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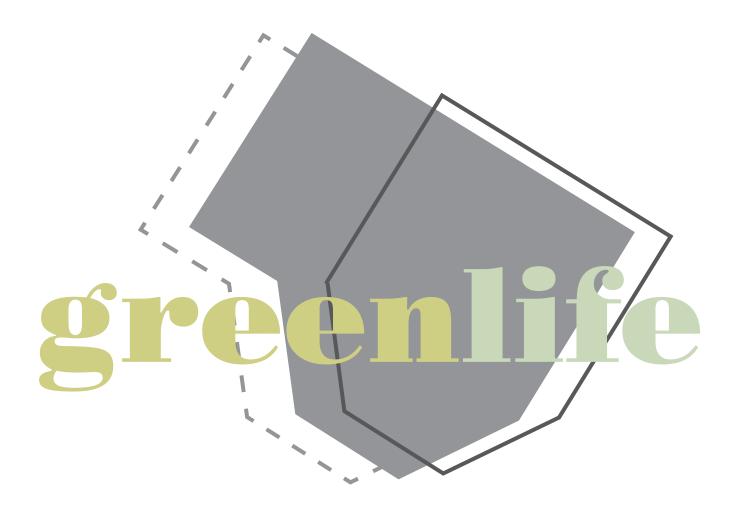
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Greenlife: A Sustainable Retail Space

1509 W. Main Street Richmond, VA

Veronica Ledford

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2008

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GreenLife: A Sustainable Retail Space

A thesis submitted in partial fufillment of the requirements for the degree of Master of Fine Arts in Design; Interior Environments at Virginia Commonwealth University

by

Veronica J. Ledford

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Associate Professor, Department of Interior Design

Virginia Commonwealth University Richmond, Virginia May, 2008

acknowledgements

I would like to thank my family, especially Robert and Ione Trench for making this possible, my classmates, for their wit, intelligence and camaraderie and Curtis D. Brown, II for his love and support. In addition, I would like to thank the faculty of the Department of Interior Design for their patience and expertise. Without it, a new start could not have happened.

abstract

GreenLife is the name of the retail interior design project that embodies this thesis. Using interior design as a medium to influence customers, I sought to create an environment that promotes a connection to nature and an awareness of creative possibilities within the context of a store. It addresses the problem of personal social responsibility by using shopping, a dominant activity in the western world, as a tool for change. As a project, GreenLife attempts to answer three questions: How does design inform cultural experience? How can a connection with nature inform consumerism? Can a store transcend its purpose from filling materialistic needs to become a place of fulfilment? I theorize that if offered a desireable alternative to products that create excess waste and harm our surroundings, an individual will choose the green option, because it will satisfy both a materialistic want and an emotional desire to feel good by personally contributing to help our environment. If these options are presented with a sense of beauty, fun and exploration, it can change how we culturally perceive social responsibility, removing guilt and making it a matter of course. GreenLife is a store designed as a model home with all products set up in a testable format. The interactive nature of the design is intended to provide education and a sense of security within a pleasureable experience, allowing people to confidently choose to live green in their own homes, and to thoughtfully consider the possibilities in other aspects of their lives.

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introduction

I believe that design has the ability to connect human beings to the best parts of themselves. Good design produces feelings of love, intelligence and satisfaction; it can create endless potential and open unknown avenues viscerally, analytically, physically. Design elevates the human mind; it enables creativity. Good design allows people to help each other; to understand a reality larger than daily cares and to subscribe to a better future.

Design is perpetual. It builds upon itself; each accomplishment allows for the next. Everything designed has a purpose, with each solution serving to inspire a better outcome.

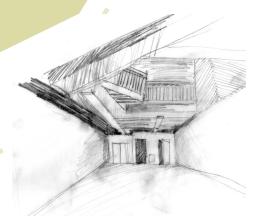
As a retail space, my thesis tackles the prospect of creating a cultural experience within a retail environment through sustainable design. Called GreenLife, the site is organized by a central atrium that runs through all three floors. It is designed as a sustainible space, with low energy usage and employing only reclaimed or sustainable materials in the design. It is a retail lifestyle store, that interactively educates customers on living green, all of the products displayed and for sale can be tested, so that it removes intimidiation in the customer. The store is divided into three floors and is organized like a model home. The first floor is for education, with a living library, an education area, and a dining area. The second floor tackles kitchen area and a design materials resource center. and the third addresses bedroom areas for adults and children within a home.

All furniture and products are sustainable and responsibly manufactured.

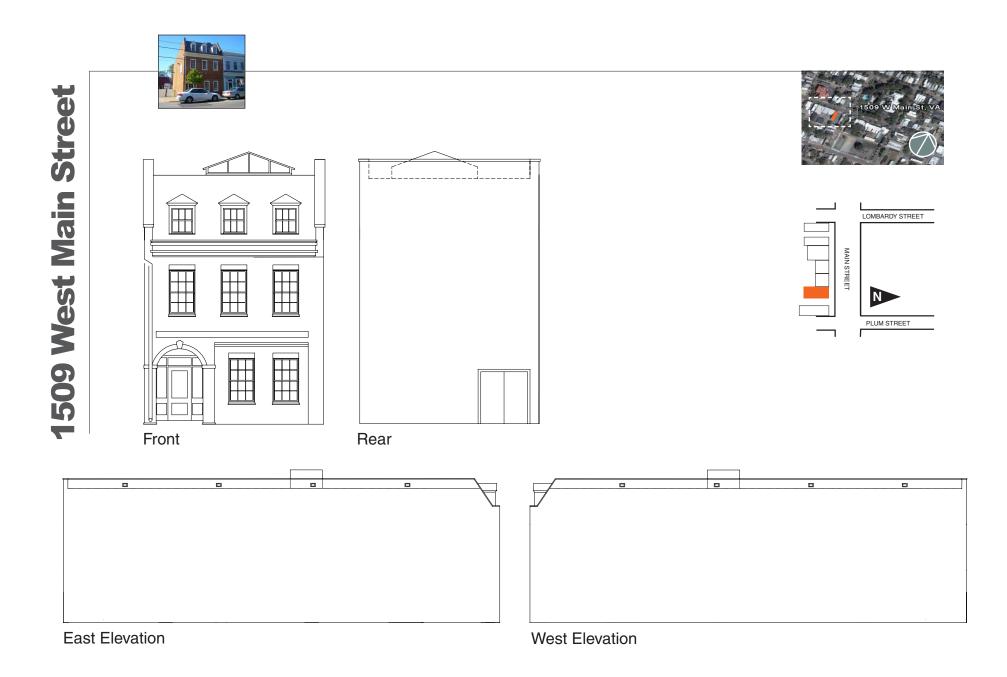
How does design inform cultural experience?

How can a connection with nature inform consumerism?

Can a store transcend its purpose from filling materialistic needs to become a place of fulfilment?



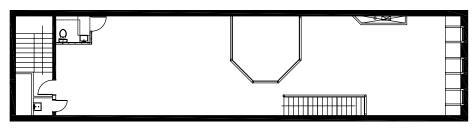




Site Overview

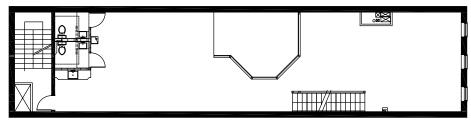
6,188 sq. ft.

The building is located in a densely populated urban area known as the Fan District in Richmond, Virginia. Built in 1984, its was designed to house a popular health club. The structure is styled as a row house with a pseudo georgian-colonial facade. Presumably, the design was meant to respond to the adjacent commercial buildings, most of which were built in the 1880's, also in the row style. The front, back and east sides of the building are faced with brick. The west side faces the adjoining building and is a combination of brick and concrete masonry units. There is a parking lot on the east side of the building that separates it from its nearest neighbor. The defining feature of the interior space is the central atrium, spanning three floors and naturally lit with a large skylight on the roof. The means of egress are provided by a central staircase and a separate set of fire stairs at the rear of the building.

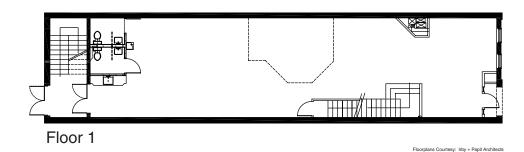


Floor 3



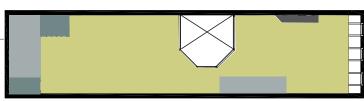


Floor 2



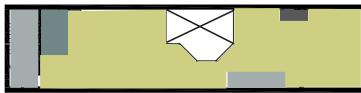
Site Analysis





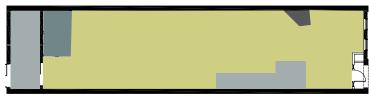
THIRD FLOOR 2,018 G.S.F.

	sq.ft.	sq.ft.	
	1108	55%	
	52	3%	
	161	8%	
	20	1%	



SECOND FLOOR 1,985 G.S.F.

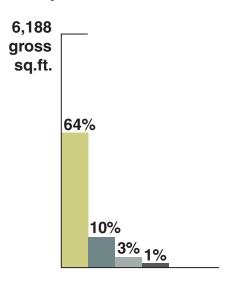
sq.ft.	
1359	68%
84	4%
214	11%
19	1%

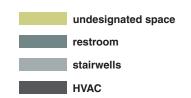


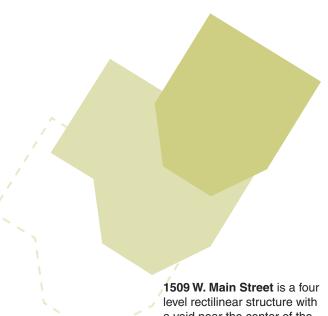
FIRST FLOOR 2,185 G.S.F.

 sq.ft.	
1520	69%
84	3%
264	12%
19	.8%

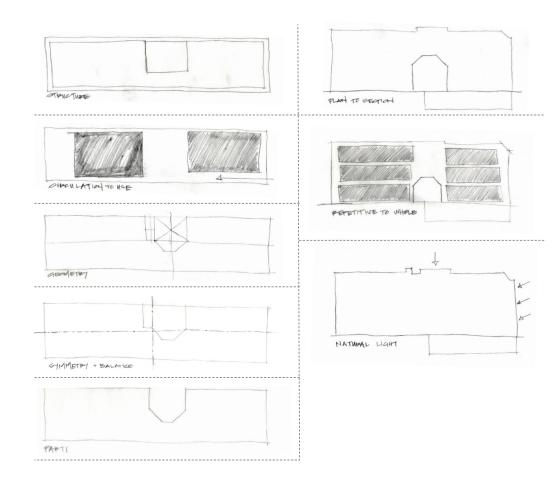
Total Space Allocation







a void near the center of the top two floors. There are three floors above street level and a basement/storage space. It can be bisected in both directions with almost equal division of space. Its circulation is dependent on a central stairway that connects all three floors, and a second fire stairway at the rear of the building. Circulation takes place around the atrium opening on the second and third floors. There are no structural columns and as a result of a late 2007 renovation and no wall partitions, creating a blank canvas. The main source of natural light comes from the skylight on the roof, and filters down to each floor through the atrium. There are eight small windows on the north side of the building providing small amounts of ambient light.





Architect: Yutaka Saito

Tokyo, Japan





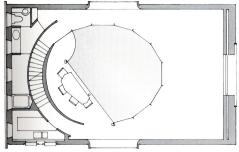
Photos: H. Kohyam

Site Overview

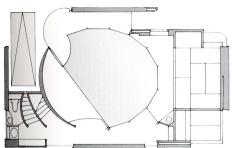
1,000 sq. ft.

Yutaka Saito is primarily known for his writings on other architects, including Luis Barragan and Carlo Scarpa. His writing is a major part of his process, and influences how he approaches architecture. Both a modernist and a traditionalist in terms of his own culture. Saito holds a firm belief in "truth in enclosure" and the mystique of encircled space. Hyakujitsukokyo is worthy of study because it shares similarities with 1509. The central glass atrium creates a void in which all paths of circulation must flow around. It is also the main channel of natural light for the space, and maintains a connection with nature while situated in an urban location. In addition, it has north-facing dormer windows that provide ambient light for the upper level. The connection with light at its central core forces individuals to interact with the void in space, offering a place to reflect and acknowledge an emotional response to nature. I hope to foster a similar program of interaction within the Main Street site.

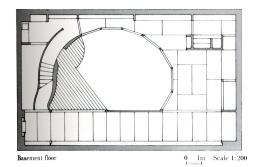


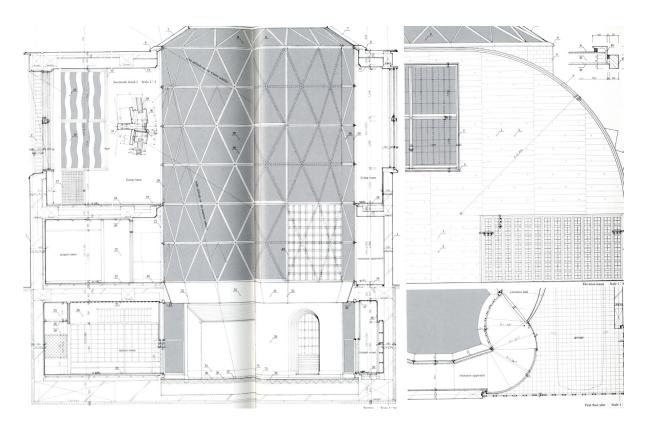


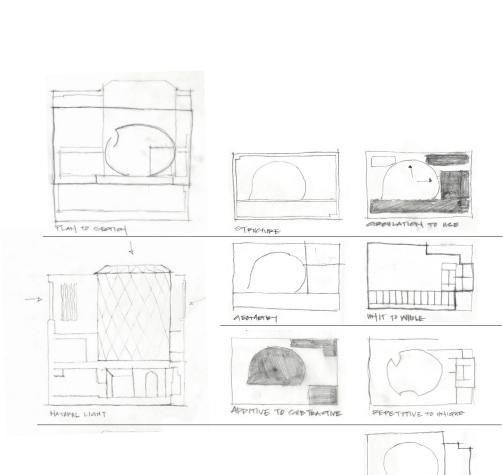
Second floor



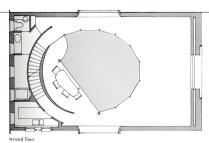
First floor

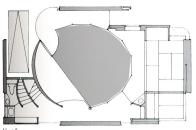


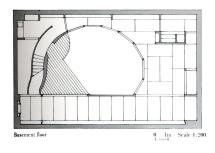




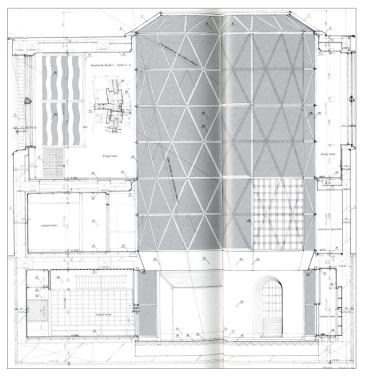
PARTI

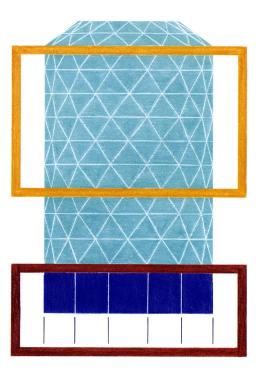






Drawings: Y. Saito





SECTION



Architect: Rem Koolhaas

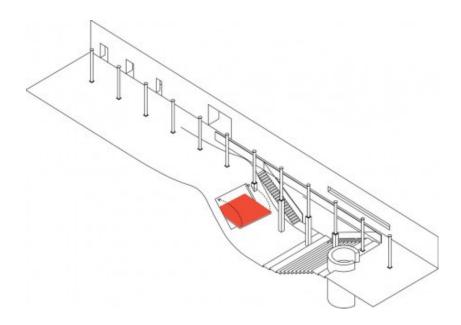
New York, New York







Images Courtesy: R. Koolhaas



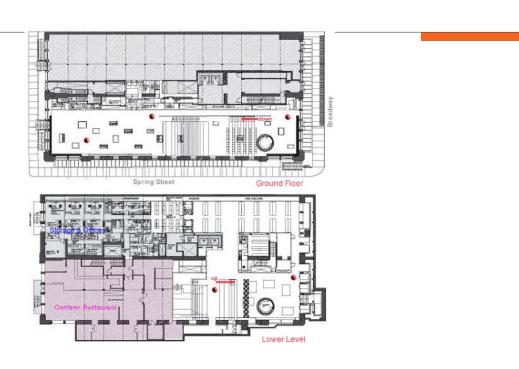
Site Overview

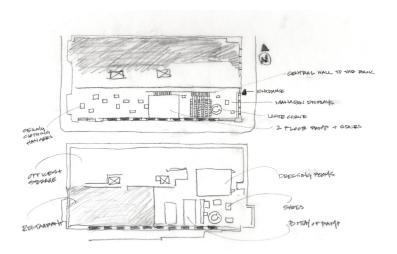
23,000 sq. ft.

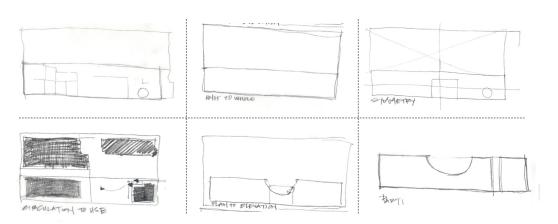
The Prada Soho store is located in the former downtown branch of Guggenheim Museum, on the corner of Broadway and Spring streets. It occupies the ground floor and a floor below street level. The defining feature of the space is "the big wave" a sine curve of zebrawood at the center that can open into a stage for performances. It bisects both levels, redefining space and physically creating a multi-layered approach to the store. Opposite the stage is a series of steps to "display shoes" that act as bleachers for the stage. Clothing is hung from module tracks mounted into the ceiling that can be pushed to different parts of the store and combined into "cities". The bones of the museum and even some of the signage was left intact to enhance the cultural experience. Koolhaas asks similar questions to mine. The Prada store is the product his questions—how can a store be a cultural experience and more importantly, how can the store create culture? In his design, the shoppers are on display as much as the products.

The store does not function as planned; it is an inefficient use of space and the innovative features are rarely used. Interestingly, it behaves like a museum, not a people-friendly place to shop. It most definitely challenges what a store can be, yet it is more of a tourist destination. It has created a very specific culture, and a cultural experience. It has defined the brand it serves as a leader in innovation. In this sense, it is a very successful project.

Site Analysis







Architects: Billie Tsien + Tod Williams

New York, New York











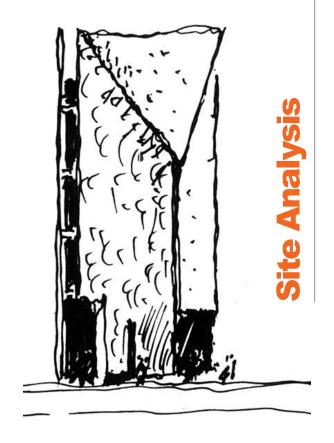
Photos Courtesy: American Folk Art Museum

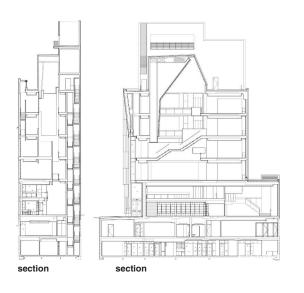


Site Overview

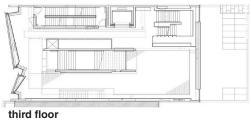
30,000 sq. ft.

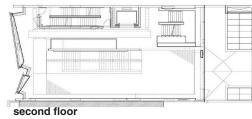
The American Folk Art museum opened in 2001. It has four floors and eight levels, seven of which are public. The building is the first cultural museum in Manhattan to be built from the ground up in the last forty years. Light filters into the galleries from the grand interior staircase, and a two-story atrium at the mezzanine. The building is meant to reflect a direct connection between the heart and the hand, and is an abstraction of an open palm. The building extends two levels underground, with one holding the auditorium and classroom facilities, and the lowest housing administrative offices and the library. Art was built into the structure and circulation paths through a series of niches. It is meant to convey a personal journey composed of surprise encounters through the use of diverse paths. The project makes a statement, and intends hold its own weight next to the MOMA.













first floor

Drawing: Tod Williams



Architects: Herzog & DeMeuron

Tokyo, Japan



Images Courtesy: Prada Foundation

Prada Aoyama Tokyo is a scientific program that asks what a store can be. The store itself constantly focuses on perception--viewing, showing, looking and exhibiting. It organizes itself as a giant shop window and a great importance is place on the perception of self within the larger context of the world. Herzog and de Meuron have programmed the space to explore a topography of display, where the translucent skin of the building acts as the viewing glass within smaller divisions of exploration. The question of where inside the building, and how addresses the issues of suitable design and topography. The levels of the building are divided into shops and offices, while the giant tubes are dually purposed as both display cases outside (topography) and fitting rooms inside (caves). The division of space is heavily devoted to the retail area, with a special floor for VIPs, an event space, offices and all the plant and mechanical housed at the top. The draw of this building for study is the duality of purpose for structure within the building as well as redefining the traditional framework of spacing.

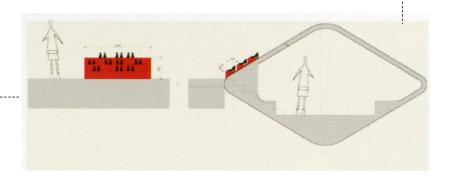
An interesting aspect of the Prada Tokyo program is the multi-functional fixtures. They serve display purposes as well as re-defining and shaping space.





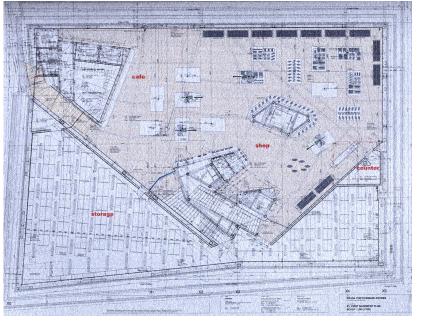


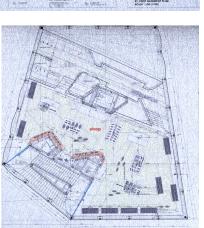




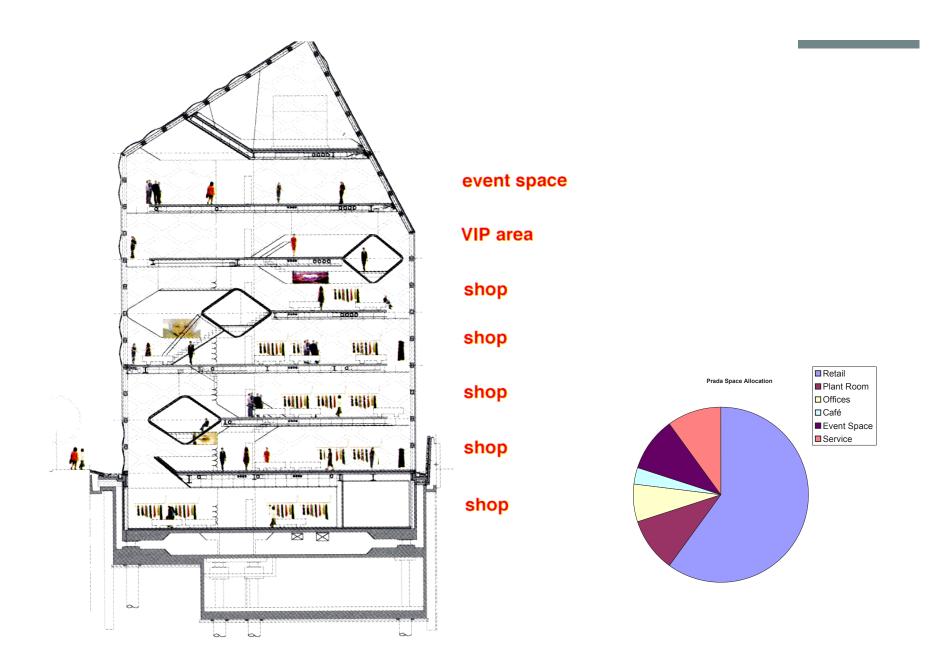


| Program Analysis

















Architect: Pompei A.D.

Nationwide

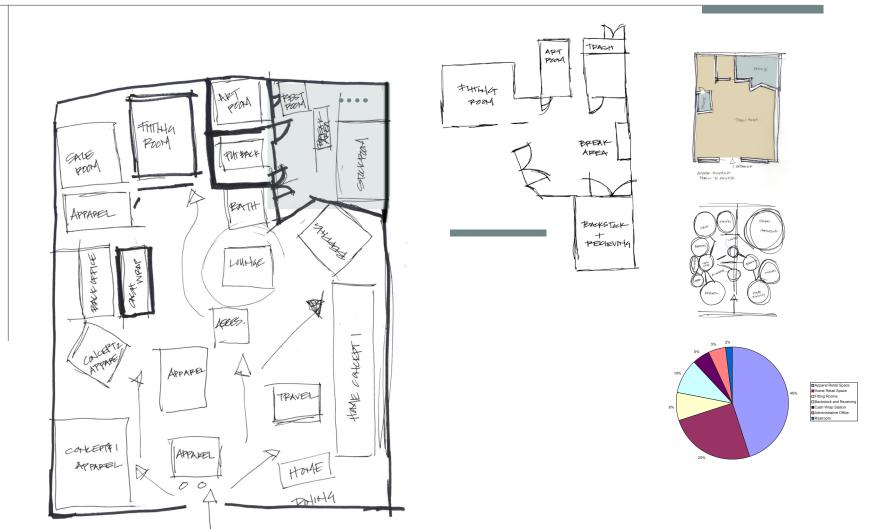


Photos Courtesy: Elena 777

Anthropologie is a chain of mid-to upscale stores under the Urban Outfitters corporation. There are 90 stores throughout the United States. The stores' design is overseen by Ron Pompei, principal of Pompei A. D. Architects in New York City. Each Anthropologie's success depends on a program that includes site specific architecture, or creating a localized "place to be" that engages the consumer's senses. Site specific can mean a rehabilitated building, upscale shopping mall or a new-build autonomous retail location. Each program strives to create a transformational environment for the customer. The process may reveal the underlying structure of the building, or may respond to the regional climate, architectural context or customer profile. Each program must address a place for culture, a place for commerce and a place for community. It must also engage customers on an emotional level with values that motivate action. This is achieved through content-rich narratives, psychological analysis, psychographics and demographics for a particular area. A survey of the culture and unique heritage of the area contributes to the individuality of each location.

Program Analysis

rough circulation sketch of the richmond store











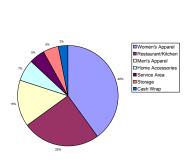
New York, New York

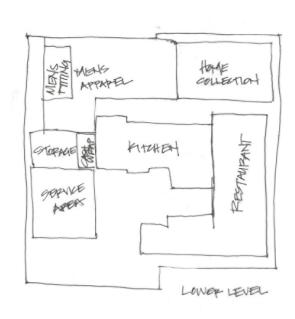
Images Courtesy: Gabellini Sheppard Associates

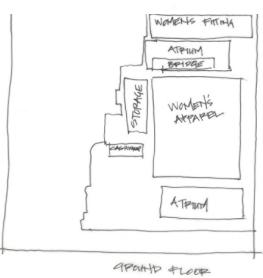


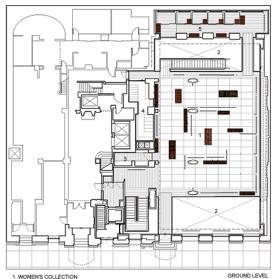
Nicole Farhi is a 20,000 square foot retail store and restaurant located in two levels of a 1901 Beaux Arts building on the upper east side of Manhattan. Its program integrates different facets of her customer's lifestyle within a single retail space, expanding and building her brand in the process. Like 1509 W. Main, it inhabits an existing structure and makes use of atriums to bring in light in an urban environment. However, it is the cohesive presentation of a lifestyle that is interesting, particularly the mixture of clothing and restaurant in a boutique setting. Farhi is primarily known for womenswear, and worked with Michael Gabellini on the store's programming. It is still her most important selling point, and its elevation above the rest of the store combined with isolated access by way of a bridge reinforces its dominance. It is designed to "float" above the restaurant. The allocation of space to given areas establishes the hierarchy. Menswear, home and a full-service restaurant are located on the lower level. The restaurant requires both dining and preparation space, while the menswear and home areas, which probably contribute less income are tucked efficiently behind the restaurant.

Program Analysis

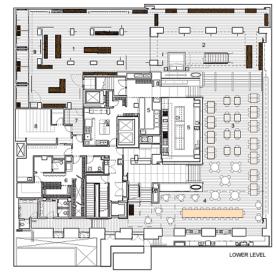








- WOMEN'S COLLECTION
 ATRIUM
 CASH WRAP
 STORAGE
 WOMEN'S FITTING ROOM



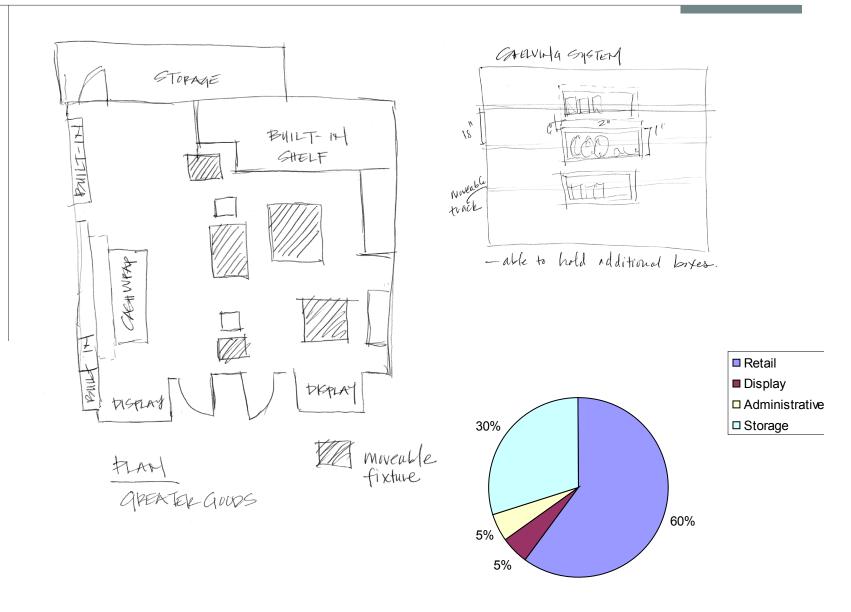
- MEN'S COLLECTION
 HOME COLLECTION
 RESTAURANT
 BAR
 KITCHEN
- 6. SERVICE AREA 7. CASH WRAP 8. STORAGE 9. MEN'S FITTING ROOM



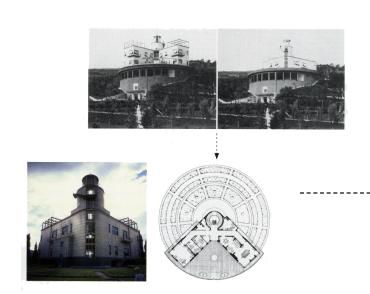


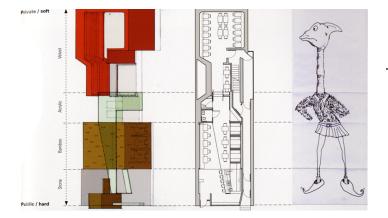


Greater Goods is an approximately 1,000 square foot retail space located in Washington, D.C. Its focus is to educate the public on living green through its products and onsite classes. The store is a rehabilitated turn of the century building located on the U Street corridor. It is designed with sustainible wood, low VOC paint and a unique type of rack shelving system. Other retail fixtures are constructed of reclaimed boxes and various other materials. Because of the limited amount of space in the store, all of the on-floor fixtures are designed with casters, so they can be easily rolled off to one side to hold classes and on site meetings. The store has extremely low energy consumption, it uses compact florescent bulbs, energy star appliances, and was recently fitted with an energy efficent HVAC system.



In the state of th





Process

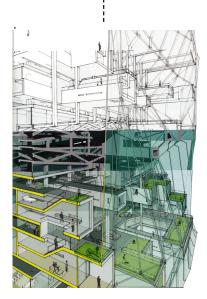
LTL uses five interconnected tactics in their architectural process :

Catalyzing constraints, or "inverting the value of constraints", uses project limitations as a departure point to discover a project's latent potential. Selectively applying principles of efficiency to maximize unexpected opportunities within these constraints consistently presents them with inventive results.

Invention Sprawl is pursuing a particular a line or set of logic to its breaking point. It requires a fluid research approach in which areas of inquiry open into new directions and new results, or the "door within a door" approach. It is inspired by Surrationalism, which applies logic to the limits of rationality until it folds back on itself and the lines between logical and absurd are blurred.

Paradoxical Pleasures seek to amplify difficult architectural conditions instead of seeking a seamless resolution to contradictory conditions. It deliberately creates a line of contestation to force interaction between parts to create a more interesting whole. Alchemical Assemblies is a process in which a material is transformed through shifts in perception and meaning through choreographed repetition to explore the potential of a surface and allowing the fluctuation of perception between overall component and visual field.

Overdrawing is a combined technique in which several combinations of techniques are used to communicate the complexity of a project through drawing. It involves hand drafting, digital drafting and 3D, as well as image manipulation.



18,500 linear feet of felt and plywood strips



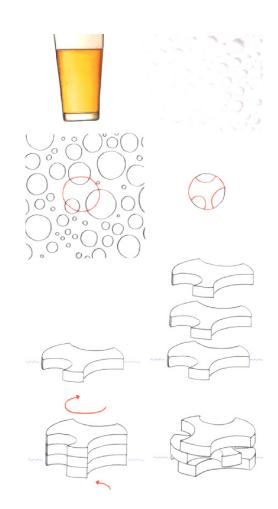


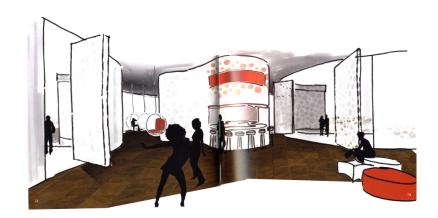


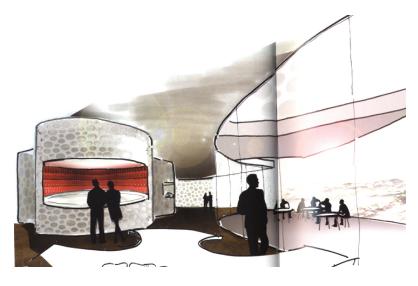


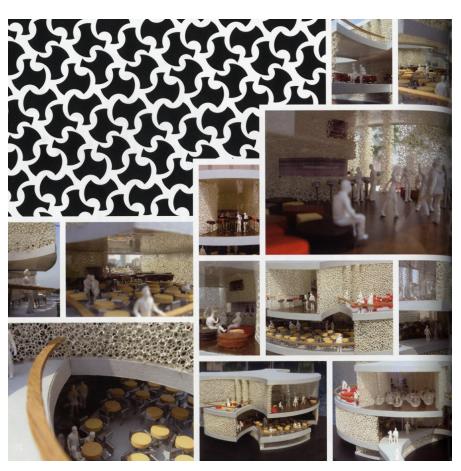
The process work on this page is for a project opening in Singapore in 2008, a bar called B20. Foam the hallmark of beer, was reinterpreted and magnified to a molecular level, creating the design for the walls and for the plan itself. The potential to take a single element and interpolate it into several uses through translation of function is characteristic that may inform my thesis.=

Process







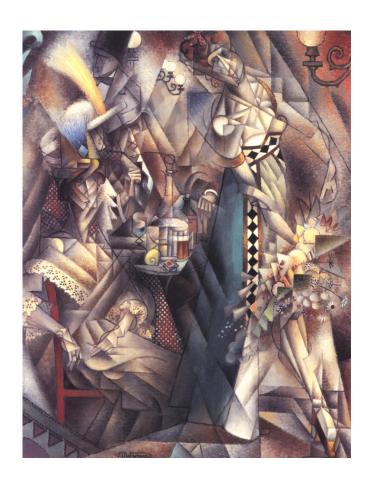








Jean Metzinger was a French painter in the Cubist movement. He balanced and measured form through an approach to composition he termed "metaphysical perspective". He stated, "the mind hates what cannot be measured: it must be reduced and made comprehensible." Music, architecture and all lasting art is never anything more than a mathematical expression of the relations that exist between what is inside and what is outside, the self and the world. His process is sometimes called crystal cubism" and applied geometry to create facets of perspective that defied space and time. The process involved purposely excluding all starting points that lie in observed reality, working instead by manipulating flat planes and geometric shapes to abstraction to synthesize a figurative result. The flat planes are independent units that create simultaneous points of view, forming a single image.





thesis project

DESIGN FOR GREEN LIVING: EDUCATION BY EXAMPLE

How does design inform cultural experience?

How can a connection with nature inform consumerism?

Can a retail environment connect with a customer totranscend its purpose and become a place of fulfilment?

As a scope of work, my thesis tackles the prospect of creating a cultural experience within a retail environment through sustainable design. With the understanding that "education begins at home," GreenLife is a lifestyle store that serves as an interactive model to educate customers about the benefits of living green. All products can be tested, removing intimidation and offering a advantageous alternative to other options on the market.

MODEL HOME

The store is based up how a customer's home might be organized, with the first floor containing a library area, living and dining space, as well as an education area that can be transformed into a larger classroom as needed. There is cell-phone and computer collection, a receiving and storage area, and the cashwrap in which to make purchases. An elevator located close to the front entrance allows access to all three floors in additiont to the front

stairwells. The second floor contains fully functional examples of energy efficient kitchen set-ups, laundry, composting and various appliance options. and the design center, which contains samples of paint, carpet, flooring and other sustainable materias to allow the customer alternative options for building or renovations. The top floor displays furniture and accessories for the bedrooms of adults and children, as well as a fully operational shower and bathroom area. An home-office area doubles as a second check-out and ordering area for furniture, and a second storage area and money safe are located upstairs. A "living wall" will be installed along the western wall, with the atrium balconies surrounding it. It is a three-floor vertical fountain that sustains both plants and moss that culminates in a shallow pool on the first floor. It not only provides a place to "be" within the living area, it provides a connection to nature on each floor for the customers to enjov.

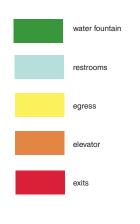
LIGHT AND ENERGY USEAGE

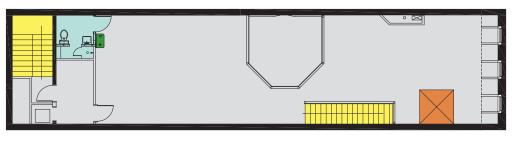
Because the front windows are north facing, the largest source of natural light comes from the skylight over the atrium. To bring more natural light into the space, 18 inch square windows will be cut into the eastern wall of the building and integrated with the shelving system. Compact florescent bulbs will be used for all interior lighting fixtures. The HVAC system will be

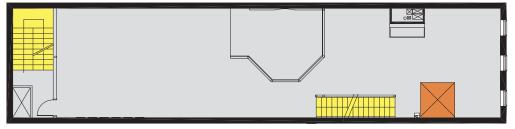
tested yearly for efficiency. In addition, the fountain of the living wall is operated by reclaiming rain water from the roof, which is then syphened to a cistern in the basement. The water is filtered and continually pumped back through the fountain, which in tern waters the plants and moss through a drip system within the steel frame that connects the plants to the fountain. The living wall system not only provides accoustical protection, it supports less power usage from the HVAC system by providing a natural form of temperature regulation within the space, keeping costs low. All plumbing fixtures are low-flow to conserve water.

READY-MADE AND SUSTAINABLE

Ready-Made is a movement to reuse materials in new ways. At GreenLife, the cash wrap is constructed of shipping pallets and the west wall retail shelving is designed with fruit crates and everyday hardware. All materials used to design the store like paint and flooring are low VOC, responsibly manufactured and harvested. The integrated shelving system along the western wall is designed with kirei board, a strong material created with agricultureal biproducts and sorghum. To educate, it must serve as the primary example for each customer.









Code Overlay

Use: Mercantile (Group M)

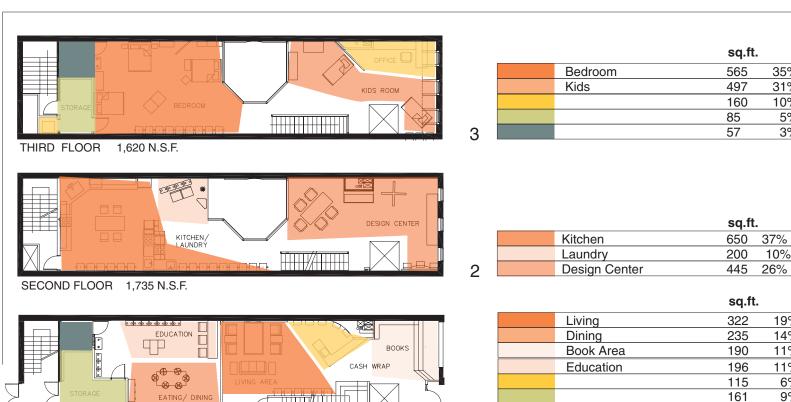
Square Ft: 6,182 Occupancy Load: 65

Means of Egress: 2 sets stairs, 1 fire stair, 2 exits

Accessiblility Areas: Elevator

Restrooms: 2 Waterfountains: 2

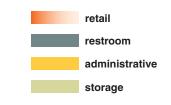




65% 5,049 net sq.ft. 5% 5% 1% **Total Space Allocation**

EATING/ DINING

FIRST FLOOR 1,694 N.S.F.



43

35%

31%

10%

10%

19%

14%

11%

11%

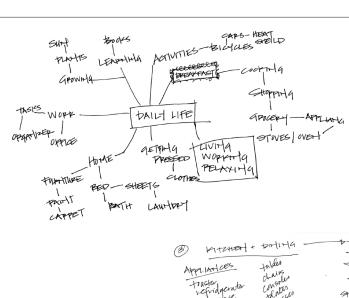
6%

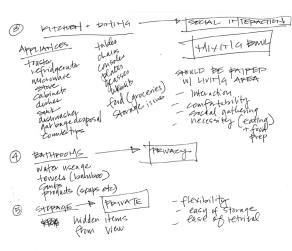
9%

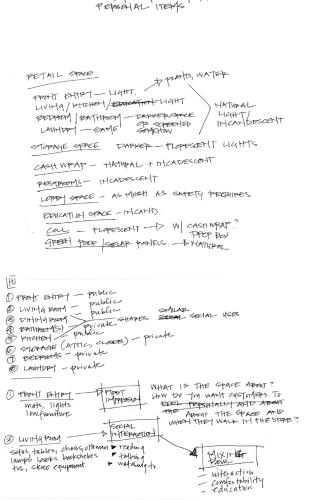
2%

5% 3%









TOWATE

TABLES

BEDS

PUPHC1

FRIVATE

COMMITTY USEAGE, POUT

SHEETS

PHOS

VERY PERSONAL

WHERE TO USER

STECHIC VS. GETEPAL

BETPOOT S

- IHTIMACY

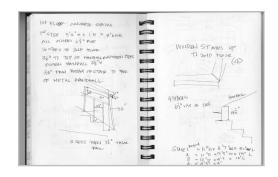
LAUMPRT

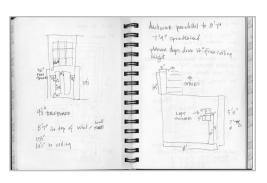
- CONTOP

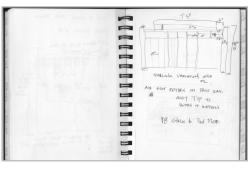
SAFET - WAPTHA

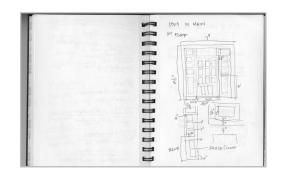
Program Development

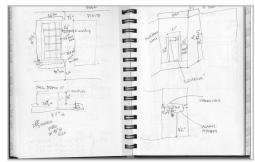
PALLON UNHARM ON PAR AND PHER SERVICE ON SERVICE AND THE SERVICE BOTH TO BETTERN 18 Shire & 2nd Flore

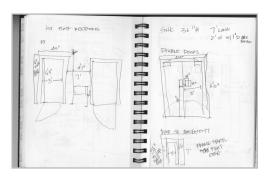


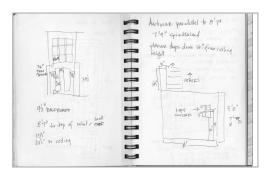


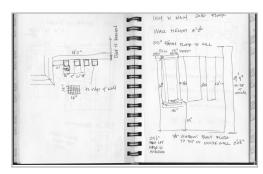


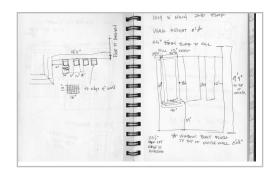


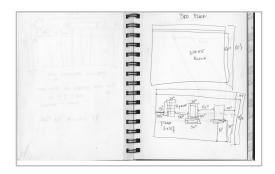


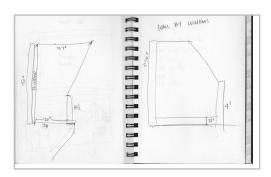






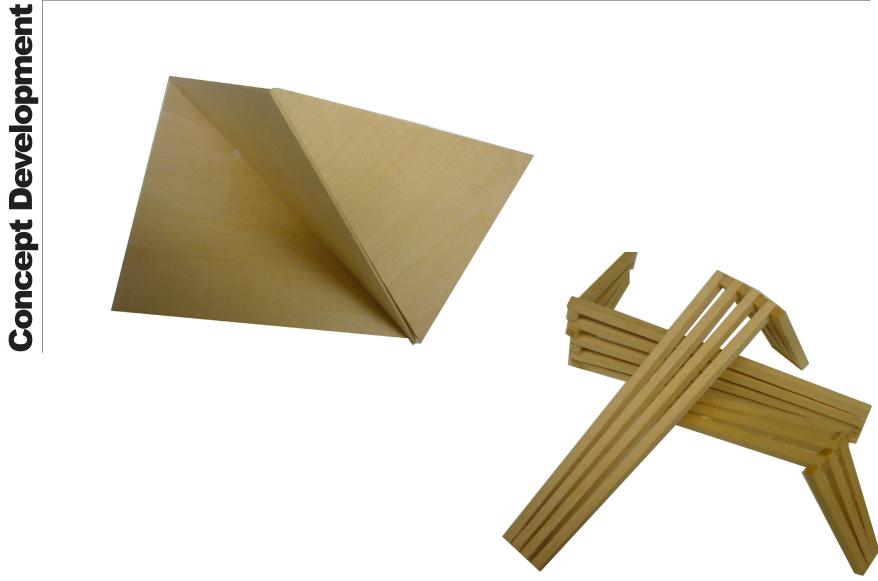








Preliminary Notes and Model



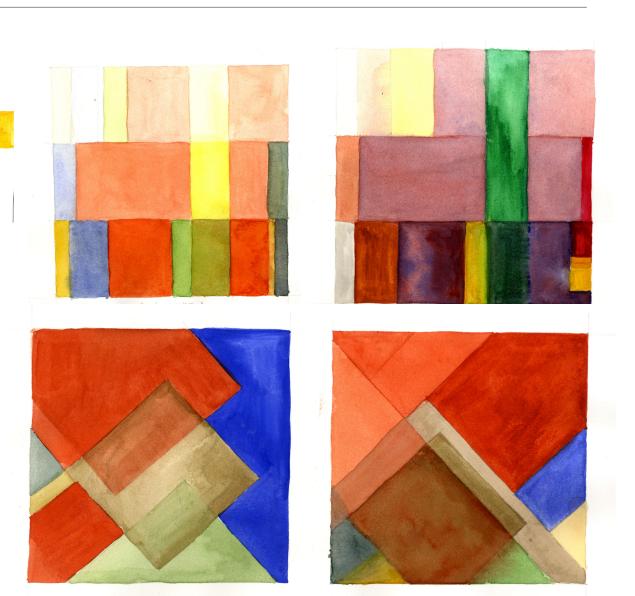


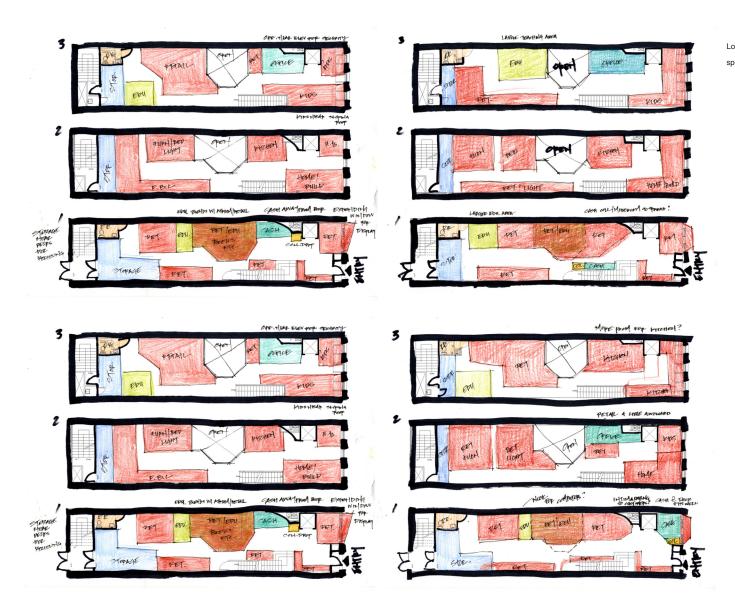
Concept models intenteded to show 1. the multi-faceted nature intended for the space 2. how each floor of the space supports the whole design 3. How the space is intended to function as a connection to nature within an urban landscape.

Schematic Design



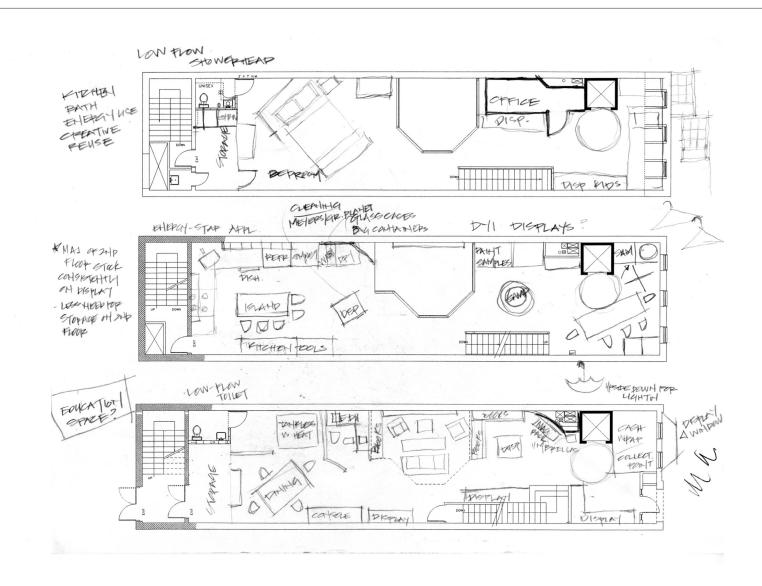
Watercolor studies of possible spacial organization; divisions of function and relationships between activities within the space

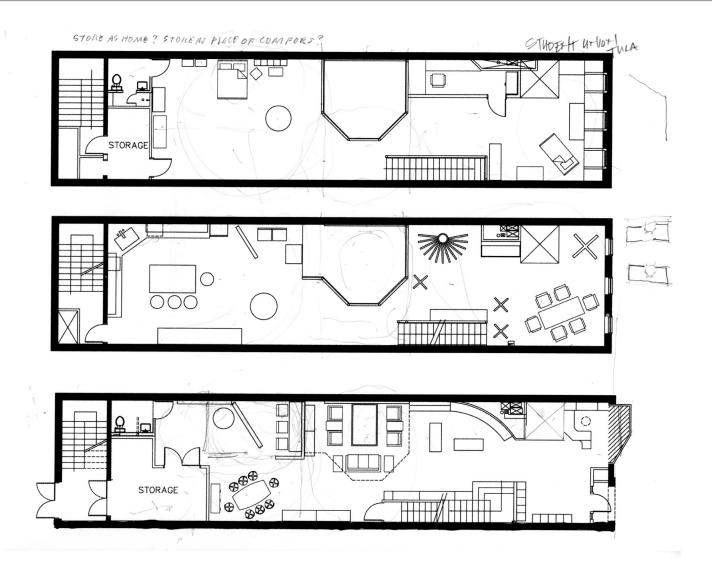


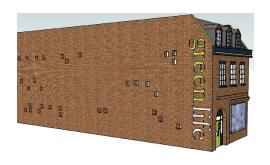


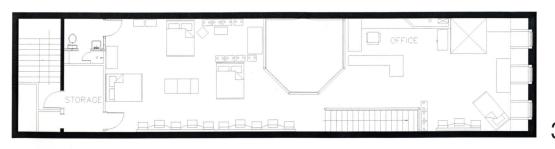
Loose block diagrams of spacial possibilities.

Schematic Design

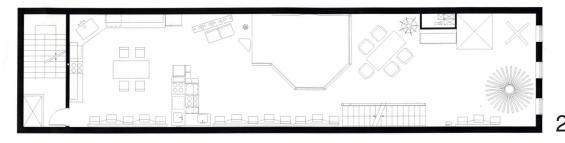


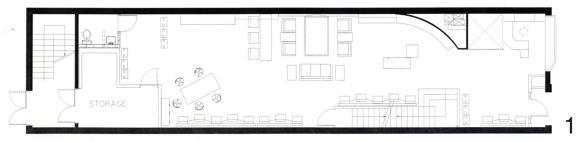






First draft of floorplans, perspective views, building exterior.

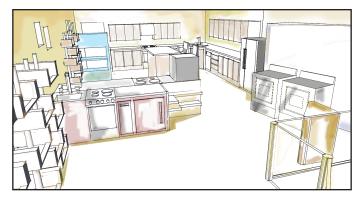


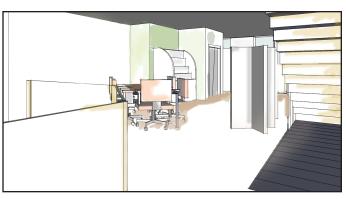






Floor 1





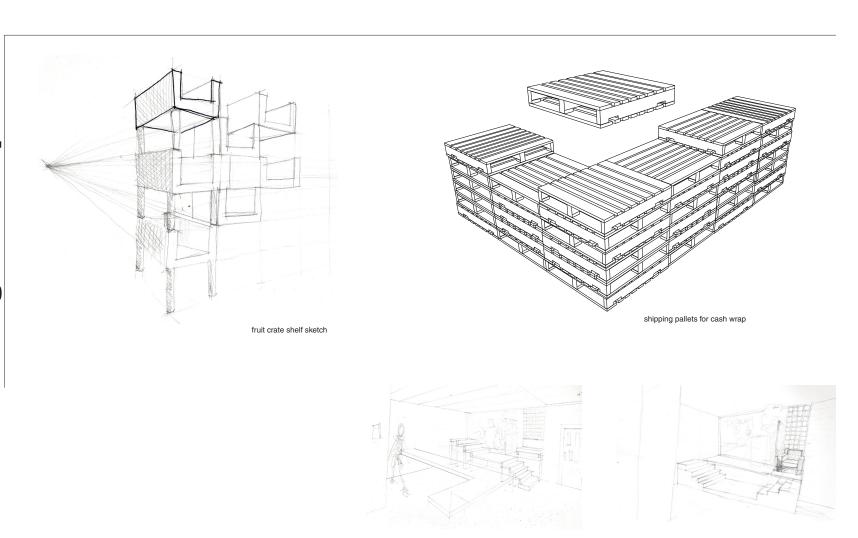
Floor 2





Floor 3

Development



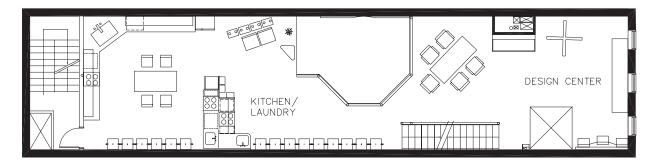


Original Front View



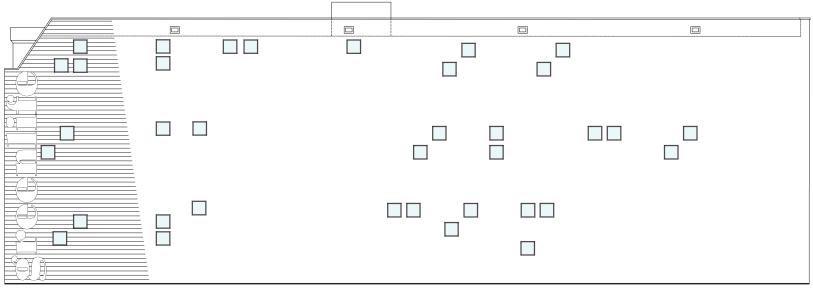
Re-designed Store Front



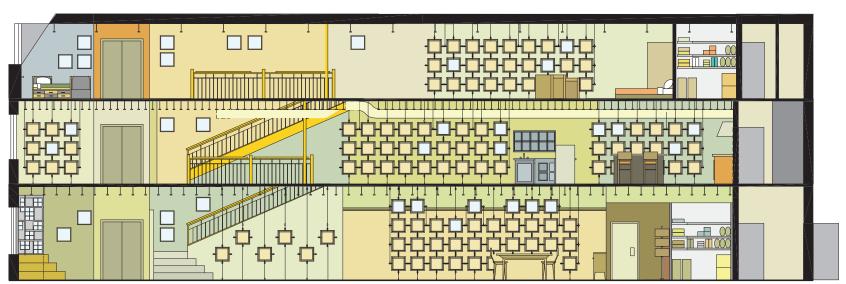




Floor Plan



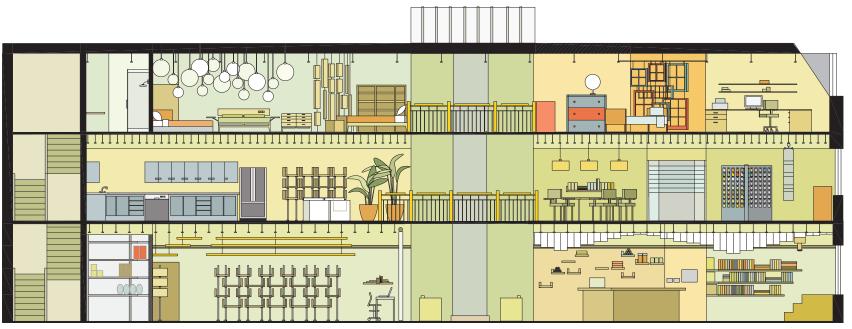
Exterior Elevation: East Wall





Interior Section: East Wall

Section: Front Entrance and Shop Window



Interior Section : West Wall



EDUCATION BOOKS

STORAGE EATING/ DINING

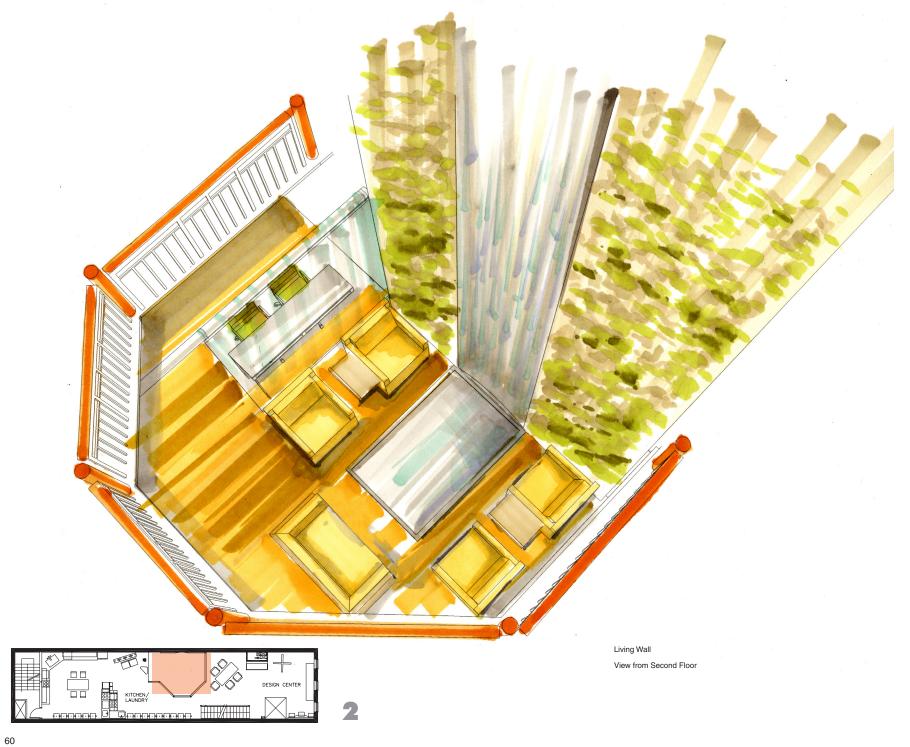
LIVING AREA

LIV

Shop Window and Book Area









Kitchen View

Kirei Board Shelves

Shelving system is integrated with the windows cut into the east wall.







materials

PAINT

Benjamin Moore Eco- Spec Low VOC Base Henderson Buff HC-15 2024-40 Yellow Finch 2024-50 Jasper Yellow 2155-30 Yellow Marigold HC-12 Concord Ivory HC-116 Guilford Green Summer Lime 2026-60 HC-141 Hollingsworth Green Pale Daffodil 2017-60

UPHOLSTERY

Design Tex Sustainable Initiatives: Closed Loop 2550-201 Color: Saffron Design Tex Sustainable Initiatives: Box Lunch 2634-701 Color: Saffron





FLOORING

Forbo Marmoleum

26-36765

26-23489 26-98459

26-34347 65-38438











FLOORING

Smith and Fong Plyboo Pure: Dark Strand Pre-Finished P5872PD



SHELVING MATERIAL

Kirei USA: Kirei Board: KB3630



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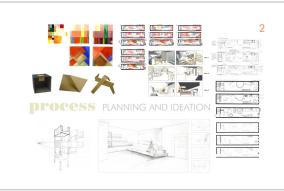
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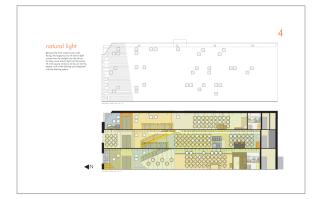
http://archrecord.construction.com/projects/bts/archives/retail/01 farhi/overview.asp>.

appendix













Boards as originally presented

appendix















biography

Veronica Ledford lives in Richmond, VA with two cats and a dog, two roommates and Curtis Brown. She is looking forward to being gainfully employed in the near future, and to a fantastic rest this summer.