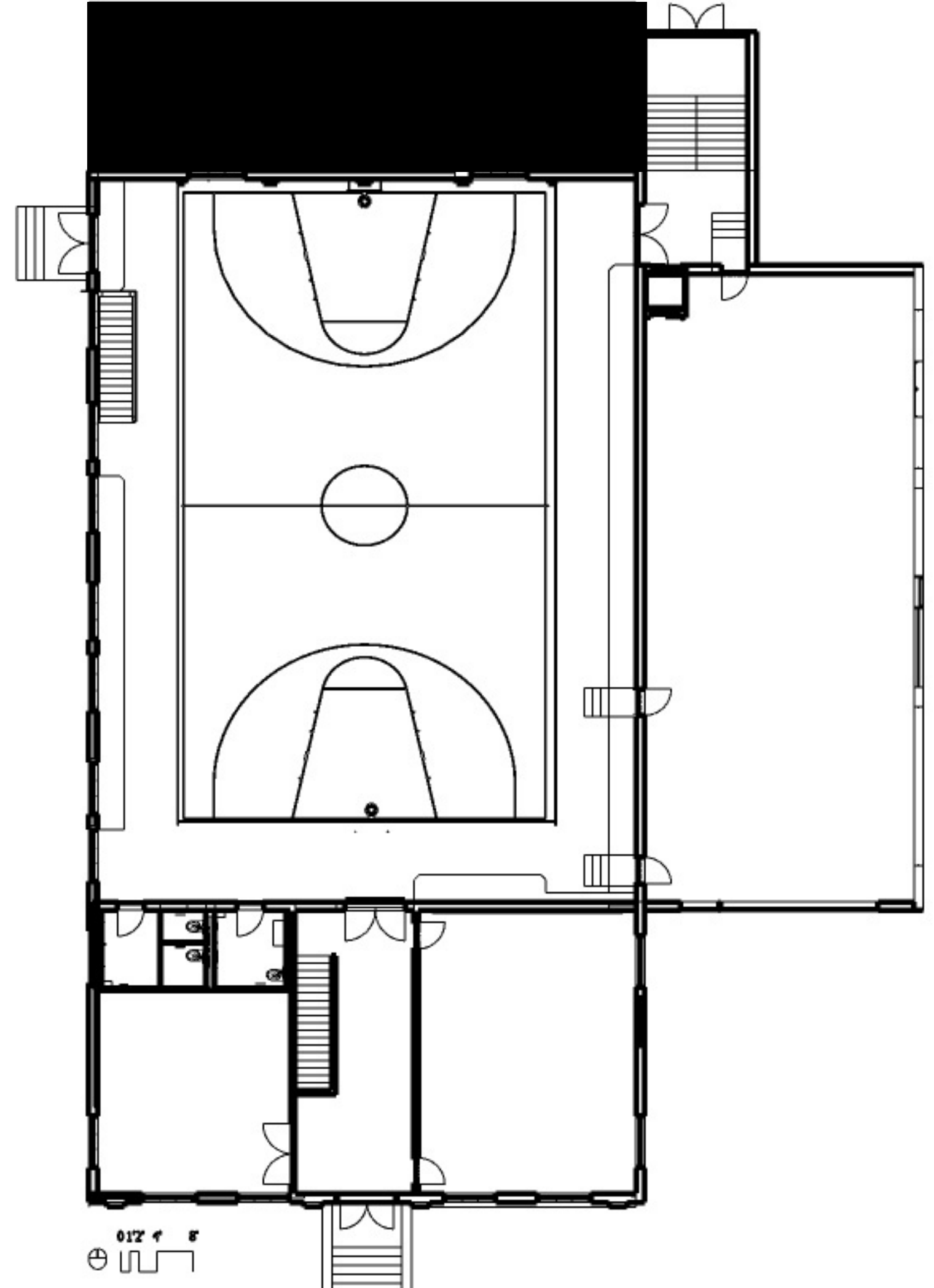
Gymnasium Perspective

The redesign of this space has community and entrepreneurs in mind. The building isn't focused profits; it's focused on purpose. The goal is to provide a helping hand to those wanting to start their business and to nourish the community.

Inside are six versatile spaces; each space blank and ready to be housed by Ronceverte's aspiring business owners. Picture an active dance studio, a classroom for teaching first aid, or a studio where artists bring their visions to life and off the side of the gymnasium is an expansive industrial kitchen, a perfect incubator for budding chefs.



Floor Plan of First Floor



Floor Plan of Second Floor

## Ronceverte Culture and Community Center



Gymnasium Perspective

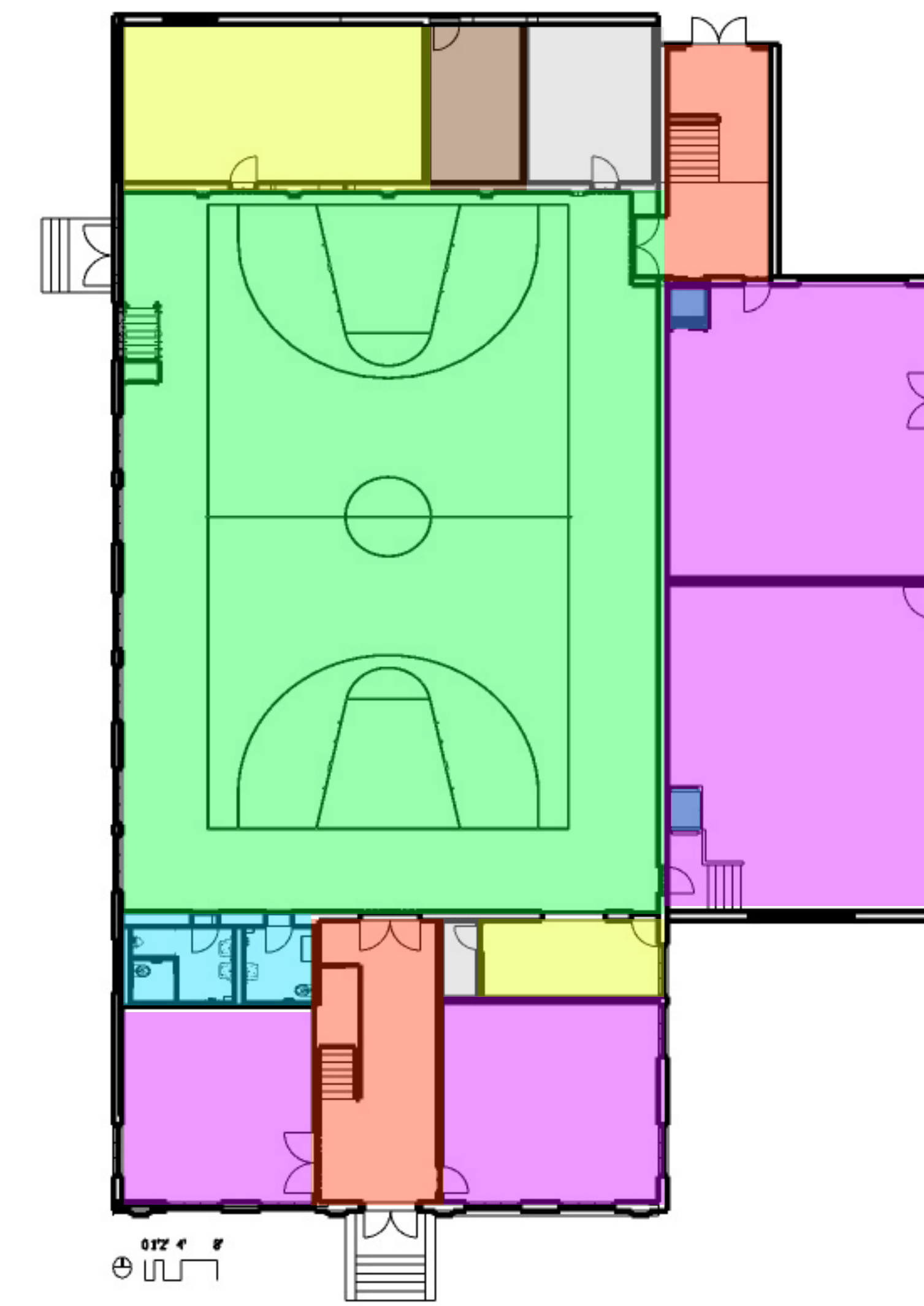


Roof of Gymnasium

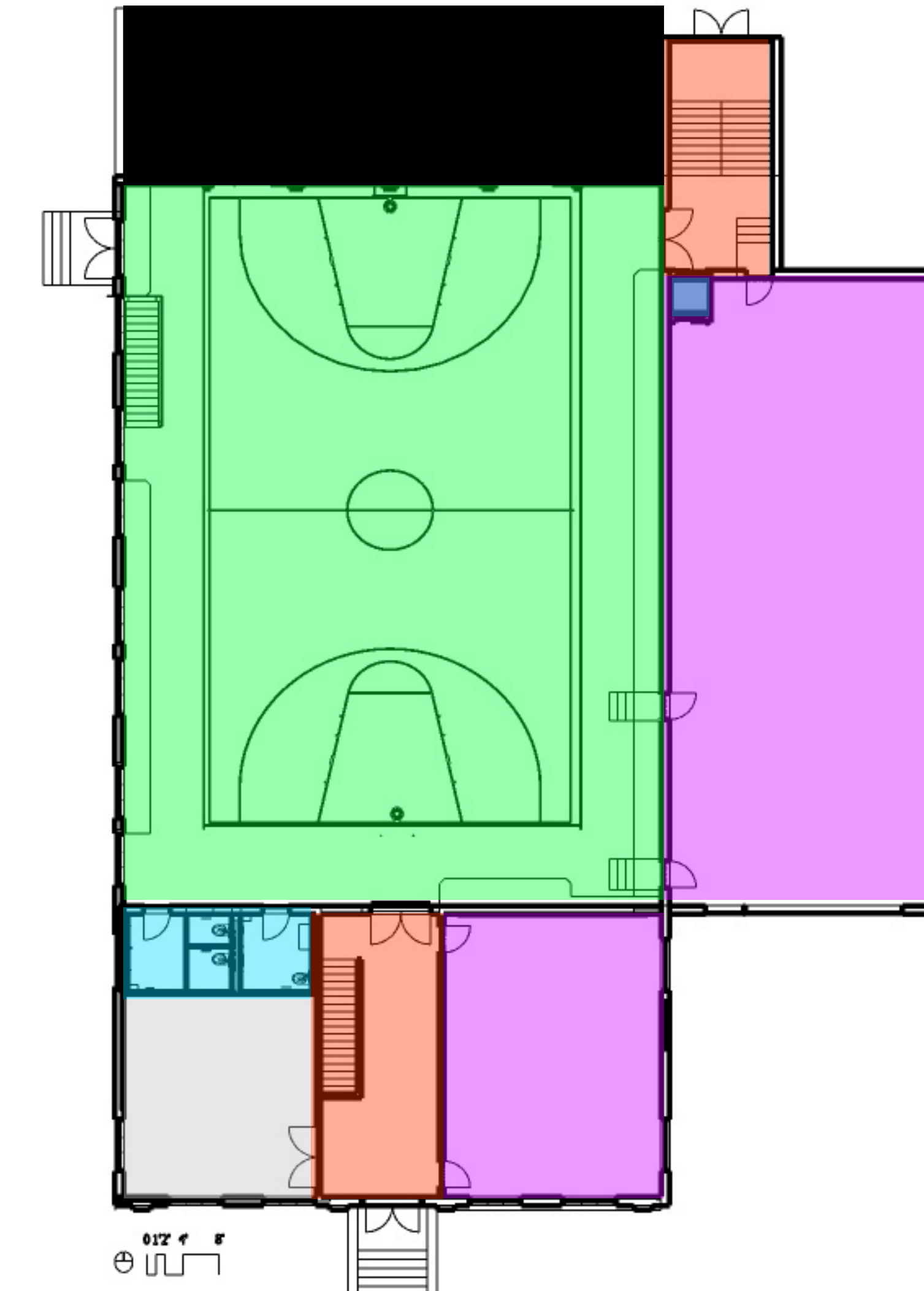
Gymnasium Elevation

The Gymnasium is the heart of the building. It's a space not only suited for basketball games but one with the ability to transform to meet the needs of the town.

These floor plans outline our vision for the building's intended use. Addressing initial ADA concerns, we've incorporated elevators to ensure accessibility throughout. Updated fire-rated staircases and hallways to further enhance safety, making the space secure for everyone. Additionally, each floor now features additional bathrooms, ensuring convenient access for all occupants. These enhancements prioritize ease of use and inclusivity, ensuring the community center is accessible to all.



Floor Plan of First Floor



Floor Plan of Second Floor

### Color Key

- Egress
- Food Prep Space
- Gym / mezzanine
- Bathrooms
- Tenant Space
- Mechanical
- Storage
- Elevator

# Viaduct / Pedestrian Bridge

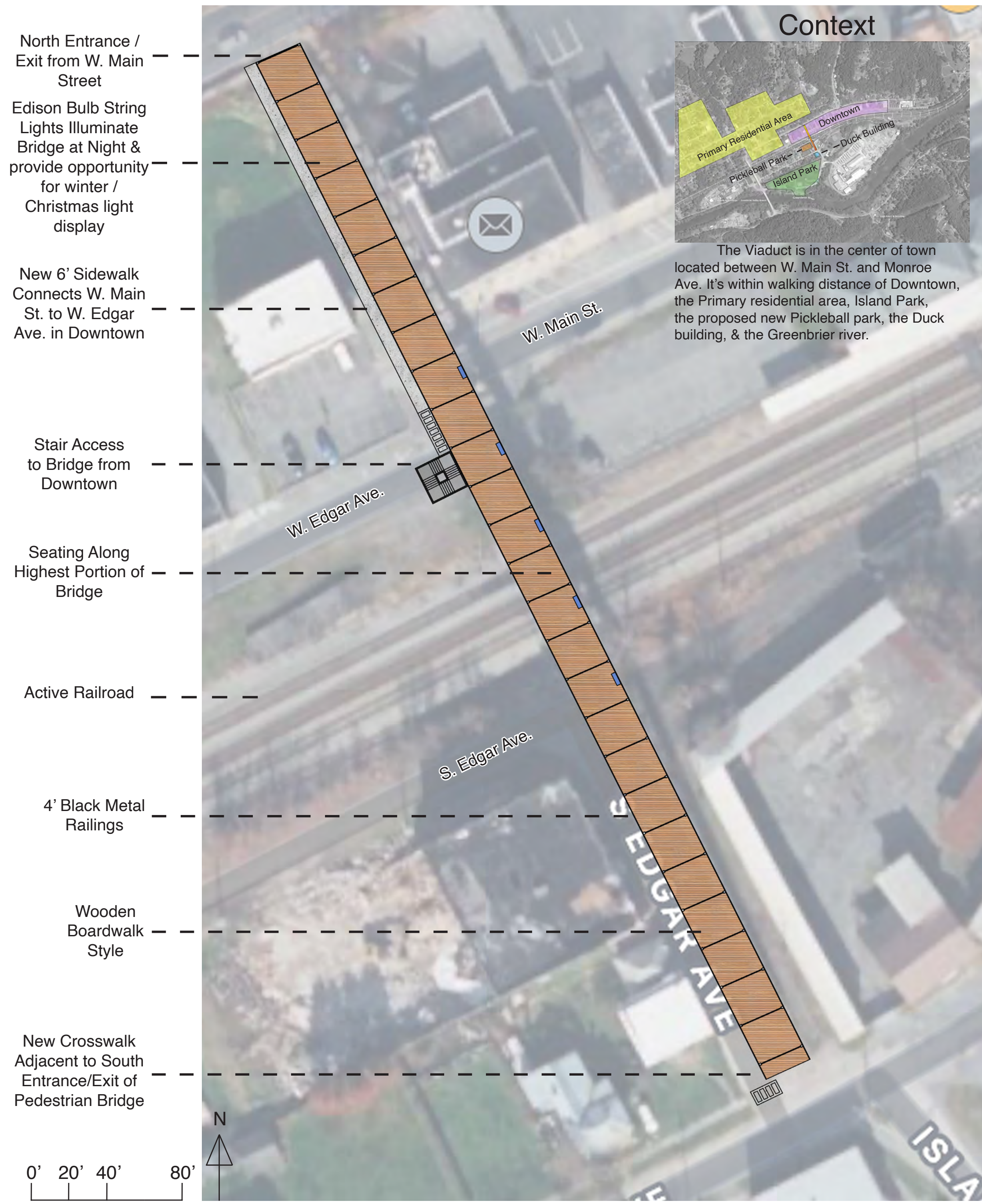
## Ronceverte, WV

By: Erik Moses  
July, 2024

### WVU Brownfields Extension

The old railroad bridge crossing between W. Main St. & Monroe Ave. Provides opportunity for a new pedestrian bridge that connects Downtown Ronceverte to Island Park, the Greenbrier River, the new proposed pickleball park, & the Duck building. Converting the bridge into a Viaduct / Pedestrian crossing would encourage residents and tourists to safely explore the town & connect with the outdoors.

### Plan



View Heading South Walking Along Bridge



Day

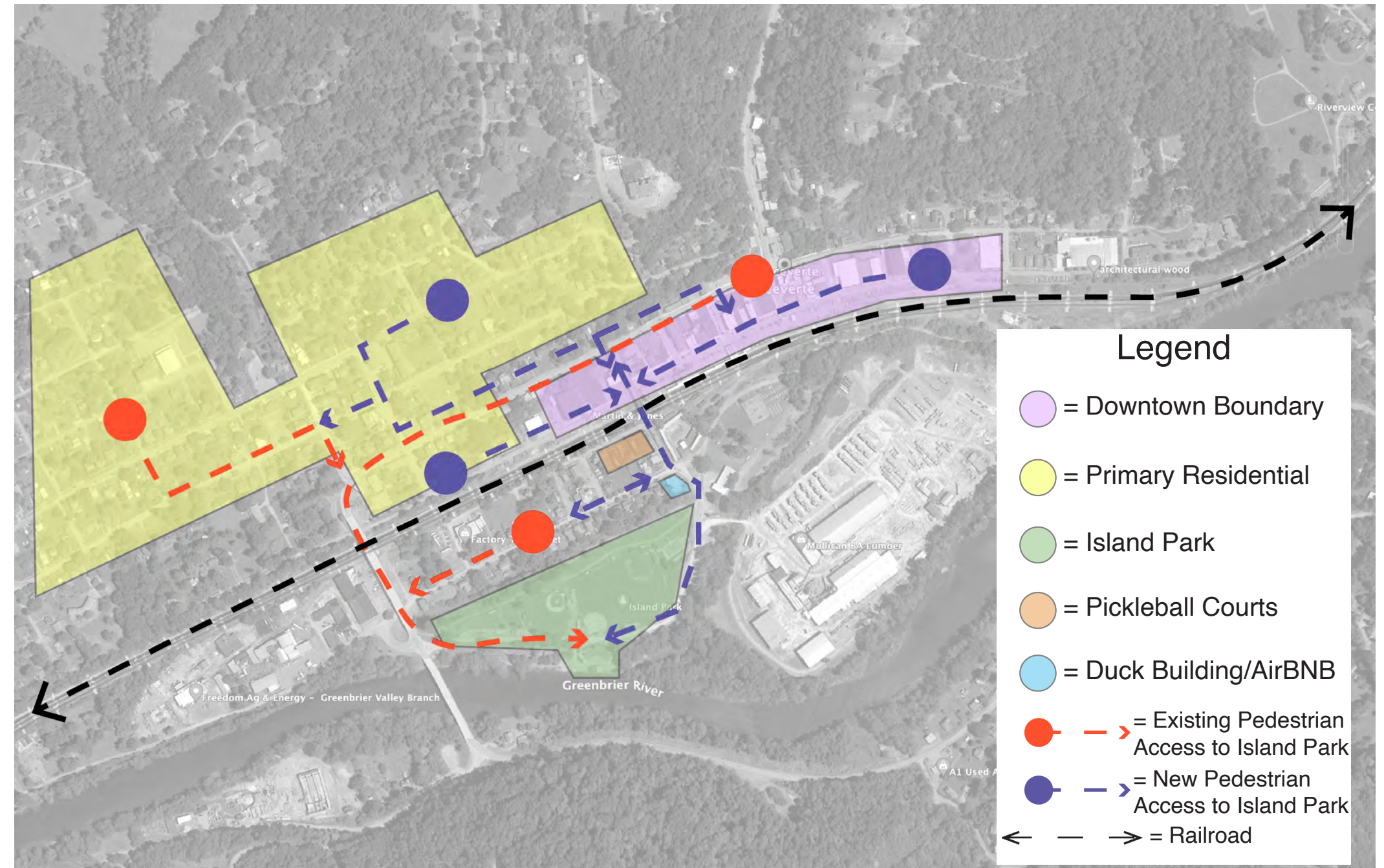
View Heading South along Bridge at Night



Night



### Pedestrian Connectivity Corridors



This graphic depicts the current and proposed pedestrian connectivity between the North side of down including the Downtown and the South side of town with Island Park. The existing pedestrian connectivity seen by the red dashed lines is minimal, requiring pedestrians to walk 15-20 minutes around town to the Thomas E Jock Clifford Jr Memorial Bridge or risk safety by crossing the rail road if they want to access Island Park or the Greenbrier River. The new pedestrian access provided by the viaduct would enable pedestrian access between the North and South sides of town while promoting safety & ADA accessibility. The new corridor would reduce the travel time to Island park by as much as 50% and it would encourage more use for the proposed Pickleball park, Skate park, & outdoor recreation on the Greenbrier River.

### Views from Viaduct



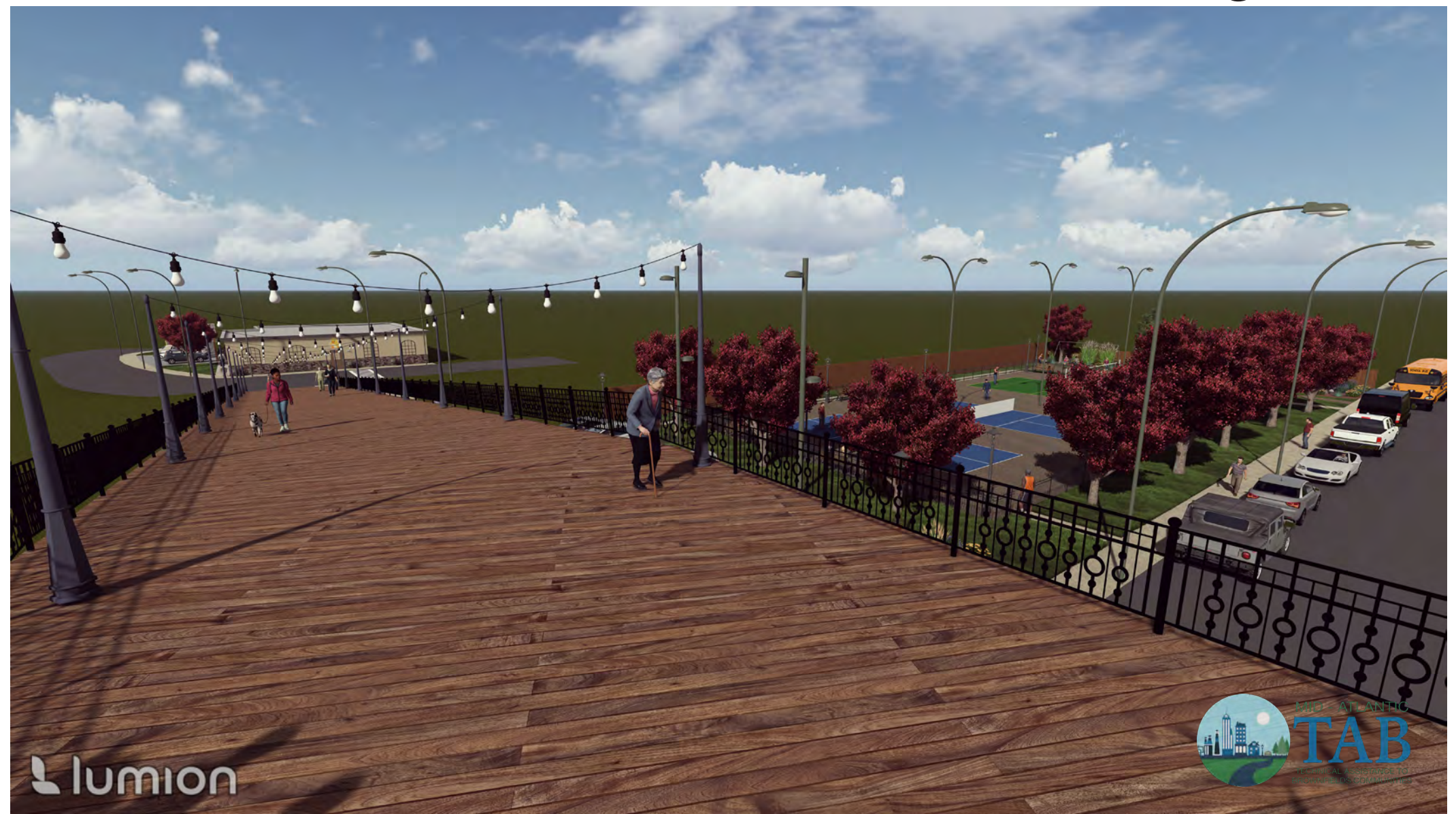
The views from the Viaduct include Mountainous terrain, the Historical downtown, the new Pickleball Park, the Duck building, & the Greenbrier River. You would also see trains as they pass beneath the Viaduct.

### Pedestrian Access



The new pedestrian access along the Viaduct would allow pedestrians to safely and easily access the new Pickleball park, Downtown, Island Park, the Skate park / Basketball courts, & the Greenbrier river.

### View of New Park and Duck Building



Stairwell Provides Access Downtown



# Recreational Park

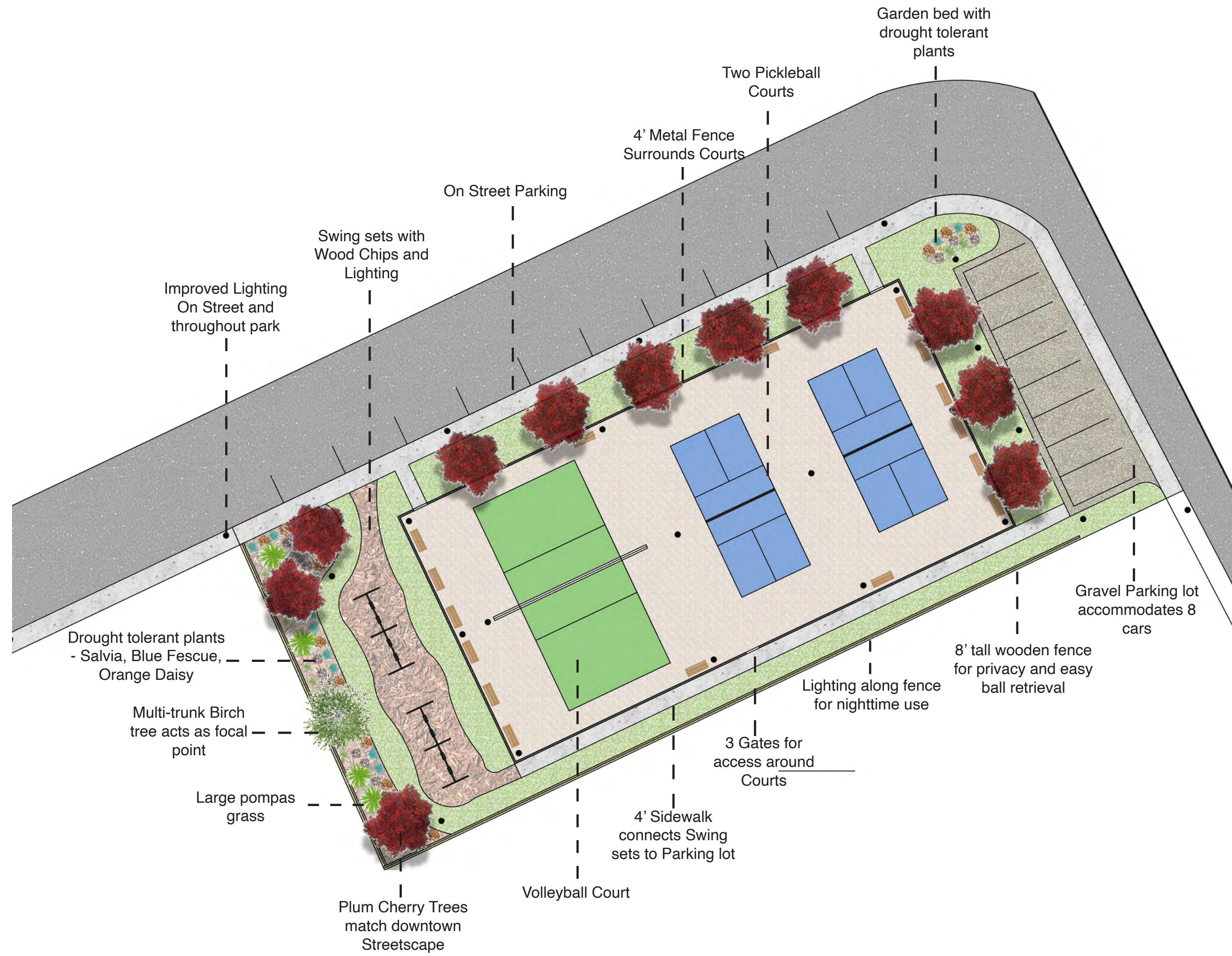
Ronceverte, WV

By: Erik Moses

WVU Brownfields Extension

Located within walking distance of Downtown Ronceverte & the Greenbrier river, the proposed new park would increase community involvement while promoting outdoor recreation. The site is adjacent to the newly proposed pedestrian bridge on the right and the old Duck building 0.1 miles South of the park.

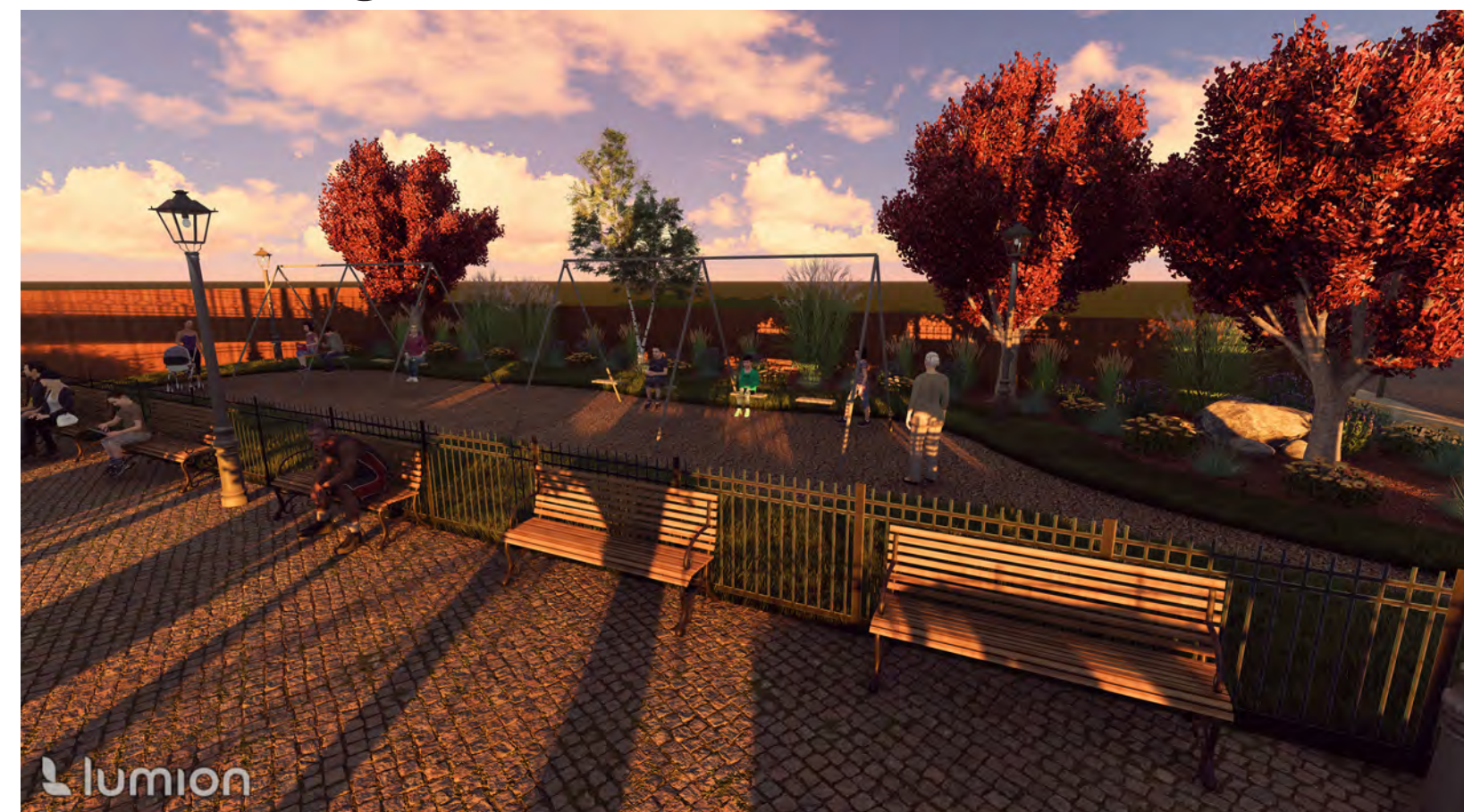
## Plan



Pickleball Courts at Sunset



Swing sets & Garden at Sunset



Volleyball Court at Dusk



Swing sets and Garden at Night



Aerial View of Park Day vs. Night



View of Park from Street Day vs. Dusk



View Swing sets & Garden



View of Pickleball Courts



# Viaduct / Pedestrian Bridge

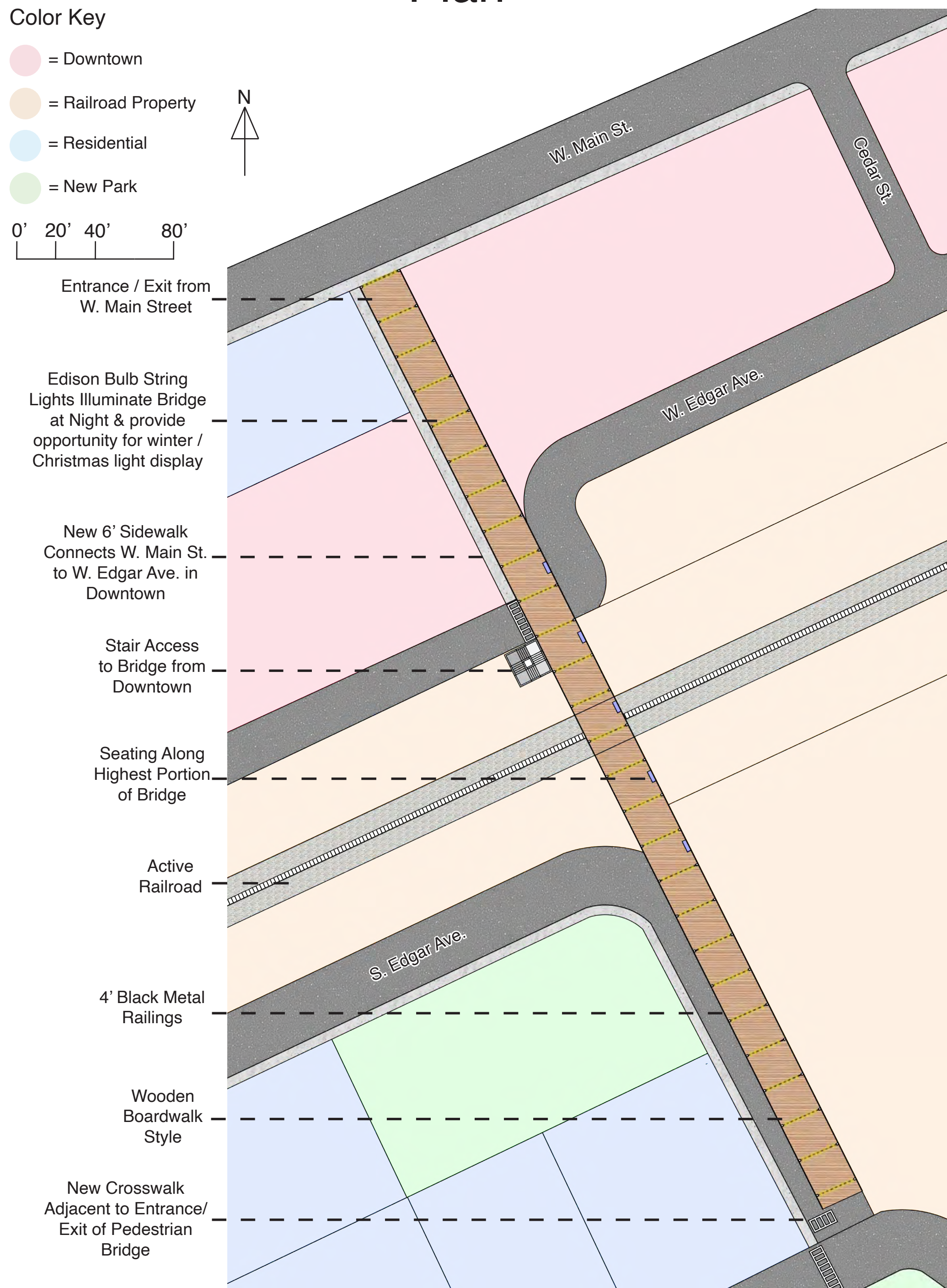
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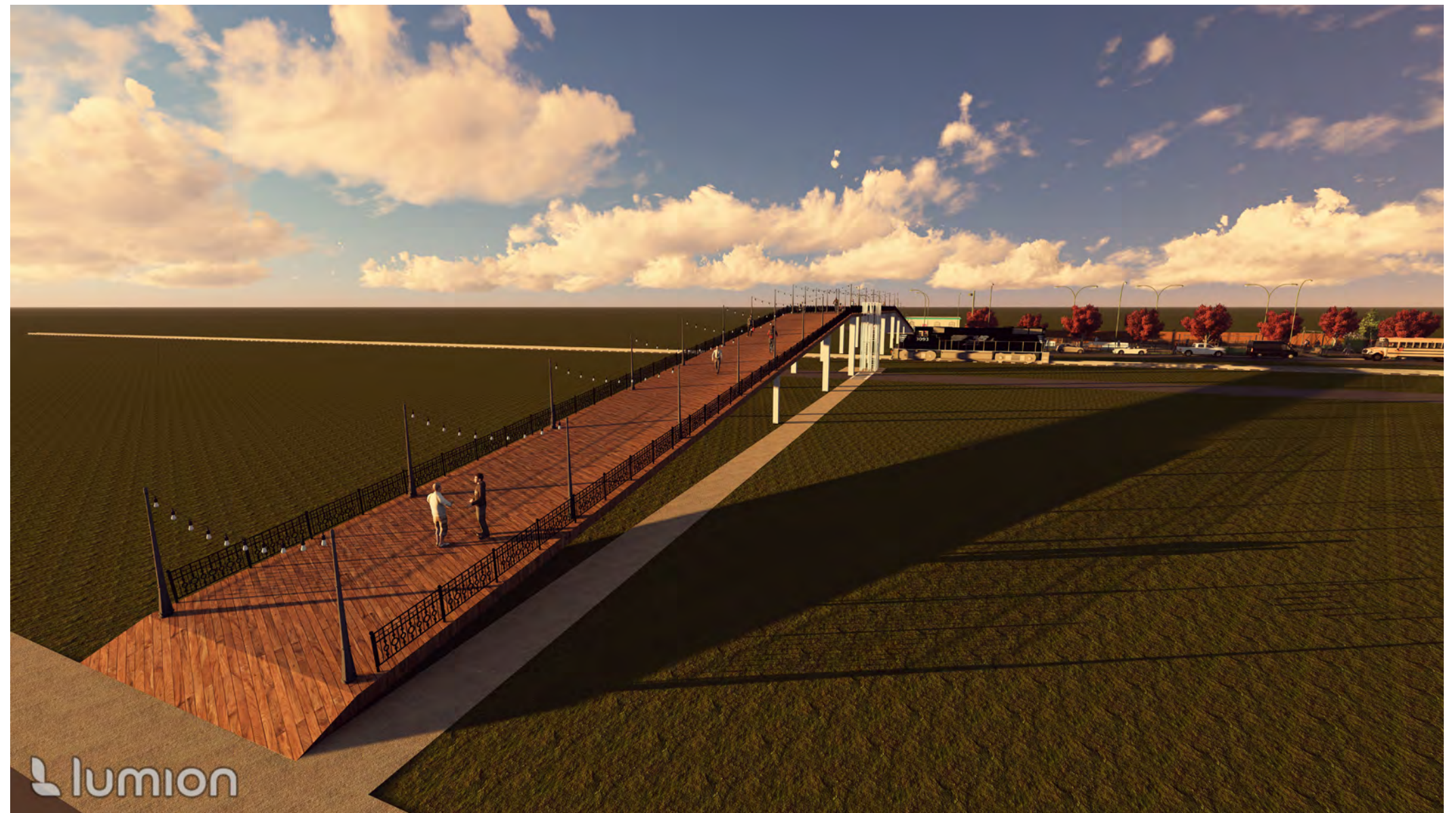
## Plan



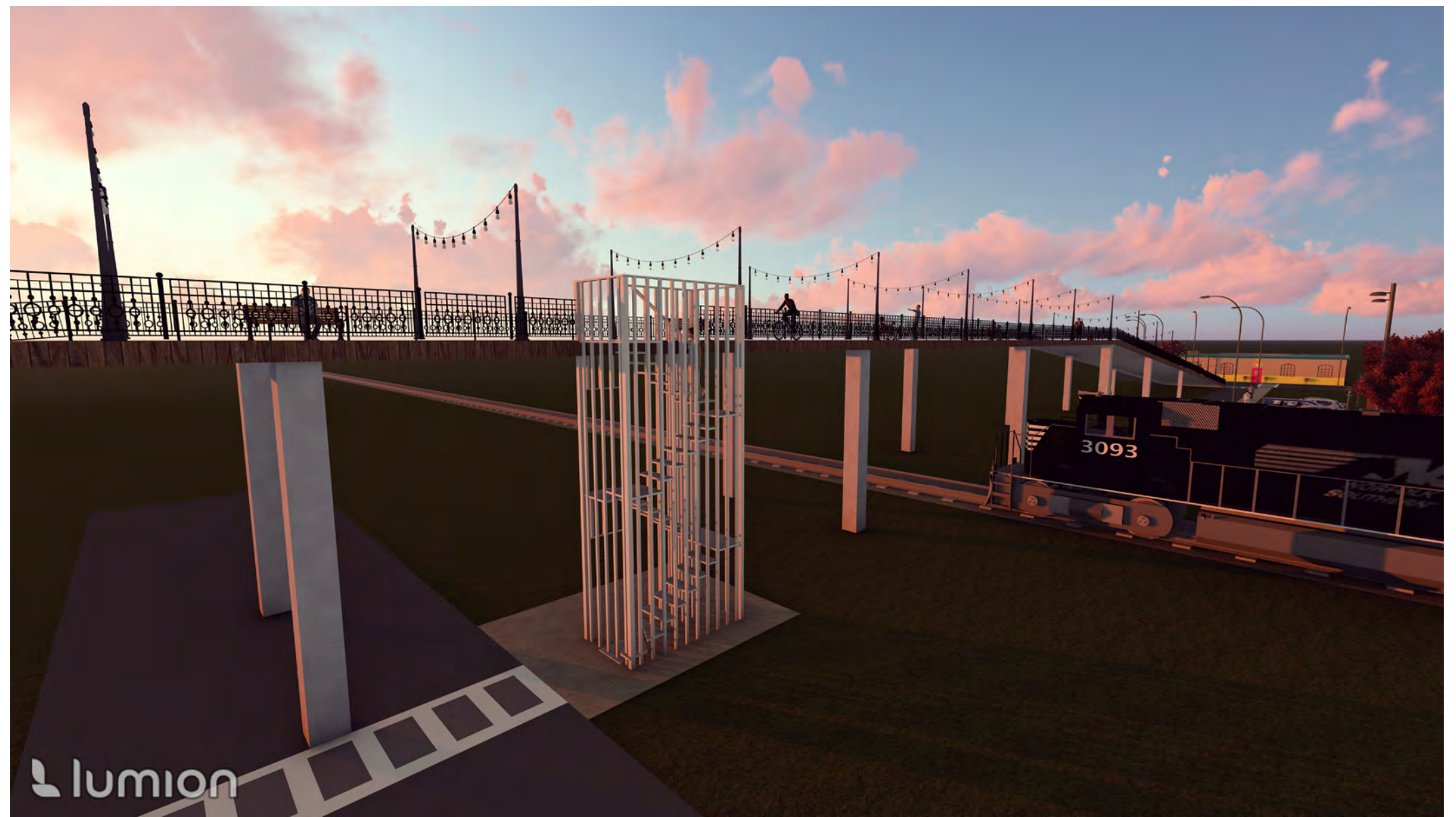
View Heading South Walking Along Bridge



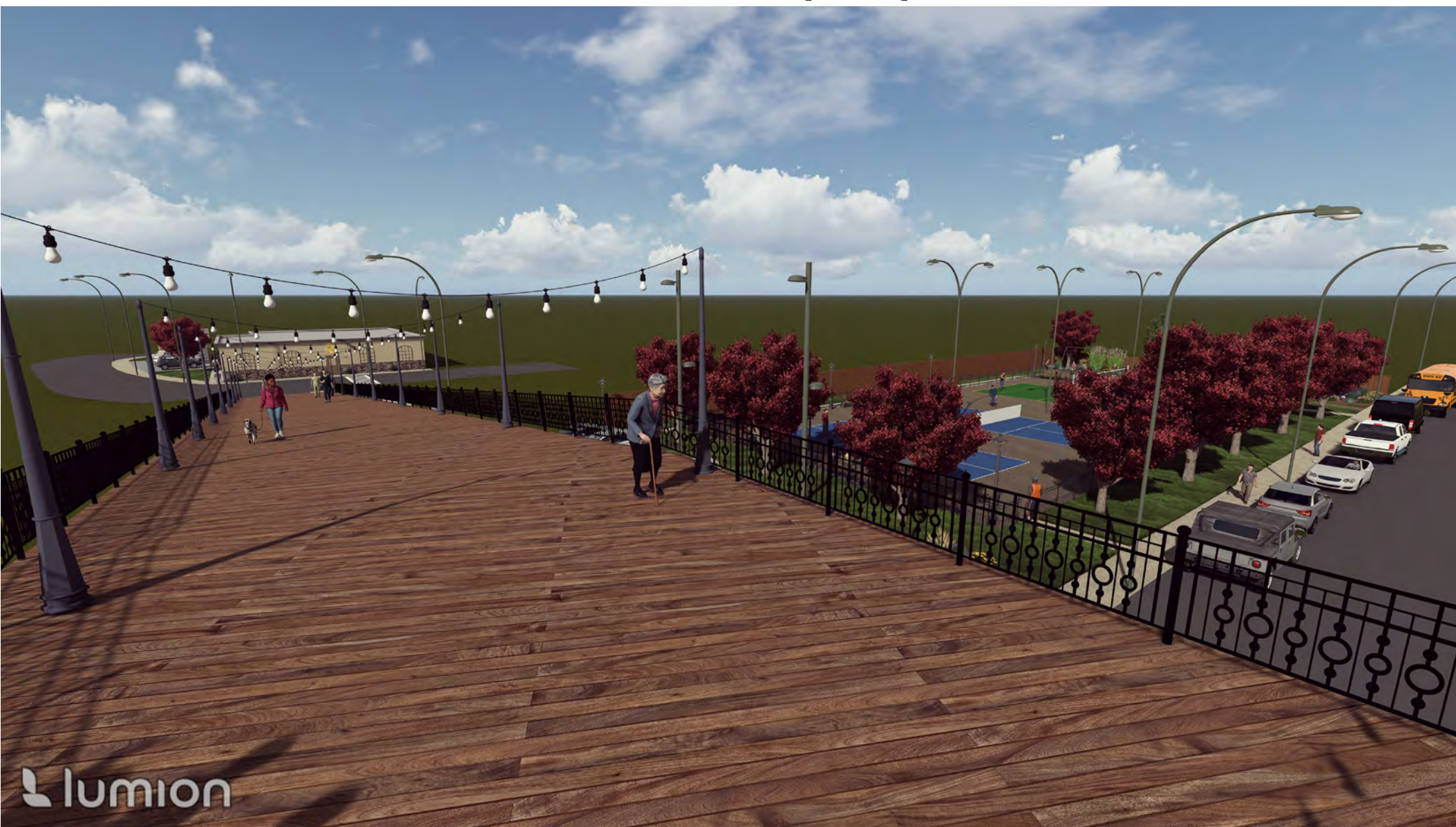
View of Bridge from W. Main St.



View of Stairwell Provides Access Downtown



View of New Park and Re-purposed Duck Build-



Seating Along Bridge for Relaxation



Night View of Bridge

View Walking along Bridge at Night with Seating





# The Duck Building / Air BNB

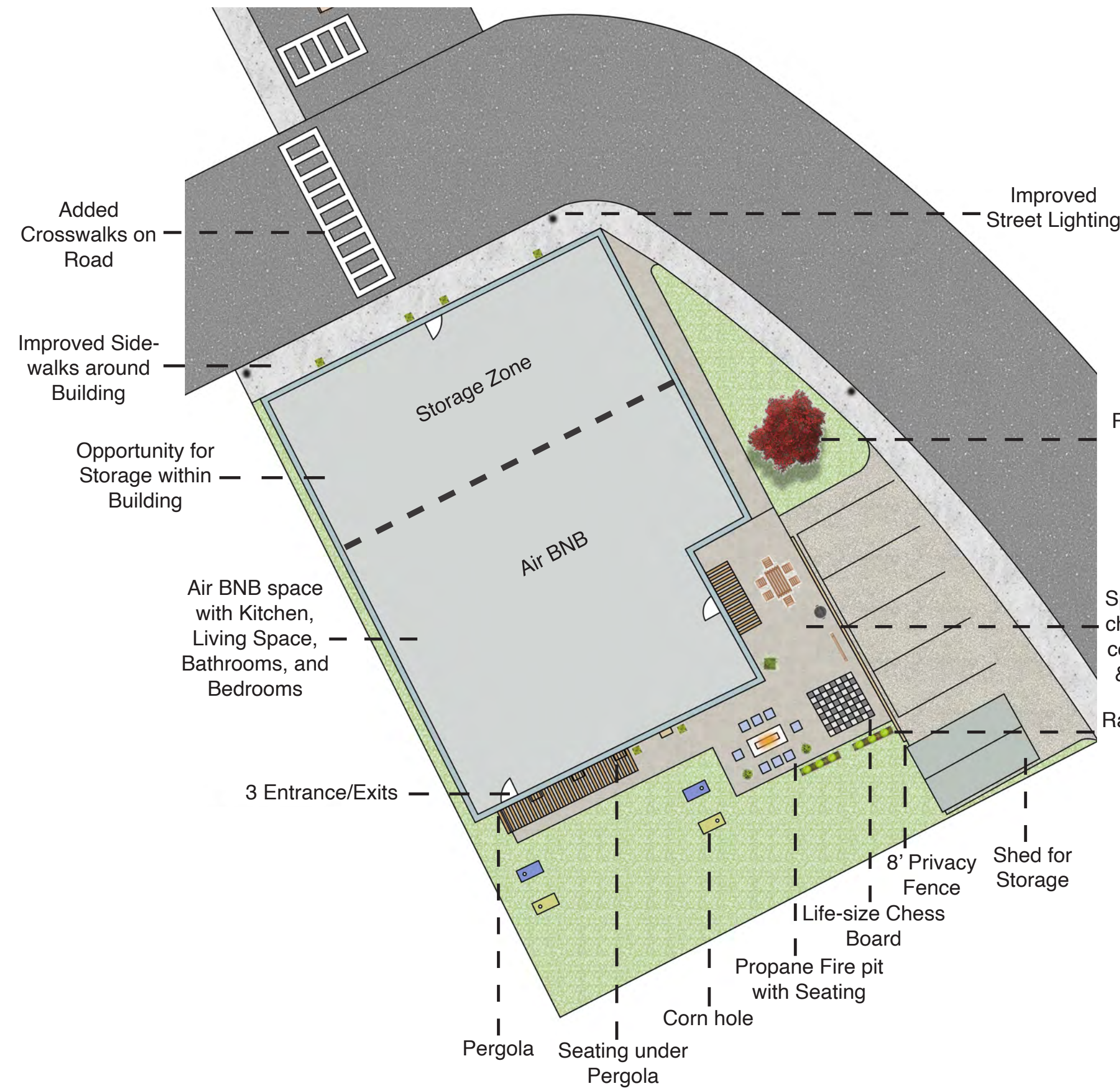
Ronceverte, WV

WVU Brownfields Extension

Located within walking distance of Downtown Ronceverte & the Greenbrier river, the Duck building provides an ideal location for an Air BNB and it also provides storage opportunity. The Air BNB would generate revenue while providing a rental opportunity for tourism and additional city storage.

By: Erik Moses

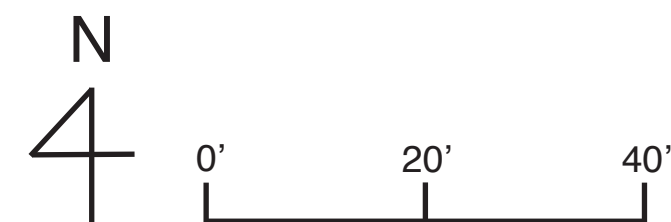
## Plan



## Context / Site Location



The site is located at the intersection of Monroe Ave. & Island Park Rd. The downtown, Greenbrier River, & Island park are within a mile away, a short 5-10 minute walk.



View of Building from Street



The Rubber Ducky Tradition



The Rubber Duck race has been a tradition in Ronceverte for years. Every Summer hundreds of people attend the Greenbrier River Festival where hundreds of rubber duck's race down the river. This building was named the "Duck Building" as it's located a short 5 minute walk from the river and downtown Ronceverte, providing a central meeting point for those attending the festival.

Backyard during the Day



View of Building, Parking, & Storage Shed



View of Seating area at Night



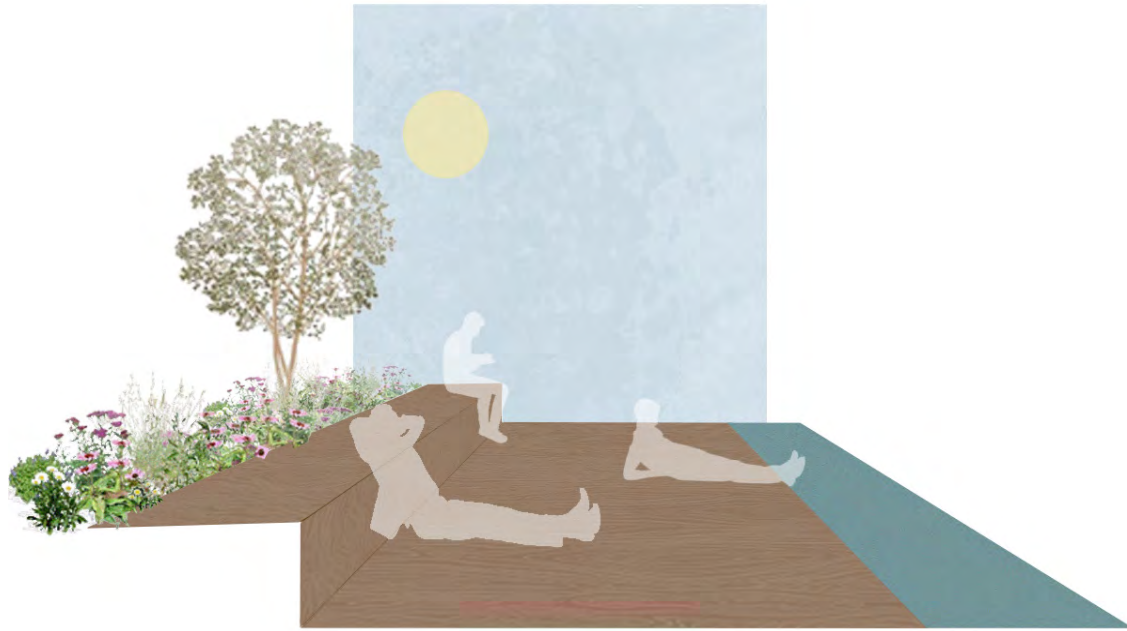
Backyard during Sunset



# Montgomery City Park

James Ranson

August 2024



The City of Montgomery, West Virginia is using their supply of blighted and unused land to increase public green space to serve the community. The Montgomery General Hospital's adjacent parking garage site sits properly along the town's most valuable natural resource, the Kanawha River. Public access to the river is restricted by private property, steep terrain, and industrial sites. This lack of access makes this site extremely valuable to the community. Montgomery City Park prioritizes public access to the river by allowing users to interact in a variety of ways via a large lounging platform along the rivers edge.

The existing public infrastructure surrounding the site, such as the playground, picnic shelter, fishing dock, and kayak launch, provide the recreational programming for a large public city park. These public amenities allow the adjacent parking garage site to exist as a public open space. A versatile open green offers a wide range of functions and benefits such as local sporting events, picnic and leisure space, festivals and fairs, large scale community meetings, and even concerts. The primary users of the space are local residents from the surrounding neighborhoods and staff from local medical offices. Providing picnic shelters for hospital staff from across the street is an important design element as they are an everyday user.





Classroom Perspective

The Karasek-Theorell job strain theory provides some insight in the context of this building. It examines how job strain and satisfaction are influenced by locational freedom, emphasizing the importance of offering autonomy. The building accommodates this by providing 4-5 flexible spaces that can be rearranged for each occasion.

**Common Area**



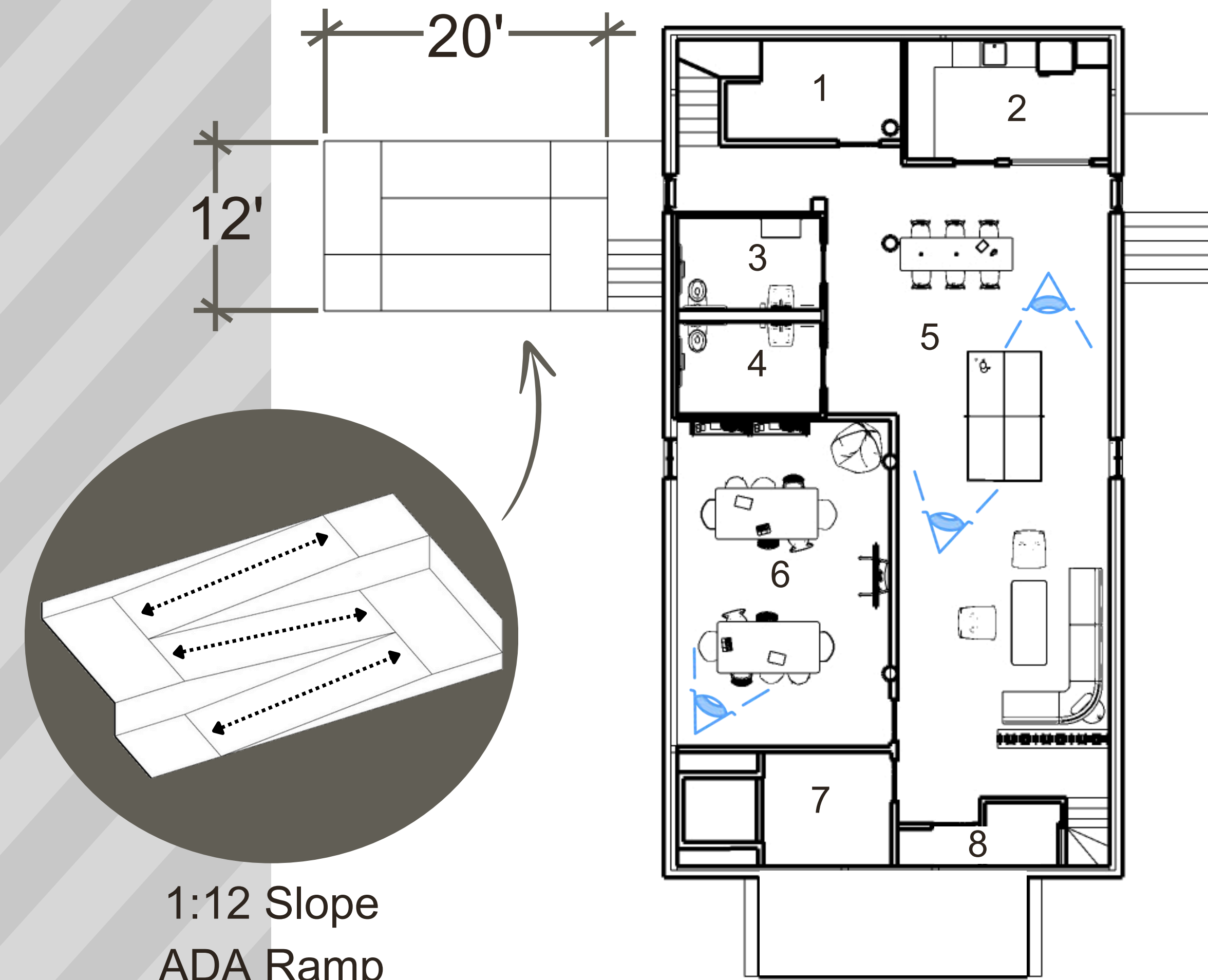
Common Area Perspective 1



Common Area Perspective 2

**Smithers  
Teen Center**

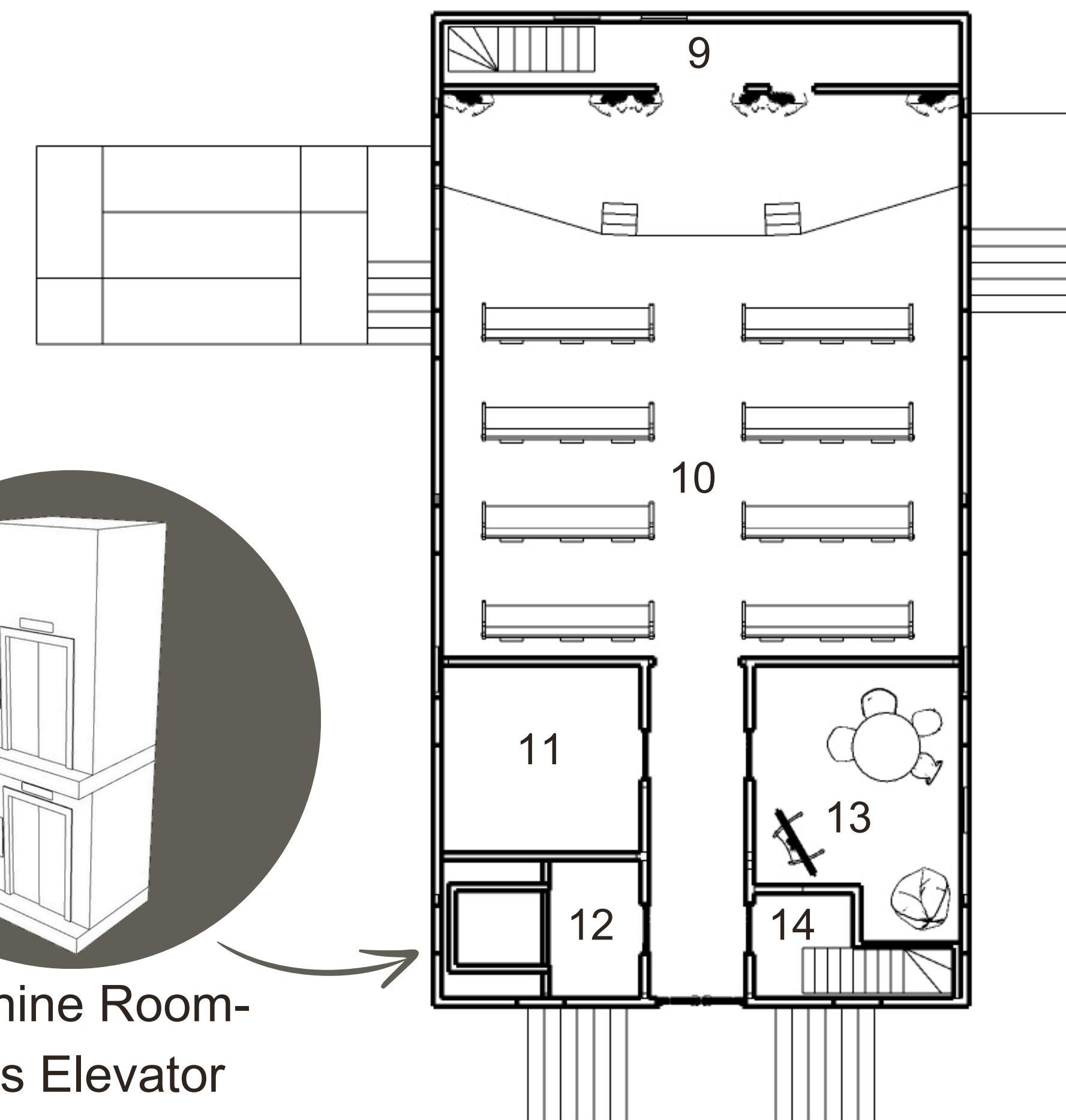
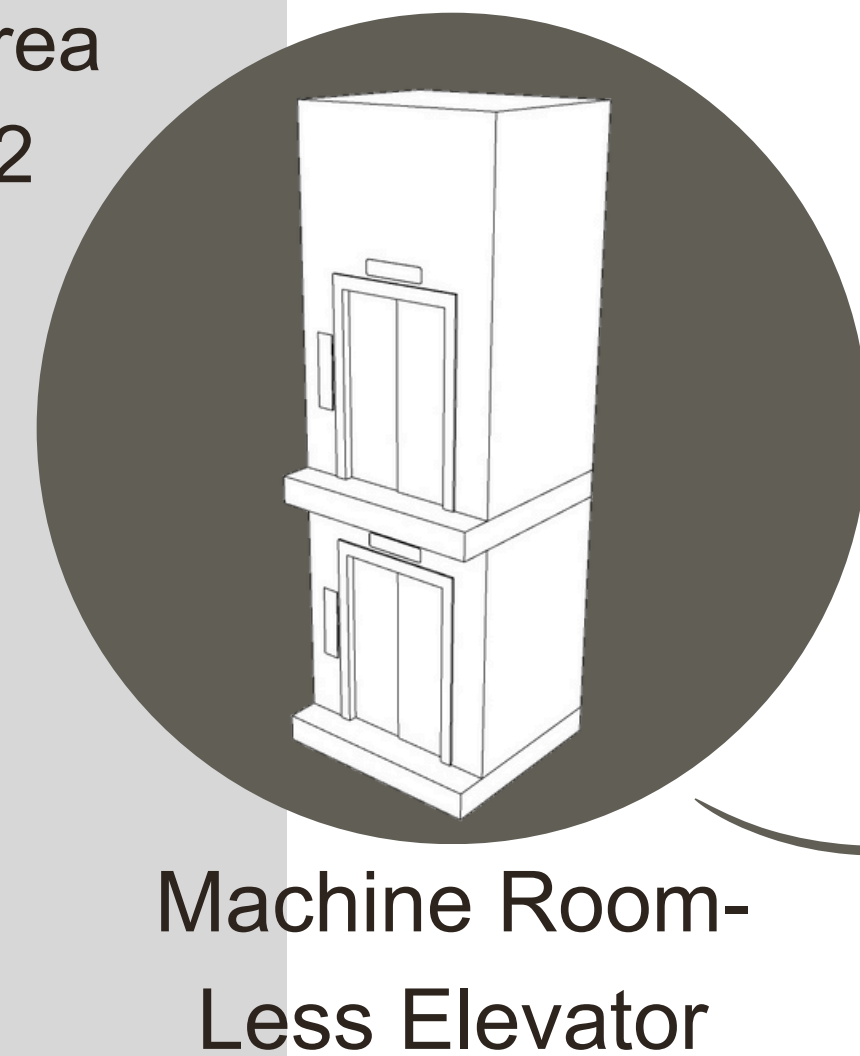
Transforming the Smithers church into a space dedicated to supporting local youth was a relatively straightforward process, primarily focused on restoration. The focus of this renewal is addressing safety concerns related to mold and following the Americans with Disabilities Act (ADA) standards, as the building lacked ground-level entrances. To ensure accessibility, we've designed a ramp on the northeast side and incorporated an elevator at the building's entrance.



Floor Plan of Basement

**Room Key**

- 1. Mechanic
- 2. Kitchen
- 3. Bathroom
- 4. Bathroom
- 5. Common Area
- 6. Classroom 2
- 7. Elevator Lobby 2
- 8. Storage
- 9. Backstage
- 10. Auditorium
- 11. Flex space
- 12. Elevator Lobby 1
- 13. Classroom 1
- 14. Stairwell



Floor Plan of First Floor