

Architecture of Urban Infrastructural Residue

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Abstract

Urbanization is the process of limitless expansion of that which is urban, the built essentials that constitutes a civilization, beyond the limits of what can be recognized as the city. Infrastructure is the method by which urbanization is possible. Certain infrastructure has created residual spaces where urbanization does not occur. There is an opportunity for architecture to employ elements of the specific city as well as elements of the local urbanized area as a means to separate from and confront the infrastructural and urban conditions surrounding these residual sites.

Acknowledgements

I would like to thank:

Heiner for knowing exactly the right moment to step in to check and strengthen my designs and concepts that I have worked on over the past two years.

Scott for passionately teaching his vast knowledge of American architecture and for expressing optimism for its future.

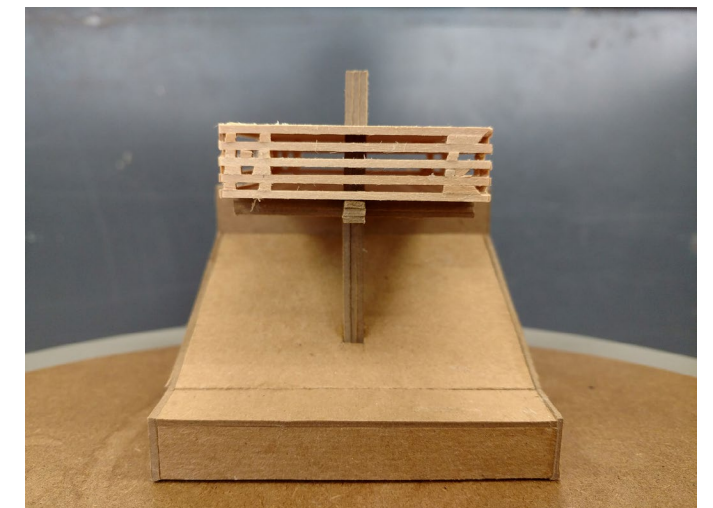
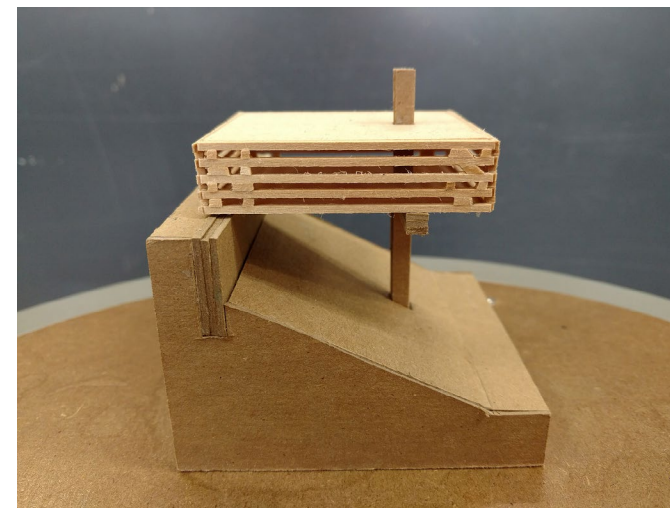
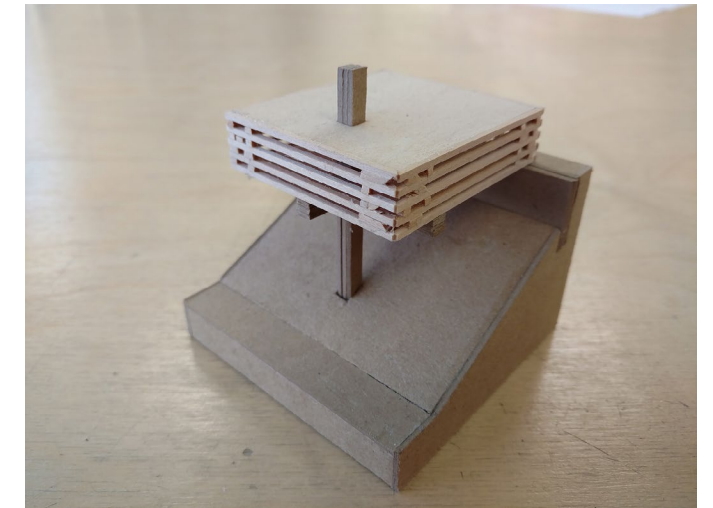
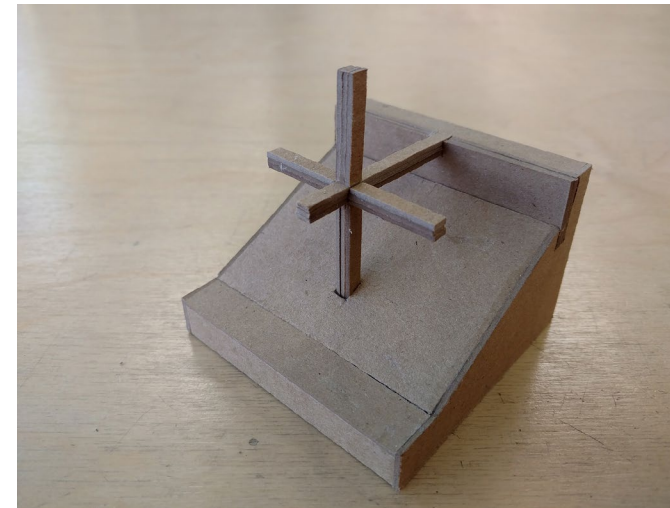
Steve for introducing thought in architecture and urbanism that was previously outside my understanding and for his patience while I wrestled with these difficulties.

My classmates for mutual respect, encouragement, and friendship.

My family for their constant love and encouragement.

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01: found structure

"Given a found structure,
propose facades addressing the cardinal directions,
plus a floor and a roof."

02: gateway wall to the west

For this thesis project, the attention was focused on a part of an urban area which one does not typically focus attention. Pittsburghers boast very highly their city. They boast about natural beauty, healthcare, technology, higher education, culinary bliss, and of course, their consistently excellent sports teams. Recently, there was a travel video highlighting the best of the 'Burgh. While riding one of the city's new Healthy Ride bikeshare bikes, he stated that Pittsburgh is a bike friendly city. It is true that in the context of bicycle friendliness, Pittsburgh has made strides in the past decade. A local advocacy group, BikePGH is doing wonderful work, and the city itself will soon adopt a 'complete streets' policy.

However, a noteworthy quirk in that video was that the statement about the city's bike friendliness was made while cycling across the Fort Pitt Bridge towards the incline. The Pedestrian/Bike path on this bridge is not even wide enough for two bicycles to pass each other without one stopping. On the south side of the bridge, the sidewalk has cracks and significant erosion. One of the landmarks of the city, the Duquesne Incline boasts classic steel aesthetic and structure into this funicular rail. It includes an elevated walkway that spans over the busy West Carson Street. However, this walkway has a stair that descends on to the sidewalk, leaving only a small gap, less than three feet wide to pass. On the other side of the stairs, are four wide open lanes, with cars carelessly zooming.

Continuing further west on Carson Street is a massive building, which from a distance looks more like a beached aircraft carrier, to compliment the USS Requin submarine, moored across the river at the Carnegie Science Center. This leviathan of a building is the 'Gateway View Plaza'. That name describes everything it is not. It is more of a wall than a gateway. There is a view from the parking deck, but from Carson Street, it takes away a pristine view to Downtown Pittsburgh and the North Shore. Also, from a traditional sense of the word, this is not a plaza. (Defined as a public square, marketplace, or similar open space in a built-up area, or a shopping center.) This building is incredibly uninviting.

A third of a mile downriver, there is finally a view to Downtown and the North Shore on the far side of Gateway View Plaza. Accompanying that view are crumbling narrow sidewalks, rusted fences which communicate threats of impalement, many examples of completely dilapidated architecture. The least dilapidated of these is a run-down commercial fueling station. On the four lanes of West Carson Street, which are entirely too much for how much this roadway is used during most times, cars zoom with little regard to anything except their own movement. This is the gateway to the west of Pittsburgh.

The ramp up to the West End Circle is a perfectly legal cycling route, yet it is a precarious decision which requires the cyclist to take the left lane amongst aggressive or confused drivers. A better option is to take the lower level bypass.

Buildings along the bypass offer some interest to the urban condition. One hosts a stained-glass studio and has a mural and sculptures on top of their building, all of which is visible from the elevated roadway. However, the urban ensemble is not complete without the accompanying barbed wire, rust, and broken glass. The bypass goes under the main deck of the West End Bridge and includes two sets of stairs that lead to the walkway on either side of the bridge. Weeds and dirt threaten to overtake the crumbling concrete sidewalks leading up these stairs. One other noteworthy building is labeled 'AMO', which is not the secret branch of OMA and Rem Koolhaas' research think tank, but a steel grinding and polishing company.

The West End Bridge may be considered a literal or symbolic gateway to the west. However, the conditions of the ground on either end of the bridge are less than appealing. The south bank of the Ohio River is abandoned of any functional built environment besides some railroad tracks. This abandoned condition makes for a secluded fishing spot close to downtown Pittsburgh. In addition, one may find rusty barbed wire fences, shopping carts full of junk, weeds, and random scrap steel. This area is the terminus of Saw Mill Run, a creek that flows into the Ohio River from the West End and behind Mt. Washington. In several places, the buried creek is revealed along with the absurd fact that a creek may be buried in the first place. Above and further inland, the steel structure and deck is a beautiful example of traffic engineering - a creek completely covered by a bypass, covered by one of the most complex roundabouts imaginable, next to an elevated railroad.

Underneath the West End Bridge, as with many other Pittsburgh bridges, there is clear evidence of homelessness, temporary sleeping blankets and trash. As one ascends on to the West End Bridge, and the West End Circle (via the non-accessible stairs), one of the most noteworthy aspects is a tight chain link fence. When the narrow path curves, you cannot see through the fence and around the bend where the bridge curves into the West End Circle. You can only see through the fence when you look straight at it, not from an oblique angle. This is the existing condition. It is not a good place to walk.

Moving away from the bridge and towards the West End Village, cars fly around a bend that passes underneath railroad tracks. This leads to a straightaway where the right lane is a ramp to a highway that leads to the Parkway West, the center lane will eventually drop left over Saw Mill Run and on to Main Street. The right lane continues straight on to Steuben Street. While cycling, it is best to take the center lane to be dropped into the west end, however with fast moving traffic, frequently over the speed limit, this is not the most pleasant or safe of experiences. Walking this section is not too bad. The sidewalk width is more than sufficient, though it narrows closer to the West End Village.

Empty land junk space is formed by Main Street and Steuben Street and the ramps and roads which cross Saw Mill Run. The only significant features of these urban residual sites are billboards and ruins of past configurations of the West End Circle. These sites are bound by the managerial infrastructure that moves automobiles through this land from one place to another.

On the south side of the West End Circle, there is a paved path that goes under one bridge. It exists mainly as an afterthought to the cluster of auto centric design to follow. The path is too steep to be considered ADA accessible. This narrow path is confined by tall fences and brutal concrete. Before that path, a sign says to use the precarious crosswalks across traffic as the accessible route. Cars drive quickly in this area and it is difficult to navigate. Profanities can frequently be heard from inside the automobiles.

The first noteworthy piece of architecture in the West End Village spans over top of Saw Mill Run. It was a bus terminal in its former life but has been converted to a massive antique shop that doubles as a private museum. The building itself is a completely banal box sitting over the creek, spanning between Main and Steuben Streets. Signage reading 'ARTIFACTS' is hung on either long side of the building. Whether intentional or not, the building's reuse and adaptation and conventional sign to reference Aldo Rossi and his idea of 'urban artifacts' presented in Architecture of the City. This antique shop spanning over the creek is certainly an urban artifact.

After the mess that is Carson Street, the West End Bridge, and the West End Circle, you finally arrive in this pleasant little valley neighborhood. The West End is home to some great streets, and beautiful historic architecture.

Turning attention back toward Downtown Pittsburgh from the West End Village, every morning a line of automobiles trying to avoid the Ft.Pitt tunnel traffic create their own traffic jam in this town. They avoid Ft.Pitt Tunnel traffic by becoming traffic, the same traffic they tried to avoid. Stressed out and hurried drivers mercilessly force themselves through a quagmire of lanes, slowly making their way toward the Ohio River. At this intersection, there is a terrible yet universally accepted phenomenon of turning left on red without even thinking about it. The walk sign signals don't make any comprehensible sense. Even if there is a red light and a walk sign, who is to stop a left-on-red driver from not noticing them? It is a tragic death waiting to happen.

There are two primary bicycle routes towards downtown. The first route is to turn right on to West Carson Street. The down ramp leads to the Ft.Pitt Bridge. It is incredibly dangerous on bicycle since the ramp feeds into the left lane. However due to traffic quantity and the Ft.Pitt Bridge approximately a half mile ahead, it is best to pray for slow traffic and simply try to keep up and maintain the left lane. Otherwise one would have to change into the right lane, potentially ride right, retake the right lane, then retake the left lane, then take the left turn lane. All that in a span of a half mile with traffic is very dangerous.

The other option is to cross the West End Bridge on an undignified walk path. Generally, this is a safer route, however broken glass is a threat to puncture bicycle tubes, since automobiles accidentally slam their mirrors off the side of the bridge. Along with the broken glass, trash such as pizza boxes or cans of malt liquor accumulate. This trash is rarely cleaned.

Once one goes over the crest of the West End Bridge and starts downhill toward the North Shore, it is possible to gather an incredible amount of speed on a bicycle. However, this is dangerous, because one is unable to see around the fence links at the oblique angle as the bridge path curves at its northern terminus. Just around the bend are steps which suddenly drop off. One can assume that enough speed is accumulated, and that the bicycle's brakes are not well adjusted, it is reasonable to see how considerable harm could result. The stair drop off is about 12 feet and the railing only has two horizontal bars. A serious wreck could send someone tumbling all the way to the ground, approximately 30 feet further down.

These are the conditions which demand intervention. Better conditions must be created for people walking and riding bicycles. The complexity of the infrastructure which allows urbanization must be made more complex to better accommodate the simplest modes of transportation. This is the beginning of this project. The objective became to propose architecture which confronts the existing and new proposed urban infrastructure, while creating a sense of place between the riverfront and the West End Village.





cities for people

"The built (more about that later) product of modernization is not modern architecture but Junkspace. Junkspace is what remains after modernization has run its course, or, more precisely, what coagulates while modernization is in progress, its fallout. Modernization had a rational program: to share the blessings of science, universally. Junkspace is its apotheosis, or meltdown . . ." - Rem Koolhaas, Junkspace

(Koolhaas, 2001)

"10. Negative capability is a positive capacity. Negative capability is to be able to take in all the problematic aspects of the surrounding world, to see and acknowledge, to entertain uncertainty and still be able to act: a modus operandi for the twenty-first century. As an architect you go to a site to study every angle available - to feel in your body what needs to be done; intuitively you create." - Steven Holl

(Holl, 2010)



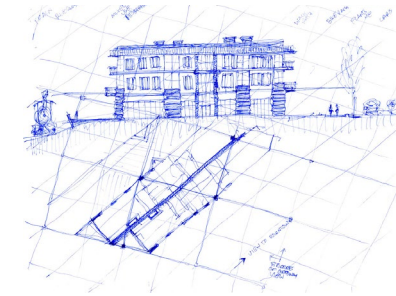
03: West Carson Street and Ohio River intervention

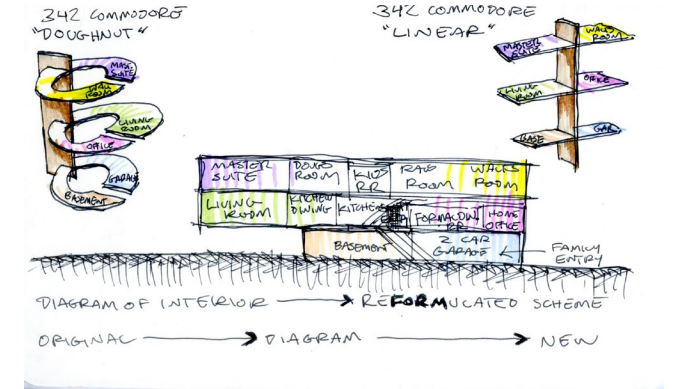
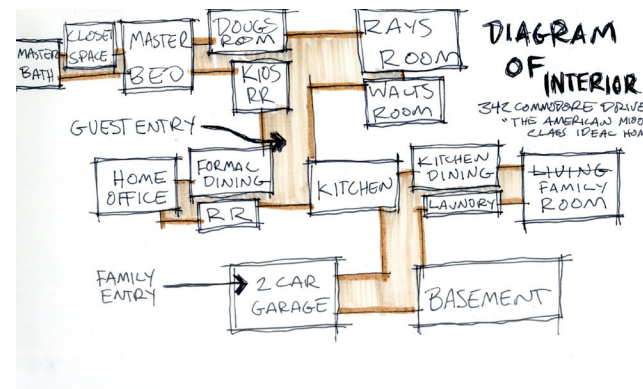
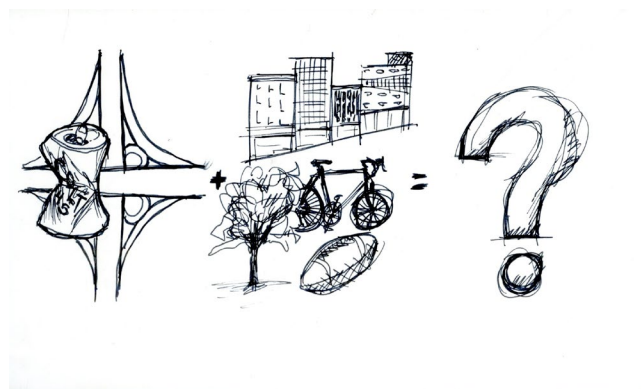
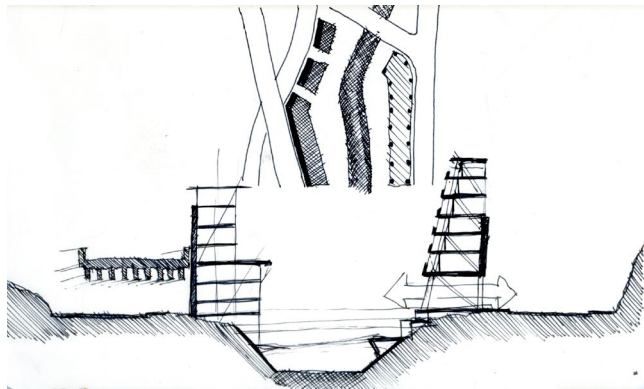
This initial conceptual scheme is an investigation on how architecture improves residual and neglected sites and provides an accessible connection to the West End Village from Downtown Pittsburgh.

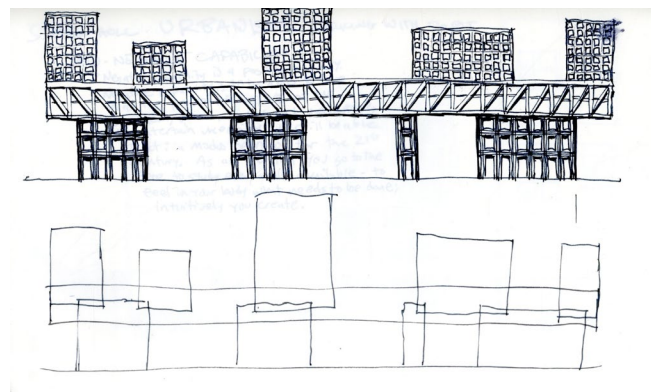
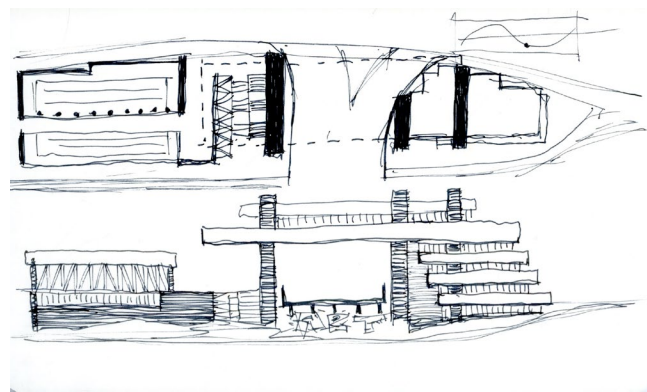
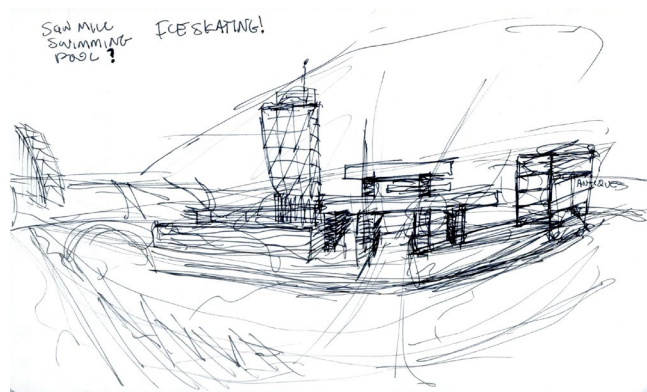
(left page) Aerial view of the riverfront intervention

(bottom) View from West End Bridge, looking toward Downtown Pittsburgh

(right) Sketches from summer of 2016



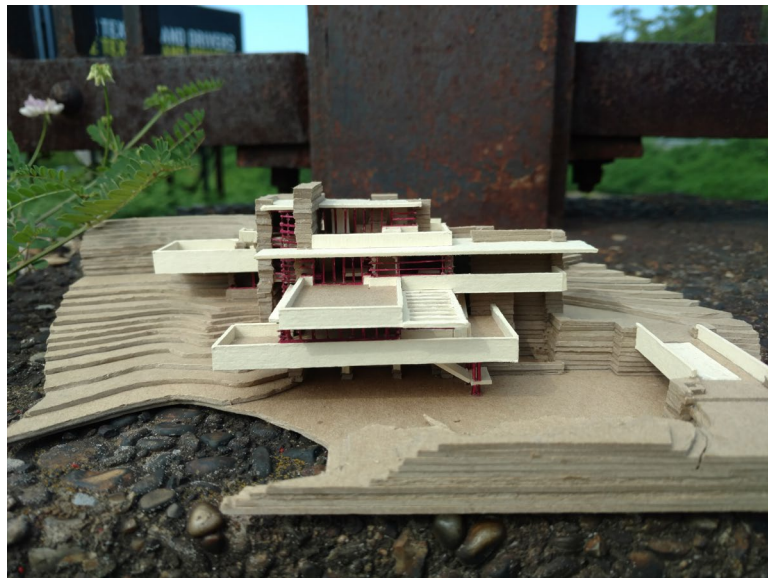




04: 1"=20' models of noteworthy architecture

Fallingwater, Frank Lloyd Wright

The horizontal courses of built-up stone are treated the same way as the natural hillside, the building organically rises from the earth. Horizontal cantilevering bands project out from the earth. Cherokee red painted metal frames the boundary of inside and outside.



HL23, Neil Denari

This apartment building manages a small difficult site as well as the elevated pedestrian infrastructure of the high line.



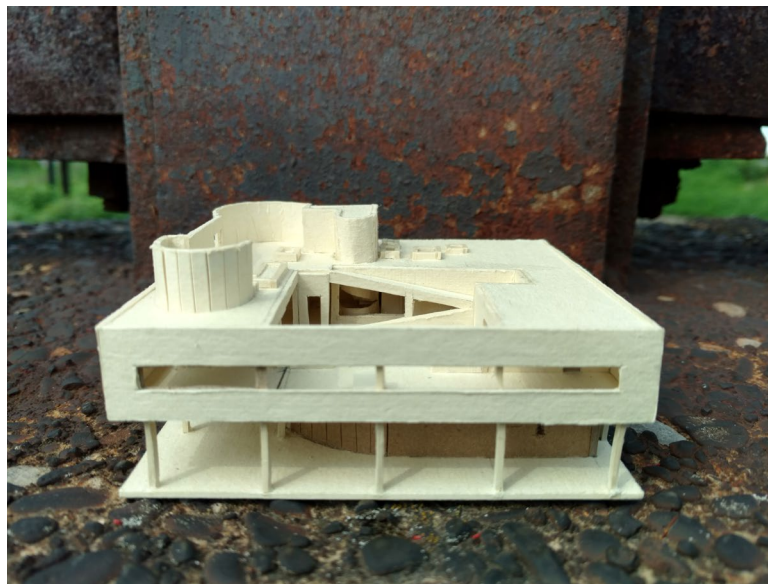
Kandrack/Haim House, Maronda Homes

An ideal new home for a middle class American family living on the outskirts of Pittsburgh. Neo-eclectic style.



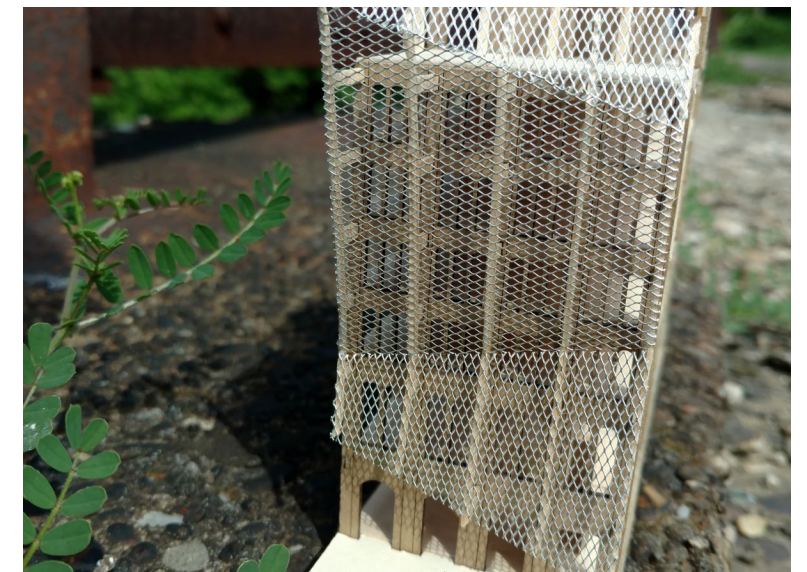
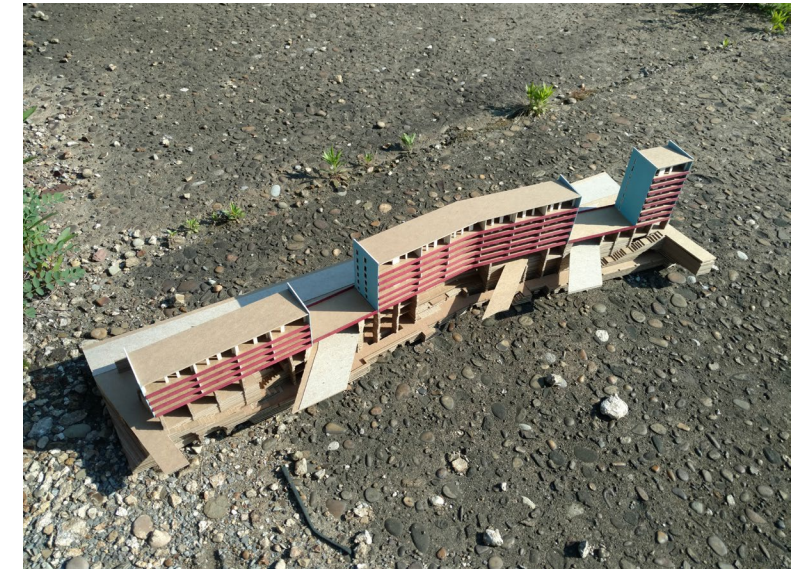
Villa Savoye, Le Corbusier

This house exemplifies Le Corbusier's five points of architecture: the building raised on pilotis, the free plan, the free façade, the ribbon window, and the rooftop terrace.

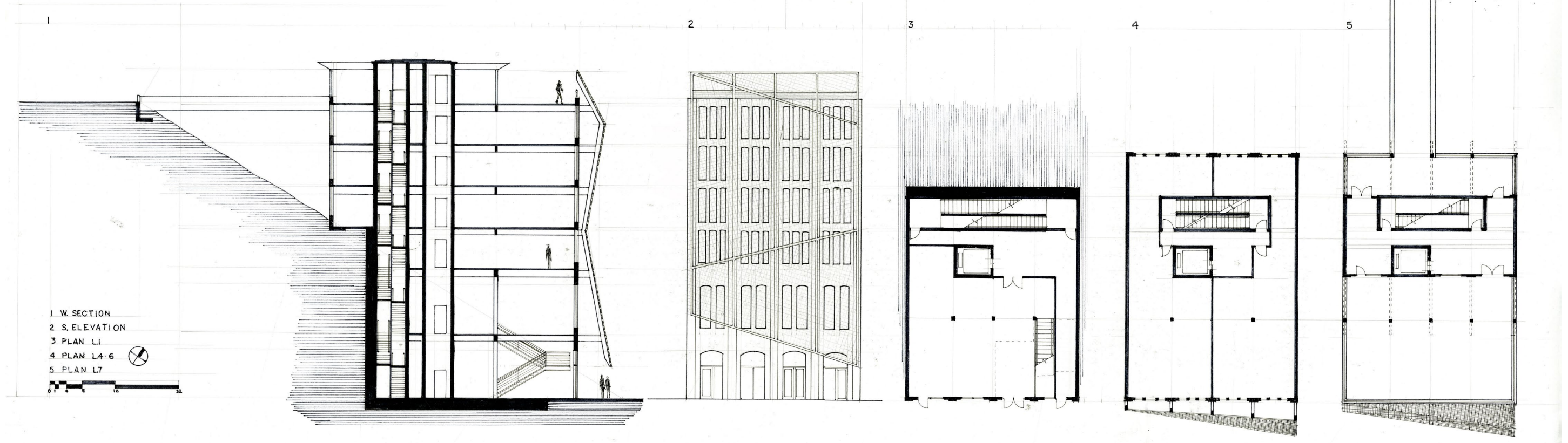


Farnsworth House, Mies Van Der Rohe

A minimalist house with a central service core and a form made up of a composition of elevated horizontal planes.

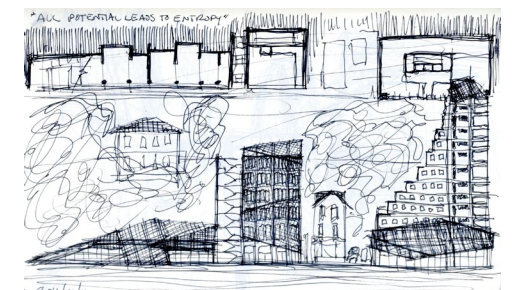
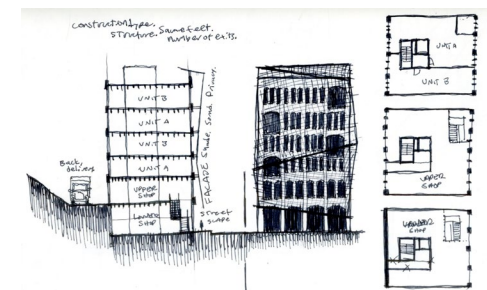


64 STEUBEN STREET, PARCEL 7-N-94

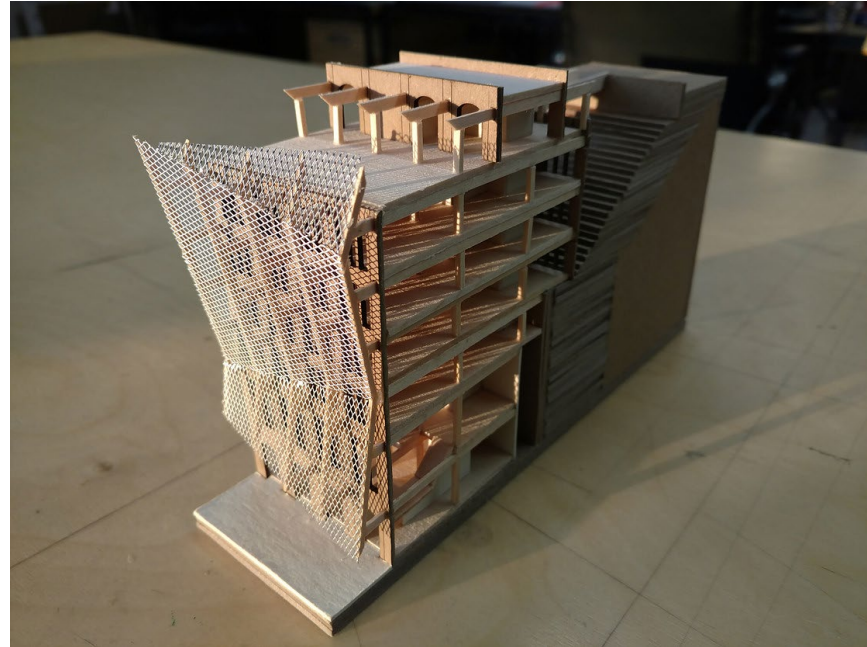
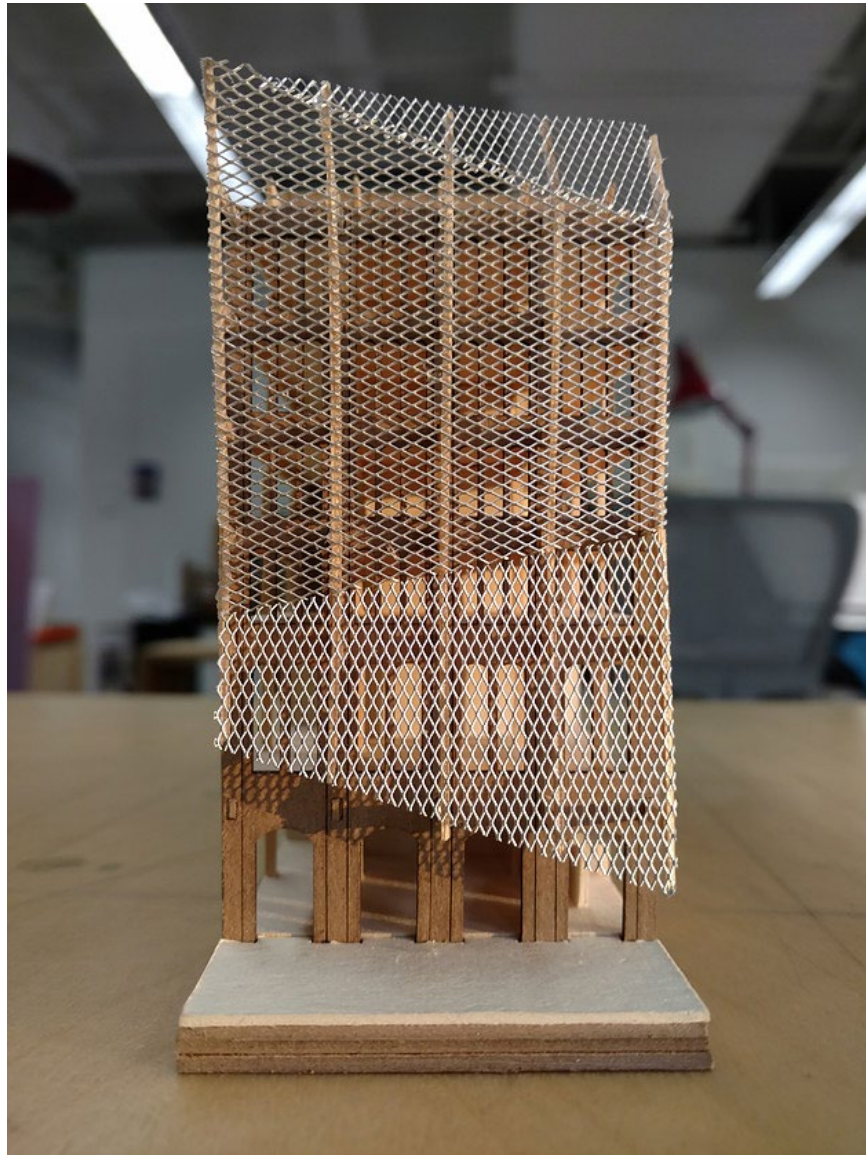


On one of many empty existing parcels of land on the north edge of the West End Circle, this building suggests the start of an urban condition where this building becomes context for whatever is built next.

The building cuts into the south slope of the hill. The lower level is dedicated to a business tenant and the upper levels are apartments. The primary facade seeks to fit in with other buildings in the West End Village, while a screen is held in front of it, mitigating sunlight and highway noise, providing privacy, and giving the building a presence on the street.

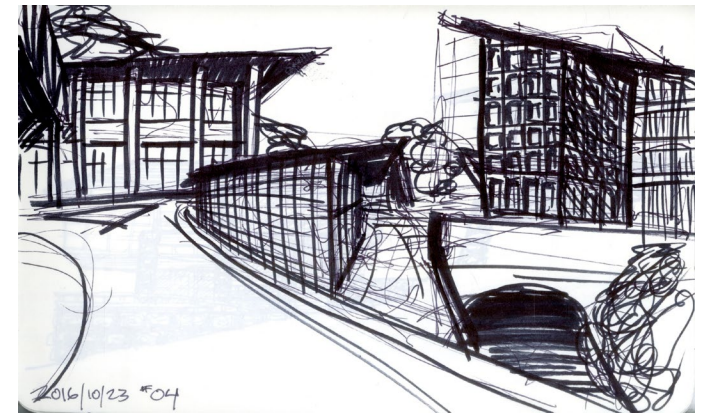
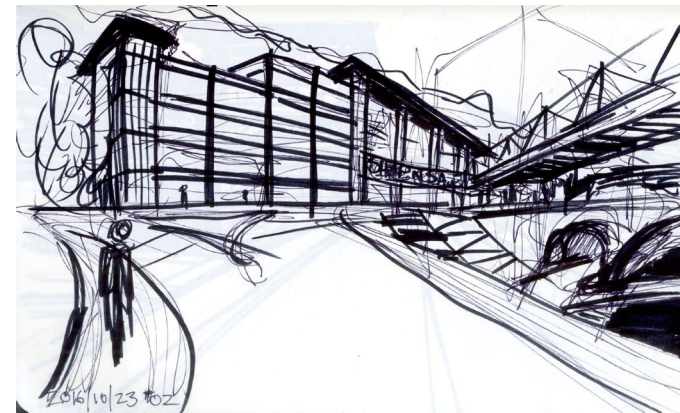
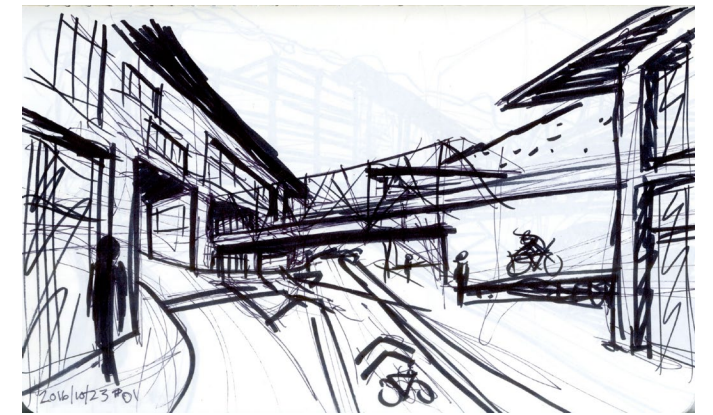
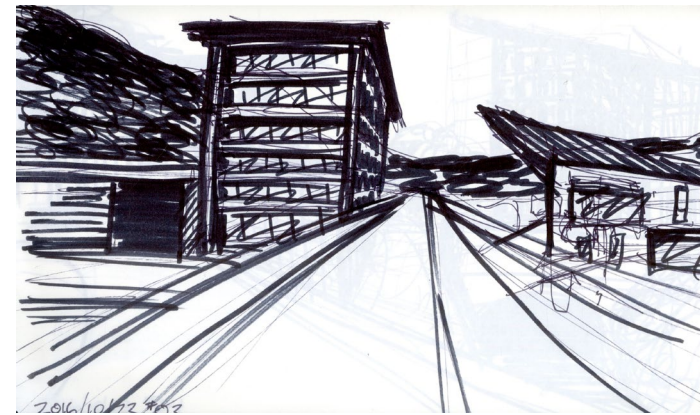
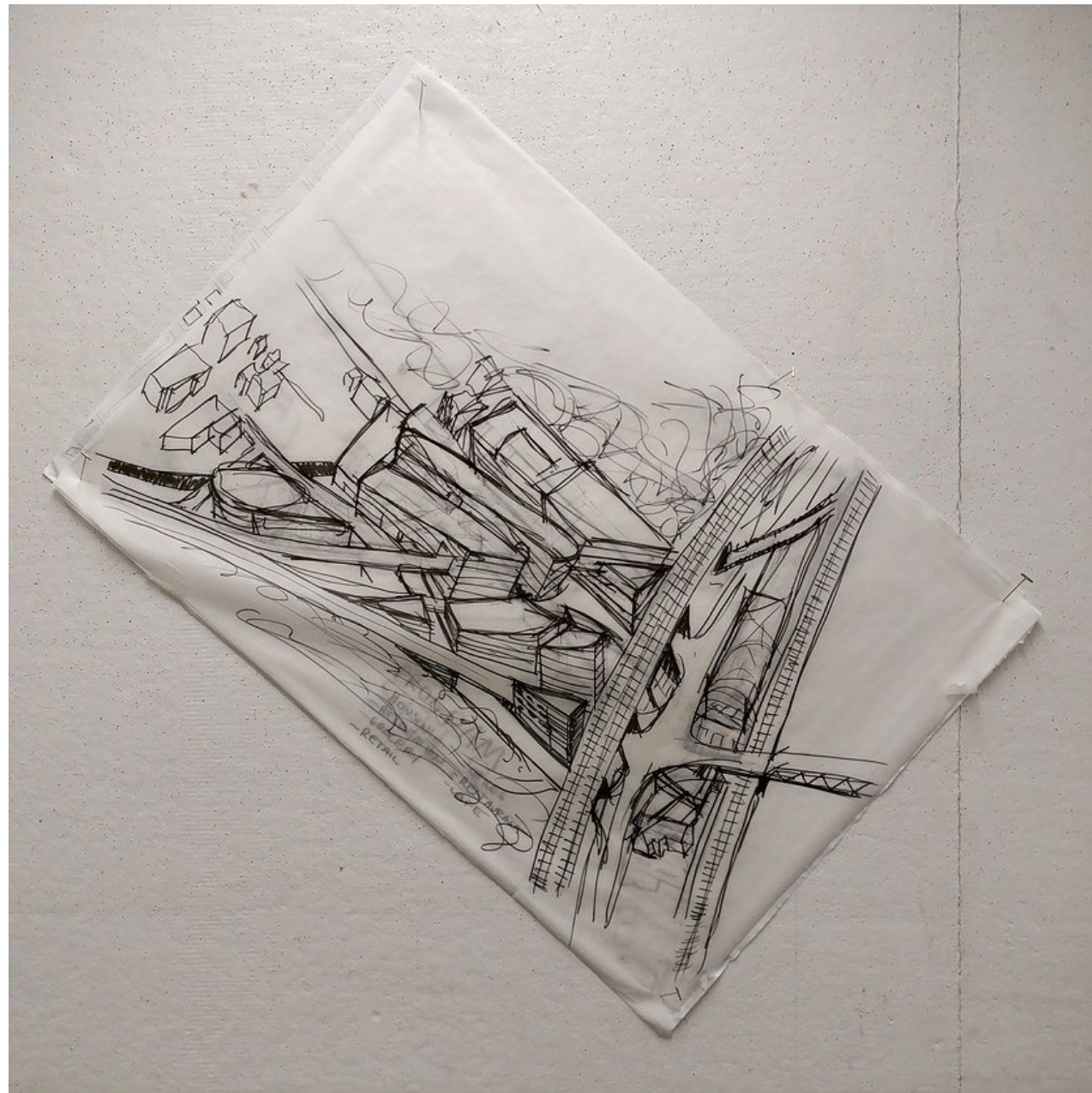


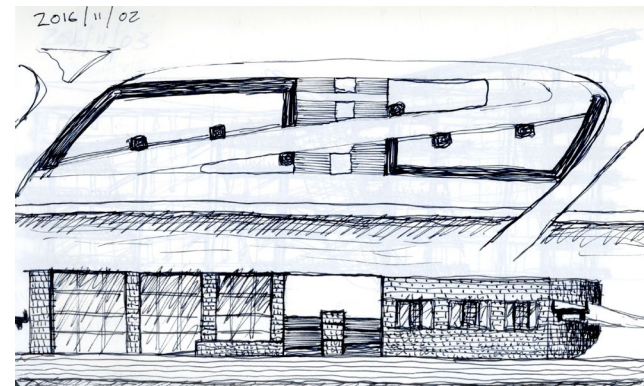
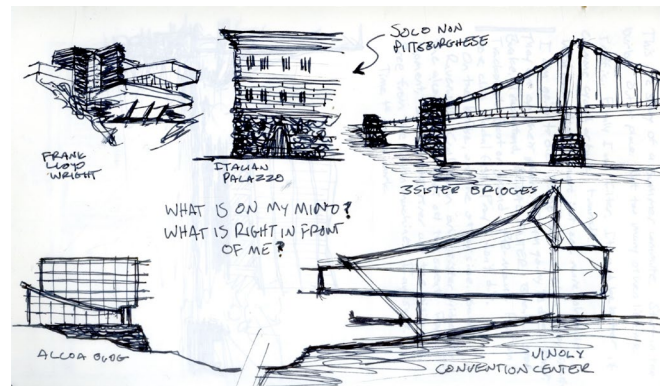
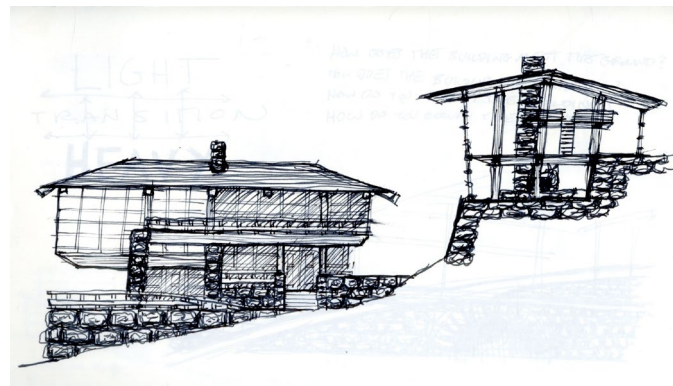
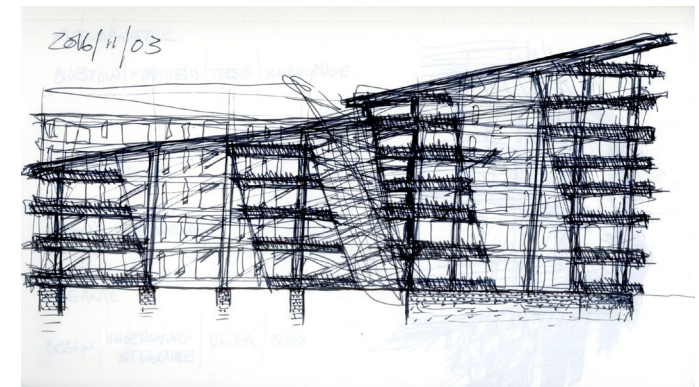
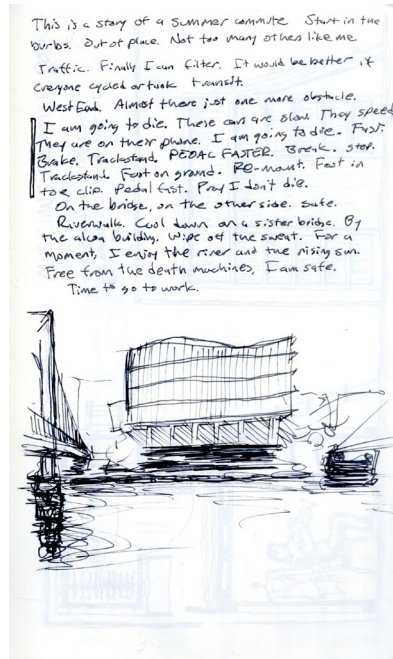
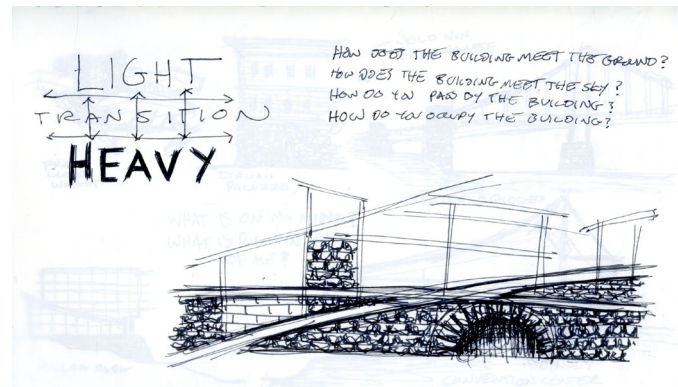
05: 64 Steuben Street parcel

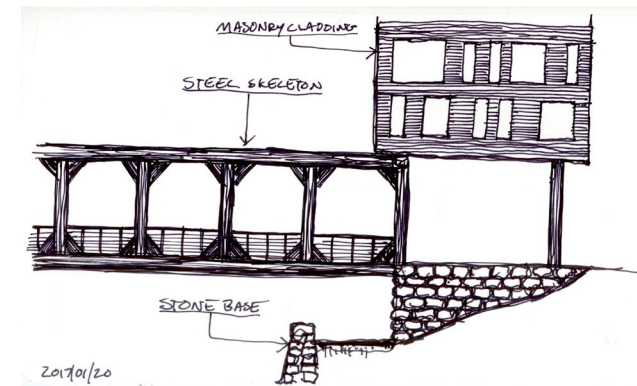
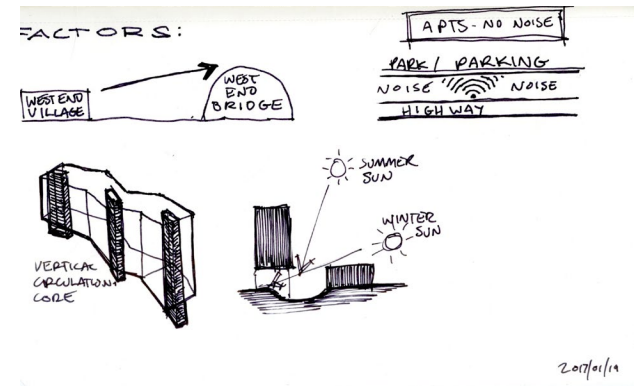
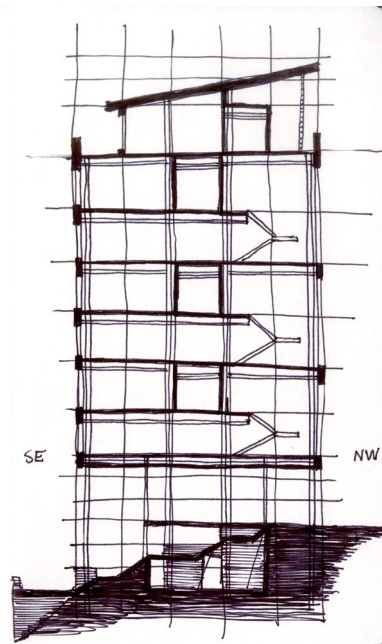
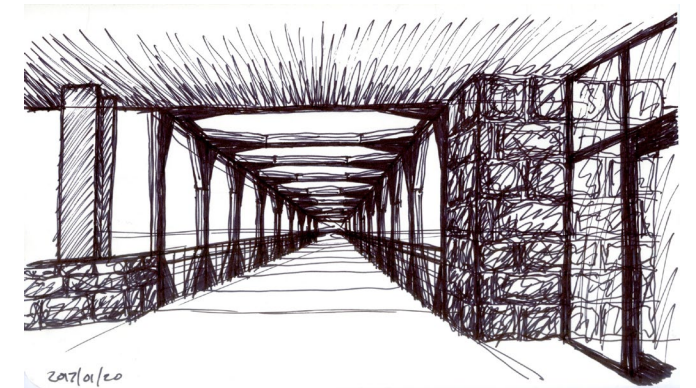
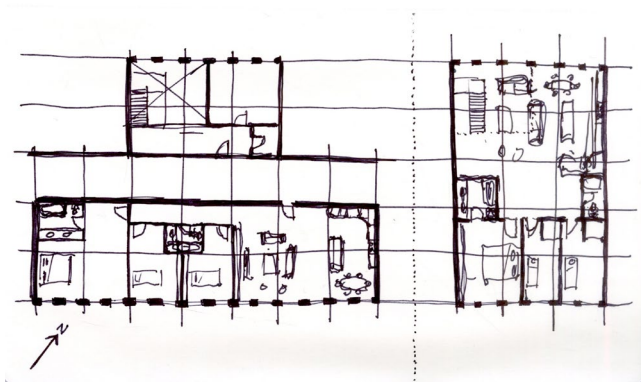


(above) 1"=20' model
(right) Scrap pieces and unused laser cut pieces

06: an urban intervention in the West End Circle

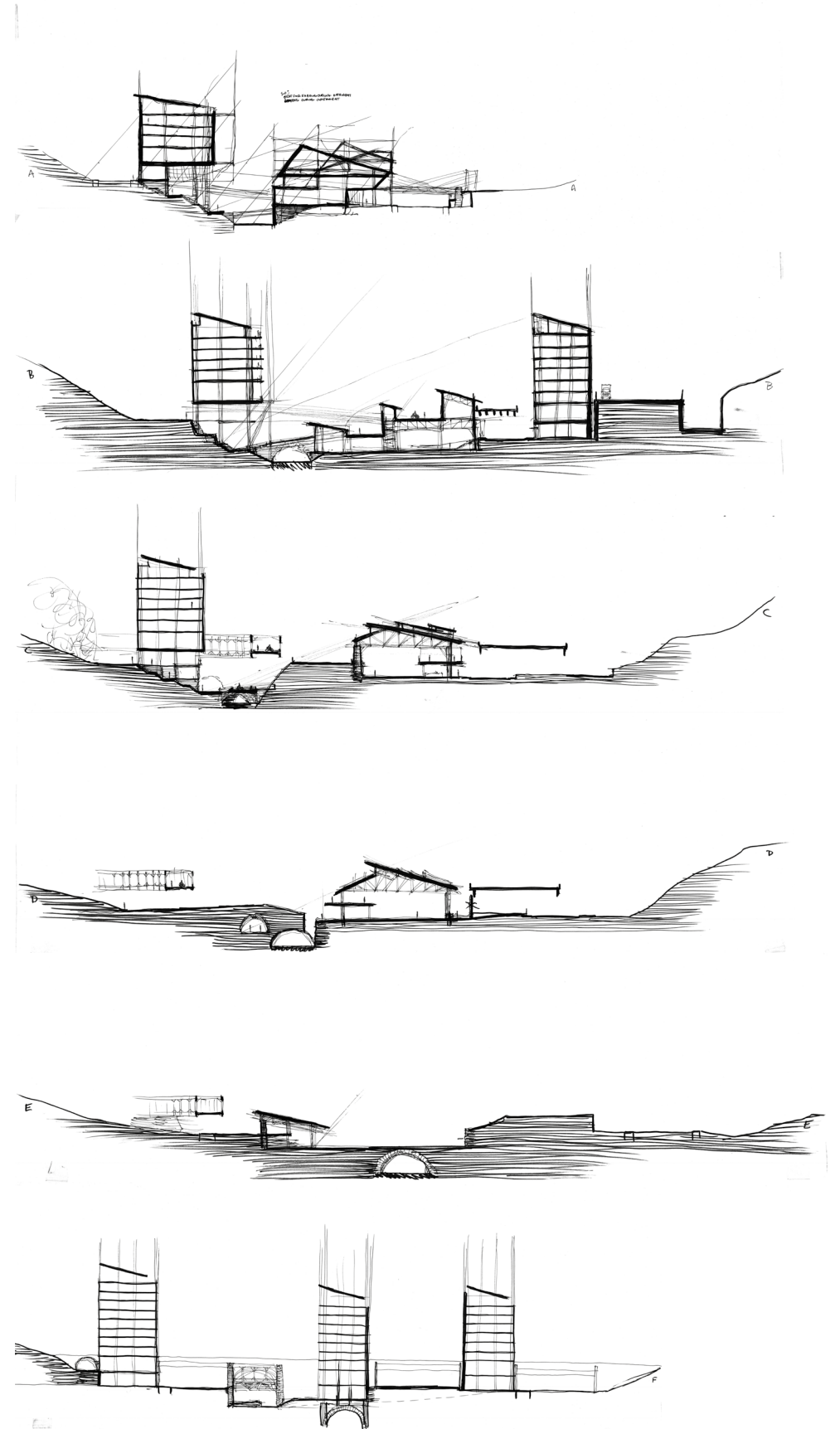




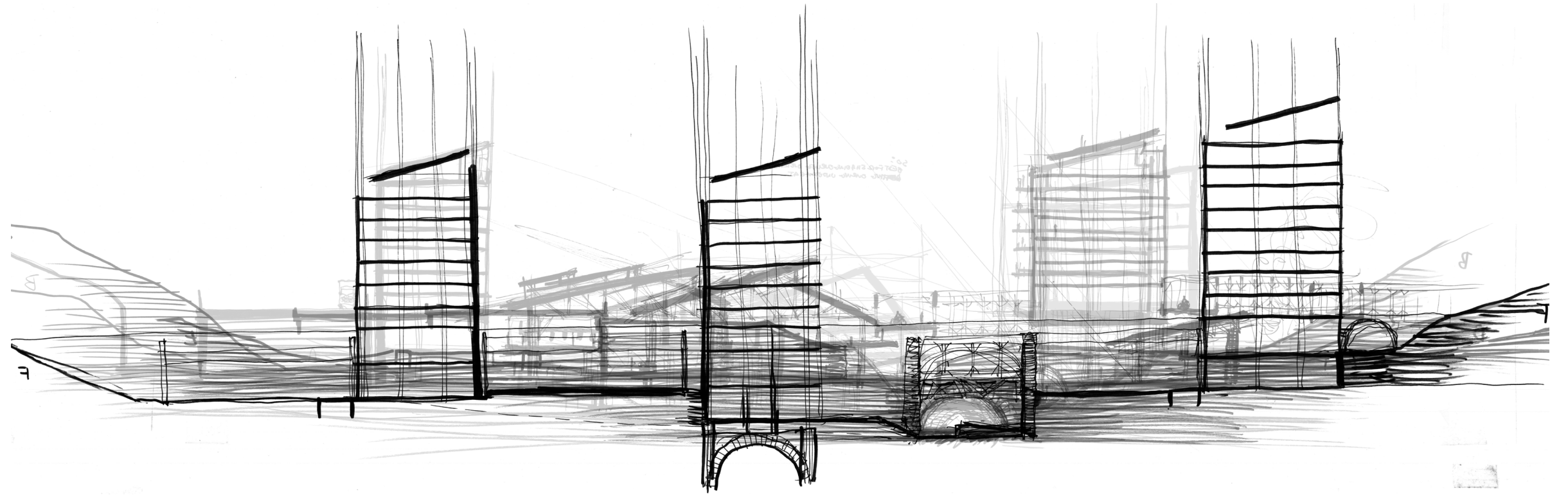


sketchbook pages

westernmost section
looking east



easternmost section
looking east

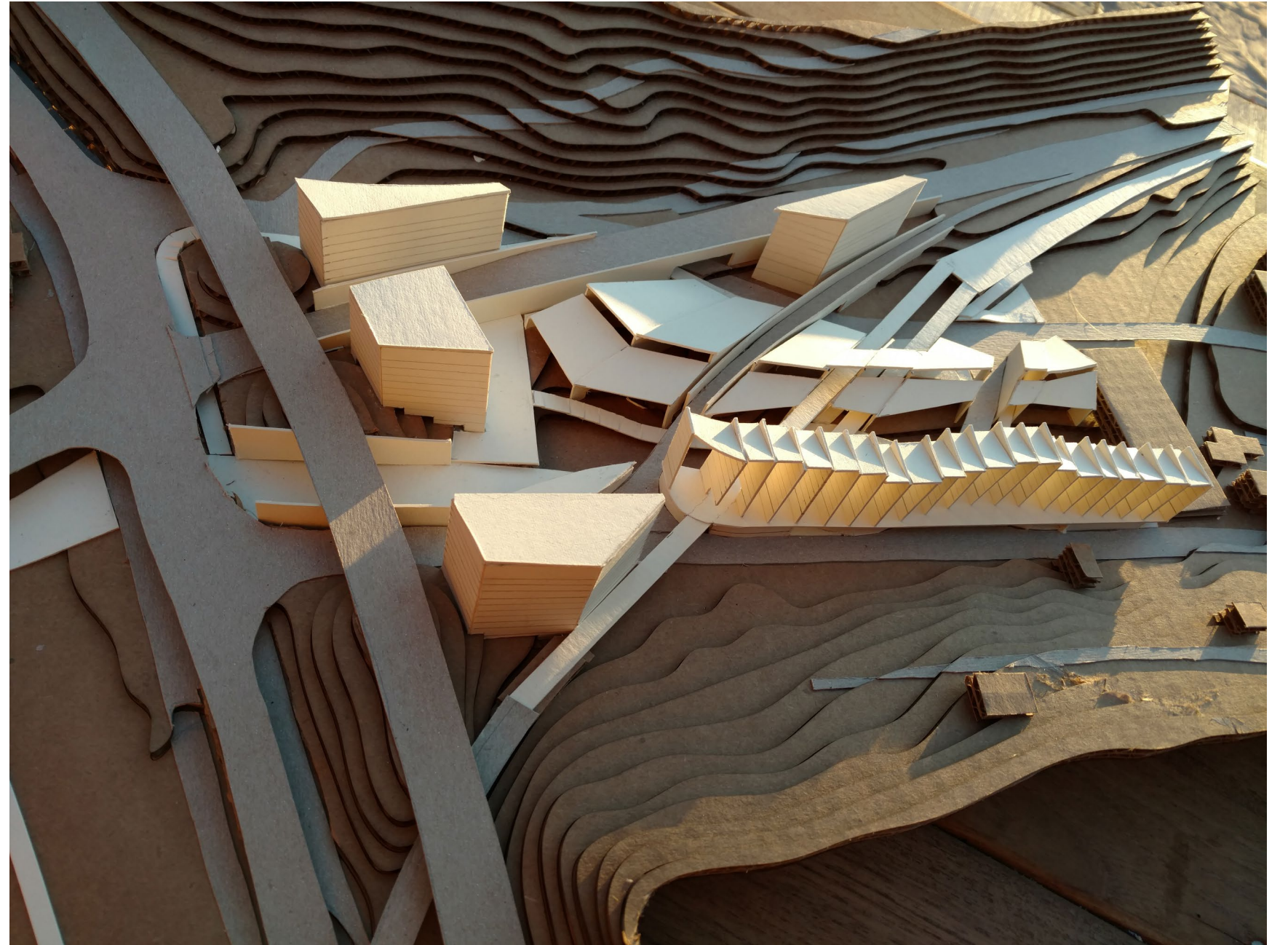


section - looking west



section - looking east





1" = 60' site model

This process is a mapping of self-imposed system of forces or regulating lines which then become the basis for the arrangement of the various parts of the proposed intervention.

23

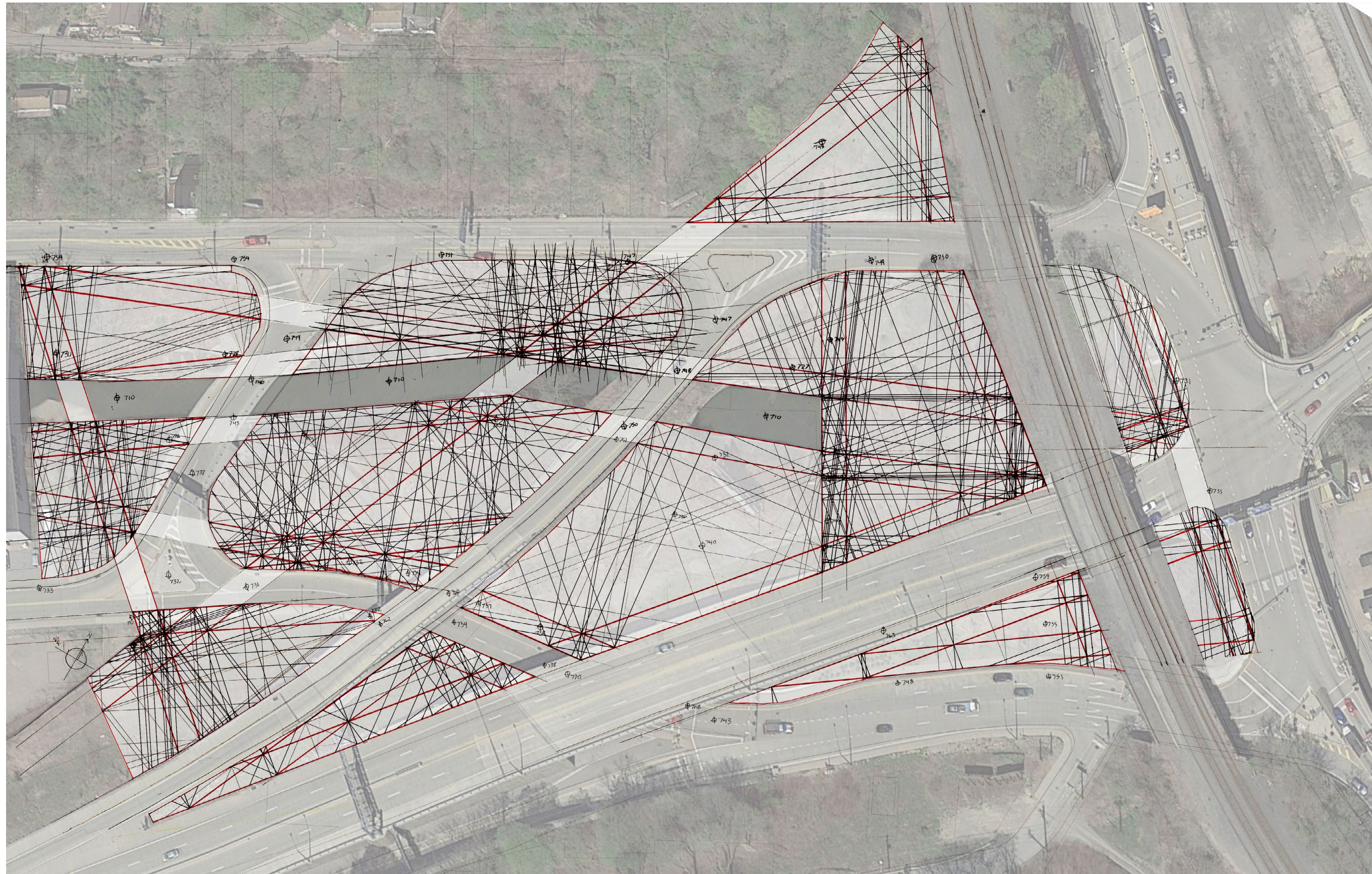
This map draws boundaries around the urban infrastructural residue sites. Red primary lines become are the boundaries of the additional proposed pedestrian or bicycle routes through the site. Secondary black lines are drawn perpendicular from where the primary lines intersect. Tertiary grey lines are drawn perpendicular from where the red lines intersect a boundary line.

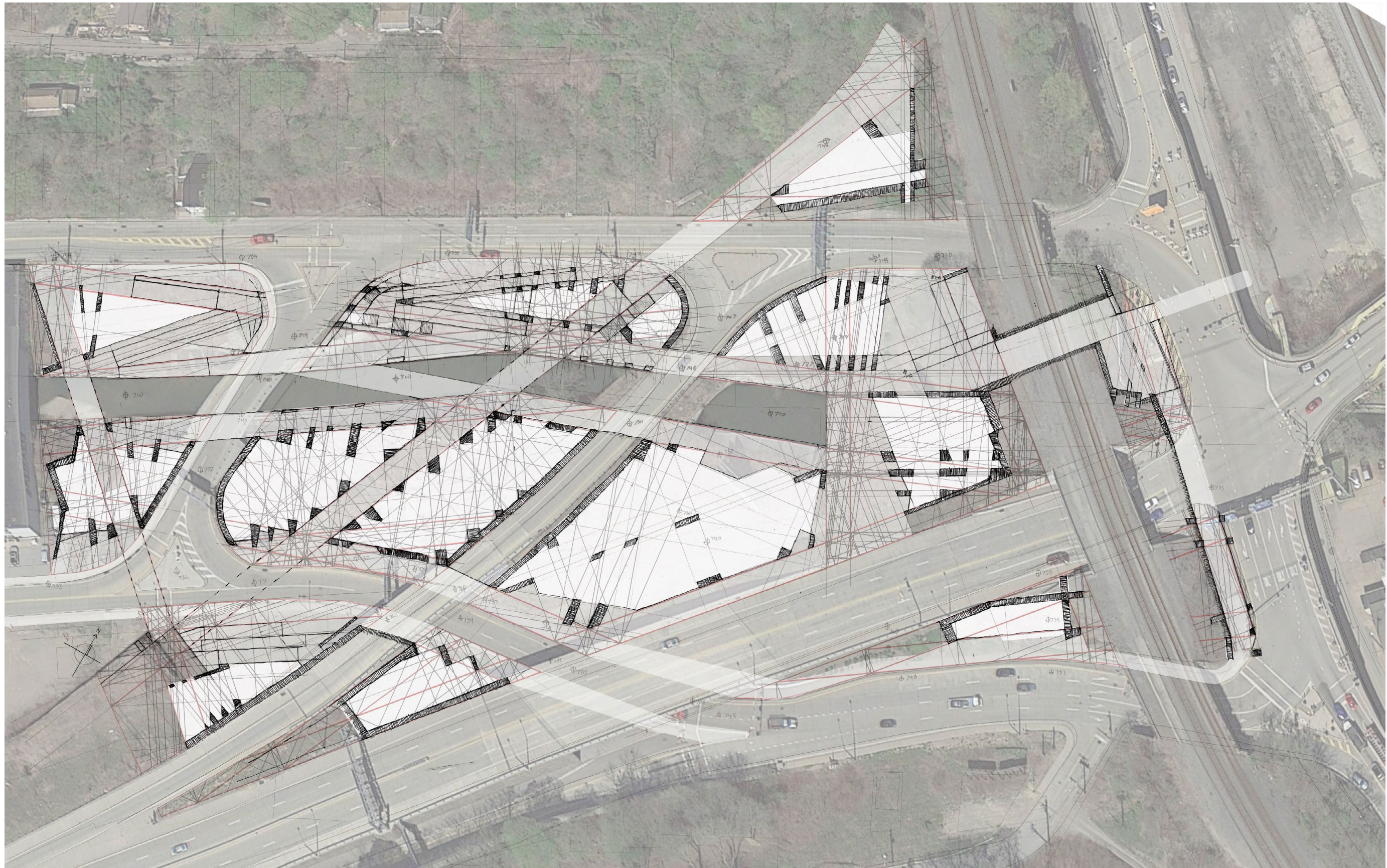
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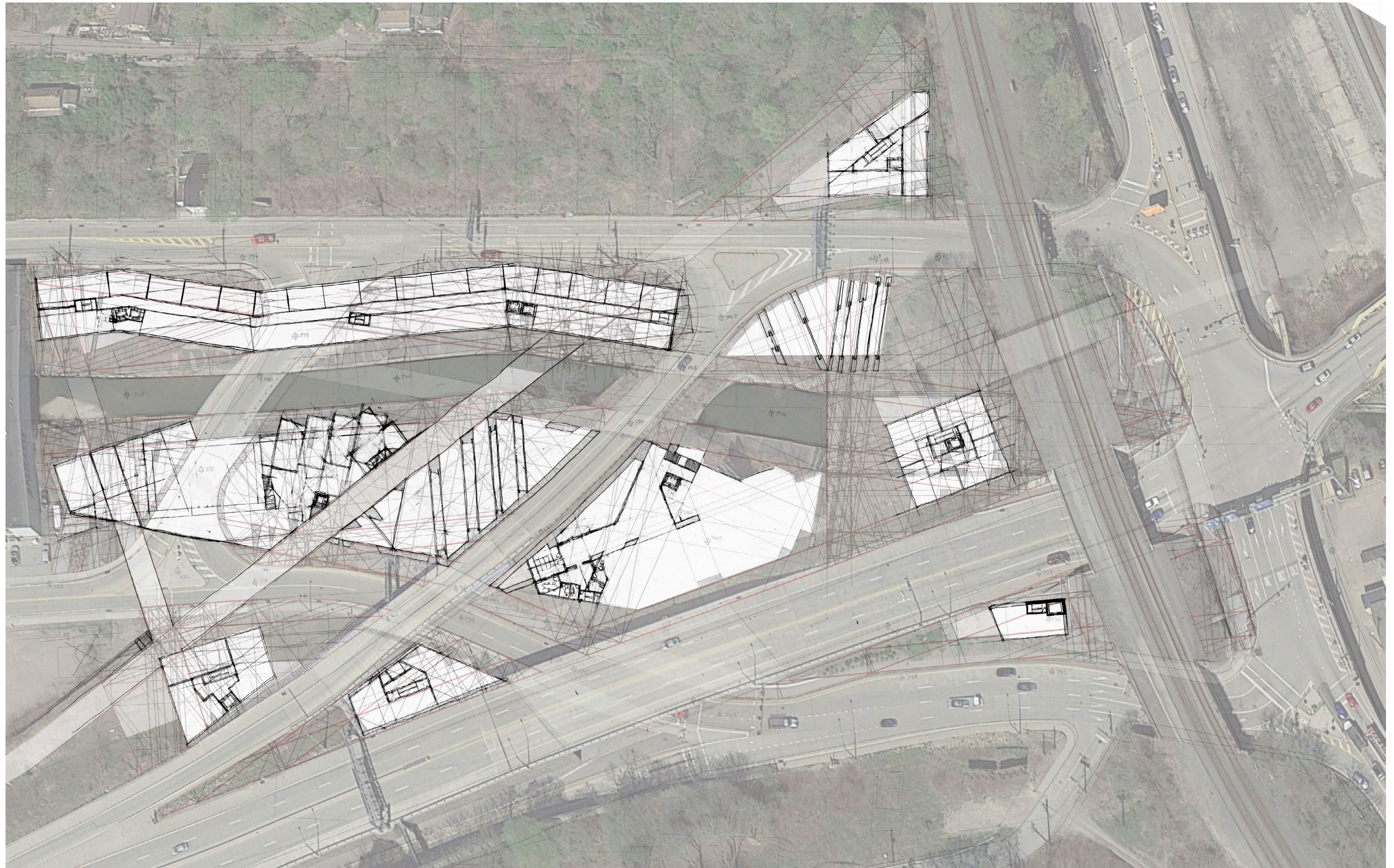
An arrangement of heavy stone piers, columns and walls is created along the grid network created on the previous map.

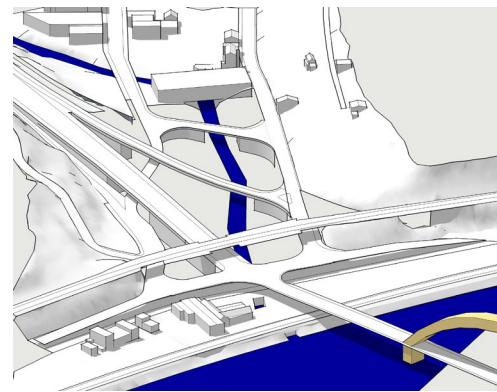
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Basic layouts for upper level programmed spaces, vertical circulation, and other services are arranged using the grid network, as well as the previous map of stone structures.

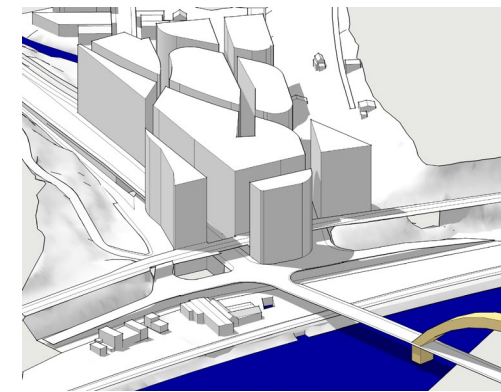




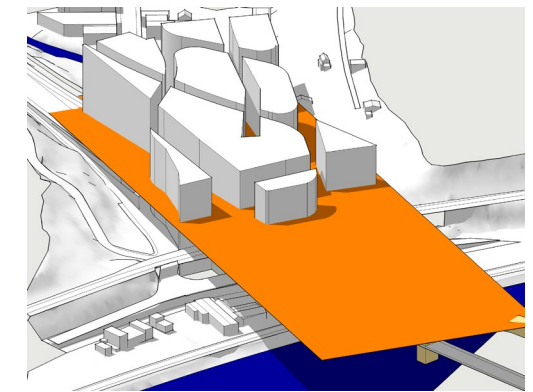




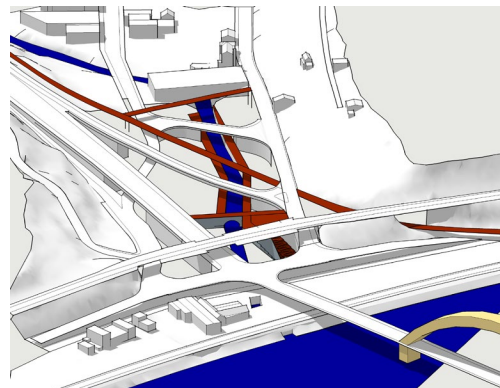
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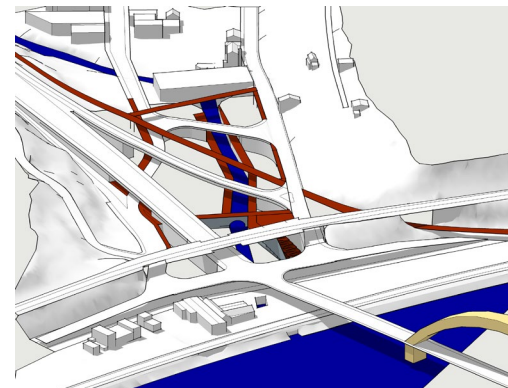
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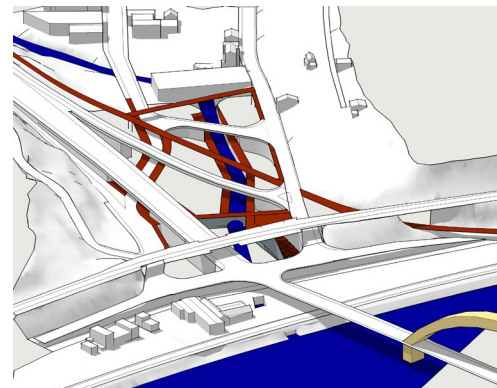
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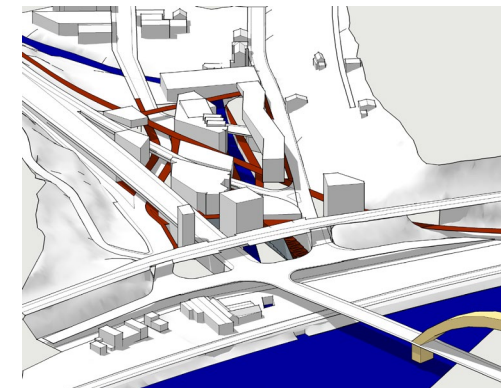
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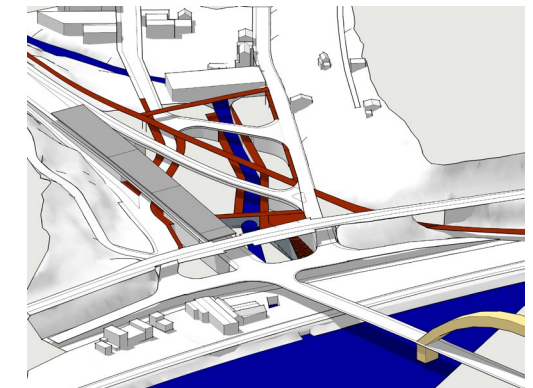
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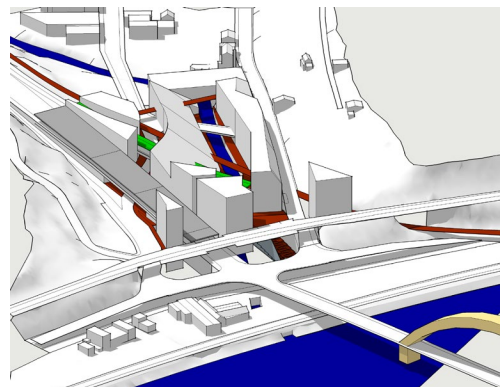
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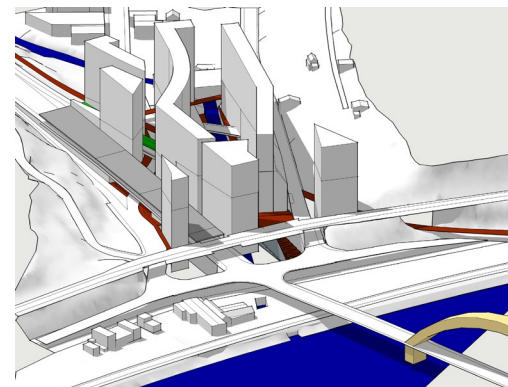
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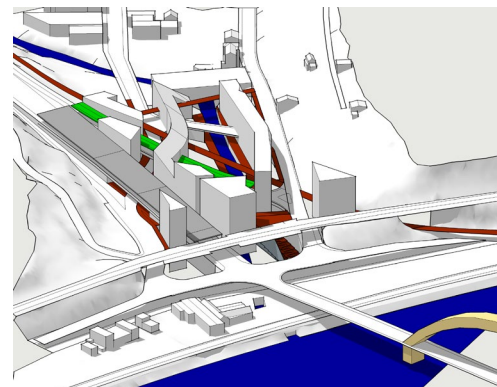
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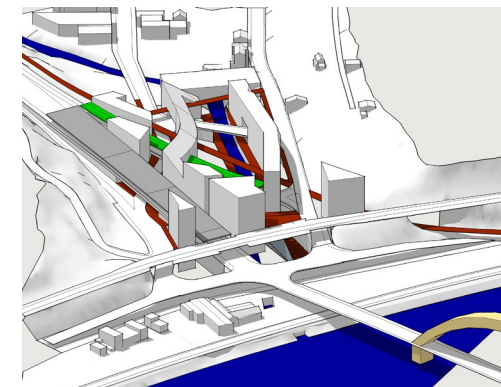
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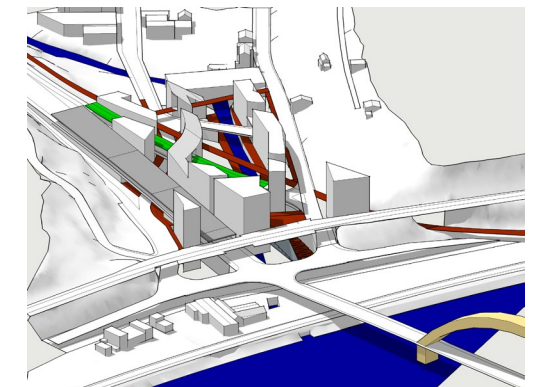
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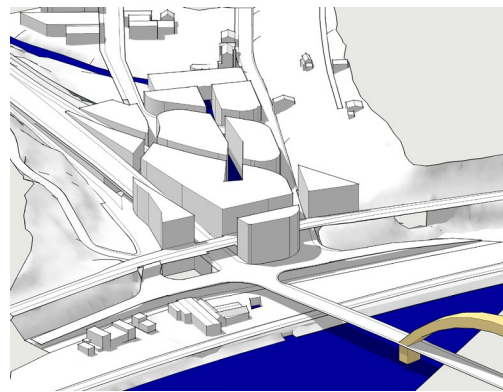
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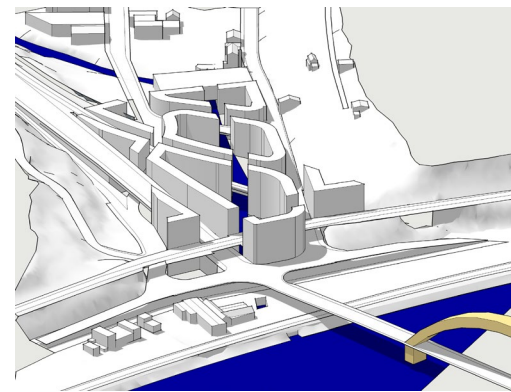
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1. Existing Site
2. Full residual sites extruded
3. Slope from 'Artifacts' to West End Bridge
4. Extrusions Cut
5. Perimeter Blocks
6. Primary Rails-to-Trails path using old rail line location
7. Plaza and path under railroad to W. Carson bypass and the riverfront
8. Bridge for path from trail to Steuben

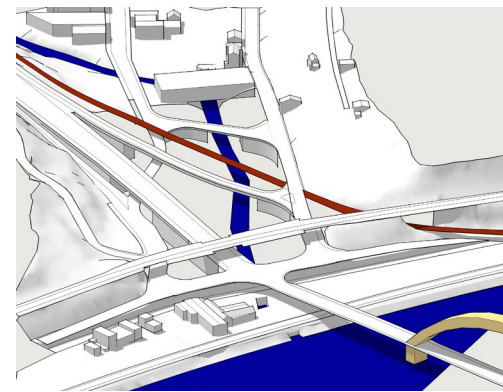
9. Sawmill Run access paths
10. Rt.60 & Steuben St. sidewalks
11. Trail to ground level along Rt.60
12. Proposed scheme from regulating lines mapping
13. PARKing deck over highway
14. Greenway over highway ramp
15. Fully extruded resultant sites
16. Slope from West End Village to West End Bridge
17. Fully extruded site cut by slope
18. Angles of winter shadows from creek edge and Steuben



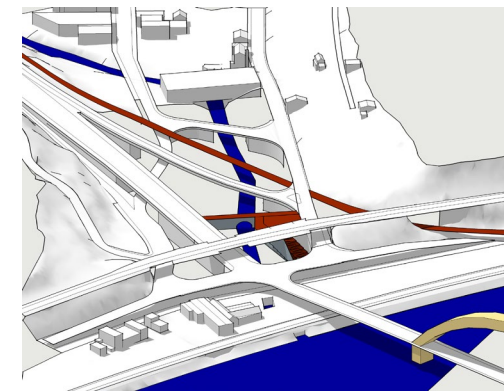
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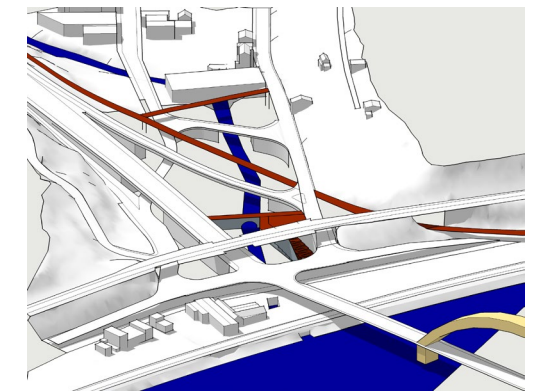
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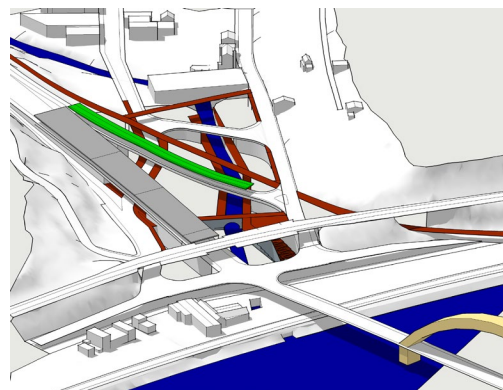
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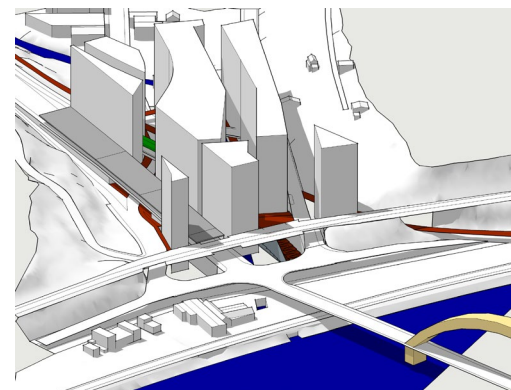
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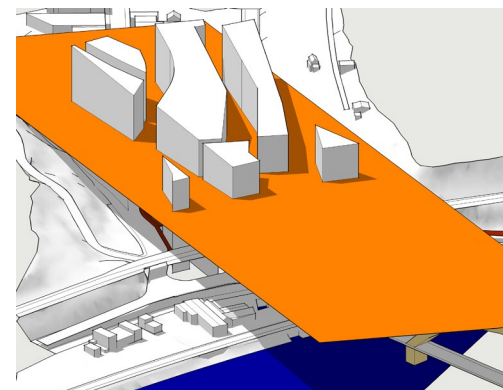
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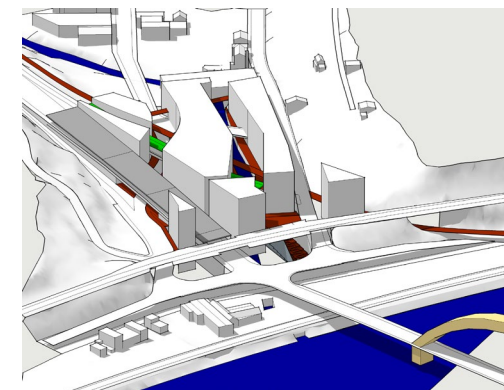
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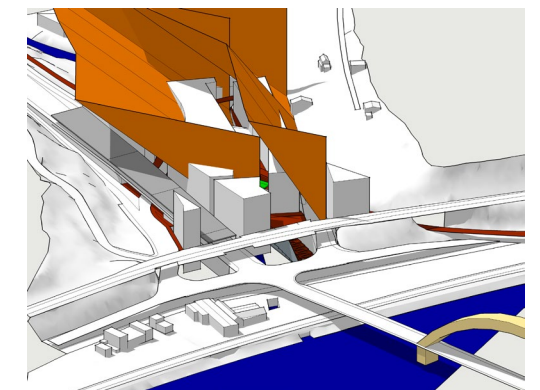
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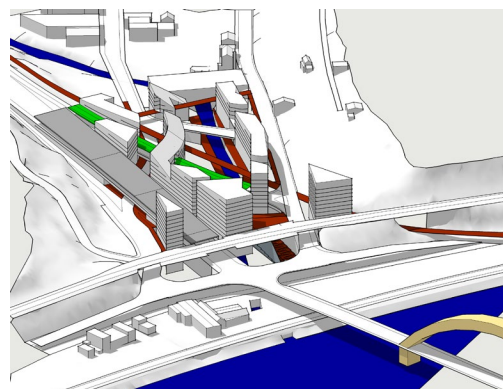
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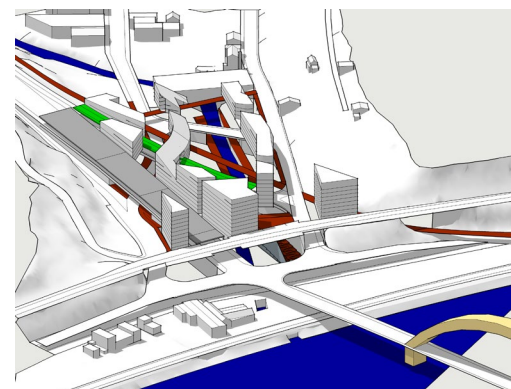
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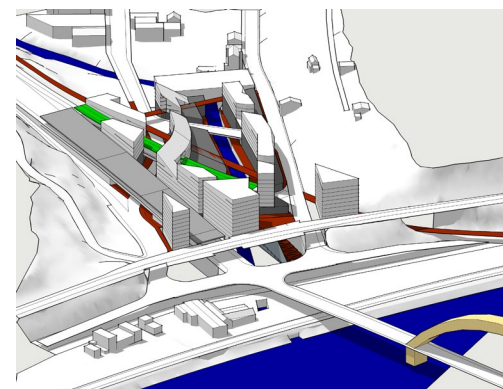
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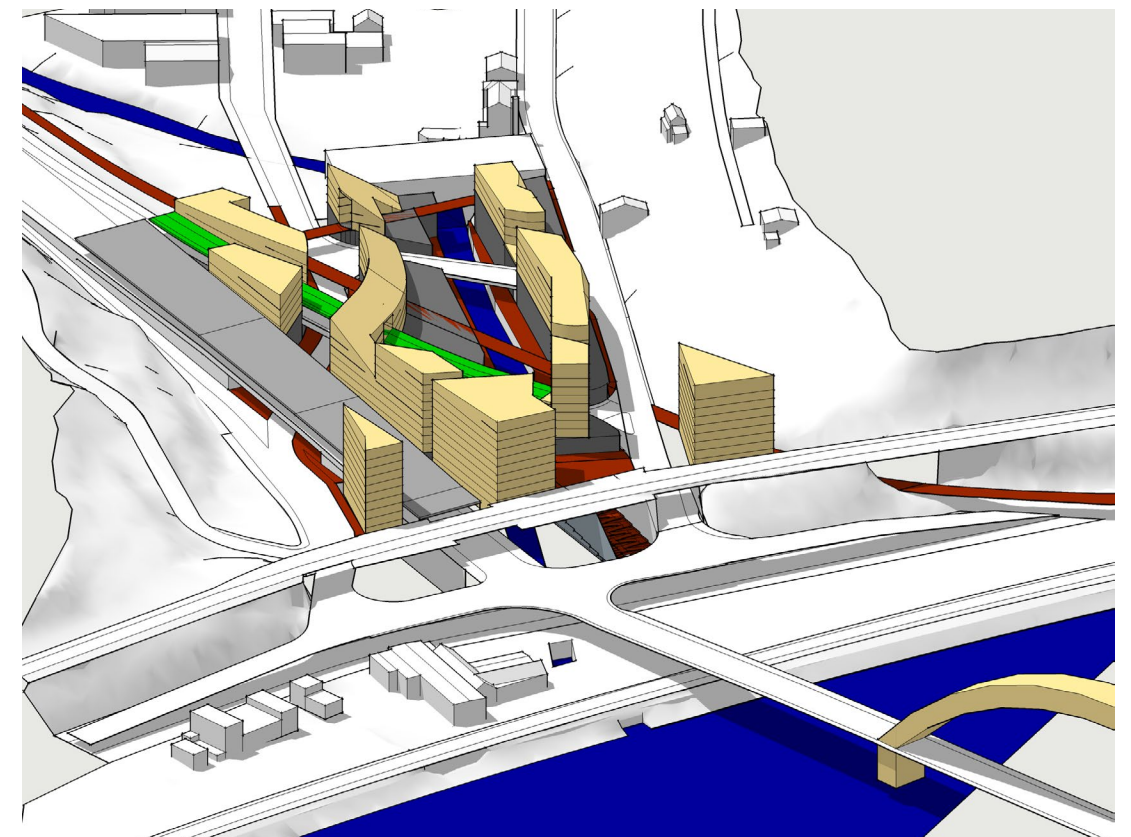
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- 19. Cuts by shadow angles
- 20. Width of single loaded, South facing apartment buildings
- 21. Resultant form
- 22. Openings where paths intersect buildings
- 23. Breaks in buildings
- 24. Floors in forms
- 25. Forms separated from the ground
- 26. Ground level access on separate plinth
- 27. Resultant infrastructure, apartments, and base

07: city, urbanization, architecture, and Pittsburgh

The projects presented in this thesis seek to address the specific conditions of urbanization with architecture that utilizes elements associated with the city. In order to do this, an important distinction must be made between what is urban and what is the city.

The city originates from the concept of the Greek polis, the space of many, the space of politics, which corresponds to the Roman civitas. The city contains and counters the infinite and frames the unfolding of the political life. (Aureli, 2011) The city is limited and recognizable. For these projects, the city is Pittsburgh. The recognizable and identifiable city is bounded on two sides by the Allegheny and Monongahela Rivers. And on a third by Interstate 579. This creates a clearly bounded city, conventionally referred to as the 'golden triangle' or 'downtown'.

That boundary which limits the city includes the many bridges which cross those rivers. At the point are the yellow steel arch Ft. Pitt and Ft. Duquesne bridges. On the Allegheny are the 'Three Sisters Bridges', three identical yellow steel suspension bridges, whose form is so distinct that they essentially become the most universally recognized icon of the city. Several other bridges enter the golden triangle as well. One uniting characteristic of these bridges is massive stone or concrete horizontally coursed piers and abutments lifting the iconic steel structure above the river.

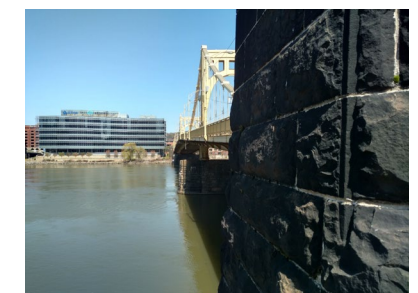
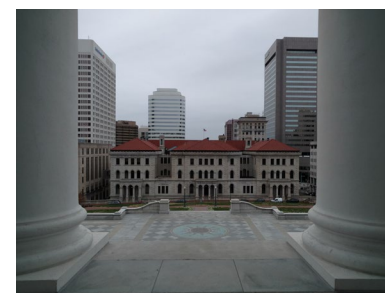
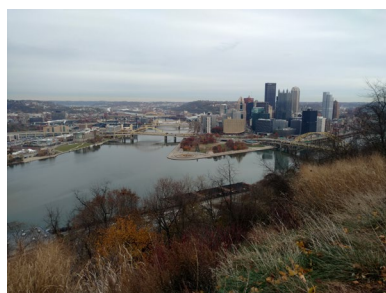
Urbanization originates from the Roman urbs, which is nothing more than the most basic agglomeration of houses, which relates to the Greek idea of oikos or private economy. The goal of urbanization is to instrumentally expand infrastructure to develop human inhabitation beyond the symbolic frame of the city, to ruralize the city and urbanize the countryside. (Aureli, 2011)

The urban area of Pittsburgh is significantly larger than what is recognized as the symbolic frame of the city. The political organization known as the 'City of Pittsburgh' actually includes a collection of 90 formerly independent neighborhoods. The metropolitan area in Allegheny County and surrounding southwestern Pennsylvania may also be recognized as products of Pittsburgh's urbanization. Maps indicate and show how humans have urbanized around various forms of infrastructure or geography.

This concept of urbanization and limitless economic settlement is intentionally implemented in several historically significant examples. The first plan with a clear goal of limitless urbanization is the plan of Barcelona by Ildefons Cerda. The first American example is the plan of Savannah, Georgia by James Oglethorpe. Each prescribe a specific pattern for expansion and infrastructure that would enable that expansion. This was followed by the National Land Ordinance of 1785 under Thomas Jefferson. This legislation defined how western lands in the United States were to be settled. Land was subdivided into rational grids and sub-grids at a module which was repeated across the continent. It was the manifest destiny of America to urbanize westward. This gridded module reappears in Frank Lloyd Wright's Broadacre city proposal. The actual total urbanization of America closely follows the patterns of organization of the 1785 Land Ordinance and shares characteristics and infrastructure like what appears in Broadacre City. One relatively recent radical proposal for urbanization is Archizoom's 'No Stop City' which is a reduction of the city to logics of economy, diagrams and growth statistics (Aureli, 2011)

Pittsburgh does not conform to the Land Ordinance of 1785, or look like Broadacre City, but the spirit of urbanization as expansion of the settlement is very much so present. Just beyond the symbolic frame of Pittsburgh, the piece of infrastructure that is the West End Circle enables boundless westward expansion via an automobile or rail (existing infrastructure) or by bicycle (proposed infrastructure). Within this infrastructure it is possible to create an architecture which uses local symbols of place to limit itself and separate from and confront the surrounding urbanization.

One particularly successful architect is Mies Van Der Rohe., who designed meticulously crafted minimalist buildings under the premise 'Less is More'. Pier Vittorio Aureli presents a reading of much of Mies' work, where he states that the use of a plinth and setback creates a condition where one is "estranged from flows and organizational patterns, yet still confronting them." "Indifference to context is its contextual quality" (Aureli, 2011). One particular example is the Barcelona Pavilion, which on one hand shows Mies' mastery of materials and composition of spaces as an autonomous building, but on another is entirely open to the surrounding urban context. As much as Mies' composition frames itself, it also frames the surrounding urban context and confronts it, and through the use of a plinth, is still separated from it.



Aureli also points out that Palladio used the tool of composition in a similar manner as Mies Van Der Rohe. One example of American Palladian architecture is the Virginia State House in Richmond Virginia by Thomas Jefferson. It rests strategically on the top of a hill, overlooking the James River, a view since blocked by tall buildings. As one approaches the building, the attention is entirely on the autonomous form of the building, based on the Maison Carree in France. However once one arrives in the portico, the attention entirely shifts to the surrounding urban context. The autonomous form of the building disappears as one views the surroundings in a specifically composed manner.

One of the more interesting and unbuilt buildings by Palladio is his design for the Rialto Bridge in Venice. Palladio takes the bridge which by type is a piece of infrastructure as it enables crossing of the Grand Canal which enables economic expansion on both sides. Composed on top of this typical bridge is a typical temple-like building. Palladio essentially joins the two completely different parts into one composition, the lower heavy stone infrastructure and the upper iconic civic temple form. Palladio's woodcut for this design in I Quattro Libri resembles an individual building in the entire scheme of the Campo Marzio by Piranesi. The lower base bears resemblance to the later drawings of stone bridges by Piranesi as well. It is as if Palladio's invention of this particular building went on to influence Piranesi's invented map of the Campo Marzio.

In Pittsburgh, it is entirely possible to propose that the local icons of the bridges can be used as a tool for achieving the autonomous yet contextual qualities of Mies or Palladio. Use of Piranesi-esque monumental stones can be found all throughout the urban area of Pittsburgh from bridges to retaining walls, to building bases, to stairs to tunnels and arches. Stone is an incredibly historic building material in Pittsburgh, perhaps even more than the steel for which the city is famous. Much of it can be found in an archeological context. It is not a celebrated material, yet is incredibly pervasive in the city.

Several noteworthy buildings in Pittsburgh already successfully employ a base or plinth and an autonomous top. One is the new ALCOA headquarters on the North Shore of the Allegheny River. A wavy aluminum and glass autonomous upper office rests on top of a riverfront base which utilizes stone veneers. In the Oakland neighborhood, the Hillman Library of the University of Pittsburgh, the upper floors of the building are elevated above a plinth that offers unique confronting separated views to Schenley Plaza and Forbes Avenue. This plinth is expressed in brutalist horizontal bands of concrete instead of stone.

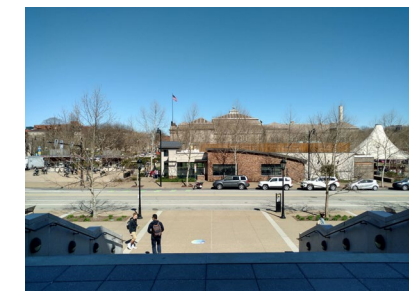
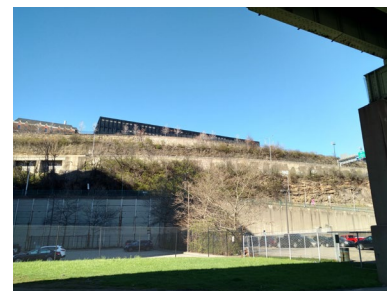
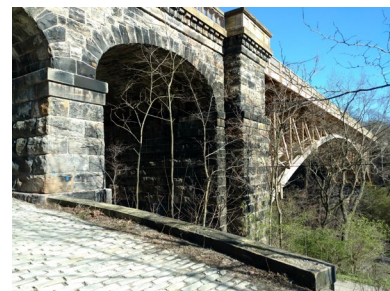
One final example in Pittsburgh worth examining is the Richard King Mellon Hall of Science by Mies Van Der Rohe. Next to the Allegheny County Jail is a large cliff face. Some of it is left natural some has concrete roadway piers. Other areas use stone to support Duquesne University at the top of the hill. As viewed from below, the silent figure of Mies' building looms over the edge of the stone and earth cliff. This building is long and biaxially symmetrical. It is setback from both the campus and the roadway along the hillside and includes a loggia that wraps around the ground floor of the building. Looking at the building from any direction, it is a silent banal figure. Inside the loggia, covered views are offered to the surrounding urban context.

Within the complex system of infrastructure in the West End Circle, there is a possibility to create architecture that is keenly aware of its presence within its location within the apparatus to which urbanization may occur. This architecture takes elements from the symbolic frame of the city to which it associates. When viewed from the surrounding urban context, the architecture is autonomous, and uniquely itself. When one stands directly in the sites, through the composition of elements, the surrounding urban context is theatrically presented and the building fades away.

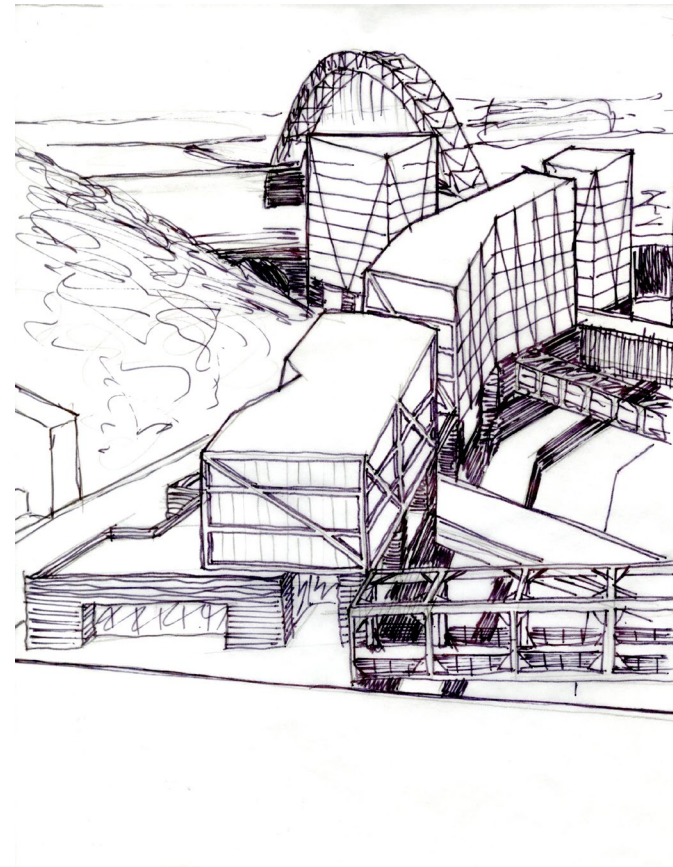
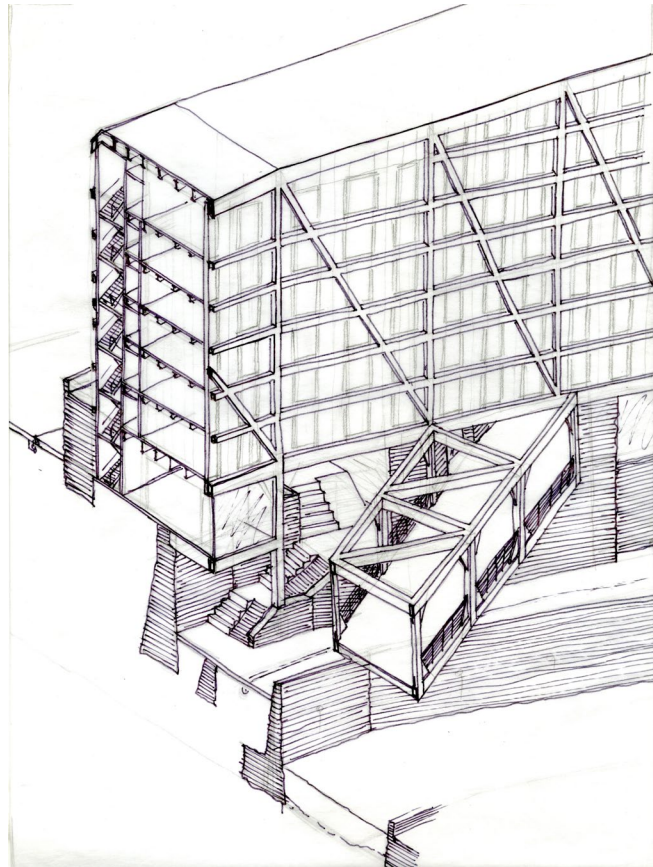
Pittsburgh is the city from which this architecture utilizes the most significant icons of the place. As mentioned earlier, the icon of the city of Pittsburgh are the bridges. The stone piers and abutments support the iconic steel structure above. For this project, stone walls, stairs, ramps, and arches are composed in such a way that allows for circulation and stoppage, rentable business spaces and apartment lobbies, but most importantly places to observe the surrounding urban infrastructure while being not being a part of it.

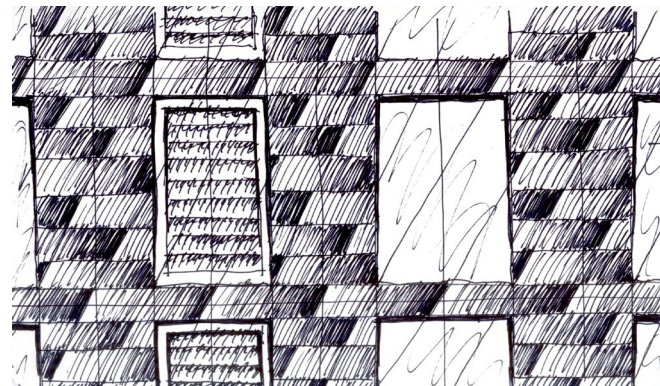
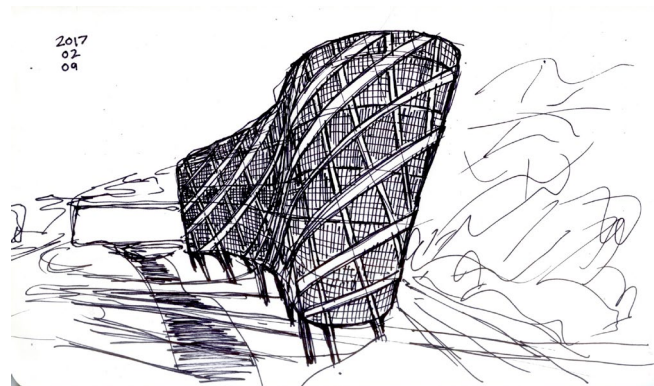
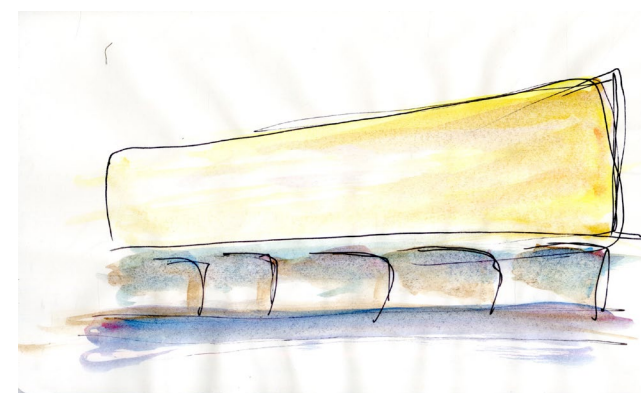
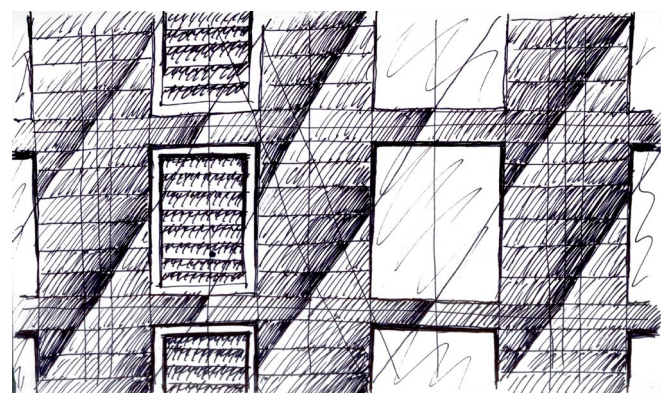
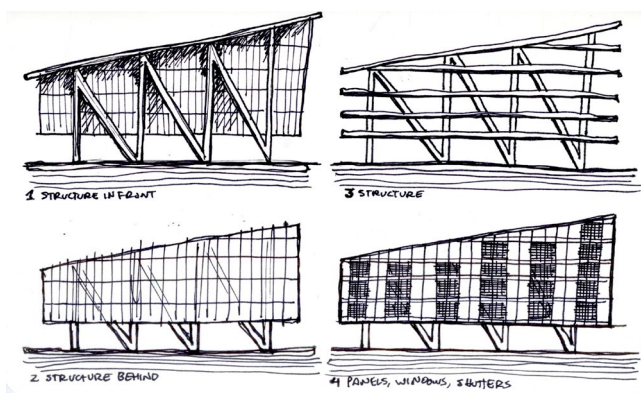
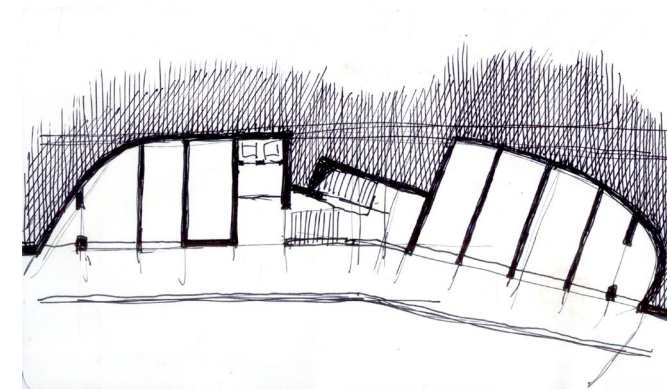
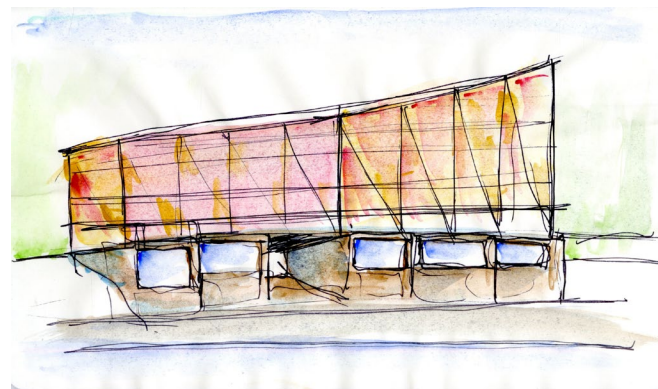
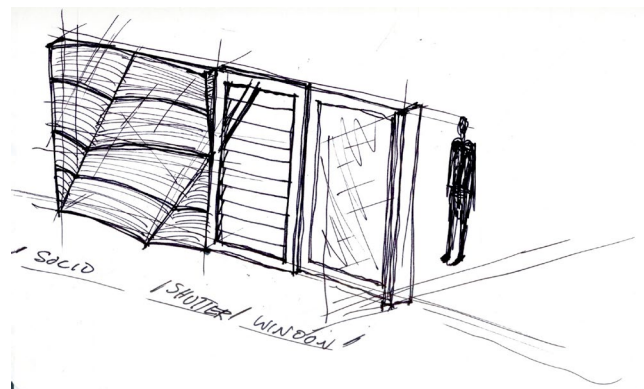
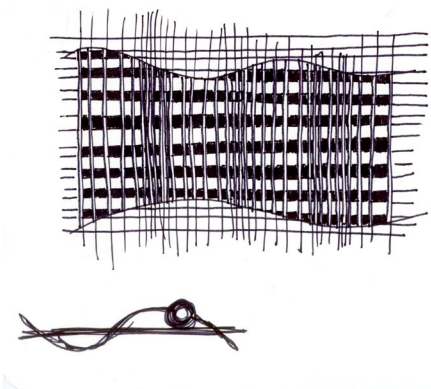
Like the bridges, the upper part is completely different from the lower part. In this case, the upper part consists of apartments. Bridges achieve their iconic form from their primary task of spanning long distances. In the case of the apartments, the primary task is to provide people with a suitable place to live. The form must follow that function. A single loaded corridor allows all apartments to have preferable southern light. Balconies double as shades, to prevent the sun from causing heat gain during overheating periods. Folding doors allow the rooms to completely open up to the balconies, creating an enjoyable indoor/outdoor condition.

These features of the apartments are repeated across all parts of the upper levels of the building. Together, they are an autonomous element of urbanization separated from the surrounding infrastructure by the heavy stone base. The composition of elements and spaces in this stone base reconstruct symbolic limits, like a city. Amidst the powerful forces of infrastructure and urbanization, architectural elements that give definition to the city are used to give definition to the architecture.

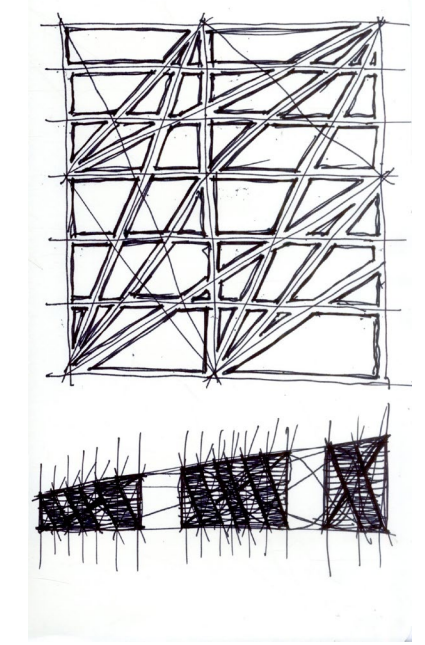
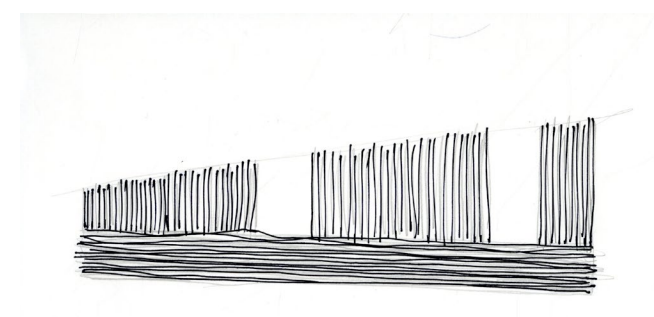
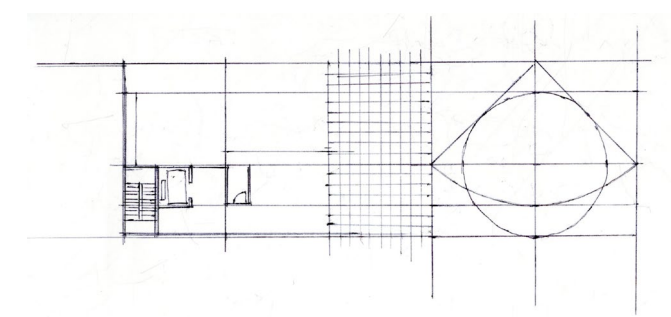
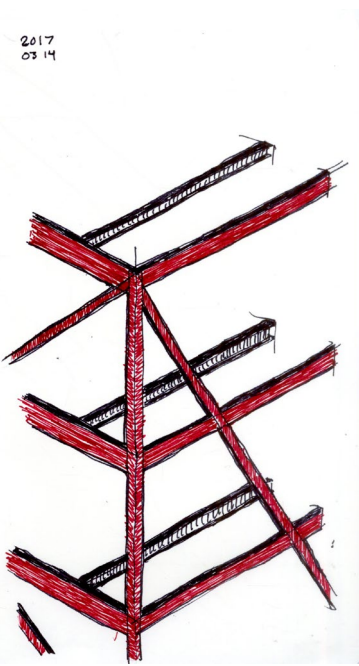
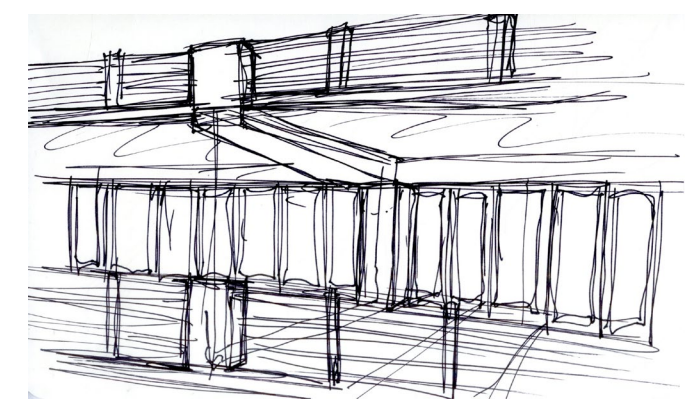
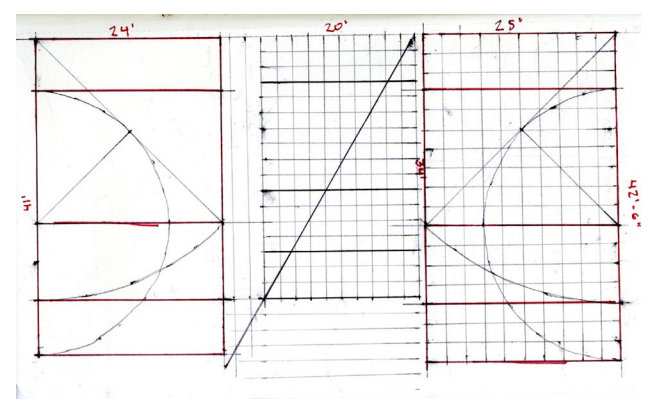
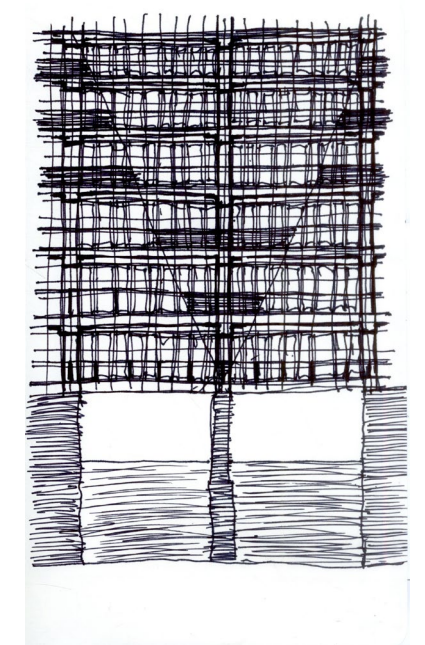
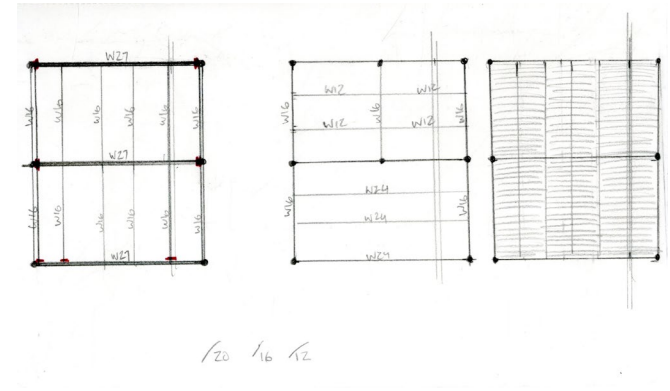
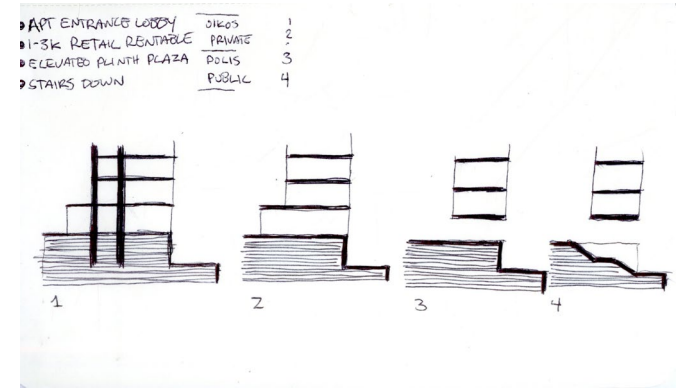
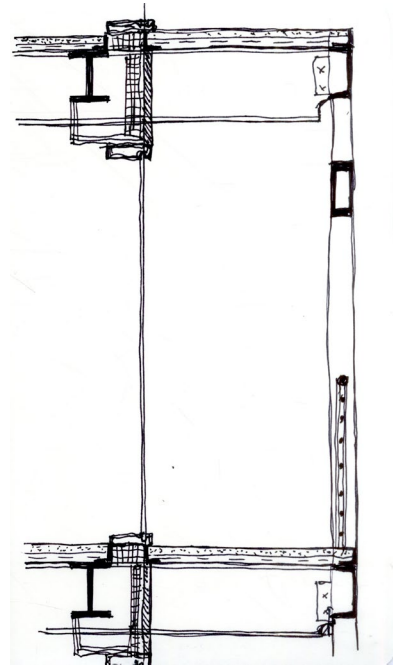


08: an architectural intervention in the West End Circle





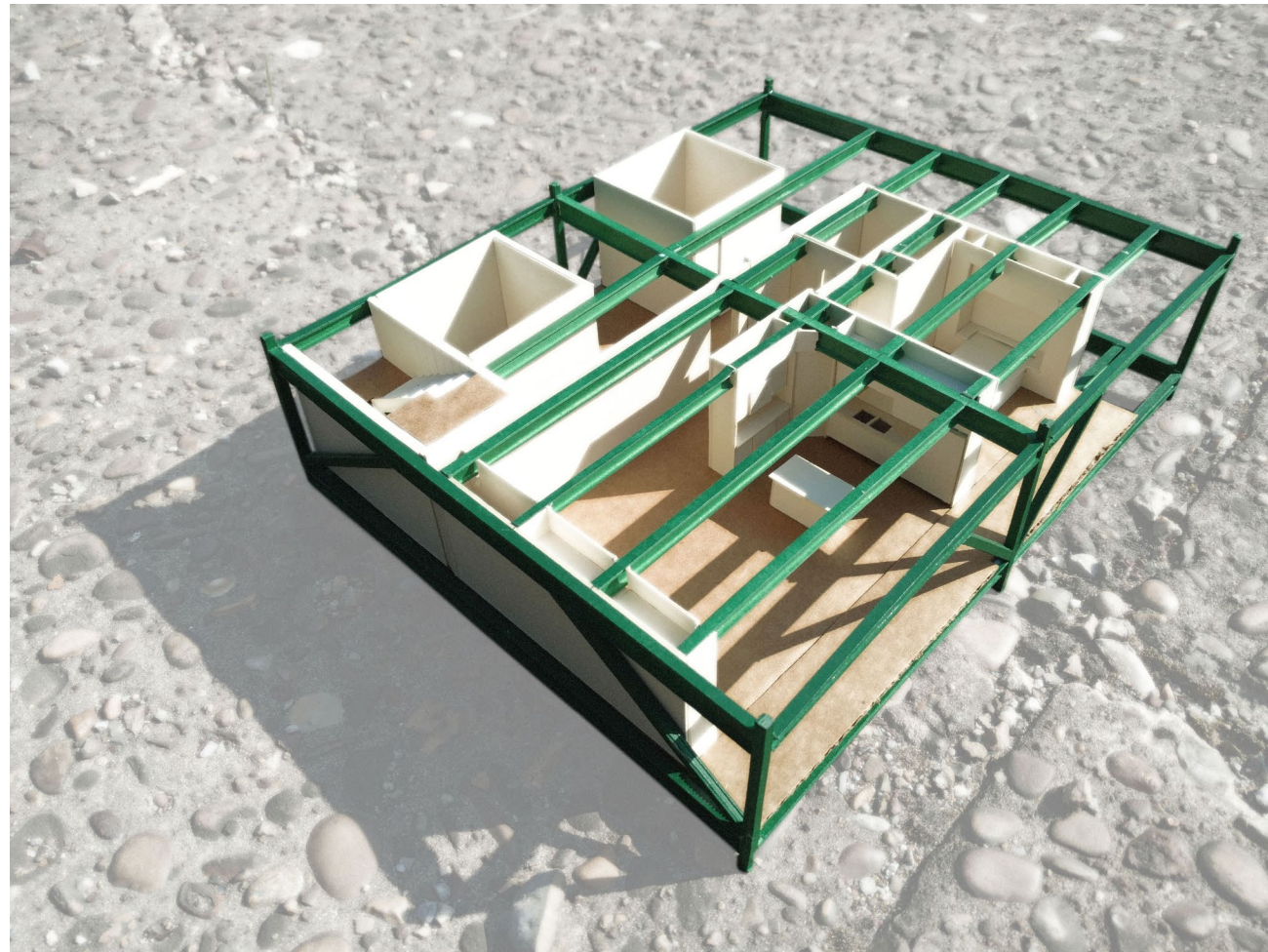
sketchbook pages



sketchbook pages



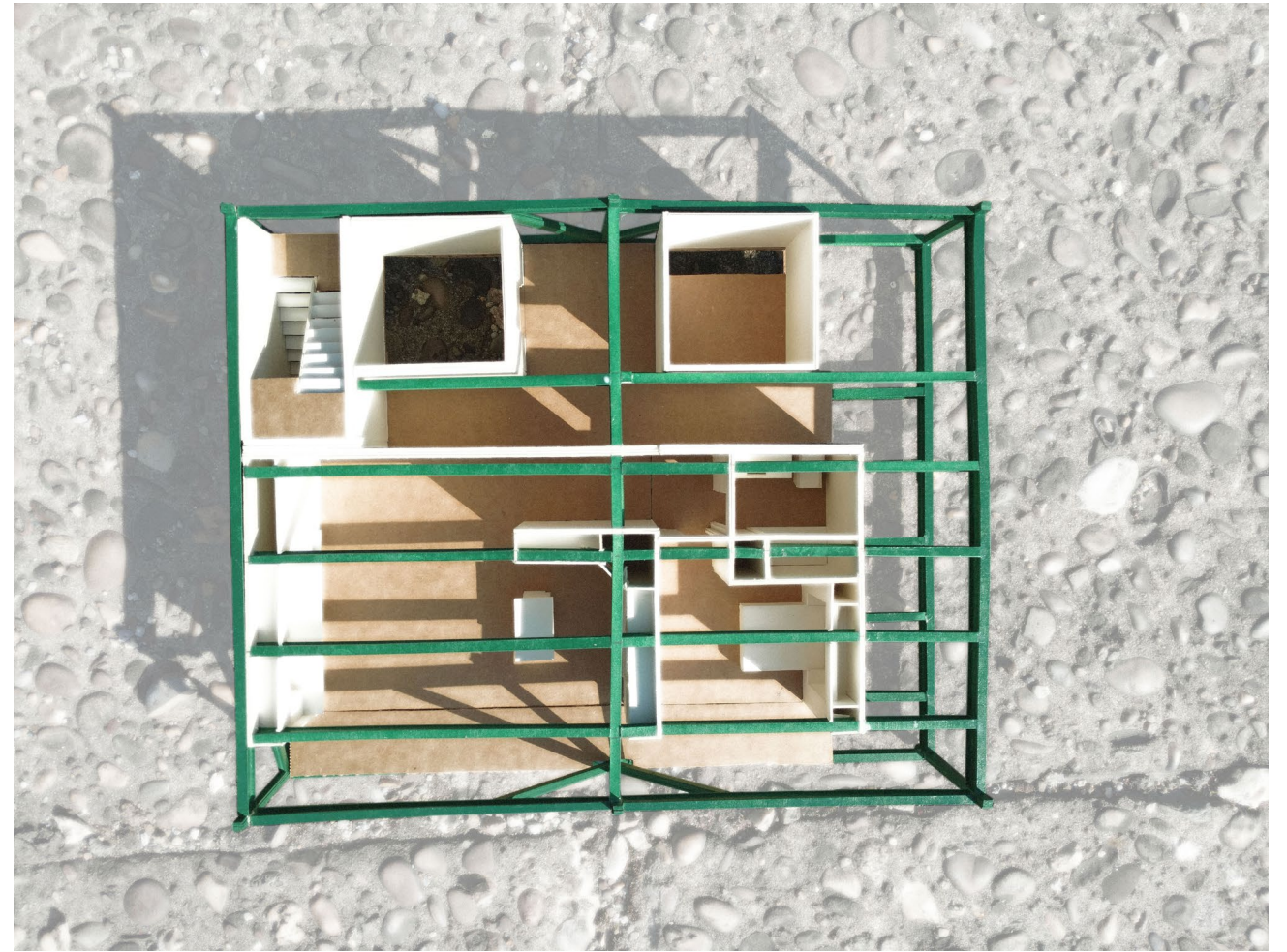




1/4" = 1' apartment model, iteration 1

This first iteration of a design for a typical apartment focused on the interior living spaces, independent of structure. Once the interior spaces were laid out, a structure was applied. This first model allowed for later refinements.







1/4" = 1' apartment model, iteration 2

One of the glaring issues with iteration 1 was the desire for structural steel expressed on the exterior. That configuration presented significant thermal and fire protection issues. This model uses an impractical thermal break system and assumes the use of intumescent paint. Despite these impractical solutions, this model did refine the rational structural module which the apartment layout could adapt.



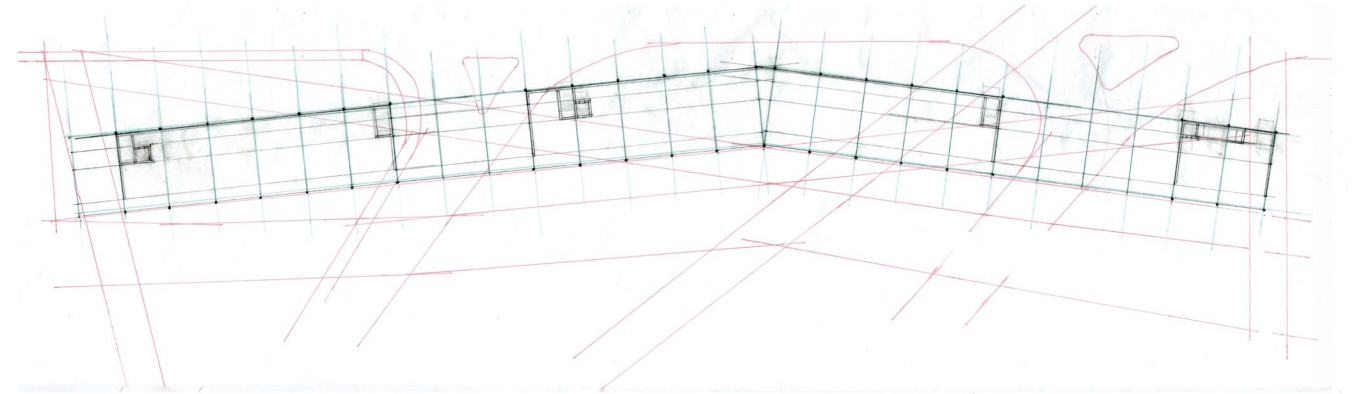


thermal breaks at the balcony edge

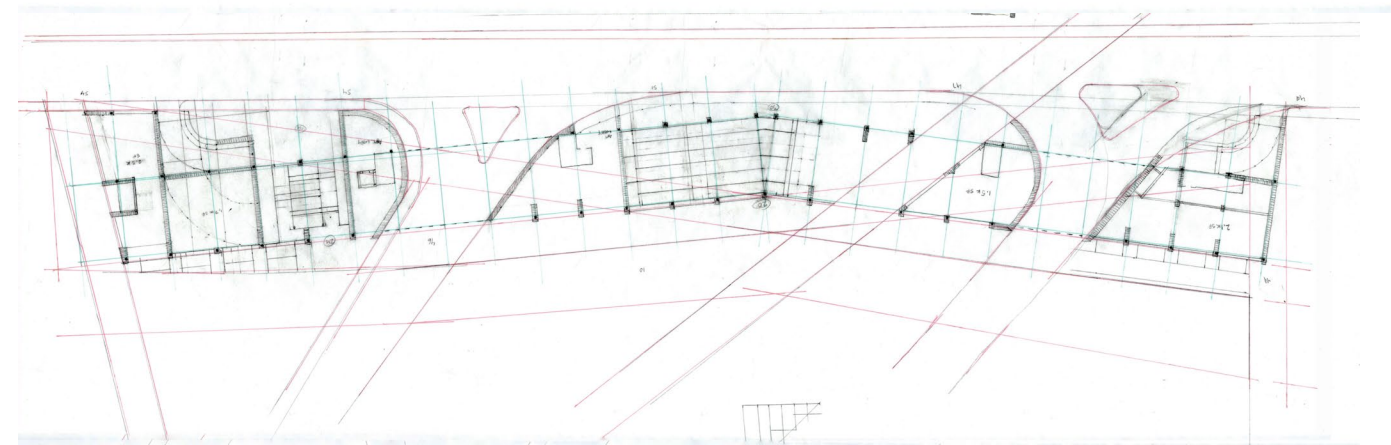


09: architectural refinements

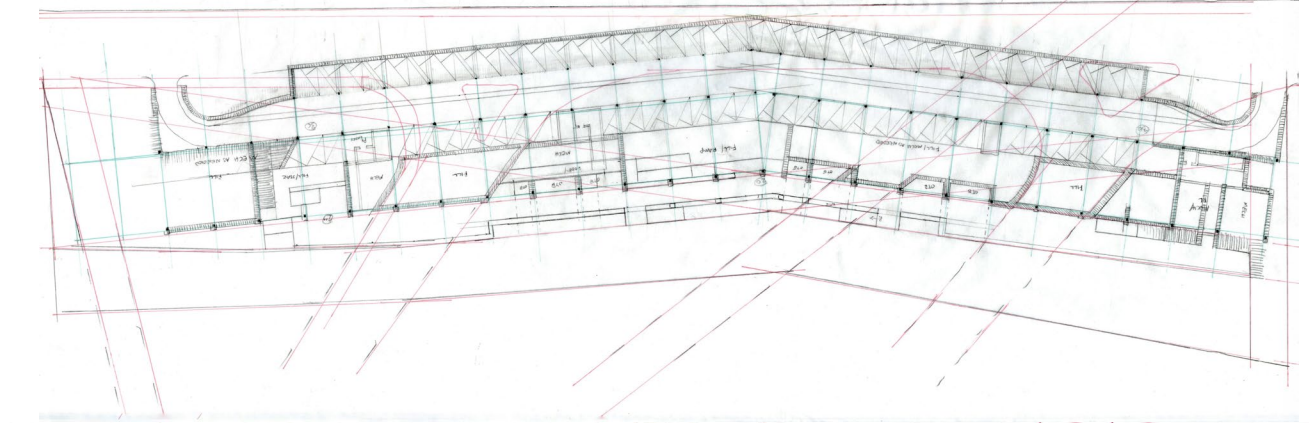
apartment levels



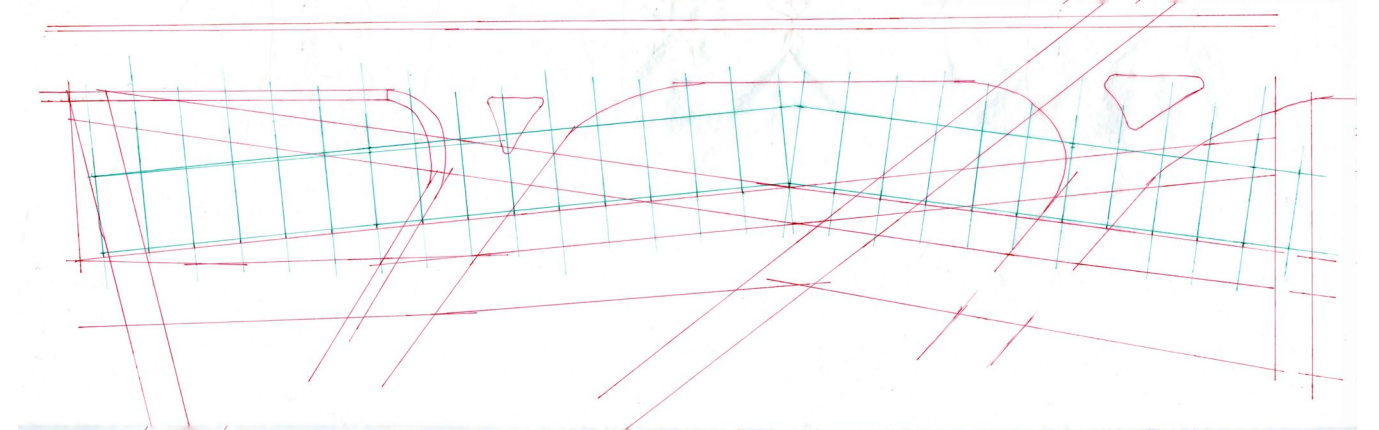
ground level

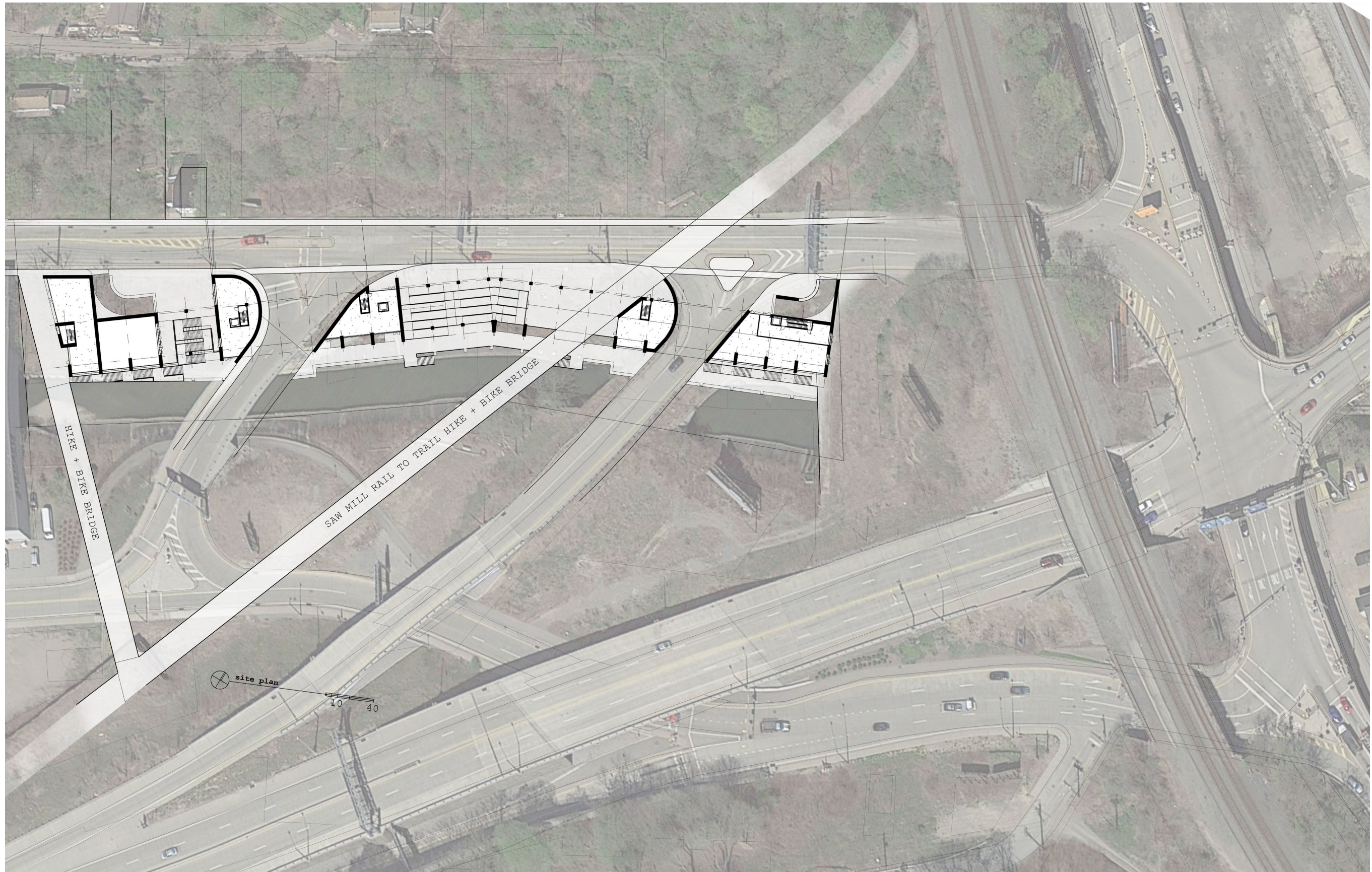


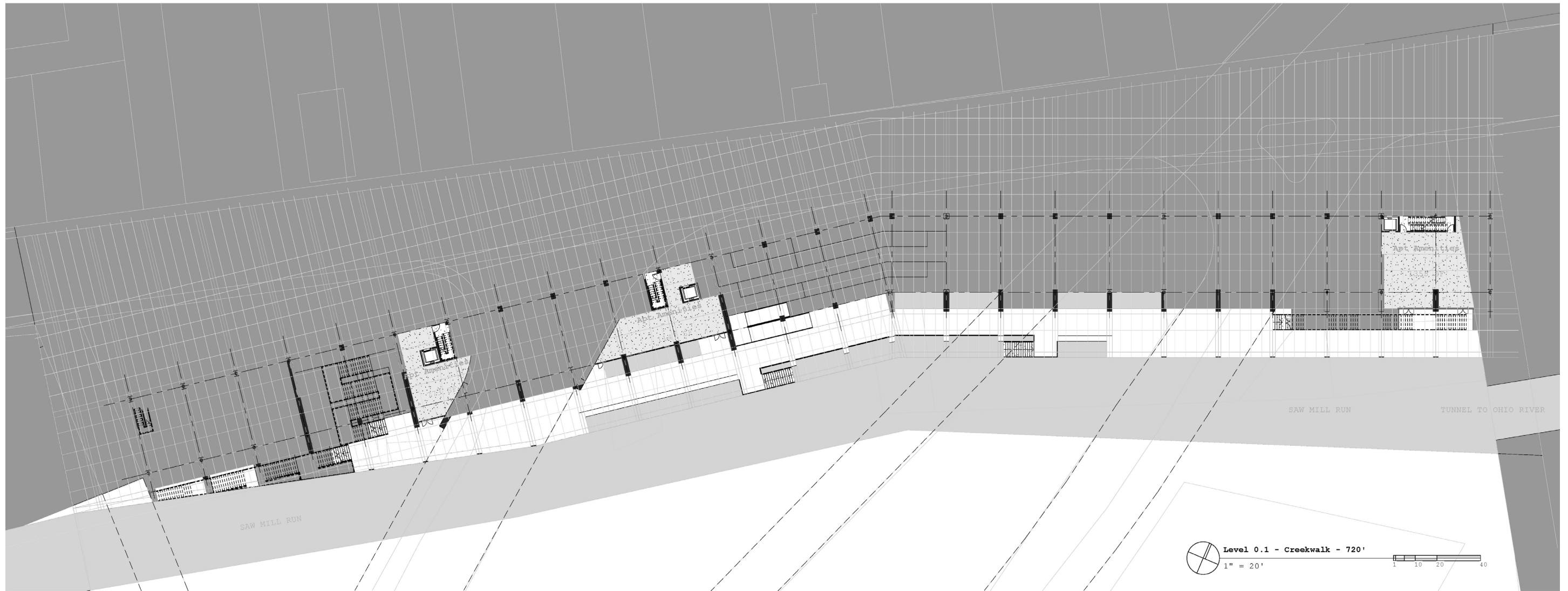
parking level

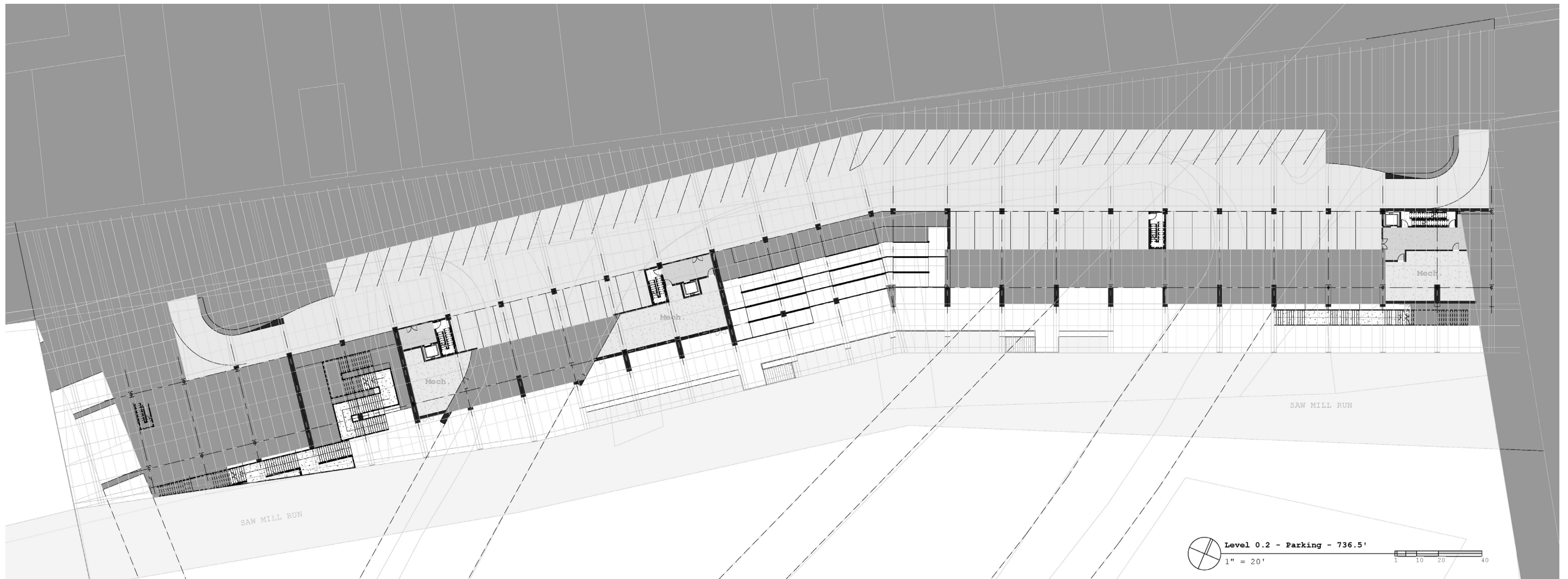


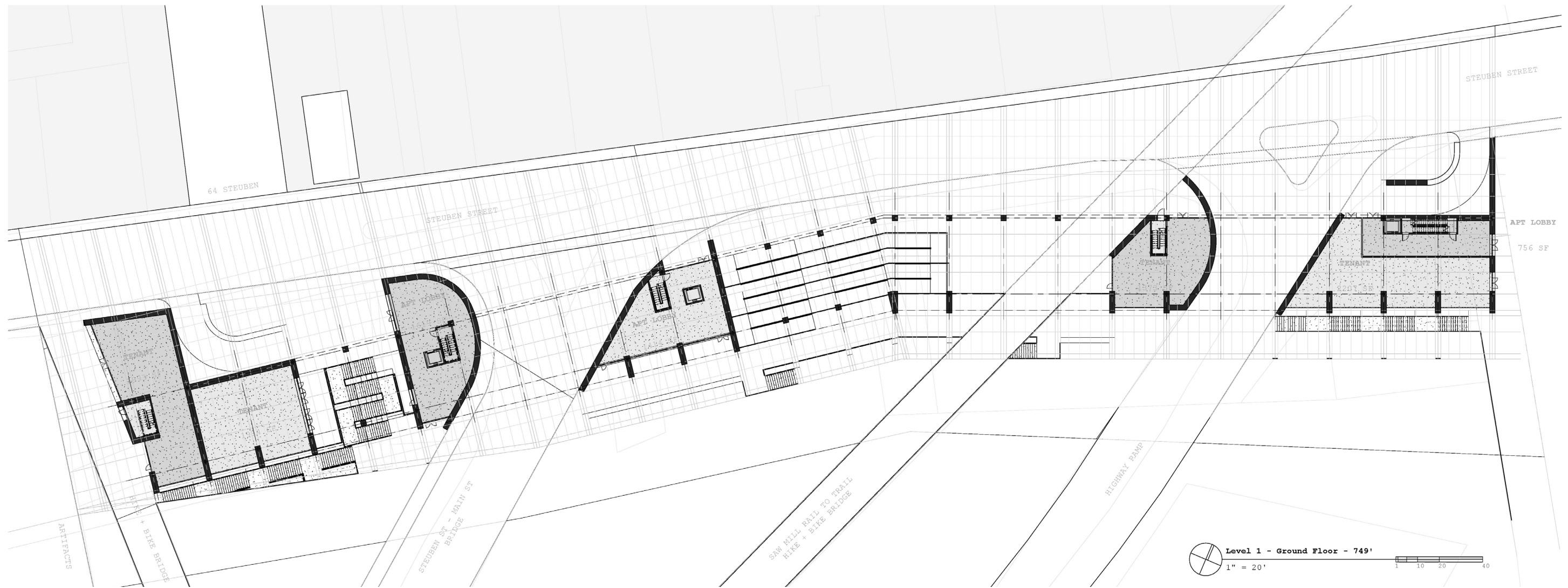
gridded system

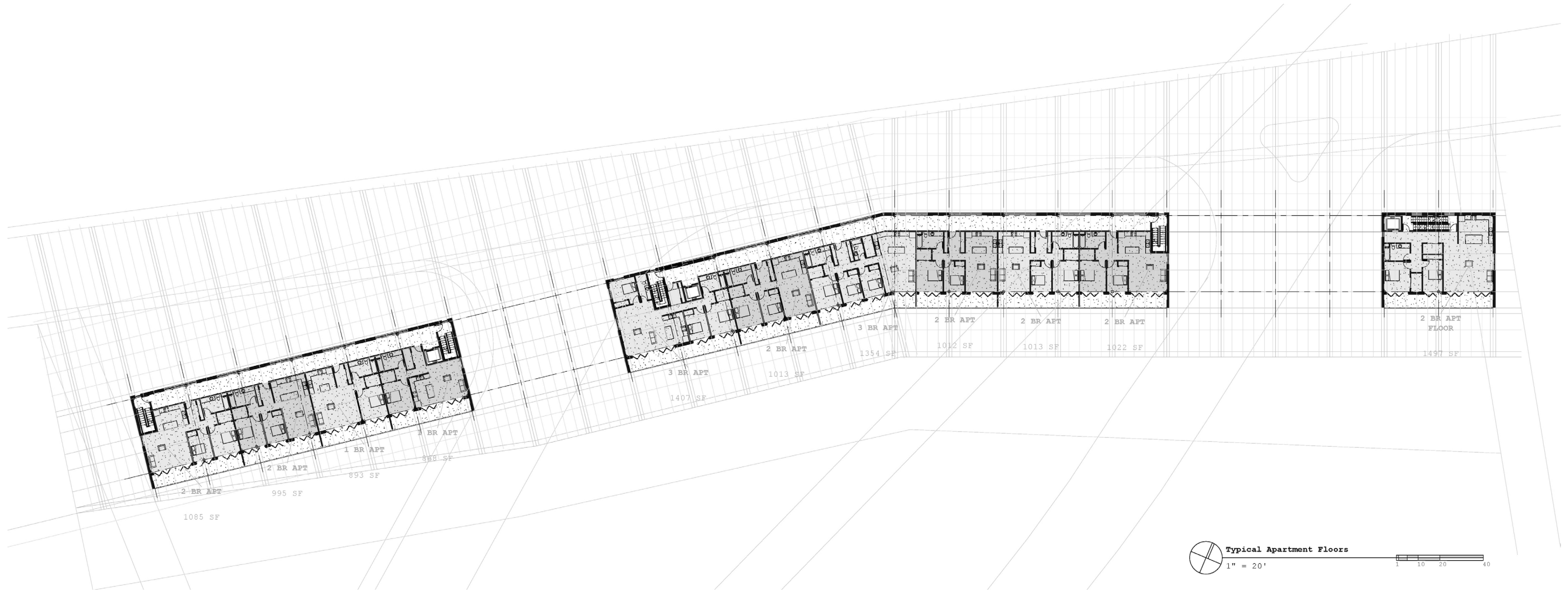




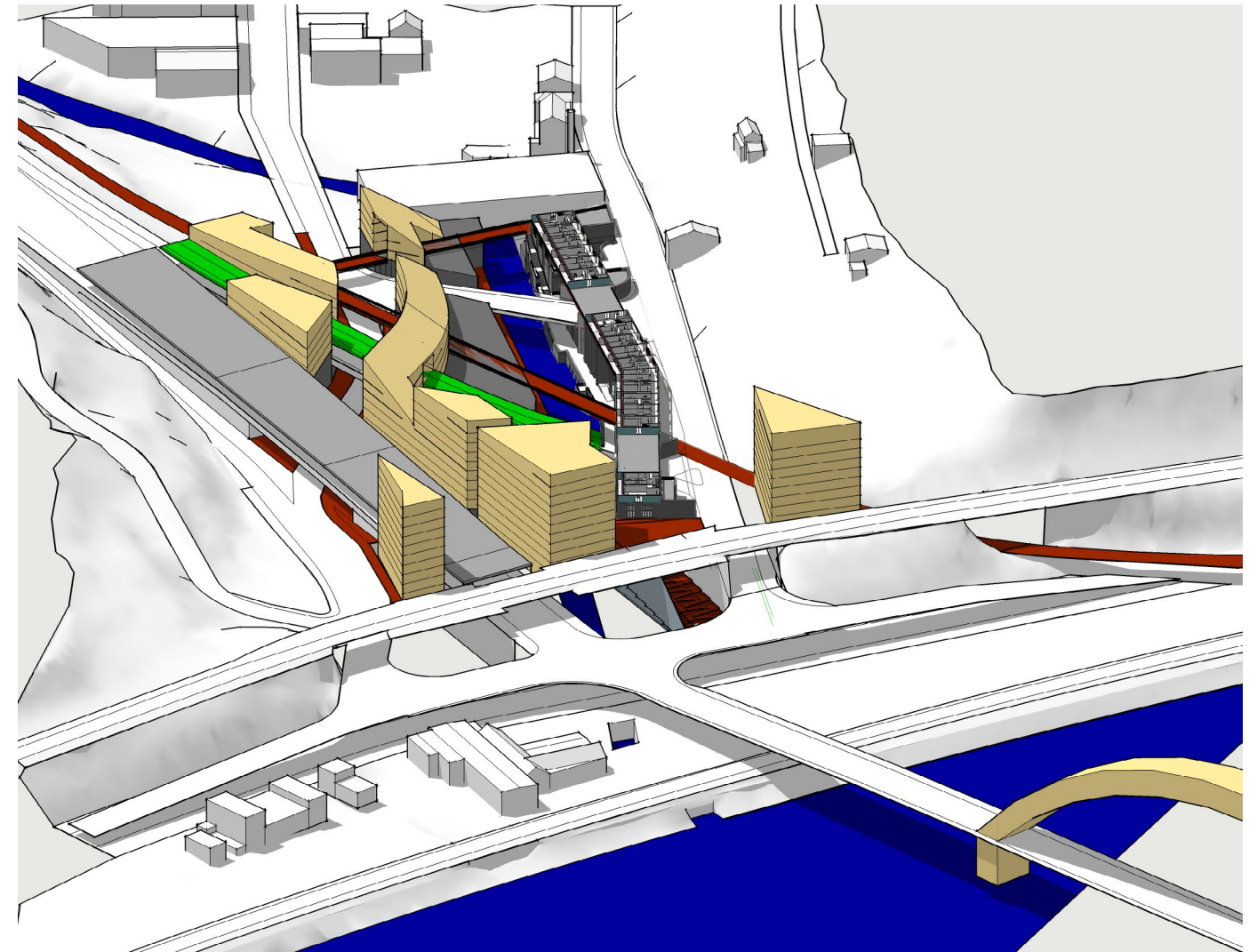
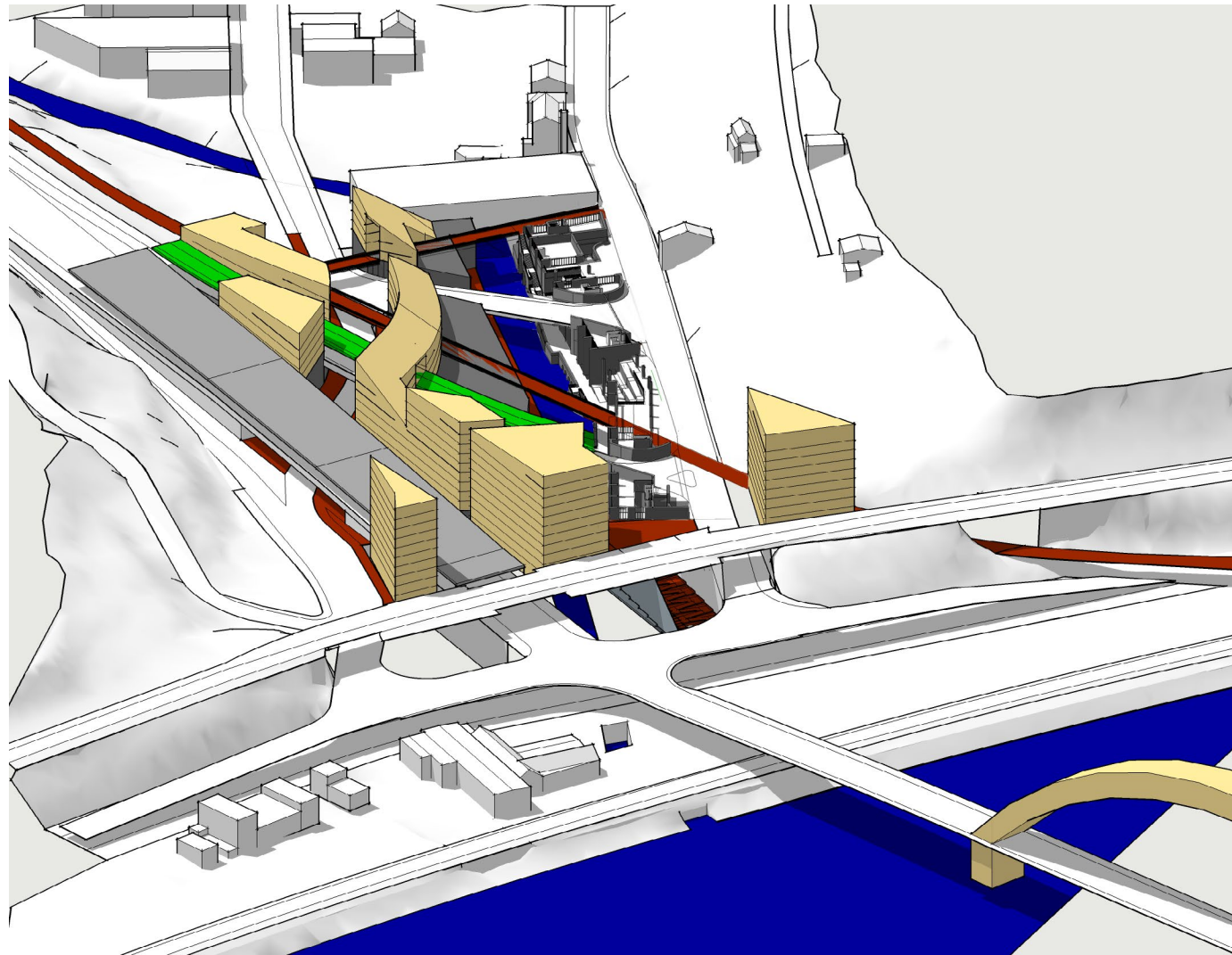




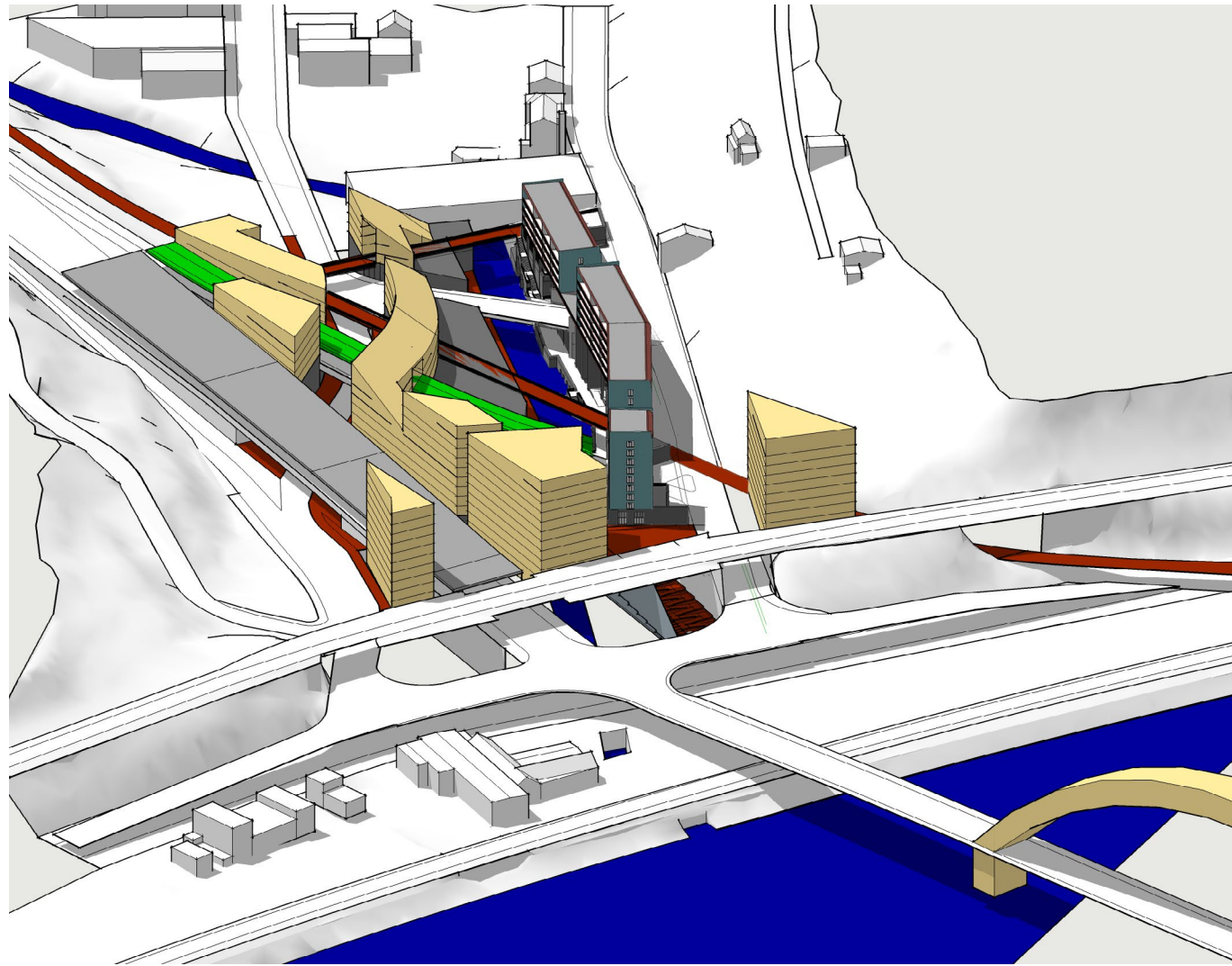


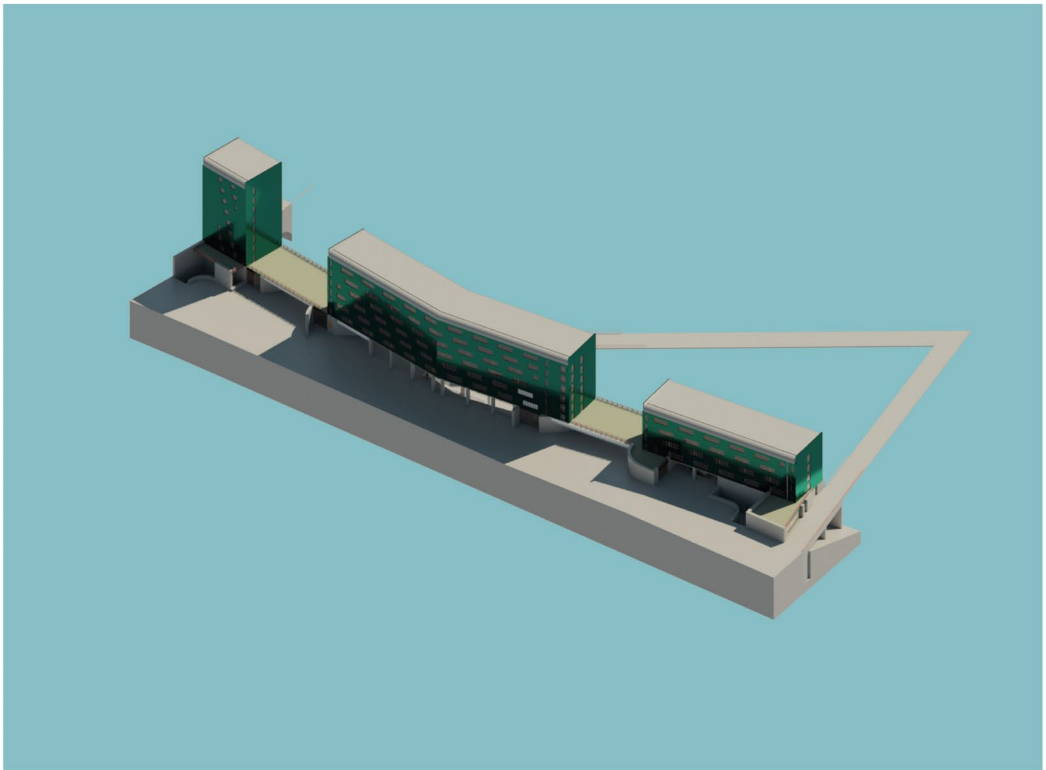
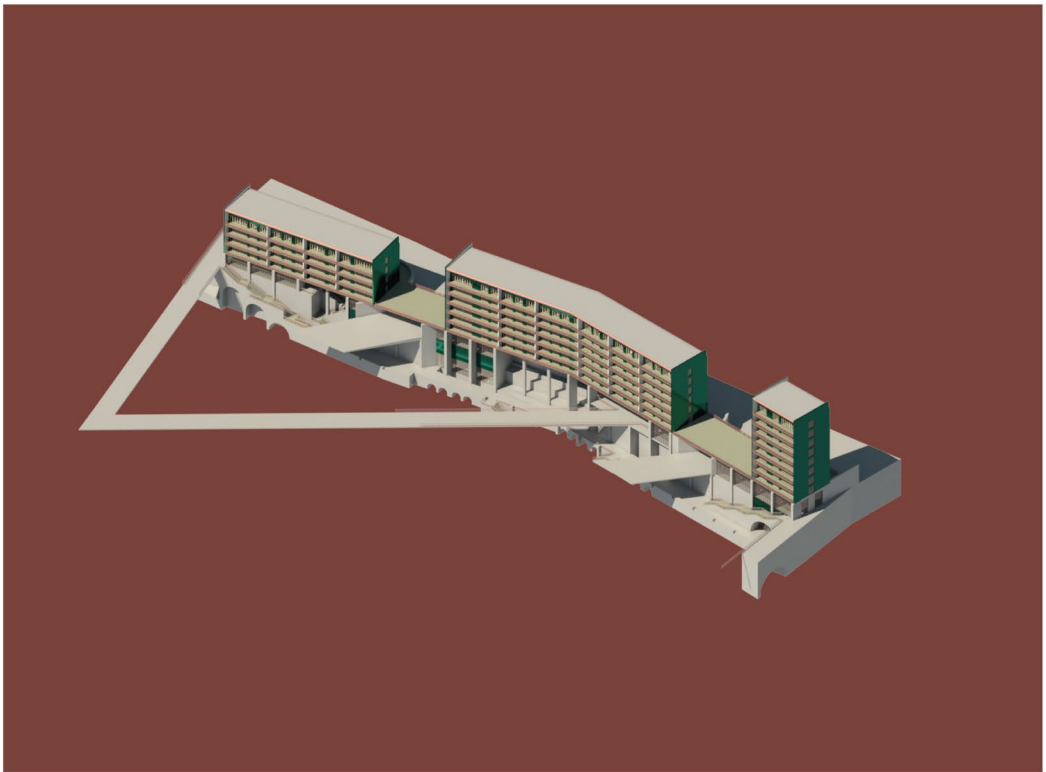



Typical Apartment Floors
 1" = 20'
 

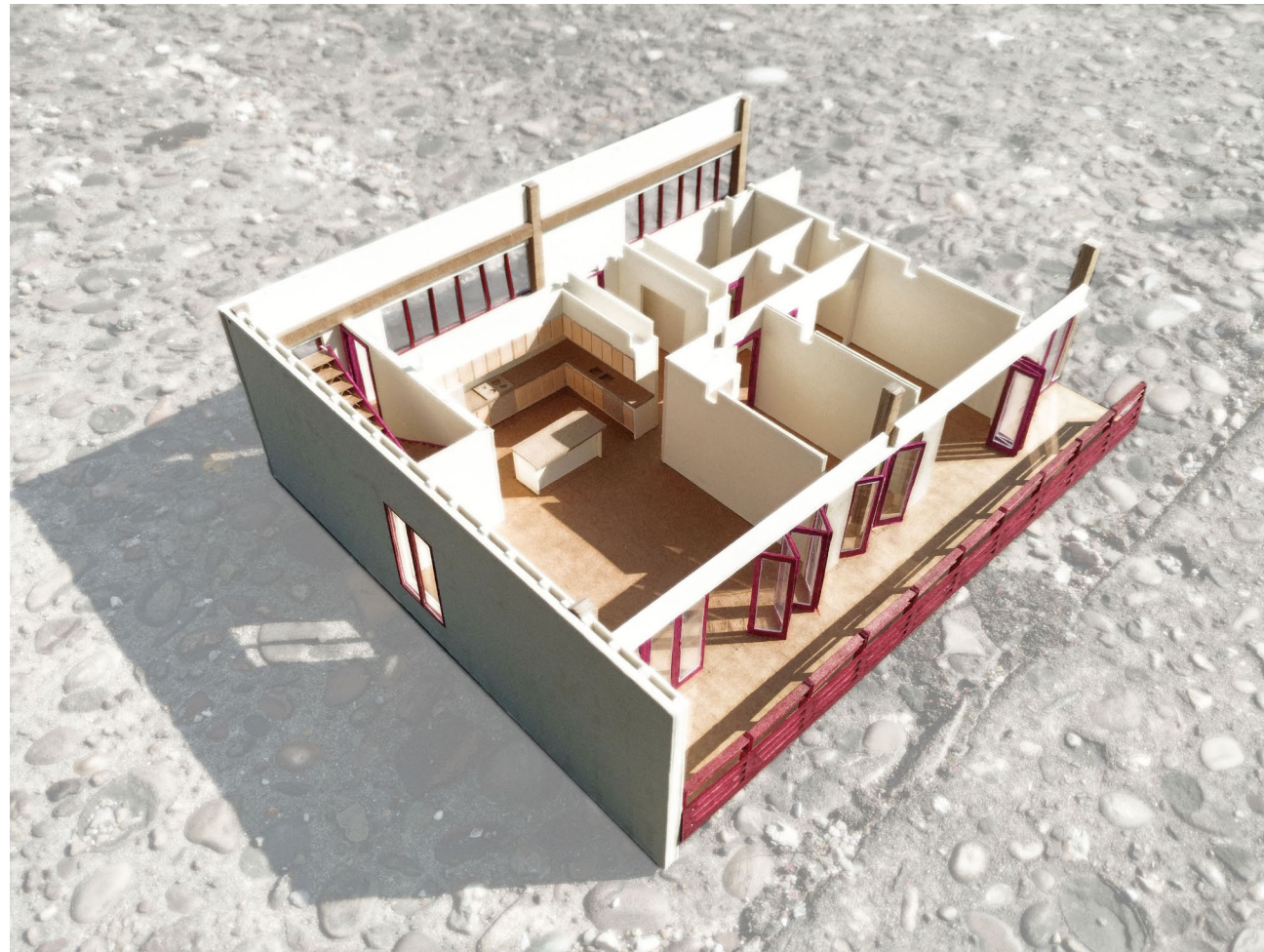


*architecture and the urban intervention
(left) ground floor
(right) apartment floor*





(above) southeast axon, cherokee red
(below) northwest axon, inverse cherokee



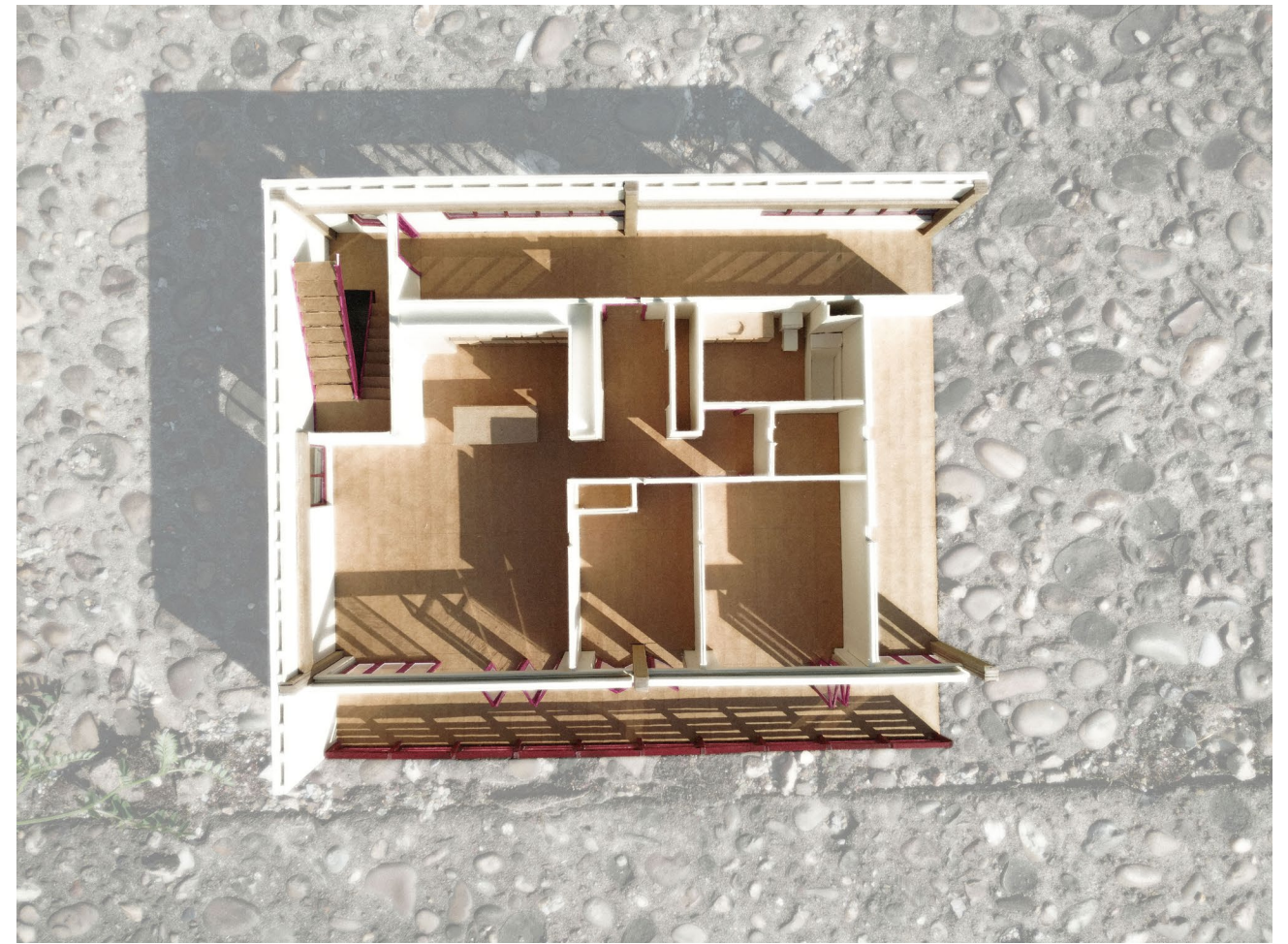
1/4" = 1' apartment model, iteration 3

The entire upper part of the building resting on the stone base is made up of an agglomeration of individual apartment units designed to achieve certain qualities for the people living there. In the final iteration, the primary concrete structural members are located entirely behind the thermal envelope. The material's fire resistance allows the concrete members to be exposed on the interior of the apartments. Upper balconies properly shade the south-facing windows and prevent to prevent overheating, but allow winter's low sun into the apartments. Balconies extend across the length of the apartment, and adjacent rooms have folding doors which when open, create an open-air living environment. The quality of south light is most desirable for apartments. A single-loaded corridor configuration ensures all apartment units receive preferable southern solar exposure.

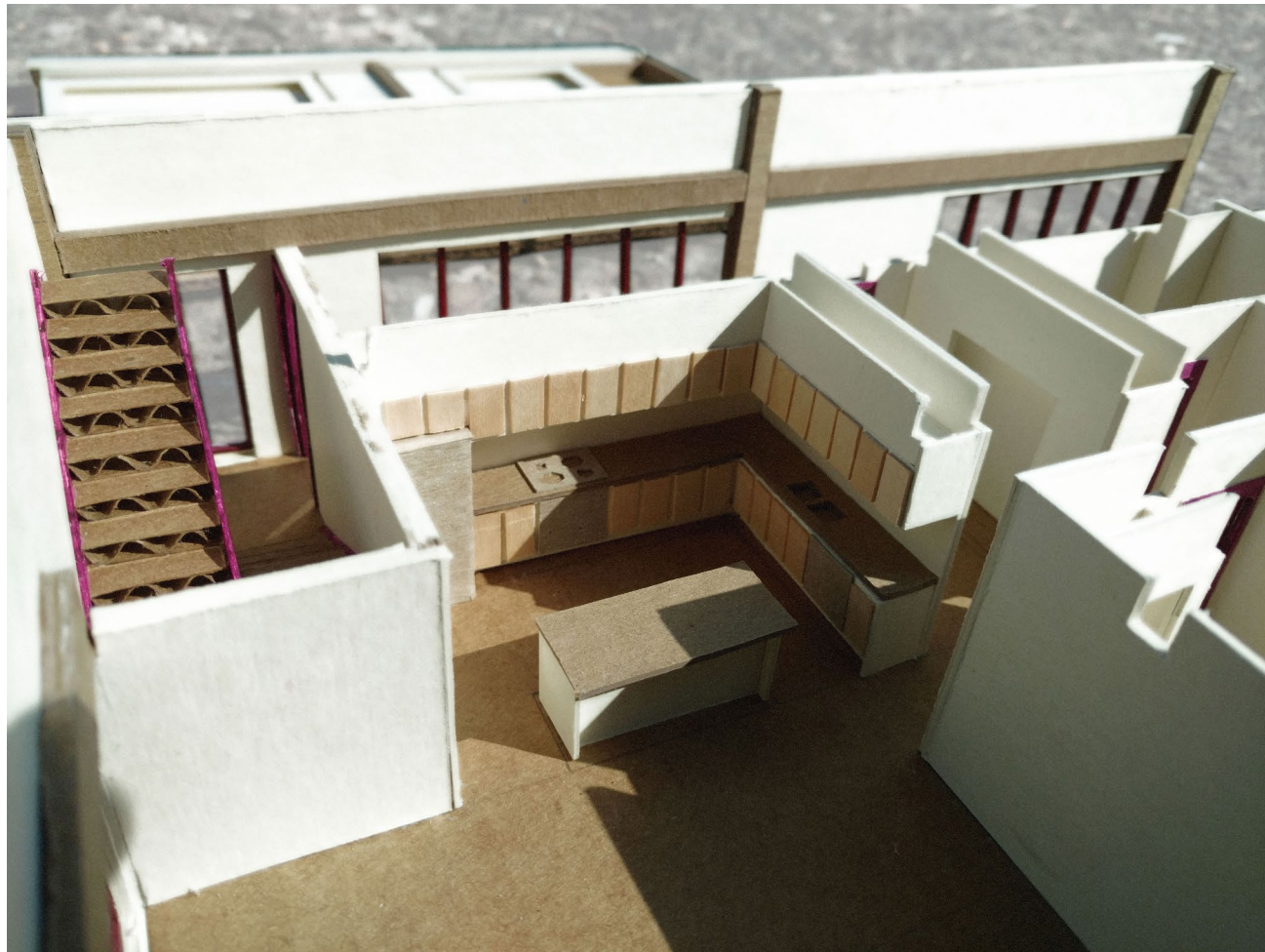




reflected ceiling







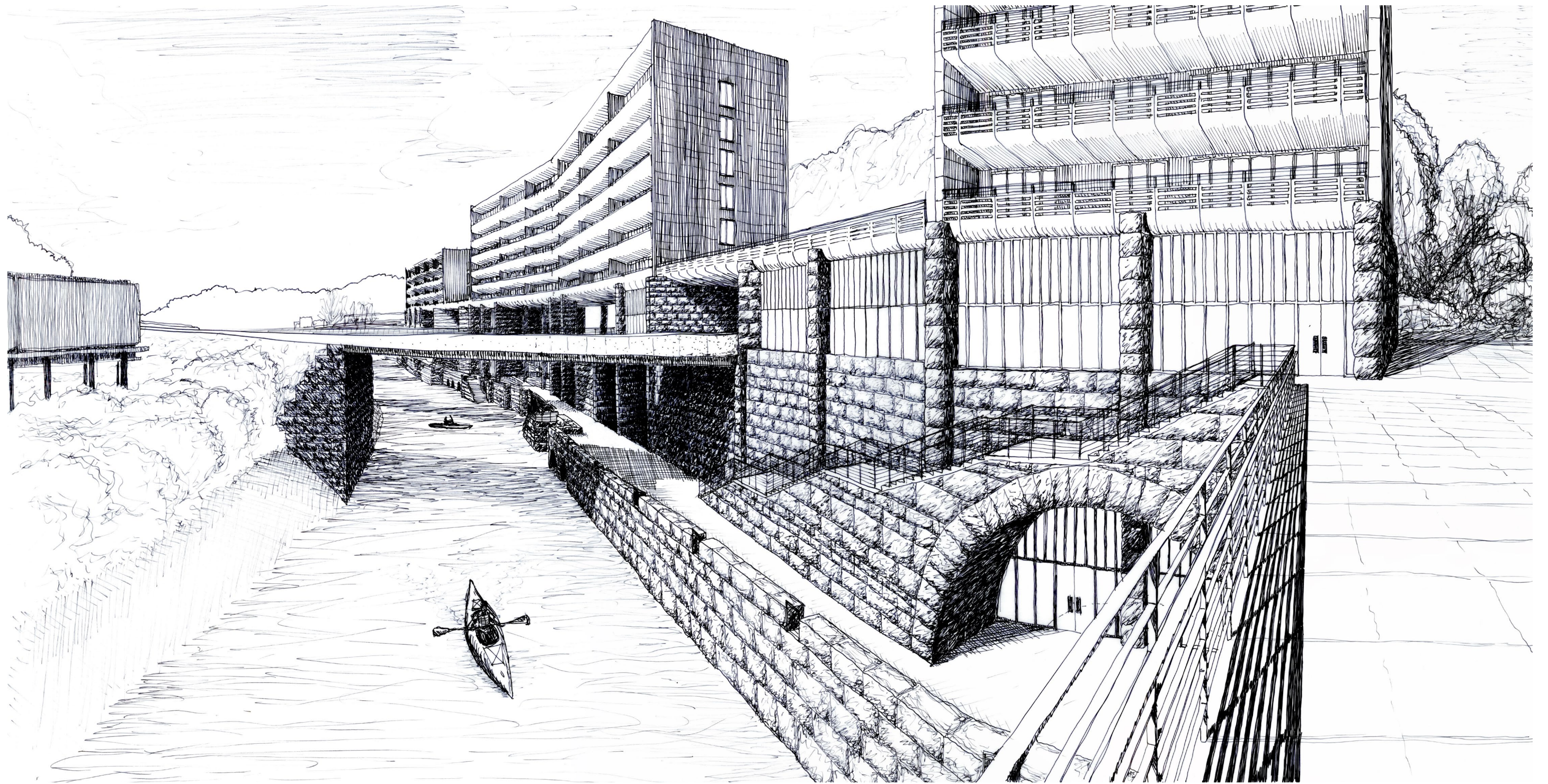
kitchen



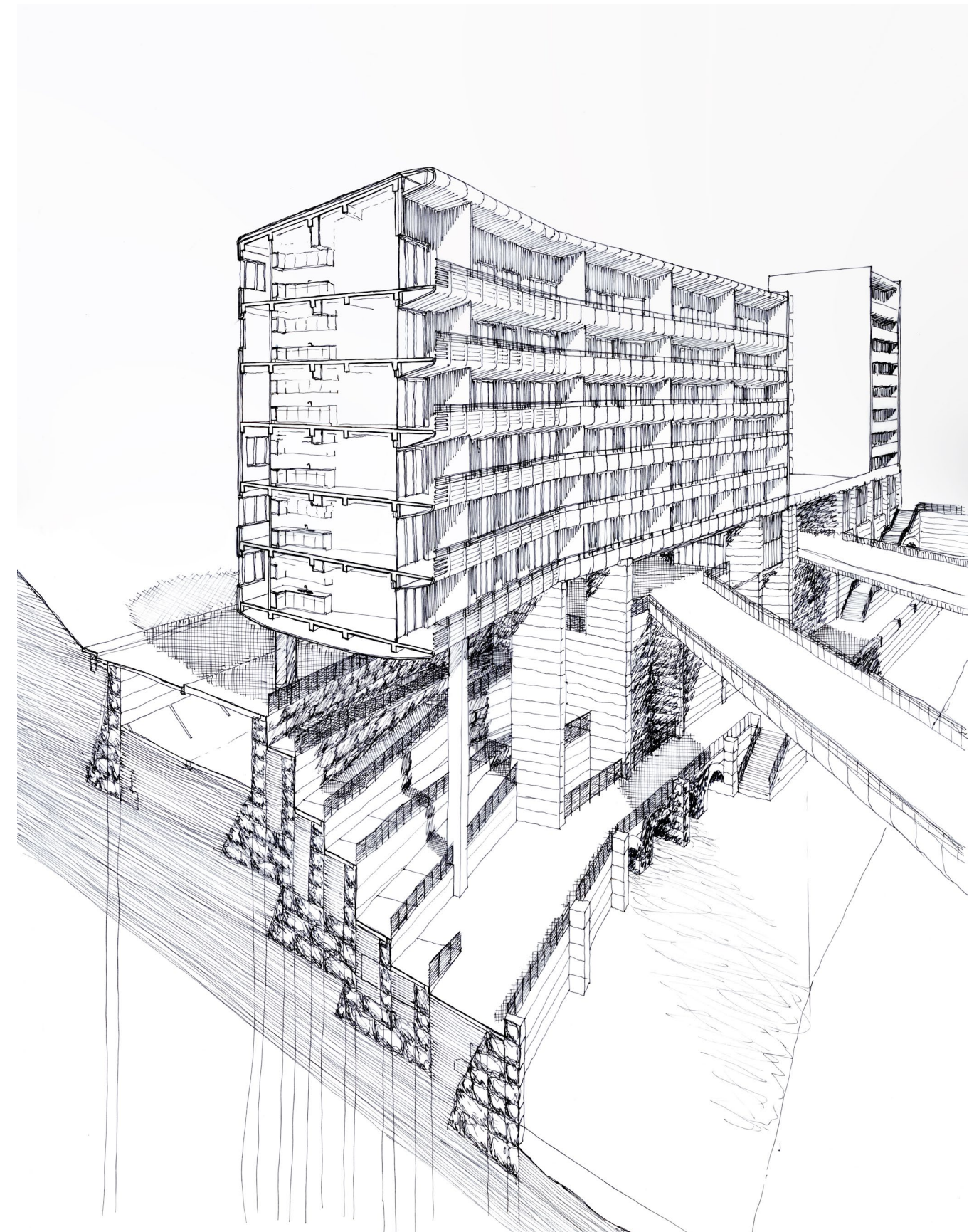
living room



single loaded corridor



view from the top of the Saw Mill Run tunnel



section perspective through the ramp

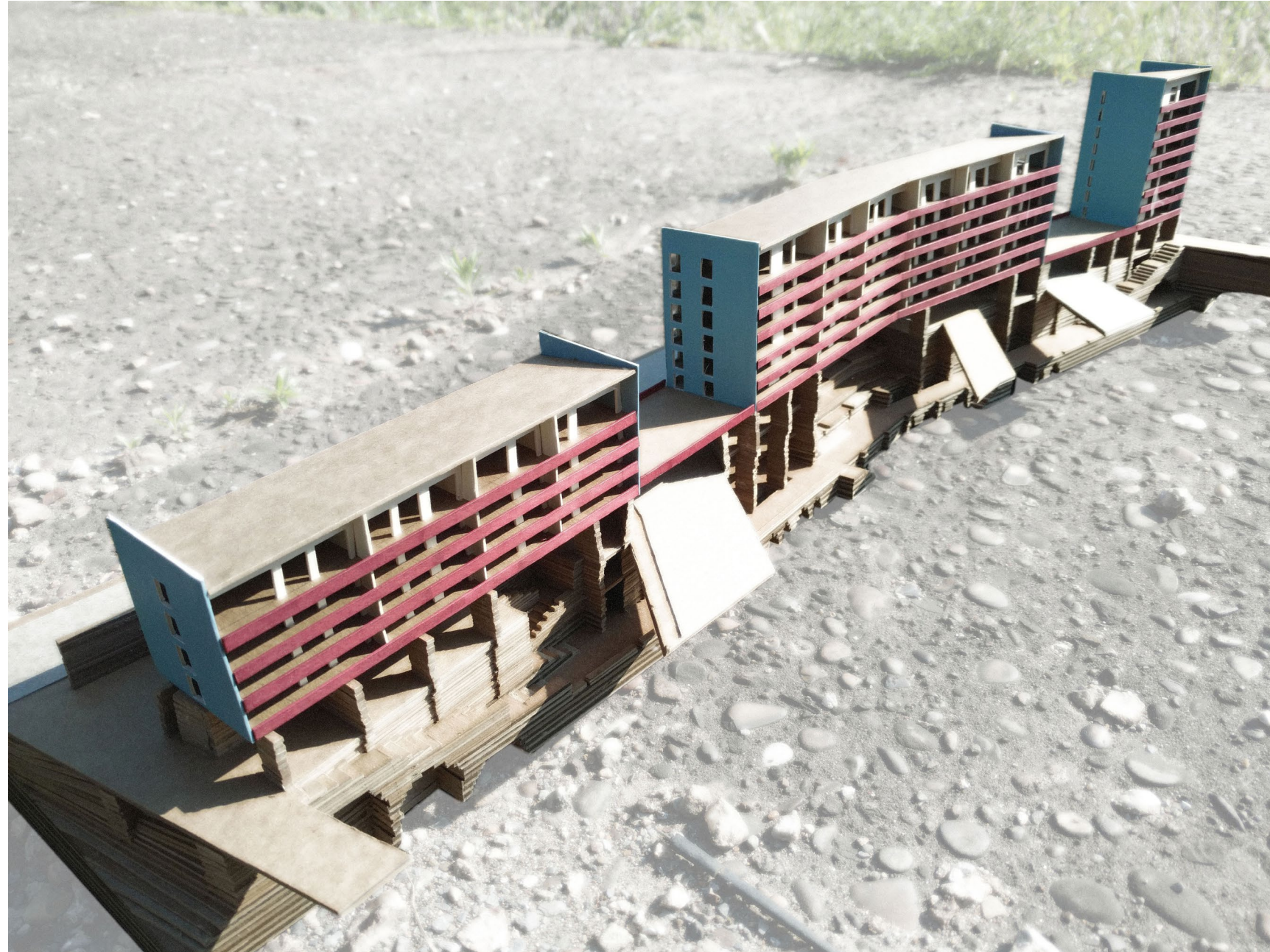




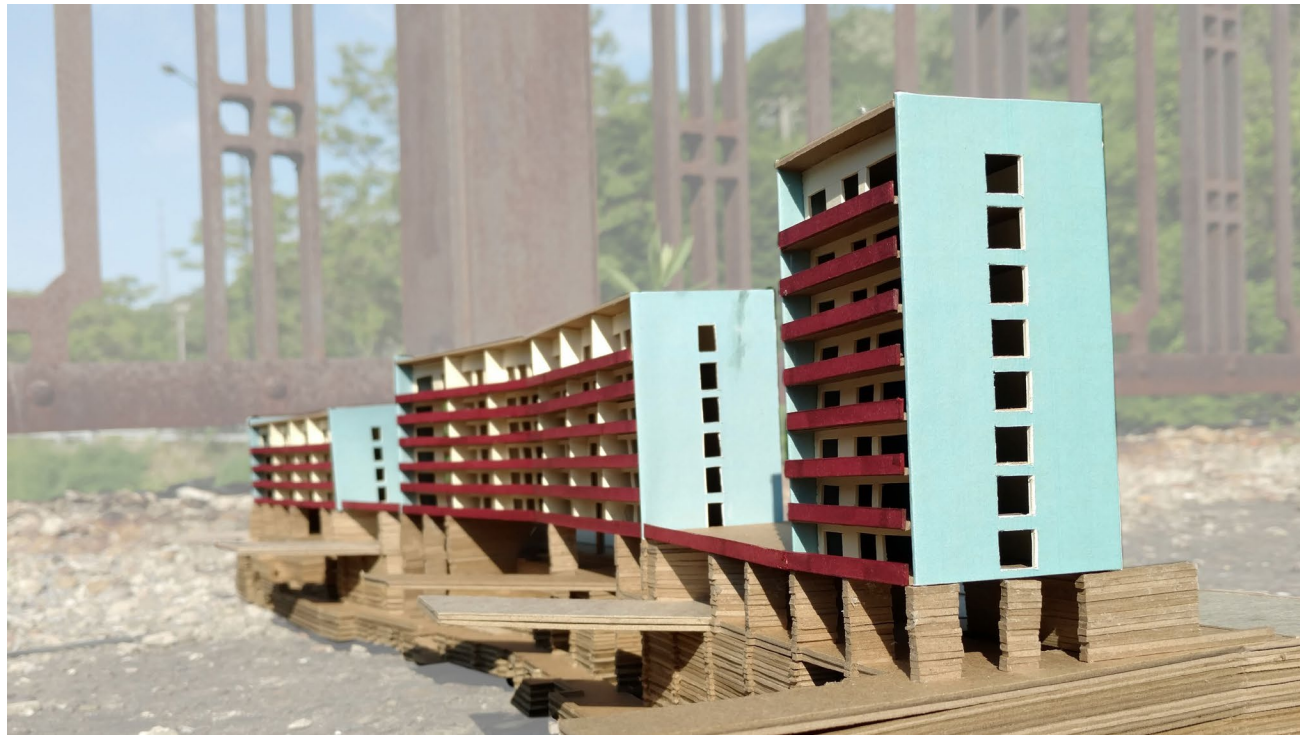
view from abutment of the old railroad bridge, two new pedestrian bridges

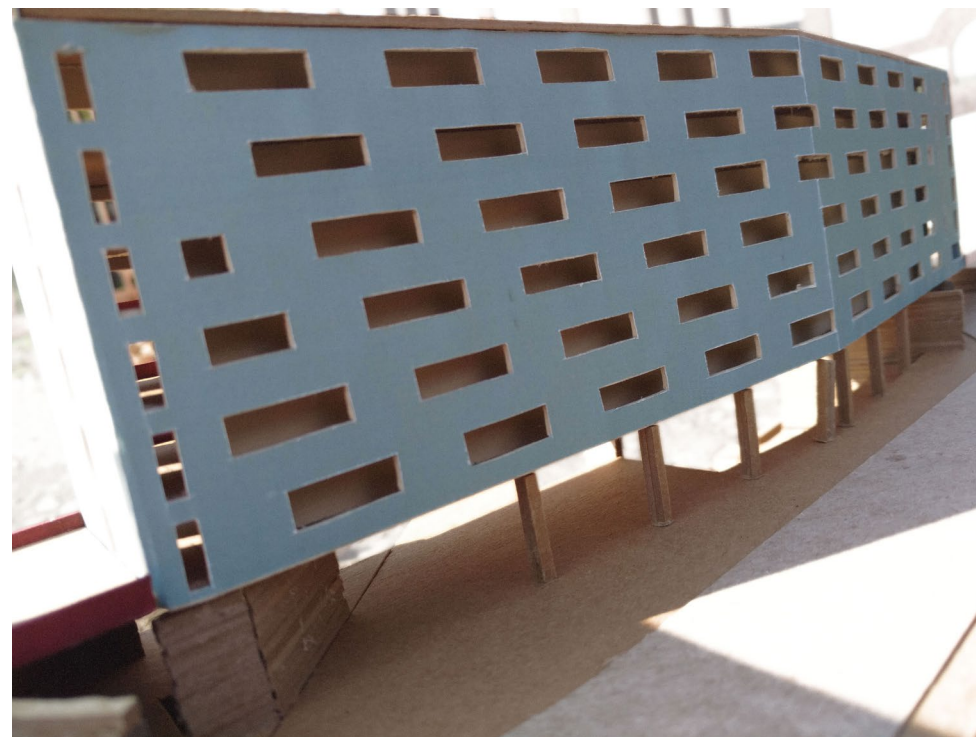
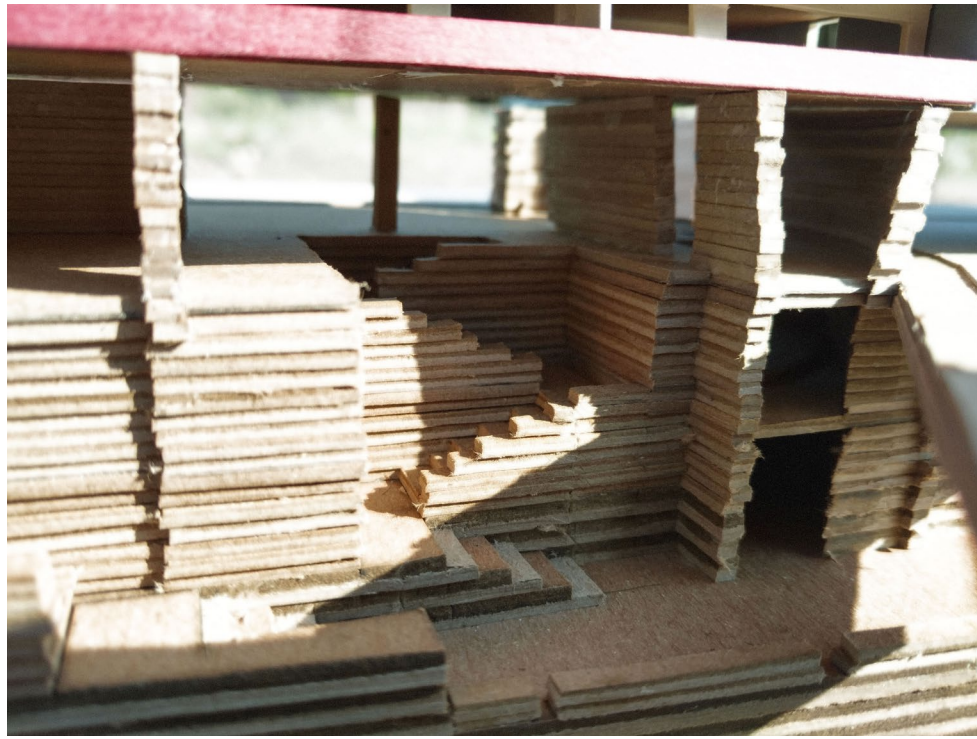


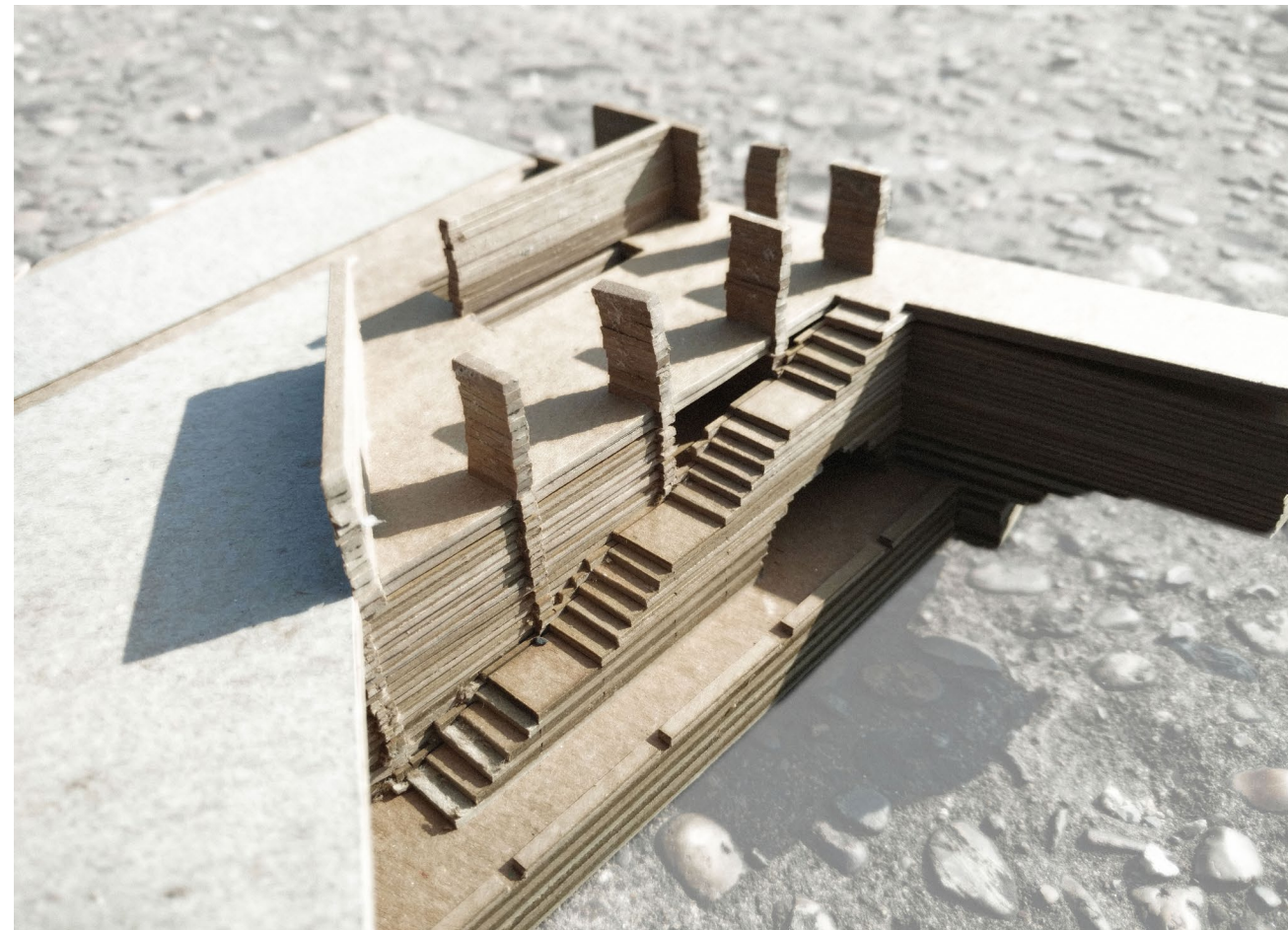
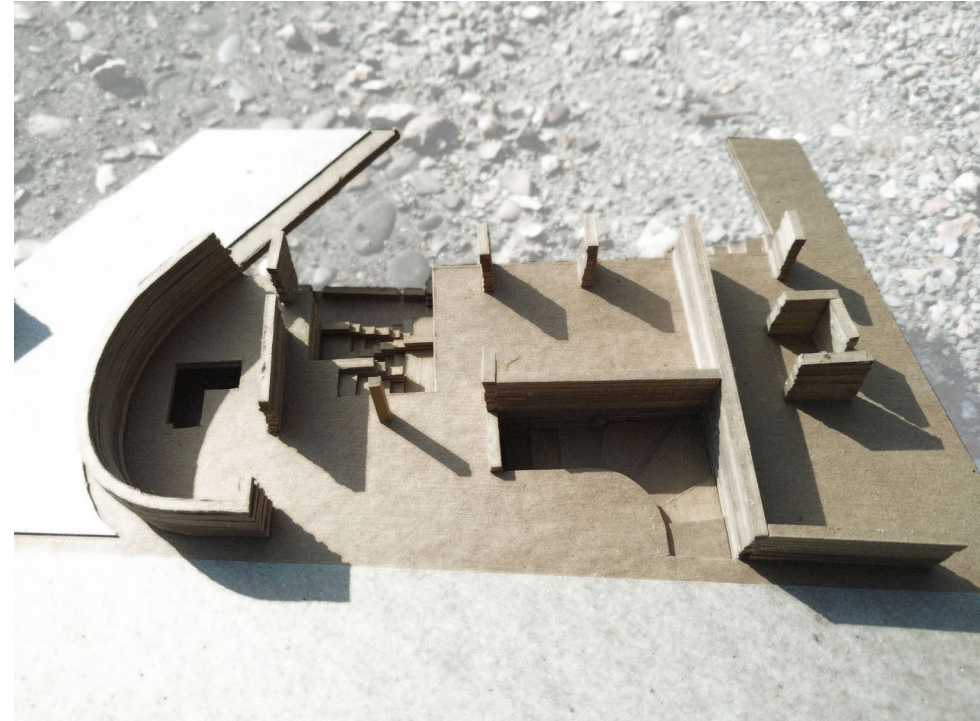
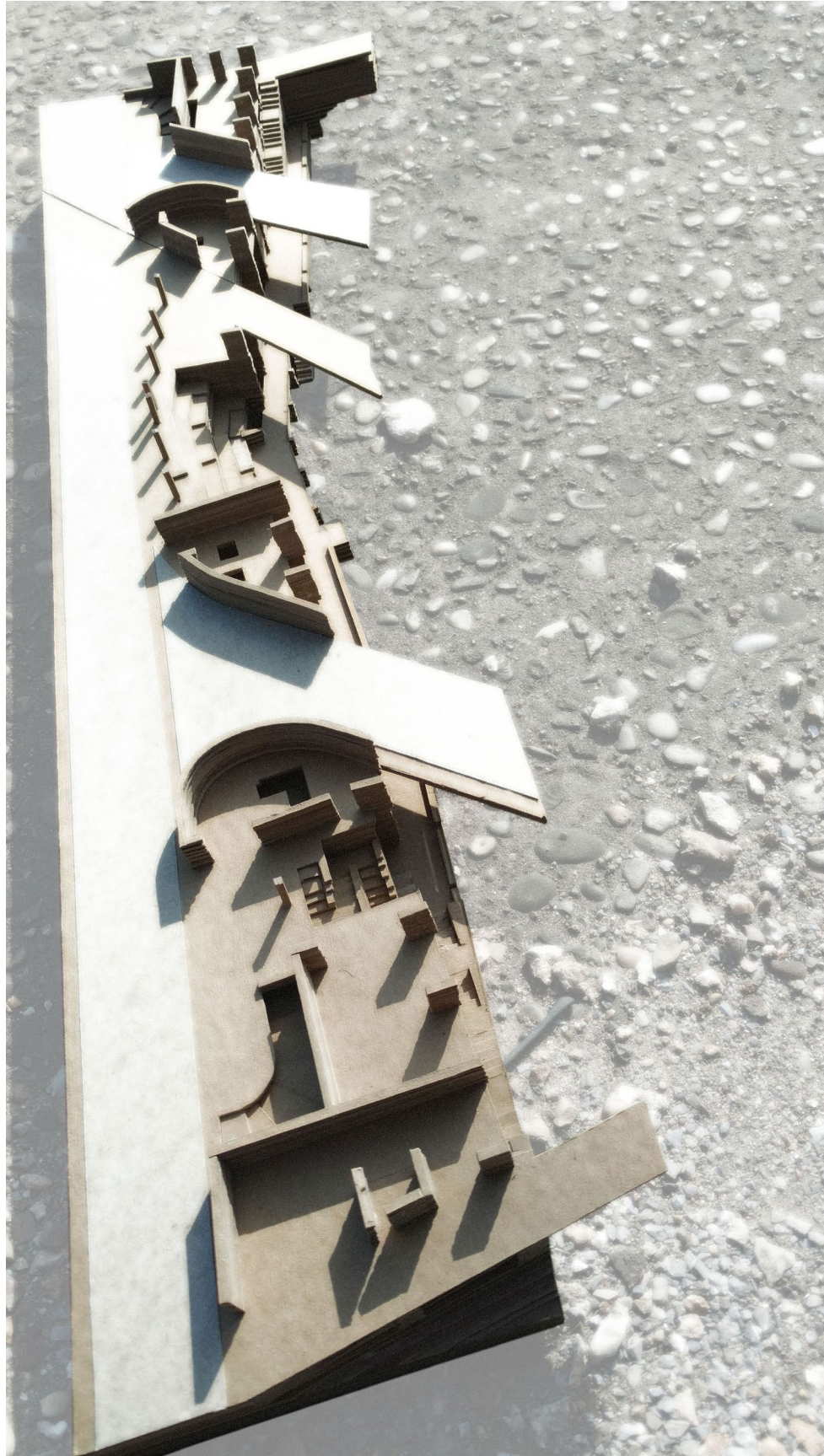
view from railroad



1" = 20' model











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