

Springfield Public Library

Fall 2011 • Architecture

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Acknowledgements

The authors would like to thank the following people for their assistance with the project. Without their time and energy, none of this would have been possible.

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Prof. Christine Theodoropoulos

Prof. Esther Hagenlocher

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About SCI

The Sustainable Cities Initiative (SCI) is a cross-disciplinary organization at the University of Oregon that promotes education, service, public outreach, and research on the design and development of sustainable cities. We are redefining higher education for the public good and catalyzing community change toward sustainability. Our work addresses sustainability at multiple scales and emerges from the conviction that creating the sustainable city cannot happen within any single discipline. SCI is grounded in cross-disciplinary engagement as the key strategy for improving community sustainability. Our work connects student energy, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a year-long partnership between SCI and one city in Oregon, in which students and faculty in courses from across the university collaborate with the partner city on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner city through a variety of studio projects and service-learning courses to provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations resulting in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future. SCY 2011-12 includes courses in Architecture; Arts and Administration; Business; Economics; Journalism; Landscape Architecture; Law; Oregon Leadership in Sustainability; and Planning, Public Policy, and Management.

About Springfield, Oregon

The City of Springfield has been a leader in sustainable practices for more than 30 years, tackling local issues ranging from waste and stormwater management to urban and suburban redevelopment. It is the first and only jurisdiction in Oregon to create two separate Urban Renewal Districts by voter approval. Constrained by dramatic hillsides and rivers to the north and south, Springfield has worked tirelessly to develop efficiently and respectfully within its natural boundary as well as the current urban growth boundary. Springfield is proud of its relationships and ability to work with property owners and developers on difficult developments, reaching agreements that are to the benefit of both the project and the affected property owners. These relationships with citizens are what continue to allow Springfield to turn policy and planning into reality. Springfield recruited a strong, diverse set of partners to supplement city staff participation in SCYP. Partners include the Springfield Utility Board, Willamalane Park and Recreation District, Metro Wastewater Management Commission, United Way of Lane County, and Springfield School District 19.

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This report represents original student work and recommendations prepared by students in the University of Oregon’s Sustainable City Year Program for the City of Springfield. Text and images contained in this report may not be used without permission from the University of Oregon.

Executive Summary

Tom Hille's Fall 2012 architectural design studio participated in the Sustainable City Year Springfield Library project, and was tasked with developing schematic designs for a proposed new public library for the City of Springfield.

To accommodate a growing population in Springfield, the city administration and library identified a need to build a new building wholly dedicated to the purpose of creating a civic space where all members of the community can have equal access to high quality information and educational resources.

The design studio included 17 architecture students at both the graduate and undergraduate level. Over the course of ten weeks (one academic term), they individually proposed schematic designs for the library. The studio proposed a contemporary vision of a community-oriented library that developed its civic identity within a framework of sustainable design practices. Students explored sustainable building practices that enhanced the civic agenda of the library's program, including rainwater harvesting in public space, daylighting in reading rooms, increased diversity through mixed-use spaces, and access to alternative forms of transportation.

The site chosen for the studio is located on the block directly across the street from the library's current location within Springfield's City Hall, bounded by B Street to the north, A Street to the south, North 4th Street to the west, and North 5th Street to the east. An alley crosses the middle of the block, running east-west. There are four lots located on the block; the site of the new library would occupy the three blocks surrounding the church. The site offered three possibilities for orienting the building. Students explored building orientations that this report describes as North-South, East-West, and L-shaped. Student consideration of the location of the plaza and orientation of the building footprint on the site was a driving force in the development of students' schemes. Students all developed the plaza as a critical space that reinforced the connection between City Hall, the NEDCO Sprout food hub (in the former church on the same block as the library site), the Washburne neighborhood, and the greater downtown community. The anticipated future growth of Springfield, along with the insufficient size of the current library for Springfield's existing population, meant that students created designs for a library that would be 20,000 square feet larger than the current library, almost double the current size. Development of schemes balanced space on the site between the library footprint, the plaza, and the accommodation of a future addition.

Students worked within the parameters of providing spaces for adults, teens, children, staff, and "flex" or community space. Functional adjacencies and circulation between spaces were carefully considered, especially those between the staff work areas and the book stacks. Students used the orientation of the book stacks and furniture as well as daylighting to create clear circulation throughout the library. Students' schemes also integrated coffee shops and a "Friends of the Library" bookstore in an effort to embrace and provide financial opportunities to important community stakeholders.

Introduction

The Existing Library

The Springfield Public Library currently occupies a corner of the second floor of Springfield City Hall, which is housed in a converted shopping mall originally built in the late 1970s. The main entrance to the library is at the end of a hallway at the top of a flight of stairs fronted by a small plaza. In other words, the library is not easy to find if you do not know where you are going. Security requirements mean there is one door for the entry and another for the exit. Because the original building that now houses the library had different daylighting needs, the only daylight filters in through overhead skylights and windows at the perimeter. Special programs are held in a storybook corner, a conference room, the hallway outside, and occasionally the plaza downstairs. According to Standards for Oregon Public Libraries (Oregon Library Association 2010), the library is significantly smaller than is recommended for a city with Springfield's population, both in space for staff and collections.

Methodology

The design studio included 17 architecture students at both the graduate and undergraduate level. Over the course of ten weeks (one academic term), they individually proposed a range of schematic designs for the library. As a whole, the studio proposed a contemporary community-based vision of a library that developed its civic identity within a framework of sustainable design practices. Students explored sustainable building practices that enhanced the civic agenda of the libraries program, including strategies such as rainwater harvesting in public space, daylighting in reading rooms, increased diversity through mixed use spaces, and access to active transportation.

The studio was taught by Visiting Professor Tom Hille, an architect with experience in library design, who guided the students' approach, development, and refinement of the Springfield Library Studio. To establish a foundation of knowledge about the business and day-to-day operations of the existing Springfield library, the students visited the Springfield librarians and conducted case studies on community libraries. Interviews with librarians, visits to the future site, and precedent analysis established a basis for design.

As part of the process of understanding modern public libraries, students were assigned a precedent study project at the beginning of the term. The libraries chosen were mostly of a similar size and type to the proposed Springfield Public Library. These case studies, as well as others which students pursued on their own, influenced the final student designs.

The development of schemes in the design studio focused on building physical and digital models in an iterative process. Process models and drawings were reviewed on a weekly basis by Professor Hille, Springfield Library Director Rob Everett, and student peers. Students proposed design concepts regarding site orientation and architectural character that would guide subsequent detailed spatial relationships between the interior and exterior spaces. Structure was integrated as a means for providing daylight, enhancing functional program adjacencies, and connecting the library to the civic plaza and the community beyond.

Major design considerations included:

- Flexibility / adaptability / multi-use
- Equitable access
- Security considerations including access points and staffing
- Functional program adjacencies
- Integration of new information technologies
- Diversification of library activities
- Architectural expression of daylighting, natural ventilation, water, and other sustainable strategies
- Rainwater catchment / runoff management
- Connection to plaza / City Hall / NEDCO Sprout food hub / neighborhood
- Architectural expression of civic identity and sense of place

Each of the seventeen students in the studio created a design for a new public library. The Design Proposals sections will describe student work in detail. The first portion will discuss the opportunities and constraints associated with the three main building orientations, North-South, East-West, and L-shaped, and call out any unique elements of student designs. Following that, several recurring themes will be discussed, including methods to incorporate sustainable design, ways the students went beyond the given program, the civic plaza, and how future expansion of the library can be accommodated.

Studio Philosophy: The Purpose of a Civic Library

A key element in the studio's design process was considering the components and functions of a good modern public library. Great libraries of the past were often a "temple for books" with a grand central reading room with bookshelf-lined walls. These rooms were largely for quiet study and fit well within a research context. The civic library of today, however, is more of a community center, meant to serve a variety of needs. The library is just as likely to have a coffee shop, bookstore, and performance space as it is to have quiet rooms for study. While a public library presents itself as an important building, it is meant for everyone and is therefore accessible to everyone – it is not necessarily a foreboding building at the top of a large staircase. The modern public library must accommodate people of all ages and backgrounds and offer them everything from classes to meeting rooms and a place to hang out, as well as a place where someone would go to borrow a book or movie. It needs to successfully integrate a noisy children's area with a quiet reading area.

Further adding to the studio's design challenge was the attempt to design for the future and any technological changes it may bring. People today like to bring laptops to the library and work from many different places within, thanks to the availability of wireless Internet access. Banks of desktop computers may soon be replaced by laptop or tablet computers. It is also possible that space now used to hold physical books will no longer be needed as e-books become more popular.

The challenge for the Springfield Library studio was to create designs that met Springfield's present needs for a civic library, while anticipating its future growth and the changing purpose of a library.

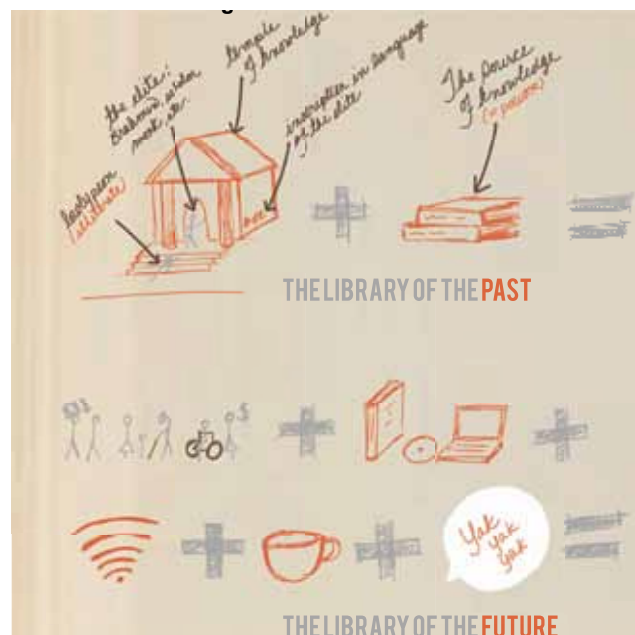


Figure 1: Today's modern public libraries are very different from those that came before (Jessica Gunraj).

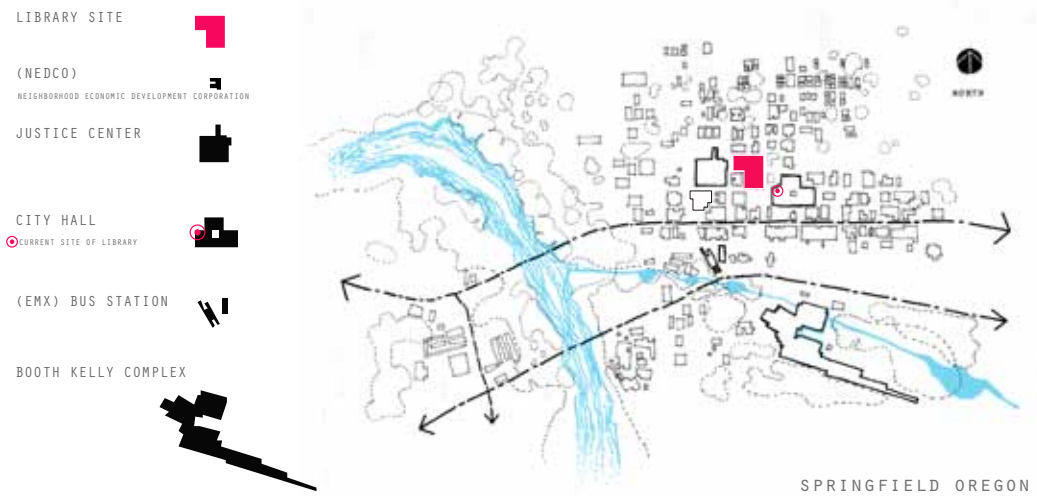


Figure 2: The site is located at the heart of downtown Springfield (Collin Janke).

Site Analysis

The site chosen for the studio is located on the block directly across the street from the library's current location, bounded by B Street to the north, A Street to the south, North 4th Street to the west, and North 5th Street to the east. An alley crosses the middle of the block, running east-west. There are four lots located on the site, two of which are owned outright by the city, and two of which are owned by the Neighborhood Economic Development Corporation (NEDCO). The two lots on the north side of the block are parking lots. Students were told that an abandoned office building that occupies the southeast corner would be demolished to make way for the new library. A church sits on the southwest corner, and current plans call for NEDCO to transform it into a farmer's market and food distribution center called "Sprout".

Transportation & Parking

Lane Transit District (LTD) buses stop on North 5th Street and A Street. LTD's bus rapid transit system, the Emerald Express (EmX), has stops at the Springfield Bus Station two blocks to the south. The library program did not include on-site parking for library patrons, as the current library parking lot, located directly across North 5th Street, is expected to continue to serve the new library. A few parking spots for staff and people with disabilities were recommended.

Adjacent Properties

The site location is ideal for establishing a strong and identifiable civic center for Springfield. Its location is in the heart of downtown, adjacent to two major existing civic amenities, City Hall and the Justice Center, and the site shares the block with another soon-to-be developed amenity, NEDCO's farmer's market and food distribution center. By leaving one of the lots open or mostly open to be developed into a plaza, this civic identity can be further reinforced with a large public open space. Directly north of the site is the start of a residential neighborhood, and as the downtown area grows and expands with denser development, more people will be living there—all of whom will have a library within close walking distance.

Program Analysis

To accommodate Springfield's anticipated population growth, the library will need to measure the increased demand on building resources, including collection volume and shelving space, to establish a minimum square footage. Rob Everett recommended several calculators, including Standards for Oregon Public Libraries (Oregon Library Association 2010) and Public Library Space Needs (Dahlgren 2009). For more information on the specific area designated for each part of the program, please see [Appendix A].

Baseline

Rob Everett used state standards to estimate library space requirements based on Springfield's projected population growth over a 20-year period. This calculation established an initial program area of 60,000 gross sq. ft. of space. Rob Everett and Professor Hille decided to reduce the program area to 45,000 gross sq. ft. to meet current needs, with provision for an additional 15,000 gross sq. ft. of phased development for future expansion. This was done to maximize opportunities for site and building development, given the area and configuration of the site, and the library's maximum recommended height of two stories.

Zones

Students worked within the parameters of providing spaces for adults, teens, children, staff, and "flex" or community space. Functional adjacencies and circulation between each space were carefully considered, especially those between the staff work areas and the book stacks. Students used the orientation of the book stacks and furniture as well as daylighting to create clear circulation throughout the library. The Design Proposals section of this report illustrates how the program works in parts and as a whole.

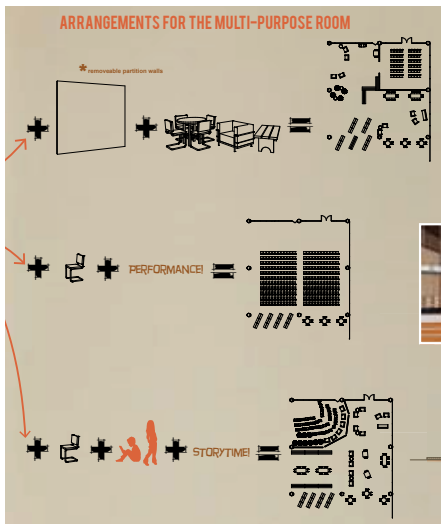


Figure 3: The flexible community space is intended to be used for a variety of different purposes determined by library needs (Jessica Gunraj).

Flexible Community Space

The program called for a significant amount of community space. This could come in a multitude of forms, including meeting rooms, gallery / exhibition space, a cafe, or a performance area. Most design schemes included a flexible space that could accommodate a wide range of event types including business fairs, recitals, readings, presentations, videos, live performance, and ceremonies. In the spirit of a contemporary library, the flexible space becomes a dynamic, changeable, user-modifiable, permeable space that can be opened and closed. A flexible space has the potential to be accessible when the rest of the library is closed, to accommodate the diverse community demand. Critical adjacencies for the flexible space included the children's

space for overflow, spontaneous activities, an outdoor space that the flexible space could open up onto for fair-weather events, and proximate access to a cafe for event catering.

Stacks

Students considered standardized book stack dimensions of 3' for aisle, 3' wide book case and variable book case height. Designs also explored various groupings of stacks and their ability to organize space and be experienced as partial walls. Students coordinated building structure with book stack dimensions to organize circulation throughout the library. Building scheme types encouraged different stack organizations. For example, long, linear schemes encouraged more linear stack organization (as seen in Andrew Cohen's scheme in Figure 20), while other students pursued pods of stacks that could be more casually explored. In the Children's area, most students explored stacks with deeper sections for larger books, and lower shelf heights to more appropriately scale the space to the children's world.

Staff Work Areas: Centrally Located Work Areas, Dispersed Checkpoints, and Floating Islands

The staff work area was the programmatic area of the library most challenging for the students. We considered the sequence of book circulation, and the area's requirements for staff service and user interface. The location of the circulation desk was a critical consideration relative to the entry, as proper proximity allowed for security of books and other circulating materials. Centralized staff work areas for "behind the scenes" work were balanced with the need for daylighting to boost morale and staff health. Staff work areas on both floors were considered as well as the requirement for the staging of books for re-shelving. Dispersed checkpoints would allow staff to "float" through the library and have stations that would let them access digital information, informally engage visitors, and organize materials.

Private to Public: Nooks to Open Reading Rooms

The library is a place to gather and participate in a civic tradition. However, within that civic space, the inclusion of gradients from private space to public space allows individuals to choose the type and level of civic engagement they are comfortable with. For example, some students developed thick edges in transition areas to allow for nook seating that could look out over larger, more public space. In the public spaces, some students included more transitory seating for browsing, and for chance encounters with periodicals, movies, and digital media. The transition spaces between the interior and the exterior of the building envelope proved to be fertile ground for in-between spaces that encourage rest and observations.

Three Floor Limit: Pros and Cons of Two or More Floors

Students were encouraged to work within a two-story envelope to minimize staffing needs. However, several schemes pursued three-story buildings, reducing the building's ground floor footprint to accommodate on-site parking, a plaza, and future building expansion space. Building up instead of out also allowed for more expansive double-height atrium spaces that could accommodate stack ventilation and improved daylighting.

Security

The library contains a wealth of text-based and digital material that requires responsible stewardship. To that end, students explored the possibility of balancing an open building envelope that encourages interior and exterior connections with providing responsible security thresholds between the checkout desk and the entries and exits.

Design Proposals: North–South Building Orientation

The North-South building orientation creates a building footprint that spans from A Street to B Street, with a long edge along North 5th Street. The major facade of the building faces east, while the shorter side of the facade shares A Street with the church. Benefits of the North-South orientation include creating a strong, urban, pedestrian-friendly edge that is shared with the existing City Hall.

The North-South buildings make a social gesture by connecting the Washburne neighborhood with the civic center of Springfield. The formal directionality of the North-South orientation allows for a habitable street edge and potential for focused entry to the library from the north and south. Several schemes chose to reinforce the visual connection between downtown and the Washburne district by making atrium slices through the building in the north/south direction, as seen in Anthony Hasenberg's project (below).

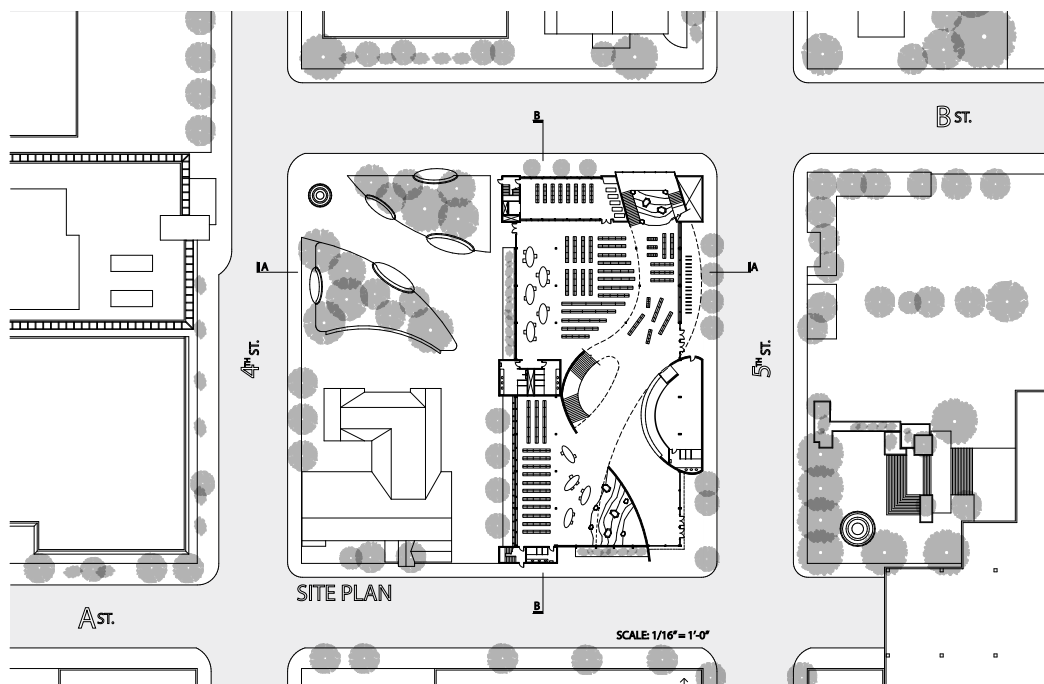


Figure 4: First floor plan (Anthony Hasenberg).

In Anthony Hasenberg's design (see Figure 4) we see more organic flowing circulation space in the north/south direction. In this scheme, the entry to the library can be located on the corner of North 4th and A Streets, along the edge, or on the north side, facing the Washburne neighborhood. A North-South oriented building is primarily daylit from the east and west, causing large fluctuations in daylighting quality due to the path of the sun from east to west. This orientation requires a fine-tuned response to daylight through the use of exterior shading to prevent glare. Students with North-South oriented schemes came up with several solutions to modulate the light for an improved reading experience. Connections between the library and City Hall are strong, but the connection between Sprout and City Hall is limited. A North-South orientation places Sprout's outdoor space on the northwest side of the library, sharing North 4th Street with the Justice Center.

A North-South orientation blocks the east/west egress through the alley on this block, but does allow for north/south alley and utility access.

One reviewer of the projects suggested that Springfield already has a great deal of open space, and a plaza located directly next door. The reviewer called into question the need for a plaza located in the southeast corner of the site. This insight also brings to light the potential to create a compact, dense, metropolitan-scaled streetscape that accommodates spontaneous, informal social engagements on the southeast corner, as opposed to a more formal, expansive civic plaza. North-South oriented schemes attempted to accommodate social activity on the southeast side of the building by locating the coffee shop, entry, and lobby spaces there.

Schemes

Scot Jahn's scheme aims to create a link between the Justice Center and City Hall through the central core of the library. The entry on the east side is glazed and opens into an atrium with a glazed roof and view corridor. Running perpendicular to the east/west view corridor is another view connecting the Washburne neighborhood to the southern retail downtown district. Apertures in Scott's scheme on the east and west side include wide eaves to moderate the strong morning and afternoon sun. Windows are operable, allowing for natural ventilation during summer months. The atria also provide ample, even daylighting to the core of the building, providing both a connection to surrounding context and daylighting for a positive reading experience. Expansion of Scott's library would occur on the northwest open space on the site.

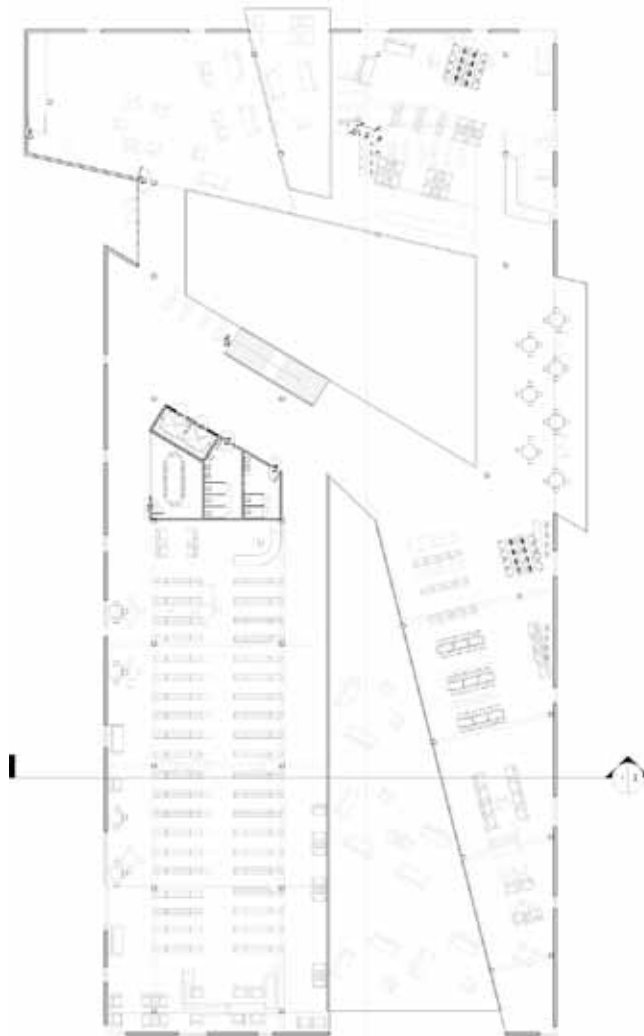


Figure 5: Second floor plan (Scot Jahn).

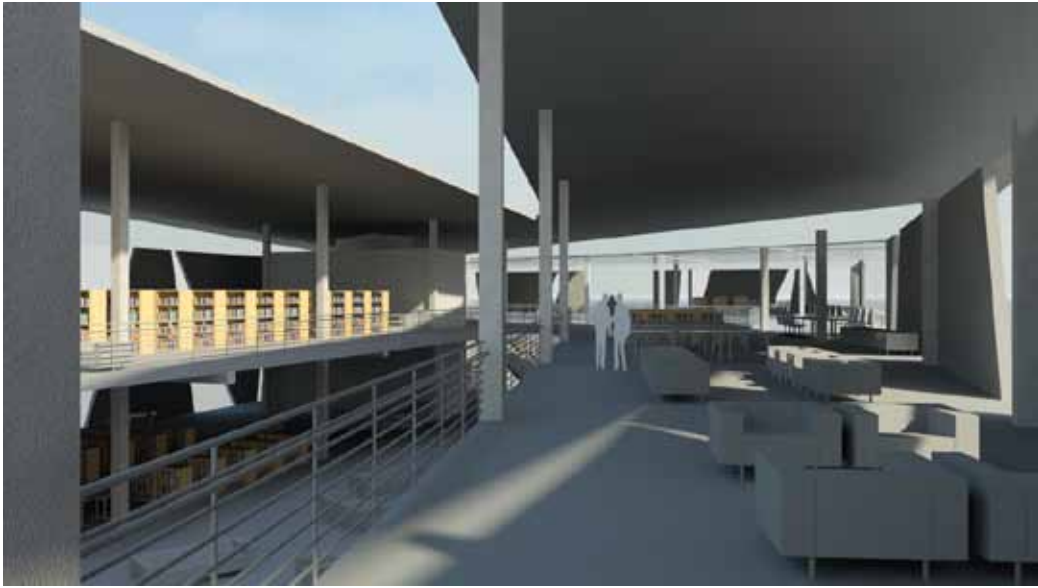


Figure 6: Looking north in the second floor reading room (Scot Jahn).



Figure 7: Looking north through the main reading room on the first floor (Scot Jahn).

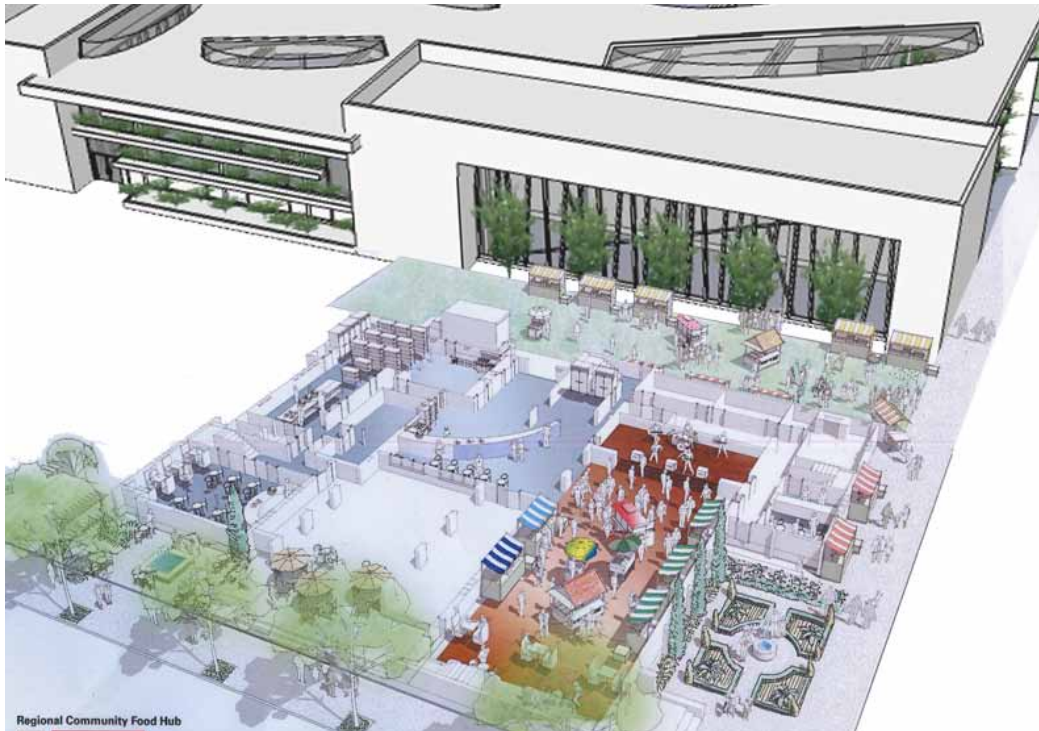
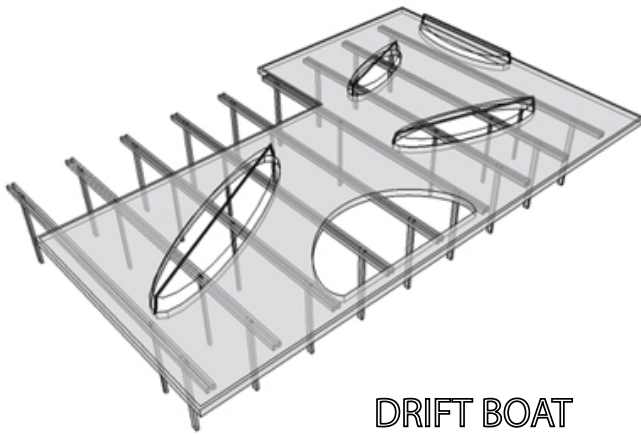


Figure 8: Bird's-eye view looking east showing the new library and proposed NEDCO food distribution center (Image used courtesy NEDCO)

Anthony Hasenberg employed a curvilinear approach to circulation and treatment of forms in space (Figures 9-12). The seed for his library scheme grows from the shape of the McKenzie drift boat, originally designed and built by a Springfield resident and the City of Springfield's official symbol. The drift boats manifest themselves as skylights, placed asymmetrically over the atriums that are defined by a meandering river of circulation. Hasenberg accommodates the program within the orthogonal box on the exterior, and infills with organic shapes on the interior to realize a more organic character for the Springfield library.



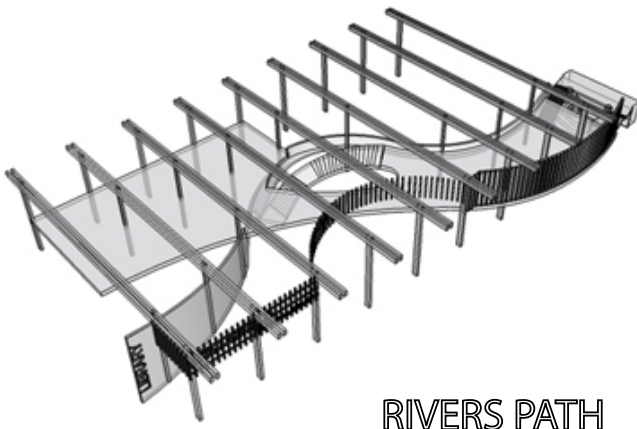
DRIFT BOAT

Figure 9: The drift boat in Springfield's logo influenced the roof form (Anthony Hasenberg).



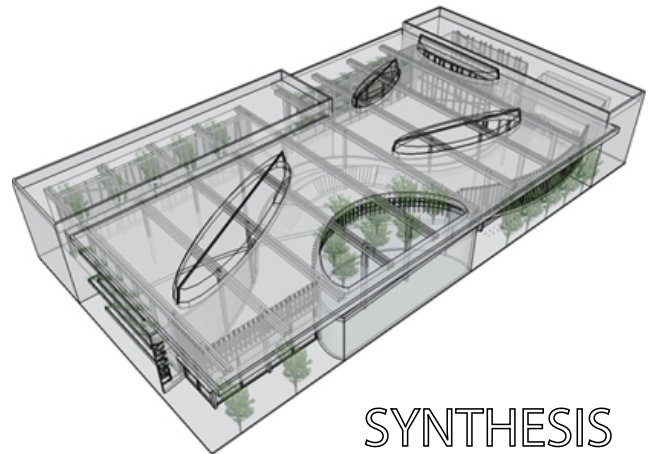
FORESTS EDGE

Figure 10: The surrounding Oregon forests influenced the arrangement of structure (Anthony Hasenberg).



RIVERS PATH

Figure 11: The curvilinear circulation path was inspired by the two rivers surrounding Springfield. influenced the arrangement of structure (Anthony Hasenberg).



SYNTHESIS

Figure 12: The resulting library was a combination of all these influences (Anthony Hasenberg).

Design Proposals: East–West Building Orientation

The majority of students in the studio placed their libraries on the northern half of the site, running east to west. This left an open lot in the southeast corner of the block to be developed into a plaza across from City Hall. Most of these students stayed within the lot boundaries, keeping the mid-block alley open and accessible for service access. (Those designs that crossed the boundary are classified as “L-shaped” and are discussed in the next section.) Orienting the building this way allowed some students to create entrances on both the north and south sides of the library, which open more or less directly into a main lobby, although such an arrangement might present some security issues. Another issue with this orientation is the building’s relationship to the adjacent Justice Center, which would lose a direct visual connection to City Hall.

Linear Schemes

Orienting the building along the East-West axis made it a logical choice to create a linear scheme, in which there is one clear central space, usually an atrium connecting multiple floors, that stretches the length of the building and acts as the major circulation area for the library. Rooms and other areas are directly adjacent to this main area.

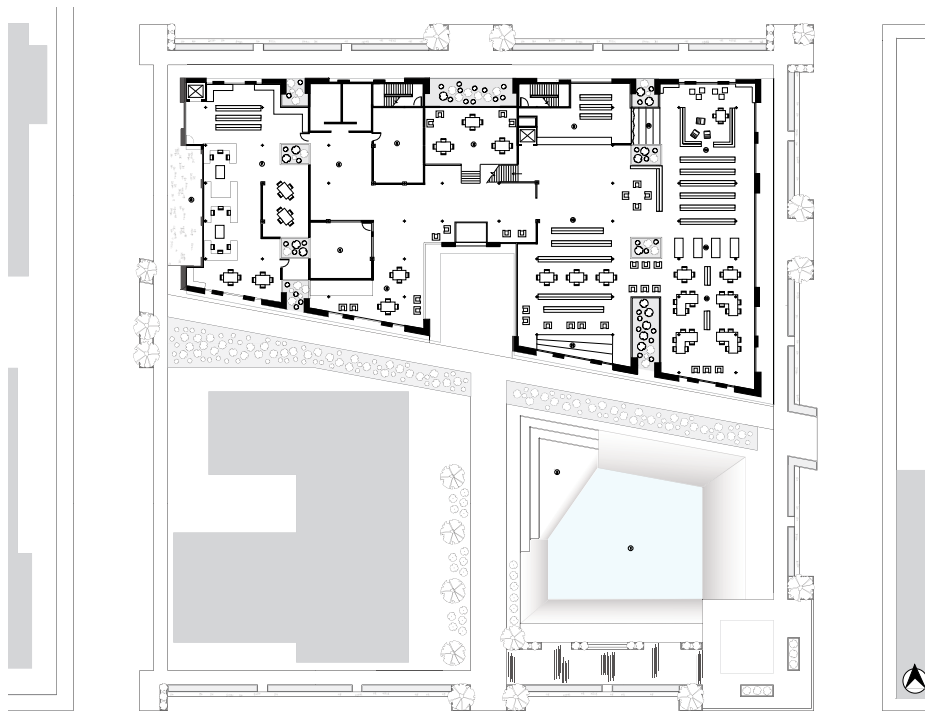


Figure 13: First floor plan (Alex Dykes).

Alex Dykes created a linear scheme with a central atrium space containing a reading area and a large central stair. Alex's scheme provides a strong visual connection from south to north at several spots in the library, as well as across floors by using light wells. Large spaces off of the major east-west axis contain major program areas, while the smaller, in-between places hold reading areas. Two-story windows bring in light, while an overhanging roof directs water and provides controlled shading. A southern plaza is dominated by a large pond for holding rainwater runoff, with steps to one side to help it serve as an amphitheater.



Figure 14: Looking north from the plaza to the main entrance (Alex Dykes).



Figure 15: Looking West through the children's section (Alex Dykes).

Anna Liu's scheme was designed with the intention of telling the story of water in Springfield. As in Alex Dykes's design, a plaza to the south features a pond, though in the case of Anna's library, water cascades off of the roof and into the water retention system. These stepped roofs create a series of high windows to the second floor and the central space. A linear circulation scheme leads from service spaces, past stacks, and out to a children's playground. On the second floor, circulation parallels this axis and visitors can look down to the first floor. The main stairway is located just past the media and new releases by the front door to the south, and a meeting room and exhibition space is to the north.

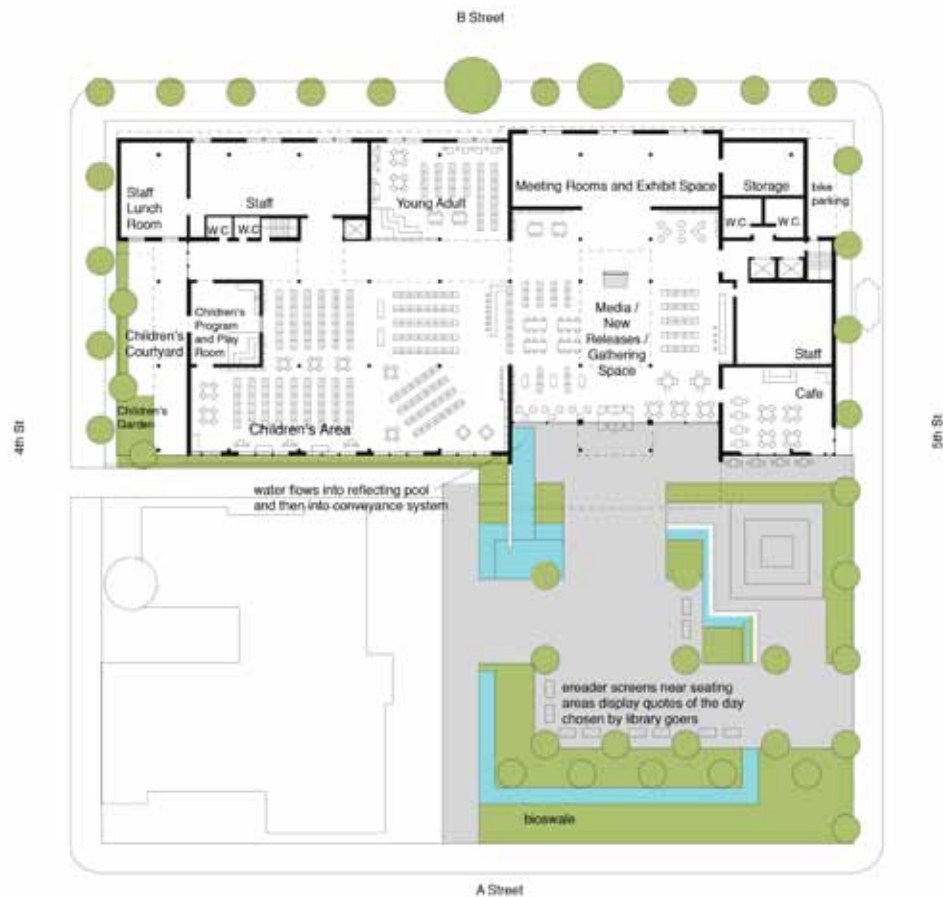


Figure 16: Ground floor plan (Anna Liu).



Figure 17: Bird's-eye view looking northwest, showing the library and plaza (Anna Liu).



Figure 18: Looking northwest across the plaza to the main entrance (Anna Liu).

Andrew Cohen's scheme is one of the clearest examples of an east-west linear scheme. Meeting and reading spaces are located on the south side of the building, next to a central atrium containing stairs and services and doubling as a gathering space. To the north is a long space containing the stacks, and on the very northern edge are reading areas, which take advantage of the even daylight. By creating a split-level library, Andrew was able to decrease the size of the building footprint while maintaining sightlines inside the library, although it becomes slightly more difficult to connect across the central space.



Figure 19: Bird's-eye view looking northwest, showing the library and plaza (Andrew Cohen).

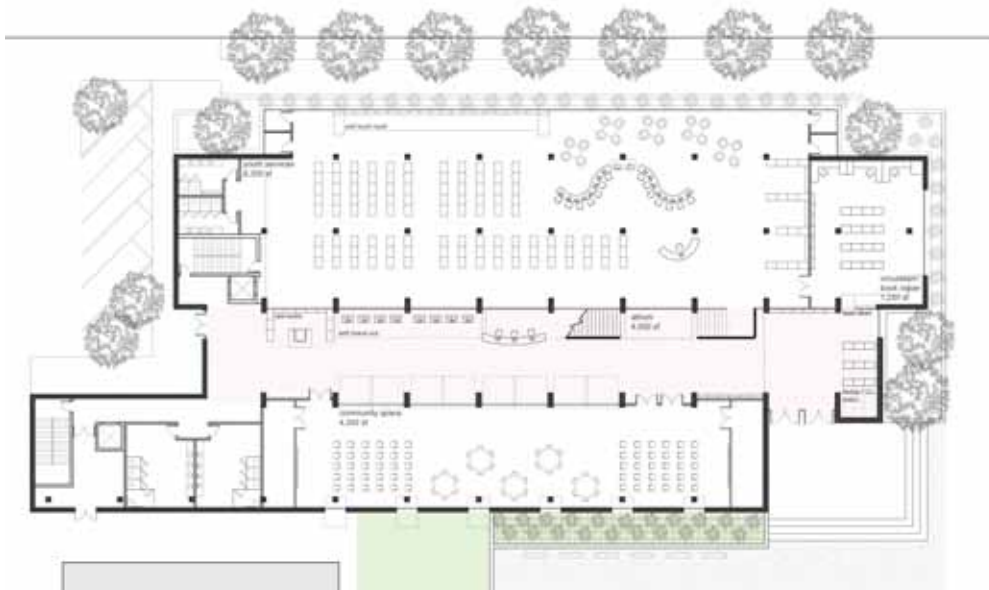


Figure 20: Library - first floor plan. (Andrew Cohen).



Figure 21: Section perspective looking west (Andrew Cohen).

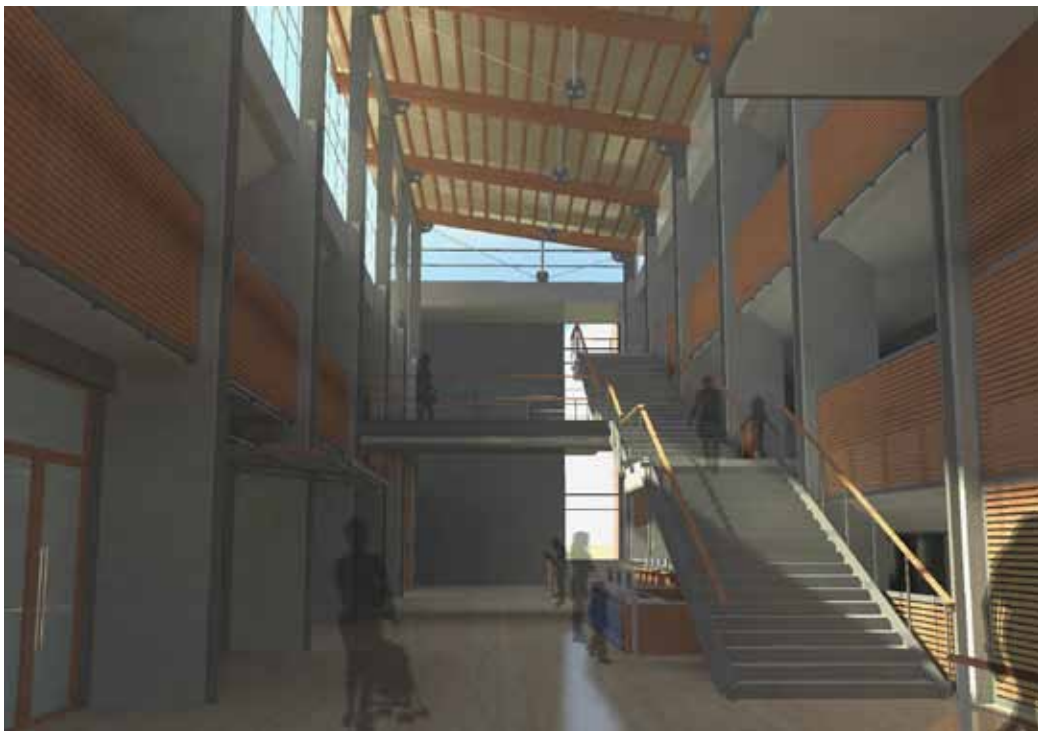


Figure 22: Looking west through the atrium (Andrew Cohen).

Eric Petrie placed staff and utility areas on the ground floor to the north, reserving the space to the south for program areas. The main entrance is to the south, while entrances on the east and west sides of the library mark the ends of the main circulation. Program areas overlap instead of having clear edges. A three-story central space contains media, technology services, and a checkout desk on the first floor and provides ventilation and daylight for much of the library. Overhead doors on either side open to a cafe and bookstore on one side and a multi-purpose room on the other, which also has overhead doors opening to a courtyard on the west side of the library. The upper floors, reached by a large stairway, contain stacks toward the center and reading areas on the northern edge or in places from which people can overlook other parts of the library.

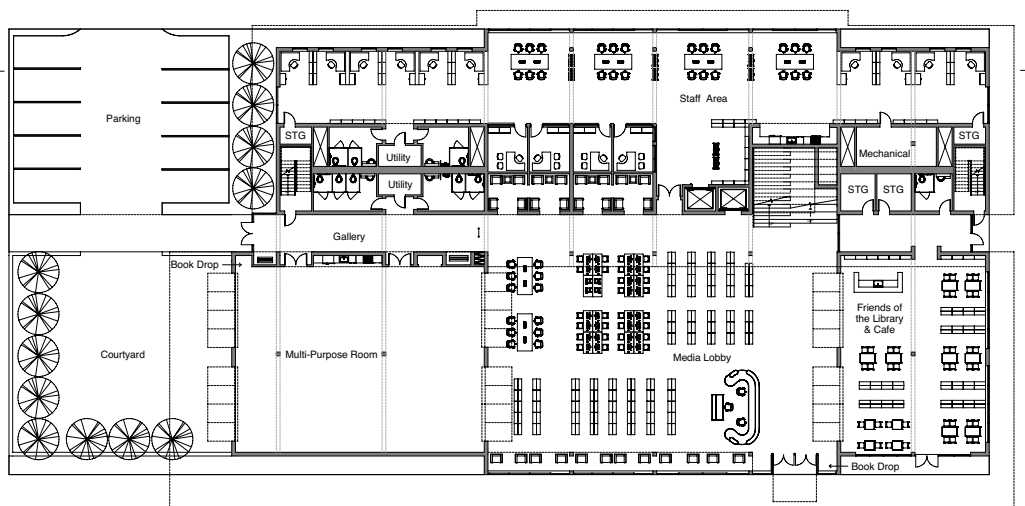


Figure 23: First floor plan (Eric Petrie).

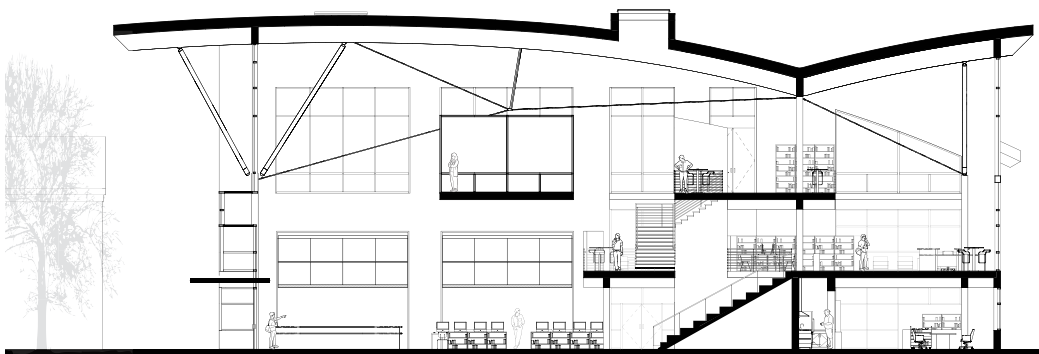


Figure 24: Building section through ground floor looking West (Eric Petrie).



Figure 25: Looking east through the media lobby (Eric Petrie).



Figure 26: Looking south from the mezzanine through the media lobby (Eric Petrie).



Figure 27: Mezzanine looking west through the youth area (Eric Petrie).

Daniela Teran's scheme features a multilevel spiraling organization. The first floor of her library is marked by a central gathering space with modular furniture. At the center is a winding staircase leading to the second and third floors. The southern edge contains service and utility spaces on all floors, while stacks, reading areas, and meeting rooms face the central area. The theme is continued on the outside, as a green roof begins at the plaza level and spirals around the side of the building up to the third floor, where it becomes a roof terrace.



Figure 28: First floor plan (Daniela Teran).

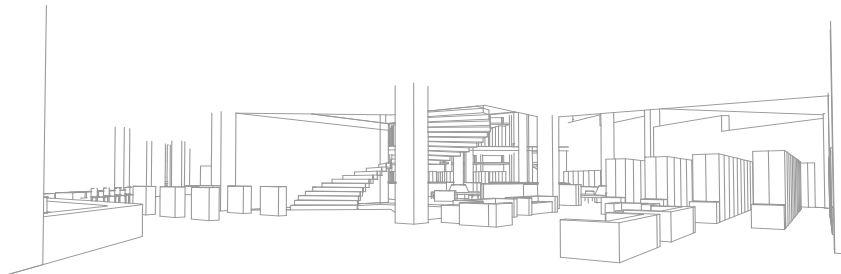


Figure 29: View through first floor reading area to main stairs (Daniela Teran).

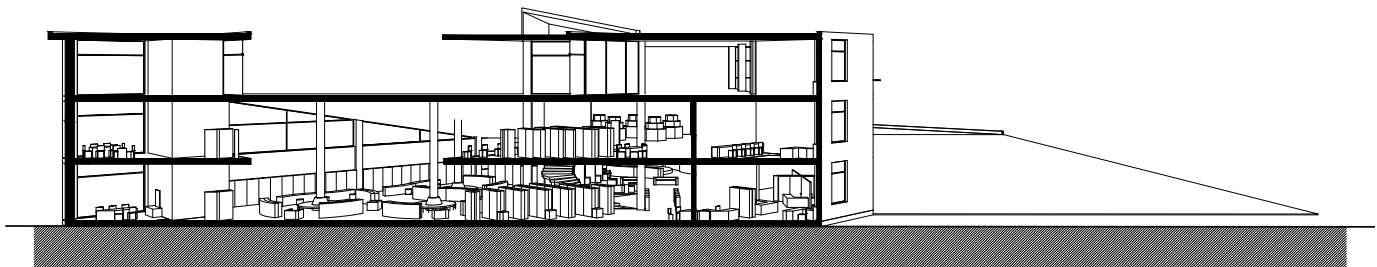


Figure 30: Section looking east (Daniela Teran).

Semi-Centralized Schemes

Other students attempted a centralized scheme, in which circulation passes along the edge of a central area, connecting rooms visually if not physically across the library.

Gwynne Mhuireach designed a library focused on a central courtyard that opens to a plaza to the south. The plaza is dedicated to a children's play garden and a farmer's market, and extends across the street to connect with the plaza in front of City Hall. A multi-purpose space on the east side of the library is essentially a separate building, opening directly onto the courtyard, which can be used after library hours. Staff space is placed on a half-sunken lower level which opens directly to the sloped court. The majority of the program is on the second floor of the library, and a third floor is occupied by housing for lower-income residents.

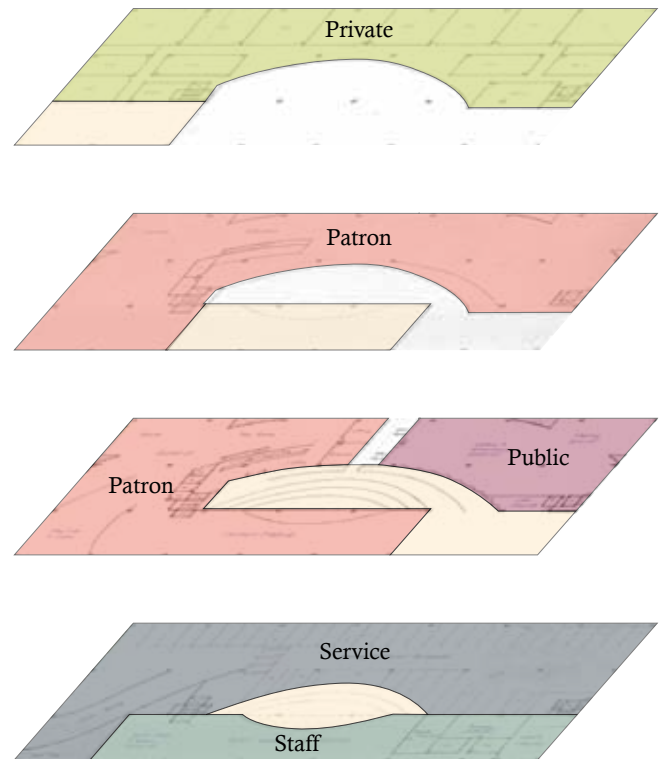


Figure 31: Spatial organization (Gwynne Mhuireach).

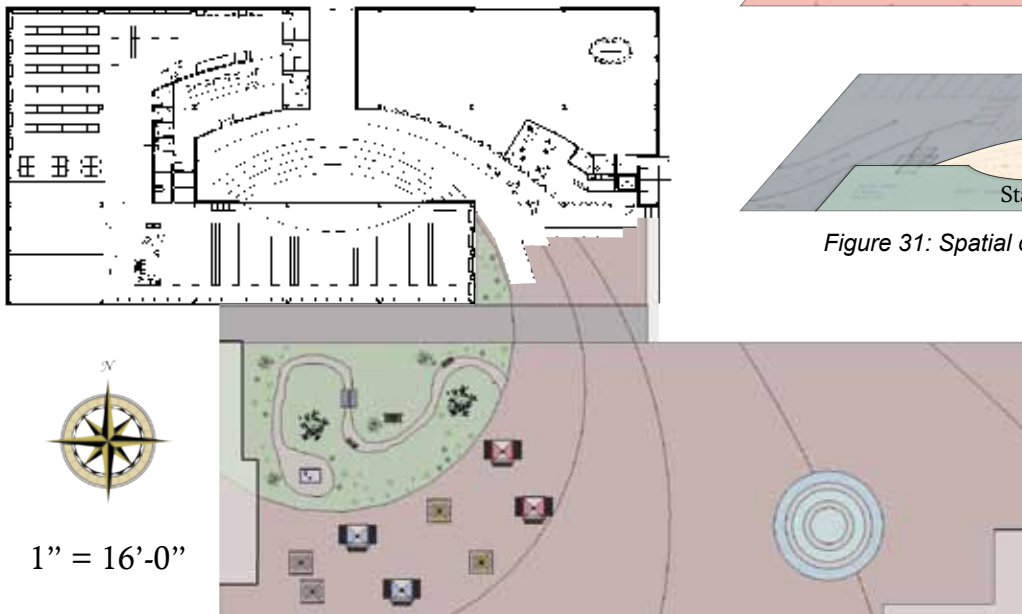


Figure 32: First floor plan (Gwynne Mhuireach).

Chet Morgan's scheme draws people into the library from a southeastern plaza and through the program spaces to another entry on the northwest side. At the center of this journey is a double-stranded staircase around a central atrium. Program areas are distributed along the path, and staff and service areas are tucked into a core near the main entrance.

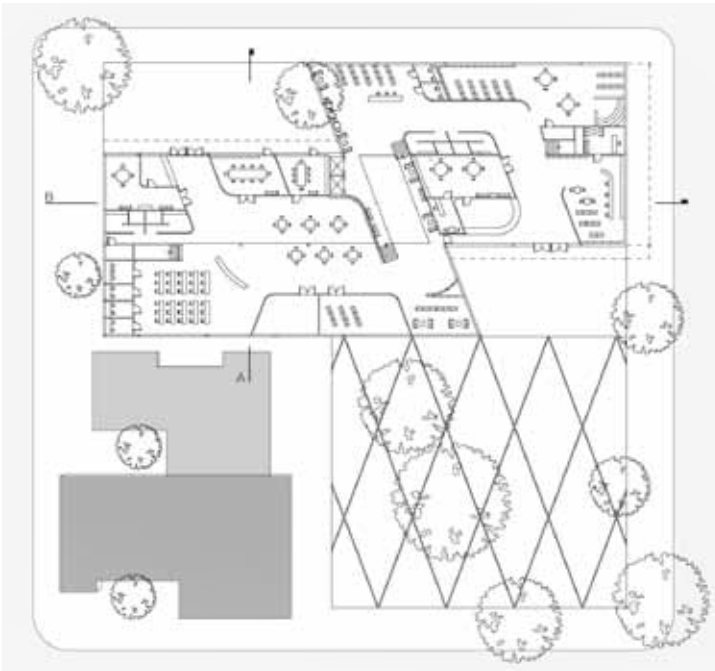


Figure 33: First floor plan (Chet Morgan).

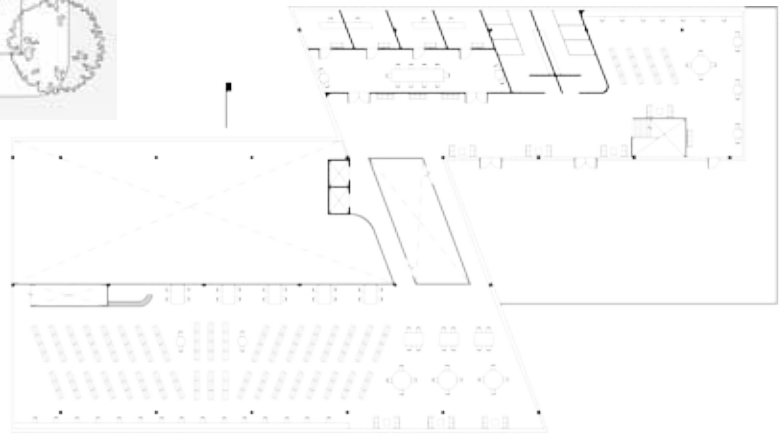


Figure 34: Second floor plan (Chet Morgan).

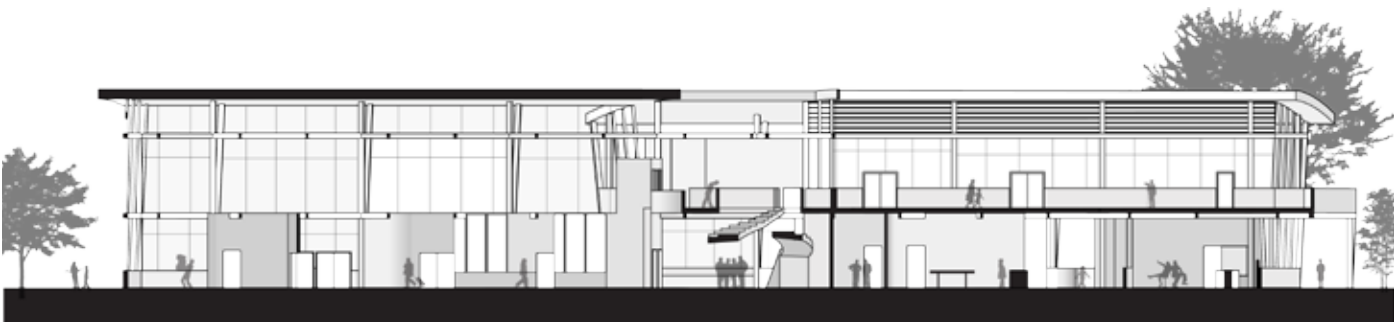


Figure 35: East-West building section (Chet Morgan).

Multiple Entrances

Some of the students created multiple entrances, connecting the library to the residential area to the north.

Christina Larson's scheme is similar to Andrew Cohen's, with a linear atrium as a spine for the building. Unlike Cohen's, Larson's project features a north/south axis toward the east end of the building, creating an entrance to the north and a lobby space at the intersection, while dividing the first floor of the building into quadrants. The northeast quadrant is dedicated to staff, while the southeast one holds meeting spaces which can be accessed directly from the southern plaza at off hours. The remainder of the building is dedicated to stacks and reading. The linear atrium doubles as a gathering space, and the large columns that separate it from the rest of the library do double duty in creating reading nooks on the upper floor that overlook the atrium. A children's garden is tucked in the southern space between the library and the NEDCO building. Careful arrangement of the bookshelves in the Youth Services area creates reading nooks for small groups, a feature that is unique to her scheme. Small indents on the second floor help to bring light into the building and double as roof terraces.

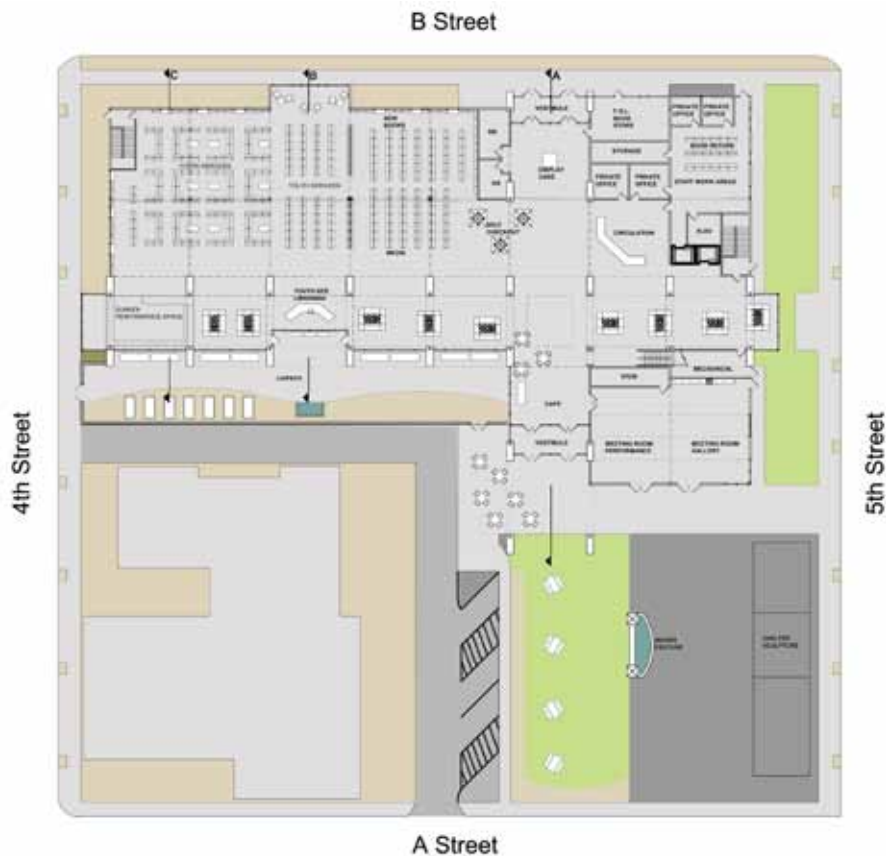


Figure 36: First floor plan (Christina Larson).

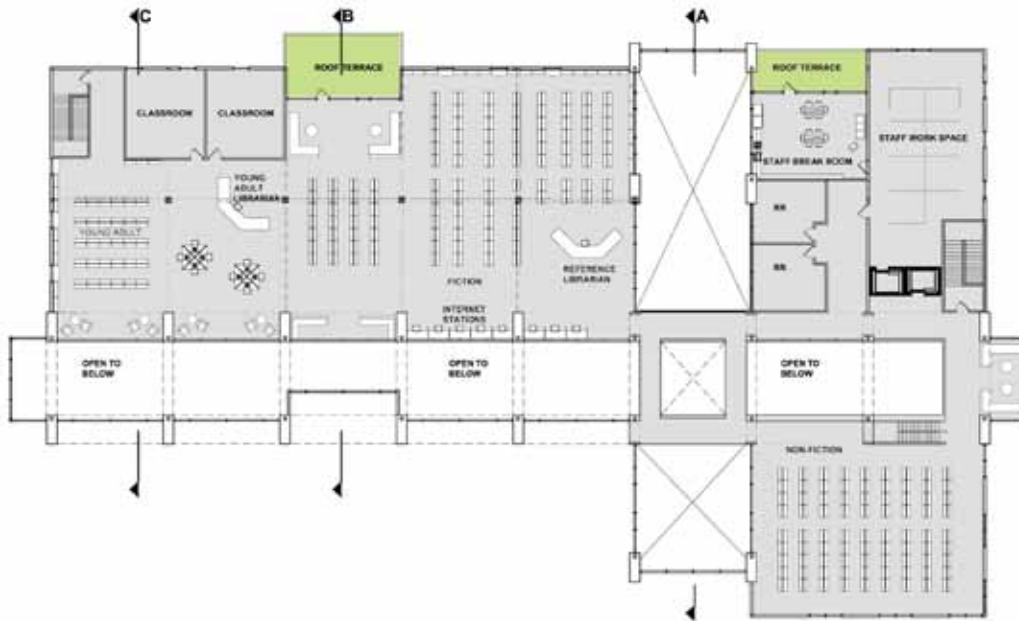


Figure 37: Second floor plan (Christina Larson).



Figure 38: Looking east to the Children's Garden (Christina Larson).



Figure 39: North entry building elevation (Christina Larson).

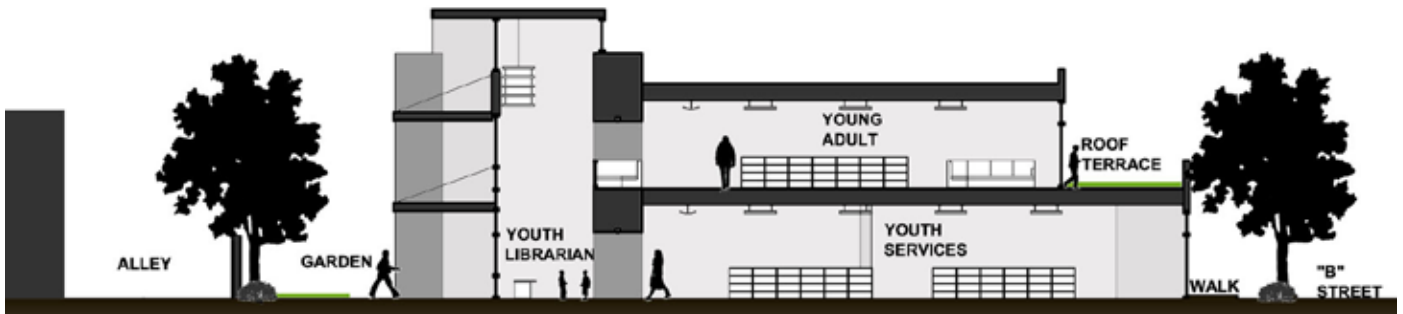


Figure 39: North entry building elevation (Christina Larson).



Figure 40: Looking north across plaza to main entrance (Christina Larson).

Jessica D. Gunraj designed a library similar to Andrew Cohen's and Christina Larson's, with a central spine and program areas to the north and south. Like Larson, she created a minor axis running north/south with an entrance on the north side. The program zone to the south has staff and utility spaces on one side, and a cafe / bookstore on the other; these commercial spaces can be closed off from the rest of the library and entered directly from the plaza. On the upper floor, the staff and utility areas remain, while the cafe is replaced with stacks and meeting rooms. The eastern edge of the library contains a double-height multi-purpose room. The northern side of the library is generally reserved for stacks and reading, and is punctuated by gardens that act as light wells and bring the outdoors inside.

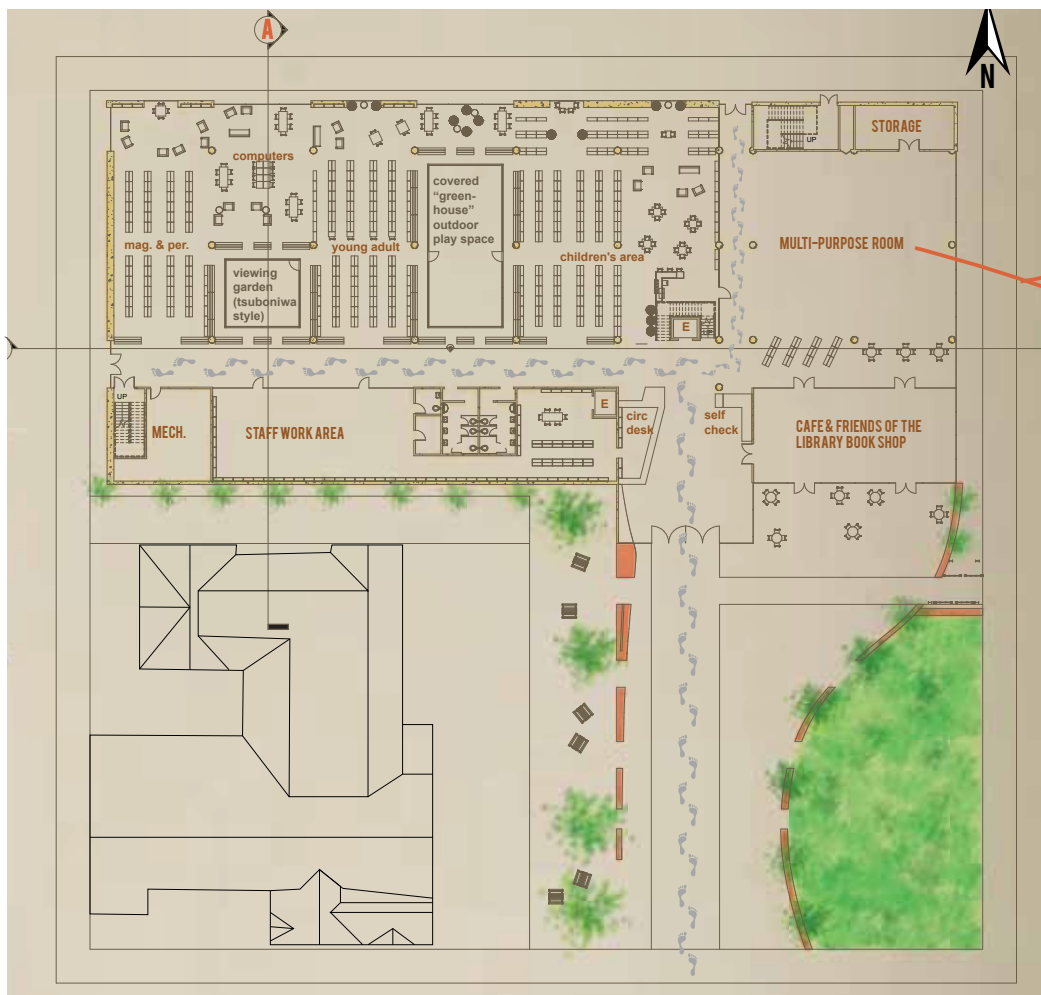


Figure 41: First floor plan (Jessica D. Gunraj).



Figure 42: Looking south from the children's section to the main staircase and circulation desk (Jessica D. Gunraj).



Figure 43: Looking east through the computer area (Jessica D. Gunraj).

Design Proposals: L-shaped Buildings

L-shaped schemes wrapped the building mass around the northeast corner of North 4th Street and B Street. The decision to pursue an L-shaped scheme was driven by the opportunity to yield both a location for expansion on the northwest side of the site and to locate an appropriately scaled, moderately-sized civic plaza on the southeast corner of the site.

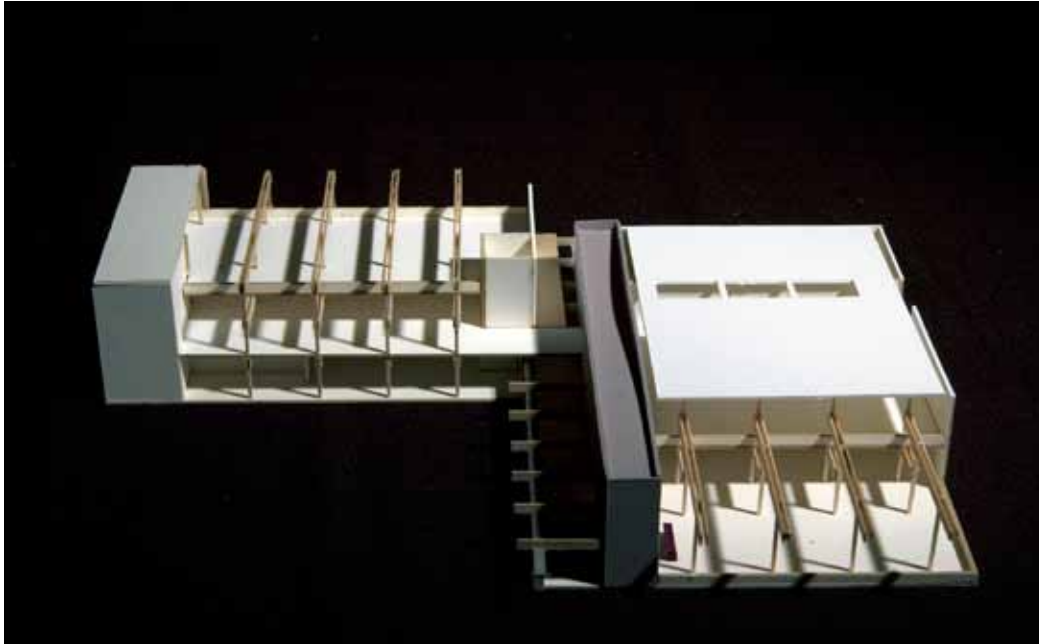


Figure 44: Model of an L-Shaped scheme, bird's-eye view looking north (Jennifer Huang).

L-shaped schemes generally consist of two overlapping rectangles that create a junction point on the northwest corner of the block. Several schemes use the junction as an opportunity to create open reading rooms that operate as the social hub of the library. Yaman Tezcan (see Figures 73 and 74) placed his plaza in the northwest corner of the site and integrated his entrance into a L-shaped scheme that allowed for easy access to both wings.

Entries to the L-shaped schemes are mostly located on the southeast corner of the site, and offer potential to create a public face for the library, as seen in Collin Janke's scheme (see Figure 45). The face of the library establishes a front porch for the plaza and offers strong connections between the cafe on the inside and the plaza on the outside. The reading room on the second floor looks back down onto the public space, emphasizing the civic personality of the space.

L-shaped schemes pursued a dynamic approach to movement and circulation on the site, differing from the long, linear circulation in the North-South and East-West schemes. This dynamism is created by the junction at the corners and the potential for a centralized vertical stairway that accesses each wing of the library (see Figure 50).

L-shaped schemes are split between reaching out in both directions and creating centralized spaces. In Jiajian Min's scheme, the library breaks with the grid of the street and sends an entry pedestrian bridge across North 5th Street to the parking lot (see Figure 46).

L-shaped schemes typically created larger first floors, allowing for more of the program to be accessible from the ground floor. With more of the program located on the first floor, L-shaped schemes are more able to carve away the floor plate on the second floor, providing improved daylighting and double-height spaces in large public reading areas, as seen in schemes by Austin, Janke, and Tezcan. A larger building footprint reduces building expansion space, parking space, and plaza space; many students designed a smaller public plaza, believing that it would be more dynamic at a smaller scale.



Figure 45: Looking north across A Street (Collin Janke).

Schemes

Jiajian Min employed a linear scheme that was fractured by wings of circulation that reached out like arms to the rest of the site (see Figures 46 and 47). This allowed Jiajian's scheme to connect to the surrounding context and create a dynamic character for the Springfield library as an iconic building. The non-orthogonal wings are anchored by a south-facing central atrium, which serves as the primary public space (see Figure 48).

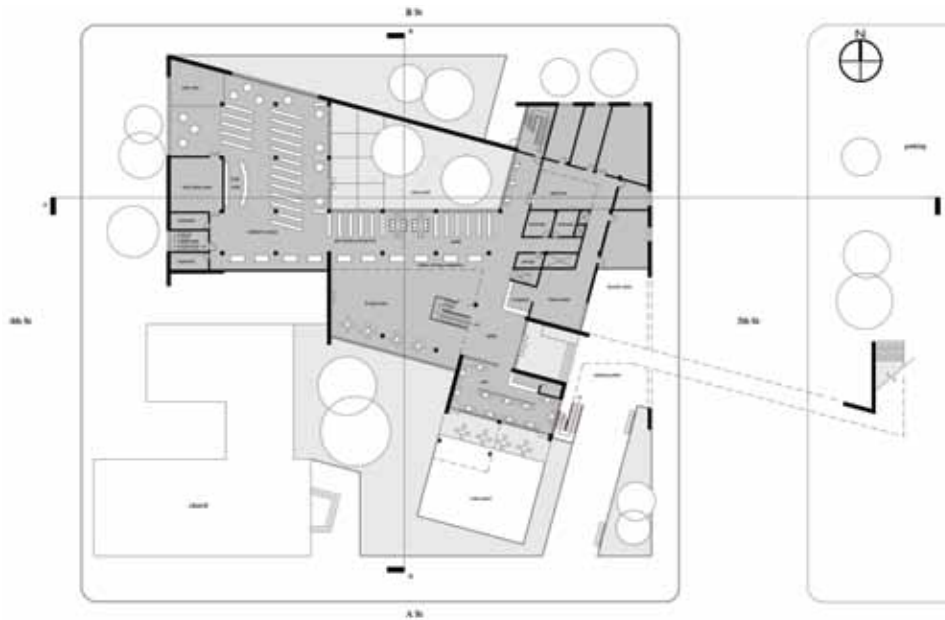


Figure 46: First floor plan showing central atrium (Jiajian Min).

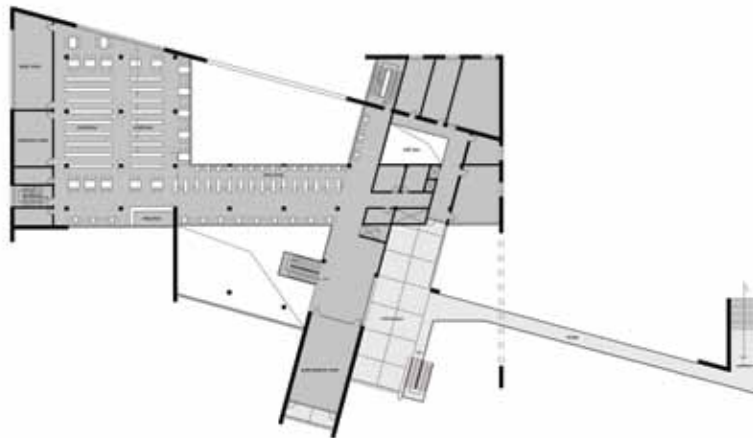


Figure 47: Second floor plan showing bridge across North 5th Street (Jiajian Min).



Figure 48: Second floor facing east (Jiajian Min).



Figure 49: Looking north across the plaza to main entrance (Jiajian Min).

Ian Korn designed an L-shaped scheme with a large central atrium space. From the south, visitors enter this central space near the circulation desk and are drawn through the atrium to the main staircase and glass wall on the north side. Program areas bleed into this space, with the children's services, a small periodicals space, technology and community rooms easily accessible on the ground floor. Second floor stacks and reading areas overlook the atrium, while study rooms and a teen area are just off of it. Community spaces are spread throughout the building. A cafe has its own entrances and opens directly onto the plaza. A large community room on the first floor has an entrance that allows it to be used when the rest of the library is closed, and large overhead doors connect it to the atrium and let it be used as either reading or exhibition space when nothing else is scheduled. Staff and delivery services enter from an alley between the library and NEDCO building, and staff work areas are separated. There is a small sorting area and an office behind the circulation desk with direct access to a service elevator. Larger spaces on the second floor are separated, with a break area and more sorting on one side of the library, and a large work room on the west side behind the reference desk.

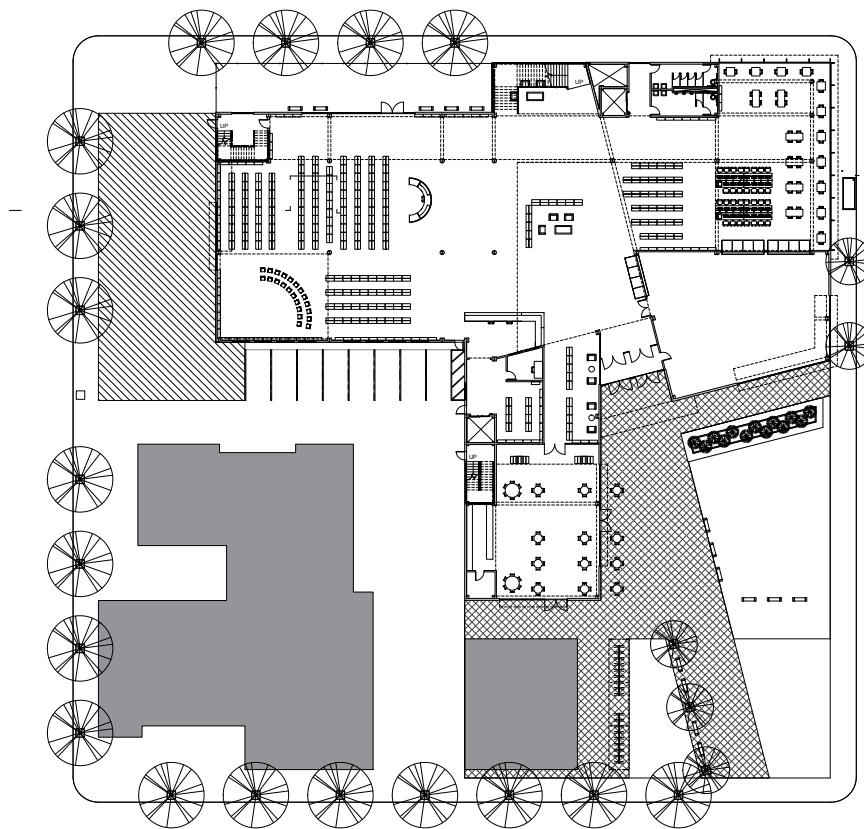


Figure 50: First floor plan showing scheme and plaza (Ian Korn).



Figure 51: Bird's-eye view looking northwest showing plaza and library (Ian Korn).

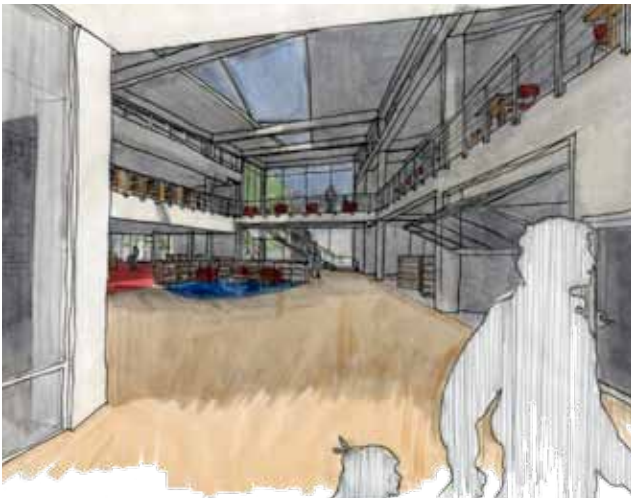


Figure 52: Looking north from the main entrance across the central atrium (Ian Korn).



Figure 53: Looking north across the plaza to main entrance (Ian Korn).



Figure 54: Section facing north (Ian Korn).

Collin Janke employed an L-shaped scheme with a south-facing entry that proceeds into a double-height reading room opening to the north for even daylighting. The program areas in Janke's scheme blur together, and this scheme questions the need for partitioned programmatic spaces (see Figure 57). For example, the cafe spills out into the front plaza and offers catering services to the flexible community space. The flexible spaces spill out onto a courtyard on the northwest corner of the site, which provides event space for the children's area. Janke embraced programmatic spaces that could serve multiple functions as a means of providing opportunity for civic engagement among library patrons. The L-shaped scheme best suited this type of programmatic weaving due to its ability to accommodate overlapping spaces at multiple scales: site, room, and furniture. To emphasize the overlapping of programmatic spaces, Janke explored the plastic qualities of overlapping roof planes (see Figures 55 and 56.)



Figure 55: Bird's-eye view looking northeast (Collin Janke).

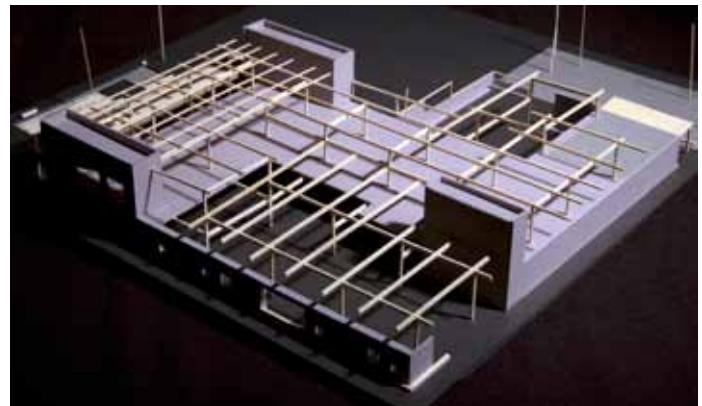


Figure 56: Bird's-eye view looking southeast showing structure (Collin Janke).

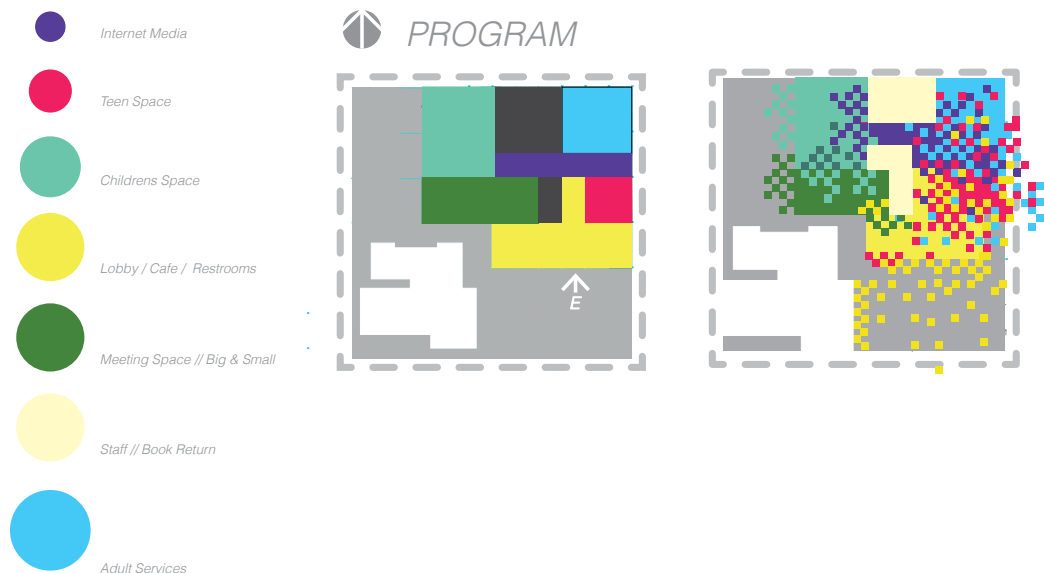


Figure 57: Diagram showing interwoven program elements (Collin Janke).

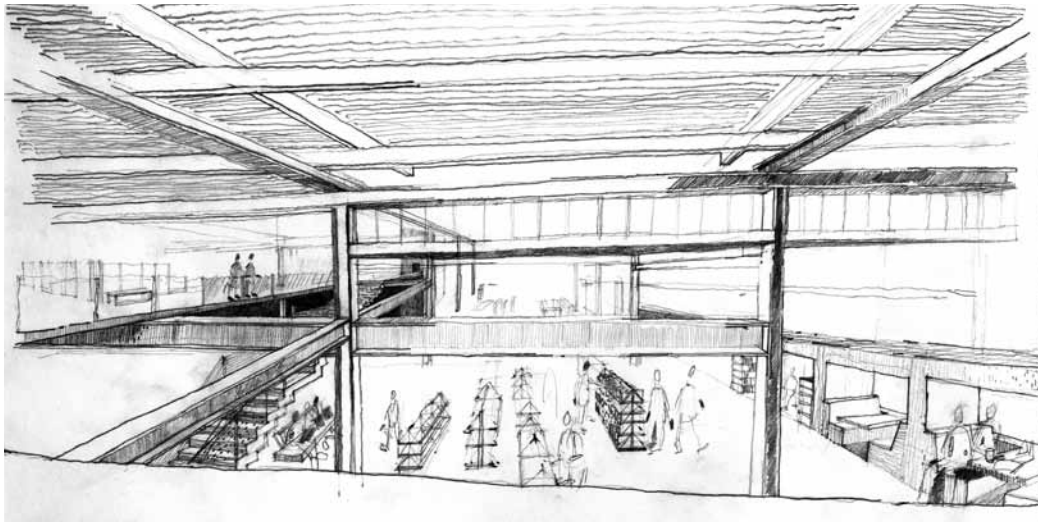


Figure 58: Looking north from second floor into the reading room (Collin Janke).



Figure 59: Looking west through the entry plaza (Collin Janke).



Figure 60: Teen room (Collin Janke).

Ian Austin's scheme is an L-shaped building with a large, T-shaped atrium space lit by overhead skylights. From the south entry, visitors are welcomed into a double-height space from which they can see the rest of the library. On one side is a large multi-purpose and performance space which can be closed off when needed, and to the right is a small cafe, both of which feel like a part of the main space. The axis running east-west is dominated by a central staircase leading to the upper floor. A staff work area is tucked behind these stairs, while the northern portion of the ground floor is dedicated to children's services. The upper floor is essentially an open plan overlooking the atrium. A help desk greets patrons at the top of the stairs, and stacks are toward the center. Reading spaces are arranged along the building's edges where they can capture the most daylight, and a small teen area is in the southeast corner of the second floor. Austin's scheme is also notable for its use of colored glass to enliven the building interior and for a green roof that can be seen through openings in the grid pattern on the facade.

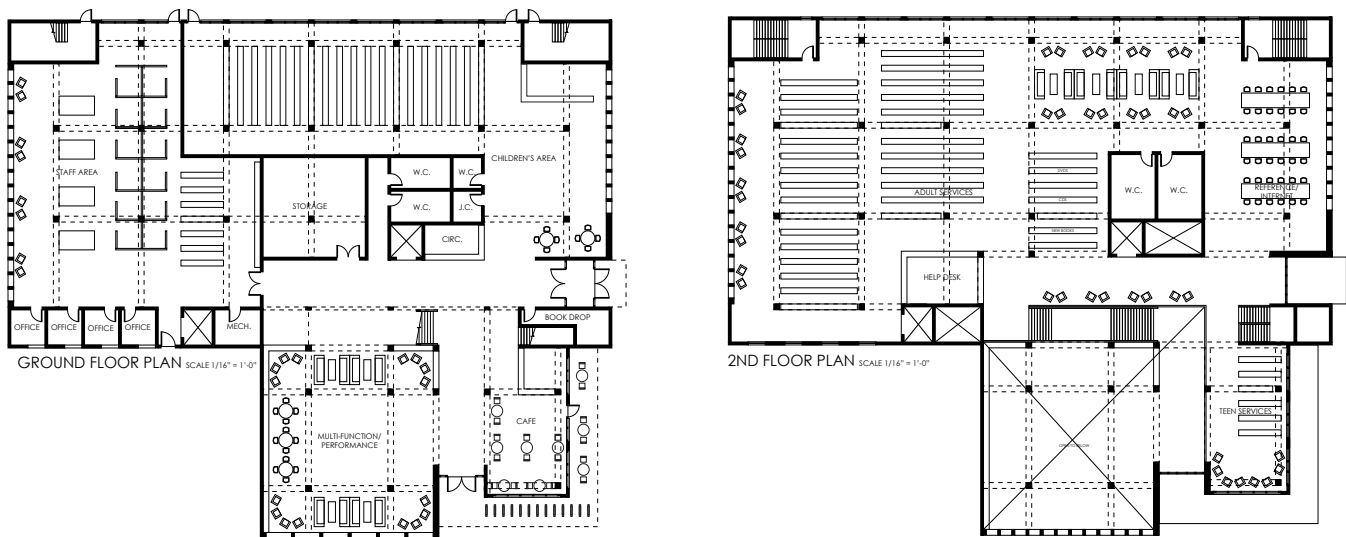


Figure 61 and 62: First floor plan (left) second floor plan (right) (Ian Austin).



Figure 63: Looking northwest across A Street and North 5th Street to the plaza and main entrance (Ian Austin).



Figure 64: Looking east across the multi-purpose room (Ian Austin).



Figure 65: Looking west down along the second floor hallway (Ian Austin).

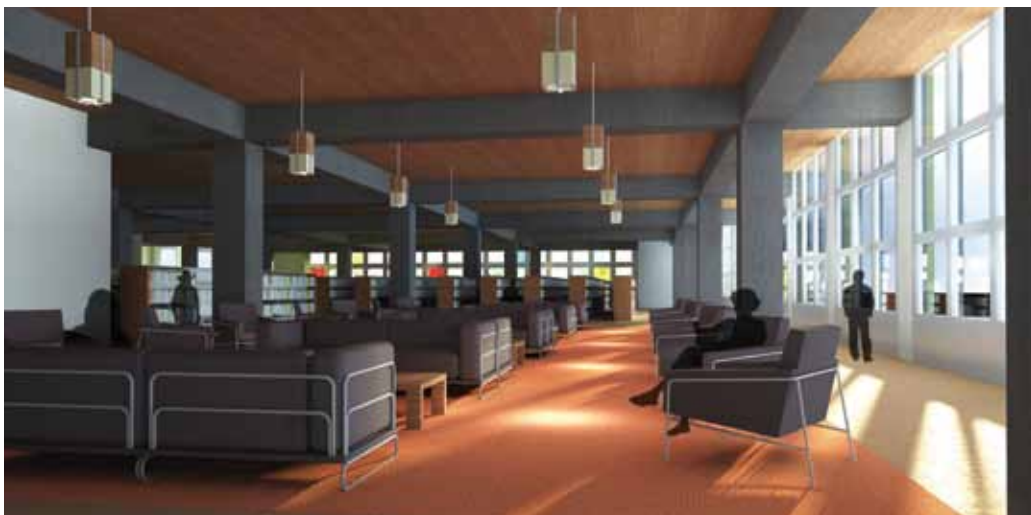


Figure 66: Looking west through the second floor reading area towards adult services (Ian Austin).

In Jennifer Huang's scheme, the building is ordered along two major axes. The first connects the Washburne residential neighborhood to the plaza and to downtown. The second is oriented along the east/west axis to maximize solar gain. Huang locates the entry on a spinal element that reaches out into the south-facing courtyard that connects with NEDCO and City Hall. The cross-axis draws the visitor into the library, which is set up on a linear scheme, similar in plan to the East-West schemes.

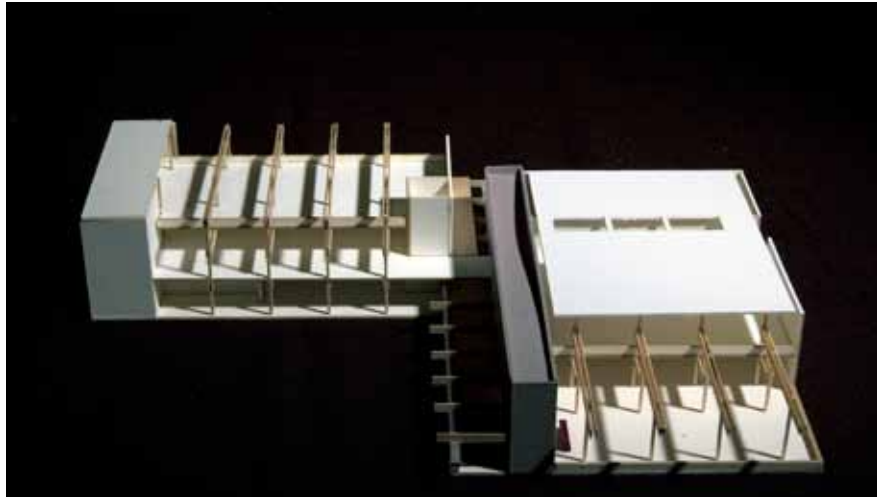


Figure 67: Bird's-eye view looking north (Jennifer Huang).



Figure 68: North building elevation (Jennifer Huang).

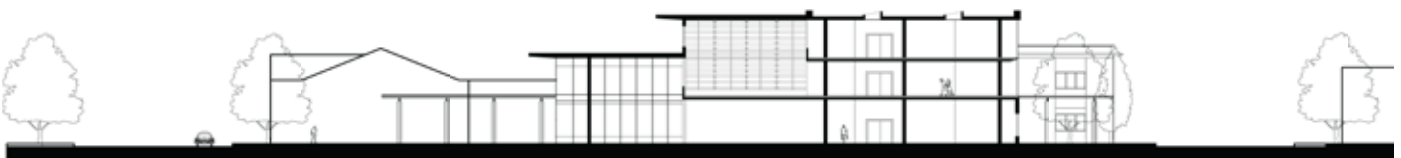


Figure 69: Building section looking West. (Jennifer Huang).



Figure 70: First floor plan (Jennifer Huang).

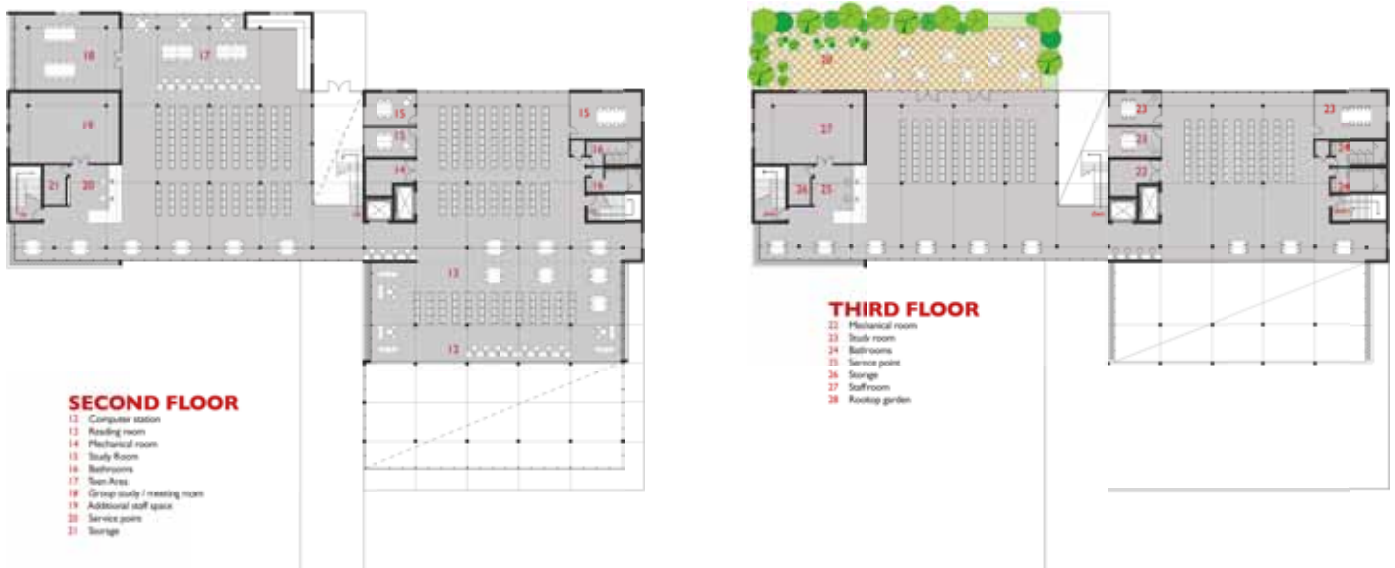


Figure 71 and 72: Second floor plant (left), third floor plan (right) (Jennifer Huang).

Yaman Tezcan employed a scheme with most of the program space on the ground floor, with a focus on accessibility. Daylighting is employed through a balanced approach to window glazing and skylighting (see Figure 74). A plaza on the northwest corner of the site, unique among the student work, connects the site to the Washburne neighborhood. Tezcan's rendering of the central stairway shows a large double-height atrium at the entry, accommodating the children's area as a focal point of the civic space.



Figure 73: Section facing east (Yaman Tezcan).



Figure 74: Looking south through the first floor reading room (Yaman Tezcan).

Sustainable Strategies

Daylighting

Perhaps the most important sustainable strategy to incorporate into any building is to provide for daylight. Daylighting can be accomplished partially through the way the building is oriented on the site, and partially through design. Artificial lighting, while certainly necessary to provide and augment light when the sun is obscured, can significantly increase a building's electricity consumption, even with the most efficient lighting types. More than that, artificial lighting emits a significant amount of heat that has to then be dealt with through the ventilation system. Detailed explorations of lighting fixtures and control systems were beyond the scope of this studio, so students instead focused on the ways the building could be designed for the best daylight.

In libraries, it is particularly important to control lighting. Diffuse, even light can reduce glare and create a positive reading experience. Northern light, which tends to be even throughout the day, is much more useful in this respect than southern light, which can create extremes as the sun passes overhead. In other instances, light must be reduced to a lower level to reduce glare on computer screens. In many libraries, the computer room is placed deep in the center or perhaps in a basement, solving glare problems, but completely eliminating the connection to the outdoors. An appropriate lighting level could just as easily be achieved through proper orientation and sizing of windows. For example, smaller windows on the northern side would let in softer indirect light without having to resort to placing computer users in a dark room.



Figure 75: Daylight from the north is even throughout the day, perfect for a reading area (Andrew Cohen).

Orienting a building along an east-west axis will provide the most opportunities for daylighting, as well as the most opportunity to temper the light received. With a building running north-south, effective daylighting is far more difficult. The brightest and harshest light occurs in the morning and evening, as the sun is rising or setting. Windows facing directly east will catch the most light during the morning hours and the least once the sun passes to the other side of the building. The opposite is true of west-facing windows. As mentioned above, north-facing windows receive an even, diffuse light throughout the day, as the sun only hits those windows directly for a few hours each day during late spring and early summer. Southern exposures are extremely important for taking advantage of daylight, as they get the most hours of sunshine.



Figure 76: Southern exposures receive the most hours of daylight (Jiajian Min).



Figure 77: Abundant daylight can create a pleasant reading environment (Ian Korn).



Figure 78: Providing daylight is one of the best ways to reduce building energy costs (Alex Dykes).

Solar Shading

Shading devices can be used to control daylight, particularly if the scheme involves a high window-to-wall ratio. The amount of light a building receives differs not only over the course of the day, but also with the seasons. Well-designed shading systems can cut down extreme amounts of light or diffuse it as it enters the building, still allowing a good measure of daylight to reach inside. Sometimes it is possible to use natural devices to shade a building—deciduous trees or vines placed in front of windows, for example. These trees lose their leaves—and thus much of their shading ability—in the fall and winter months when there is lower and weaker light. In the spring and summer, when the sun is strongest, light is filtered through the leaves. The best solutions to shading are most likely found in some combination of built and planted screens.



Figure 79: Shading devices on the southern side of the library help filter and control the amount of light received (Colin Janke).

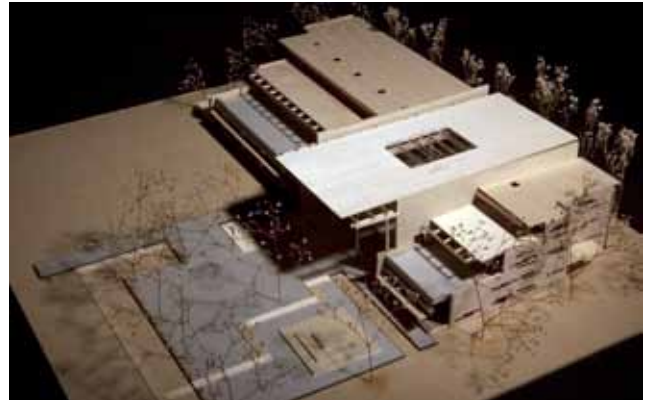


Figure 80: Overhanging roof planes as well as differing sizes of windows can also help shade a building (Anna Liu).



Figure 81: A library reading room. Notice the shading devices on the exterior of the windows as well as the way the structure acts as shading for skylights (Yaman Tezcan).

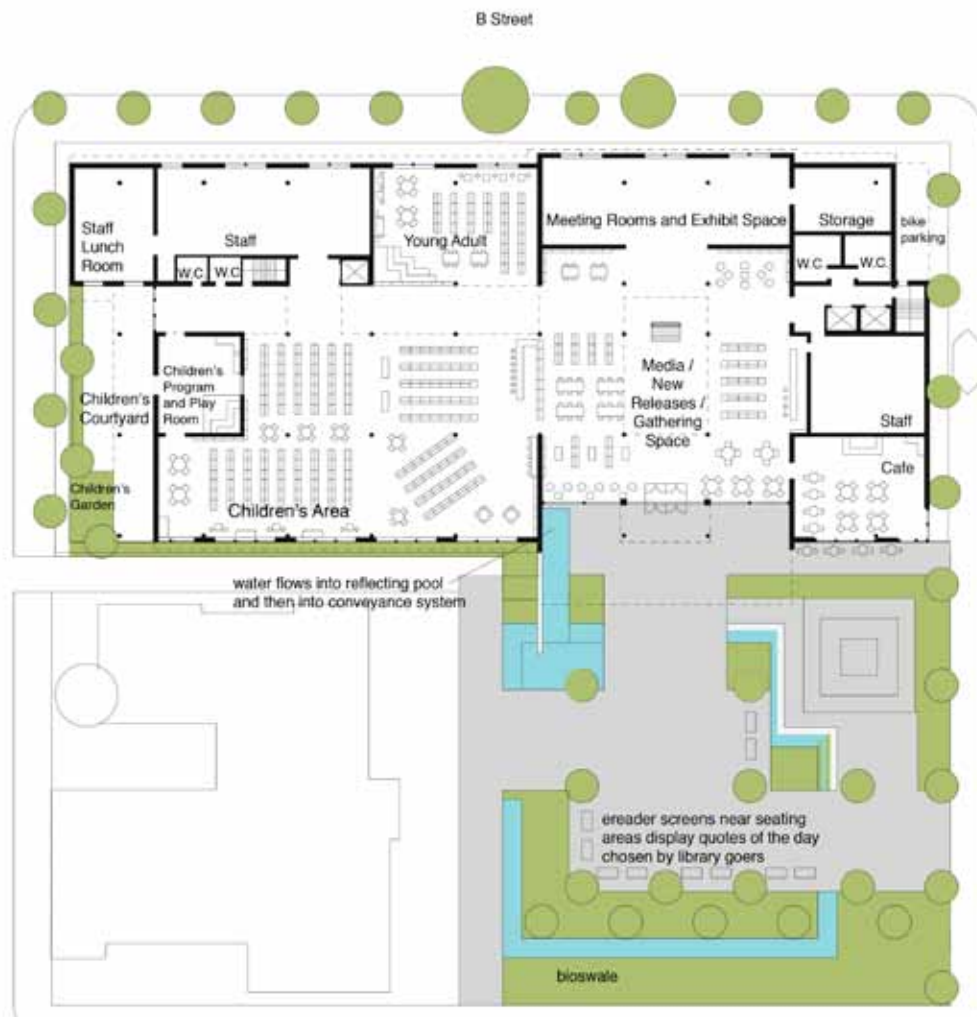


Figure 82: Anna Liu's plaza contained a bioswale, fountains, and a reflecting pool that retained runoff from the roofs.

Water Management - Retention Ponds

Because of Western Oregon's high annual rainfall, effective water management strategies are critical to the long-term success and sustainability of buildings. The City of Springfield has a particularly close relationship to water, located as it is on a former floodplain between the Willamette and McKenzie rivers. Urban environments have been shown to significantly increase runoff because of their vast amounts of impervious area. This runoff in turn causes significant erosion as stormwater makes its way into local streams and rivers. This unmanaged runoff damages plant and animal habitats by raising the temperature of the water, and pollutes by washing dirt and chemicals directly into waterways with little or no filtration. One way to reduce the damaging effects of runoff is to detain or delay rainwater on site, allowing it to enter waterways at a more controlled pace.



Figure 83: Alex Dykes's plaza is dominated by a large retention pond.

Anna Liu and Alex Dykes saw stormwater management as a potential way to add to the library's landscaping features. In Liu's scheme (see Figure 82), runoff is collected in a bioswale only after being run through a series of fountains and a reflecting pool. Dykes's scheme was focused on the idea of water "seeping" through the building. The library is surrounded by several bioswales, some of which sit in slots in the building, and his plaza is dominated by a large pool meant to retain water (see Figure 83).

Green Roof

Perhaps the one strategy most closely associated with “green design” is that of a green or vegetated roof. Green roofs can range from a thin layer of sedum plants on an otherwise inaccessible rooftop to complete roof gardens with small trees. Apart from aesthetic and educational advantages, they can be helpful in a number of ways. Green roofs provide an extra layer of insulation to a rooftop and can help protect it from weathering. Because of the layer of soil, they detain water and help to reduce or slow runoff. There is also an indirect benefit, in that green roofs can help to reduce the urban heat island effect, a benefit for the overall environment.

Two students in the studio included a green roof in their schemes. Daniela Teran created a green roof that begins at ground level, connects to the plaza, and winds up alongside the building to the third floor to become a roof terrace (see Figure 84). The landscape of the city climbs and integrates with the building, creating outdoor spaces for the use of the community and the library.

Ian Austin designed a green roof that is inaccessible but can be seen from below. A significant theme in his library’s design was the grid pattern on the facades. It is used to order the building, create windows, break the grid pattern with colored glass. A parapet wall extends above the roof on the edge, and the grid continues with it, but instead of glazing, there are open squares that display the greenery on the rooftop (see Figures 86 and 87).

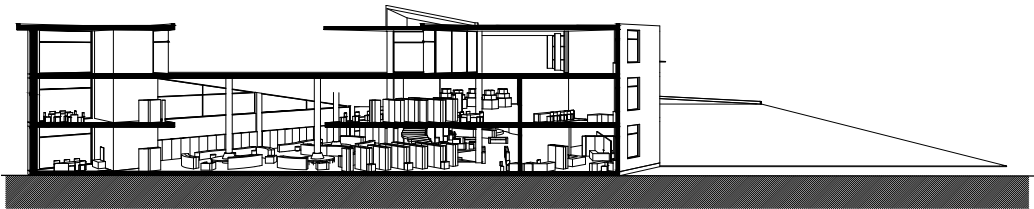


Figure 84: Daniela Teran’s green roof winds up the side of the building.

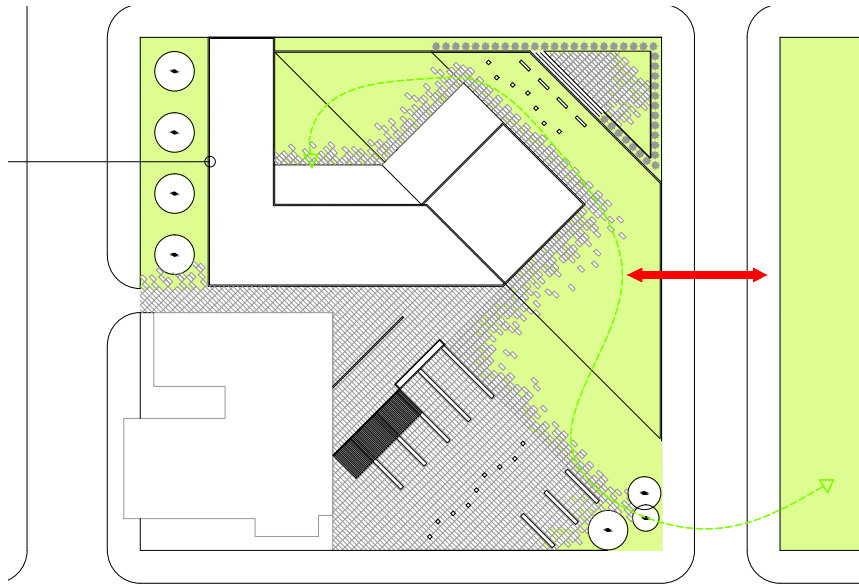


Figure 85: The green roof extends from the plaza to a roof terrace (Ian Austin).

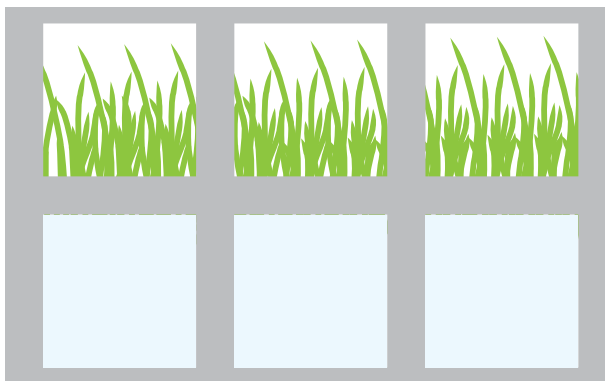


Figure 86: Ian Austin's green roof could be seen through window boxes, an extension of the grid on his facade (Ian Austin).



Figure 87: The green roof seen as part of the east elevation (Ian Austin).

Solar Gain and Thermal Mass

Sunlight can also assist in heating a building, if it is properly designed. Heat from the sun can be captured in large masses of masonry. This thermal mass helps to reduce the heat during the daytime, then slowly releases the heat once the area cools, providing heating when it is most needed. For this strategy to work, it requires windows that receive a lot of light and a sufficiently large masonry mass to be placed nearby. It need not be obtrusive and can help the building in other ways. Christina Larson accomplished this in her scheme's atrium with south-facing windows and a thick concrete wall opposite (see Figure 88). She used this mass to her advantage, dividing circulation and gathering space from book stacks and other program areas, and used the rhythm of the columns to create reading bays on the second floor. Gwynne Mhuireach intended the books themselves to be a part of the thermal mass, an idea worthy of further study.

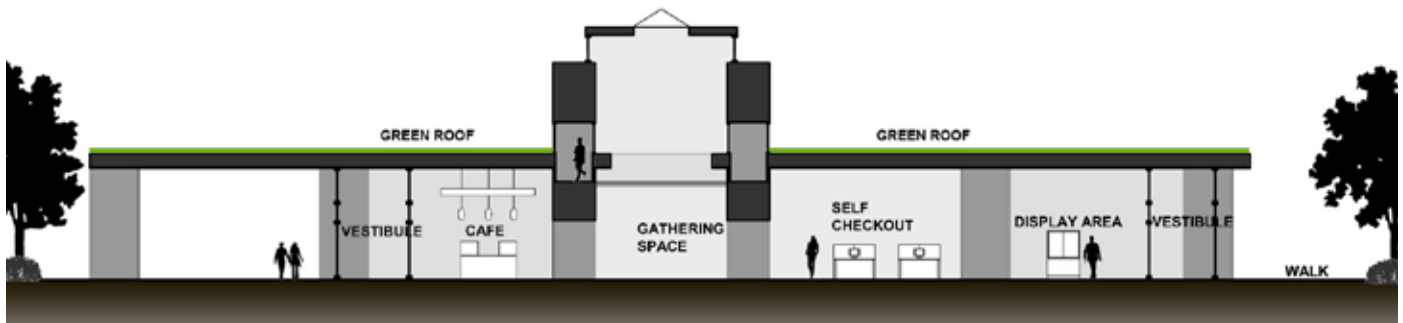


Figure 88: The concrete structure of Christina Larson's atrium doubles as thermal mass.

Assisted Natural Ventilation

One way to reduce energy costs, particularly in a large public institution, is through the use of natural ventilation. Edward Dean's book, *Energy Management Strategies in Public Libraries* (Dean 2002), outlines several strategies, one of which he refers to as "assisted natural ventilation." Two students, Ian Korn and Eric Petrie, adopted this strategy for their schemes (see Figures 89 and 90). The first key to this strategy involves orienting the building to take advantage of the prevailing winds—which in this case come from the north and south, depending on the season—to move air into and through the building. In nice weather, windows can be opened to allow cool, fresh air in; this air rises slowly through a central space and eventually escapes through openings at the top of the building. As the need for more circulation increases, mechanical assistance can draw air into and through the building in greater volumes. As the air heats up, supplemental air conditioning can temper the air. Only when the air is too hot or too cold will the building need to rely fully on mechanical ventilation. Besides the energy cost savings, this also provides some opportunity for people in the building to customize their environment by opening or closing windows. The technical challenge is to prevent them from opening or closing them when it can adversely affect the overall building climate. This could be accomplished through something as complicated as a computerized control system or as simple as locking the windows during the off-season.

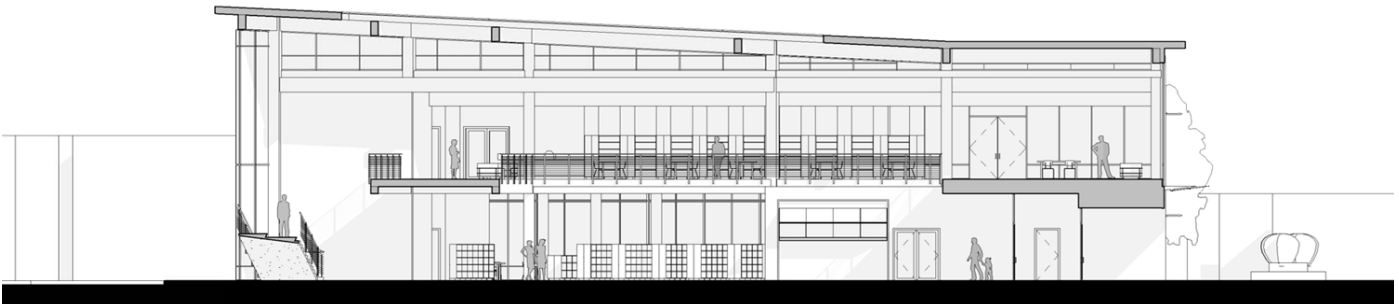


Figure 89: High windows in the atrium allow hot air to escape from the library (Ian Korn).

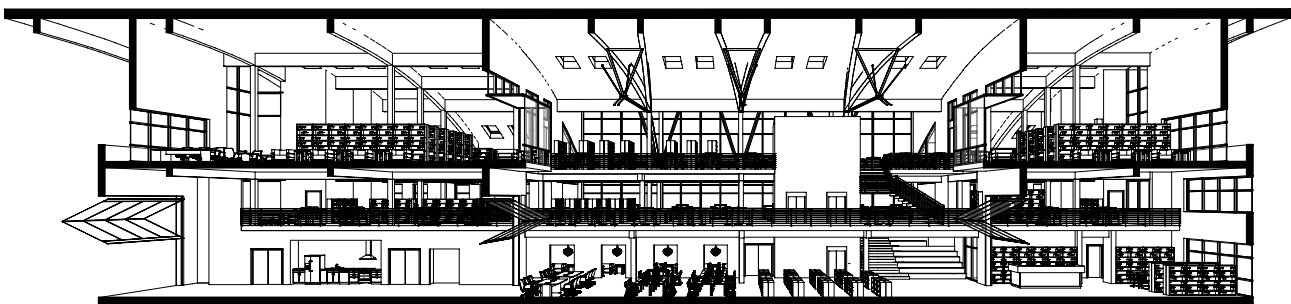


Figure 90: Skylights can also function as a conduit for natural ventilation. Hot air from throughout the library is drawn to the central space (Eric Petrie).

Extra Features

Coffee Shop and Friends of the Library Bookstore

Though the program did not specifically call for a coffee shop or bookstore, almost all students included either one or both in their schemes, often counting it as part of the 7,500 square feet reserved for “Community Space.” In most schemes, this area was placed on the ground floor of the library near the main entrance as a way to draw people into the library and enliven the neighboring public plaza. These spaces were often given their own entrances from outside and into the library, allowing them to have longer operating hours than the rest of the building. Scot Jahn placed his cafe at the center of the library on the second floor. He questioned the ability of a cafe to invite people into the library and decided it was more important to create a retreat space at the center for people who were already there, similar to many major bookstores.

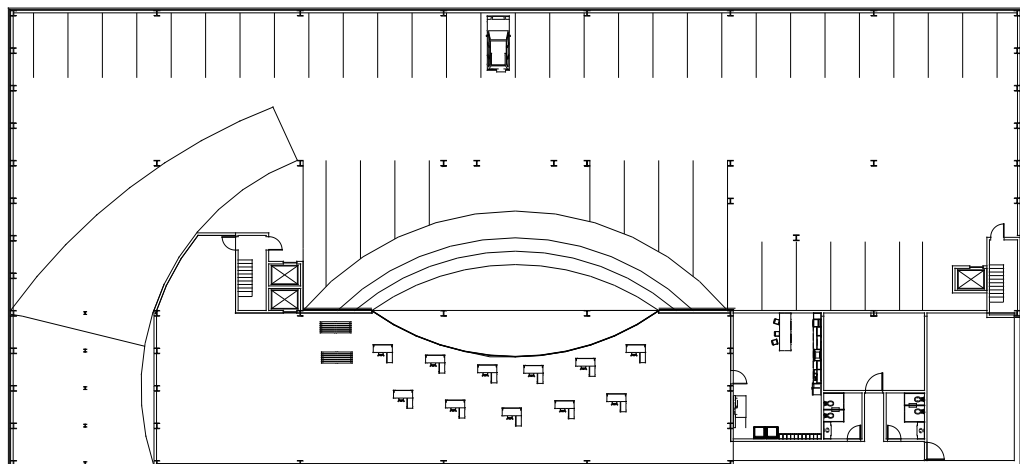


Figure 91: Gwynne Mhuireach's below-grade parking garage doubles as expansion space.

Parking Garage

Since public parking was not required by zoning, most projects provided on-site parking for staff and handicap access only. One student, Gwynne Mhuireach, created an entire parking garage, covering roughly two-thirds of a half-sunken basement level. In addition to providing parking for library patrons, the lot is shared with residents of the apartments on the third floor of her scheme. During library hours, most of the residents would be away at either school or work, leaving the spaces open, and once the library closed, there would be plenty of room to park their cars. The garage further doubled as future expansion space.

Housing

Mhureach was also the only student to include housing in her scheme. The third floor of her building was dedicated to twelve apartments and a roof terrace for residents. She intended the apartments be used as affordable housing for low-income residents, who would have the advantage of a desirable downtown location and easy access to public transit and the public services in the library.

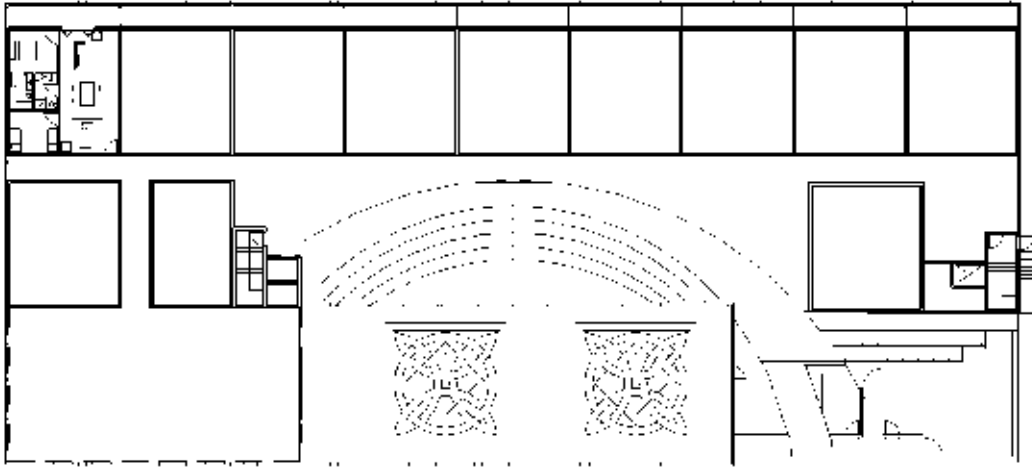


Figure 92: Gwynne Mhureach included 12 apartments on the third floor to be used for low-income housing.

Plazas / Outdoor Civic Presence

In addition to the design of the building itself, the library program also included design of a public plaza. In meetings with library staff, students were told that the existing plaza at the base of the City Hall stairs was occasionally used for large public gatherings and outdoor events. A new plaza at the library site was important not only for the library's use, but as an extension of the surrounding civic space. Typical student plaza designs include seating and play areas (hardscape) as well as plantings or water features (landscape). Provision is usually made for covered bike parking as well as some outdoor stalls for NEDCO's farmer's market. Size was variable. Leaving an entire quarter-block lot open would leave far too large a space that would not likely be used. For this reason, students had to strategically divide and design the space.

Southeast Plaza

Placing the plaza in the southeast corner of the block creates an outdoor civic space by uniting the plaza at City Hall with the potential entry to NEDCO. This critical location explains why the majority of schemes located the plaza here.



Figure 93: Andrew Cohen's plaza.

Andrew Cohen's plaza is a good example of a plaza located to the southeast. A hardscaped area provides space for events and leads directly to the main entrance of the library. To one side are covered bike parking and landscaped areas for sitting in the shade.

Ian Korn's plaza provided both hardscaped and landscaped areas. It includes covered bike parking and a covered area for outdoor stalls for NEDCO's farmer's market. There is ample space for outdoor seating, some of which is connected to the library cafe.

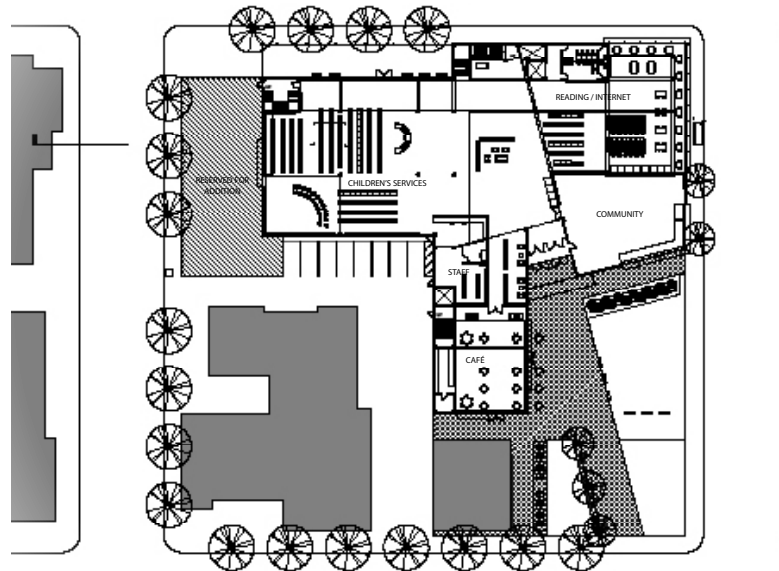


Figure 94: Ian Korn's plaza.



Figure 95: Jiajian Min's plaza.

Jiajian Min features a water element in his plaza to the south that opens onto an expansive hardscape, with connections to City Hall across the street.

Collin Janke demonstrates how a smaller plaza on the southeast side of the site could promote a dynamic, energized space by concentrating small-scale civic events into a compact space.



Figure 96: Collin Janke's entry plaza.

Anna Liu features water in her plaza as part of an integrated design that captures water from the roof and diverts it down a series of stepping roofs into the plaza. Channels in the plaza guide visitors into the library and display a responsible approach to water management.

Alex Dykes takes another approach to featuring water in the plaza by installing a large pond for on-site water retention and visitor appreciation. In the pond version of the plaza, the edges are occupied by people, and the center is occupied by water, plants, and bird life. Influenced by traditional Japanese rock gardens, this plaza provides a focal point for meditation and contemplation.



Figure 97: Bird's-eye view looking north showing Anna Liu's plaza. The pieces of wood in the plaza represent water channels.

Northwest Plaza

A plaza located in the northwest part of the site was featured in North-South schemes. It offers a back door to the library, since the North-South schemes located their entrances on the west side. The character of the plaza on the north offers a more park-like atmosphere due to its proximity to the Washburne neighborhood, instead of the more urban southeast corner of the site. A plaza on the northwest, with farmer's markets and overflow library activities, would find a shared forum with the Justice Center.



Figure 98: Alex Dykes's plaza at dusk.

Northeast Plaza

Yaman Tezcan is the only student who located his plaza on the northeast corner of the site, establishing an entrance to the library that faces the Washburne neighborhood to the north of the site. Here we see a small, intimate hardscaped plaza located close to the parking lot at city hall, providing equity of access to those arriving by car. Ease of access for transit riders is also facilitated by the bus stop that is currently located directly in front of this proposed plaza location.



Figure 99: Yaman Tezcan was the only student to place his plaza in the northeast.

Direct Connection to City Hall

Two schemes proposed a direct physical link to City Hall. Jiajian Min proposed a sky bridge connecting City Hall to the library. Gwynne Mhuireach proposed to extend the brick surface of the plaza across the street to create a physically shared plaza between City Hall and the library.

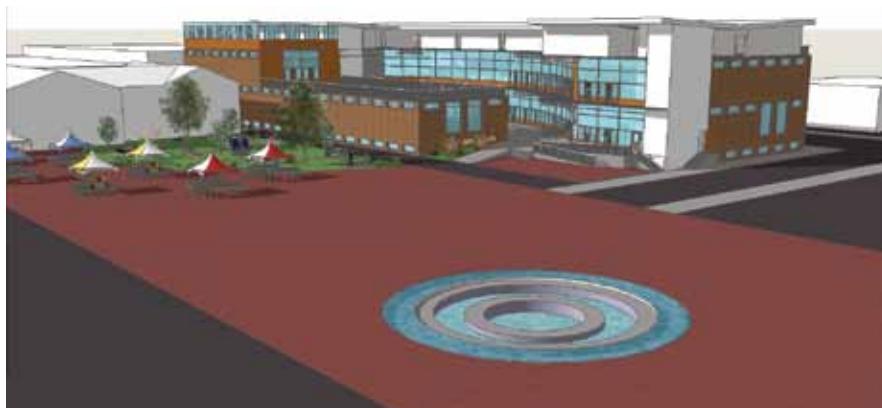


Figure 100: Looking northwest across the shared plaza to Gwynne Mhuireach's library.

Connecting to NEDCO

Direct Connection

Students who pursued a strong connection between City Hall, NEDCO, and the library located their plazas in the southeast corner of the site, because this location connects these three institutions. It provides an inclusive space for the public to engage with the daily activities of these community-based institutions. From this point of view, the plaza offers an attractive solution to a mutual desire by all these institutions to provide a space for public interaction.



Figure 101: Bird's-eye view looking west from the roof of City Hall to Jiajian Min's library.

Indirect Connection

Placing the plaza in the northwest corner of the site required a less direct connection between NEDCO and the library, particularly as main entrances were almost always located to the south. Anthony Hasenberg's vision of the connection to NEDCO (see Figure 8) is slightly different and develops the space between NEDCO and the library in the southeast corner of the site. This creates an intimately scaled outdoor farmer's market and blurs the line between the library and NEDCO.

Other Outdoor Space

Children's Play Area

Many of the students' designs include a small outdoor play area for children, adjacent to the children's section of the library. Christina Larson included a small play area with a vegetable garden to the south between her library building and NEDCO (see Figure 38). Anna Liu placed her play yard to the west of the building (see Figure 16).

Enclosed Courtyard

Jiajian Min created an additional exterior area that is part of the library by placing an enclosed courtyard on the north side. This could act as either a children's play area or a type of scholar's garden (see Figure 46).

Future Expansion

In the program, students were asked to provide for future expansion of the library. The original calculations for program space based on the size of the user population led to a desired library size of roughly 60,000 square feet. It was decided that this was too large for Springfield's current needs, but would probably be necessary for a 20-year projection. Professor Hille and Rob Everett reduced the required square footage to 75% of that size, but asked students to design for an expansion area of 15,000 additional square feet, preparing the library for Springfield's future growth. This expansion space was accommodated in three different ways: by leaving a space next to the building for an addition, by accounting for expansion upward, or by allowing additions to go somewhere on the inside of the building.

Adjacent

Most students found it most effective to dedicate an area on the site, adjacent to the library, that could accommodate a future addition. Until it was built, this space would remain some kind of public open space. The most successful way to plan for this expansion requires incorporating it into the original design of the building. In many schemes, this area was often located at the end of a corridor, meaning the expansion would be an organic growth of the already present library. Two examples are Ian Korn's and Ian Austin's schemes (see Figures 50 and 62).

Above

Another option was to expand on top of the library, by adding, for instance, a third floor or simply expanding onto a roof. This is a more difficult approach to expansion, because requires improved construction coordination, as well as some way to account for alterations to the library's overall form and aesthetics. It further requires oversizing of structural supports to allow for increased loads once the upper floors are built or expanded

Within / Under

A third approach to the library's expansion was to provide for an addition within the library. The advantage to this approach is that the library's overall form would not change with the addition, as extra space is built within the existing envelope. As with the previous approaches, this requires some foresight in creating a plan that would easily connect to new areas and oversizing the structure to allow for added weight at some future point. This approach also results in higher initial construction costs.

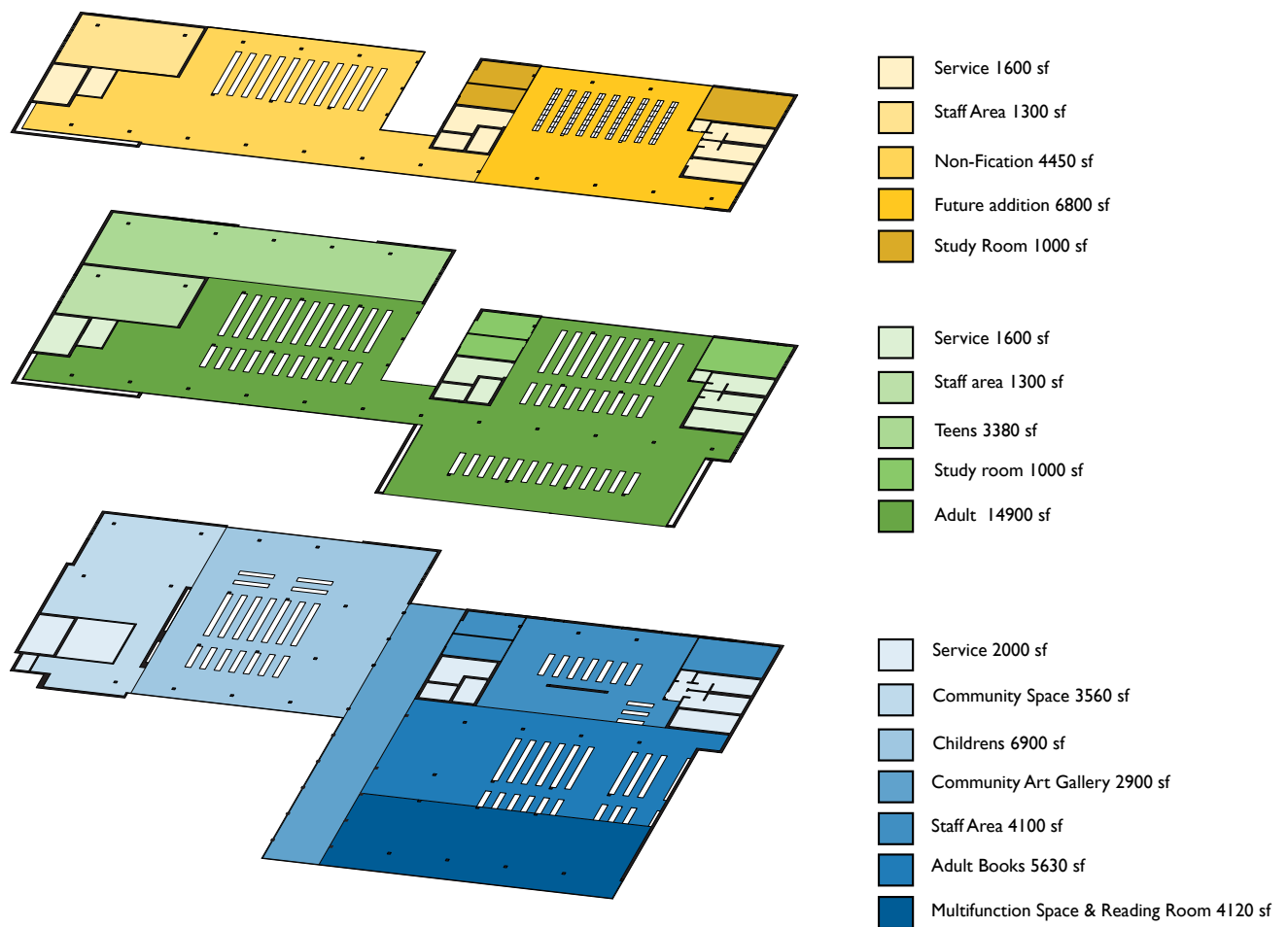


Figure 102: Part of the third floor of Jennifer Huang's scheme is dedicated to expansion space.

Two students approached expansion with this method. Gwynne Mhuireach provided a generous parking lot in a half-sunken basement as part of her plan (see Figure 91), serving both the library and apartments on the third floor. When the library needs more space, parking could be moved elsewhere and the garage could be converted into finished library space. Because the level was not completely underground, there would be high windows to bring daylight to this lowest level of the library. The large central courtyard in her plan included stairs to the lower level, so it would be connected with the rest of the library visually as well.

Eric Petrie took a different approach, strategically placing double-height spaces throughout his building. His library was three floors high, with a second floor that was little more than a mezzanine. Two rooms on either side of the full-height central atrium are two stories high, and the third floor wraps around the atrium space. The extra program area would be created by extending the second floor into the upper portion of the two large rooms below.

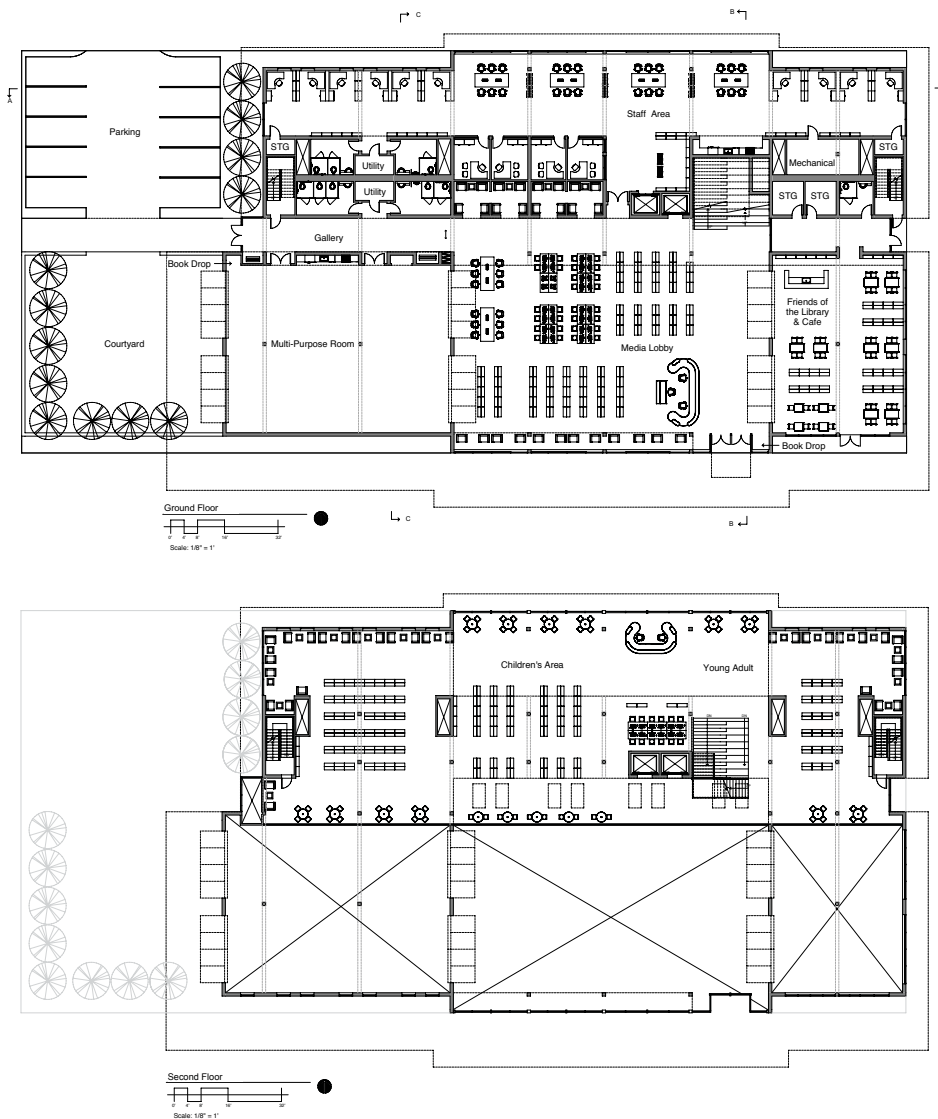


Figure 103: Eric Petrie provided space for library expansion within the library by leaving spaces open on the second and third floors.

Conclusion

The City of Springfield has a wonderful community and a great library already, but it deserves a library building that can better provide for the city's needs, both present and future. The current library space is, according to state guidelines, too small for the city right now, and as Springfield's population continues to climb, the space will become increasingly inadequate to serve the whole city. The library's current location is well-loved, thanks to a major effort on the part of library staff to transform it into a welcoming place, but a new library would be tailored to fit and have all the conveniences that mark a modern public library.

We see significant potential in the chosen location for the new building. With City Hall, the Justice Center, and the soon-to-be-renovated NEDCO food hub surrounding the lot, a new public library would be well poised to create and reinforce a thriving downtown civic center for Springfield. The design of the building as well as its public plaza will contribute to the city's downtown revitalization.

The 17 student projects from this studio cover a wide array of options for both site and building. The most common approach among students in this studio consists of a library building that runs predominantly east/west and uses either a linear or an L-shaped scheme with some sort of central space. These designs allow for a public plaza in the southeast corner of the site, where it would have the most opportunity to reinforce the idea of a civic center. They also optimize the building's ability to take advantage of daylight. The central space helps to organize the plan and creates a memorable location within the library, a heart of its activities.

We certainly hope that the work we have accomplished over the course of this term will aid in the design and site planning for a new Springfield Public Library. We further hope that it can provide an inspiration to everyone involved, helping them to consider ideas they may have otherwise passed over, and eventually building something that can become a beloved part of downtown Springfield.

Appendix: Program Outline

September 22, 2011

Springfield Library Studio: A Sustainable Cities Initiative Project

LIBRARY PROGRAMS

<u>Program</u>	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
Adult Services	7808 ft2	10,095 linear ft.	96,505 items
	<u>Area (Proposed)</u>	<u>Shelving (Proposed)</u>	<u>Collection (Proposed)</u>
	14,000 ft2	11,164 linear ft.	116,505 items
Youth Services	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
	4802 ft2	2670 linear ft.	44,720 items
	<u>Area (Proposed)</u>	<u>Shelving (Proposed)</u>	<u>Collection (Proposed)</u>
	10,000 ft2	4348 linear ft.	56,720 items
Reference / Internet	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
	2159 ft2	198 linear ft.	1,048 items (magazines & newspapers)
Reference (cont.)	<u>Area (Proposed)</u>	<u>Shelving (Proposed)</u>	<u>Collection (Proposed)</u>
	4000 ft2	200 linear ft.	1000 items (magazines & newspapers)
Circulation/New Books	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
Media / Lobby	3561 ft2	754 linear ft.	9,741
	<u>Area (Proposed)</u>	<u>Shelving (Proposed)</u>	<u>Collection (Proposed)</u>
	8000 ft2	1600 linear ft.	20,000 (new books, media)
Young Adult	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
	535 ft2	420 linear ft.	8,787
	<u>Area (Proposed)</u>	<u>Shelving (Proposed)</u>	<u>Collection (Proposed)</u>
	2000 ft2	1000 linear ft.	16,787
Staff Work Areas/ Book Return Area	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
	5000 ft2	1215 linear ft.	
	<u>Area (Proposed)</u>	<u>Shelving (Proposed)</u>	<u>Collection (Proposed)</u>
	10,000 ft2	2000 linear ft.	
Meeting Room	<u>Area (Current)</u>	<u>Shelving (Current)</u>	<u>Collection (Current)</u>
	500 ft2		
	<u>Area (Proposed)</u>		
	10,000 ft2 (flexible library programming / community gathering space)		

Note: The above figures are estimates based on incomplete working drawings. Exact figures will be available next week. Two useful planning tools you might want to look at are:

Standards for Oregon Public Libraries. - http://data.memberclicks.com/site/ola/pld_standards_2010.pdf

Public Library Space Needs: A Planning Outline / 2009. – Anders C. Dahlgren, President - Library Planning Associates, Inc.

dpi.wi.gov/pld/pdf/plspace.pdf

References

Dahlgren, Anders C. 2009. Public Library Space Needs: A Planning Outline / 2009. Madison, WI: Public Library Development. <<http://dpi.wi.gov/pld/pdf/plspace.pdf>>.

Dean, Edward. 2002. Energy Management Strategies in Public Libraries. Monrovia, CA: Navigator Press.

Oregon Library Association. Public Library Division. 2010. Standards for Oregon Public Libraries. <http://data.memberclicks.com/site/ola/pld_standards_2010.pdf>.