



THE MINSTER MILE:

REACTIVATION OF THE MIAMI-ERIE CANAL AS AN
INFRASTRUCTURE OF PLACE, ACTIVITY & ECOLOGY

A non-degree-required thesis submitted to the
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by

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advised by

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University of Virginia
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THE Minster MILE

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ABSTRACT

The Minster Mile is a series of typological operations to increase the vivacity, bring economic opportunity, and revitalize the ecological state of Minster, Ohio along its historic canal. Established in 1832, Minster was laid out on a mile grid due to its proximity to the Miami-Erie Canal, much like other towns along its route. The canal initially prompted economic growth by providing direct access to industrial, commercial, and cultural zones. However, its significance has decreased over time, resulting in neglect today.

The Minster Mile is comprised of typological operations occurring at various scales that emphasize experiential quality and formal connections to the canal and adjacent program. The operations follow the existing grid, while, vertically, paths connect its varying experiences. These paths enable parallel activity along the canal, for residents and visitors alike, and establish a link to neighboring towns, enhancing the canal's role as an experience of multiple places. This framework is considered within different towns in relation to unique histories, therefore creating the canal as an infrastructure for activity, commerce, and ecology. The Minster Mile evokes a new perspective of one's experience with the canal by transforming it into a place for community, history, and a celebration of all life.



I would like to express my utmost gratitude toward my thesis advisor, Mona El Khafif, for her valuable knowledge, support, and mentorship through the entirety of this project. As well as my thesis instructors, Nana Last, Leena Cho, and PhD Candidate, Sasson Rafailov for their constant presence and guidance throughout the fall and spring semesters in the development of this thesis. I am grateful to have had the opportunity to learn from such profound scholars.

Thank you, also, to my family and friends for their support and positivity throughout this process, as well as throughout my architectural education.

This project is dedicated to my hometown and all of the incredible people that create its community. I hope this evokes a new idea of the possibilities that intentional design can create for the future.

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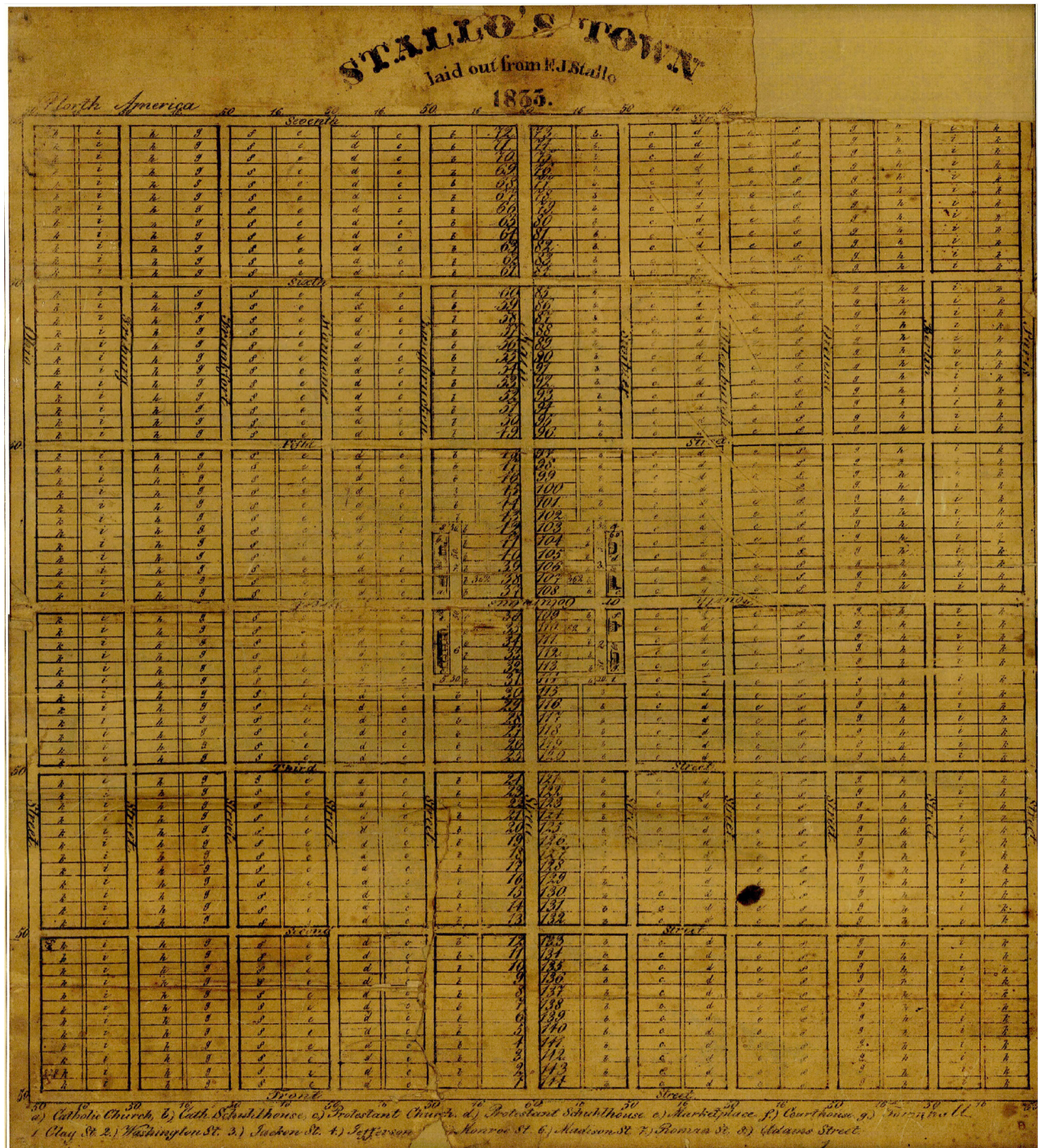
VII. RESOURCES



HISTORY OF MINSTER, OHIO + MIAMI-ERIE CANAL

Minster, Ohio is a small village that was established as a German settlement based along the Miami-Erie Canal. The settlement was led by Francis J. Stallo who traveled from Oldenburg, Germany and urged fellow community members to move to Ohio to find new opportunity. Stallo originally settled in Cincinnati, where the other German members followed, but eventually learned that there was opportunity for growth within their community if they bought land and established a town on their own. The Miami-Erie Canal was in the process of construction, so Stallo and the fellow settlers chose to purchase land that would run alongside the Canal to aid with transportation of goods and the development of history. Stallostown (present-day Minster) was established with 640 acres of land divided into 144 shares with 10 lots per share. The town was built along the grid, and eventually conformed to the Canal which was constructed in the middle of an established block. The architecture that was constructed to fill the needs of the settlers stands today either fulfilling different needs or vacant. Minster is an example of small towns of the time that were established along the route of important infrastructure.





ABOVE: Original plat map of Minster (previously Stallstown) from 1833

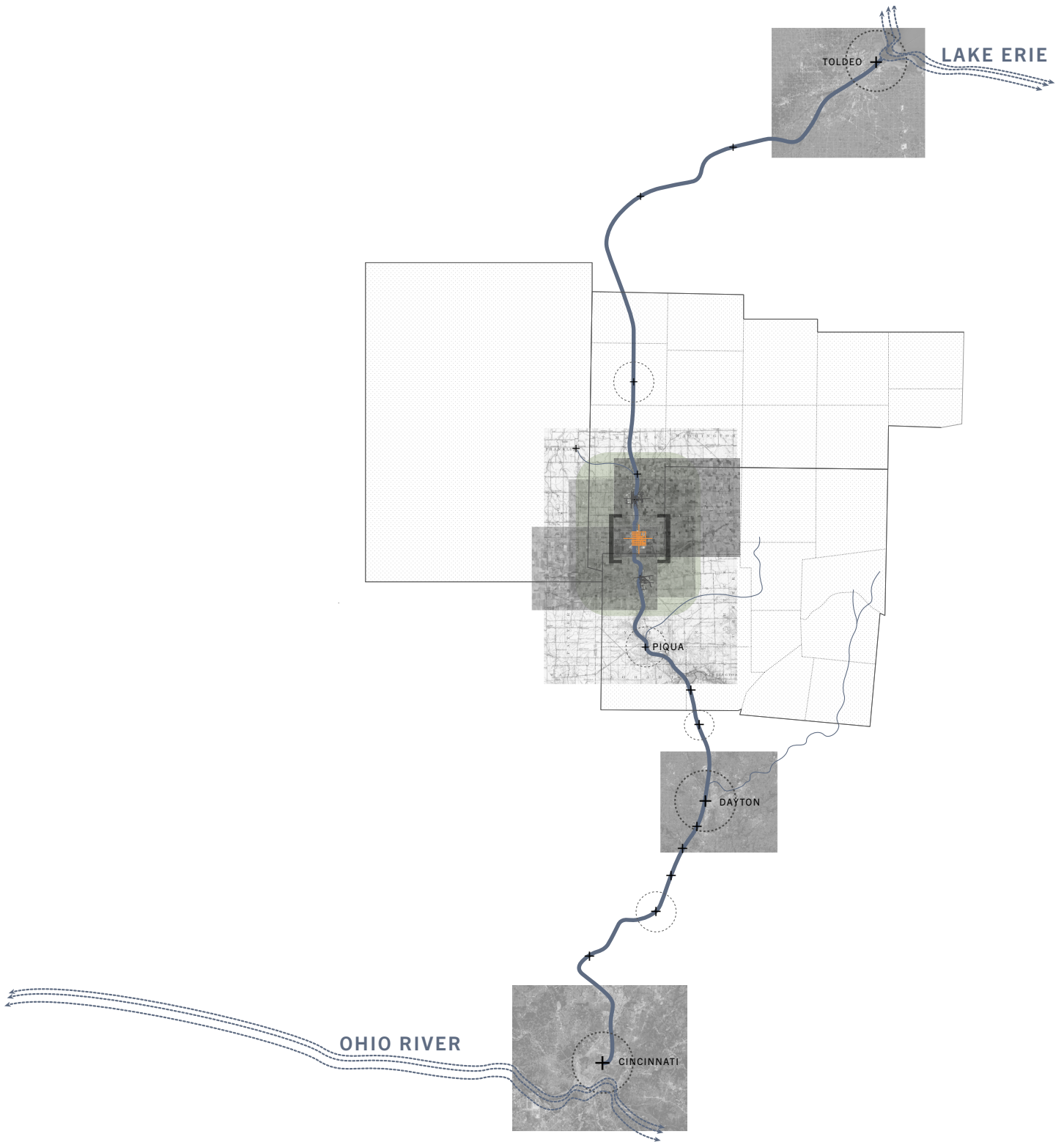
The purpose of choosing this land was because of the future implementation of the Miami-Erie Canal in 1845. The canal connected the Ohio River to Lake Erie, spanning 274 miles. Many cities, towns, and villages alike grew along the canal due to their proximity to transportation, trade, commerce.



ABOVE: Map of Miami-Erie Canal in its entirety through Ohio

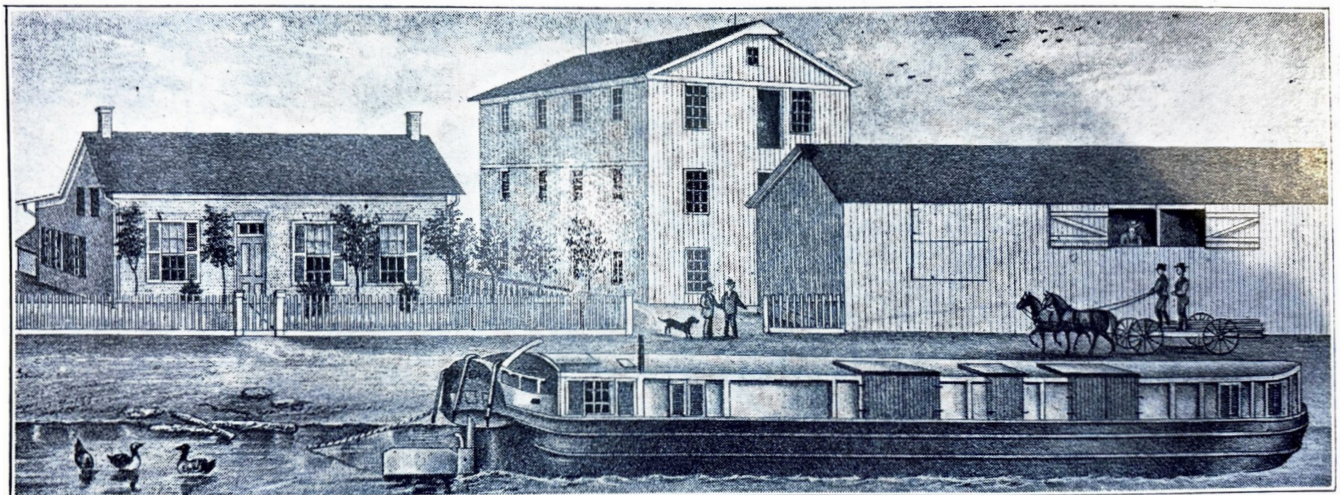


ABOVE: Image displaying canal boats being used as a primary source of transportation, pictured is a canal boat going through Minster



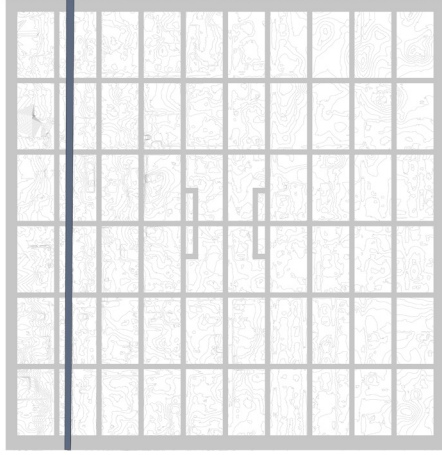
ABOVE: Diagram displaying Minster's placement along the Miami-Erie Canal in relation to the other town and city developments that grew along its path.

The built environment was then activated within Minster, where commercial and industrial zones were grown closer to the canal due to proximity. As the town continued to build within its grid, guided by its structure and parcelization, the canal slowly began to lose its purpose through the introduction of rail and automobile.

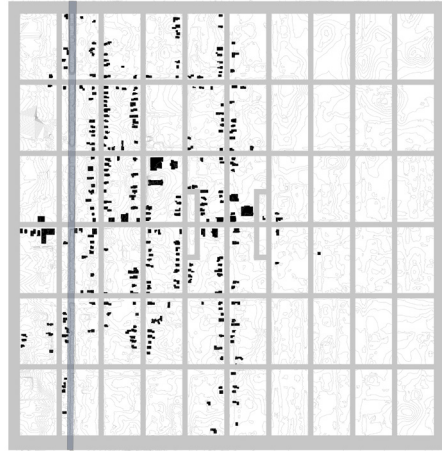


ABOVE: Image of canal boats being used as a primary mode of transportation in relation to the industrial development that grew along the canal's edge

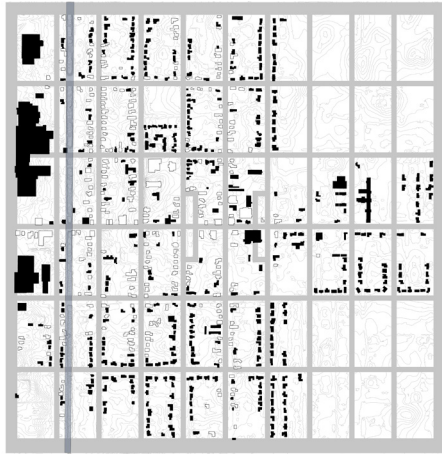
MIAMI-ERIE CANAL 1845



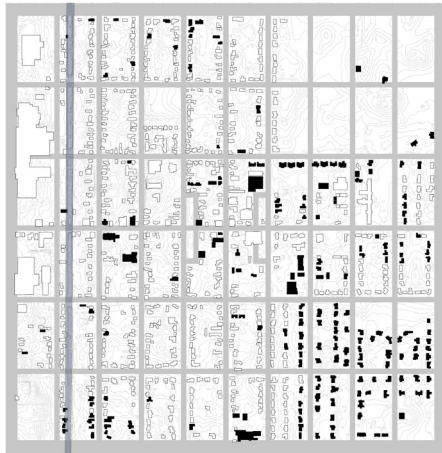
BUILT ENVIRONMENT
1899-1939



BUILT ENVIRONMENT
1940-1979



BUILT ENVIRONMENT
1980-Present





ABOVE: Satellite imagery of Minster in its current state, defined by the mile-by-mile grid [Google Earth]

The canal, in its present state, sits desolate, neglected, and stagnant. Upon this, and being a resident of the town, I have always looked at the canal and wondered if it could become something more - *how could the Miami-Erie Canal become an active and moving body, for both people and water?*

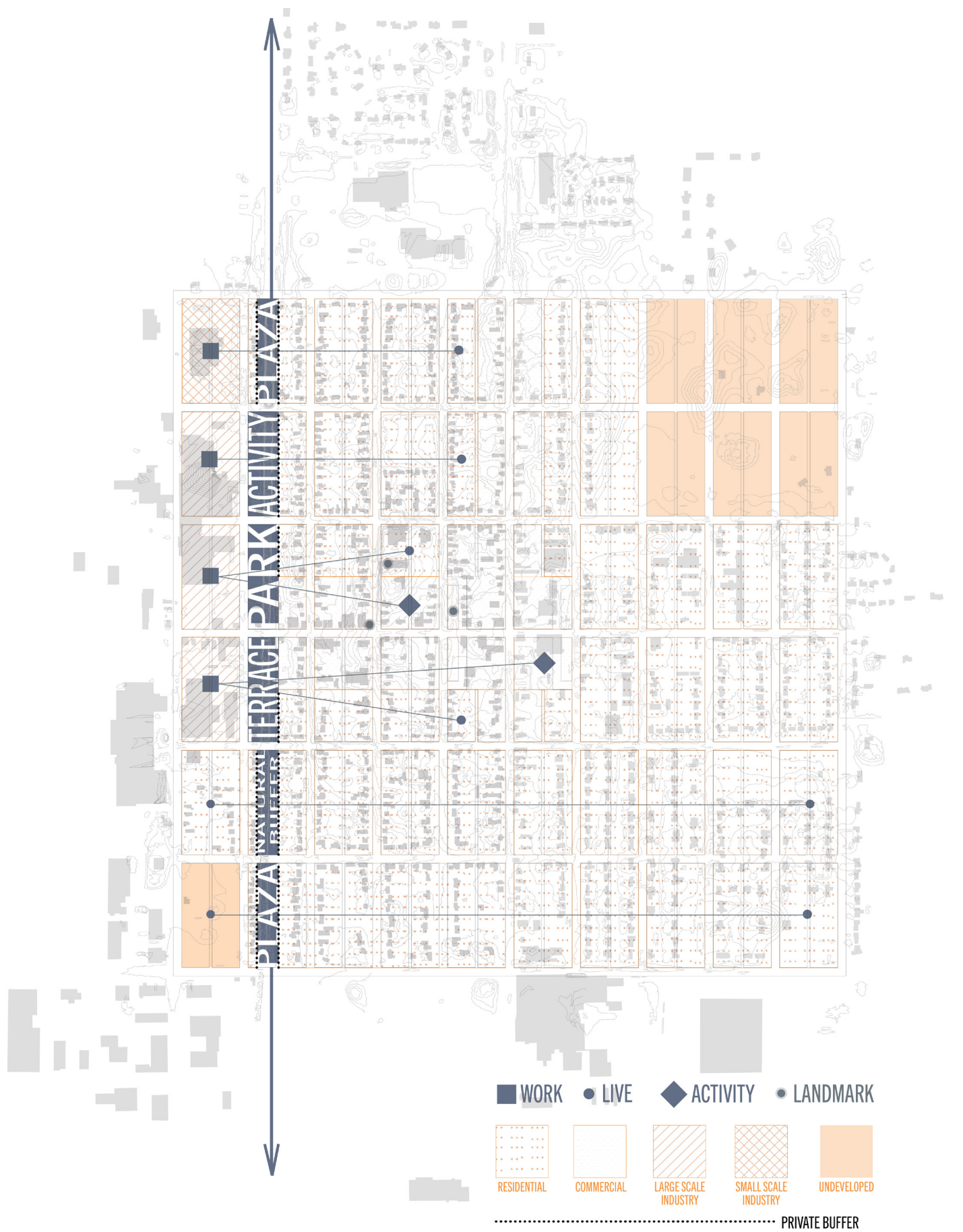


RIGHT: Photographic series of the views of the Miami-Erie Canal at different street crossings within Minster, Ohio



ANALYSIS OF MINSTER - TOWN SCALE

The goal of this thesis is not only connect Minster to the towns adjacent to it, but to also amplify the place within itself. Through an analysis of the town, the present day circumstances of land use, activity, ownership, and the relationship of the built environment with the canal were considered to begin to define activity and connection with the canal. The town was analyzed through the private versus public lens and considered where there are the zones that can benefit from generated activity.





TYPHOLOGICAL OPERATIONS

The analysis aided in the generation of a base guideline of what an activation with the Miami-Erie Canal can become in its different forms. The typological operations were developed and considered in relation with the canal through the lens of private versus public, active versus stagnant, and the different interactions of natural elements and circulation alike by implementing a bike path, a walking path and activating the natural ecology of a place. The typological operations were further defined by EDGE, CROSSING, GREEN INFRASTRUCTURE, VEGETATION, INFILL, and DESTINATION ATTRACTOR.

TYOLOGICAL OPERATIONS

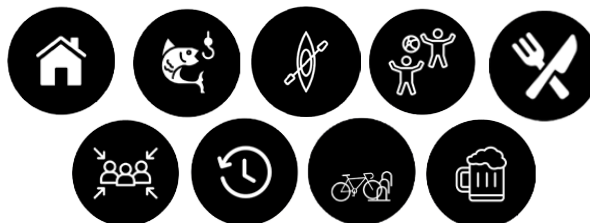
CIRCULATION

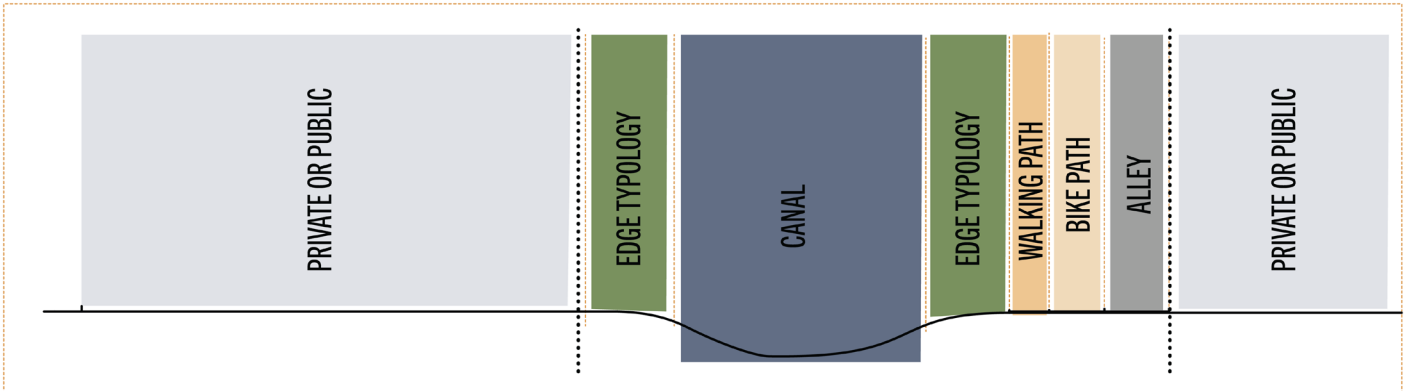


NATURAL ELEMENTS



ACTIVITY



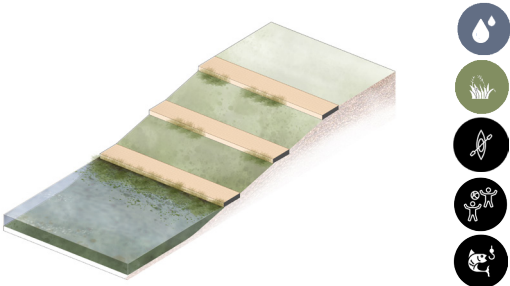


ABOVE: Diagram of the base section used to generate different typological interactions with the canal

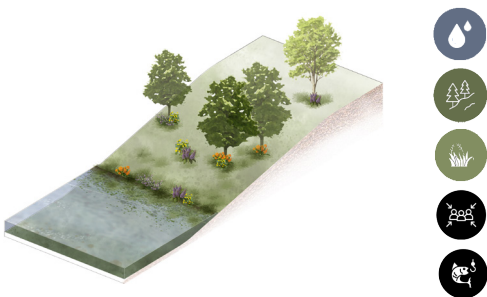
EDGE TYPOLOGY

The EDGE TYPOLOGY takes on different forms in terms of public versus private, instances of gathering and recreation, and creating the natural edge as something of a place to interact with. The edges are also understood through its relationship with the circulation elements.

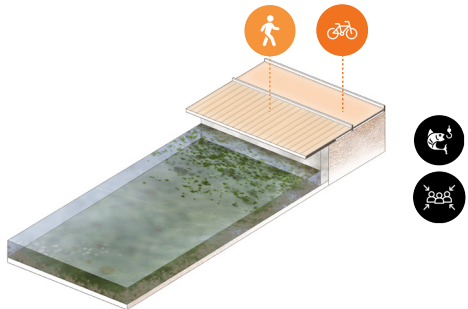
STEP TERRACE ACCESS



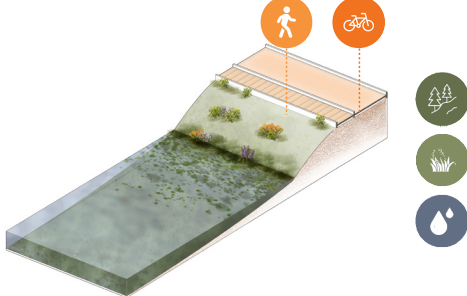
NATURAL WETLAND ACCESS



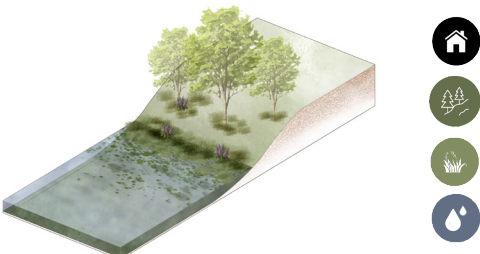
TERRACE OFF WALK PATH



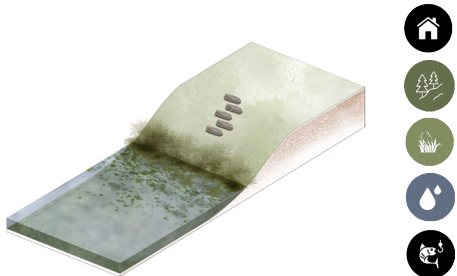
RIPARIAN EDGE



RAIN GARDEN

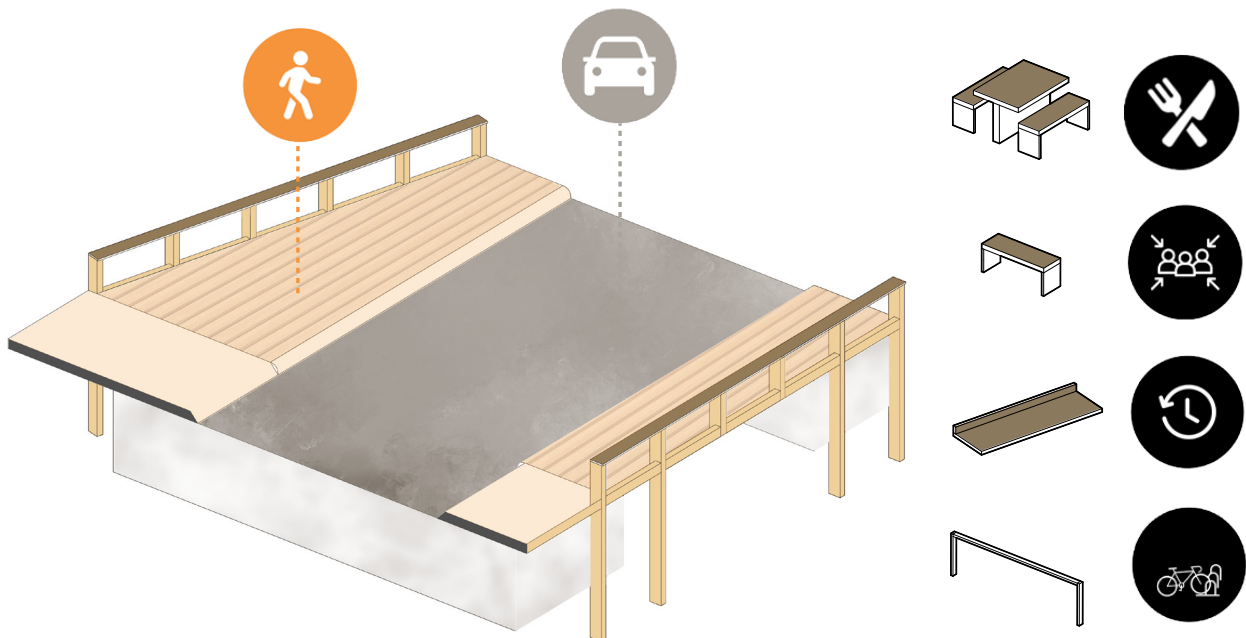


NATURAL STEP TERRACE ENTRY



CROSSING TYPOLOGY

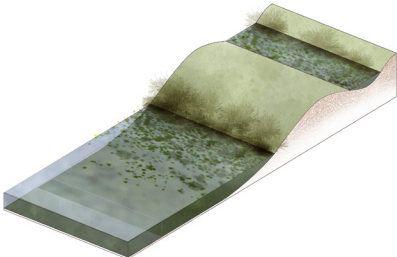
Through the circulation is the idea of a CROSSING TYPOLOGY. This is specifically what it means when the grid crosses with the canal. Historically, there were large bridges that occurred. The crossing typology offers a more simplified version, turning the idea of what is usually viewed as an active state can turn into one of rest, learning, or gathering.



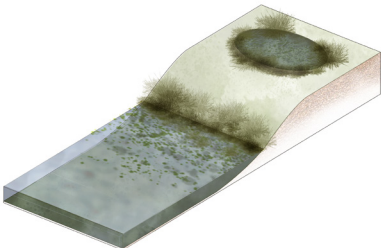
GREEN INFRASTRUCTURE TYPOLOGY

The GREEN INFRASTRUCTURE TYPOLOGY considers the watershed of the town as it is gravitated toward the canal itself. The typology implements different methods to alleviate watershed through the use of bioswales, water basins and retention ponds where the space of the land is available.

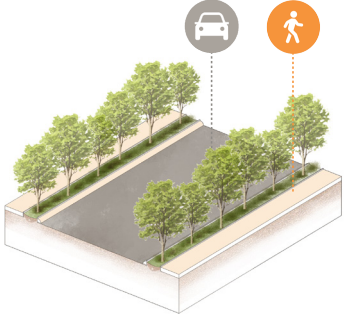
WATER BASIN

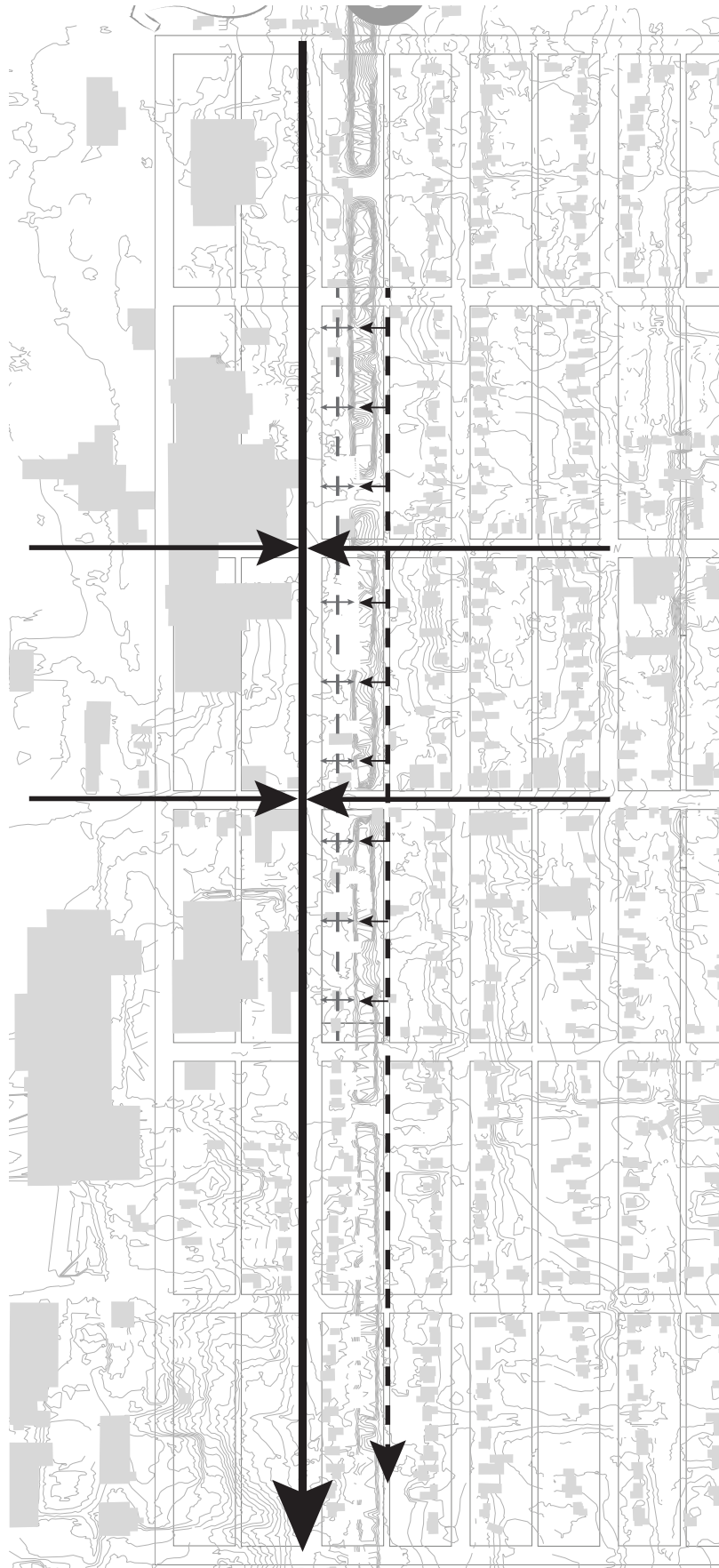


RETENTION POND



BIOSWALES





ABOVE: Map displaying the water shed drainage as it is directed toward the Miami-Erie Canal, where the flow of the water is from North to South into the Ohio River

VEGETATION TYPOLOGY

It is within the VEGETATION TYPOLOGY where native species are planted. This is an instance of private versus public implementation, the private residents receive the choice of the vegetation they choose to plant and care for, but in the public spaces, the species are combined as a distinguish of public vs private spaces. Seeing the establishment of this path as an opportunity for the private residents to have an input and a role in creating this experience.

PUBLIC SPACE



SUGAR MAPLE + WHITE OAK COMBINATION

NATIVE PLANT COMBINATION



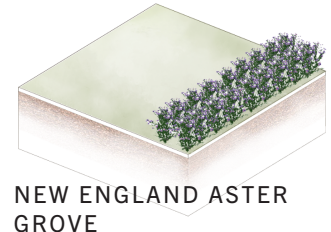
SUGAR MAPLE GROVE



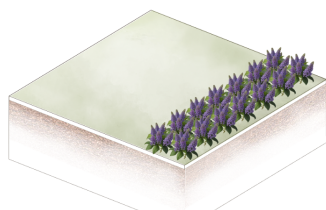
WHITE OAK GROVE



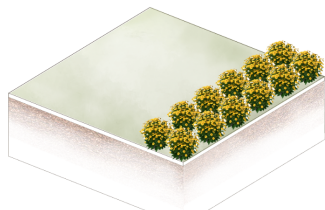
BUTTERFLY MILKWEED GROVE



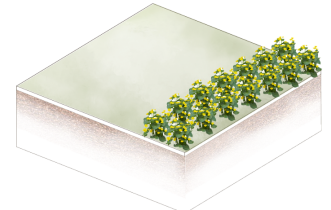
NEW ENGLAND ASTER GROVE



ANISE HYSSOP GROVE



BLACK-EYED SUSAN GROVE



MARSH MARIGOLD GROVE

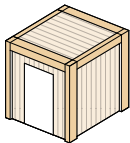
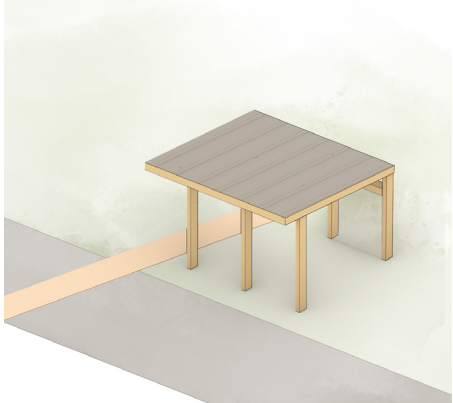
INFILL TYPOLOGY

The INFILL TYPOLOGY can also be considered as an option within the private or public realm, which takes on the form of pavilions that can have different amenities, such as bathrooms, benches, or bike racks, or in the form of canal houses: unique, single-bedroom houses that can be located in the backyard of a singular parcel.

CANAL HOUSE

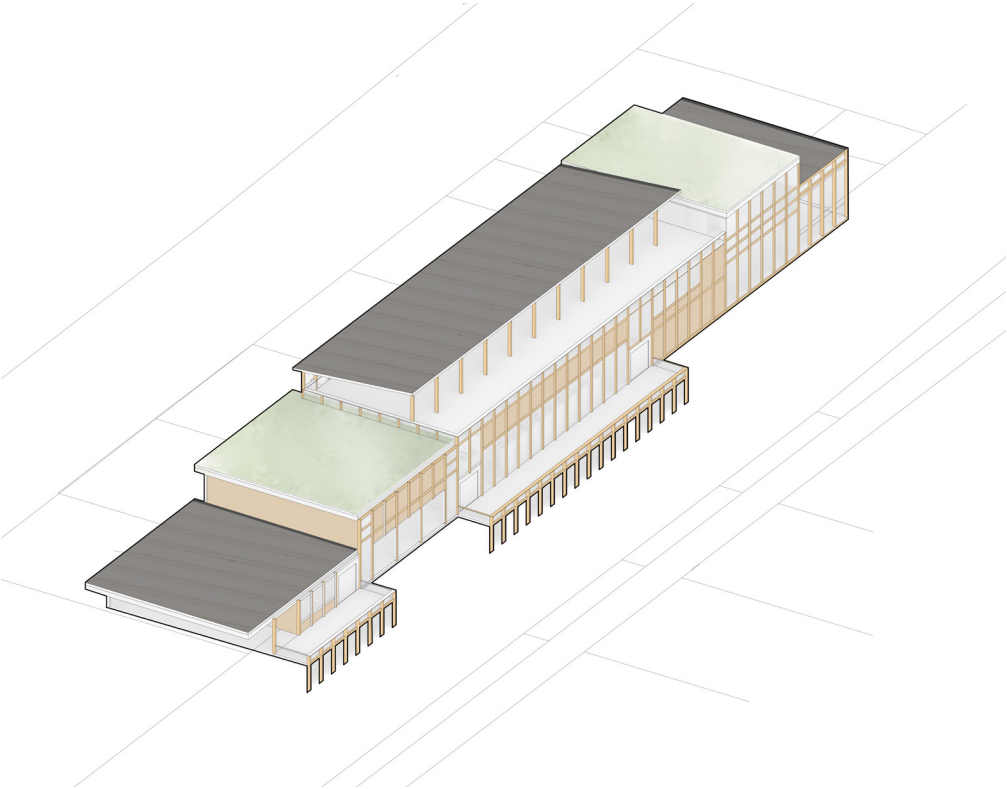


PAVILION



DESTINATION ATTRACTOR

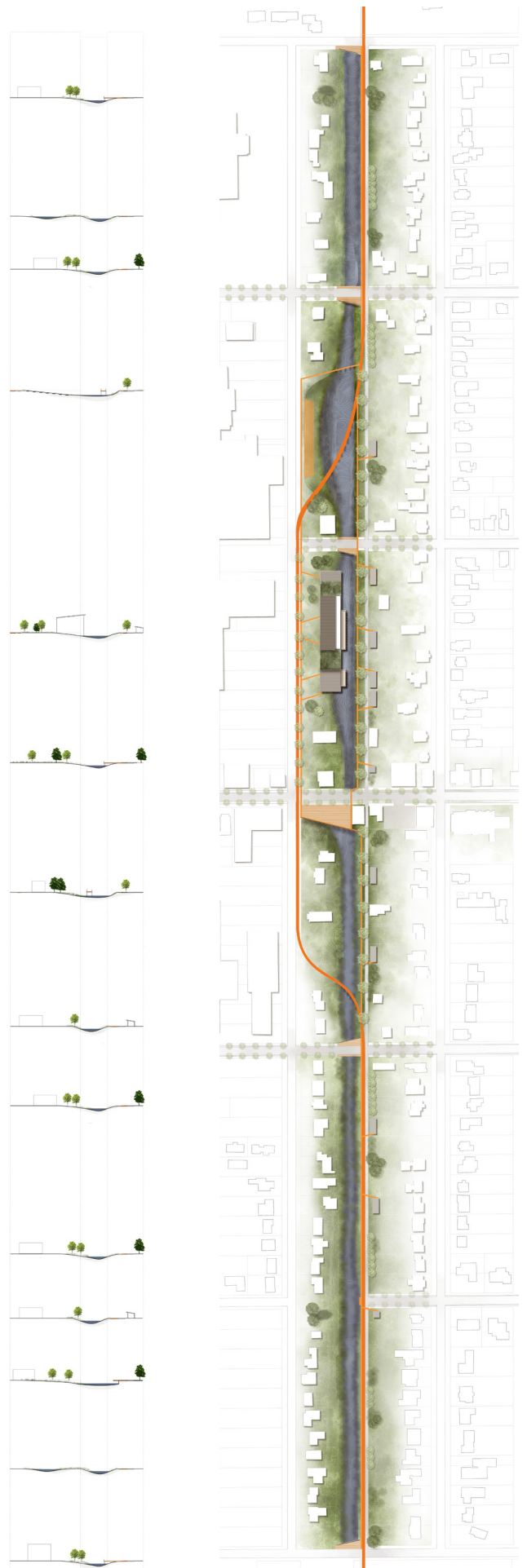
The DESTINATION ATTRACTOR is an instance of how a cultural entity can be amplified for its residents while also creating an experience for the visitors, alike, in spaces of either vacant lands or, in this instance, the transformation of a present-day parking lot.

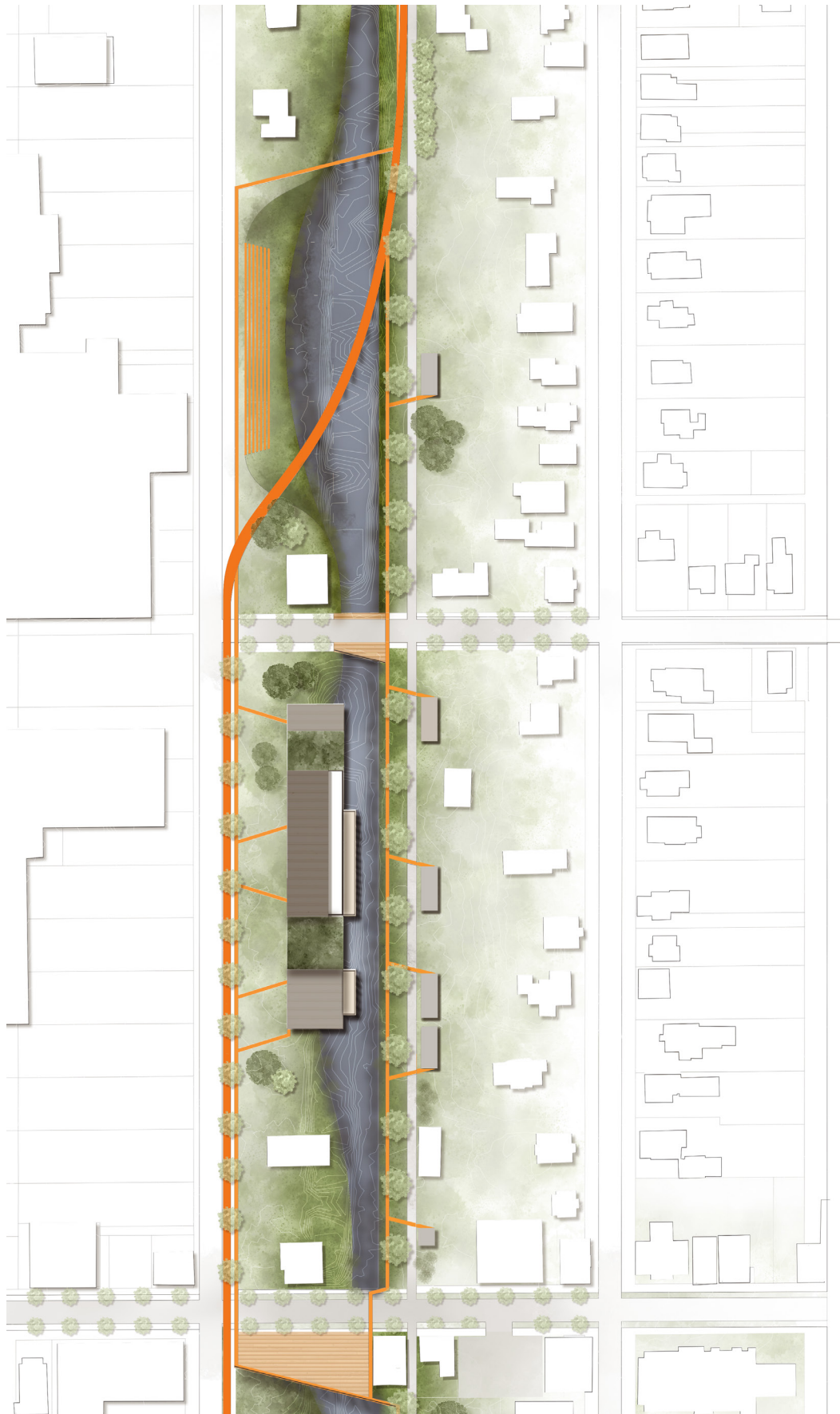


PROPOSED SITE PLAN

The typological operations interact with the stagnant base section of the canal as it sits today forming it into a sequence of changing edge conditions that can serve to generate different activity in relationship to the parcel's position to program and the private versus public realm.

Together, these operations create an active front that is comprised of moments of push and pull in relation to the intended interaction with the canal. This approach amplifies the program for the residents and generates new experiences for the visitors along the path.



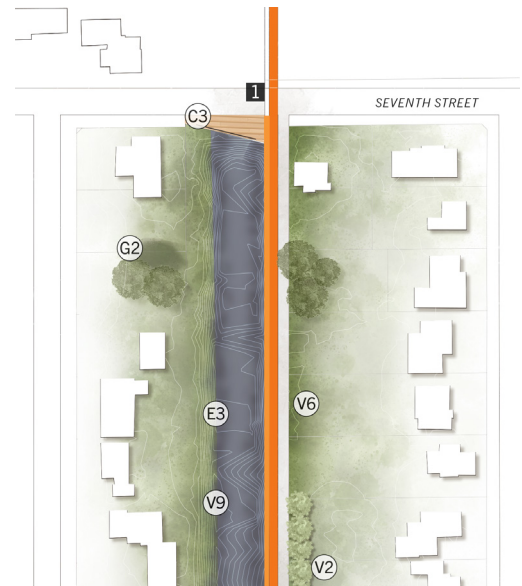


ABOVE: Zoomed in call out of the site plan, showcasing the step terrace, the destination attractor, and the commercial terrace



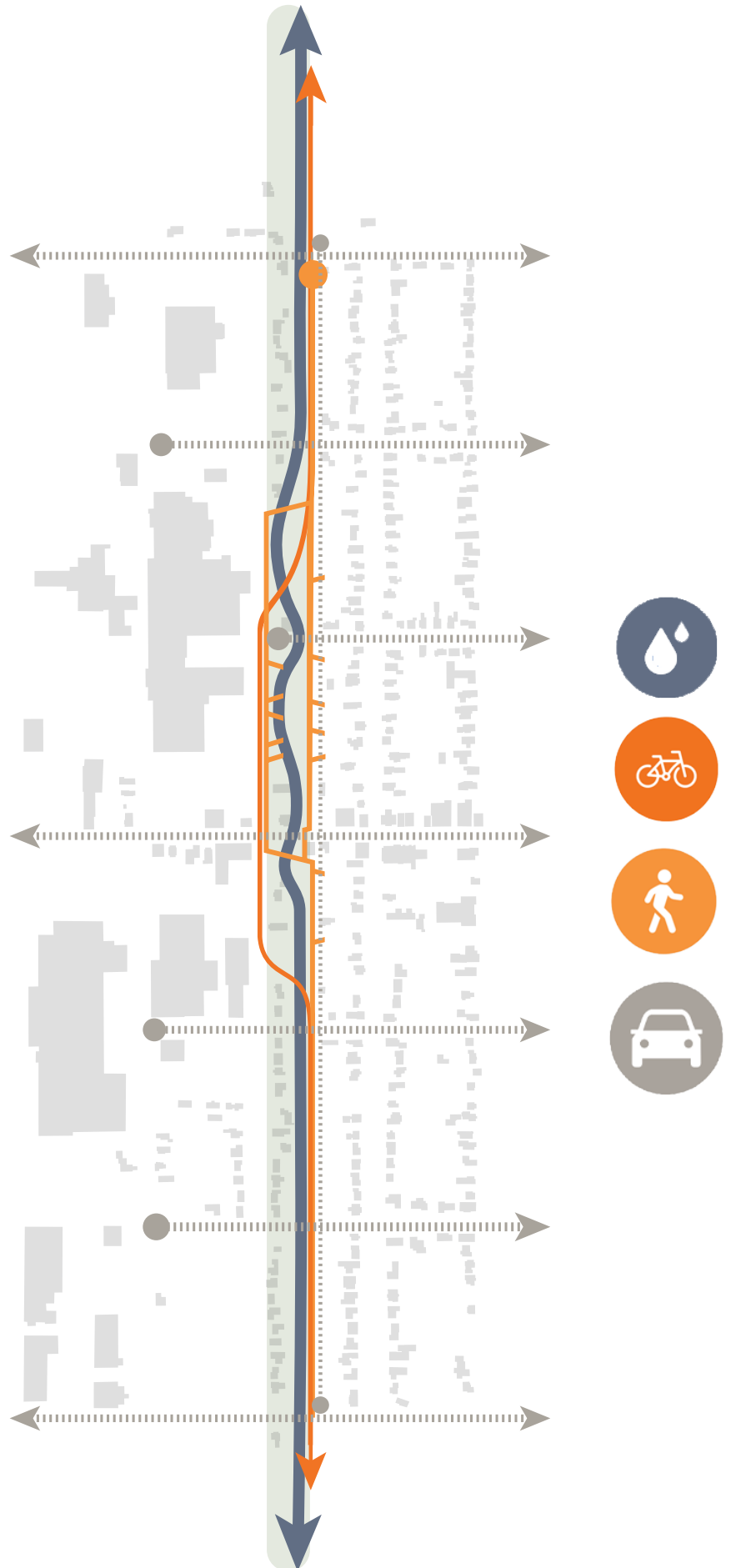
NARRATIVE THROUGH MINSTER

The following is a narrative of biker that is using the implemented path through Minster, going from North (Lake Erie) to South (The Ohio River). The biker initially crosses an example of the CROSSING TYPOLOGY which displays historic facts about the town.



CIRCULATION

The modes of circulation are defined by the following: bike path, walking or running path, street and/or automobile, and the Miami-Erie Canal, itself, understood now as a recreational corridor. The bike path takes on a more curved form, for the easy flow of a bicycle. As compared to the walking path which takes on this more orthogonal approach which is a different perspective than that of its embedded structure grid. And all of which is coupled with the interaction of car and the canal itself.



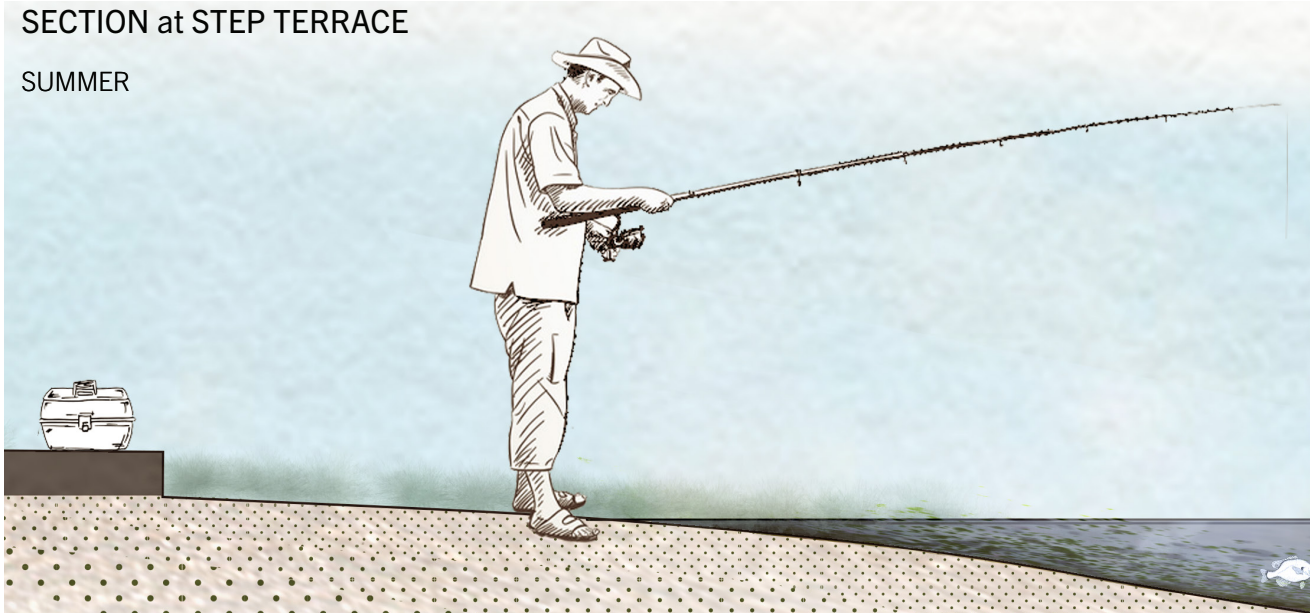
The step terrace is located adjacent to industrial buildings and is this natural edge for recreation. It serves as both a place for gathering, but also that of activity, allowing for a natural interaction with the canal to be experienced.



The step terrace is understood through the temporal lens to acknowledge the weather conditions within Midwest Ohio. These forms of activity can be enjoyed throughout the year for adults and children alike, serving as a place for recreation.

SECTION at STEP TERRACE

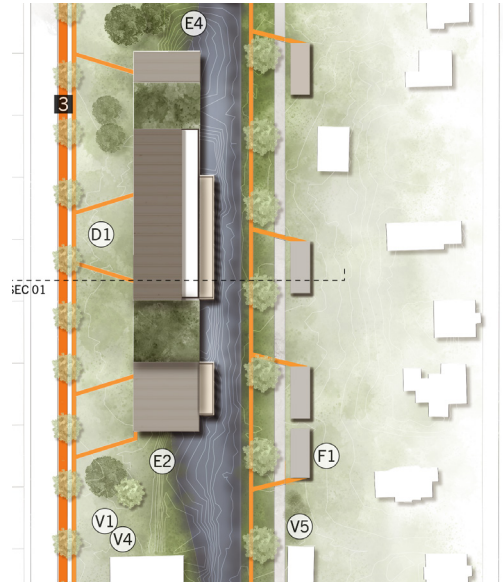
SUMMER



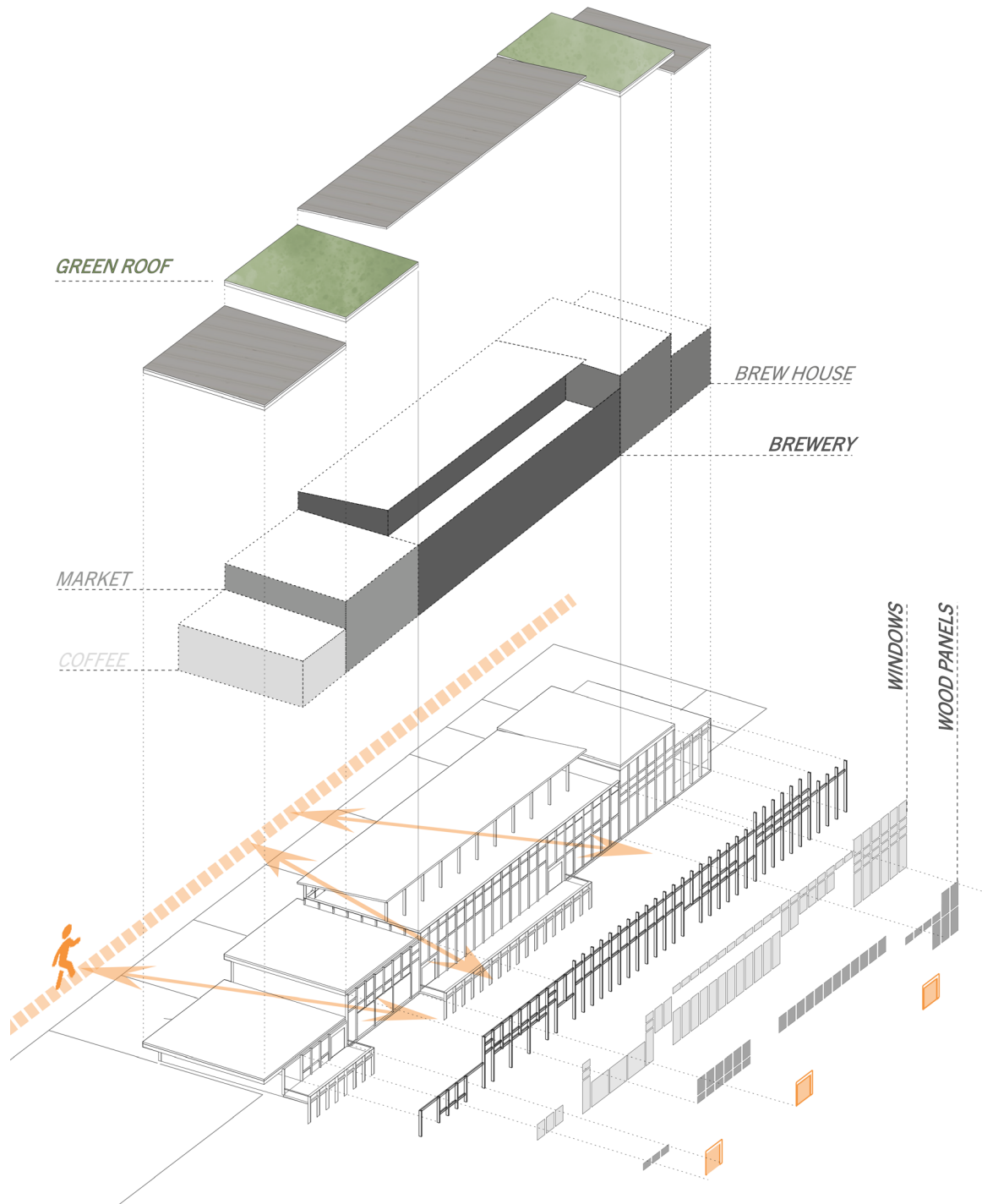
WINTER



Along the path is the destination attractor, where activity is acknowledged in both the interior and exterior sense. The destination attractor serves as both a stopping point for visitors of the trail, but also a place for community gathering alike.

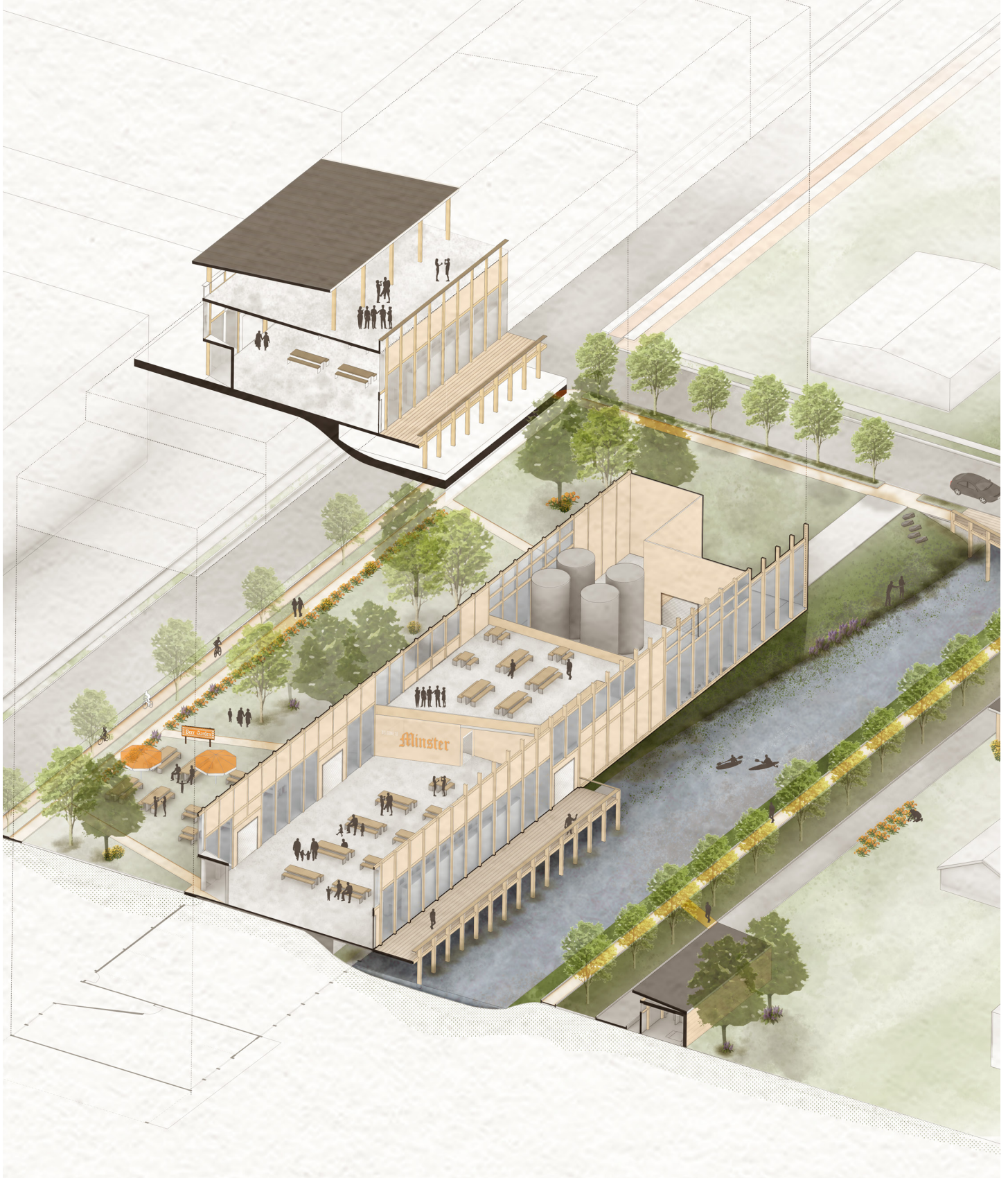


The façade of all the built structures takes on a reflection of the program itself and the program creates a cultural identity of the space, including a brewery, a market space, and coffee shop. The idea of this is adding to the culture of the place, but also creating something new for the visitors to attend all following the same materiality and built conditions.

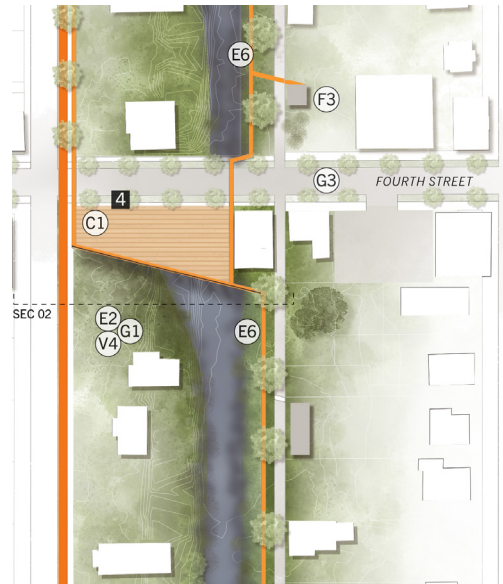


ABOVE: Exploded facade and materiality diagram of the destination attractor to display the different forms of building criteria that is considered within the built form typology.

The destination attractor, combined with the common built conditions, generates a space that creates multiple interactions with the canal, both in the built and natural form. Below is an axonometric view of the destination attractor, displaying the gathering spaces and terraces that can be utilized by both visitors and residents.



The commercial terrace is located as a form of the crossing typology to allow for rest from recreation and promote exploration into the town. This is the commercial core of the town and the terrace is placed here to guide the visitors to the existing businesses that are placed along this main street, creating more of a stopping point. But also, building upon the culture of the town throughout the year.

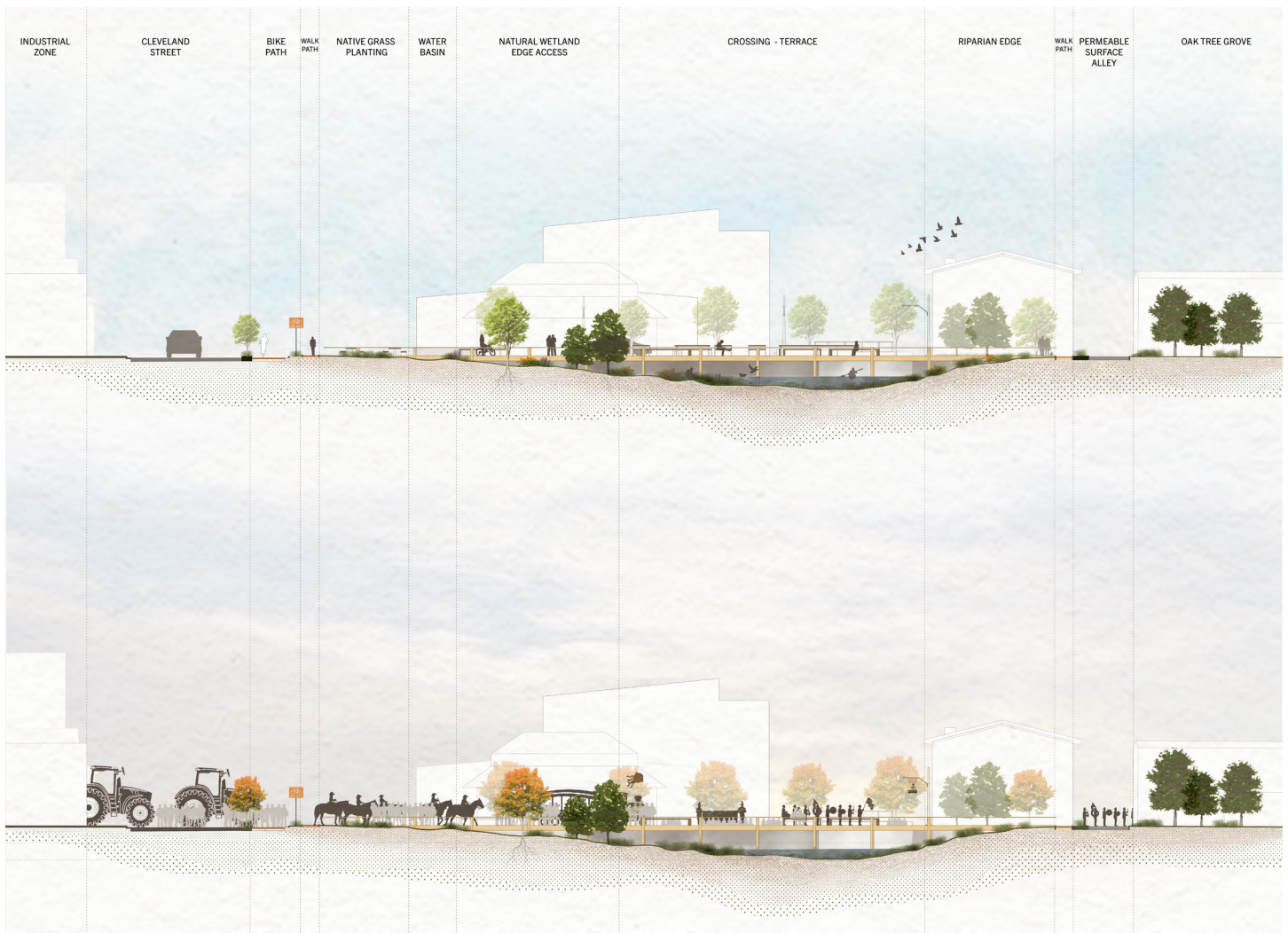


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ABOVE: Diagram displaying the land use of Minster's township, where the commercial core is located in conjunction with the terrace

The commercial terrace creates moments where it is not only activated in the summer but also supports different elements that make a town unique. For Minster, specifically, the town hosts its annual Oktoberfest - a special gathering of the town to celebrate its heritage. This is another instance of celebrating a place, understanding its culture, and even though this is just one instance throughout the year, this is a way that it can be built upon through this intervention.

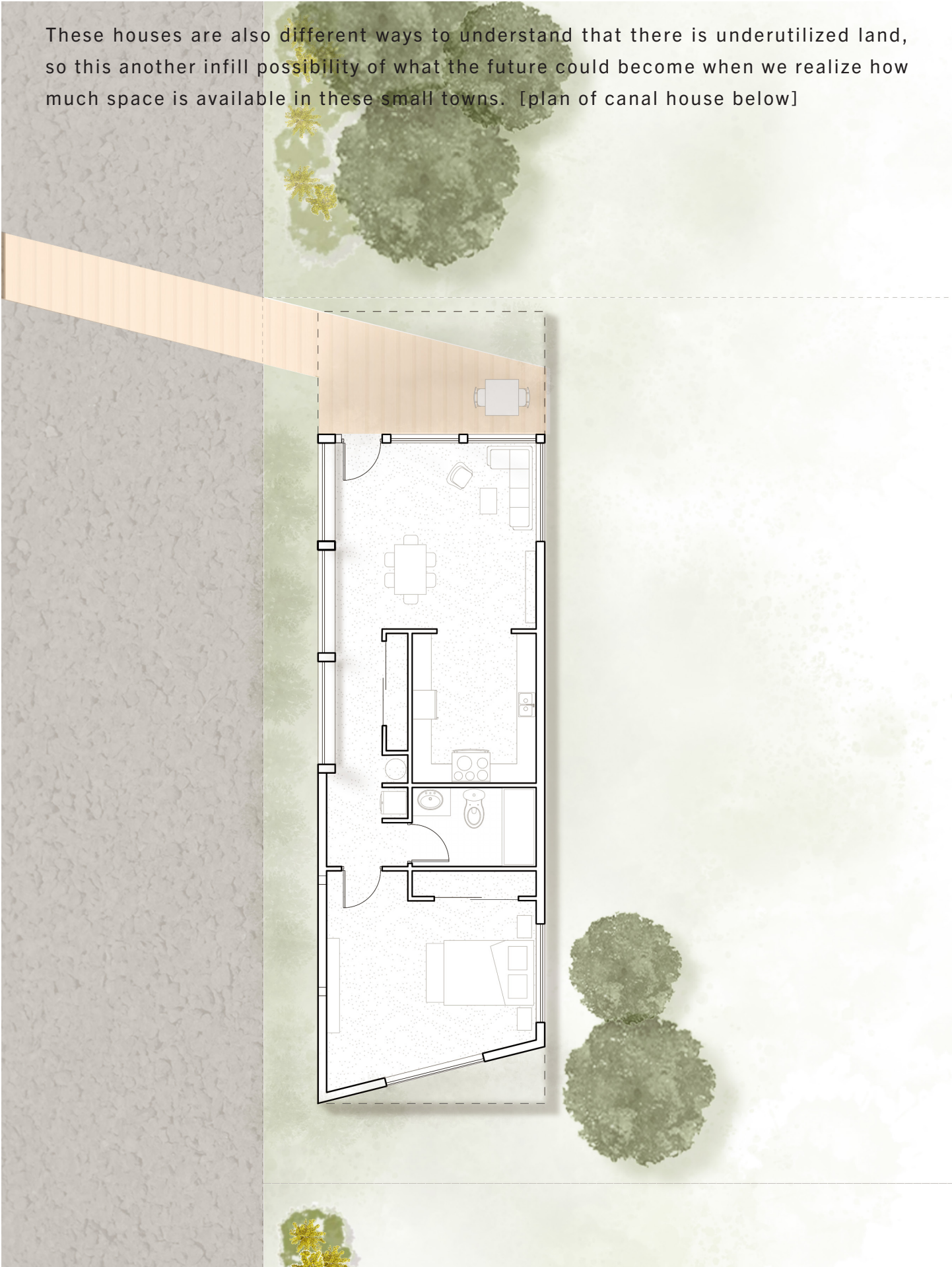


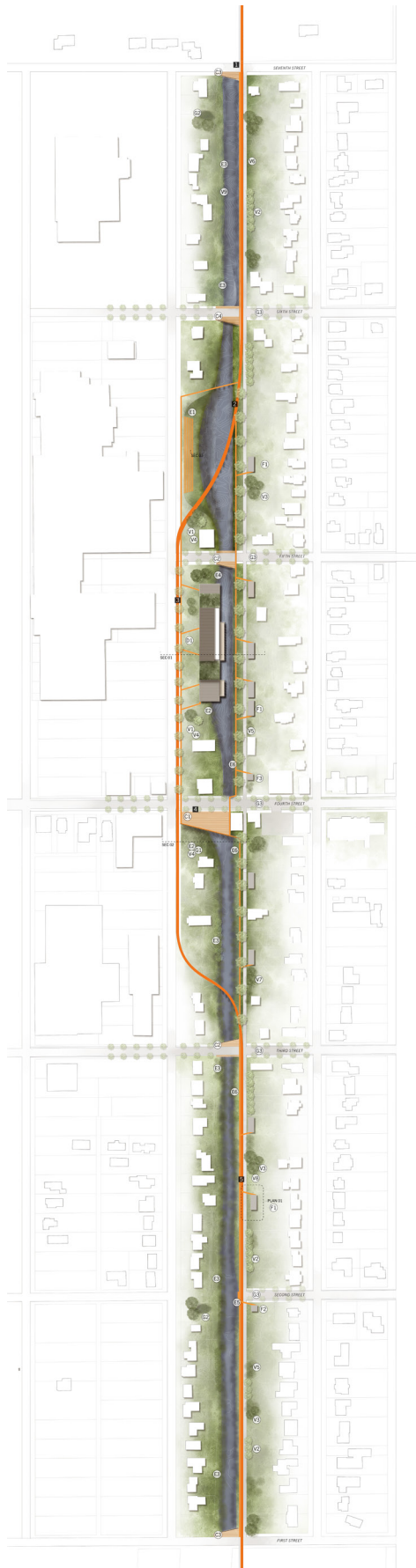
ABOVE: Temporal section of the commercial terrace displaying the activity on a summer day compared to the weekend of Minster Oktoberfest.

The canal house, following the same built typology as that of the destination attractor, is a unique opportunity in which the town can build little houses on private land parcels and the owners can rent them out to visitors. The idea of this is looking at the canal as a front porch that it deserves to be through these operations that can take place.



These houses are also different ways to understand that there is underutilized land, so this another infill possibility of what the future could become when we realize how much space is available in these small towns. [plan of canal house below]



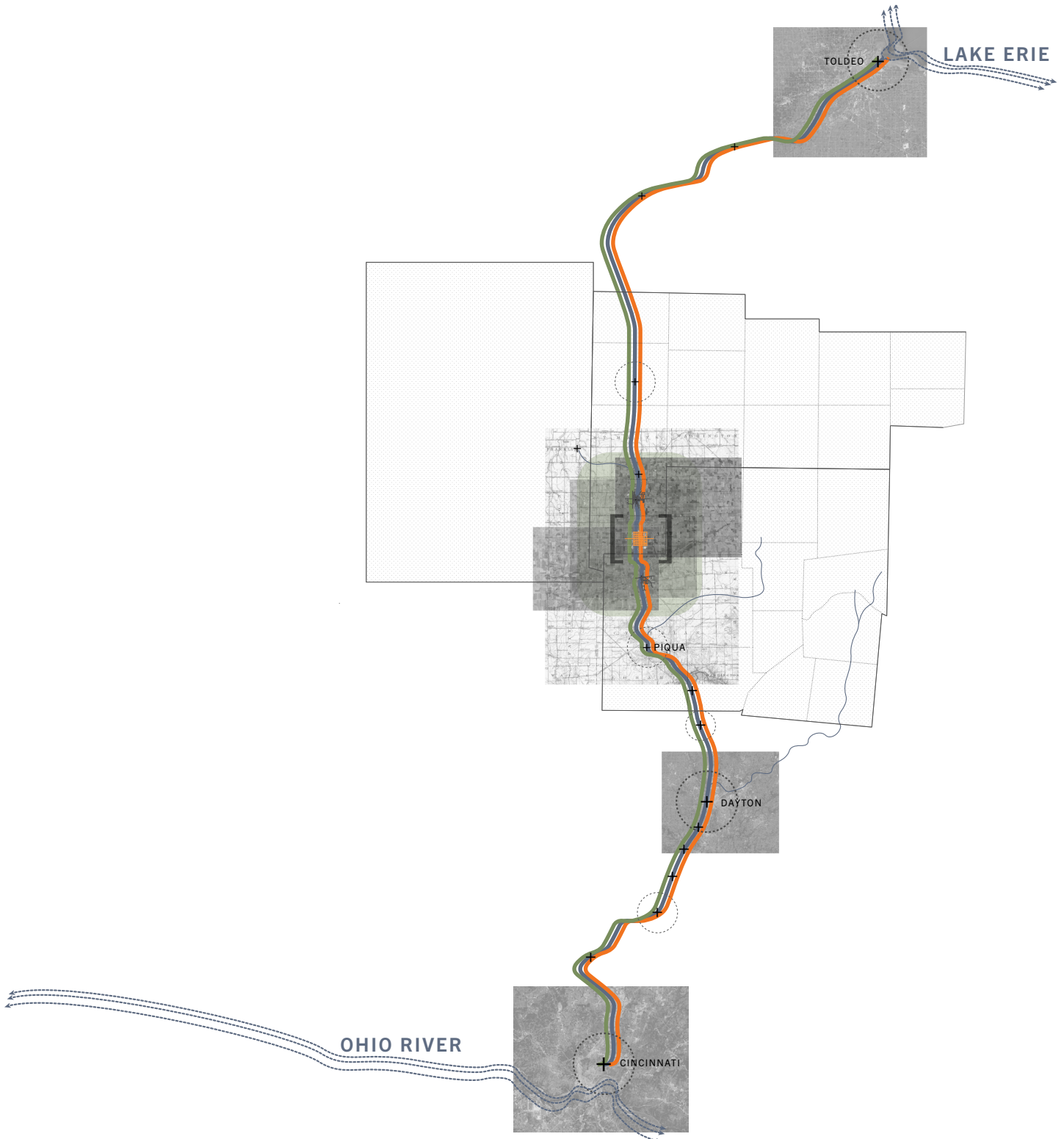


ABOVE: Overall site plan showing the typological operations that interact with the canal at various scales

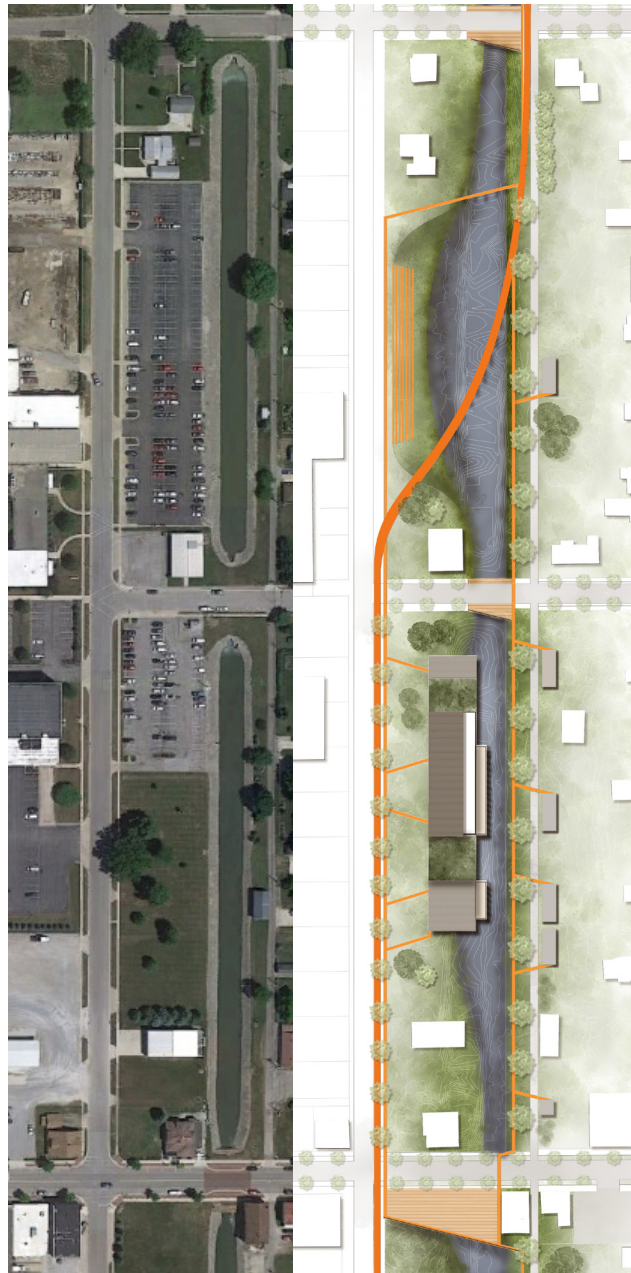


CONCLUSION

The goal of this typological framework is to create an identity that is carried along the canal itself and repeated in a way that is unique to each town. These typologies will take a new form within each place depending on the different histories it interacts with, but it forms a journey and infrastructure of place connected through the historic canal that grew them.



The hope is that this framework can be introduced and considered uniquely in each town. In Minster, the formal characteristics of this new proposal create opportunities for the town to continue to grow within itself by strengthening the strong sense of community and culture that exists within. It creates a chance to see something that people feel so strongly about but understand that it can be grown and amplified even more by creating a connection to its history that deserves to be celebrated, activated, and exciting. And to use these operations to generate not just one moment, but an entire journey of many places and histories.



ABOVE: Present-day Minster (currently) compared to the proposed site plan [Google Earth]



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RESOURCES

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