

ABSTRACT

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ART AS ARCHITECTURE:
ABSTRACT MODERNIST PAINTING
TECHNIQUES AND THE VIEWER
EXPERIENCE

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Preservation

The reciprocal relationship between art and architecture has been a longstanding practice in the design process of both fields. The geometric forms, textures, and colors of various forms of art, but especially painting, have been known to inspire the architectural design process. Certain paintings, like those of Mark Rothko, are often cited in foundational architectural courses as examples of comprehensive and layered forms suggestive of architecture. However, these references are not typically taken beyond the parti phase in the early stages of architectural design. But how far can this reciprocal inspiration be taken? How can architecture evolve as not just a place for art, but as art itself?

This thesis will explore the ways in which the abstract modernist painting techniques of the late works of Mark Rothko can affect the compositional form and experience of a mixed-use artist residency in Georgetown, DC. Therefore, the goal of this thesis is to explore how architecture can be designed as not only a place for art, but as art itself.

ART AS ARCHITECTURE:
ABSTRACT MODERNIST PAINTING TECHNIQUES
AND THE VIEWER EXPERIENCE

by

Katherine Grace McClure

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Chapter 1: Introduction

This thesis will explore the translation of abstract modernist paintings to the overall formal development of an artist residency building in Georgetown, DC. The analysis of specific artworks, artists' processes, and similarly, of various architects' works and design processes will merge to inspire a diverse exploration of building form. The project scope intends to promote outreach into the Georgetown community both physically and through pedestrian and economic accessibility, making the artist-residency program a highly accessible cultural landmark in an otherwise impenetrable society.

The selected site of an old warehouse lot along the C&O Canal, located at 3401 Water Street NW, will continue to promote this accessibility by connecting the M Street shopping corridor to the Georgetown waterfront. The high-density traffic of the nearby Francis Scott Key Bridge and the Whitehurst Freeway will create a highly visible site that aims to promote a celebration of the arts. Furthermore, the proximity of the site to elements of nature, such as the C&O Canal, the Potomac River, and the Francis Scott Key Memorial Park, will promote a sense of oasis for residents and visitors, while maintaining a high level of accessibility through many pedestrian access points. The site restrictions primarily include the strict zoning regulations of the Old Georgetown Board, the historic building typologies, and the noise pollution of the nearby highways.

The project program will include public-facing elements like an art gallery, storefront, café, classrooms, and lecture halls, as well as private components like

artist apartments and an artist studio. Overall, this project plans to create the ideal living environment for the artists-in-residence through environmental psychology principles, such as biophilia, that will utilize architectural strategies to promote resident happiness, health, and creativity. Furthermore, this project will establish a widely accessible central gathering point for the Georgetown and D.C. communities through an affordable storefront and a broad range of art price points, an outdoor café that interacts with the C&O Canal, and classrooms where the artists-in-residence can teach free painting classes to visitors.

Overall, this thesis seeks to address the lack of an accessible art institution and the need for affordable artist housing in Georgetown through the implementation of a public-facing artist residency program. The overall formal development of the building will reflect this need by exploring the ways in which architecture can be designed as not only a place for art, but as art itself.

Chapter 2: The Theoretical Application of Painting to Architecture

The reciprocal relationship between art and architecture has been a longstanding practice in the design process of both fields. The geometric forms, textures, and colors of various forms of art, but especially painting, have been known to inspire the architectural design process. Similarly, the shape and environmental experience of buildings can inspire or host works of art. Certain paintings, like those of Piet Mondrian, are often cited in foundational architectural courses as examples of comprehensive and layered forms suggestive of architecture. However, these references are not typically taken beyond the parti phase in the early stages of architectural design. But how far can this reciprocal inspiration be taken? How can architecture evolve as not just a place for art, but as art itself?

Therefore, the theoretical application of the artistic mode of painting becomes crucial to answering these questions. Painting is a centuries-old means of representation, story-telling, and self-exploration, and can convey a wide array of emotions and ideas. In addition to its narrative value, painting is also a very technical and learned skill, much like architecture.¹ Paintings can be as photo-realistic as a detailed image of a tree or as abstract as a haphazard splash of colorful paint on a canvas, and still contains an individualized experience and message to the viewer. However, for the purposes of this exploration, the clear shapes and textures of the

¹ “Is Architecture Art? Similarities Between Art and Architecture,” Eden Gallery, accessed May 23, 2023, <https://www.eden-gallery.com/news/is-architecture-art>.

abstract modernist painting movement is the most objectively transferable to the practice of architectural design.

The term “abstract modernist” painting is broad and includes an array of subcategories, including post-Impressionism, fauvism, cubism, surrealism, and more.² Two of these subcategories, constructivism and de stijl, also made waves in the architecture field and further reinforced the connection between the two artistic fields. The constructivist movement was “founded by Vladimir Tatlin and Alexander Rodchenko in Russia around 1915” and members “believed art should directly reflect the modern industrial world.”³ Alexander Rodchenko’s 1919 *Composition* (Fig. 1) is a prime example of constructivism because its geometry and color palette is reminiscent of a city skyline.⁴



Figure 1 - *Composition* by Alexander Rodchenko

² “10 Modernist Art Movements.” 2023. *Encyclopædia Britannica*. Encyclopædia Britannica, inc. Accessed March 18. <https://www.britannica.com/list/10-modernist-art-movements>.

³ Tate. 2023. “Constructivism.” *Tate Modern*. Accessed March 18. <https://www.tate.org.uk/art/art-terms/c/constructivism>.

⁴ “Aleksandr Rodchenko.” 2023. *The Museum of Modern Art*. Accessed March 18. <https://www.moma.org/collection/works/33376>.

Similarly, the De Stijl movement was founded in 1917 by Piet Mondrian and Theo van Doesburg and was considered “a circle of Dutch abstract artists who promoted a style of art based on a strict geometry of horizontals and verticals.”⁵ Although it originated as a fine art movement, De Stijl also eventually became well known as an architectural movement. One architectural historian, Mark Stankard, writes that “architecture proved to be the ideal art form to represent De Stijl through its ability to transform space, surface, universal ideas, particular situations, exterior, and interior.”⁶ Some of Mondrian’s and van Doesburg’s paintings were so easily translatable to architecture, or were directly inspired by architecture, that their forms were recognizable as buildings. For example, van Doesburg’s *Construction in Space-Time II* (Fig. 2) reflects the artist’s growing interest in architectural form and “investigating spatial problems.”⁷

⁵ Tate. 2023. “De Stijl.” *Tate Modern*. Accessed March 18. <https://www.tate.org.uk/art/art-terms/d/de-stijl>.

⁶ Stankard, Mark. 2023. “De Stijl Overview.” *20th Century Architecture*. Accessed March 18. <http://architecture-history.org/schools/DE%20STIJL.html>.

⁷ Doesburg, Theo van. 1970. “Construction in Space-Time II.” *Museo Nacional Thyssen-Bornemisza*. January 1. <https://www.museothyssen.org/en/collection/artists/doesburg-theo-van/construction-space-time-ii>.

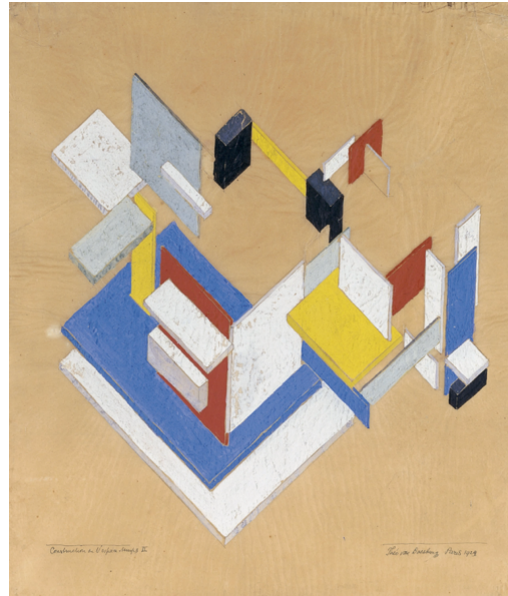


Figure 2 - *Construction in Space-Time II* by Theo van Doesburg

The painting even takes on the typical architectural drawing style of an axonometric projection, in which building walls are highlighted and pulled apart. Both artistic movements, constructivism and de stijl, are encompassed under the wider umbrella of modernism, which took place from the early twentieth century until the late 1960's. The key principles of modernism can be described as “a rejection of history and conservative values (such as realistic depiction of subjects); innovation and experimentation with form (the shapes, colors and lines that make up the work) with a tendency to abstraction; and an emphasis on materials, techniques and processes.”⁸ Therefore, for the purposes of this cross-examination of painting to architecture, abstract modern can be known as an ‘unrealistic depiction’ of a subject through the innovative implementation of simple ‘shapes, colors, and lines.’⁹

⁸ Tate. 2023. “Modernism.” *Tate Modern*. Accessed March 18. <https://www.tate.org.uk/art/art-terms/m/modernism>.

⁹ Ibid.

The Artistic Process

In examining the symbiotic relationship between fine art and architecture, it is important to consider the similarities and differences between these two design processes. As in any creative process, the painting process first involves a psychological approach, including the stages of orientation, preparation, concentration, incubation, application, and evaluation.¹⁰ In simple terms, this process starts with an identification of the problem at hand, then develops into understanding the problem, an exploration of possible solutions, applying a solution, and finally, evaluating the success of the end result.¹¹

The process of painting a work of art, although it encompasses these theoretical ideas, is a much more tangible, and sometimes automatic, process. A painting typically starts with research into certain ideas or a collection of visual precedents or inspiration and then transitions to quick hand-sketching, planning the composition, preparing the mediums, and then applying the paint to canvas. A variety of mediums can be used, including oil, acrylic, or watercolor paints, and manipulations of finish texture, such as gesso and gloss, can be added to achieve a certain result. Overall, a painter takes creative inspiration and precedents to apply technical skills, techniques, and mediums to a canvas.

¹⁰ Botella, Marion, Franck Zenasni, and Todd Lubart. 2018. "What Are the Stages of the Creative Process? What Visual Art Students Are Saying." *Frontiers in Psychology*. Frontiers. October 31. <https://www.frontiersin.org/articles/10.3389/fpsyg.2018.02266/full>.

¹¹ Ibid.

The Architectural Process

The architectural design process begins like any creative process, like painting, through the same series of psychological steps. The inspiration behind the formal design, rather than images or objects, are often building precedents, and the medium, rather than paint, is a three-dimensional material such as wood, stone, or metal. The fundamental elements of the architectural design process include site and community research, schematic design, design development, and construction documentation.¹² The research phase explores the site and community context and the architects determine which issues are most important to address in the design proposal. The schematic phase is perhaps the most creative part of the design process, however, and includes gestural hand sketching and the laying out of scaled blocks of program into a composition. The hand sketches become hardline drawings and are designed iteratively based on peer feedback and trial-and-error until the key objectives for the project are determined. Generally, the schematic phase aims to describe “the project three-dimensionally” and “to define the character of the completed project.”¹³

Although they utilize different techniques and skill sets, from manual dexterity to structural integrity, artists and architects practice similar early design principles, including research, precedents, and hand sketching preliminary concepts.

¹² “Phases of Architectural Design.” 2023. *Wagstaff + Rogers Architects*. Accessed March 19. <https://www.wagstaffrogersarch.com/blog/phases-architectural-design>.

¹³ “Project Design Phases.” 2023. *University of California Construction Services*. Accessed March 19. <https://www.ucop.edu/construction-services/facilities-manual/volume-3/vol-3-chapter-1.html#1-2>.

Chapter 3: Fine Art that Emulates Architecture

Fine art and architecture have been sources of inspiration for each other since before the modernist movement rose to prominence. However, this relationship often ends as a superficial symbol of the other. One critic asserts that “if imitation and invention were the two inseparable concepts through which art and architecture were produced and symbolized, it is because they operate on a certain transparency between an exemplar and a work of art.”¹⁴ Younés argues that there is typically a barrier that exists between ‘imitation and invention,’ or between ‘an exemplar and a work of art,’ that prohibits architecture from truly becoming art, and vice versa. However, there are a few artists that seem to test this boundary in their work, such as the abstract painters Mark Rothko and Piet Mondrian. Both Rothko and Mondrian utilize simple geometric forms and colors to represent larger ideas that could be considered architectural in nature.

Mark Rothko

Mark Rothko was an American painter who primarily practiced in 1940’s New York. He is credited with developing an entirely new style of painting that “is characterized by rigorous attention to formal elements such as color, shape, balance, depth, composition, and scale.”¹⁵ Rothko was able to pack a complexity of technical

¹⁴ Younés, S. 2012. “Technique and Artistic Imitation and Invention.” *Bulletin of Science, Technology & Society*, 32(4), 287–293. <https://doi.org/10.1177/0270467612462344>

¹⁵ “Mark Rothko.” 2023. *National Gallery of Art*. Accessed March 19. <https://www.nga.gov/features/mark-rothko.html>.

skills and ideas into a very simple composition. He explains this concept, saying that "it is a widely accepted notion among painters that it does not matter what one paints as long as it is well painted. This is the essence of academicism. There is no such thing as good painting about nothing."¹⁶ Throughout the development of his career, Rothko's compositions became more and more simple, and his focus on color and texture evolved into the thin and luminous washes of color he is best known for.

Perhaps one of Rothko's most well-known paintings of his later career, entitled *White Center (Yellow, Pink, and Lavender on Rose)* (Fig. 3), painted in 1950, is a pertinent example of the simplicity of his compositions.¹⁷



Figure 3 - *White Center (Yellow, Pink, and Lavender on Rose)* by Mark Rothko

¹⁶ Ibid.

¹⁷ Rothko, Mark. 1950. *White Center (Yellow, Pink, and Lavender on Rose)*. National Gallery of Art. <https://www.nga.gov/features/mark-rothko/mark-rothko-classic-paintings.html>.

This composition includes four horizontal bars of varying sizes and colors. Although Rothko did not intend for any of his later paintings to have a specific meaning behind them, it is clear that each painting evokes a certain mood that is subjective to the viewer. Despite Rothko's attempts to void his paintings of any deeper meaning, the blocks of color "have been said to represent geological strata—possibly a metaphor for the unconscious."¹⁸ Geological strata are the stripes of differing color in a rock formation, such as those found in the Grand Canyon, that represent unique mineral compositions. This concept reaffirms Rothko's interest in nature and the built environment. Furthermore, Rothko utilizes thin washes of color painted over a solid background and blurred, rounded edges to create an effect of luminosity and emotion. These compositional elements could be easily translated into an architectural parti in either plan or section by aligning a series of blocks of varying sizes. These blocks could be interpreted as rooms, building forms, or negative spaces, depending on the designer's individual interpretation.

Although Rothko never formally practiced architecture, his paintings were often inspired by architecture, designed for specific architectural spaces, or used as the inspiration for architectural partis.¹⁹ Rothko's early painting career included a fascination with urban street and interior scenes (Fig. 4), which would later influence his abstract works by "articulating the canvas the way pilasters and moldings define

¹⁸ "Mark Rothko: Early Career (1903 – 1948)," The National Gallery of Art, <https://www.nga.gov/features/mark-rothko/mark-rothko-early-years.html>.

¹⁹ "White Center (Yellow, Pink and Lavender on Rose), 1950," Mark Rothko, <https://www.markrothko.org/white-center/>.

the surfaces of Renaissance architecture.”²⁰ Therefore, the geometric composition of Rothko’s late paintings were influenced by his early studies of the urban streetscape and Renaissance architecture.



Figure 4 - *Untitled (Subway)* by Mark Rothko, c.1937

Untitled (Subway) depicts a simple, abstracted composition of people standing at a subway station through the untraditional application of complementary colors, gold and teal. These effects can be clearly seen in Rothko’s later works through “the bold division of the surface and the tension it creates between depth and flatness [which] produce a dramatic effect, [...] mood and format.”²¹ The formal geometries of

²⁰ Iegtemp, “Essay from the National Gallery of Art,” Public Broadcasting Service, Last modified November 4, 2019, <https://www.pbs.org/wnet/americanmasters/essay-from-the-national-gallery-of-art/11846/>.

²¹ Public Broadcasting Service, “Essay from the National Gallery of Art.”

architectural elements like subway columns, combined with a nuanced use of color, merge to create Rothko's signature style.

In addition to painting architectural forms, Rothko also became known for painting murals and designing compositions specifically to be hung in a certain space. The Rothko Chapel (Fig. 5), for example, was designed as a space to display Rothko's paintings and "a place for solitude and gathering."²²

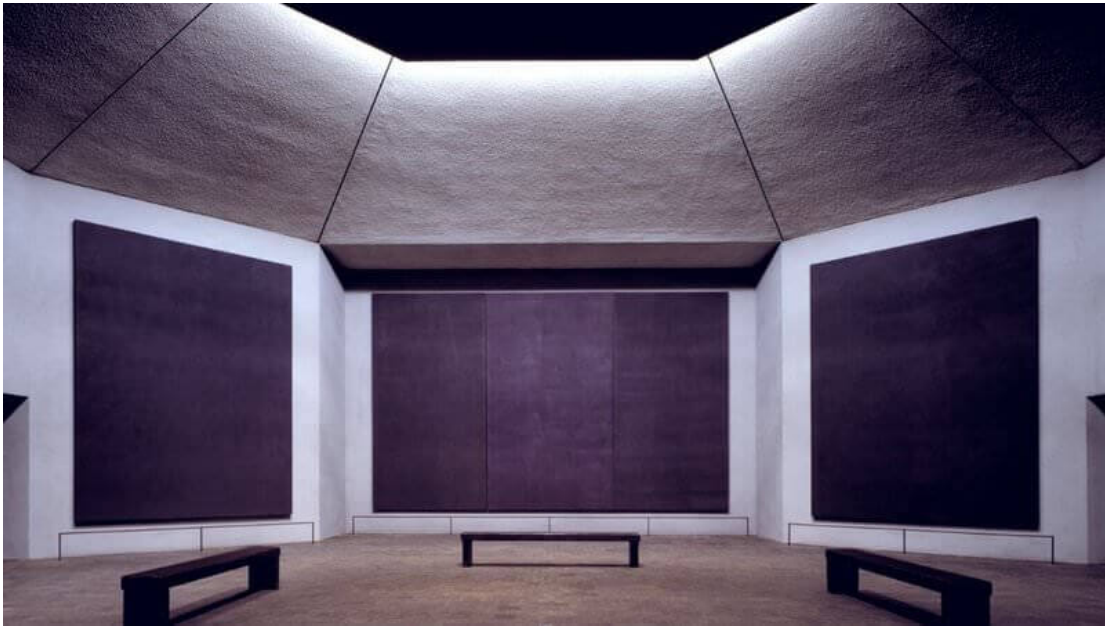


Figure 5 - Rothko Chapel by Philip Johnson in Houston, Texas

The Rothko Chapel is an example of the relationship between art and architecture because it was "designed in tandem with the artwork it was to contain, it is a singular instance of intimacy between art and architecture."²³ However, the Rothko Chapel became more than just a space to hold paintings when Rothko became involved in its design. Although Philip Johnson was originally hired as the head architect for the project, Rothko eventually fired him due to a disagreement on the room's design. As

²² "Find Your Place," Rothko Chapel, <https://www.rothkochapel.org/learn/about/>.

²³ Ian Spencer, "The Subject of Space: Mark Rothko & His Chapel," Yale Paprika!, Last modified January 22, 2015, <https://yalepaprika.com/folds/issue-02/the-subject-of-space-mark-rothko-his-chapel>.

such, Rothko was heavily involved in the architectural design process from the inception and insisted on approving every detail of the project.²⁴ He guided the chapel's parti design from his apartment studio by replicating "portions of the [chapel's] octagonal plan."²⁵ Therefore, the Rothko Chapel can be considered as not only a space for Rothko's art, but as his art itself.

Piet Mondrian

Piet Mondrian was a Dutch painter who primarily practiced in the 1910's and is credited with starting the de stijl movement. Mondrian's participation in this movement was "based on the reductive theory; which took a larger scale image, and brought it to life on the canvas, in architectural works, and in sculpture forms."²⁶ As such, Mondrian's work gradually narrowed down to the molecular level, taking broader subject matter such as landscapes and using strategies like Pointillism and Cubism to achieve a new result. One of Mondrian's better-known paintings, and also his final painting, the *Broadway Boogie-Woogie* (Fig. 6), painted in 1943, represents his love for New York City and boogie-woogie music.²⁷

²⁴ Rothko Chapel, "Find Your Place."

²⁵ Spencer, Mark, "The Subject of Space: Mark Rothko & His Chapel."

²⁶ "Piet Mondrian and His Paintings," Piet Mondrian: 120 Famous Paintings Analysis & Complete Works, <https://www.piet-mondrian.org/>.

²⁷ "Piet Mondrian. Broadway Boogie-Woogie. 1942-43: MoMA," The Museum of Modern Art, <https://www.moma.org/collection/works/78682>.

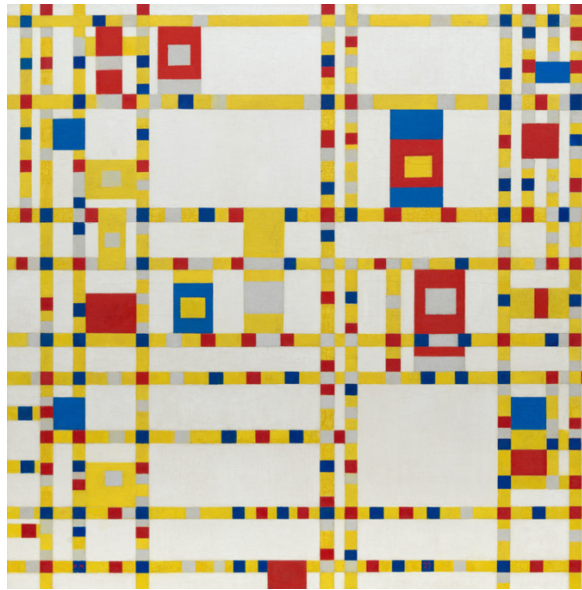


Figure 6 - *Broadway Boogie-Woogie* by Piet Mondrian

This painting depicts a series of straight squares of primary colors placed on top of one another, and is easily legible as an abstract map of a New York City neighborhood. *Broadway Boogie Woogie* also portrays an energetic sense of rhythm and emphasizes the dynamic life in the city. This abstract blocking strategy has famously influenced the architecture of the de stijl and modernist movements.²⁸ Like Rothko's *White Center (Yellow, Pink, and Lavender on Rose)*, Mondrian's *Broadway Boogie Woogie* could be interpreted as a city street grid, as per its original inspiration, or as a series of various yellow or white rectangles that could be reorganized to form a schematic architectural plan or section composition.

Another stark example of this influence is Gerrit Rietveld's Schröder House (Fig. 7), which was a house whose design was directly inspired by the works of Mondrian. The house "saw the painter's vivid planes and grids transformed into metal

²⁸ "Broadway Boogie-Woogie, 1942 by Piet Mondrian," Piet Mondrian, <https://www.piet-mondrian.org/broadway-boogie-woogie.jsp>.

strips, expanses of wood, and lengths of tubular steel painted red, blue and yellow that frame the shifting planes of the roof, windows, and walls.”²⁹



Figure 7 - Schröder House by Gerrit Rietveld

When discussing the Schröder House, Mondrian claims that “it is possible that, through horizontal and vertical lines constructed with awareness, but not with calculation, led by high intuition, and brought to harmony and rhythm, these basic forms of beauty [...] can become a work of art, as strong as it is true.”³⁰ Therefore, the Schröder House proves that there can exist a symbiotic relationship between the design of architecture and of painting.

²⁹ “Gallery of Why Are Architects so Obsessed With Piet Mondrian? - 2,” ArchDaily, <https://www.archdaily.com/891083/why-are-architects-so-obsessed-with-piet-mondrian/5ab18a81f197ccf9b100000f-why-are-architects-so-obsessed-with-piet-mondrian-photo>.

³⁰ “Schroder House,” 20th Century Architecture, <http://architecture-history.org/architects/architects/RIETVELD/OBJ/1925,%20Schr%C3%B6der%20House,%20Utrecht,%20the%20Netherlands.html>.

Franz Kline

Franz Kline was an American painter who specialized in Abstract Expressionism in the post-World War II movement of the 1930's.³¹ The compositions of his early painting career consisted of urban streetscapes in New York City that represented "Depression-era themes of city and labor."³² A notable painting of this period, *Chatham Square* (Fig. 8), depicted a cityscape as an abstracted combination of realism and Cubism, called Precisionism, using bold colors and inconsistent perspectives to add a sense of emotion to the scene.³³ Precisionism is marked by "unexpected viewpoints and angles, a sharp focus, and dynamic compositions," which were clearly topics of interest to Kline at the time.³⁴ Therefore, like Rothko and Mondrian, Kline began with an interest in architecture and the built environment before moving on to abstracted forms.

³¹ "Franz Kline," Encyclopædia Britannica, Last modified May 19, 2023, <https://www.britannica.com/biography/Franz-Kline>.

³² "Franz Kline," Smithsonian American Art Museum, <https://americanart.si.edu/artist/franz-kline-2661>.

³³ Encyclopædia Britannica, "Franz Kline."

³⁴ Shira Wolfe, "Art Movements: Precisionism," Artland Magazine, Last modified April 14, 2023, <https://magazine.artland.com/art-movements-precisionism/#:~:text=Precisionist%20artworks%20are%20characterised%20by,famous%20name%20associated%20with%20Precisionism>.

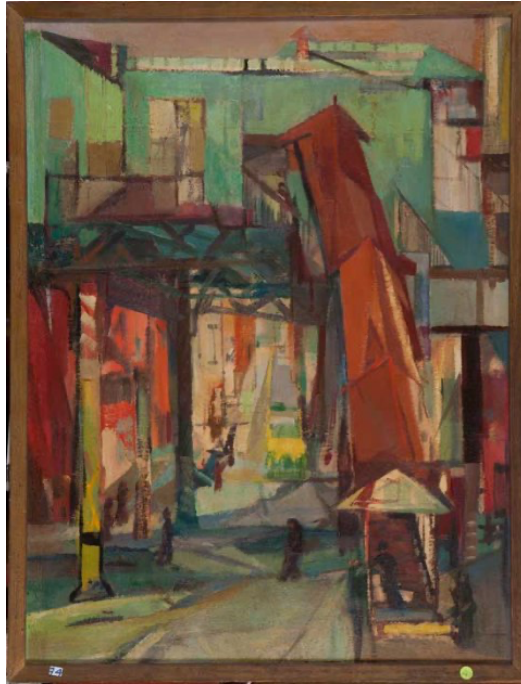


Figure 8 - *Chatham Square* by Franz Kline

Kline's later career, throughout the late 1950's, however, is what he is best known for. Inspired by "some of his black-and-white sketches enlarged by a projector," Kline began to compose large strokes of black paint atop a white background.³⁵ In doing so, Kline created a series of these paintings, such as *Four Square* (Fig. 9), that act as an emotional and stark representation of positive and negative space.

³⁵ "Franz Kline," Heather James Fine Art, Last modified August 14, 2022, <https://www.heatherjames.com/artist-intro/?at=FRANZKLINE>.



Figure 9 - *Four Square* by Franz Kline, 1956

These broad gestural movements across the canvas evoke a sense of speed and dynamism. For example, “the racing horizontals across the bottom supply a sure sense of gravity, but also refuse to respect the lateral boundaries of the canvas.”³⁶

Four Square is the unique achievement of a three-dimensional composition not often seen in abstract expressionist paintings, as “Kline achieves the visual effect of depth through energetic juxtapositions of vertical and horizontal lines and their diagonal overlapping.”³⁷ This three-dimensional nature of Kline’s late paintings makes them excellent candidates for architectural interpretation, as the contrasting positive and negative spaces could easily be understood as a floor plan, section, or site drawing.

³⁶ Smithsonian American Art Museum, “Franz Kline.”

³⁷ “Franz Kline Paintings, Ideas,” The Art Story, <https://www.theartstory.org/artist/kline-franz/>.

Chapter 4: Artists Turned Architects

Just as fine artists like Rothko and Mondrian are inspired by the forms of the built environment, so are certain architects inspired by the artistic process. These architects, most notably Zaha Hadid, Frank Gehry, and Le Corbusier, developed their unique architectural styles through an initial passion for and technical skill in drawing and painting. They were all able to cultivate their architectural prowess by establishing a skill in the fine arts that would greatly influence the way they would come to approach architectural design. Throughout the architectural design process, these architects would often begin through quick, gestural sketching or by painting abstract forms on canvas. Although these initial compositions could be considered art in and of themselves, the architects would use these compositions as inspiration to further develop an architectural narrative, almost like a complex parti drawing. Hadid, Gehry, and Le Corbusier, in particular, are architects whose foundation in fine art is so strong their buildings become more works of art than of architecture.

Zaha Hadid

Zaha Hadid is best known for her radical futurist and deconstructivist architecture, whose “aggressive geometric designs are characterized by a sense of fragmentation, instability, and movement.”³⁸ These architectural characterizations were inspired by the works of painter Kazimir Malevich, Hadid’s greatest muse, who

³⁸ “Zaha Hadid,” Encyclopædia Britannica, Last modified May 2, 2023, <https://www.britannica.com/biography/Zaha-Hadid>.

created the Suprematist arts movement, studying “pure geometrical abstraction.”³⁹ As a result, “Hadid began to be known as a ‘paper architect,’ meaning her designs were too avant-garde to move beyond the sketch phase and actually be built.”⁴⁰ Therefore, Hadid’s work was predominantly considered art before it would eventually become architecture.

For example, Hadid painted a series of compositions in 1989 entitled the *Hafenstrasse Development* (Fig. 10) which were intended as a design for a neighborhood in Hamburg, Germany.⁴¹ Although the project was never built, the paintings explored various horizontal connections between spaces.



Figure 10 - *Hafenstrasse Development* by Zaha Hadid

³⁹ “Suprematism,” Encyclopædia Britannica, <https://www.britannica.com/art/Suprematism>.

⁴⁰ Encyclopædia Britannica, “Zaha Hadid.”

⁴¹ Danae Santibanez, “The Creative Process of Zaha Hadid, as Revealed Through Her Paintings,” ArchDaily, Last modified February 25, 2019, <https://www.archdaily.com/798362/the-creative-process-of-zaha-hadid-as-revealed-through-her-paintings>.

Hadid's ability to study three-dimensional form through the two-dimensional medium of painting is unique because of her masterful grasp on abstraction, perspective, and gesture, all while maintaining a high level of detail and precision. The Hafenstrasse Development paintings are a prime example of Hadid's moniker as the 'paper architect' because the project was never built and each painting can stand alone as a valuable work of art. Hadid describes the motivation behind her paintings, saying she was "very fascinated by abstraction and how it really could lead to abstracting plans, moving away from certain dogmas about what architecture is."⁴² She goes on to describe how painting as a precursor to architectural design was "really liberat[ing]" and "freed [her] from all these rules."⁴³ Therefore, painting allowed Hadid to push the boundaries of what was physically possible of architectural structures.

Frank Gehry

Frank Gehry is best known for his sculptural, deconstructivist architecture and for "treating each new commission as 'a sculptural object, a spatial container, a space with light and air.'"⁴⁴ Although Gehry did not paint, his sketches are so abstract and gestural that they are often considered art because drawing is his "means of pulling ideas from the imagination."⁴⁵ For example, Gehry's *Walt Disney Concert Hall Project Sketch* (Fig. 11) is a simple composition of pen and paper, in which Gehry

⁴² "Gallery of Video: Zaha Hadid Discusses the Influence of Kazimir Malevich on Her Work - 1," ArchDaily, <https://www.archdaily.com/794495/video-zaha-hadid-discusses-the-influence-of-kazimir-malevich-on-her-work/57c88627e58eceb04900049f-video-zaha-hadid-discusses-the-influence-of-kazimir-malevich-on-her-work-image>.

⁴³ Ibid.

⁴⁴ "Frank Gehry," Encyclopædia Britannica, <https://www.britannica.com/biography/Frank-Gehry>.

⁴⁵ Benjamin Genocchio, "Architect as Artist," The New York Times, Last modified November 21, 2008, <https://www.nytimes.com/2008/11/23/nyregion/new-jersey/23artsnj.html>.

draws gestural, continuous lines that rarely break, creating an organic and fluid two dimensional form.



Figure 11 - *Walt Disney Concert Hall Project Sketch* by Frank Gehry

Architect Esther Dr. da Costa Meyer describes Gehry's drawings "as not just 'a prelude' to his architectural designs but 'finely wrought works' in their own right."⁴⁶

Gehry seems to consciously reinforce this idea by signing and dating most of his sketches, as an artist would. Therefore, Gehry's preliminary sketches can each be considered an individual work of art because they are an abstract expression of his emotions and imagination. Although Gehry draws these sketches with the intent of designing a building, the forms he creates are quite far removed from the realm of architecture. Similarly, his sketches are inspired by ideas derived from the context of a building commission.

Le Corbusier

Le Corbusier is best known for creating the International style of architecture, innovative urban planning, and, just as importantly, painting. Le Corbusier is also

⁴⁶ Ibid.

well known for establishing a core set of architectural design principles, called the Five Points of Architecture, which include a pilotis, free ground plan, free facade, horizontal windows, and a roof garden.⁴⁷ With these principles in mind, Le Corbusier famously describes his approach to Modernist architecture as “a machine for living in.”⁴⁸

Le Corbusier seems to have begun his painting career after already becoming established in the architecture field, and his paintings are less obviously related to his buildings than those of Hadid and Gehry. However, the delicate attention to color, shape, and composition in his paintings, such as his 1963 work, *Taureau* (Fig. 12).



Figure 12 - *Taureau* by Le Corbusier

⁴⁷ “Gallery of Spotlight: Le Corbusier - 3,” ArchDaily, <https://www.archdaily.com/434972/happy-birthday-le-corbusier-2/524ee116e8e44ecb170004e7-happy-birthday-le-corbusier-2-photo>.

⁴⁸ Ibid.

Taureau is one of a series of paintings on the subject of a bull, and is “marked by Le Corbusier's use of the unconscious, the irrational, chance, automatism, and eroticism in a personal, innovative and complex synthesis.”⁴⁹ Although the subject matter of Le Corbusier's paintings were typically organic, such as natural landscapes, people, or animals, the style and technical way in which he painted is much more illuminating to his architectural design approach. For example, starting in 1927, Le Corbusier set up an art studio in his home, which he coined “a personal laboratory for experimentation into the inventions of forms, creation of relationships, linear, volumetric, and color proportioning.”⁵⁰ These experiments are all topics directly relatable to both art and architecture, and could have been applied to his later architectural works. Overall, Le Corbusier's paintings seem to represent “larger conceptions of condensation and replacement [...] and reveal organizing principles, networks, and cross-fertilizations [...] The small always contains the large, the inside is always an outside, the female contains elements of the male, and vice versa.”⁵¹ Therefore, Le Corbusier's artistic process can be directly translatable to the architectural design process through the rejection of typical organizing principles.

⁴⁹ Jaime Coll, “Le Corbusier. Taureaux: An Analysis of the Thinking Process in the Last Series of Le Corbusier's Plastic Work,” *Art History* 18, no. 4 (1995): 537–67, doi:10.1111/j.1467-8365.1995.tb00642.x.

⁵⁰ Ibid.

⁵¹ Genevieve Hendricks, “Le Corbusier's Postwar Painterly Mythologies,” *Le Corbusier, 50 Years Later. Conference Proceedings.*, 2015, doi:10.4995/lc2015.2015.828.

Chapter 5: The Psychological Effect of Architecture on Creativity

It is scientifically proven that architecture can have a variety of effects on people, from emotional, to mental, and to physical wellbeing.⁵² At the most basic level, architectural beauty, and beauty in general, makes people happy. Conversely, long-term exposure to unattractive things can lead to depression and shortened life expectancy. Similarly, the psychological effects of architecture can also be intentionally designed to take a certain effect on people. For example, most grocery stores hide the most common household necessities at the back of the store in order to force customers to walk past many other foods first, thus increasing the likelihood of them purchasing unnecessary products.⁵³ In addition to commercial manipulation, architecture can also be designed to increase productivity in the workplace, or to increase the sense of relaxation in a home. Although psychological studies on topics such as productivity, impulsivity, and happiness have been well established within the architecture field, can architecture be taken one step further to inspire creativity in its residents? In order to design an artist residency building that optimizes the health, happiness, and creativity of its residents and visitors, one must first understand the psychology behind the science of space.

⁵² Guopeng Li, "The Dynamics of Architectural Form: Space, Emotion and Memory," *Art and Design Review*, Last modified September 9, 2019, <https://www.scirp.org/journal/paperinformation.aspx?paperid=95912>.

⁵³ "8 Ways Supermarkets Make You Buy More," Center for Science in the Public Interest, Last modified August 24, 2016, <https://www.cspinet.org/protecting-our-health/nutrition/unhealthy-checkout/8-ways-supermarkets-make-you-buy-more>.

Biophilia

Biophilia is one of the most contemporary architectural methods of increasing resident happiness and health. Biophilia is defined as “a desire or tendency to commune with nature” or as the “the rich, natural pleasure that comes from being surrounded by living organisms.”⁵⁴ Common instances of biophilia in architecture include large, operable windows that face towards greenery, increased natural lighting, access to flowing water or plants, and other ways of bringing the outdoors indoors.

One study found that there are three primary ways in which biophilia can be incorporated into architecture: directly, indirectly, and symbolically.⁵⁵ This includes a direct interaction with nature, a view of nature, and symbols of nature. The most prominent psychological effects of biophilia include increased “attention and restoration, stress reduction, and improved productivity and cognitive performance.”⁵⁶ This reduced stress is also proven to reduce “blood pressure, heart rate and stress just by creating a visual connection with nature,” thus improving overall physical health.⁵⁷ A study by Terrapin Bright LLC has set forth fourteen key principles of biophilia in architecture. Some of the most notable principles include a “visual connection with nature, a thermal and airflow variability, a dynamic and

⁵⁴ “Biophilia Definition & Meaning,” Merriam-Webster, accessed May 23, 2023, <https://www.merriam-webster.com/dictionary/biophilia>.

⁵⁵ Chujor Okaseobari Ngwia and Owajiony Lysias Frank, “Biophilic Design: A Review of Frank Lloyd Wright Falling Water,” *IOSR Journal of Environmental Science, Toxicology and Food Technology*, 2, 14, no. 4 (April 2020), doi:10.9790/2402.

⁵⁶ Ibid.

⁵⁷ Ibid.

diffused light, the presence of water, biomorphic forms and patterns, and complexity and order.”⁵⁸

Frank Lloyd Wright’s Falling Water house (Fig. 13), for instance, is an example of biophilic design due to its intimate interaction with the landscape and natural elements.



Figure 13- Falling Water, by Frank Lloyd Wright

Falling Water contains thirteen out of the fourteen principles of biophilic architecture. Some of the ways that these principles were implemented include the use of skylights, natural materials like wood and stone, the ever-present sound of the rushing water, a gentle breeze that flows through the stair hall, and the arrangement of the building to mimic the natural rock formation.⁵⁹ Therefore, these architectural strategies, among

⁵⁸ Ibid.

⁵⁹ Ngwia, Frank, “Biophilic Design: A Review of Frank Lloyd Wright Falling Water.”

others, can utilize the psychological phenomena of biophilia to encourage happier, healthier, and more productive residents.

Happiness and Mood

In addition to biophilic design, there are many other architectural design strategies that can increase the happiness and affect the mood of visitors. Visually complex and symmetrical designs, especially those of building facades and promenades, promote increased neurostimulation and therefore “enrich the sensory experience.”⁶⁰ Factors such as ceiling height, lighting, views, color, freedom of space, and façade design can all have an impact on the experience of the building and the mood it creates. For example, “higher ceilings, such as those in art studios, may foster free, abstract thought processes, while lower ceilings allow for a more specific, focused view of things.”⁶¹ Therefore, visually rich design, biophilia, and environmental psychology strategies can influence the perception and experience of a space.

Creativity

With happiness, relaxation, and productivity as the baseline, architecture can also influence creativity and inspiration. One writer, Jonah Lehrer, argues that “the most creative spaces are those which hurl us together. It is the human friction that

⁶⁰ PDH Academy, “Architecture and Its Effect on Mood and Physical Well-Being,” PDH Academy, Last modified December 28, 2017, <https://pdhacademy.com/2017/11/06/architecture-effect-mood-physical-well/>.

⁶¹ Marcus Cannon, “The Science of Architecture: How Design Affects The Way We Feel,” InterFocus, Last modified August 3, 2018, <https://www.mynewlab.com/blog/the-science-of-architecture-how-design-affects-the-way-we-feel/>.

makes the sparks.”⁶² Creative spaces are intrinsically interactive and encourage people to collaborate with each other. Perhaps this is one reason why coffee shops and libraries are popular locations for aspiring screenwriters or musicians to work. These types of establishments allow people to work outside of their home and have a front-row seat to the hustle and bustle of daily life, rather than the isolation of their apartments. These interactions “lead to what Jane Jacobs, the famous urban theorist, called “knowledge spillovers” – those instances when ideas cross-fertilize. People are very good at repurposing or recycling ideas, they just need to hear them.”⁶³ Another researcher, Isaac Kohane, states that, “if you want people to work together effectively, [there is a] need to create architectures that support frequent, physical, spontaneous interactions.”⁶⁴ Therefore, architectural spaces that promote connection with people also promotes creativity.

Another architectural strategy to inspire creativity is modular and adaptable spaces. Allowing users to adapt a space based on changing needs over time “foster[s] a generative [and interactive] relationship with the building.”⁶⁵ This modularity could take on a variety of scales, from the small scale of a classroom to the larger scale of the building façade or structure by “standardizing parts, and making them easily moveable.”⁶⁶ This ability for change can enhance creativity by “welcom[ing] its users to take part in the process of making space.”⁶⁷

⁶² Jonathan C. Molloy, “Can Architecture Make Us More Creative?,” ArchDaily, Last modified April 3, 2013, <https://www.archdaily.com/353496/can-architecture-make-us-more-creative>.

⁶³ Ibid.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

Chapter 6: Programmatic Needs of an Artist Studio and Residence

A fine artist needs a variety of components in order to thrive in an ideal live-work environment. In order to bring everything painters could ever need in order to optimize the quality of their work and lives under one roof, a building would need to not only have all the necessary tools, but would have to create a space that inspires creativity and happiness in its residents. Furthermore, the building would need to further a connection between the artists and their surrounding community, bettering the neighborhood both socially and economically. A 2007 study on artist space development asserts that the impact “on artists’ relationships to the broader community [should include an] increased interaction between artists and community residents, demystification of artists at work and the artistic process, and increased recognition of artists as workers and professionals.”⁶⁸ Therefore, an artist studio and residency should include both a nurturing internal environment and strong public-facing elements.

Artist Residency Precedent Analysis

In exploring the application of a variety of programmatic and typological artist residency precedents, some typical program elements emerge, including individual apartments and studios, communal gathering and work areas, gallery

⁶⁸ Jackson, Maria Rosario. 2007. “Artist Space Development: Making the Case.” *Urban Institute*. <https://www.urban.org/sites/default/files/publication/31226/1001176-Artist-Space-Development-Making-the-Case.PDF>.

space, and offices. Although some of the following precedents have more public-reaching program than others, they all strive to create the best possible environment for the artist.

The Nicholson Project

The Nicholson Project (Fig. 14) is a small-scale artist residency program in Washington, DC whose mission is to provide support for local artists of color and of a lower socioeconomic background. Specifically, their “vision is to serve as a cultural hub and community anchor celebrating Ward 7’s authentic identity, while infusing new vibrancy into Southeast DC.”⁶⁹ The residency is hosted by a single family home, located on a urban, residential street, that has been renovated into an art gallery with individual artist apartments and studios. A community garden also strives to further community engagement and attract people to the gallery.



⁶⁹ 2023. *The Nicholson Project*. Accessed April 23. <https://www.thenicholsonproject.org/>.

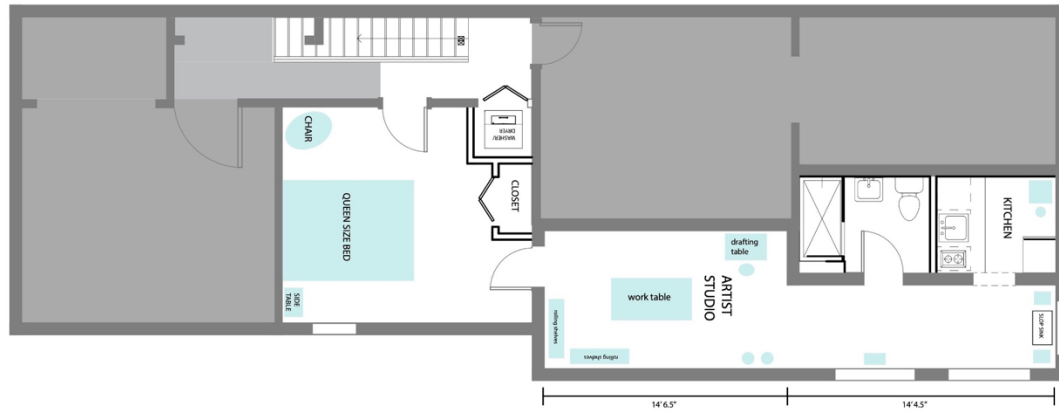


Figure 14 - The Nicholson Project

The Land Foundation

The Land Foundation in Thailand (Fig. 15) is a more atypical artist residency precedent because of its emphasis on landscape development. The Land Foundation is set on an old rice field and was intended to be “the merging of ideas by different artists to cultivate a place of and for social engagement.”⁷⁰



Figure 15 - The Land Foundation

Although the foundation is based on principles of social engagement, the artist residency is spread across individual artist homes throughout the landscape. This precedent introduces the concept of large-scale land use and widely separated artist

⁷⁰ 2023. *The Land Foundation*. Accessed April 23. <https://www.thelandfoundation.org/>.

units. The Land Foundation is disconnected from any urban context is entirely self-sufficient, limiting potential for community outreach.

Emory University Visual Arts Building

The Emory University Visual Arts Building (Fig. 16) is a typological precedent for what programs are necessary for artist creation, teaching, and presentation. The building contains a 1,100 square foot gallery for the presentation of work, as well as a teaching studio for around 15 students, an outdoor project space for ventilation needs, a media classroom, a woodworking studio, and a small student lounge area.⁷¹ The miscellaneous program includes restrooms, administrative offices, and storage and utility closets. The Emory University Visual Arts Building is able to fit all of the essential needs of an artist studio into an approximately 13,000 square foot area. The building is located on the outskirts of campus, by a baseball field, and is therefore inaccessible to the general student body.



Figure 16 - Emory University Visual Arts Building (Source: Google Earth)

⁷¹ “Visual Arts Building.” 2023. *Venues & Institutions*. Accessed April 23. <https://arts.emory.edu/venues-institutions.html>.

The Torpedo Factory

The Torpedo Factory Art Center (Fig. 17) in Alexandria, Virginia is a “collection of working-artists’ open studios under one roof.”⁷² The building program includes 71 artist studios, which are open to the public and also act as informal storefronts, residences, art galleries and exhibitions, as well as community events.⁷³

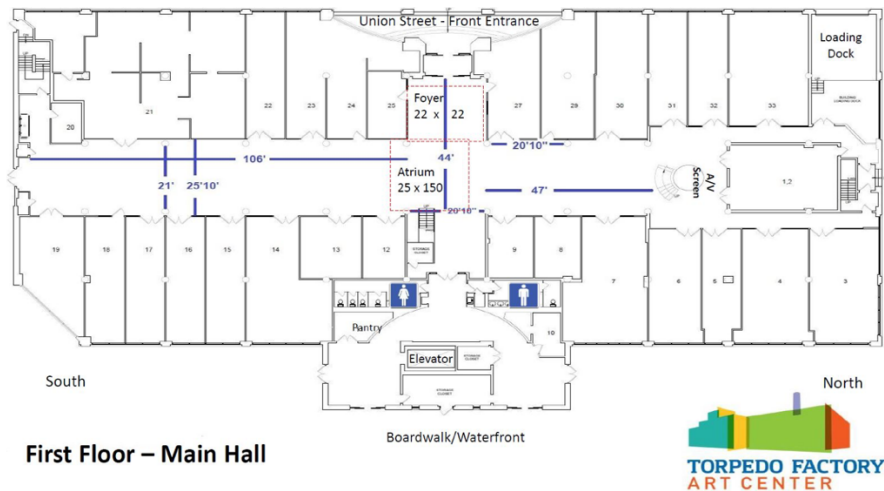


Figure 17 - Torpedo Factory Art Center

⁷² “Overview & Mission,” Torpedo Factory Art Center, accessed May 23, 2023, <https://torpedofactory.org/about-us/overview/>.

⁷³ “Experience,” Torpedo Factory Art Center, <https://torpedofactory.org/experience/>.

Although the artist apartments are separated from the public commercial area, their art studios are on display and open to any visitors. The Torpedo Factory is by far the largest precedent at over 76,000 square feet and acts as a primarily commercial attraction for visitors, like a shopping mall for art. This large scale and commercial setting make it a prime destination for anyone looking to buy art.

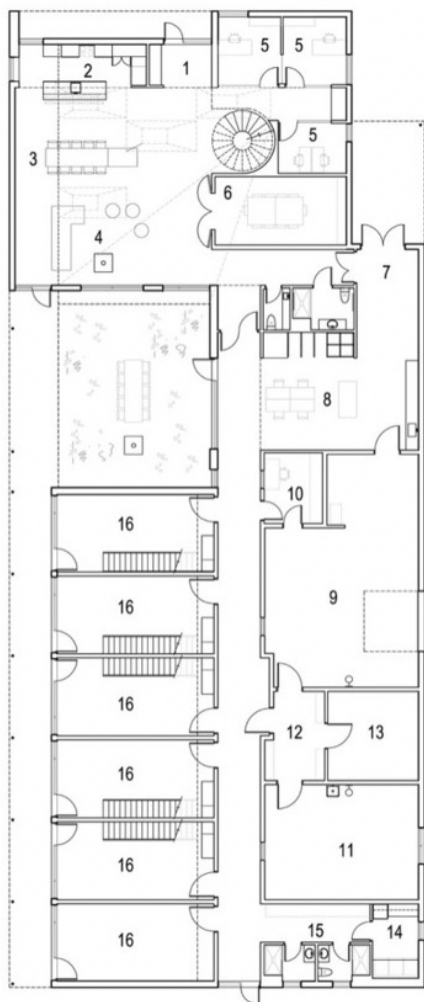
Est-Nord-Est Artist Residency

Est-Nord-Est (Fig. 18) is a medium-scale artist residence in Québec, Canada that “promotes the importance of the creative process in contemporary art practices.”⁷⁴ The residence is home to four contemporary, fine artists at a time and advocates for the “time and space for creative research, the geographical situation with the river, the rurality of the St-Jean-Port-Joli town, and the benefits of very personalized guidance.”⁷⁵



⁷⁴ “About Us: Est-Nord-Est Artist Residency,” Est-Nord-Est, <https://estnordest.org/en/about-ene/>.

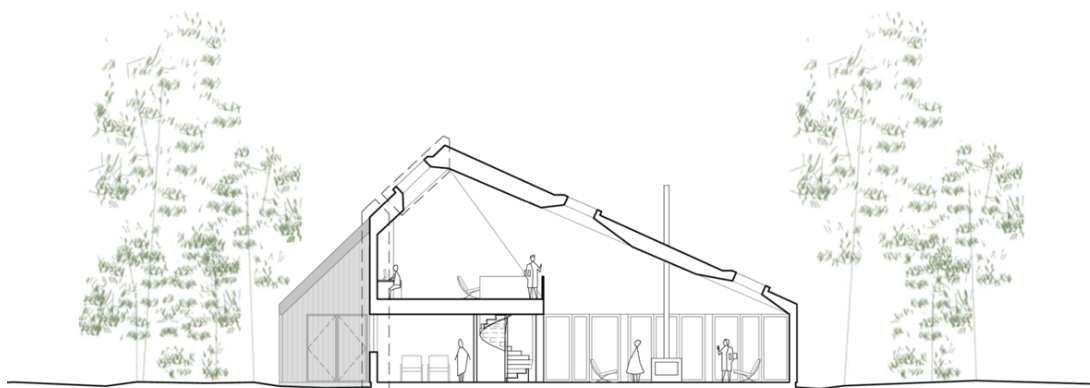
⁷⁵ “Artist and Author Residency,” Est-Nord-Est, <https://estnordest.org/en/artist-residency>.



■ REZ-DE-CHAUSSÉE / FIRST FLOOR



■ MEZZANINE



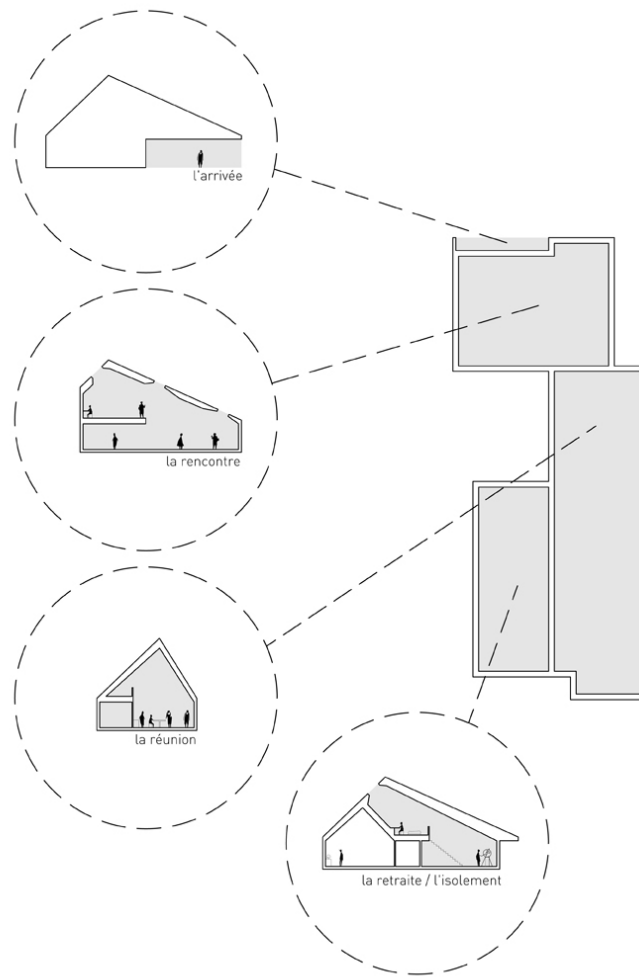


fig. 6

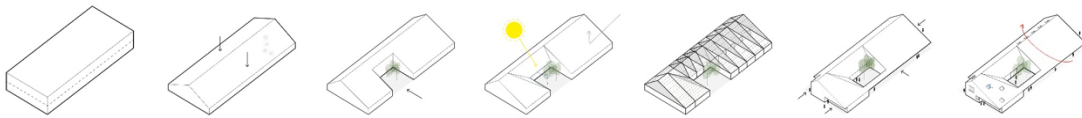


Figure 18 - Est Nord Est Artist Residency (Source: Bourgeois / Lechasseur Architects)

Each artist in this residency has their own individual unit, which includes a bedroom and studio, as well as access to larger communal spaces, including a library and outdoor courtyard.

Description	Quantity	Area (Sq.Ft.)	Net Area (Sq.Ft.)
Residential			
Entrance	1	80	80
Kitchen	1	250	250
Dining Room	1	450	450
Living Room	1	500	500
Laundry	1	115	115
Bathroom	1	300	300
Bedrooms	6	200	1,200
Sub-Total Net Sq.Ft.			2,895
Description	Quantity	Area (Sq.Ft.)	Net Area (Sq.Ft.)
Industrial			
Office	3	150	450
Conference Room	1	275	275
Landing Place	1	160	160
Assembly Studio	1	650	650
Wood Studio	1	950	950
Technician Studio	1	130	130
Metal Studio	1	600	600
Mechanical Room	1	275	275
Artist Studio	6	400	2,400
Lecture Area	1	800	800
Sub-Total Net Sq.Ft.			6,690
Total Net Area			9,585
Total Gross Area			10,445
Grossing Factor			1.089

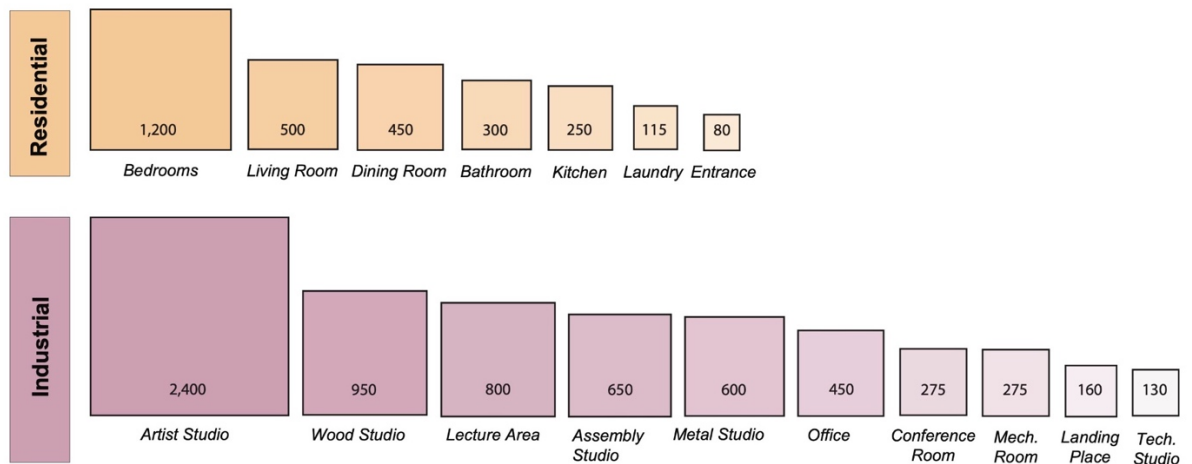


Figure 19 - Project Area Tabulations and Program Blocking (Source: Author)

Est-Nord-Est is located in a suburban area of Québec, allowing the residents to enjoy both the benefits of nature and proximity to a city. The site itself is a large open lot without any immediate neighbors. The scale of the project is slightly larger than residential, totaling at 9,585 square feet. The artists have private studios and bedrooms, but share all other communal living areas.

Summary

These five precedents tell a story of the ideal artist residency, including an optimal combination of commercial, residential, institutional, and natural programs. This ideal formula practically includes an artist workspace, designated shopping areas, both public and private communal gathering spaces, access to nature, and private apartment spaces. Therefore, the artist residency program should have a strong community impact, individual homes for the artists, communal gathering spaces, work spaces, storefronts, and a relationship with the surrounding natural landscape.

Art Studio Safety Requirements

When considering the programmatic needs of an artist studio and residency, it is also important to acknowledge the safety measures that should be taken in order to keep artists physically safe and healthy in their studios. These measures primarily include a caution around ventilation and hazardous or flammable materials that are commonly used by painters, such as oil paint or spray paint. Furthermore, the operation of the tools in a woodshop, used perhaps to build canvas stretchers, would

require extensive training and proper ventilation. A building can start to address the health and safety of its residents by building in efficient ventilation methods, storage for hazardous materials, and emergency response units, such as eye wash stations.⁷⁶

Activity	Material	Potential Hazard
Painting	Paint pigments/ Chalk dust	May be toxic by ingestion or inhalation (if mixing dry powders, sanding paints, or using pastels). Many inorganic pigments contain highly toxic metals and some organic pigments may cause long-term effects such as cancer. Wherever possible, substitute less toxic materials for powdered pigments containing lead, cadmium, or mercury.
Painting	Vehicle	Vehicles in paints may include solvents, oils, resin, and polymer emulsions that are released to the air as the paint dries. They are moderately toxic. Some vehicles are adsorbed through the skin and others may cause skin disorders.
Painting	Solvents	Solvents are used to thin paints and clean up materials. Solvents commonly used include turpentine, mineral spirits, acetone, toluene, xylene, acetates, and petroleum distillates. These materials evaporate quickly, contaminating the air, and are moderately toxic by inhalation. Some solvents are adsorbed through the skin. Many are flammable.
Painting	Varnishes and lacquers	These are solutions of natural and synthetic resins that are dispersed in solvents such as mineral spirits, turpentine, methyl and ethyl alcohol, acetates, toluene, and petroleum distillates. After being applied, the solvent base evaporates leaving the resin to react and harden. These solvents are moderately toxic by inhalation, and many are flammable. Some solvents are adsorbed through the skin.
Spray application	Paint pigments, vehicles, and solvents, varnishes/lacquers	Spray guns, airbrushes, and aerosol spray cans release very fine mist particles that can remain in the air for several hours and are readily inhaled. All of the materials identified above (solvents, pigments, resins, and paint vehicles) may be present. Spraying dramatically increases your risk of exposure to these toxic materials. Many of these solvents are also flammable and spraying them into the air creates a flammable atmosphere. High-pressure spray guns may actually inject paint directly under the skin if it gets in the way of the spray.
Print-making	Ink pigments, vehicles, and solvents	Same as paint (see above)
Print-making	Acids and caustics	A variety of acids and caustics are used to etch and clean various media in intaglio and lithography. These materials are very corrosive to the skin, eyes and respiratory system, especially when concentrated.
Print-making	Miscellaneous materials	A wide variety of miscellaneous materials used in lithography, intaglio, relief printing, and screen printing are irritants or moderately toxic. Consult the references on page 9 for information sources on these materials and their hazards.

Figure 20 - Safety Guide for Art Studios⁷⁷

The most efficient methods of ventilation in an art studio are natural ventilation in combination with either dilution or local exhaust ventilation. Dilution ventilation “introduces clean air into the studio which mixes with the contaminated air before being exhausted outside by a fan” and local exhaust ventilation “captures contaminants at their source by use of a hood [and] exhausts the contaminants directly outdoors through a duct system.”⁷⁸ Therefore, an artist studio must have close accessibility to natural ventilation methods.

⁷⁶ Thomas Ouimet, Safety Guide for Art Studios - UNCSA, Last modified 2000, <https://www.uncsa.edu/mysa/docs/art-studio-safety.pdf>.

⁷⁷ Ibid.

⁷⁸ Ibid.

Georgetown Zoning Ordinances

Although Georgetown, DC is lacking a strong, institutional presence in the arts, the distinct neighborhood aesthetic and commercial shopping street make it an ideal home to artists. However, Georgetown is a relatively restrictive site for new construction due to intense zoning ordinances and historical committees. As much of Georgetown is considered a historic district, many new projects will require special permits and a series of historic preservation review meetings to affect “the exterior appearance of a historic property.”⁷⁹ Furthermore, the Old Georgetown Board, also known as the OGB, is legally required to comment on the “exterior architectural features, height, appearance, color, and texture of the materials of exterior construction” before a project is built in Georgetown.⁸⁰ Therefore, an artist residency in Georgetown would have to adhere to strict height and facade requirements that keep the building in accordance with the distinct neighborhood aesthetic.

Program Space Requirements

This thesis project, entitled the “Georgetown Boogie Woogie,” will explore the ways in which the abstract expressionist painting style can affect the compositional form of a mixed-use artist commune in Georgetown, DC. The primary building program (Fig. 21) will include a public storefront and art gallery, cafe, a private artist studio, small classrooms, and numerous apartments for a residency of fine artists. The public storefront and art gallery will display and sell the artworks of

⁷⁹ “Building Permits for Historic Property,” DC.Gov, <https://planning.dc.gov/page/building-permits-historic-property>.

⁸⁰ “Design Standards and Guidelines in Georgetown,” DC.Gov, <https://planning.dc.gov/page/design-standards-and-guidelines-georgetown>.

the artists-in-residence in a way that is easily accessible to the public and passers-by. The artworks will be available at a wide array of price points. The gallery will be approximately 3,000 square feet, so as to allow for the installation of new exhibits. There will also be a private artist studio, that is not accessible to the public, but is shared by the artists-in-residence. The studio space will have access to fresh air and natural daylighting and will be approximately 3,000 square feet. The two small classrooms will be adjacent to the public facing art gallery and will host lectures by artists to the nearby collegiate population and perhaps act as a subsidiary to Georgetown University's fine art program. The classrooms will also host art classes, taught by the artists-in-residence, that can be purchased by the public DC community. Finally, the classrooms will also act as meeting spaces for the artists to host business meetings. These classrooms will be approximately 800 square feet each.

The residential aspect of this project's program will include 5 private apartments as well as a communal living area. The apartments will be 1 or 2 bedroom and will be between 800 and 1,000 square feet. They will include a bedroom, bathroom, kitchen, and small living area. One of the highlighted features of these apartments will be small balconies and maximal access to nature. The communal living area will be the center point of the 5 apartments, where the artists can socialize together, and will include a small kitchen, recreation, and lounge spaces. Finally, this overall residential area will be connected to the public and commercial programs but will also have a sense of separation from the whole.

Description	Quantity	Area (Sq.Ft.)	Net Area (Sq.Ft.)
Residential			
Bedroom	5	300	1,500
Bathroom	5	100	500
Kitchen	5	300	1,500
Living Room	5	200	1,000
Balcony	5	50	250
Storage	5	50	250
Communal Living Area	1	800	800
Sub-Total Net Sq.Ft.			5,800
Description	Quantity	Area (Sq.Ft.)	Net Area (Sq.Ft.)
Commercial			
Art Gallery	1	3,000	3,000
Storefront	1	1,000	1,000
Cafe	1	1,000	1,000
Restrooms	2	250	500
Storage	1	300	300
Outdoor Patio	1	500	500
Sub-Total Net Sq.Ft.			6,300
Description	Quantity	Area (Sq.Ft.)	Net Area (Sq.Ft.)
Industrial			
Classrooms	2	800	1,600
Lecture Hall	1	1,000	1,000
Conference Room	1	300	300
Private Offices	4	150	600
Artist Studio	1	3,000	3,000
Restrooms	4	250	1,000
Storage	1	300	300
Mechanical	1	300	300
Sub-Total Net Sq.Ft.			8,100
Total Net Area			20,200
Total Gross Area			22,625
Grossing Factor			1.12

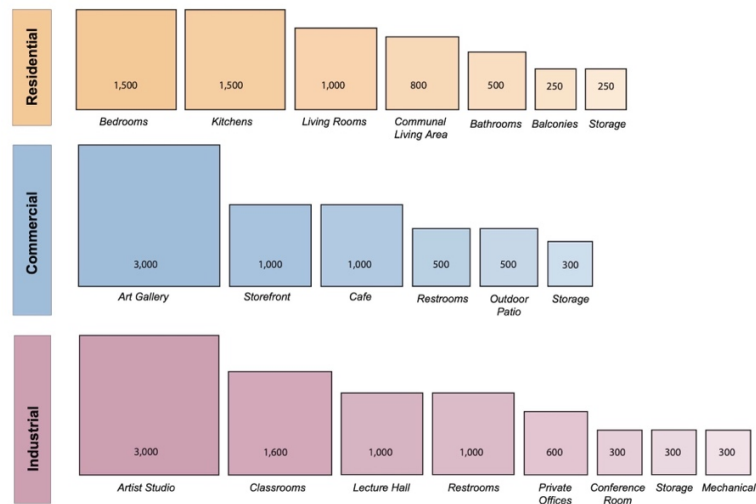


Figure 21 - Program Tabulation and Blocking (Source: Author)

Chapter 7: Site History – Georgetown, D.C.

History of Georgetown

Georgetown is a historic district in Washington, D.C. that has a long and significant story in the context of American history. Georgetown was initially founded in 1751 with its own jurisdictional identity before it became part of the District of Columbia in 1791.⁸¹

Before the British explorer, Captain James Cook, discovered Georgetown in 1618, the area was settled by the Algonquin Indian Nation and the Anacostian tribe.⁸² Georgetown, especially the waterfront areas, were a “central meeting place for nearly 40 Indian Tribes” due to the ideal climate conditions and fertile soil.⁸³ Similarly, Georgetown’s proximity to the Potomac River made it a major trade port, which specialized in the tobacco industry. In addition to tobacco farms, Georgetown became known for lumber yards, cement works, and the Washington Flour Mill.⁸⁴

Due to its large commercial exports, Georgetown also developed a large slave population, “making up 30% to 40% of the residential population at one time.”⁸⁵ Once Georgetown outgrew the Potomac River trade ports, the Chesapeake & Ohio Canal became a new means of transporting goods into the center of town.⁸⁶

⁸¹ “Georgetown Historic District,” DC Historic Sites, accessed May 23, 2023, <https://historicsites.dcpreservation.org/items/show/240>.

⁸² “History of Georgetown,” Citizens Association of Georgetown, <https://cagtow.org/about-cag/history-of-georgetown/>.

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ “About Georgetown: Georgetown DC - Explore Georgetown in Washington, DC,” Georgetown DC, Last modified April 14, 2022, <https://www.georgetowndc.com/about/about-georgetown/#:~:text=Georgetown%20was%20originally%20established%20as,designated%20a%20National%20Historic%20Landmark.>

⁸⁶ Ibid.

Chesapeake and Ohio Canal

The Chesapeake and Ohio Canal (Fig. 22) was built in 1828 as a way to bring “life George Washington’s vision to open up the country to the west” and spans 184.5 miles into Cumberland, Maryland.⁸⁷ The Canal also extends over a 605-foot elevation change using a sequence of lift locks, which can raise and lower water levels for boats passing through.⁸⁸ A great flood destroyed the Canal beyond use in 1924 and it was declared a National Park in 1971.⁸⁹ Today, the Canal is a popular hiking and cycling destination for the Georgetown community.



Figure 22 - Map of C&O Canal (Source: National Park Maps)

⁸⁷ Ibid.

⁸⁸ Elizabeth Kytle, *Home on the Canal*, 34. Baltimore, MD: Johns Hopkins University Press, 1996.

⁸⁹ History of the Canal,” C&O Canal Trust, <https://www.canaltrust.org/about-us/about-the-co-canal/history/>.

History of Site

The specific site of 3401 Water Street NW also has a long history since its original construction in 1946. The building was constructed as a four-story flourmill by Crystal Ice Co. in 1938.⁹⁰ The lot was likely along the same waterfront row as the original Washington Flour Mill, which was established in 1913.⁹¹ Since then, the building has been transformed many times. Once it was converted to a two-story warehouse space, the building has been home to offices, mixed-use restaurants and shops, multi-family residences, and has upcoming plans to become the site of the new CitizenM hotel. Some of the most popular, recent occupants of the building have included a beer garden called The Berliner, a restaurant called Malmaison, and an underground music venue called Gypsy Sally's.⁹²

Historical Commission

Every renovation and new construction in Georgetown is required to undergo review and approval by the Old Georgetown Board (OGB), “an advisory committee of architects,” because the area is classified as a historic district and a national historic landmark.⁹³ This level of caution developed from an increase in commercial interest in waterfront development and resulted in the Old Georgetown Act of 1950, which strives to maintain the history of Georgetown.⁹⁴ Today, the OGB is responsible

⁹⁰ “With Great Sadness, Gypsy Sally’s Will Have Its Final Load-out on January 5th, 2020.,” PoPville Prince of Petworth, Last modified November 14, 2019, <https://www.popville.com/2019/11/georgetown-gypsy-sallys-dc-closing/>.

⁹¹ Ibid.

⁹² Ibid.

⁹³ “Old Georgetown Act,” U.S. Commission of Fine Arts, <https://www.cfa.gov/project-review/old-georgetown>.

⁹⁴ “History of Georgetown,” Citizens Association of Georgetown, <https://cagtown.org/about-cag/history-of-georgetown/>.

for approving every new project to ensure that it maintains Georgetown's historic identity and primarily comments on the "exterior architectural features, height, appearance, color, and texture of the materials of exterior construction."⁹⁵

Building Typologies

The building typologies in Georgetown are largely frame row houses (Fig. 23) designed in the Victorian or Federalist architecture style, which were popular styles in the late 1700's that "emphasizes balance and symmetry."⁹⁶ The distinctive qualities of this architecture included a signature red brick material or pastel-painted house facades. Many homes are elevated above a buried basement level, leaving the main entrance to the house a few steps above ground level. Large mansions are also a common building typology in Georgetown and have more land than the tightly packed row houses. Many well-known examples of these mansions have been transformed into museums or gardens, such as the Dumbarton House and Tutor Place.⁹⁷ The more industrial buildings, such as those that line the C&O Canal, are often simple red brick buildings set into the landscape.

⁹⁵ "Design Standards and Guidelines in Georgetown," DC Office of Planning, accessed May 23, 2023, <https://planning.dc.gov/page/design-standards-and-guidelines-georgetown>.

⁹⁶ "Federal Style Architecture," U.S. National Parks Service, accessed May 23, 2023, <https://www.nps.gov/articles/000/federal-style-architecture.htm>.

⁹⁷ "Must-See Architecture Attractions in Georgetown," M. Street, Washington, DC, Last modified March 7, 2020, <https://mstreetdc.com/must-see-architecture-attractions-in-georgetown/>.



Figure 23 - Typical Georgetown Row House (Source: Guide to Georgetown)

Zoning Requirements

Georgetown is divided into specifically designated commercial and residential blocks, each with its own building height and area restrictions. According to the Georgetown Zoning Regulations, Subtitle B, Section 307.3, “allows the height of buildings limited to 60’ to be measured starting at a terrace set at 5’-0” maximum above natural grade.”⁹⁸ Therefore, the maximum allowable building height for the commercially zoned 3401 Water Street NW lot is 102 feet.⁹⁹

⁹⁸ “Title 11 Zoning Subtitle I Downtown Zones - Washington, D.C.,” DC.Gov, https://dcoz.dc.gov/sites/default/files/dc/sites/dcoz/publication/attachments/Subtitle%2B1_13.pdf.

⁹⁹ “OGB Concept Submission - ECA Architects,” Commission of Fine Arts, accessed May 23, 2023, https://www.cfa.gov/system/files/meeting-materials/3-CFA-18-JUN-20-C-2021_American_Eagle_Gold_Silver_Coins_sm-pres.pdf.

Chapter 8: Site Selection and Analysis

Site Selection Criteria

The site for this artist residency will be located in Georgetown, D.C. The Georgetown neighborhood provides an ideal environment for the building program of an artist gallery and residence because it is the perfect blend of urban and residential, with quiet townhouses only a few blocks away from the bustling M Street shopping corridor. Georgetown also has a distinct sense of identity that stands apart from other D.C. neighborhoods, both in aesthetics and in building typology. This identity includes an array of educational institutions, such as Georgetown University and Georgetown Visitation, small businesses, and creative organizations, such as the Duke Ellington School of Arts and the Dumbarton Oaks Museum.

Despite these prominent cultural institutions, the Georgetown neighborhood lacks a strong, accessible artistic presence. Although there are a few small galleries and antique shops, the Georgetown community is generally affluent, aging, and resistant to cultural change. This thesis project intends to inject a cultural institution that is widely accessible into the otherwise impenetrable, affluent Georgetown community.

In selecting a specific site within Georgetown, eleven criteria for the ideal location were identified. Community need is an important criterion for an artist residency so that the building can have a maximal effect on community improvement. If the area were already to have a surplus of accessible cultural institutions, an additional one may not have the desired impact. A proximity to other creative

programming, such as theaters, museums, or music venues, is also an important site factor because those institutions will help draw a larger pool of consumers to the area. Similarly, a proximity to educational and commercial programming is important because it appeals to a larger demographic of people who may then happen upon other building types. An educational and commercial program, specifically, attracts people who have an interest in new experiences, learning, and supporting local business. Furthermore, a strong sense of community and neighborhood identity also adds to the potential impact a new cultural institution could make because it could become a community landmark and gathering area.

Walkability is also important so that the site is easily accessible to a wide range of people, and to increase the likelihood of new people discovering the building by chance. Similarly, urban density and accessibility are important for the same reason. The site should be accessible through public transportation and through pedestrian and vehicular pathways. A healthy mix of urban and residential areas is important to this project specifically because it is both a home and a workplace for the artists-in-residence. Safety, climate, and greenery are also important criteria for creating a comfortable and inspiring home for the artists. Access to nature, in particular, is important because biophilia is psychologically proven to optimize happiness in a home.

The Georgetown Firehouse

The first Georgetown site studied was an old firehouse at 3412 Dent Place (Fig. 24). With each criterion ranked on a 1 through 5, low to high, scale, the Georgetown Firehouse scored 33 points total. The firehouse is located on a quiet, residential street near some of the local schools. Although the site may be ideal for a home, it lacks easy accessibility from the M Street shopping corridor.

SITE OPTION 1: The Georgetown Firehouse at 3412 Dent Place

(1 - 5) Low to High	
COMMUNITY NEED	2
PROXIMITY TO CREATIVE PROGRAMMING	2
PROXIMITY TO EDUCATIONAL & COMMERCIAL PROGRAMS	3
NEIGHBORHOOD IDENTITY	4
WALKABILITY	2
URBAN/RESIDENTIAL MIX	4
URBAN DENSITY	3
ACCESSIBLE	2
SAFETY	4
CLIMATE	4
GREENERY	3
TOTAL:	33

Figure 24 - The Georgetown Firehouse (Source: Author)

Cady's Alley

The next site studied was Cady's Alley at 3318 M Street NW (Fig. 25). This site scored 37 points total and was notable due to its pedestrian experience. Cady's Alley is a pedestrian alley with various shops and restaurants and an entrance on M Street. Despite the walkability and proximity to commercial programming, Cady's Alley lacks a clear path of accessibility due to its hidden entrance.

SITE OPTION 2: Georgetown Cady's Alley at 3318 M St NW



(1 - 5)
Low to High

COMMUNITY NEED	4
PROXIMITY TO CREATIVE PROGRAMMING	4
PROXIMITY TO EDUCATIONAL & COMMERCIAL PROGRAMS	3
NEIGHBORHOOD IDENTITY	4
WALKABILITY	4
URBAN/RESIDENTIAL MIX	2
URBAN DENSITY	4
ACCESSIBLE	3
SAFETY	3
CLIMATE	4
GREENERY	2
TOTAL:	37

Figure 25 - Cady's Alley (Source: Author)

Georgetown University

The Georgetown University Art Building (Fig. 26), located at 1234 36th Street NW, was the next site examined. This site scored 34 points total, and lost points due to a lack of immediate need for an artist residency program. The Georgetown University Art Building is located in an area primarily frequented by students of the university and does not have sufficient access to the M Street pedestrian traffic.

SITE OPTION 4: Georgetown University Art Building at 1234 36th St. NW

	
(1 - 5) Low to High	
COMMUNITY NEED	2
PROXIMITY TO CREATIVE PROGRAMMING	2
PROXIMITY TO EDUCATIONAL & COMMERCIAL PROGRAMS	4
NEIGHBORHOOD IDENTITY	4
WALKABILITY	4
URBAN/RESIDENTIAL MIX	3
URBAN DENSITY	3
ACCESSIBLE	3
SAFETY	3
CLIMATE	4
GREENERY	2
TOTAL:	34

Figure 26 - Georgetown University Art Building (Source: Author)

C&O Canal

Finally, the site along the C&O Canal at 3401 Water Street NW (Fig. 27) scored the highest number of points, totaling at 38. Although the site is located in a largely industrial area, with the Francis Scott Key Bridge to the West and the Whitehurst Freeway to the South, it also has the most access to pedestrian traffic, prime visibility from the passing vehicular traffic, and numerous access points to nature.

SITE OPTION 3: C&O Canal at 3401 Water St NW.



(1 - 5)
Low to High

COMMUNITY NEED	4
PROXIMITY TO CREATIVE PROGRAMMING	3
PROXIMITY TO EDUCATIONAL & COMMERCIAL PROGRAMS	3
NEIGHBORHOOD IDENTITY	4
WALKABILITY	5
URBAN/RESIDENTIAL MIX	2
URBAN DENSITY	3
ACCESSIBLE	4
SAFETY	2
CLIMATE	4
GREENERY	4
TOTAL:	38

Figure 27 - C&O Canal (Source: Author)

Selected Site Inventory

The following documentation explores the extents, opportunities, and limitations of the selected C&O Canal site, located at 3401 Water Street NW.

Experiential Imagery

The following images depict the pedestrian and vehicular experience of the selected C&O Canal site.



Figure 29 - View looking toward the site under the Whitehurst Freeway (Source: Author)



Figure 28 - View looking away from the site under the Whitehurst Freeway (Source: Author)



Figure 31 - View looking past the site, under the Francis Scott Key Bridge (Source: Author)



Figure 30 - View looking away from the site, at the neighboring building and traffic circle (Source: Author)



Figure 32 - Existing building facade (Source: Author)



Figure 33 - Previous side building elevation, mural design (Source: Google Earth, captured by Author)



Figure 35 - View from Whitehurst Freeway looking at existing building roof (Source: Google Earth, captured by Author)



Figure 34 - Georgetown Waterfront Park, to the South of site (Source: WRT Design)



Figure 36 - View from the C&O Canal towpath looking towards site. Including views of Whitehurst Freeway and Francis Scott Key Bridge (Source: Google Earth, captured by Author)



Figure 37 - Experiential View of C&O Canal (Source: Georgetown, DC)

These images depict the overbearing nature of the Whitehurst Freeway to the site. The freeway adds an industrial aesthetic to the street over which it runs and can significantly impede the access of natural light to the Southern building elevation. Similarly, the freeway also adds noise pollution to the site and may potentially limit the vertical expansion of the site. However, this industrialism juxtaposes the thriving greenery on either side of the site, including the C&O Canal, the Georgetown Waterfront Park, and the Francis Scott Key Memorial Park.



Figure 38 - Site Plan with site highlighted (Source: Google Earth, edited by Author)

Site Plans

The following two-dimensional documentation of the site shows the relationship between the site and its context, specifically to the Whitehurst Freeway, C&O Canal, Francis Scott Key Bridge, the Georgetown Waterfront Park, and M Street.

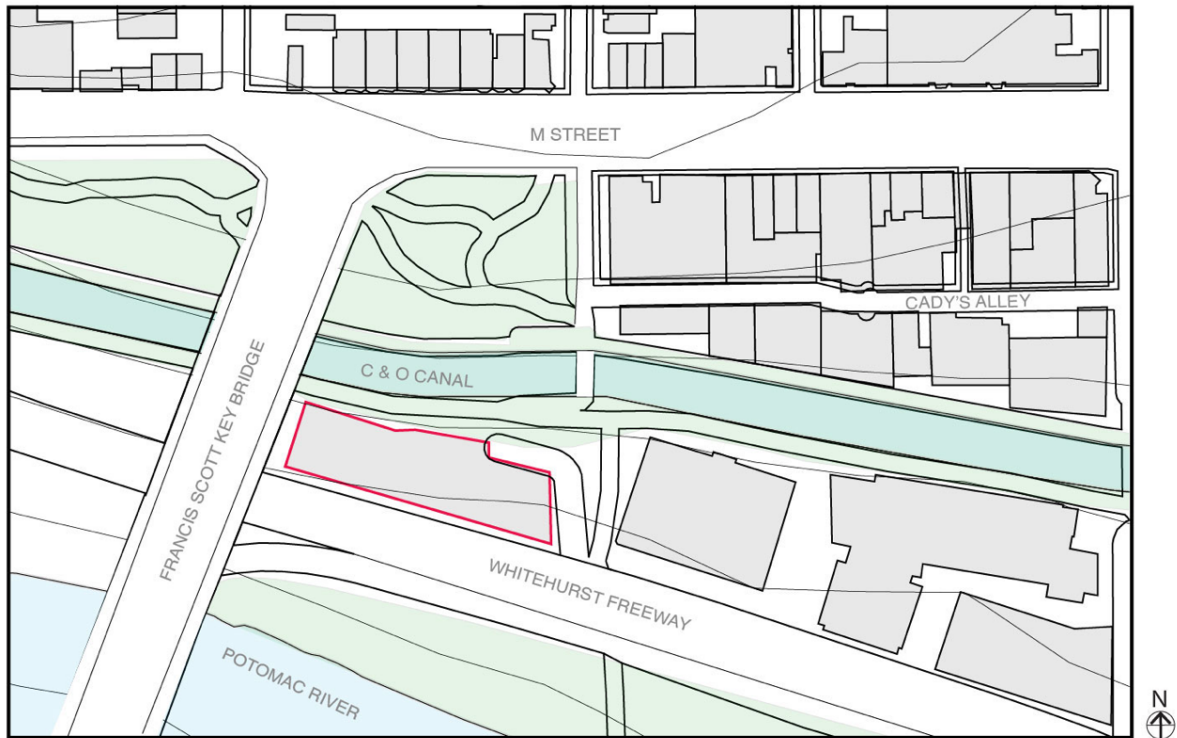


Figure 39 - Context Site Plan, including topography and highlighted site (Source: Author)

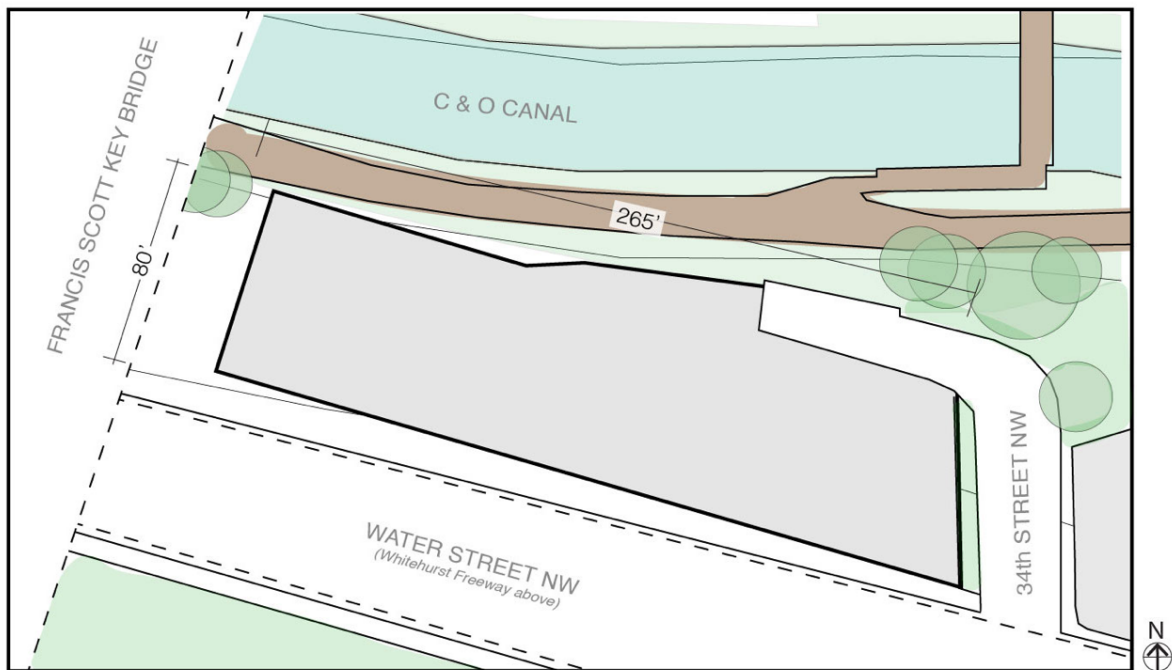


Figure 40 - Immediate Site Plan, including dimensions (Source: Author)

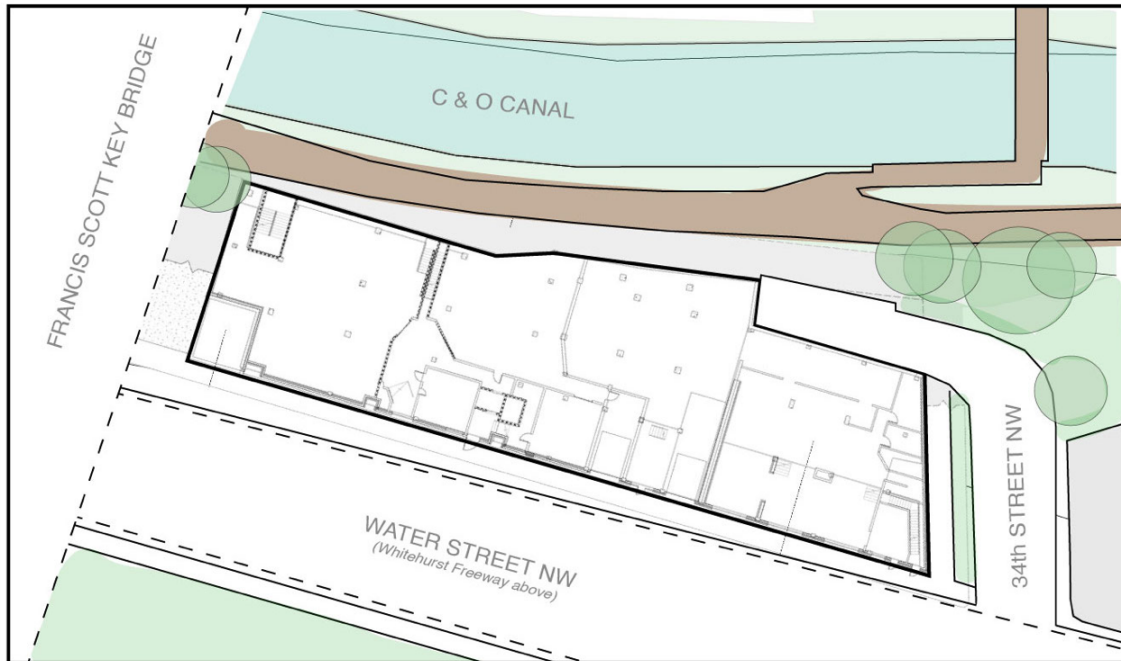
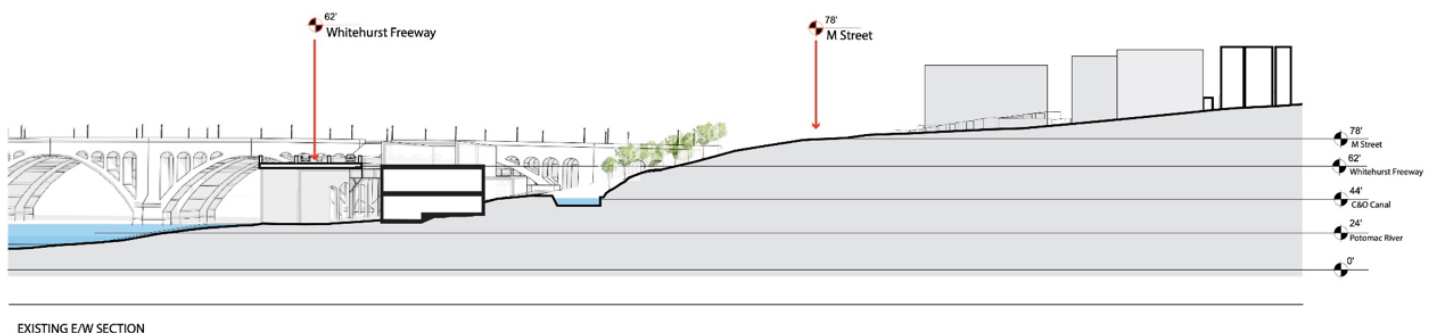


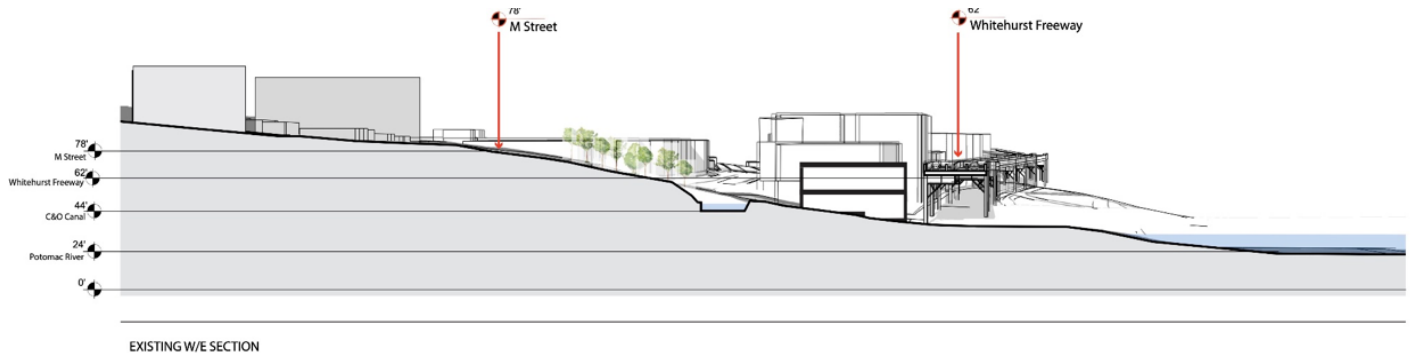
Figure 41 - Immediate Site Plan, including existing building floor plan (Source: Author)

Site Sections



EXISTING E/W SECTION

Figure 42 - Existing E/W Site Section, showing view of Francis Scott Key Bridge and highlighting Whitehurst Freeway and M Street (Source: Author)



EXISTING W/E SECTION

Figure 43 - Existing W/E Site Section, showing depth of C&O Canal and significant elevation levels (Source: Author)

Site Axonometric

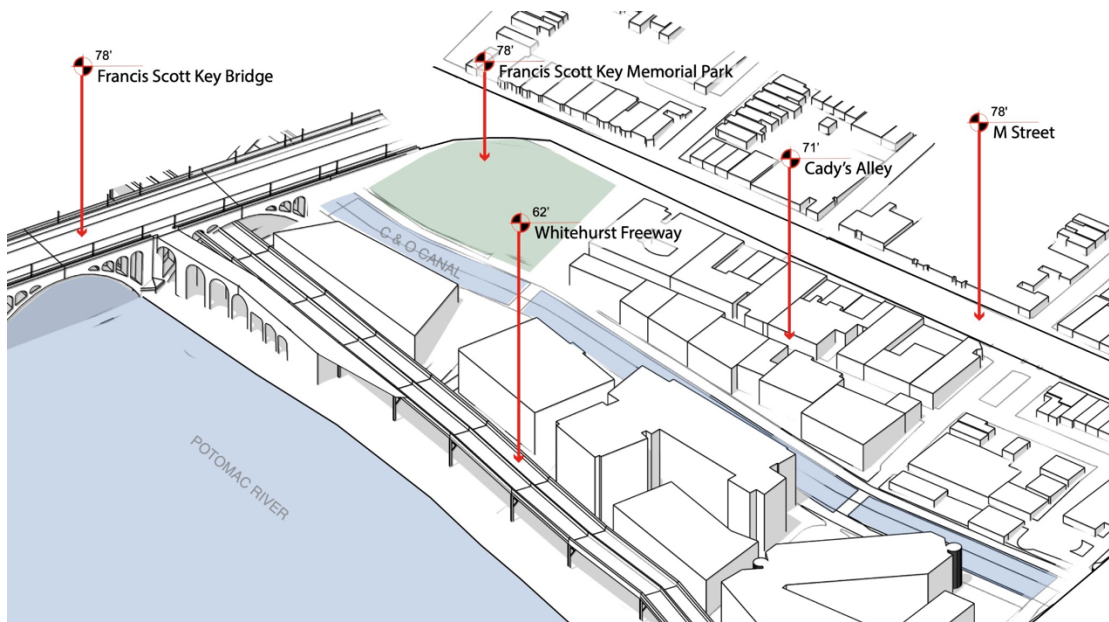


Figure 44 - Site Axonometric, showing significant site context and elevation markers (Source: Author)

Diagrammatic Studies



Figure 46 - Figure / Ground Site Diagram, showing the relative building scarcity around the immediate site (Source: Author)



Figure 45 - Nature Site Diagram, showing the large areas of greenery and water surround the immediate site (Source: Author)

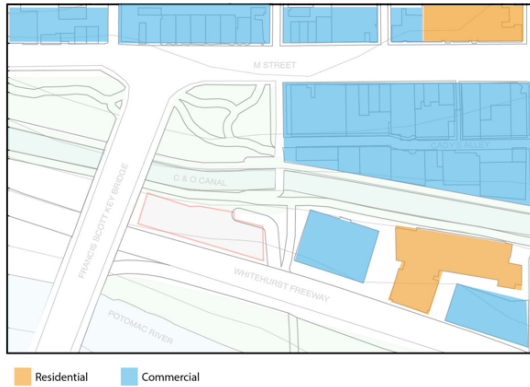


Figure 48 - Zoning Site Diagram, showing the clusters of commercial vs. residential buildings
(Source: Author)

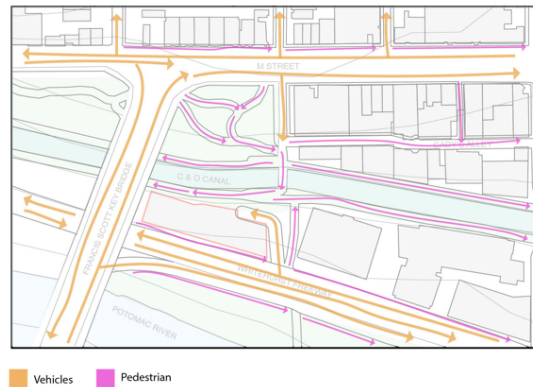


Figure 47 - Circulation Site Diagram, showing the vehicular and pedestrian circulation routes
(Source: Author)

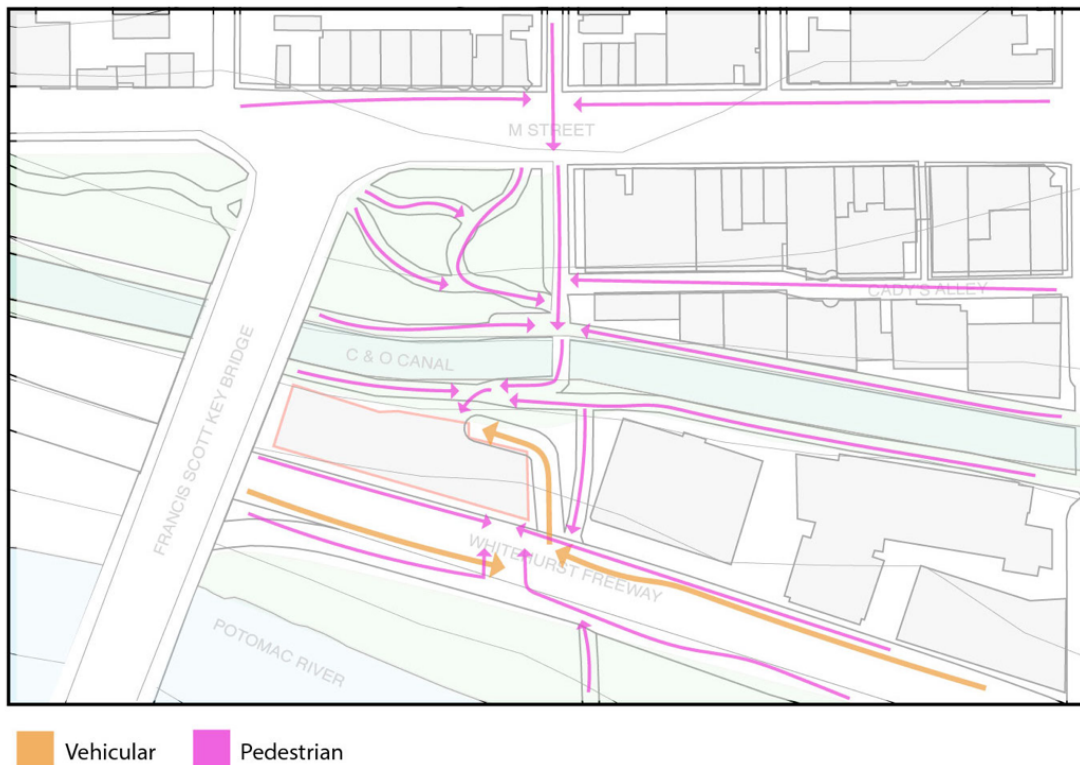


Figure 49 - Approach to Site Diagram, showing primarily pedestrian routes leading from M Street and the C&O Canal (Source: Author)

These site explorations highlight the many opportunities for the site to connect to both M Street and the surrounding nature and to optimize visibility and accessibility to a wide range of vehicular and pedestrian visitors.

Precedent Architectural Site Studies

Although the site has remained untouched since it's last construction in 1938, there have been many attempted plans to update the building in recent years.

Although the site was planned to be new condominiums in 2019, the CitizenM hotel line purchased the site and gained approval from the Old Georgetown Board in 2021.¹⁰⁰

Concrete Proposal

The architecture firm, Concrete, located in Amsterdam, is the design architect for the new CitizenM hotel. Their design approach exemplifies a historical and contextual understanding of the site through attempts to imitate, yet modernize, the surrounding buildings.

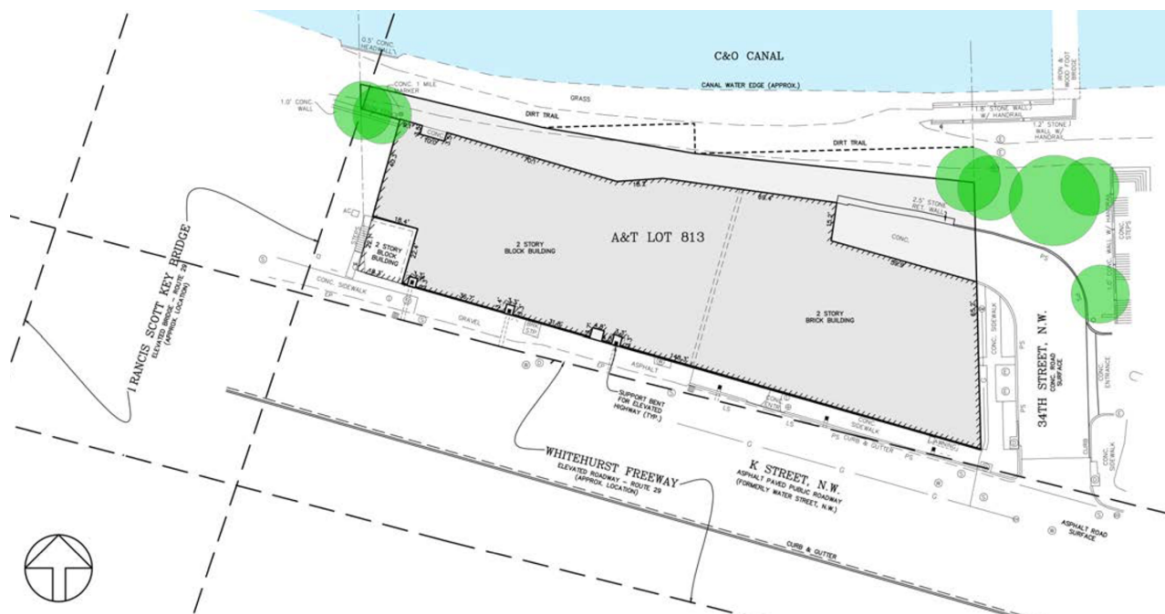


Figure 50 - Zoning Site Plan (Source: Concrete Architects)

¹⁰⁰ Kate Oczypok, “3401 K St. NW: From Retail to Condos to Hotel,” *The Georgetown*, Last modified August 29, 2022, <https://georgetown.com/articles/2022/08/29/new-hotel-on-k-st-nw/>.

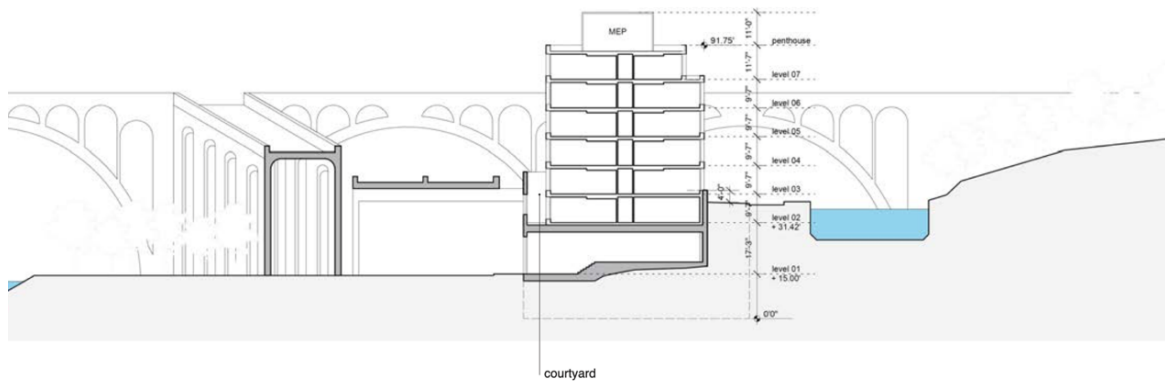


Figure 51 - Measured Site Section, showing a detailed analysis of the freeway, canal, and building heights (Source: Concrete Architects)

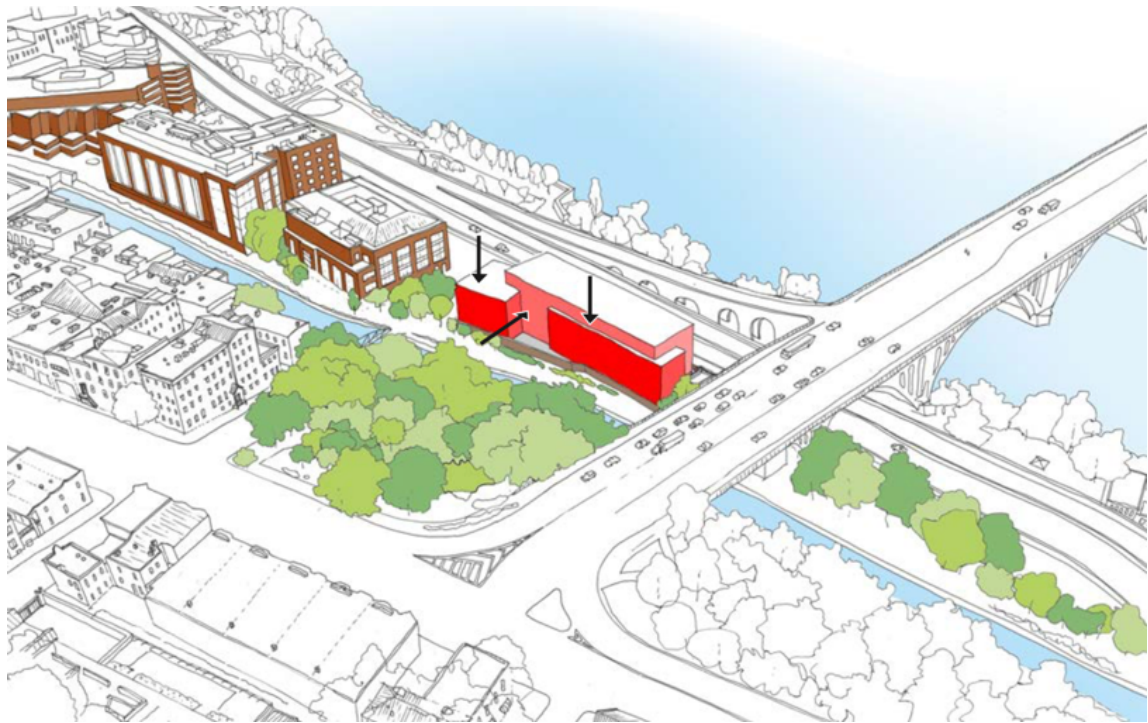


Figure 52 - Massing Strategy (Source: Concrete Architects) "By creating a setback floor and lowering the volumes the massing along the C&O canal will be perceived as two smaller buildings, which relate to the smaller industrial buildings along the canal."¹⁰¹

¹⁰¹ "OGB Concept Submission - Concrete Architects," Commission of Fine Arts, accessed May 23, 2023, <https://cfa.gov/system/files/meeting-materials/CFA-21-APR-22-4-DMPED%20%28New%20St%20Es%20Hospital%29%20pres%20%284-20%29.pdf>.



Figure 53 - Facade design view from Key Bridge (Source: Concrete Architects)



Figure 54 - Facade design Water Street (Source: Concrete Architects)

Lessons can be learned from Concrete’s approach to the design of the 3401 Water Street NW site. For example, Concrete maintains original elements of the elevation, flush with the street line, but then pushes back taller segments of the building to create a sense of separation from Whitehurst Freeway and a sense of sanctuary for the C&O Canal. They modernize the original façade with a sleek black color but maintain the red brick material that is traditional for the Georgetown area.

ECA Architects Proposal

Although it is not the current plan for the site, another proposal for an eight-story condominium was proposed in 2019 by ECA Architects. Their design approach was focused on creating a luxury experience for their residents and fully utilizing the scope of the C&O Canal towpath.



Figure 55 - Side Perspective (Source: ECA Architects)



Figure 56 - C&O Canal View (Source: ECA Architects)



Figure 57 - Aerial View (Source: ECA Architects)



Figure 58 - Street View (Source: ECA Architects)

Lessons can also be learned from ECA's approach to the design of the 3401 Water Street NW site, such as their diverse treatment of each face of the building. The street level elevation portrays a modern, industrial aesthetic while the Canal facing elevation is treated more warmly and with more depth. The street level optimizes pedestrian traffic through its mixed-use storefronts and creates a private green roof experience for residents.

Chapter 9: Schematic Design Approach

In compiling and responding to the research described above, specifically of the analysis of the relationship between art and architecture, of environmental psychology, historical context, program, site, and architectural precedents, three schematic design strategies emerge.

Conceptual Design Strategies

Each of the three schemes attempts to explore the formal, experiential, and emotional translation of a painting into a building mass. Although each scheme will focus on a single painting by a single artist, the final building design will be a compilation of many different paintings by many different artists, of a variety of genders, generations, and backgrounds. The below collage (Fig. 59) depicts a representation of this concept by literally placing a variety of abstract modernist paintings on the C&O Canal site. The final building design will be a seamlessly refined version of this concept.



Figure 59 - Painting Collage on Site (Source: Compiled by Author, Paintings by various artists)

Massing Scheme 1: Franz Kline

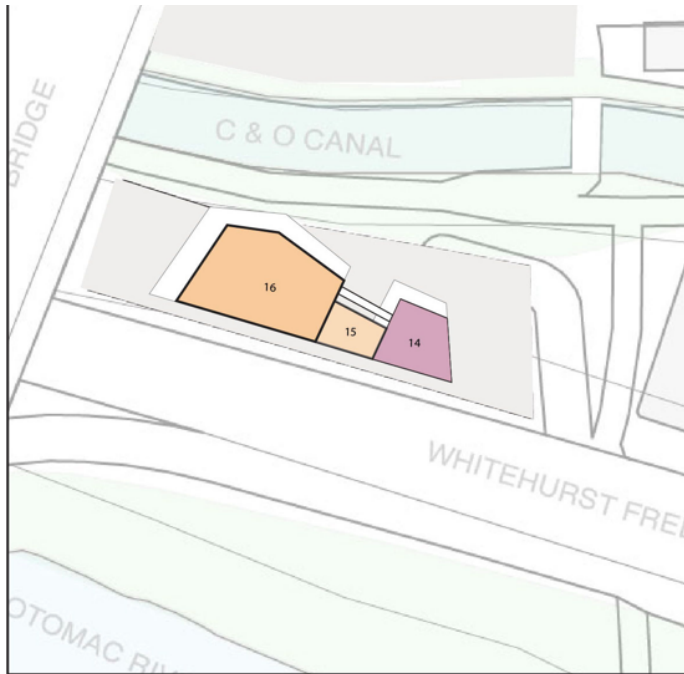
The first scheme explores the 1956 painting, *Four Square* (Fig. 61), by the American artist, Franz Kline. This scheme began as a study of positive and negative space, represented by the messy black strokes and the white squares in between them. It then became an interpretation of those black strokes as zones of peripheral circulation, with the nearly straight stroke representing the street edge. Then, the white squares in between became positive spaces, or rooms within the building. Finally, this negative space as movement theme was manipulated to fit the site and program requirements.



Figure 61 - "Four Square" by Franz Kline

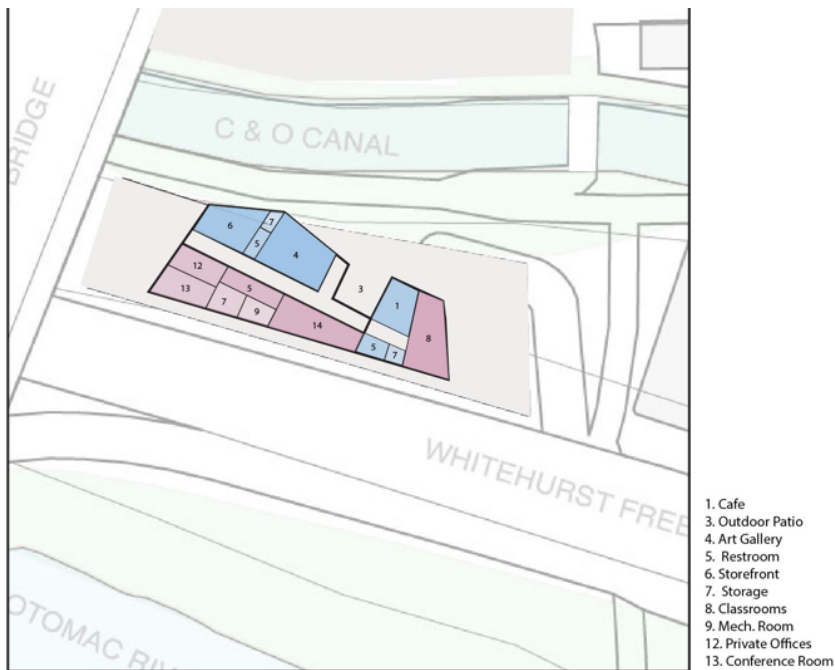


Figure 60 - Painting 1 on Site (Source: Author)



- 14. Art Studio
- 15. Communal Living Area
- 16. Artist Apartments

Figure 62 - Scheme 1, Floor Plan Level 2 (Source: Author)



- 1. Cafe
- 3. Outdoor Patio
- 4. Art Gallery
- 5. Restroom
- 6. Storefront
- 7. Storage
- 8. Classrooms
- 9. Mech. Room
- 12. Private Offices
- 13. Conference Room

Figure 63 - Scheme 1, Floor Plan Level 1 (Source: Author)

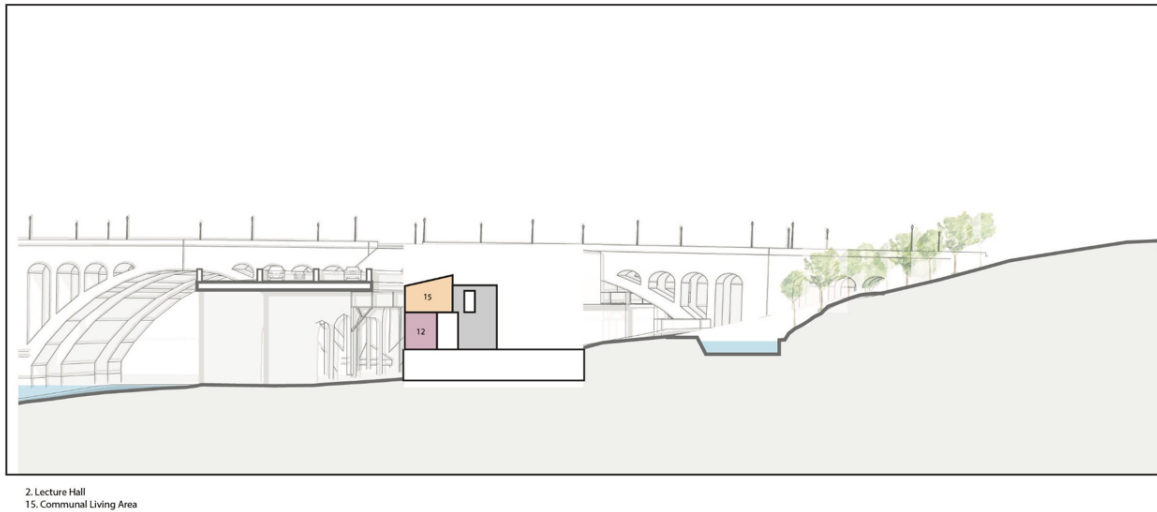


Figure 64 - Scheme 1 Section (Source: Author)

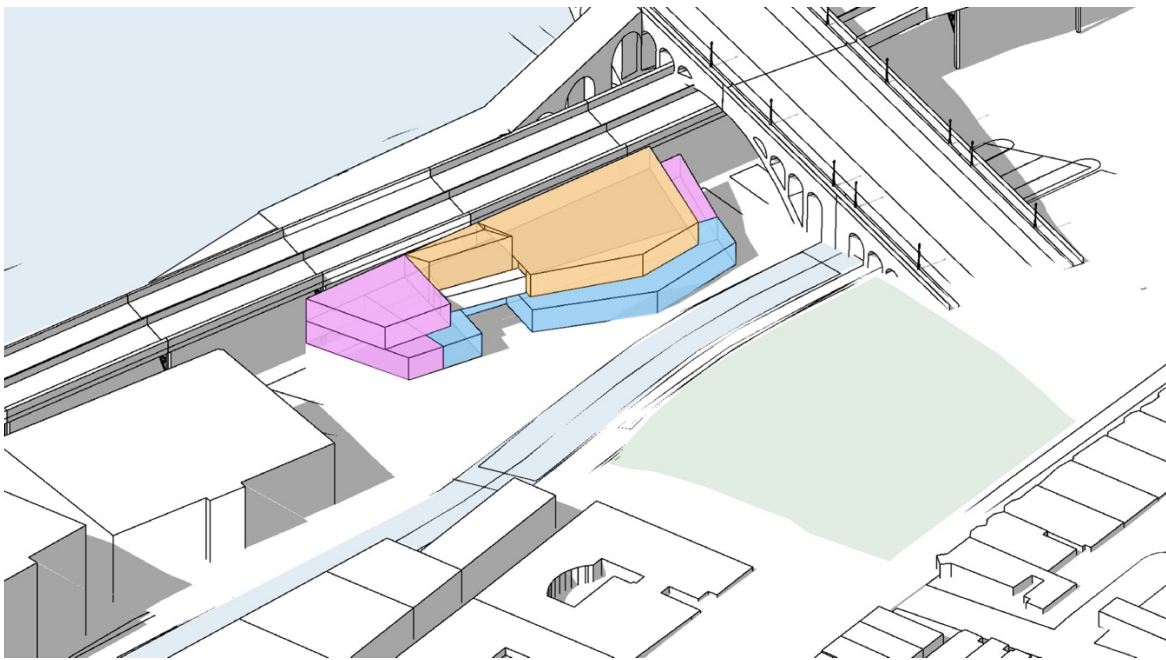


Figure 65 - Scheme 1 Massing on Site (Source: Author)

A diagonal, core circulation path was kept to maintain the sense of negative space splitting through the form. Public programming including the café, storefront, art gallery, and classrooms was placed on level 1, which is on top of a service plinth and level with the Canal. The second level includes more private programming, including the private artist apartments and artist studio, connected by a suspended bridge.

Massing Scheme 2: Mark Rothko

The second scheme explores the 1956 painting, *White Center (Yellow, Pink, and Lavender on Rose)* (Fig. 67), by the American artist, Mark Rothko. This scheme began as a study of blocking strategies and blurred borders, with the black stripe imagined as a connecting bridge. Various movements were then applied to the blocking: aligning them, shearing them, and then rotating them. These movements were also applied in section, as the second level stretches past the boundaries of the first.



Figure 67 - "White Center" by Mark Rothko

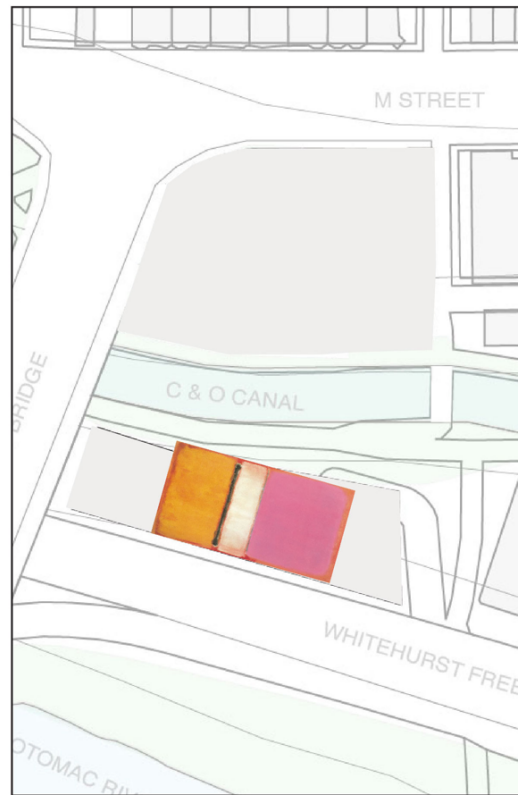


Figure 66 - Painting 2 on Site (Source: Author)

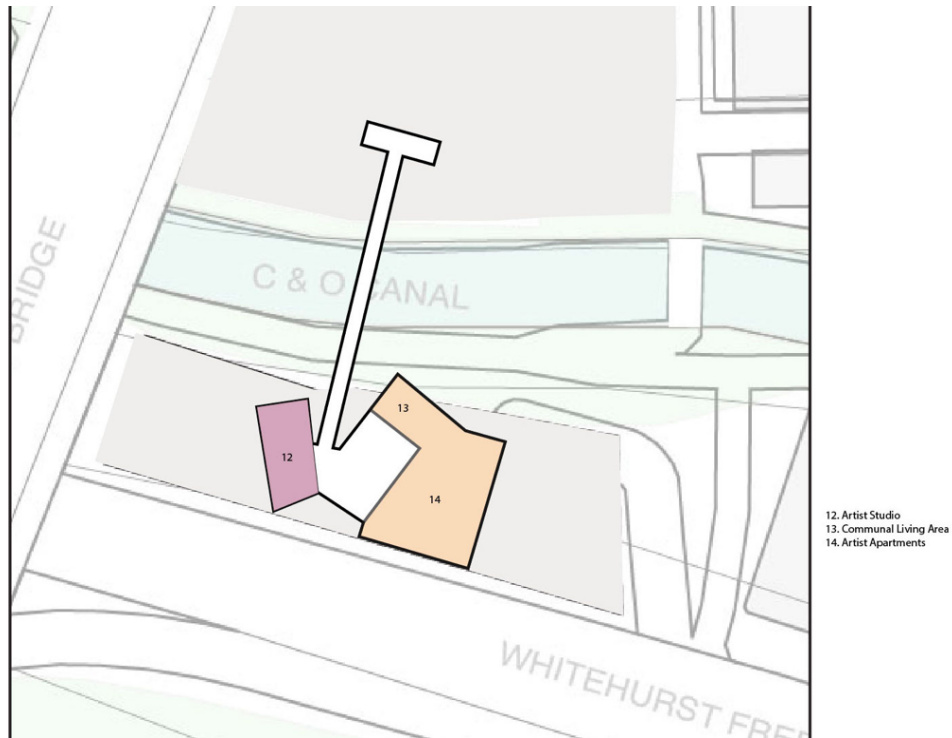


Figure 68 - Scheme 2, Floor Plan Level 2 (Source: Author)

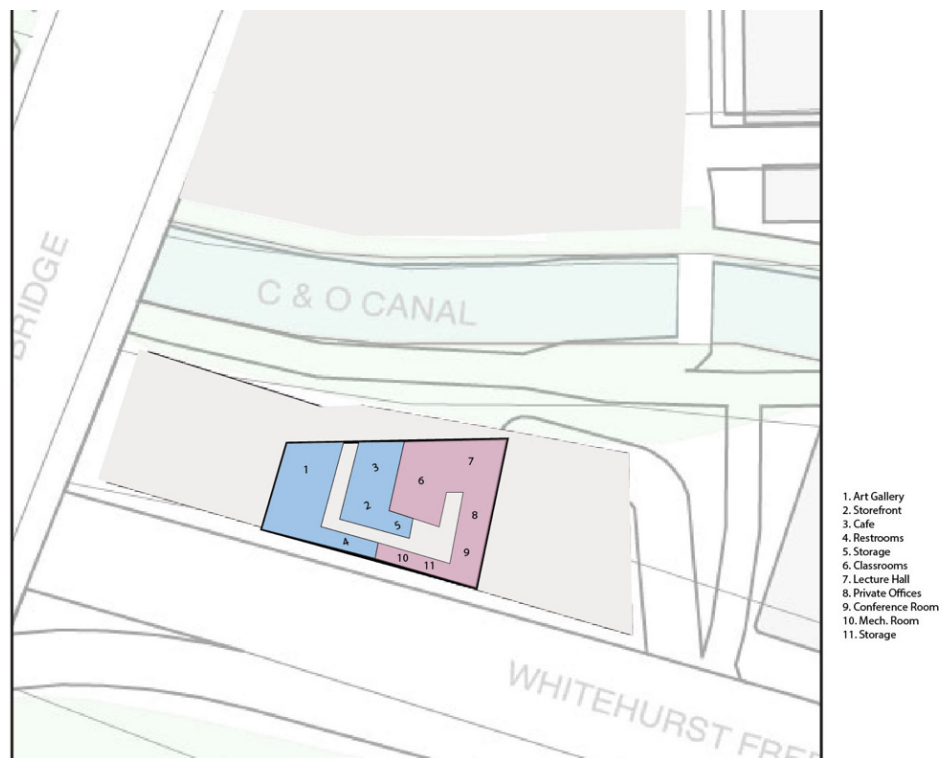


Figure 69 - Scheme 2, Floor Plan Level 1 (Source: Author)

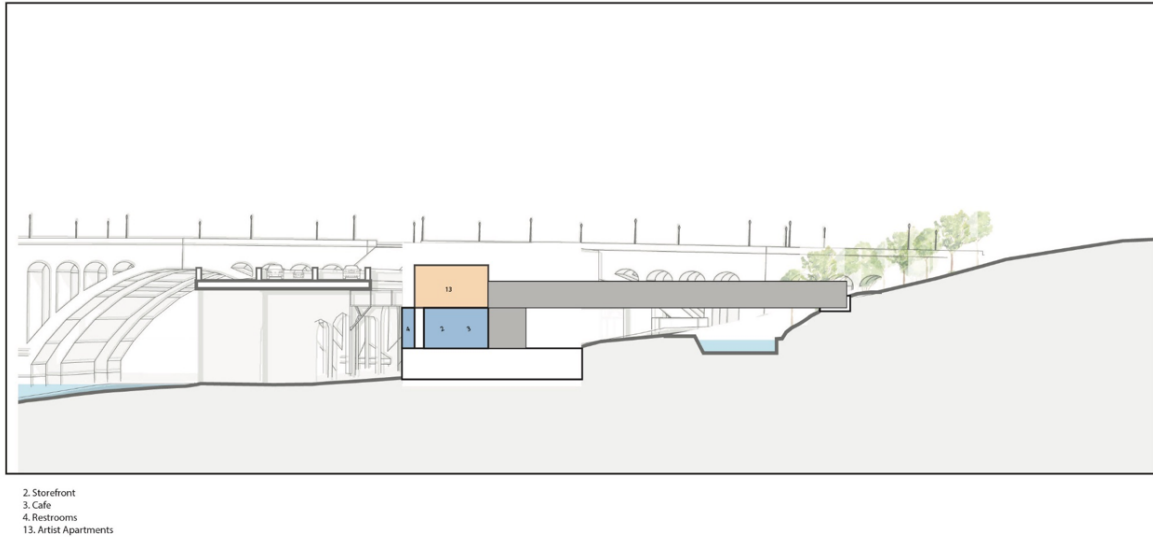


Figure 70 - Scheme 2 Section (Source: Author)

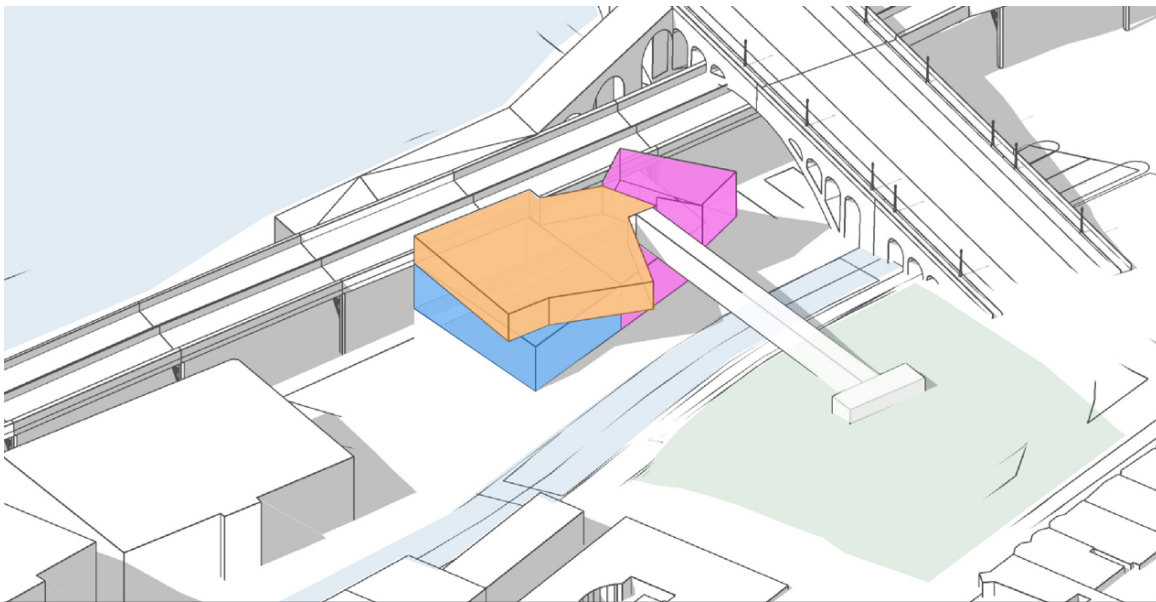


Figure 71 - Scheme 2 Massing on Site (Source: Author)

The movements of misaligning blocks are present throughout the building form. Just as in the first scheme, public programming was placed on the first level, and the private programming on the second. The black stripe in *White Center* takes the form of a long glass box that stretches across the Canal and connects to the Francis Scott Key Memorial Park. This bridge is highly visible and will act as a linear art gallery.

Massing Scheme 3: Piet Mondrian

The third and final scheme explores the 1943 painting, *Broadway Boogie-Woogie* (Fig. 73), by the Dutch artist, Piet Mondrian. This scheme began by transforming the yellow city grid lines into an intersecting pattern of lines. Then, the two-dimensional lines were extruded to create three-dimensional forms of long, skinny cubes. Finally, the movement of weaving was introduced, staying true to the sense of movement and energy found in Mondrian's painting. This woven pattern was then centered around an open core, with a bridge connector.

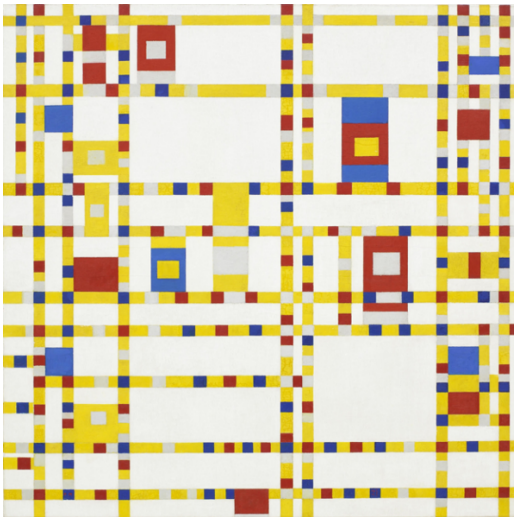


Figure 73 - "Broadway Boogie-Woogie" by Piet Mondrian

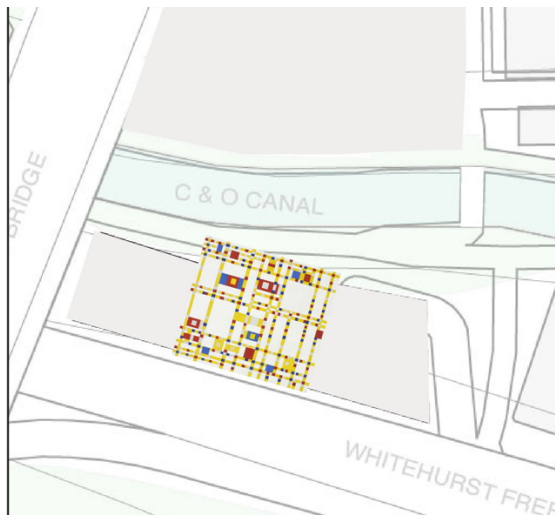


Figure 72 - Painting 3 on Site (Source: Author)

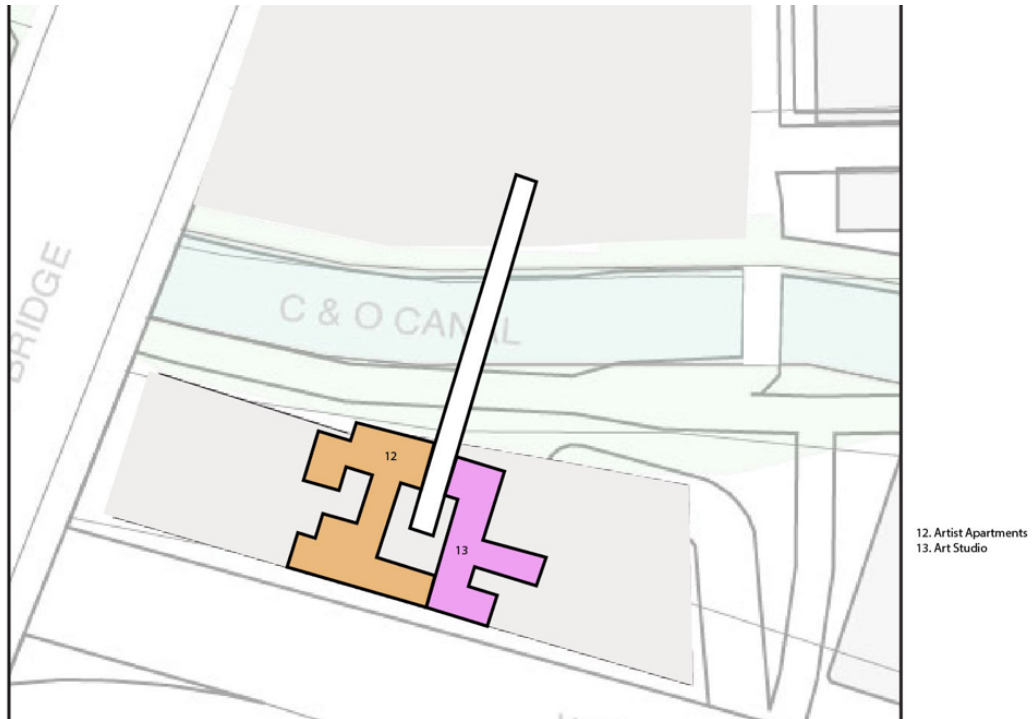


Figure 74 - Scheme 3, Floor Plan, Level 2 (Source: Author)

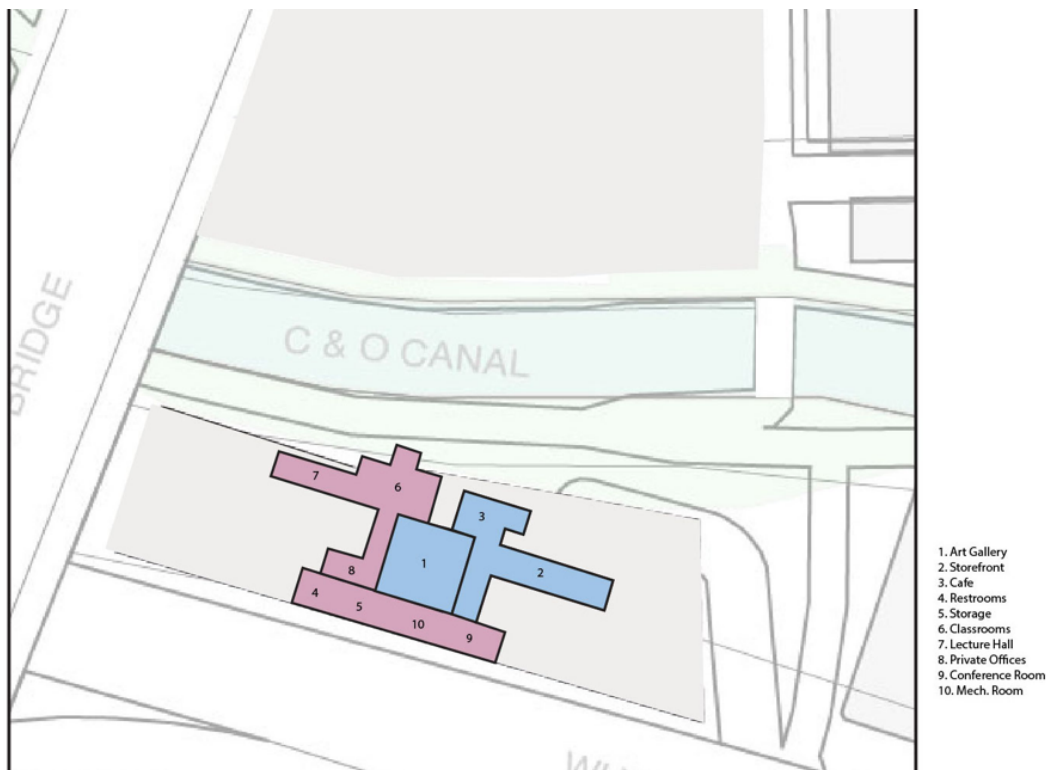


Figure 75 - Scheme 3, Floor Plan, Level 1 (Source: Author)

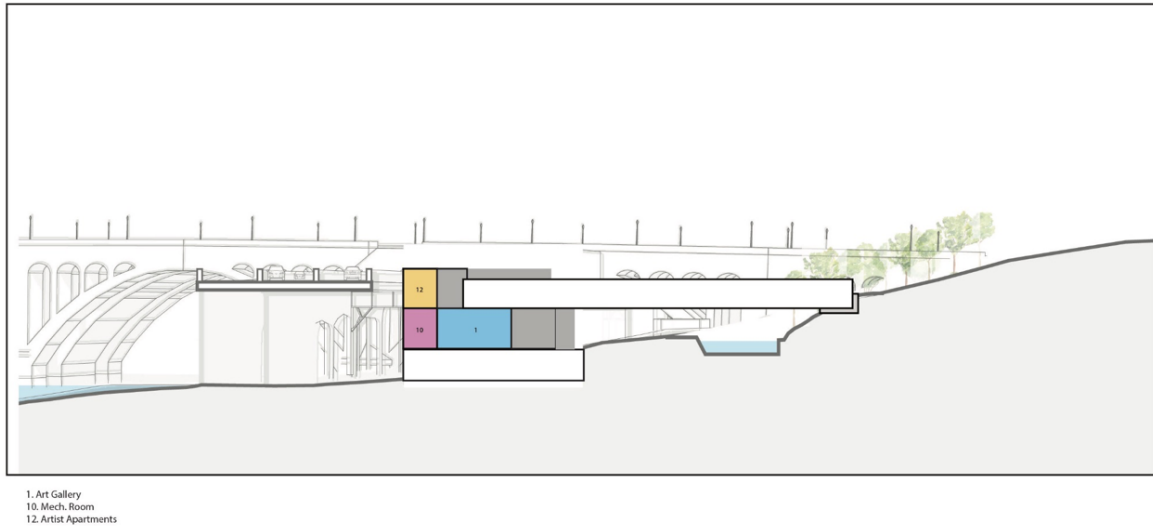


Figure 76 - Scheme 3 Section (Source: Author)

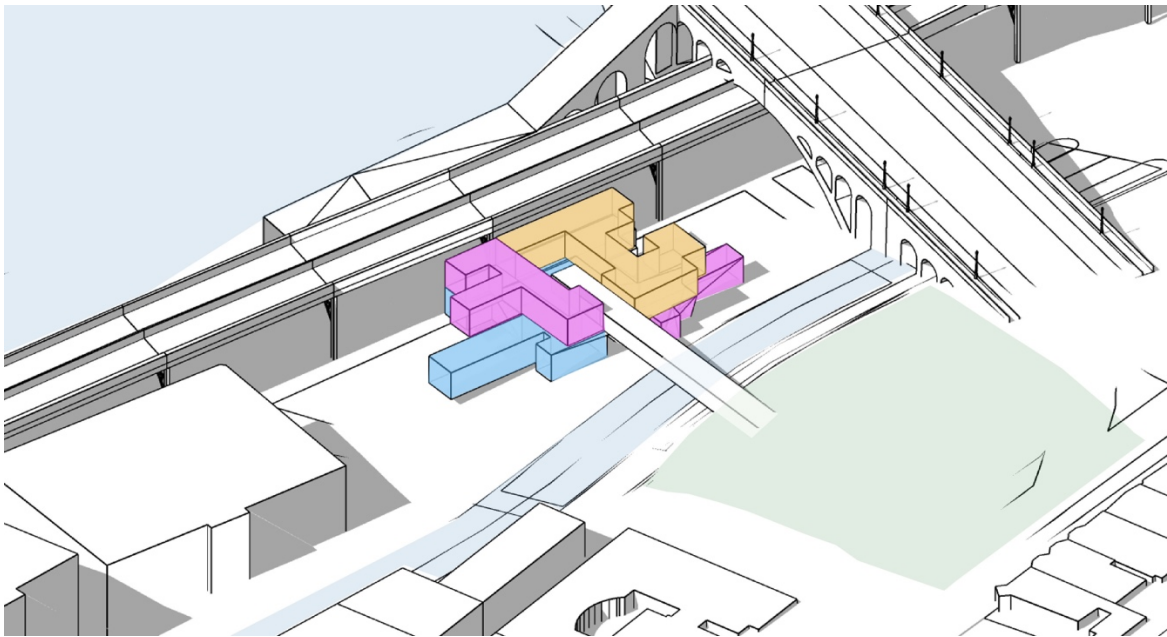


Figure 77 - Scheme 3 Massing on Site (Source: Author)

The movements weaving and overlapping are present throughout the building form, in both plan and section. Just as in the first two schemes, public programming was placed on the first level, and the private programming on the second. Similarly, the glass, bridge art gallery protrudes into a central outdoor courtyard on the second level.

Chapter 10: Design Solution – “Waterfall”

The compositions of paintings by abstract artists, such as Piet Mondrian and Mark Rothko, are commonly used as the inspiration for architectural parti designs. These paintings offer lessons on compositional scale, alignment, and layering that also apply to architecture. This thesis aims to broaden this reciprocal relationship between art and architecture by exploring the ways in which the abstract modernist painting techniques of the late work of Mark Rothko can affect the compositional form and viewer experience of a mixed-use artist residency in Georgetown, DC. The goal of this thesis is to explore how architecture can be designed as not only a place for art, but as art itself. Or, in this project specifically, to explore how a building can simulate the experience of viewing a Rothko painting.

This exploration can be further narrowed to the late works of Rothko because of his emphasis on the environment and architectural experience of his paintings. The geometric composition of Rothko’s late paintings was influenced by his early studies of the urban streetscape and geological strata. Rothko was also very particular about how his work was displayed - regulating architectural factors such as scale, lighting, location, and permanence. He preferred to show his paintings in low, natural light - in tall rooms - and away from other artists. They were also meant to be permanent installations. He became known for painting murals and designing compositions specifically to be hung in a certain space, like the Rothko Chapel.

One of Rothko’s most famous paintings, “White Center,” focuses on utilizing thin washes of color painted over a solid background and blurred, rounded edges to create an effect of luminosity and emotion. The paintings evoked a juxtaposing

experience of both serenity and strong emotion. That is the experience this building aspires to evoke as well.

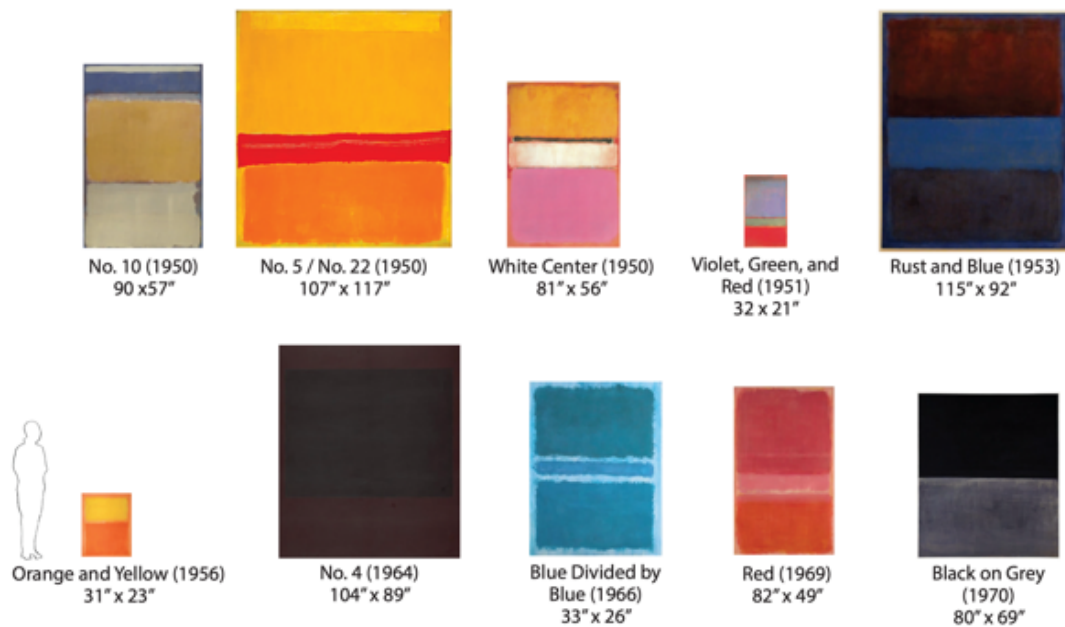


Figure 78 – Rothko Catalog (Source: Author)

These selected ten of Rothko's paintings to be the focal point of this project, based on their small differences, including variations in color, texture, negative space, and more, organized here chronologically.

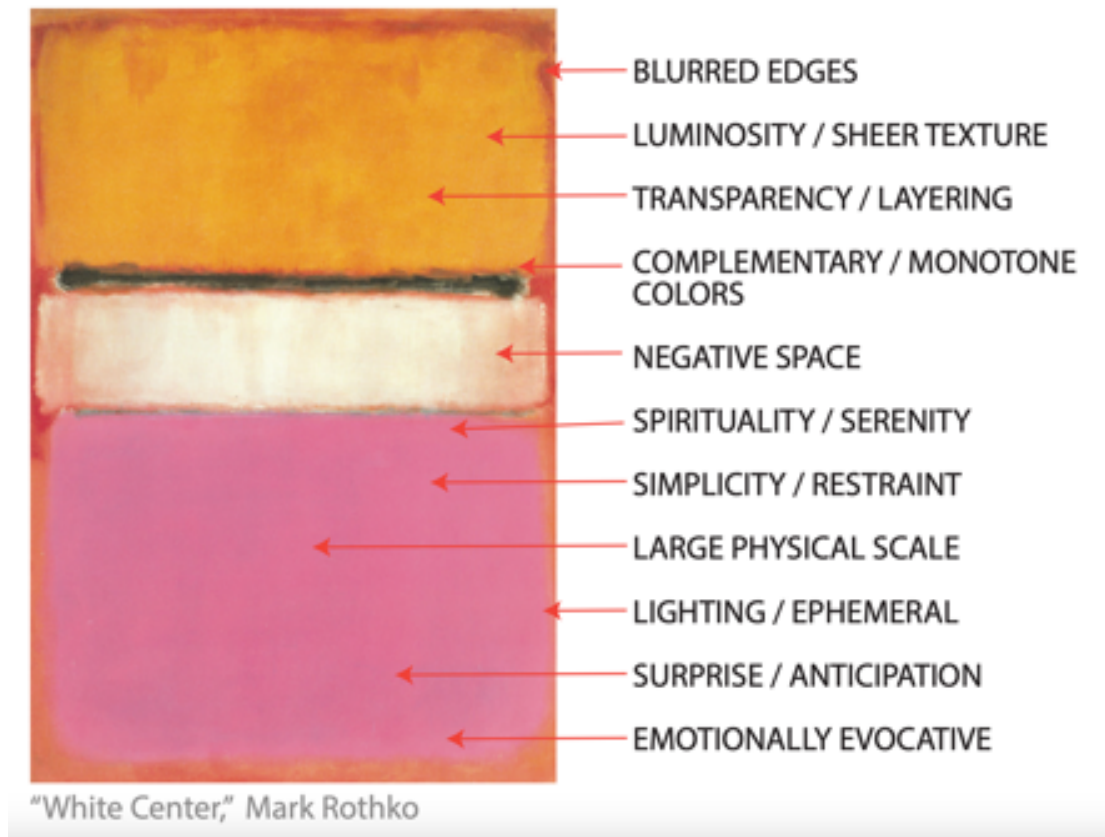


Figure 79 – Rothko Key Elements (Source: Author)

After doing a detailed analysis of each of these ten paintings, these 11 commonalities in both his technique and the effect on the visitor experience were identified. The common elements of a Rothko painting include blurred edges, luminosity, layering, complementary colors, negative space, serenity, simplicity, dramatic scale, lighting, surprise, and emotion. This thesis aims to take these ideas and apply them architecturally through an emphasis on the visitor experience - making the visitor experience of the building the same as the viewer experience of a Rothko painting.

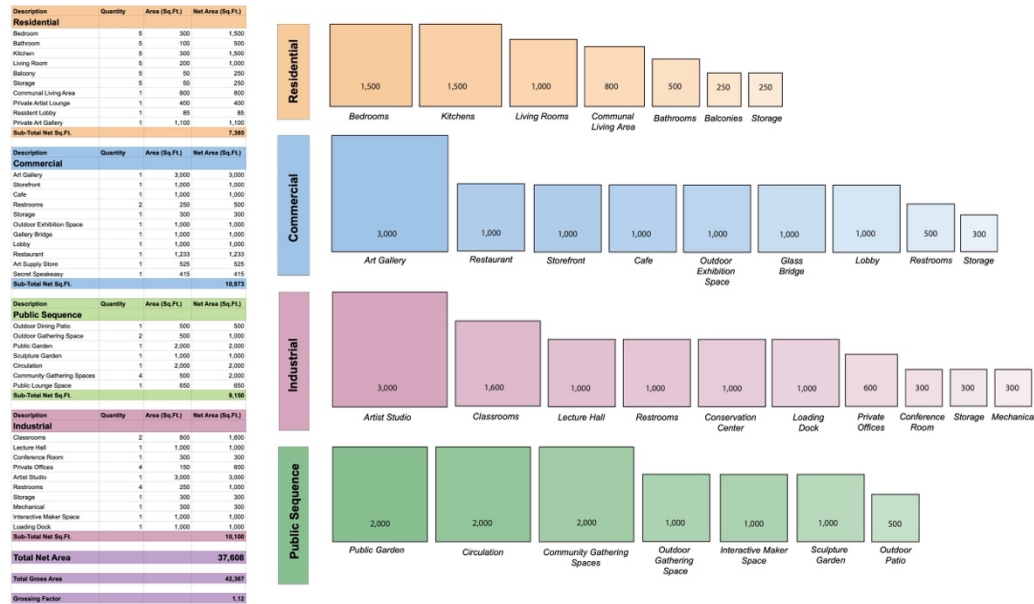


Figure 80 – Final Building Program (Source: Author)

A primary goal of this project is to provide support for fine artists to pursue their dreams of being a professional artist without any financial pressures. The public-facing part of the building aims to draw in as many people as possible - whether its shoppers on M St., students from the nearby schools, or just people looking to support local artists. Addressing this profile and the opportunities of the site, the primary program of my building will include a public storefront and art galleries, cafe, a private artist studio, small classrooms, and numerous private apartments for a residency program of fine artists, as well as a series of public gathering spaces, both indoors and outdoors. The building totals around 37,000 square feet.

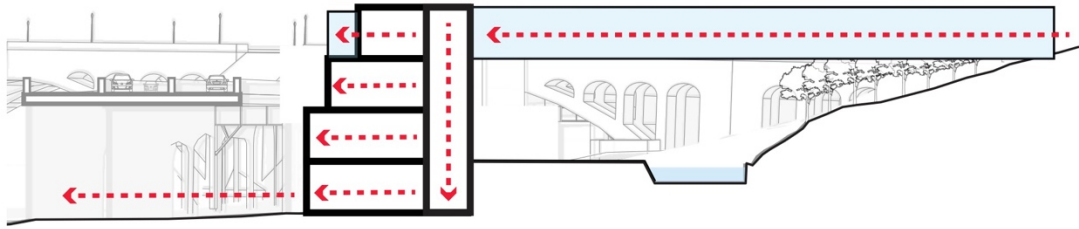


Figure 81 – Descending Promenade (Source: Author)

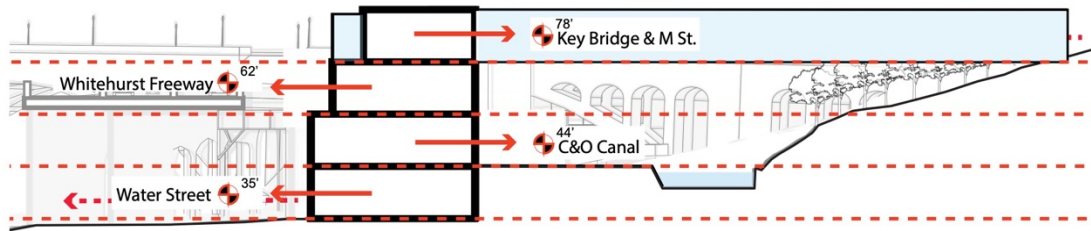


Figure 82 – Sectional Alignment (Source: Author)

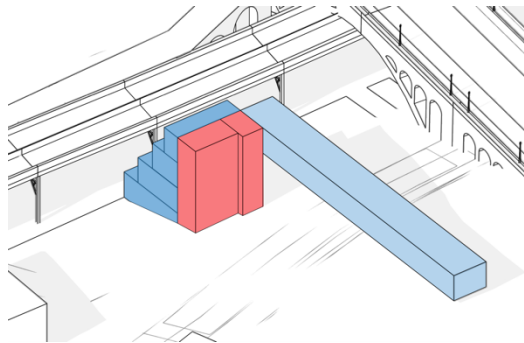


Figure 83 – Public Sequence Axon (Source: Author)

The big idea behind this project's parti is using a blocking sequence in section to create a path from M street to the waterfront through a descending promenade. A strong vertical core is another key aspect of this parti. This axon diagram shows how the stepping movement of the public sequence core inspired the “Waterfall” metaphor, imagining how water would naturally flow through the bridge and down to the main lobby.

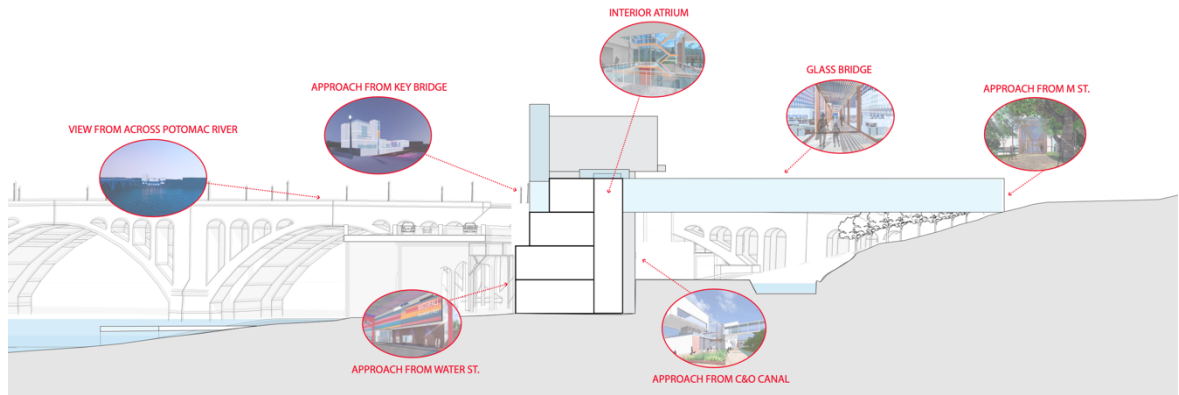


Figure 84 – Key Moments (Source: Author)

Some of the moments that were important to include in the design, based on both the site and Rothko analysis include a sculpture garden, artists apartments, a glass bridge, outdoor cafe, and a descending public promenade.



Figure 85 – Context Plan (Source: Author)

The building is named “Waterfall” because the flow of water in a waterfall is a good metaphor for the circulation through this project, blending the dynamism of the site with the serene experience of a Rothko painting. This design includes a clear promenade from M St. to the Potomac waterfront, with curated moments of speed and stillness. The design also takes advantage of the steep slope and features this dramatic glass bridge. There's also a series of smaller glass bridges connecting the three cantilevered volumes.

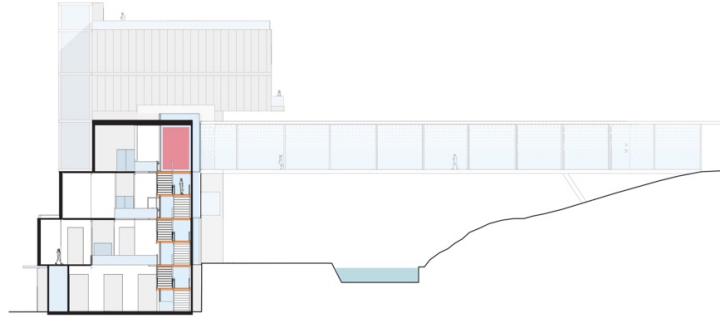


Figure 86 – Transverse Section (Source: Author)



Figure 87 – Longitudinal Section (Source: Author)

The above drawings show that movement in section as well, with program getting bigger throughout the descent. A four-story atrium acts as the core of the building.

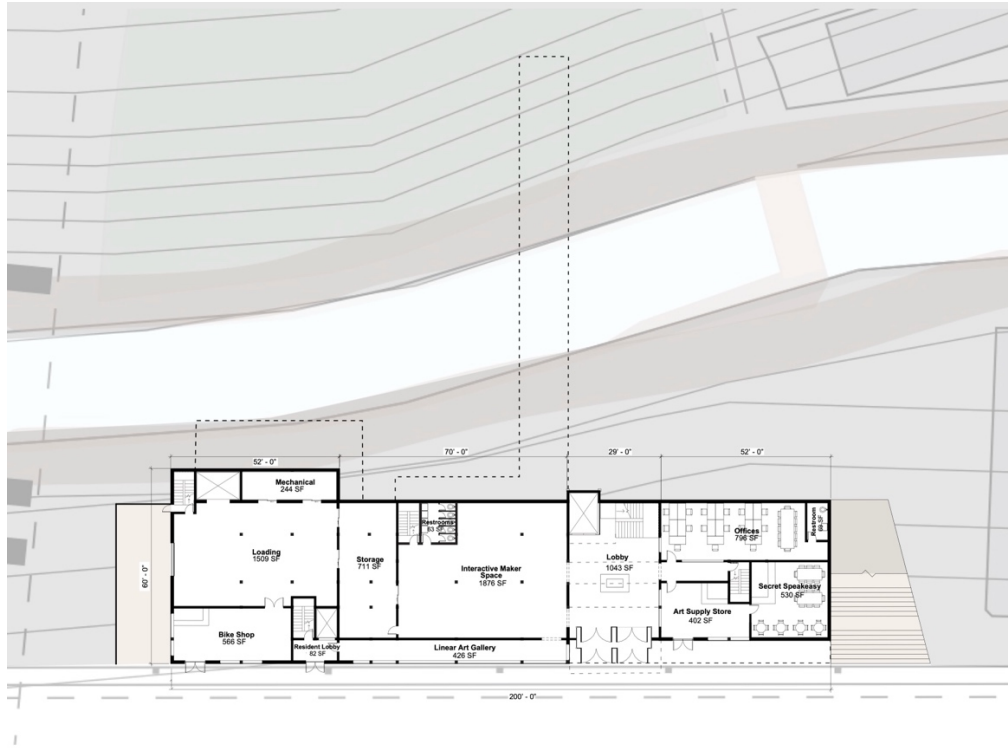


Figure 88 – Level 1 Plan (Water St.) (Source: Author)

A visitor enters from Water St. into the lobby, then moves straight back to this large glass elevator and grand staircase that acts as the vertical circulation core throughout the entire building. There is some commercial programming like a bike shop at the West corner to address the bike path coming from that direction. There is an artist supply store at the East corner with a secret speakeasy hidden in the back to further draw in the community. There's also a large, interactive maker space for visitors to make their own art, that might have curated daily crafts organized by the artists-in-residence. There is also this grand exterior staircase that acts as a community gathering space.

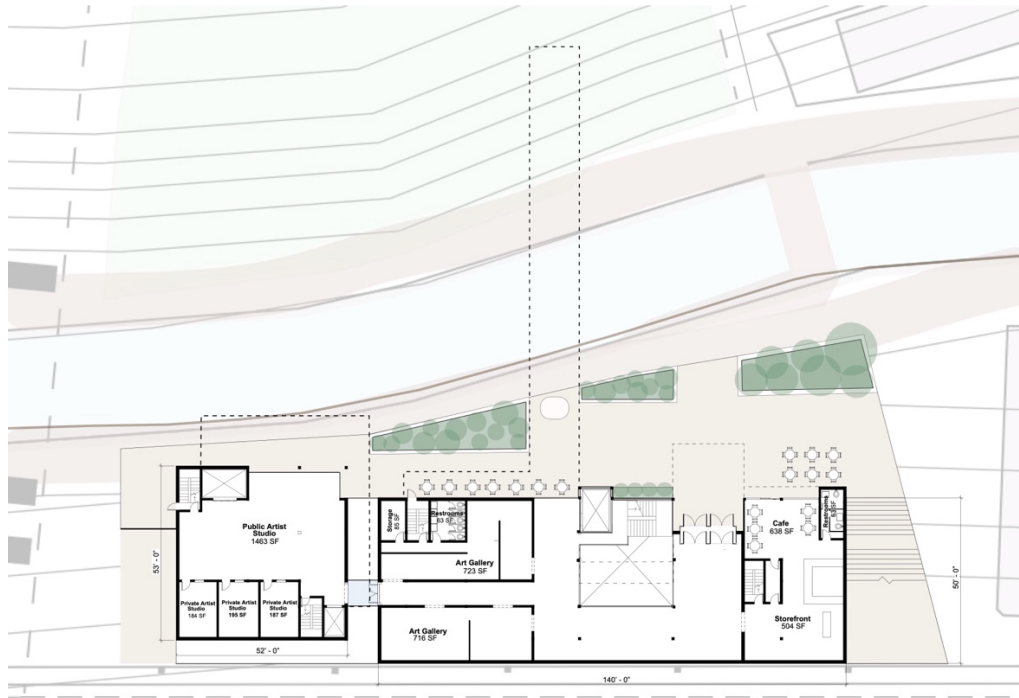


Figure 89 – Level 2 Plan (C&O Canal) (Source: Author)

There is mostly commercial and institutional programming on the 2nd floor, like public art galleries, a storefront, cafe, outdoor courtyard area, and an artist studio that is visible from outside the building as well.

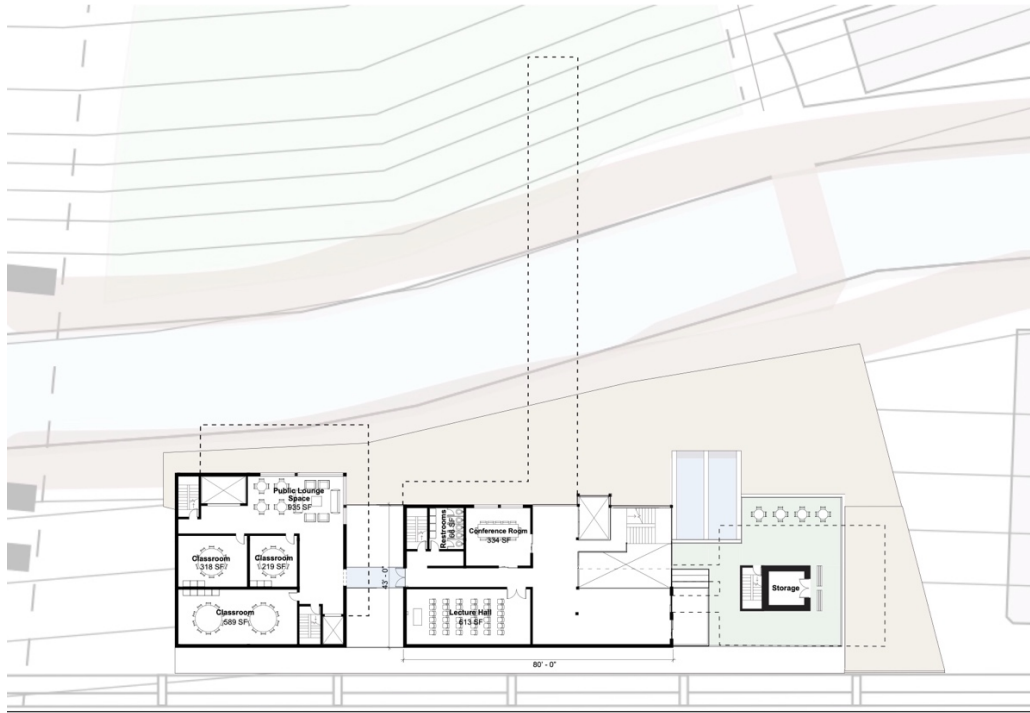


Figure 90 – Level 3 Plan (Whitehurst Freeway) (Source: Author)

Level 3 is more art gallery space, a conference room, lecture hall, and an accessible green roof space.

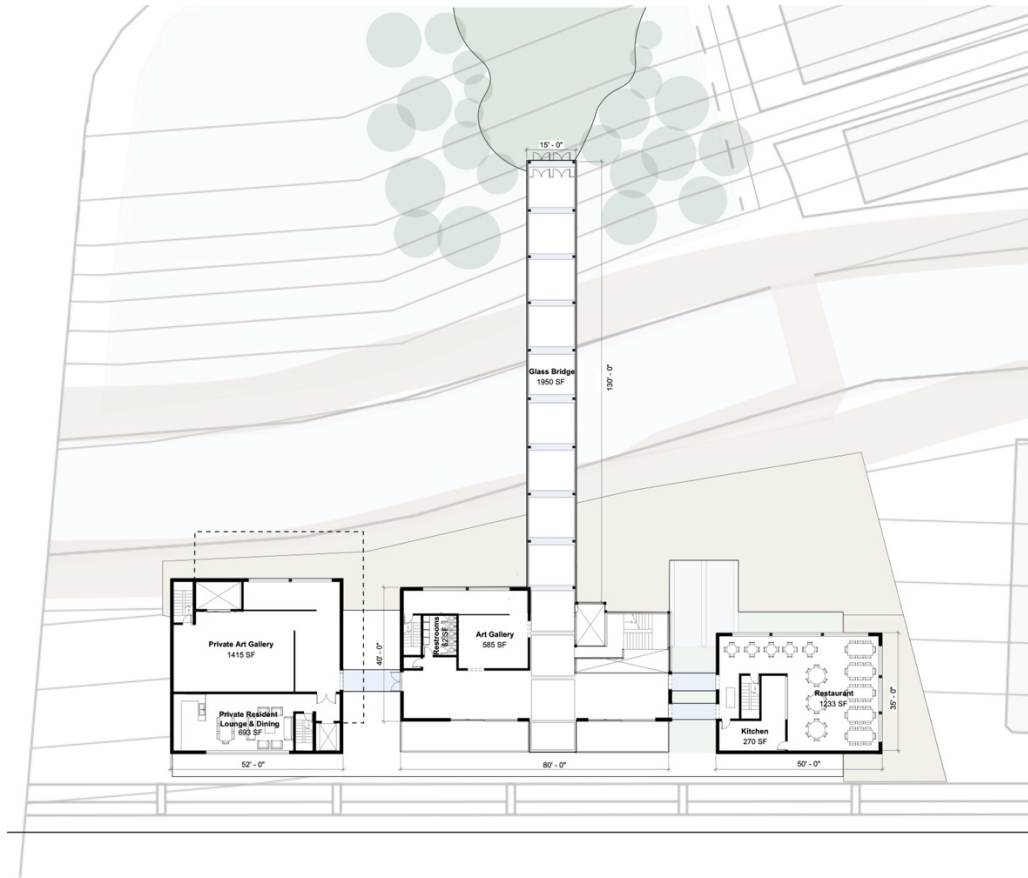


Figure 91 – Level 4 Plan (M St.) (Source: Author)

The 4th level is the top of the public sequence, with a long, entirely glass bridge that connects the building to M St. There's a series of smaller glass bridges that connect this public core to more private programming on either side. The entry sequence from M St. is somewhat tucked away inside an organic forest area, that then opens onto the bridge entrance.

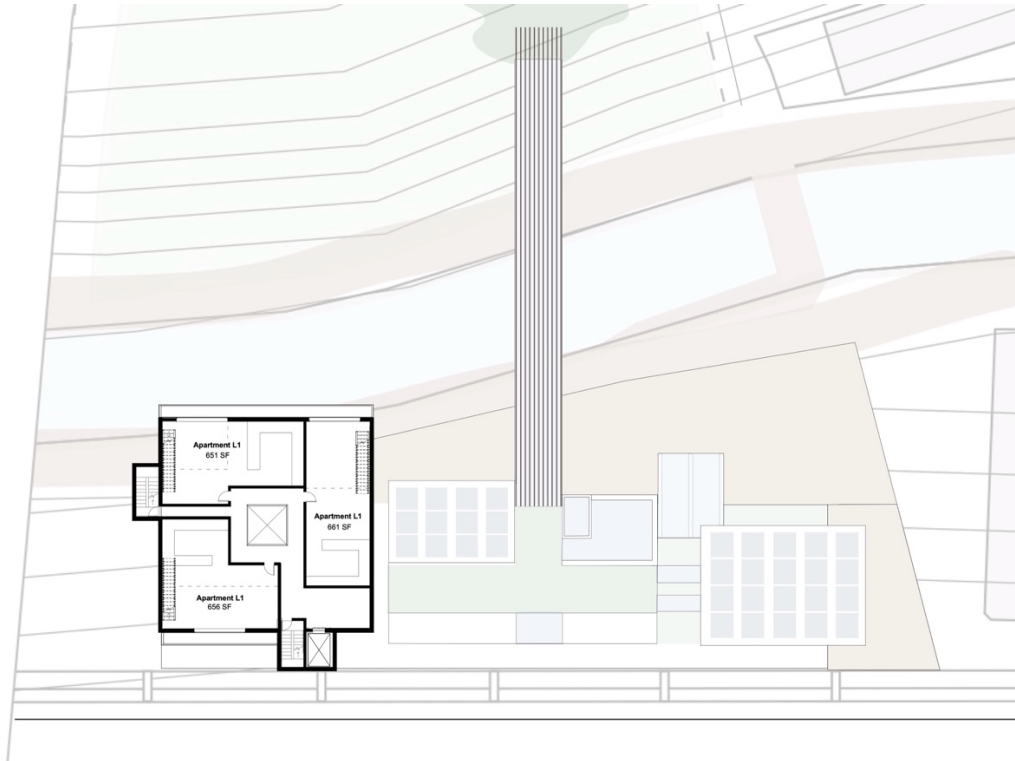


Figure 92 – Level 5 Plan (Source: Author)

Level 5 is the first entirely private level, which is the first level of apartments for the three artists-in-residence. They are organized around a central atrium as well.

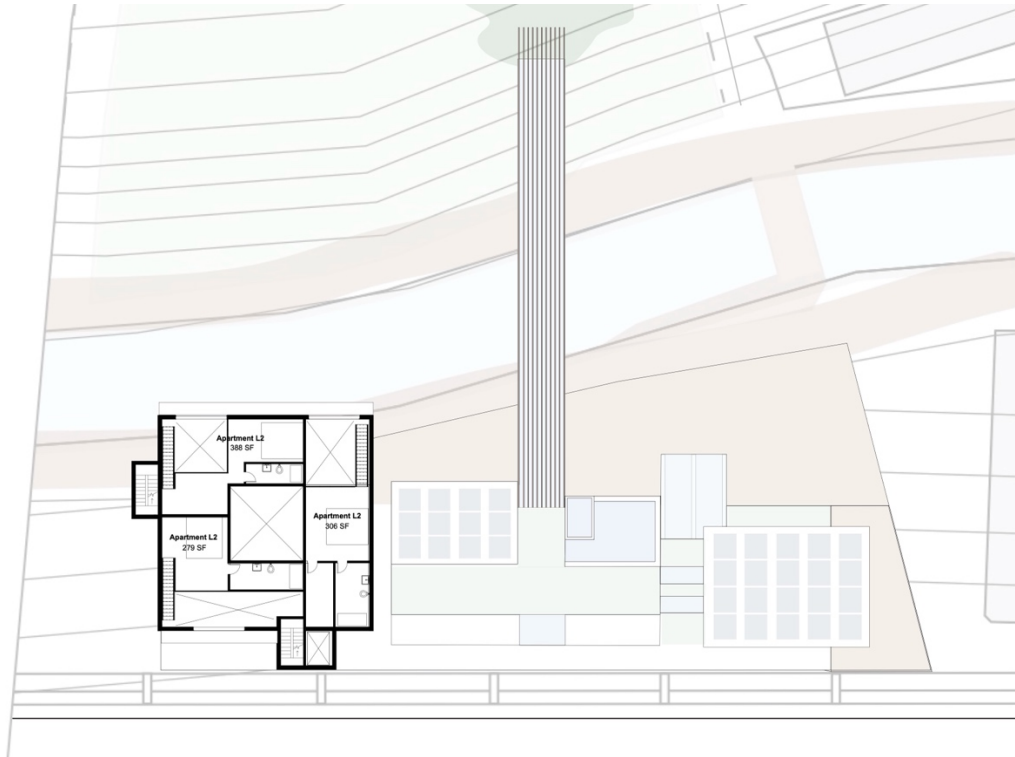


Figure 93 – Level 6 Plan (Source: Author)

Each apartment is two levels with access to their own private balconies.

Finally, the roof is a private, accessible, green roof for the residents, as well as solar panel arrays on the flat roof surfaces.



Figure 94 – Materials Palette (Source: Author)

The material palette blends the simplicity and modernity of Rothko with the history of the site. The building entrances and more commercial programming are clad with a terracotta brick and bronze mullions to mirror the language of the traditional Georgetown style. The building is a milky glass material for most of the volumes, meant to have very high luminosity. The atrium and bridge are made of a PV, low “E” glass. The bridge has a special, semi-opaque ceramic frit pattern to minimize solar heat gain.

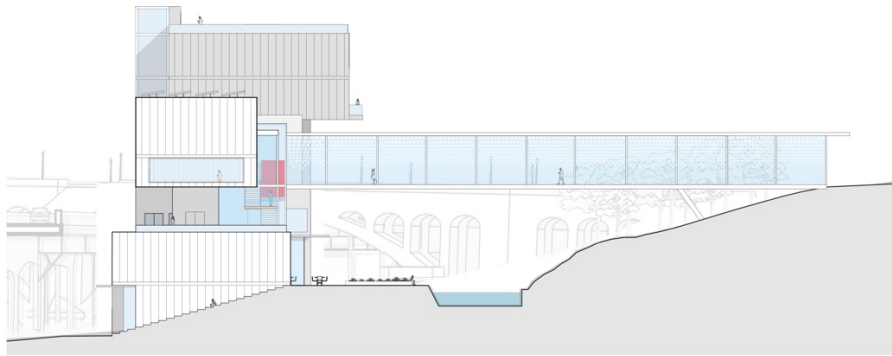


Figure 95 – East Elevation (Source: Author)

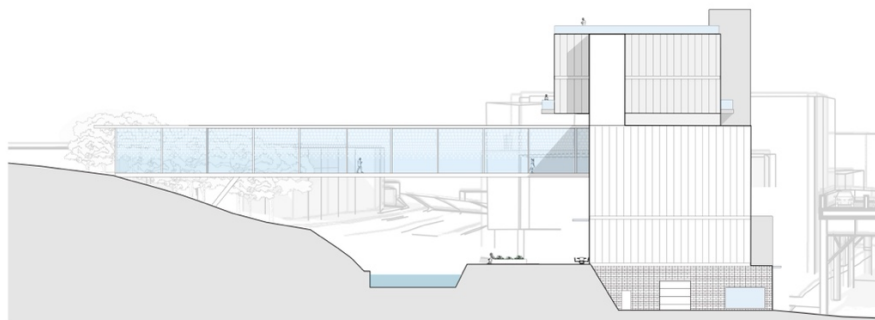


Figure 96 – West Elevation (Source: Author)

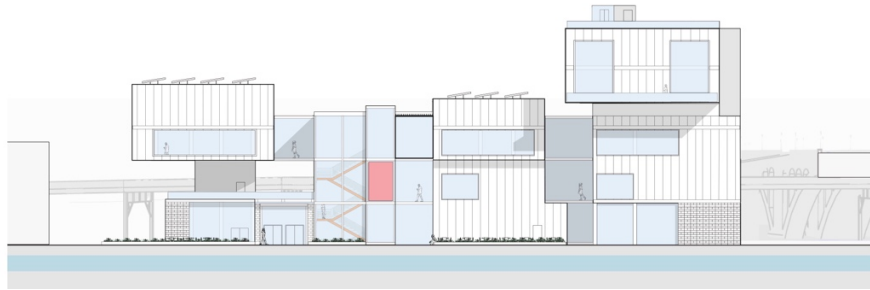


Figure 97 – North Elevation (Source: Author)

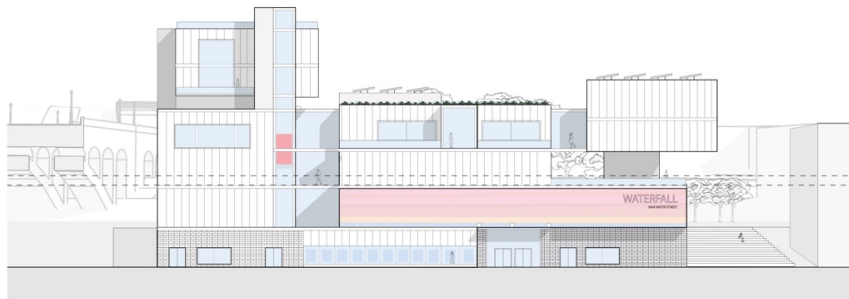


Figure 98 – South Elevation (Source: Author)

The above elevations depict the general application of these materials and some mullion patterns in these elevations, as well as the key visibility of the vertical circulation core. The public elevator and staircase are painted in bright red and orange colors.

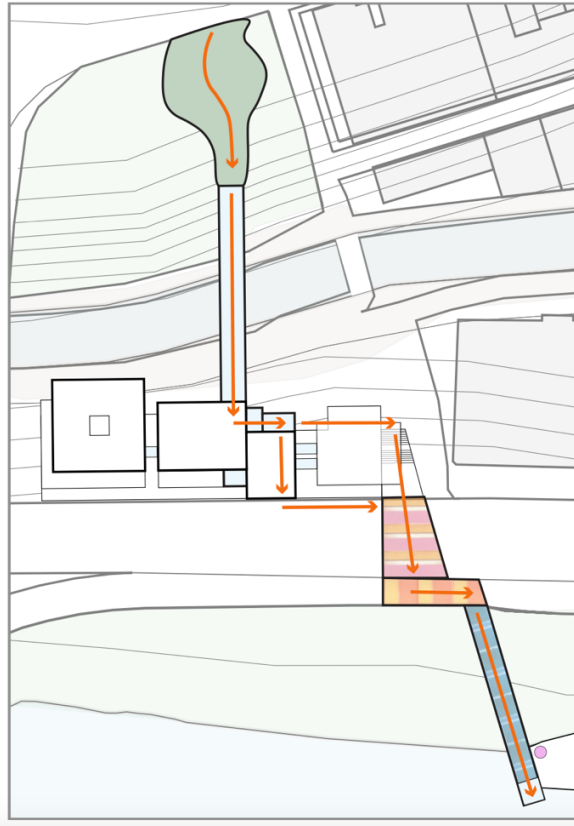


Figure 99 – Public Promenade Sequence Diagram (Source: Author)

This diagram shows the key public sequence moments through the site in plan and extends past Water St. all the way to the Waterfront. The sequence starts with the M St. Forest, then the Glass Bridge, the Interior Atrium, the Grand exterior staircase, Whitehurst Underpass, Painted/LED sidewalks, and a glass-bottom dock. The promenade then continues that gesture through various manipulations of the ground and ceiling planes that culminate in a glass-bottom dock, which acts as a suggested continuation of the glass bridge. An LED screen or a moving art installation will be projected underneath the Whitehurst freeway. A large sculptural element that is also functional will be placed at the waterfront edge. The public sequence will end in a glass-bottom dock extending past the waterfront line, which is again a moment of juxtaposed surprise and serenity.



Figure 100 – Water St. Entrance (Source: Author)

The Water St. entrance is flush with the street line, except for one large setback and glass vestibule to distinguish the lobby entrance. The large LED screen will advertise any of the building's art exhibitions or community events. There's also a linear art gallery that puts art on immediate display to passersby. The freeway structural elements are highlighted by a red paint, and blue LED light strips, as well as the moving art display projected on the underpass. These elements tie back to Rothko because of the large, solid planes, use of color. The setback of the entrance implies a blurred edge and negative space.



Figure 101 – M St. Entrance (Source: Author)

The entrance to the glass bridge is a meditative, serene walk through a dense forest that arrives at the entrance to the glass bridge, which then opens into a dramatic, almost adrenaline-inducing experience of walking through the glass bridge. This ties back to Rothko through a dramatic juxtaposition of scale, which creates a sense of anticipation, as well as the blurred edges and transparency of the glass material.



Figure 102 – Inside Glass Bridge (Source: Author)

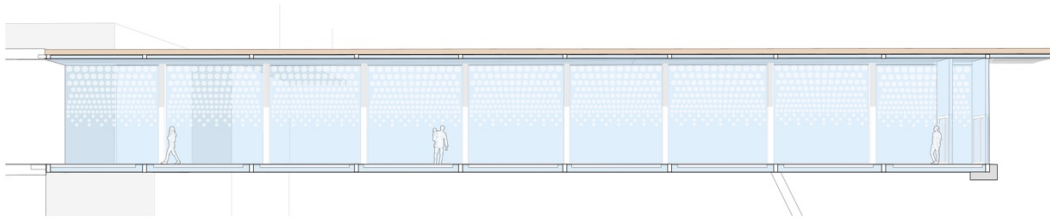


Figure 103 – Vierendeel Truss System (Source: Author)

So being inside the glass bridge is meant to be a moment of surprise in juxtaposition to the serene, forested entrance, an idea of compression and expansion. This ties back to Rothko's elements of transparency, luminosity, blurred edges and surprise.

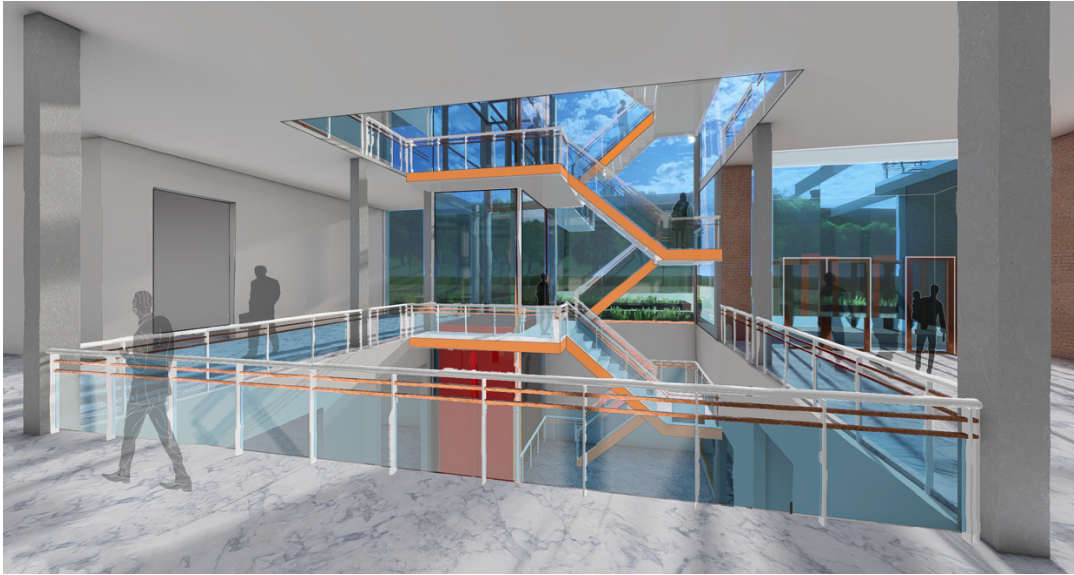


Figure 104 – Interior Atrium (Source: Author)

Glass elevator and connecting stair are the focal point with great views out to nature. The stepping movement of the atrium reflects Rothko's elements of layering and blurred edges. The scale of the atrium creates a moment of surprise.



Figure 105 – C&O Canal Approach (Source: Author)

The C&O Canal entrance is meant to be a moment of blurred edges by blending nature into the building and creates a peaceful outdoor oasis through an outdoor café, patio area. The distinct building volumes juxtapose moments of negative space.



Figure 106 – View from Key Bridge (Source: Author)

This view from the Key Bridge towards the sculpture garden at night is meant to maximize public views to the art. There are various moments of colored lights - such as the orange elevator core and pink and blue LED lights, framing the bridge and cantilevered volumes. This highlights the luminous materiality of the building at night, reflecting how Rothko artworks change dramatically with different levels of daylight.



Figure 107 – View from across Potomac River (Source: Author)

This view, again, shows the luminosity - and acts as a glowing beacon from across the Potomac River. It is also an instance of dramatic scale against the flat Georgetown skyline, like how Rothko liked to display his work.

In conclusion, the goal of this thesis is to explore how the composition, technique, and experience of a Mark Rothko painting can transform the built environment from just a place for art, to art itself.

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