



Rice Public Library Renovation and Addition

DRAFT Programming and Existing Conditions Report
March 20, 2019

Rice Public Library

Renovation and Addition
Program and Existing Conditions Report

March 20, 2019

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March 20, 2019

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Stephen Doe

Rice Public Library

Renovation and Addition Program and Existing Conditions Report

March 20, 2019

SUMMARY OF PROGRAMMING INTERVIEWS

As part of our programming effort, we met with Library staff, Friends of the Library and Board of Directors, teens, resource members of Traip Academy and Shapleigh Middle School, business leaders from the Foreside, and members of the Kittery Community Center. Following is a summary of what we heard.

Primary program needs:

Accessibility; add elevator

Adequate space for children's programming, including weekly Storytime. Also a craft area with a sink.

Separate teen area with space for programming, gaming, etc.

Meeting rooms for study, for small meetings, for tutoring, etc.

Quiet reading area

More space for DVD collection

More display space, for books, for art

Improved heating and cooling

Flexible floor plan; multi-purpose spaces

More light; more windows

Welcoming entry area that includes room for 2 or 3 to gather

Improved flow of materials: handling, sorting, and re-shelving

More storage overall

Parking: maintain adequate parking for staff and patrons. Figure out what to do with leased spaces

Accessible service entry

More toilets (ADA)

Office space for the director; more private work areas for staff

Lower stacks

Green space – outdoor space that becomes an extension of the library – if not the existing garden, then include green space as part of the renovation

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SPACE SUMMARY (continued)

Some program elements to consider for inclusion:

Maker space

Business center to support the many telecommuters in the area

Café or place for at least be able to have a coffee

Storage area for strollers during storytime

What to maintain in the renovation and expansion:

Welcoming and helpful staff

Second floor reading room

The Maine Room

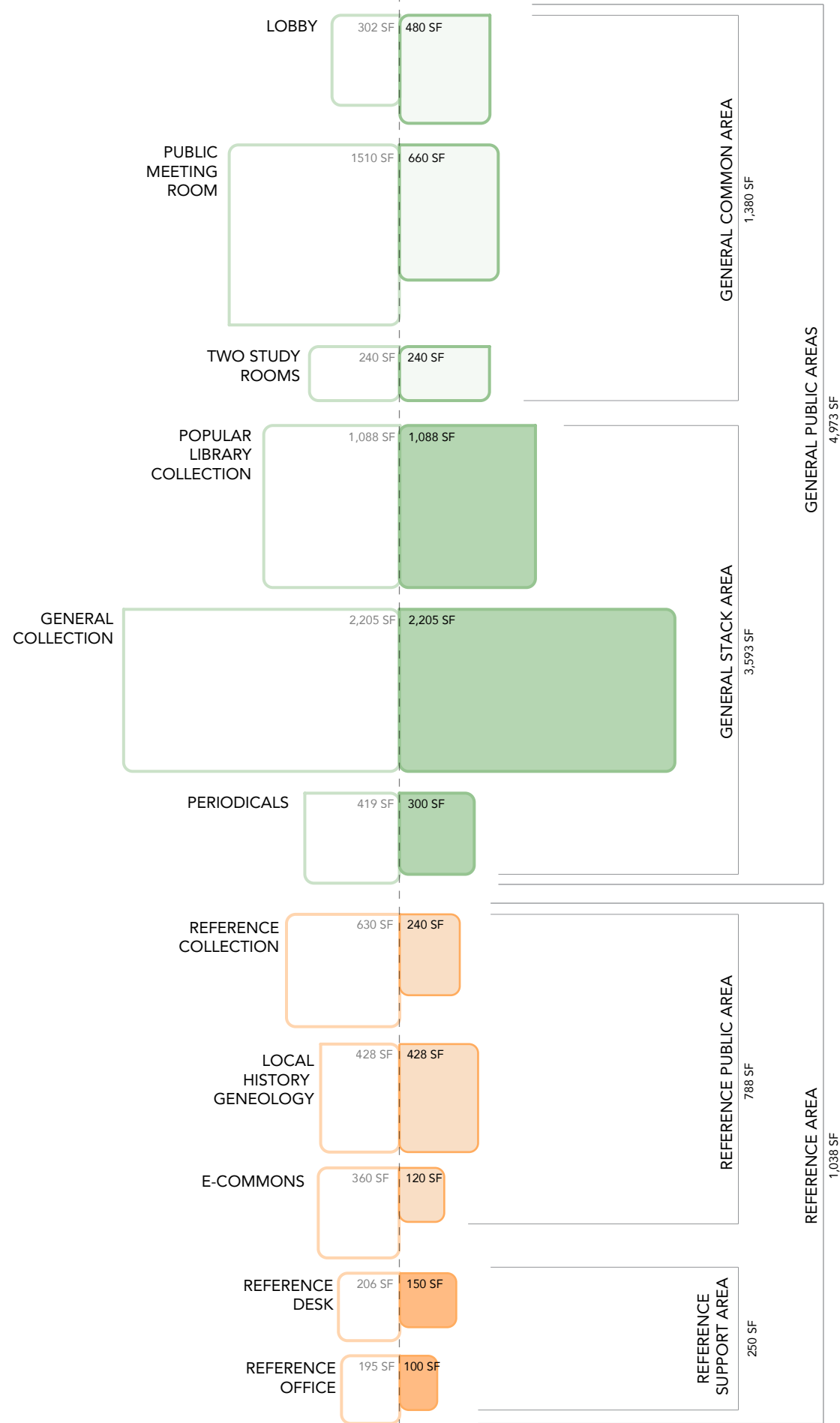
The charm of the existing library – keep the wood, the main staircase

Rice Public Library
Renovation and Addition

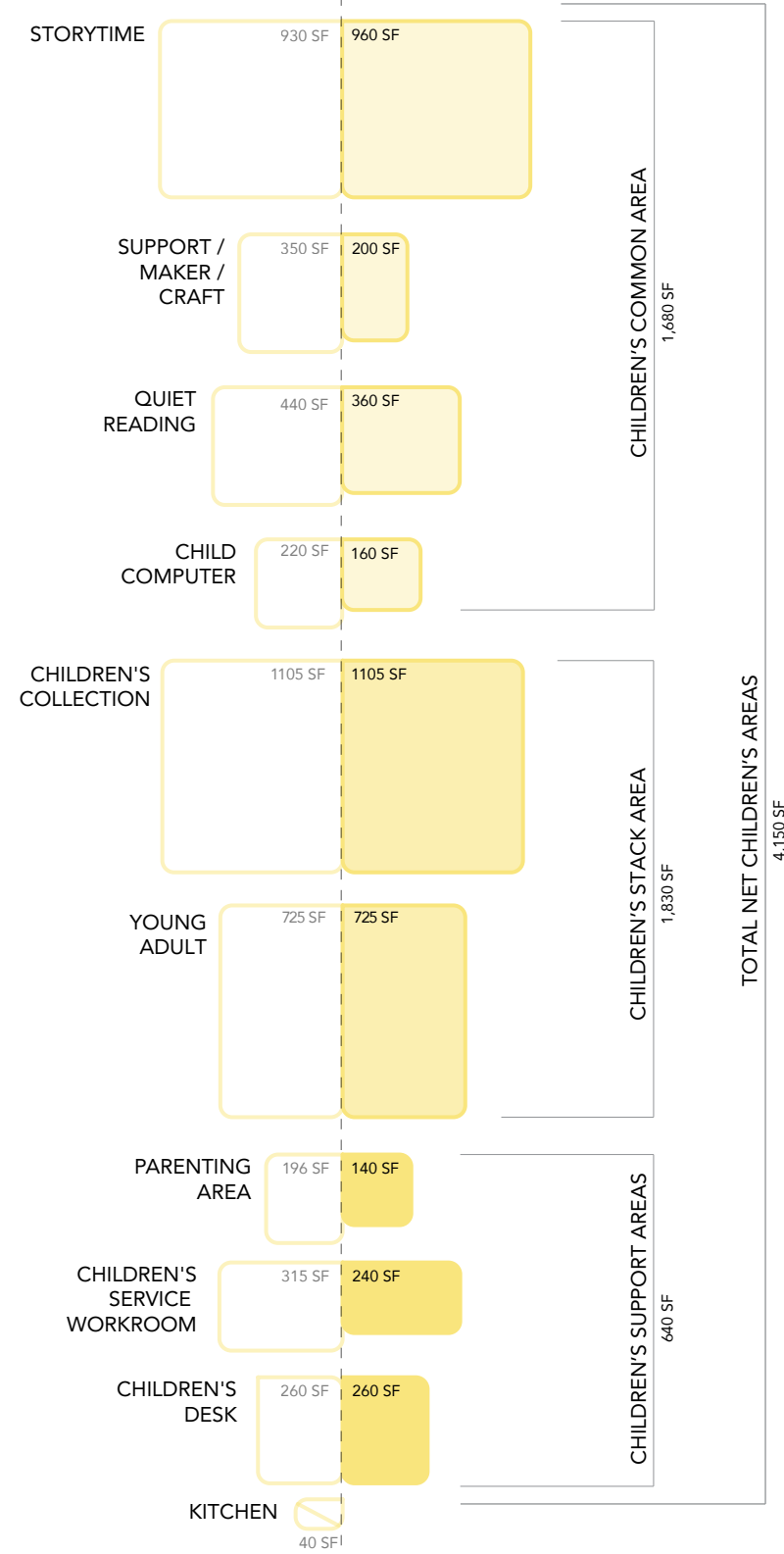
Program and Existing Conditions

	Lassel Program	SSA Program
Lobby	302	480
Public Meeting Room	1510	660
2 Study Rooms	240	240
Popular Library Collection	1088	1088
General Collection and Seating	2205	2205
Periodicals	419	300
Reference Collection and Seating	630	240
Local History/ Genealogy Room	428	428
e-Commons	360	120
Reference Services Desk	206	150
Reference Workroom/ Office	195	100
Storytime	930	960
Support / Maker / Craft Room	350	200
Quiet Reading Room	440	360
Computer Area	220	160
Children's Collection Area	1105	1105
Young Adults	725	725
Parenting Area	196	140
Children's Services Workroom	315	240
Children's Reference Desk	260	260
Galley Kitchen Alcove	40	/
Acquisitions, Cataloging, Processing Area	340	300
Storage Room	120	100
Director's Office	155	140
Workroom	191	200
Computer Server Room	80	80
Staff Lounge/ Lunch Room	183	160
Supplies Storage	200	120
Custodian	289	120
Galley Kitchen	40	/
Circulation Desk	490	360
Copier Alcove	150	/
Circulation Office	276	180
Fire and Vandal Proof Bookdrop Room	100	35
Small meeting room	/	180
Storage and Sorting Area	180	180
Toilet rooms	/	300
Egress stair	/	200
Total Net SF	14,958 SF	12,816 SF
Gross Factor	30%	20%
Total Gross SF	19,445 SF	15,379 SF

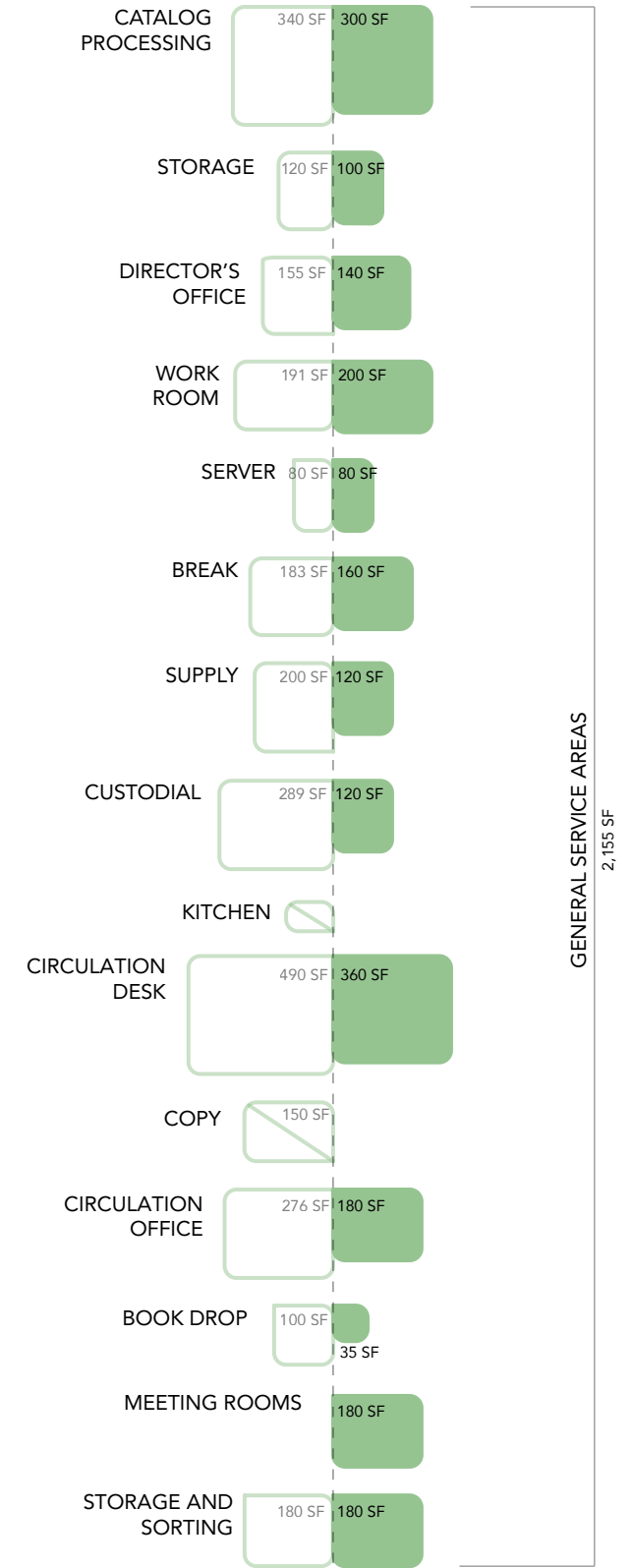
LASSEL PROPOSAL SSA PROPOSAL



LASSEL PROPOSAL SSA PROPOSAL



LASSEL PROPOSAL SSA PROPOSAL



LIBRARY COLLECTION



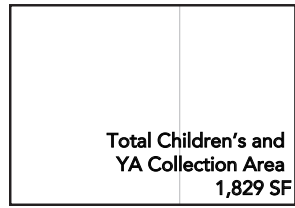
38,838 (46,606) General Collection Volumes
 2,200 (2,642) Audio
 3,900 (4,680) Video
 (collection volume + 20% growth factor)



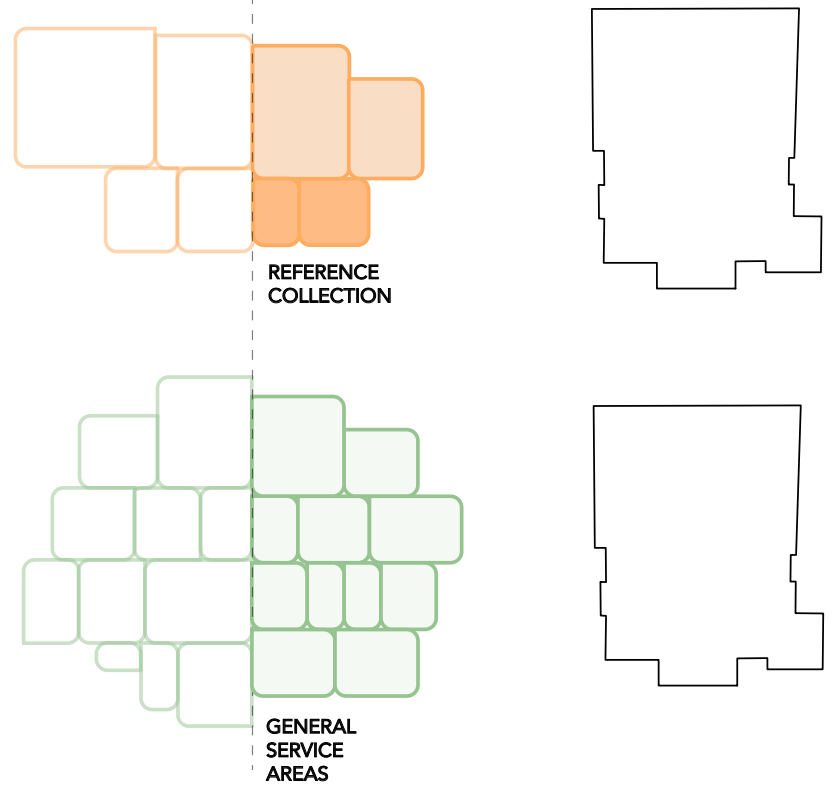
CHILDREN'S COLLECTION



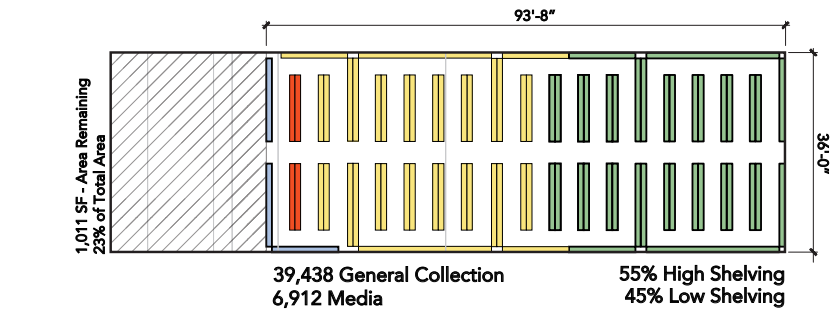
19,624 (23,549) Children's / YA Volumes
 1,100 (1,320) Audio
 1,300 (1,560) Video



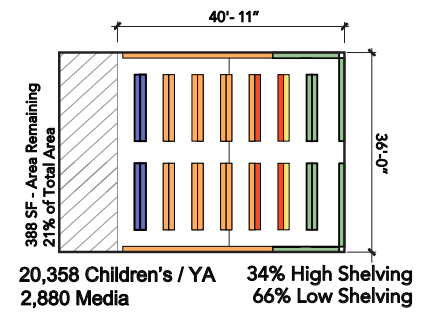
LASSEL PROPOSAL | SSA PROPOSAL



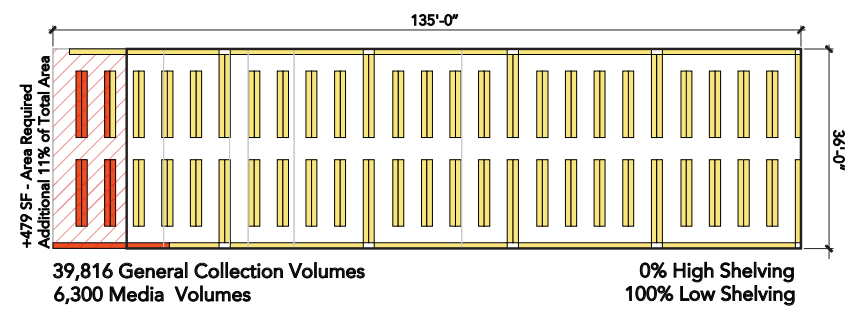
STACK DIAGRAM I - Mixed low and high Shelving



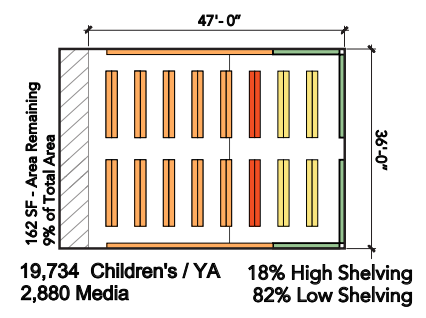
STACK DIAGRAM III - Mixed low and high Shelving



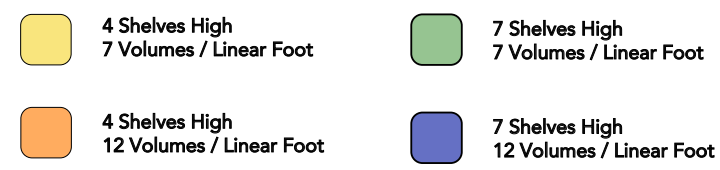
STACK DIAGRAM II - All Low Shelving



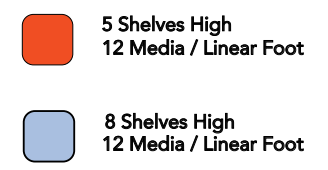
STACK DIAGRAM IV - Mostly Low Shelving



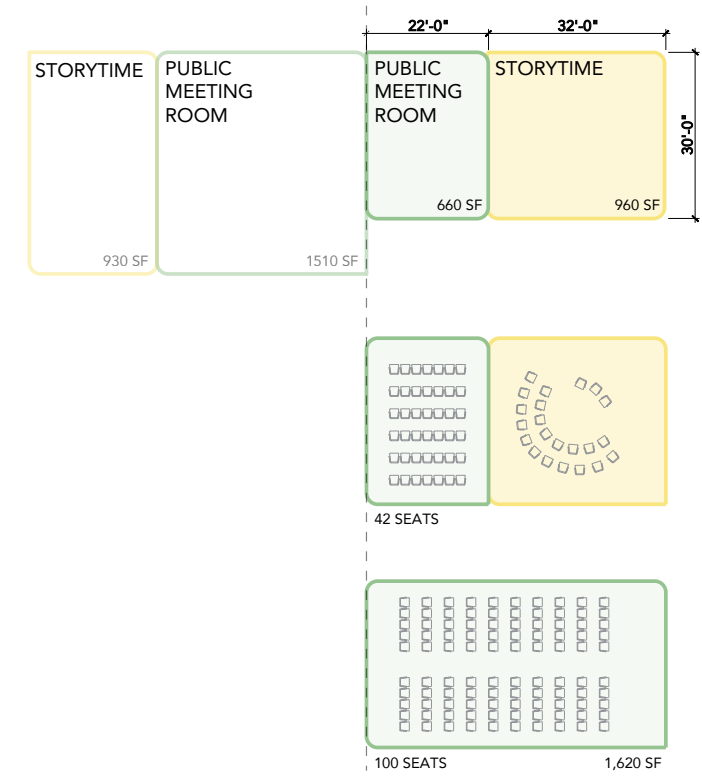
BOOK SHELVING



MEDIA SHELVING



LASSEL PROPOSAL | SSA PROPOSAL





Memorandum

To: Ryan Kanteres, Scott Simons Architects

From: Steve Doe

Date: February 20, 2019

Subject: Rice Library – Existing Conditions Assessment

Site Survey:

Sebago Technics, Inc. (Sebago) has performed an existing conditions survey of the Rice Library property identified as Lot 88 on Kittery Tax Map 4. This survey includes 1-foot contours, the location of the majority of visible utilities, existing improvements and existing trees located on or near the property. The survey ties into the boundaries as depicted on a plan by Easterly Surveying as recorded at the York County Registry of Deeds in Plan Book 211, Page 11. Sebago obtained finish floor elevations for all three levels of the existing structure including specific top of granite foundation stones as requested by Lassel Architects. Existing Conditions Survey further notes applicable zoning setback information.

Location of additional field survey data is recommended in order to locate sanitary and storm drain inverts in and around the parcel. It is also recommended that underground electric and water services be located by Dig-safe to verify locations. It is anticipated that obtaining location of these additional items will be performed in spring 2019 once snow conditions have gone.

Water Service:

We have contacted the Kittery Water District to verify water service to the structure. The building is served by a 3/4 inch copper line which is tapped into a 6 inch water main located in Traip Avenue. The service line is located in the northeast corner of the building and runs to a gate valve in Traip Ave. Water pressure in Traip Avenue is 55 to 60 psi. The building does not have a fire service. Should a fire service need to be added to the existing building or new addition a new line will need to be tapped into the water main in Traip Ave. Traip Avenue was repaved within the last two years and currently has a moratorium on new pavement cuts into this street. The moratorium typically runs for 5 years from date of street upgrade. New pavement cuts into this street during this moratorium will need to be coordinated and approved by the Town.

A 12 inch water main runs in Wentworth Street and is located on the west side of the street.

Sanitary Service:

The building is served by a new 6" sanitary sewer line which exits the building in the northeast corner and runs to the sewer main in Traip Ave. The Kittery Sewer District indicated that there is an old abandoned 4 inch sewer line from the library which runs through the gravel parking lot to

the public sewer in Traip Ave. The library had issues with this line and recently installed the new line as noted in lieu of repairing the old line. A public sewer main also runs in Wentworth Street. There are no sewer capacity issues in this area.

Stormdrains:

A storm drain system exists in Traip Avenue and flows south. Town GIS records indicate a storm drain line is located in the gravel parking lot and ties into the Town catchbasin in the southeast corner of Traip Ave. Verification of this line's existence will need to be confirmed through further site investigation.

The library has several down spouts around both sides of the main entry and on the south and east ends of the building. Those to the south of the main entry outlet as surface flow draining towards the gravel parking lot. All other enter a subsurface pipe at the foundation. Outlet location for these drains is unknown. It is assumed these outlets into a subsurface system that outlets into the stormdrain system in Traip Ave. Further investigation is needed.

Electrical service:

The building is served by underground power from a pole located in Traip Ave near the north east corner of the building. It appears the underground power line enters the building in the north east corner. Confirmation of underground route is needed.

An overhead utility line crosses the property north of the library building (through gardens). Should a building addition occur here this line will need to be relocated or re-routed.



February 28, 2019

Scott Simmons Architects
75 York Street
Portland, ME 04101
Att: Ryan Kanteres
Senior Associates

Structural Observation Report
Rice Public Library
8 Wentworth St, Kittery, ME 03904

Dear Mr. Kanteres:

On Thursday 21 February 2019, we visited the Rice Public Library (RPL). The intent of our visit was to review the existing conditions that are readily visible and comment on their conditions. Ms. Lee Perkins, the Library Director, showed us around and provided information on past building upgrades. The visit and review are being done in anticipation of a renovation and an addition that are currently being planned at RPL. The current library building is on the National Register of Historic Places.

We present below a description of the library structural systems, our structural observations from the visit, and a code review for the work.

System Description

RPL was built in 1889 and is approximately 6,000 sq. ft. over two framed floors, a finished partially buried basement and a partial attic. The layout is divided into two volumes. The front volume houses offices, the main stairs, and smaller reading rooms while the rear volume has three larger open stack rooms. In addition to the visit, we were provided existing historic architectural elevations and floor plans as well as a Revit model prepared by Lassel Architects dated January 2019 which reflects the current layout.

The basement slab is a concrete slab-on-grade. Ms. Perkins reported that the slab (which has radiant heat) and the large basement stack room were done approximately 22 years ago. The basement walls are typically brick except at the south-west corner where large stones are visible.

The first-floor is framed with wood joists, 2" by 9 1/2" at 16" oc, spanning in the north-south direction and supported by interior and exterior brick walls and wood girders. The wood girders are supported on two octagonal wood columns.

The second-floor framing was not observed because it is covered with a hard ceiling. It is assumed to be similar to the first-floor but where the first-floor has columns, the second-floor clear-spans the rear volume (span of 22'-10"), suggesting two lines of heavier structure, either trusses or steel beams.

There is a small partial third level balcony, approximately 320 sq. ft. around the inside perimeter of the second-floor stack room. The balcony was added approximately 30 years ago (according to Ms. Perkins) and is constructed of wood decking spanning to small steel channels which in turn span to steel columns or steel channels embedded into the masonry. The columns do not

extend below the second-floor, suggesting the floor was reinforced or modified to support them.

The roof of RPL is a mix of pitched and gable roofs framed with roof beams and rafters spanning to brick walls. The rear volume has two large trusses that clear span the volume. The trusses are built with wood and 1¼" diameter steel rods with bolted connections and turnbuckles. The underside of the roof was recently insulated (hiding from view a lot of the roof framing). The roof surface is slate.

The outside of RPL is brick with decorative details, stone sills and stone lintels. A new fire escape stair was added a few years ago.

Observations and Discussions

RPL building is well taken care of. The building is clean and on-going maintenance and repairs are being performed. Some of the more recent work includes railings at the front elevation, new exterior fire escape stair, roof insulation, local repairs to gutters, capping of chimney, etc.... This care is also evident on the exterior of the building which is in good condition.

We did observe a few structural items of concerns:

1. Bottom of the brick walls in the basement: We noted damage at the bottom of the brick walls at the basement interior and exterior walls. At the interior walls, the bottom 2ft of the walls appear damaged. In the back of the house areas (boiler, server) the paint is gone, the brick faces are damaged, and some brick appears to be soft (photos 1 and 2). In the more public area (kitchen) the walls have been re-painted, but damage is still visible (photo 3). Similarly, the exterior perimeter walls have damage. Those walls are painted, and the damage appears more sporadic with the paint creating bubbles that eventually burst, exposing damaged brick (photo 4). We note that the bottom of most of the exterior walls are covered with large wood baseboards which hide the brick condition.

The damage is typical of moisture infiltration. At the perimeter walls, it is assumed that moisture travels from the outside through the brick but when it reaches the interior paint, it is trapped and unable to dry. As moisture accumulates between the paint and the brick, it damages the brick. The damage is not exposed until the paint bubble, pops, exposing the damage. The interior walls are also susceptible to moisture most likely wicking up from the foundations. These walls appear built from a mix of fired and unfired bricks which was a common practice for interior walls at the time of construction. The unfired bricks are more susceptible to moisture and deteriorates.

The source of the moisture could be from the higher grade on the outside of the basement as well as wind driven rain and snow soaking the exterior walls in heavy storms. Presence of moisture though is consistent with Ms. Perkins reporting needing to run a dehumidifier in the past few years (which is emptied several times a day in the spring).

The damage to the brick though not a global stability/structural concern at this time, should be stopped before causing more damage. A plan to mitigate the moisture should be included in the renovation design. Such plan could include coating the exterior brick below grade with a waterproofing and installing a perimeter drain, and/or removing the interior paint and leaving the interior brick exposed or painting it with a breathable silica



based paint or a combination there of. Minor repair (brick replacement and re-pointing) should also be assumed in the renovation budget.

2. First floor wood girders (as observed from basement): the two wood girders supporting the floor in the rear space have some splitting. The splits are horizontal and in line with the bottom of the notches where the joists bear in. The splits do not appear to be through the whole thickness of the girders but were noted on both sides. See photo 5.

Splits are not uncommon and are typically due to wood drying and shrinking. However due to the location of the splits at the support of the joists, they may reduce the girders' capacity. We recommend that the splits be further investigated during the design phase. Additional measurements should be taken to understand the extent and depth of the split so they can be analyzed. If they are found to need repair, epoxy, fasteners, or steel side plates can be added to the beam.

3. Wood octagonal columns at basement: the two octagonal columns in the basement have long checks which open up as wide as $\frac{1}{2}$ " (Photo 6). Checks in compression member are usually not a concern as these do not reduce the capacity or extend to the connections. Ms. Perkins however mentioned that these may be getting larger. As such, we recommend monitoring the checks. If these are in fact getting larger, steel collars should be added intermittently through the height of the columns.
4. Cracks were noted in the corners of the plaster ceiling above the second-floor large reading room (Photo 7). In this area, the ceiling is directly supported from the roof structure. As the roof was recently insulated, it is possible that more snow is accumulating on the roof and increasing deflections. The cracks should be monitor and if found to becoming worse, additional roof investigation/analysis should be performed.
5. Exterior: the exterior walls are in good condition. Very few areas were noted having issues. Some dirt is visible at the north elevation, below the fire staircase. The base of the brick wall at the north-east corner appear to have some efflorescence (Photo 8). The brick in those areas should be cleaned and repointed.
6. Roof: we were not able to observe the slate roof, but Ms. Perkins reported slate falling off. The roof condition and the falling slate should be investigated and repaired. Additionally, two of the wood fascia boards above the dormer were reported to be rotted and should be replaced. Snow was noted falling off the roof in small avalanches.

Code Review

We understand that the current plan is to renovate the existing building and add a 10,000 sq ft horizontal addition (most likely to the south). The 2015 International Existing Building Code (IEBC) as currently adopted by the Maine Uniform Building and Energy Code will govern the work. The IEBC has two main methods for looking at an existing building, the Prescriptive Method and the Work Area Method and the entire design team needs to use the same method. The structural requirements for both methods are similar, but we will highlight any significant differences as part of the review.

The renovation work will qualify as an alteration, level 2 or 3 depending on the work area:

- Gravity - the alteration shall not reduce the capacity or increase the demand of any gravity load carrying structural element. If a member is affected, then it will need to be reinforced (the code does allow for a 5% exception). Care should be taken not to add loads to the existing structure.



- Live load – During the visit we were only able to measure the framing at the first floor. Based on those measurements, we calculated that the wood joists could support approximately 90 psf of live load and the wood girder only 40 psf of live load. The current code requirements for library floor live loads are 60 psf in reading rooms, 150 psf in stack rooms, and 80 psf in corridor. It is therefore evident that the current girders cannot resist the current code load without reinforcing. However, the IEBC's Prescriptive Method allows that if no increase is made to the live load (i.e. no change to the use of the space), the element can be evaluated for the previous loads and the non-conforming area posted with an allowable live load. The Historical Building section of the Work Area Method allows something similar. We recommend not increasing the live loads on the floor and posting them.
- Lateral – the alterations shall not reduce the capacity or increase the demand of any lateral load carrying elements, though the code allows for a limited exception up to 10%. The lateral system for the building is the brick walls, both interior and exterior. As such, any modification to those walls should be avoided (or limited to less than 10% of their length) to avoid triggering a lateral upgrade. A lateral upgrade would require reinforcing the current system to meet today's code force levels and would be difficult and expensive.
- Horizontal addition - the addition should be kept structurally separate from the existing building to avoid increasing the demand (both gravity and lateral). The addition will be designed to the current codes.

Summary and Conclusion

The existing building is in good condition and well taken care of. We noted a few specific items that should be included in the current estimate and further studied in the design phase. While designing the addition and renovation care should be taken to not increase the demand on the existing building to avoid floor reinforcement and/or a lateral upgrade.

Sincerely,

BECKER STRUCTURAL ENGINEERS, Inc.



Charlotte A. Bouvier
Senior Engineer



Paul B. Becker, P.E.
President

Attachment: Photos



Structural Observations Report
Rice Library
Kittery, ME



Photo 1: Basement boiler room.



Photo 2: Basement boiler room. Close up of soft brick.





Photo 3: Kitchen area. Close up of interior wall showing paint and brick damage.



Photo 4: Basement reading room. Close up of exterior wall showing paint and brick damage.



Photo 5: first-floor framing showing wood column, girder and wood joist. Note the horizontal split in the wood girder.



Photo 6: octagon wood column in basement. Note the large checks.

Structural Observations Report
Rice Library
Kittery, ME



Photo 7: Second floor plaster ceiling. Note the cracks in the plaster.



Photo 8: North east corner of building. Note the dirt below the fire escape and some minor effervescence at the base of the wall.



RICE LIBRARY (MAIN BUILDING) MECHANICAL & PLUMBING EXISTING CONDITIONS REPORT

UTILITIES

WATER

The water entry was in the Staff Bathroom on the Basement Level. Service size was $\frac{3}{4}$ ". The meter was inside the building. The piping was exposed and not insulated. There was a Flood Master FM-080-1 Water Main Shut-off System installed in the Staff Bathroom on the Basement Level, designed to shut-off the water service upon detection of a leak.



Figure 1 - Water Entry



Figure 2 - Leak Detection System

SEWER

Ripcord did not visually identify the building sewer exit. The Library had the sanitary sewer building lateral inspected with a camera in December of 2017 by Value Rooter out of South Berwick. The inspection report stated that the line looked "good and is free and clear". The Library Director had a hand sketch detailing the sanitary building lateral location from the north-east corner of the building to the public sewer in Traip Avenue.

FUEL OIL

The building has two 330-gallon Aboveground Storage Tanks (ASTs) in the Basement Level Mechanical Room. The fill spouts exit through the first floor on south side of the building.



Figure 3 – Oil Storage Tanks



Figure 4 - Oil Fill Spouts

MECHANICAL SYSTEMS

HEATING AND COOLING PLANTS

The only source of heat in the building was a Peerless Boiler SCT-o6-W/S 6-section oil-fired cast-iron forced-draft steam boiler with a Beckett oil burner in the Mechanical Room. The steam boiler served steam radiators on the First and Second floors; hydronic fin tube radiators and hydronic radiant floor on the Basement Level. The boiler was in good condition and had been replaced in 2011. The rated DOE Gross Output of the boiler was 405 MBH (Steam/Water); the Net I=B=R rating output of the boiler was 304 MBH (Steam) and 352 MBH (Water).

The boiler served the hydronic fin tube radiators and hydronic radiant floor via the integral boiler Domestic Hot Water (DHW) tankless coil.

Cooling was provided with window air conditioners that were stored in the Third-Floor attic during the heating season.



Figure 5 – Oil Fired Boiler



Figure 6 - Radiant Floor Manifolds

VENTILATION

Three individual bathroom fans exhausted the three restrooms, exhausting through the north side of the building at the First Floor level. There was legacy passive ventilation system that had been blocked off.

A supply fan provided combustion air to the boiler and was interlocked to come on when the boiler burner came on.

A radon mitigation system was installed in the Basement Level Mechanical Room. According to the Library Director the system was required to be installed and operate continuously as part of the mitigation plan for a hazardous underground chemical plume coming from a former dry-cleaning establishment across the street.



Figure 7 – Bath Fan Exhaust Hoods



Figure 8 - Boiler Combustion Air Supply Fan Intake



Figure 9 - Radon Mitigation System

DEHUMIDIFICATION

There was a PerfectAire 3PAD70 70 PPD floor-mounted plug-in dehumidifier in the Basement Level Staff Restroom. The Library Director noted that in the Summer the dehumidifier is generally emptied twice a day.

HEATING, COOLING, AND VENTILATION DISTRIBUTION

The Basement Level was heated by a combination of radiant floor (Howells Room), fin tube radiators (Staff Restroom, Public Restroom), and bare pipe (Electrical Room). The First and Second Levels were heated by cast iron steam radiators. There was no heat on the Third Level or in the Attic.

The First-Floor steam radiators were column-type. The Second-Floor steam radiators were custom radiators.

- 1st Floor Library Room (Stacks)
 - (3) 37" H x 9" W x 17 Sections cast-iron radiator
- 1st Floor Staff Office
 - (1) 37" H x 9" W x 13 Section cast-iron radiator
- 1st Floor Checkout Office
 - (1) 37" H x 9" W x 13 Section cast-iron radiator
- 2nd Floor Memorial Hall
 - (2) 67" L x 37" H x 6" W custom cast-iron radiators
 - (1) 77" L x 37" H x 6" W custom cast iron radiator
- 2nd Floor Trustees Room
 - (1) 48" L x 37" H x 6" W custom cast-iron radiator
- 2nd Floor Ante Room
 - (1) 67" L x 37" H x 6" W custom cast-iron radiator

Thermostats were located in the Howells Room (controls Howells Room), the Basement Level Public Restroom (controls Staff Restroom, Public Restroom, Electrical Room), and the Library Room on the First Floor (controls all rooms on First and Second Floors).

The Library Director said that the radiators were not currently noisy, and that some steam traps had been replaced recently.



Figure 10 – Typical Radiator on Second Floor

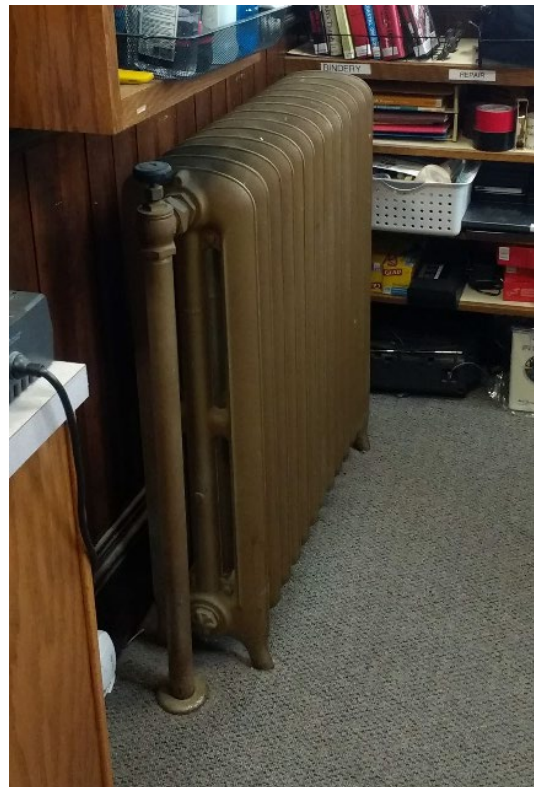


Figure 11 - Typical First Floor Radiator

PLUMBING SYSTEMS

DOMESTIC HOT WATER

Domestic Hot Water (DHW) was provided by three electric on-demand water heaters. One water heater served the Basement Level Staff Restroom, one served the Public Restroom and Kitchenette Sink (assumed, not confirmed). On the First Level, one water heater served the Public Restroom.



Figure 12 – Typical Electric On-Demand Water Heater

OBSERVATIONS

The steam heating system was clean, well maintained and in good condition with a steam boiler that was less than 10 years old. The steam radiators were all functioning with no noise or control complaints. The Library Director noted anecdotally that during very cold weather, sometimes the system had trouble maintaining setpoint at night.

There was no central cooling system. The Library Director noted that the building stays cool into the summer starts, and then once the high-mass building is warmed up, they need to use the window air-conditioners.

There was no ventilation outside of intermittent bathroom exhaust. The passive ventilation system in the original design of the building was no longer being used. The Library Director has been adding interior storm windows incrementally as funds allow, which is increasing the airtightness of the building (assumed based on occupant observations sitting near treated windows).

RECOMMENDATIONS

RIPCORDER recommends analyzing the existing building utility bills to calculate the energy consumption of the building per square foot on an annual basis, and then comparing it to similar buildings to quantify the energy efficiency of the building.

Based on the good condition and historic nature of the existing heating system RIPCORDER recommends keeping it in place if possible unless new design requirements dictate otherwise.

RIPCORDER recommends adding a balanced, energy recovery ventilation system to the building in conjunction with airsealing.

RIPCORDER recommends investigating air-conditioning options for the building aside from window air-conditioners.

**Rice Public Library
Kittery, ME
Electrical Existing Conditions Report
2/22/2019**

On February 21, 2019, I made a site visit to the Rice Public Library in Kittery to observe the electrical systems in the existing facility.

Power:

The electrical service to the building is 200 Amps, 120/240 Volt, single-phase, fed from a pole mounted transformer on Traip Avenue. This enters the building via an underground conduit on the northeast corner of the building and feeds a main panel manufactured by General Electric that is located in the basement janitor room. This in turn feeds the basement, mechanical and exterior circuits as well as two 60-Amp subpanels located on the first and second floors.

Three phase power is currently available on Wentworth Street, however there is only single phase power on Traip Avenue.

Recommendations:

The main power panel appears to be in good shape. If we are required to go to three-phase it would have to be replaced, however if the new layout remains as single phase it could possibly be re-used to feed this portion of the building.

Lighting:

Existing exterior lighting throughout the building has been upgraded to LED in most locations. There were a few fluorescent fixtures that were observed that had not been replaced, namely in the basement kitchen area. Many of the historic/decorative fixtures were furnished with replacement LED lamps.

Overall lighting levels looked good. The linear ceiling surface mounted, LED wrap fixtures did a good job of lighting the stacks.

Exterior building mounted lighting was also observed to have been upgraded to LED. We will likely have to replace the existing flagpole lighting with something that is less obtrusive and spotlights the flag rather than the adjustable area lights currently used for that purpose.

Internally lit exit signage and battery emergency lights appeared adequate for the current layout. These fixtures appeared to be in good condition.

Recommendation:

Much of the lighting there is decorative in nature and has been converted or furnished with LED lamps. The less decorative fixtures, like in the stacks are also new and probably do not need to be touched. I would recommend replacing the few remaining fluorescent fixtures.

We anticipate that exit signs and egress lighting will have to be addressed to comply with any modified paths of egress that may result from the building addition.

Fire Alarm System:

The current fire alarm “system” in the building consists of a series of 120 Volt interconnected smoke detectors with battery back-up and integral audible alarm.

Recommendation:

As a result of the addition of a sprinkler system and elevator, this will have to be upgraded in the renovated plan. We would recommend a centralized monitored addressable system to reduce the wiring between equipment.

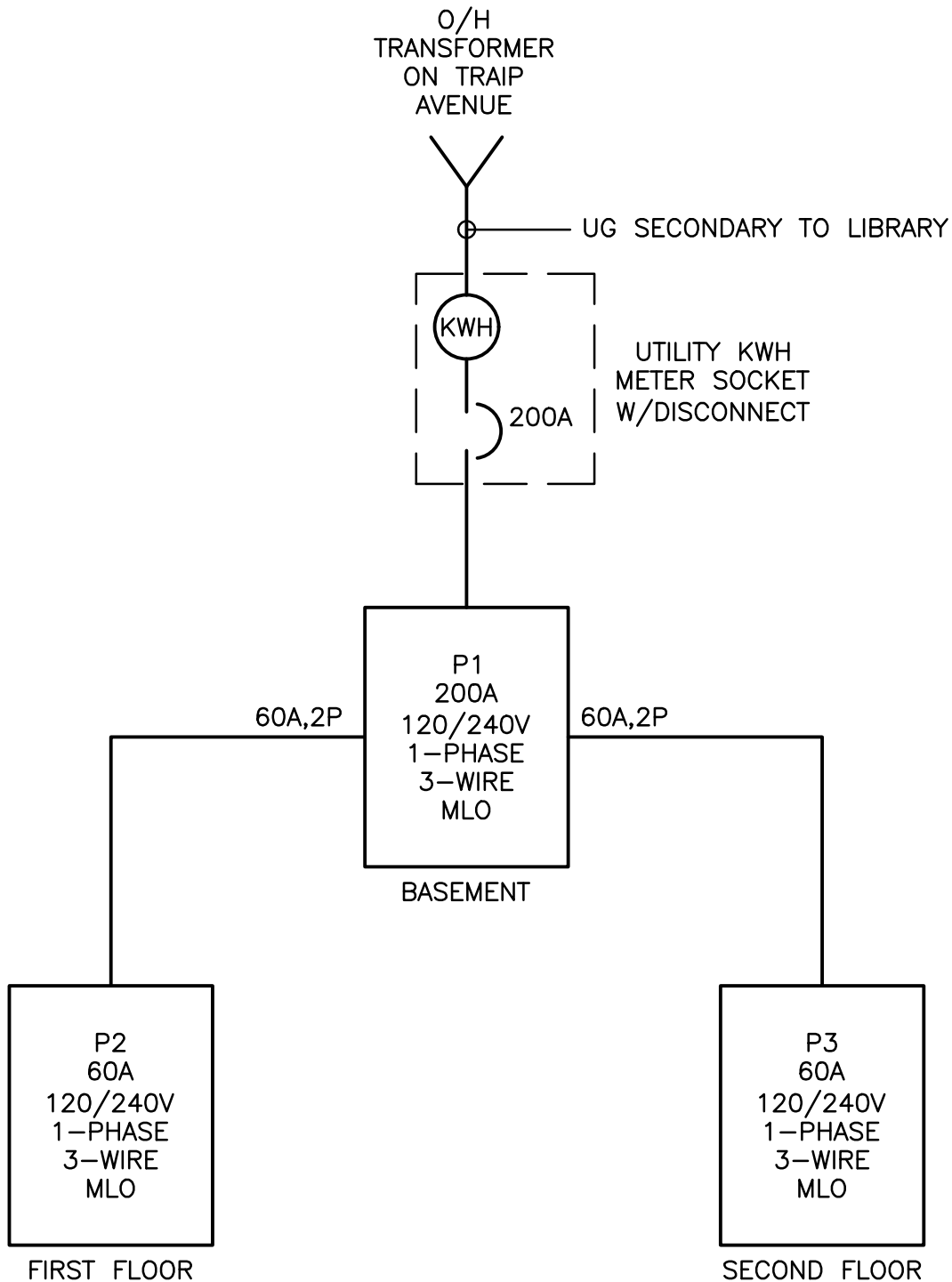
Data:

Data for this building actually comes from the annex building located across the street, via underground conduits that cross the street and enter at the basement boiler room at the south end of the building. Currently there is a phone line that terminates at punch down blocks in the boiler room and a fiber optic cable that terminates at the data rack located in the basement janitor room. All data wiring comes back to the data rack. We were told that there are currently (4) phone lines shared between the two buildings.

The Maine State Library Network connection is in the annex building and is interconnected to the library via the fiber optic line.

Recommendation:

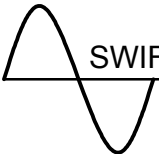
It is our understanding that the annex building will go away after the new addition is completed, so we will have to make provisions for new telephone service and data services including the MSLN connection in the new layout. These may be required to come from a pole Wentworth Street, as this is where the annex building currently gets service from, and I am uncertain as to the available telephone facilities available on the service pole on Traip Avenue.









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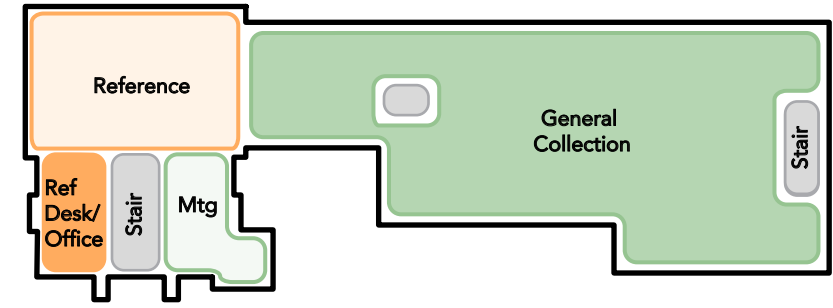
ELECTRICAL SERVICE ONE-LINE DIAGRAM

SCALE: NOT TO SCALE

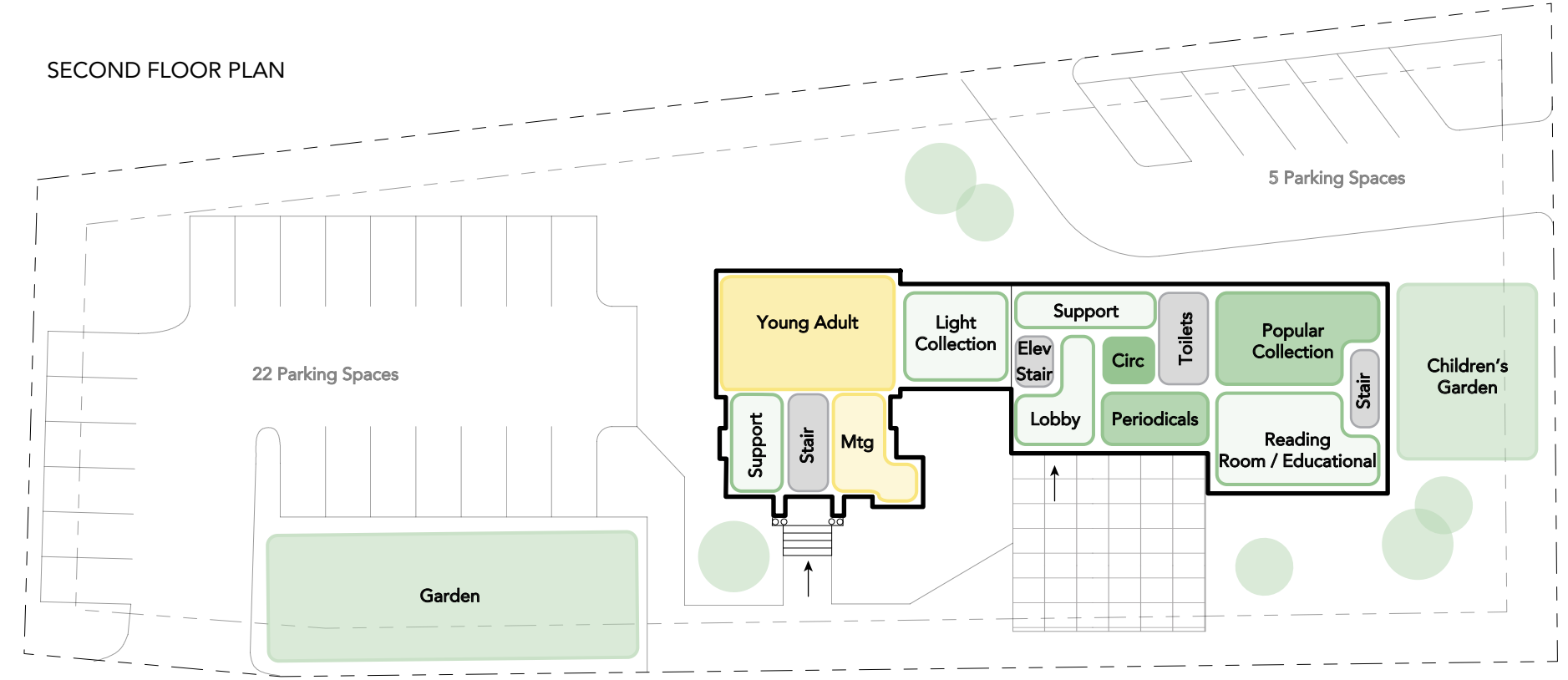
 <p>SWIFTCURRENT Engineering Services 10 Forest Falls Dr. Unit 4b Yarmouth, ME 04096 Tel: (207) 847-9280</p>	RICE LIBRARY KITTEERY, ME
	SCALE: AS NOTED DATE: 02/22/19
	E1

	Green Building Target/ Certification	Description	\$ Increase
	Living Building Challenge	Most aggressive and challenging green building system on the market. Only 5 fully certified living buildings, but hundreds, if not a thousand projects are in the pipeline. Requires 1 year of operation before certification. Requires net zero energy, net zero water, red list of materials and stringent use of local materials.	10-20%
	Living Building Challenge (Petal Certification)	Requires meeting at least one of the following petals/ categories: Energy, Water, Materials	5-10%
	Passive House Certification	Very hot industry topic right now. Strict (pass/fail energy requirements that result in about 80% reduced energy use. Unity has build a Passive house Dorm. Several single family homes in ME have been built. 2 major multifamily project are in the works and Friends School is under construction	5%
	Net Zero Energy	Similar to Botanical Gardens. Requires all electric systems and additional large PV array.	5% (assuming PPA for PV)
	Carbon Neutral	Allows for alternative fuel sources, purchase some offsets and some onsite PV	3-5%
	LEED Platinum v4	New LEED rating system is now available. Much more stringent on materials	2-5%

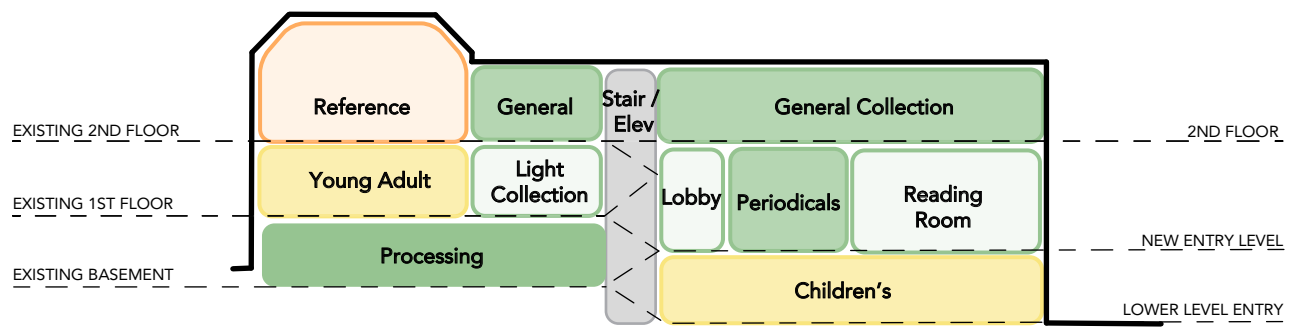
Scheme A



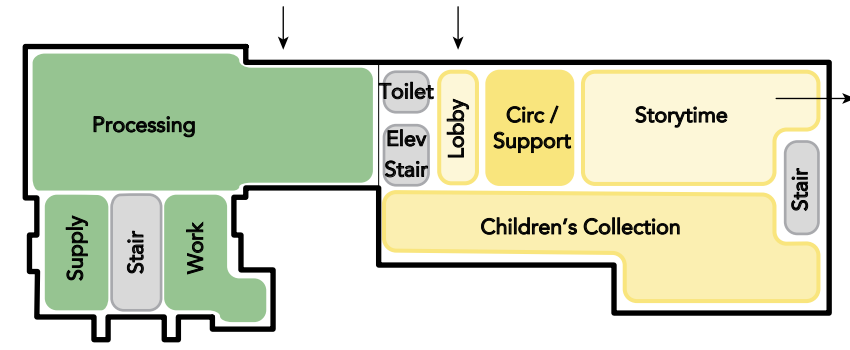
SECOND FLOOR PLAN



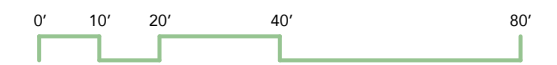
FIRST FLOOR PLAN



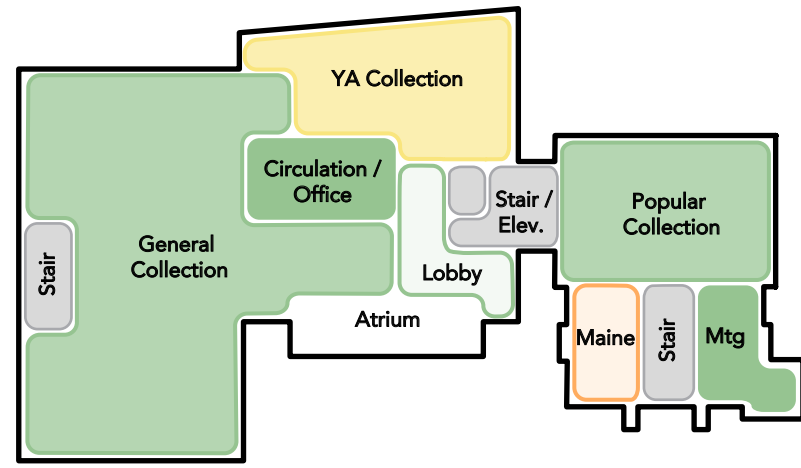
DIAGRAMMATIC BUILDING SECTION



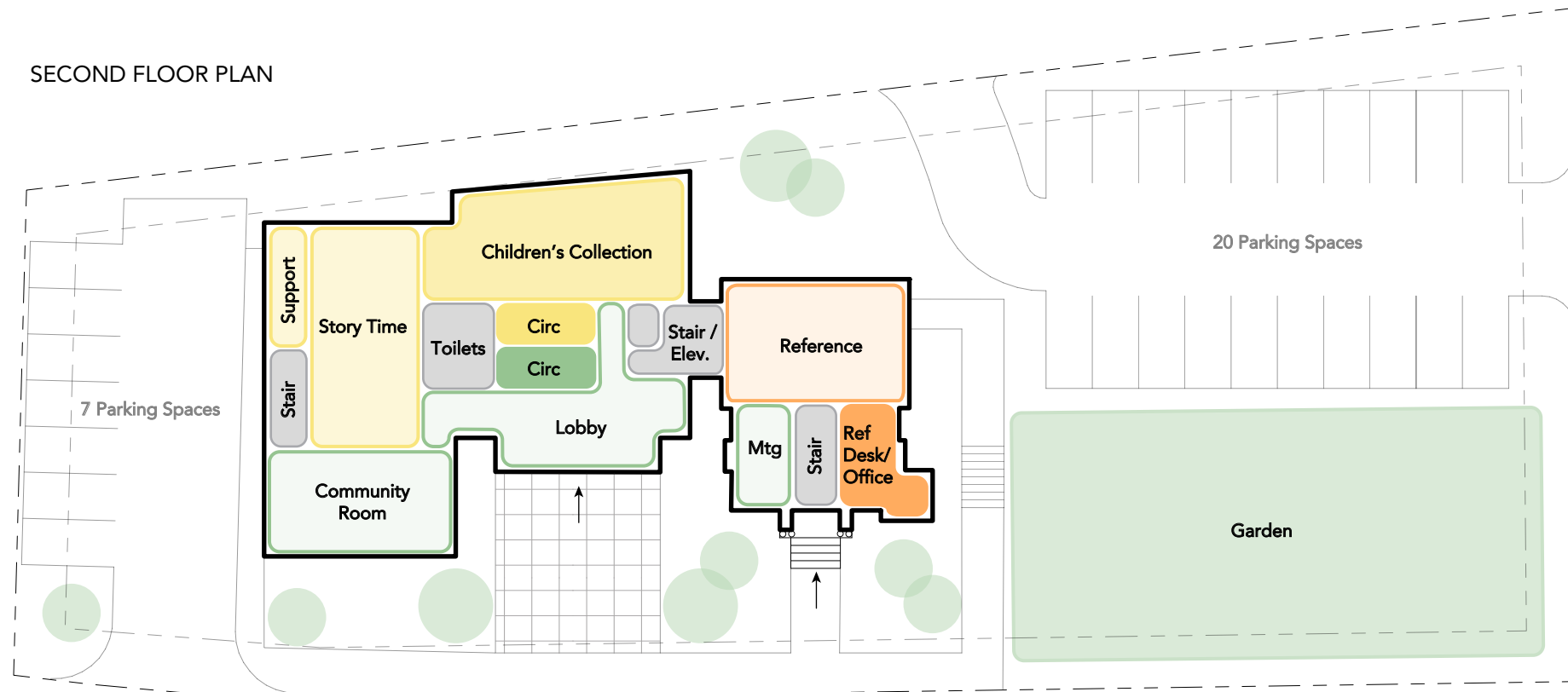
LOWER LEVEL FLOOR PLAN



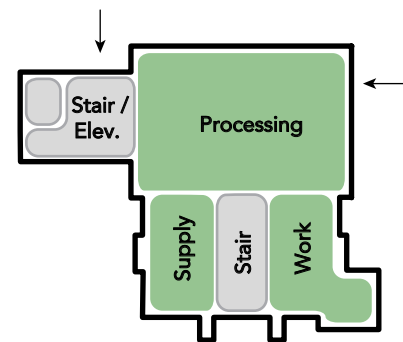
Scheme B



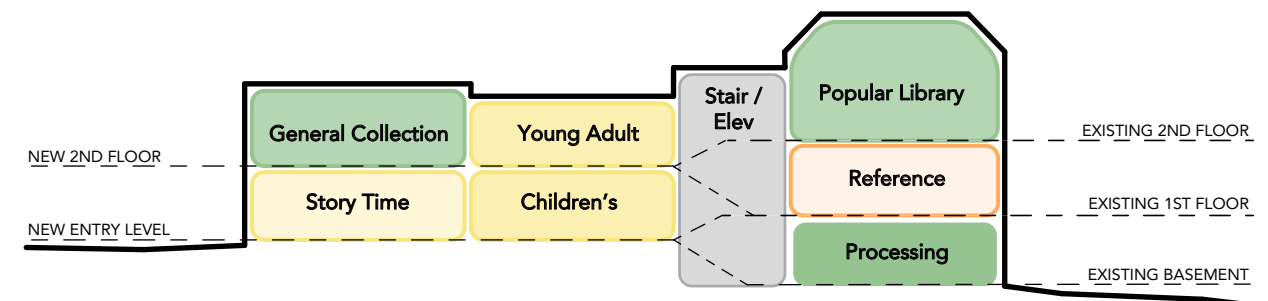
SECOND FLOOR PLAN



FIRST FLOOR PLAN



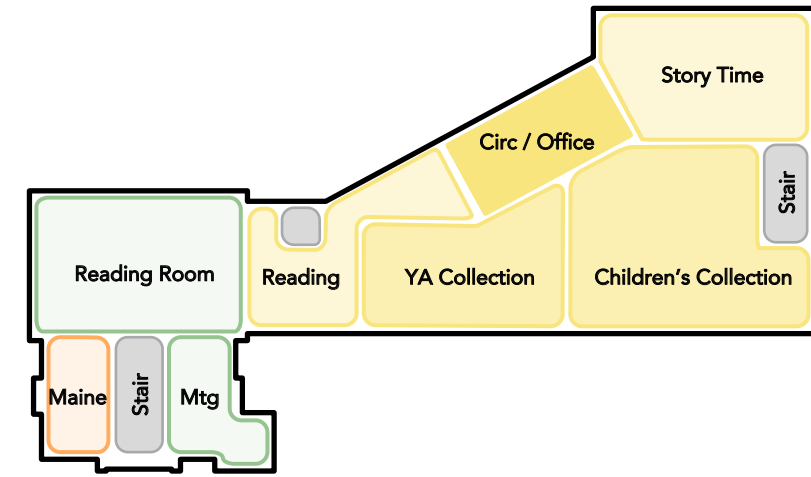
LOWER LEVEL FLOOR PLAN



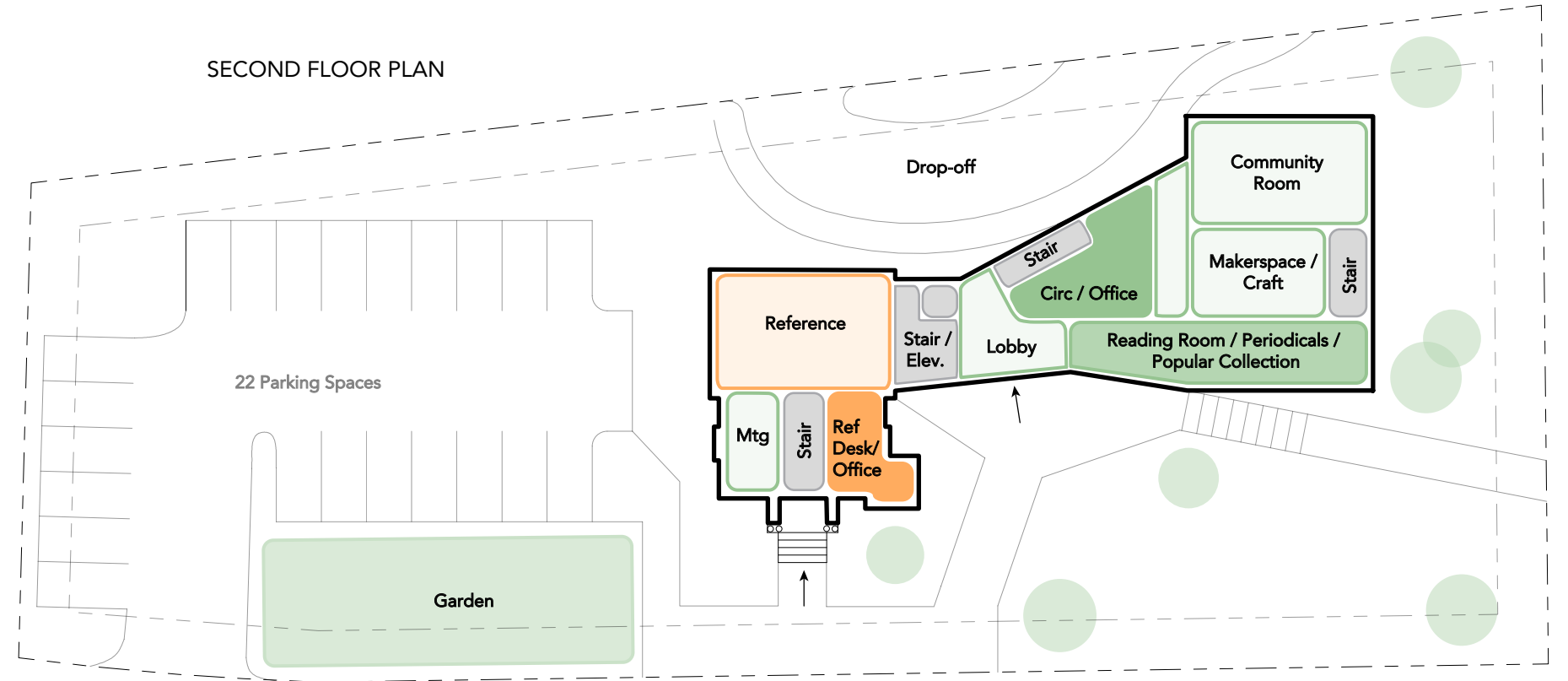
DIAGRAMMATIC BUILDING SECTION



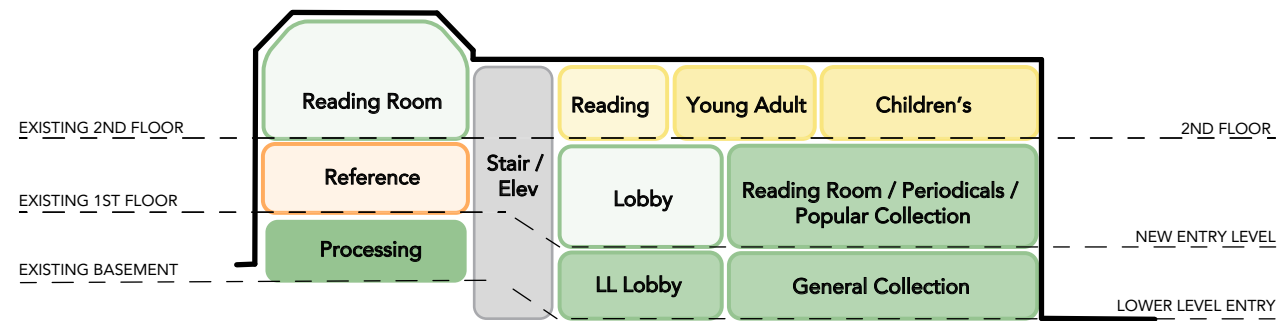
Scheme C



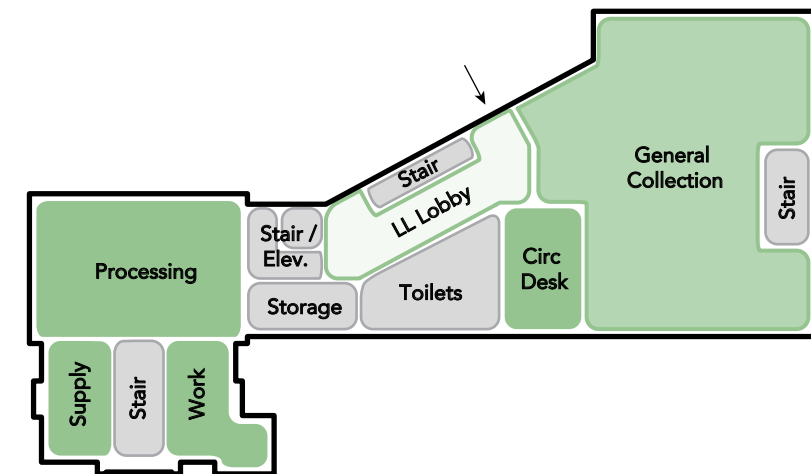
SECOND FLOOR PLAN



FIRST FLOOR PLAN



DIAGRAMMATIC BUILDING SECTION



LOWER LEVEL FLOOR PLAN

