

Belmont Public Library Conceptual Design Feasibility Study

MAY 2017

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Executive Summary



Johnson Roberts Associates Architects were hired by the Town of Belmont in July of 2016 to investigate the feasibility of three options for improvements to the Belmont Public Library; *Option 1 - Renovation Only - no additions*, *Option 2 - Renovations and Additions*, and *Option 3 - New Construction*, in order to assist the Trustees of the Belmont Public Library in decision making on the future of the library facility.

The library assembled a Feasibility Committee to work with the architect consisting of:

Peter Struzziero, Library Director

Kathy Keohane, Chair of the Board Of Library Trustees

Elaine Alligood, Vice Chair of the Board of Library Trustees

Gail Mann, Board of Library Trustees

Nancy Dignan, Past President of the Friends Of The Belmont Public Library

Clair Colburn, President of the Belmont Library Foundation

Gerald Boyle, Director of Facilities, Town of Belmont

Joel Semuels, Board member of the Belmont Council On Aging

Hannah Fischer, Treasurer of the Friends Of The Belmont Public Library

Jenny Fallon, Belmont Warrant Committee

Pat Brusch, Permanent Building Committee

Ann Paulsen, Former Member of the Board of Selectmen

The **Library Building Program** was created, reviewed and refined with input from the building committee, library staff, and trustees.

Multiple diagrammatic alternatives were prepared for the three options. After review by the Feasibility committee a preferred scheme for each of the three options was developed in more detail, and computer-massing models were prepared for each of the schemes.



Meetings were held with many town departments to get their input into the planning process. A series of well attended public forums were held to get public input into the process

An Independent Cost Estimator, **VJ Associates of New England**, prepared construction estimates for the three options. Johnson Roberts Associates prepared a proposed **Project Budget** for each of the three options, which contains the construction cost, escalation over time, contingencies, and other project costs.

After review of the options the Feasibility committee voted for what was considered the best option: demolition of the existing building and construction of a new library on the current site.

Building Program

A proposed **Library Building Program** was developed by Johnson Roberts Associates working with the Library Director, staff and Trustees, which served as the starting point for the study. Following further review by the Feasibility Committee, Library Director, staff and Trustees refinements to the program were made to better reflect the needs of the library.

The Building Program calls for a library of 29,735 usable net square feet. A multiplier of 30% was added to allow for wall thicknesses, stairs and elevators mechanical rooms and toilet facilities to bring the total Gross Square footage to 38,656 Square feet.

This program represents a significant departure from the Library Program used for previous designs prepared for submission to MBLC construction grant program of approximately 45,000 SF.

The Existing Belmont Public Library contains approximately 29,650 gross square feet.

It was understood that obviously the renovation only option would not accommodate all the spaces called for in the building program.

Existing Conditions

The **Belmont Public Library Memorial Building** was built in 1965 and was designed by Kilham, Hopkins, Greeley Architects. The library has the original construction drawings as well as drawings of a previous version of the design which was not constructed. The library was built to provide basic functional space on a modest budget. The entrance lobby, which serves as a memorial to war casualties, with stone cladding, stone columns and a marble plaque, is the exception to the basic character of the building.

The building was constructed as a load bearing masonry structure with load bearing exterior walls of exposed concrete with brick cladding. The floor structure of the lowest level is framed with precast pre-stressed structural T's over a crawl space. The main floor and mezzanine levels are framed with open web steel joists and concrete on form deck slabs. The roof structure is framed of wood and is sloped around the perimeter of the building and flat in the middle.

The lower level of the library houses the children's room, a medium sized meeting room, a large meeting room, staff work areas, staff lounge and mechanical and electrical rooms. The Main level of the library houses the main circulation desk, circulation work room, library administration, reference room, young Adults, AV collections, and the adult collections. A small mezzanine contains special collections and addition fiction book collections.

The current Belmont Public Library site consists of approximately 1.92 acres located on Concord Avenue. A park and community swimming pool on the east, a church to the west, and a private residence to the south bound the site. The Belmont High School is located nearby on Concord Avenue. An MBTA commuter rail station is located a short walk away near the Belmont Town Hall and a small town center commercial district.

The site has served as the location of the Library since 1965 when the current library was built.

When the library was built, an artificial berm was created along with a set of steps from Concord Avenue to provide access to the upper level of the library on the north side of the building. Two additional public entrances are provided at the lower level on the east and west sides of the building. Staff entrances and deliveries are provided at the lower level on the south side of the building. The front steps from Concord Avenue to the main entrance have suffered from structural problems over the years and have currently been closed to the public.

Prior to construction of the current library building the site was a part of the residential property located to the south of the site. At that time the Wellington Brook ran through the middle of the site. When the library was built the Wellington Brook was relocated into a man-made waterway at the south side of the site. As the brook leaves the property it enters a culvert that runs underneath the adjacent pool site.

Because the brook is a perpetually flowing waterway, the site is subject to a two hundred foot buffer zone by the Rivers Protection Act, which prohibits further development. Because the property has already been developed, any future development must not encroach on the undeveloped portions of the site adjacent to the brook.

On-site parking is provided for the public on the east and west sides of the building, the lot on the west side contains twenty five cars and the lot on the east provides parking for another ten cars. Nine parking places for staff are provided on the south side of the building. The current on-site parking is clearly inadequate to serve the need of library patrons. Additional parking is available on Concord Avenue.

Currently vehicular traffic circulates through the site on the south side of the library building adjacent to the brook. The drive and associated parking lots are not provided with drainage structures so surface water from the asphalt runs directly into the brook.

Zoning

Per the Belmont zoning regulations the building is located in a single residence SR-C zone. This zone requires a twenty-five foot front yard setback ten-foot side-yard setbacks and a thirty-foot rear property line setback. The building height is limited to thirty feet measured to the highest portion of a flat roof or thirty-four feet to the ridge of a sloped roof. It could be advantageous to seek a zoning variance on the height restriction in a subsequent design phase.

Previous Geotechnical investigations have revealed a high groundwater table at the site.

Structural Review

Roome and Guarracino, structural engineers, reviewed the original construction documents to ascertain the structural capacity of the library. Their review determined that the floors of the current library were not designed to carry the current code required 150 pound live load for bookstacks. The roof structure, which has suffered from sagging over the years, was found to be grossly under designed for current code snow loading requirements.

The unreinforced masonry exterior bearing walls are not up to current standards for seismic loading and would require reinforcing if extensive renovations are undertaken. This reinforcing would consist of a steel mesh secured to the inside of all exterior masonry walls with a four-inch layer of shotcrete over the reinforcing.

The Structural Engineer's report suggests that the building is a poor candidate for renovation. A copy of that report is contained in the appendix of this report.

Structural Modifications

The existing building was built as a load bearing masonry structure. The current Massachusetts State Building Code requires that the structure be seismically reinforced if the structure is significantly modified. If the building were to be added on to, no walls could be removed to open the existing building up to the addition. Existing windows would be enlarged to the floor to provide doorways into the new addition. Any addition must be structurally isolated and may not bear on the structure of the existing building.

The roof structure would need to be completely rebuilt to meet current snow loading requirements.

Floor to Floor Heights

The existing library structure was built with approximately eleven feet of floor-to-floor height between the lower level and the main level and between the main level and the mezzanine.

The floor structure is approximately sixteen inches deep leaving only about nine and a half feet clear. Renovating the existing structure to today's standards would involve running a number of mechanical and electrical services between the floor structure and the ceiling further lowering the ceiling.

Renovations would require at a minimum that a fire suppression system and new lighting be installed. This would result in a ceiling height of approximately eight and a half feet.

Ideally libraries today are served by HVAC systems with air distribution. Such a system allows for efficient operations through the use of heat exchange equipment to extract heat from exhaust air and transfer it to fresh incoming air. An air distribution system would not be possible in renovated portions of the existing library because the floor-to-floor height does not allow for the required air ducts.

Site Constraints

Area for available adding on to the existing library is limited by the zoning setbacks and wetland restrictions.

The existing building is set back approximately forty feet from the front property line. Zoning requires a twenty-five foot setback. This provides for the possibility of addition to the front of the building approximately fifteen feet in depth.

Additions to the sides and rear are constrained by the areas of the site that have not been previously disturbed. Because the entire site is subject to the 200-foot buffer zone of the Rivers Protection Act, additions going beyond the line of the existing asphalt paving are not feasible. This limits the depth of potential additions to the rear and side of the building.

Long narrow additions, which wrap the existing structure with new construction, must be structurally isolated and would be expensive to construct because of the high ratio of exterior wall to enclosed interior area.

Parking Constraints

The need for additional on-site parking in conjunction with library expansion puts further constraints on site development. Any new parking areas must be within areas that have been previously disturbed. Because the area available for development is limited, provision for on-site parking in conjunction with building additions requires a multi-level parking structure.

Conceptual Alternatives

Option One - Renovation Only

Renovations to the existing library without additions would correct the many deficiencies of the current facility, but would not allow for expansion for library services. The required seismic expansion would increase the thickness of the exterior walls resulting in less usable square footage. In order to make the facility accessible the elevator and toilet rooms needs to be increased in size and book stacks need to be moved away from walls resulting in a reduced book capacity.

The renovated facility without additions obviously could not contain all the functions called for in the building program. Increasing the size of the Children's department, which is grossly undersized for a town the size of Belmont, would require space reductions to other areas of the library.

The Option One Renovation Only scheme required significant capital outlay to correct building efficiencies but does not come close to meeting the needs of the library.

Option Two - Renovation and Addition

Renovations and Additions to the existing library can meet the proposed library building program, however due to site and building constraints, inefficiencies in the layout result in a facility which would be larger than the what could be achieved with new construction.

Due to the proximity to Wellington Brook the building cannot be expanded to the rear. Any additions to the library must be contained within the existing developed site area and at least 25 feet from the brook.

The best areas for expansion appear to be the east side of the building adjacent to the pool and to the front of the library. An addition could be constructed in these two areas that can meet the requirements of the library building program.

A new entrance at grade at the front of the building could be developed to provide easier access into the building. A new centrally located open stair and a new elevator could provide improved access to the upper floors.

Due to seismic restraints the existing exterior wall would need to remain in place with seismic reinforcement. Keeping the existing walls which define the sizes of existing spaces creates a challenge to developing an efficient layout.

The proposed Children's Department would ideally be mostly one large space, but given the constraints must be divided into separate rooms.

Additions to the front of the building are narrow due to the zoning setback requirement. These spaces could be used for office spaces and smaller public study spaces.

The roof structure would need to be completely rebuilt to meet current snow loading requirements.

Renovations would require a fire suppression system and new lighting be installed. This would result in a ceiling height of approximately eight and a half feet.

While a renovated facility could be improved in terms of insulation and efficiency of mechanical systems it is likely that operating costs for the renovated facility would be higher than for new construction.

Due to the expansion of the building footprint onto existing parking areas the number of cars that can be accommodated on the site would be reduced.

Due to the size of the addition and the nature of the renovations required for the existing building the costs of renovations and additions likely exceeds the cost of a new facility. While additions and renovations can meet the requirements of the library building program, existing constraints dictate layouts will not be optimal.

Option Three - New Construction

Demolition of the existing library and construction of a new facility on the site could be accomplished in numerous configurations. Several options were explored as a part of this study. The preferred scheme calls for a two story 38,950 SF facility to be constructed on the Eastern portion of the site. With efficient planning a parking lot for 45 cars can be developed.

Spaces for an outdoor reading garden and children's story garden have been incorporated into the plan. The existing garden space has also been retained.

The proposed new facility is a two story steel frame structure with a brick and precast veneer. Two entrances located on the street side and the parking lot side of the building lead directly into a main lobby.

The two story plan is efficiently laid out to accommodate an after-hours zone with meeting facilities and toilet rooms, circulation desk, new book browsing and the Children's department on the first floor, with adult stacks reading areas and other library and administrative functions located on the upper floor.

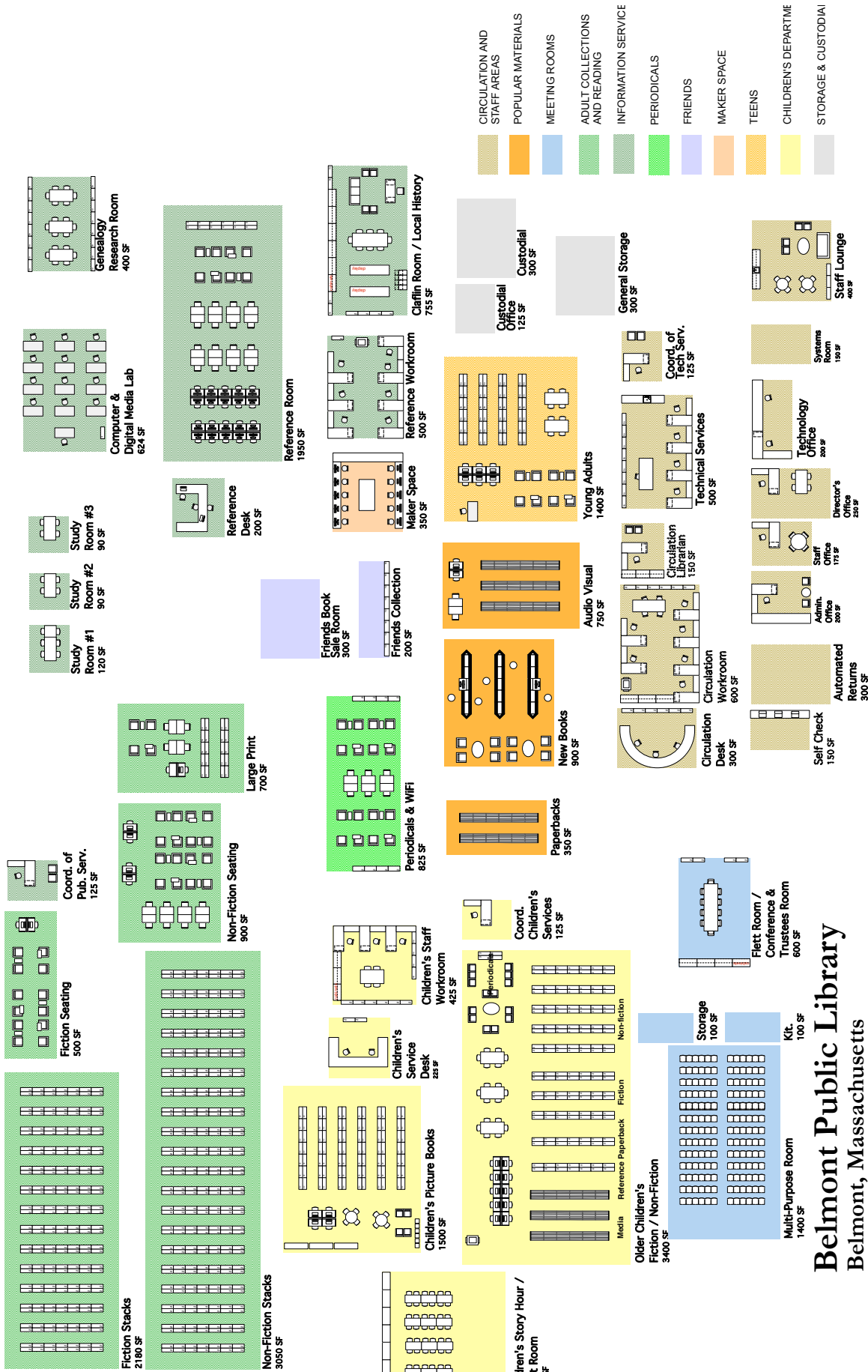
The Library Feasibility Committee voted Option 3 New Construction as the preferred option to propose moving forward. Reasons for selecting this option included the fact that it best serves the needs of the library, uses the existing site most efficiently, and is less costly than the renovation and addition option.





Building Program





Belmont Public Library Belmont, Massachusetts

Appendix C - Building Program Diagram - Addition and Renovation or New Construction

Belmont Public Library Belmont, Massachusetts

Program Summary – Renovation and Addition or New

8/19/16

<i>Area</i>	<i>Existing size</i>	<i>Proposed Size</i>
Circulation Department		
Circulation Librarian's Office		150 Sf
Circulation Desk		300 Sf
Self Check Area		150 Sf
Automated Returns		0 Sf
Circulation Work		600 Sf
	555 Sf	1,200 Sf
Adult Department		
Reference Work Room		500 Sf
Genealogy / Research Room		400 Sf
Study Room #1		120 Sf
Study Room #2		90 Sf
Study Room #3		90 Sf
Non-Fiction Stacks		3,050 Sf
Non-Fiction Seating		900 Sf
Fiction Stacks		2,180 Sf
Fiction Seating		500 Sf
Audio-Visual Area		100 Sf
AV - DVD		350 Sf
AV - CD		250 Sf
Paperback Collection		350 Sf
Browsing - Friends Collection		200 Sf
Large Print Area		700 Sf
Periodicals/ WiFi		825 Sf
Periodical Storage		0 Sf
New Books		900 Sf
Computer & Digital Media Lab		625 Sf
Maker Space		350 Sf
Office of Reference Serv		125 Sf
Office of Coord Pub Serv		125 Sf
	7,190 Sf	12,730 Sf
Reference Collection		100 Sf
Reference Desk		200 Sf
Reference Room		1,750 Sf
	2,000 Sf	2,050 Sf

Construction

Seating				Volumes									
Table	Carrel	Lounge	Total	PAC/PC	Other	Staff	Media	Books	Vol/lf	lf	Shlf	Dbf	Stack
					2	1					5	0	
						3					5	0	
					3								
						6					7	0	
						7					5	0	
12			12								5	0	
6			6								3	0	
4			4										
4			4										
										5000	6	139	
8		16	24	4									
				2						3500	6	97	
		12		2									
	2			2									
										300	6	8	
										100	6	3	
										300	6	8	
										45			
4	1	4	9	1							5	0	
6		16	22							120	5	4	
											7	0	
		8	8	2						400	4	17	
				13							7	0	
						1	2				5	0	
										100	3	6	
						2					5	0	
16		8	24	20							3	0	

<i>Area</i>	<i>Existing size</i>	<i>Proposed Size</i>
Clafin Local History	740 Sf	740 Sf
Technical Services		
Office of Coord of Tech Serv	115 Sf	125 Sf
Technical Services Workroom	1,510 Sf	500 Sf
Young Adult Room		
YA Collection	700 Sf	1,400 Sf
Children's Department		
Overall Children's		4,900 Sf
Older Children Fiction / Non Fict		
Nonfiction		
Fiction		
Paperback		
Reference		
DVD		
CD		
Video		
CD Rom		
Books on CD		
Children's Room Picture Books		
Picture Books		
Easy Readers		
Paperback Easy Readers		
Parents		
Picture Book Bins		
Board Book Bins		
Children's Room Periodicals		
Children's Room Service Desk		225 Sf
Children's Storyhour / Craft Room		950 Sf
Coordinator of Children's Services		125 Sf
Children's Staff Workroom		425 Sf
	2,871 Sf	6,625 Sf
Staff Spaces		
Staff Room	505 Sf	400 Sf
Systems Room		150 Sf
Technology Office		200 Sf
Assistant Director		175 Sf
Directors Office	165 Sf	250 Sf
Administrative Office	340 Sf	200 Sf

Seating						Volumes							
Table	Carrel	Lounge	Total	PAC/PC	Other	Staff	Media	Books	Vol/lf	lf	Shlf	Dbl	Stack
8		4	12	1								7	0
					2	1						7	0
						4						5	0
16		4	20	6		1							
										438	5	15	
18		14	32	10									
										1000	5	33	
										400	5	13	
										250	5	8	
										130	3	7	
							2300						
							800						
							1000						
							500						
							1000						
8		4	12	4									
												3	0
12												3	0
												3	0
												3	0
												3	0
												3	0
												5	0
						4						5	0
					50								
					2	1						5	0
						3						7	0
					12								
					1	1							
					4	1						7	0
					4	1						7	0
						1							

<i>Area</i>	<i>Existing size</i>	<i>Proposed Size</i>
Custodial & Storage		
Custodial Office Area		140 Sf
Custodial		300 Sf
Friends Book Sale Room	375 Sf	300 Sf
General Storage	1,760 Sf	300 Sf
Meeting Spaces		
Art Display & Lobby		190 Sf
Conference & Trustees Room (Flett Room)	500 Sf	600 Sf
Multi Purpose Room	1,140 Sf	1,500 Sf
Multi-Purpose Storage		200 Sf
Kitchenette	60 Sf	200 Sf
Subtotal		
	20,526 Sf	29,735 Sf
Non Assigned	30%	8,921 Sf
Total	29,650 Sf	38,656 Sf

Non Assigned Space includes - wall thickness, corridors, toilet rooms, stairs, elevators,

, and mechanical spaces

**Belmont Public Library
Belmont, Massachusetts**

Area Comparison:

2/6/17

	Program		Existing	
Circulation & Staff Areas	3,200 Sf		3,324 Sf	
Popular Materials	2,000 Sf		500 Sf	
Meeting Rooms	2,200 Sf		1,637 Sf	
Adult Collections & Reading	7,330 Sf		7,200 Sf	
Information Services	4,099 Sf		2,000 Sf	
Claflin Room / Local History	755 Sf		740 Sf	
Periodicals	825 Sf		0 Sf	
Friends	500 Sf		0 Sf	
Maker Space	350 Sf		0 Sf	
Young Adult	1,400 Sf		700 Sf	
Children's Department	6,625 Sf		2,870 Sf	
Storage & Custodial	1,025 Sf		1,760 Sf	
Total Program Area	30,309 Sf		20,731 Sf	
Non Assigned	8,183 Sf	27%	8,919 Sf	30%
Gross Building Area	38,492 Sf		29,650 Sf	

Non Assigned Space includes - wall thickness, corridors, toilet rooms, stairs, etc.

Johnson Roberts Associates

Renovation Only	Reno and Addition	New
3,094 Sf	3,180 Sf	3,396 Sf
1,091 Sf	2,016 Sf	1,803 Sf
2,234 Sf	2,251 Sf	1,840 Sf
3,355 Sf	7,318 Sf	7,733 Sf
2,358 Sf	3,883 Sf	4,093 Sf
766 Sf	748 Sf	864 Sf
644 Sf	760 Sf	870 Sf
177 Sf	388 Sf	564 Sf
529 Sf	529 Sf	378 Sf
775 Sf	1,341 Sf	1,464 Sf
4,030 Sf	6,605 Sf	7,678 Sf
1,048 Sf	1,266 Sf	921 Sf
20,101 Sf	30,285 Sf	31,604 Sf
9,549 Sf 32%	15,475 Sf 34%	7,346 Sf 19%
29,650 Sf	45,760 Sf	38,950 Sf

elevators, and mechanical spaces

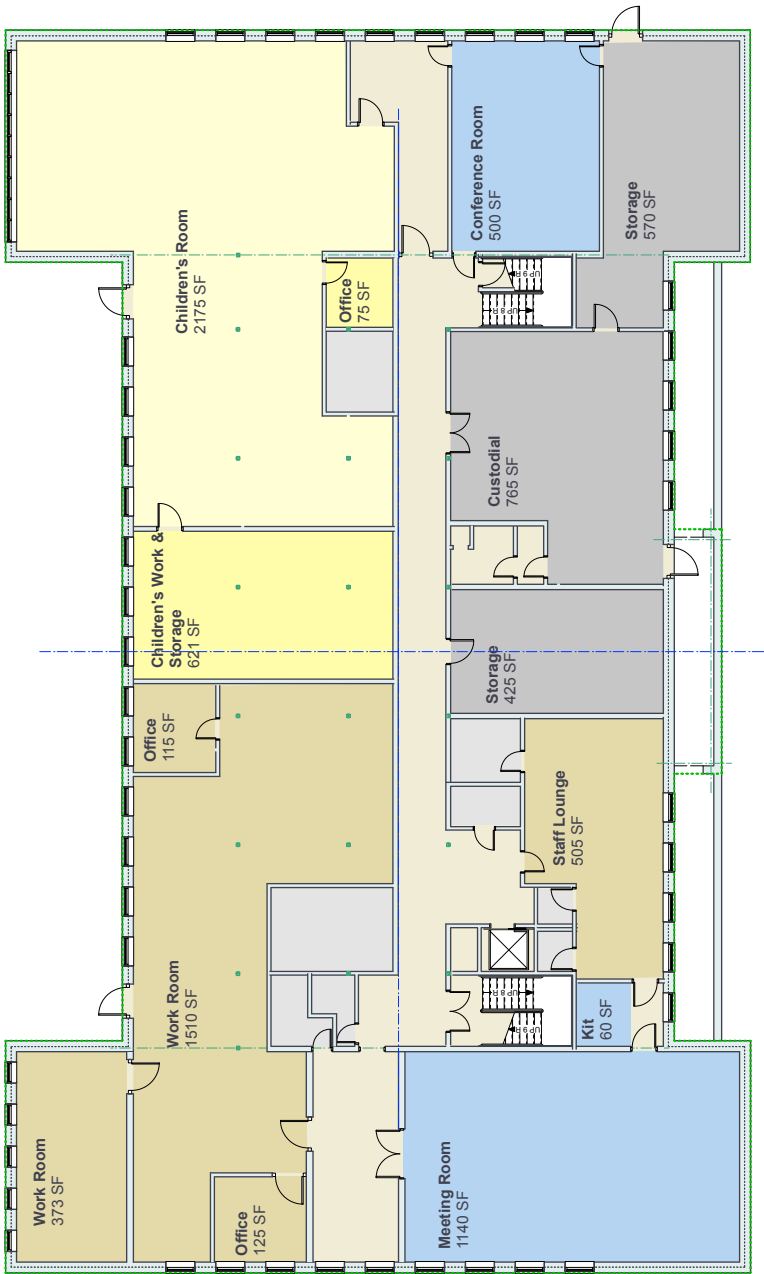


Conceptual Alternatives



Belmont Public Library

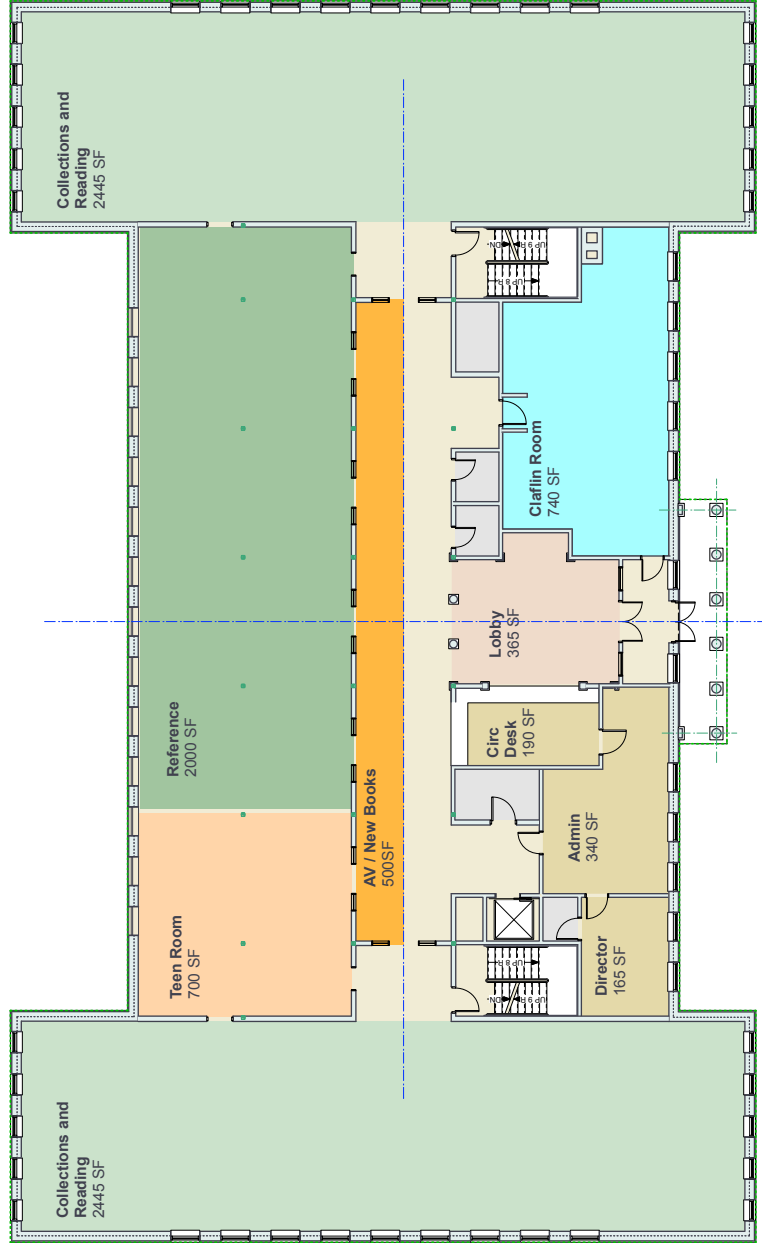
Existing Floor Plan



Lower Level

Belmont Public Library

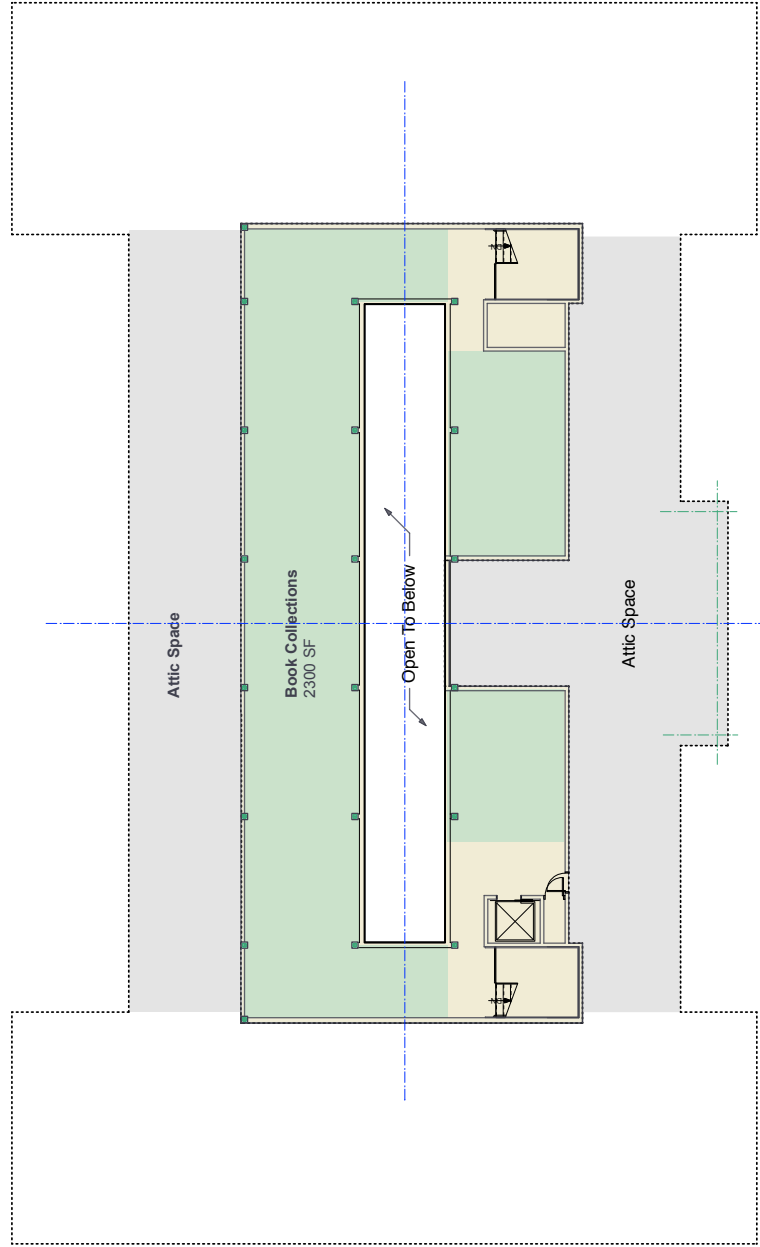
Existing Floor Plan



Main Level

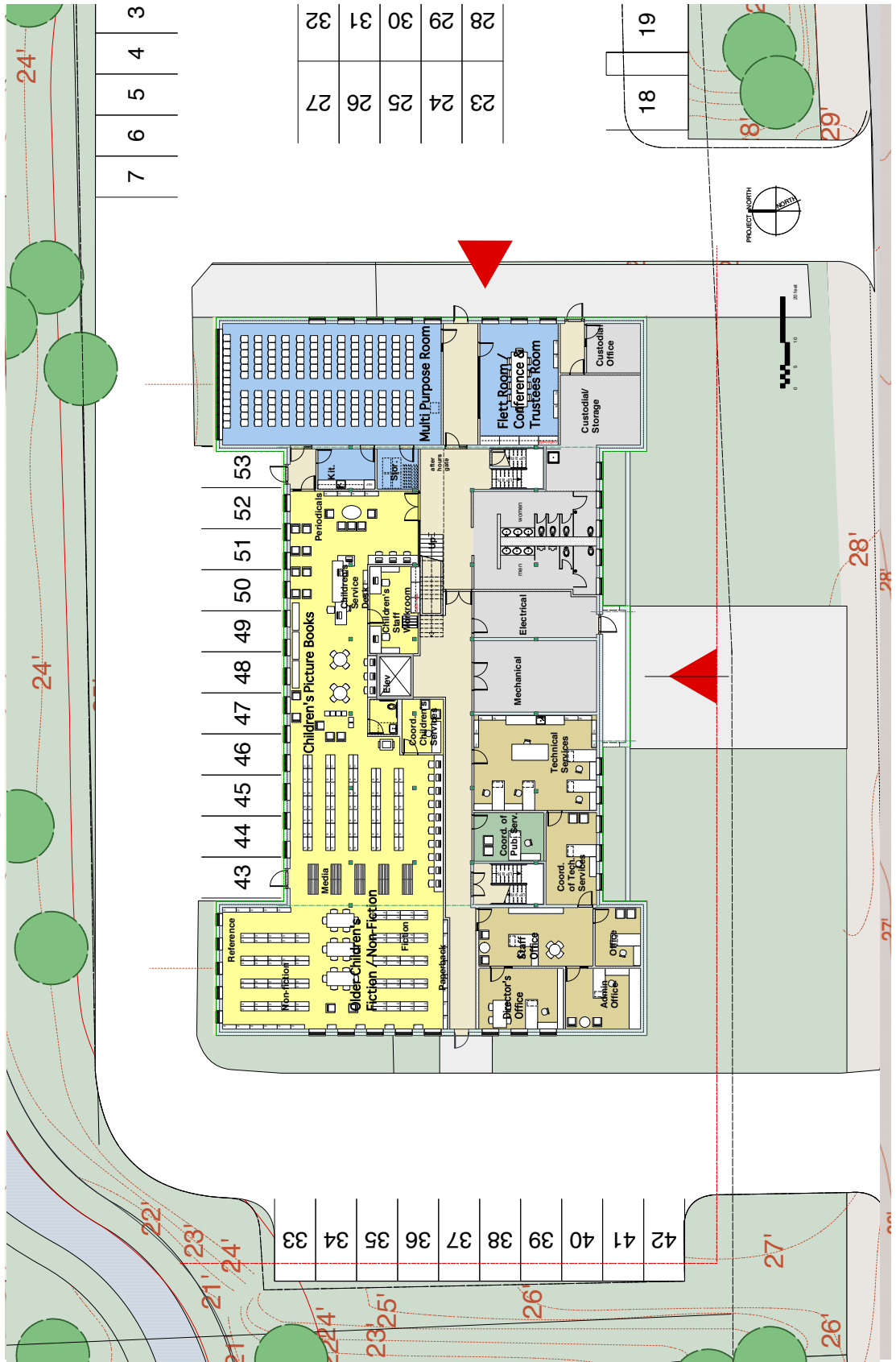
Belmont Public Library

Existing Floor Plan



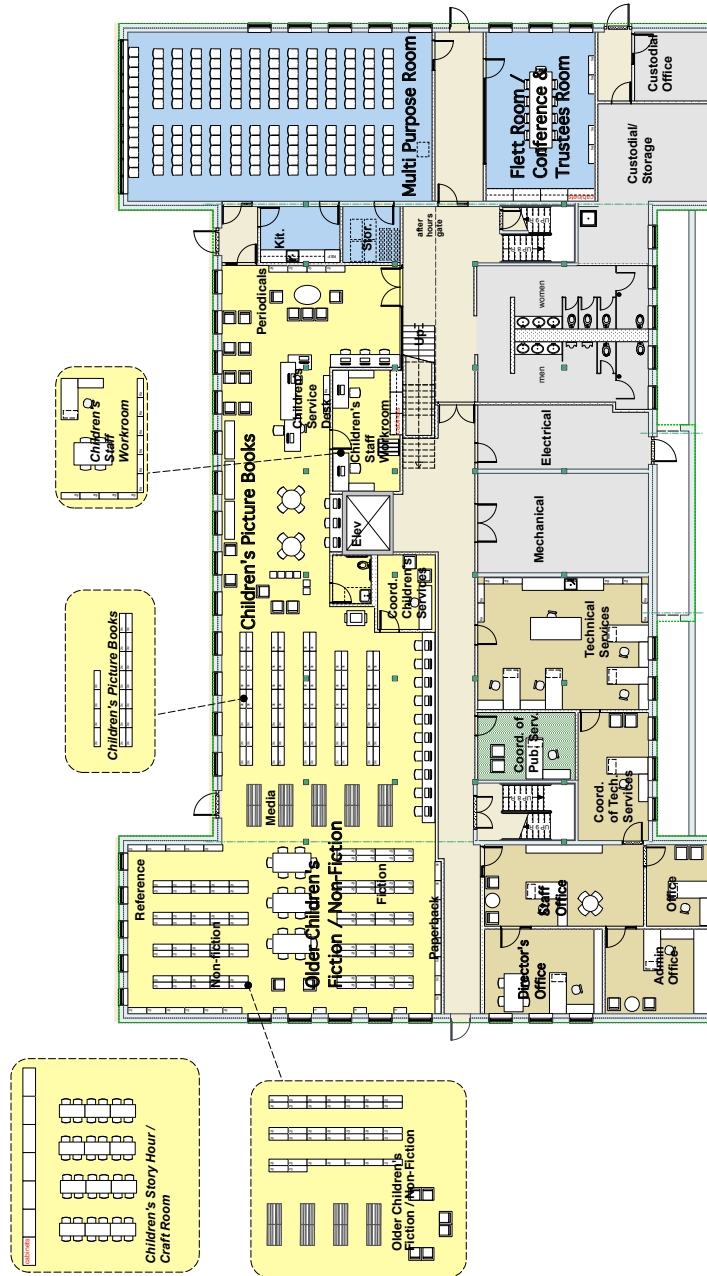
Mezzanine Level

Site Plan – Renovation Only – Option 1



Belmont Public Library

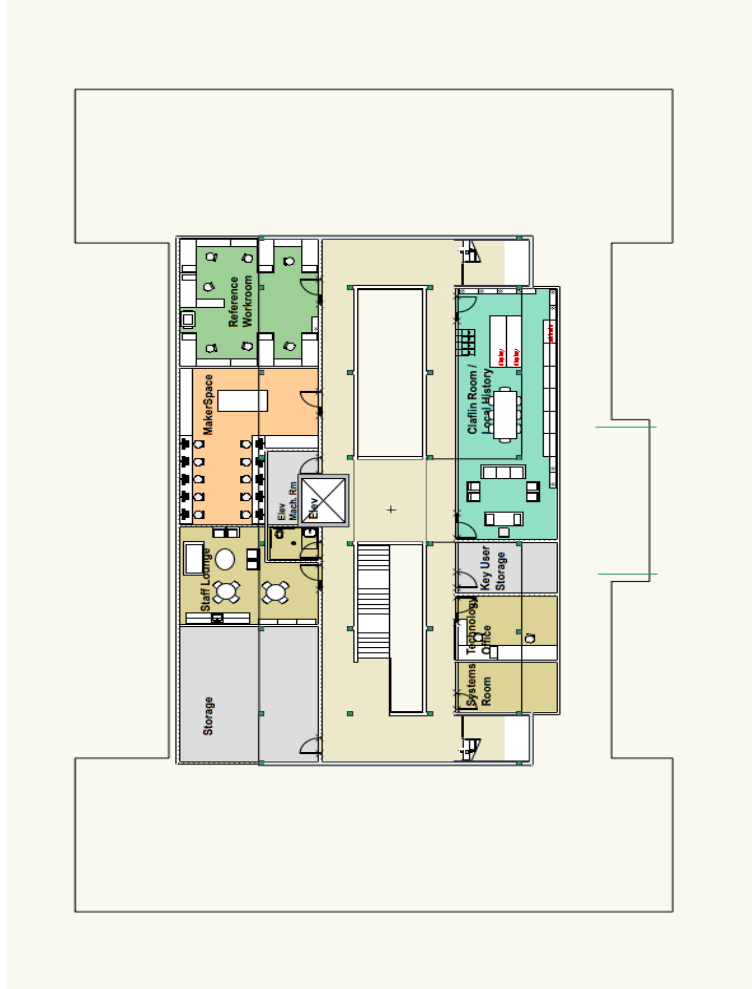
First Floor Plan – Renovation Only – Option 1





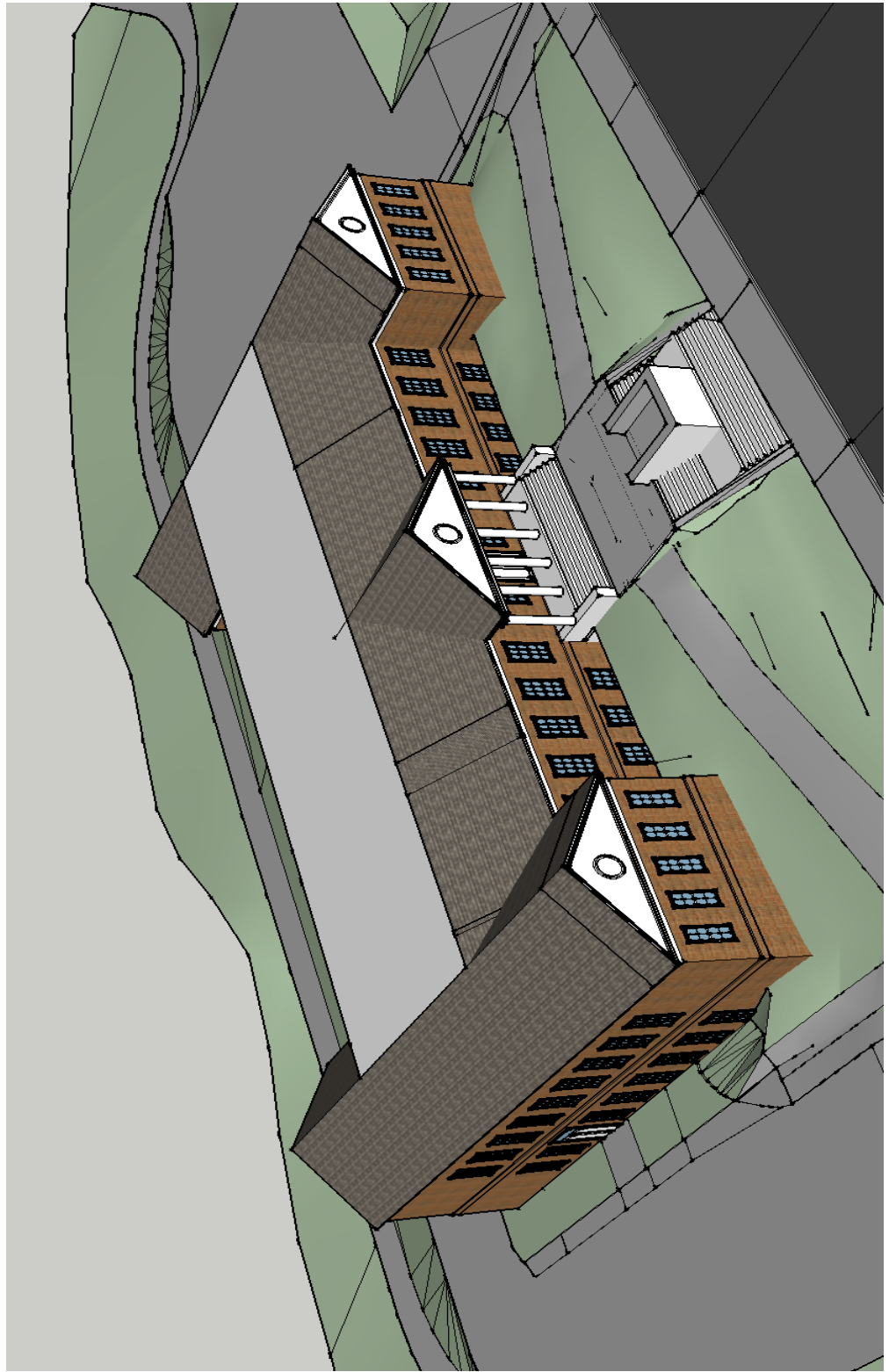
Belmont Public Library

Mezzanine Floor Plan – Renovation Only – Option 1



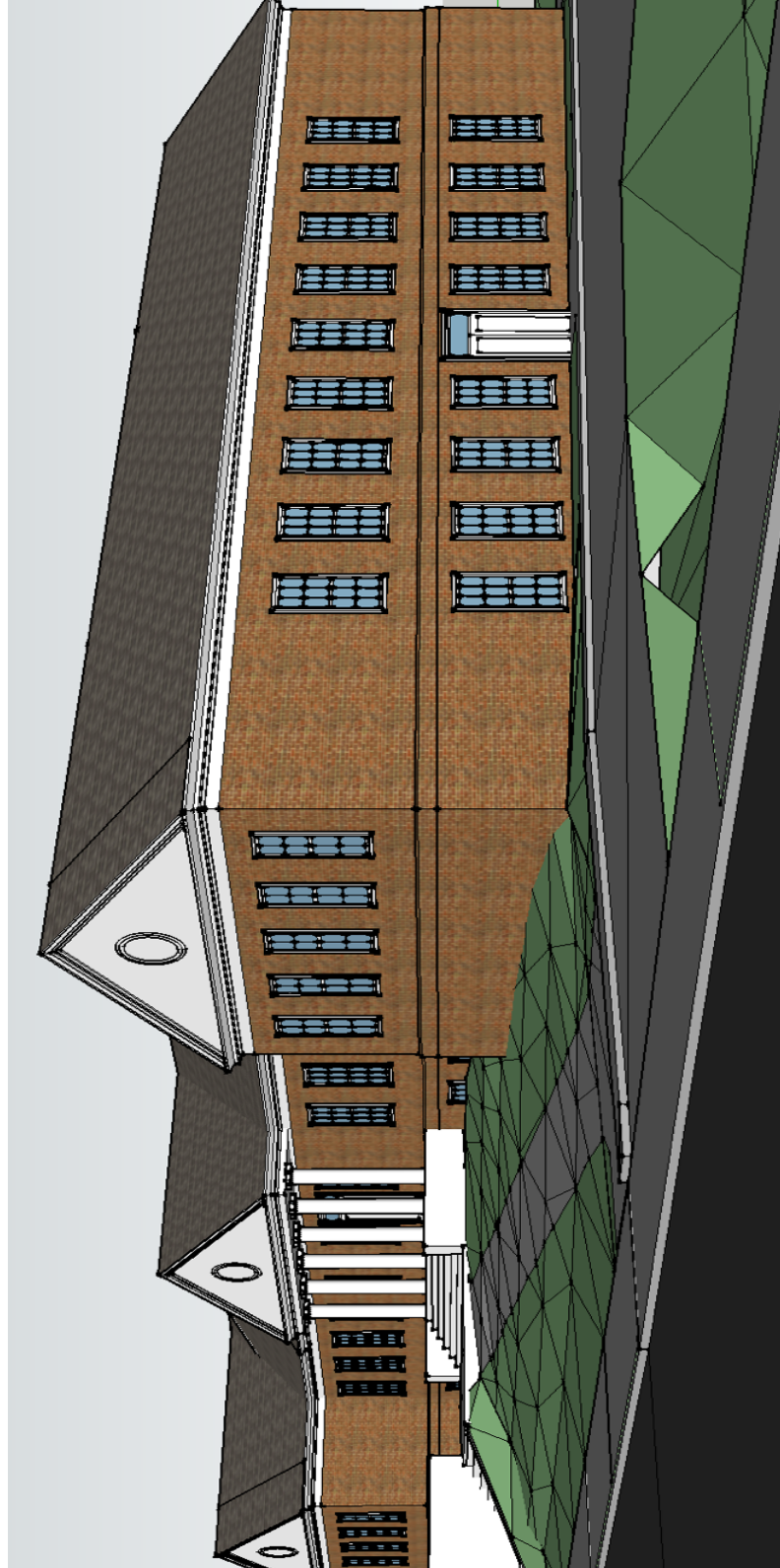
Belmont Public Library

Massing Model – Renovation Only – Option 1



Belmont Public Library

Massing Model – Renovation Only – Option 1





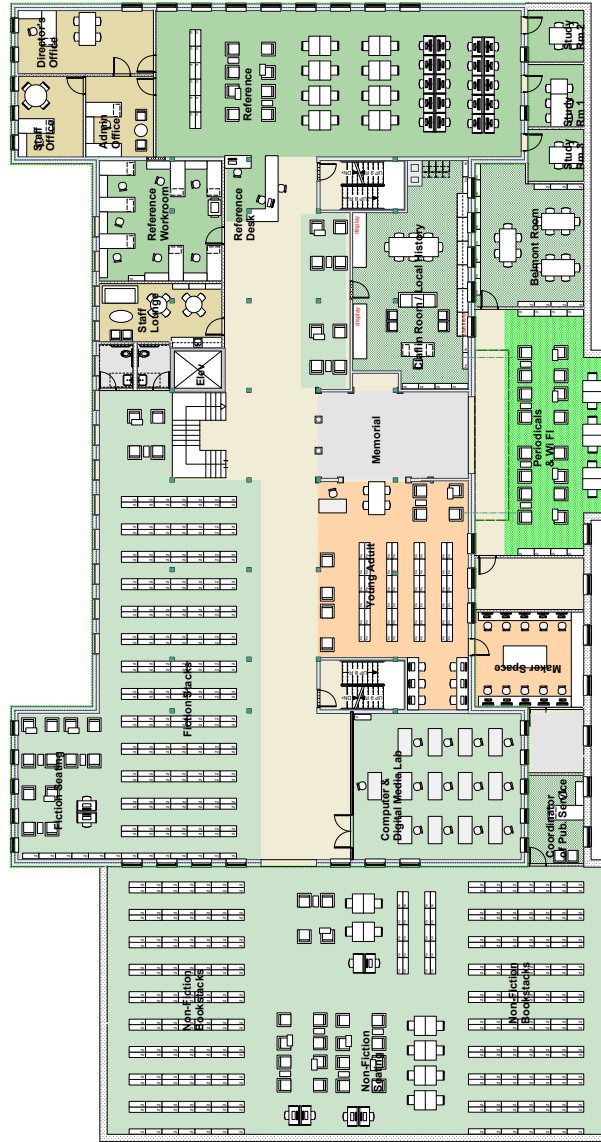
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First Floor Plan – Renovation And Addition – Option 2



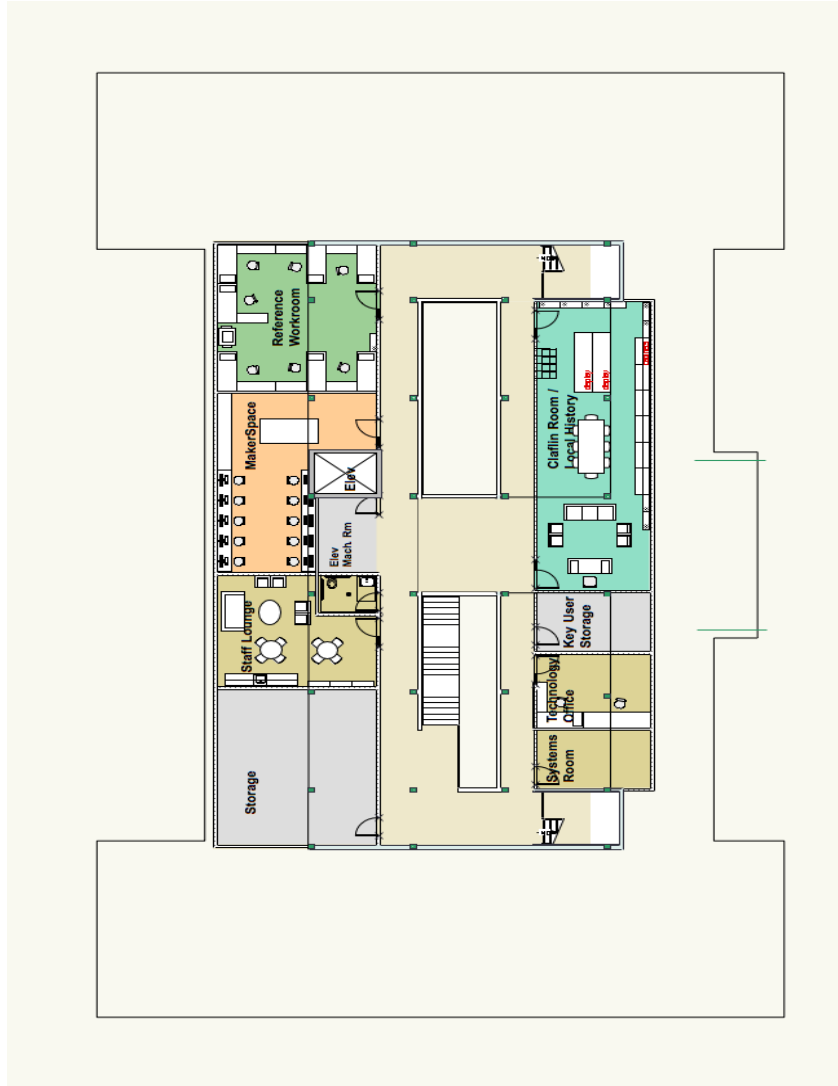
Belmont Public Library

Second Floor Plan – Renovation And Addition – Option 2



Belmont Public Library

Mezzanine Plan – Renovation And Addition – Option 2



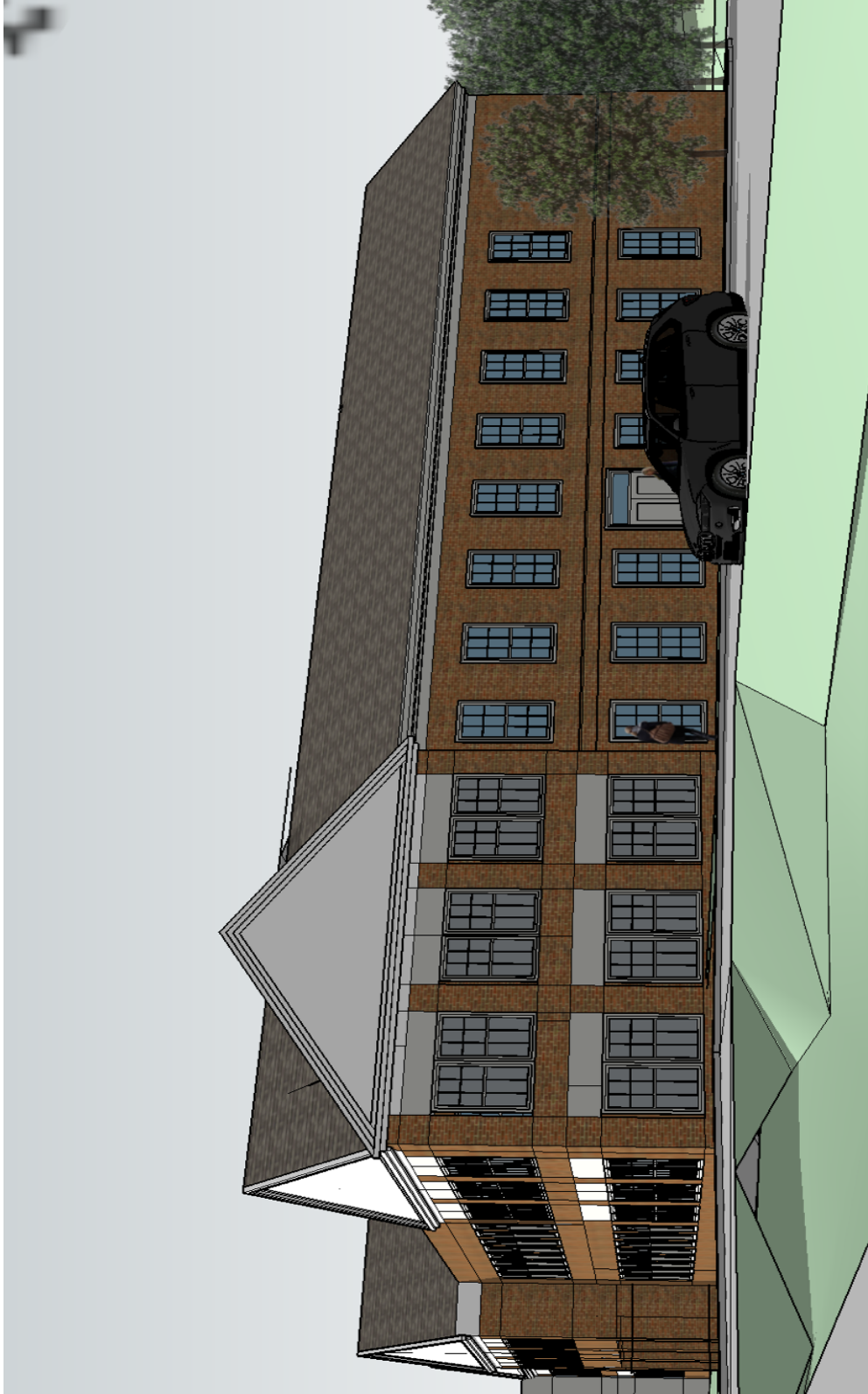
Belmont Public Library

Model View – Renovation And Addition – Option 2



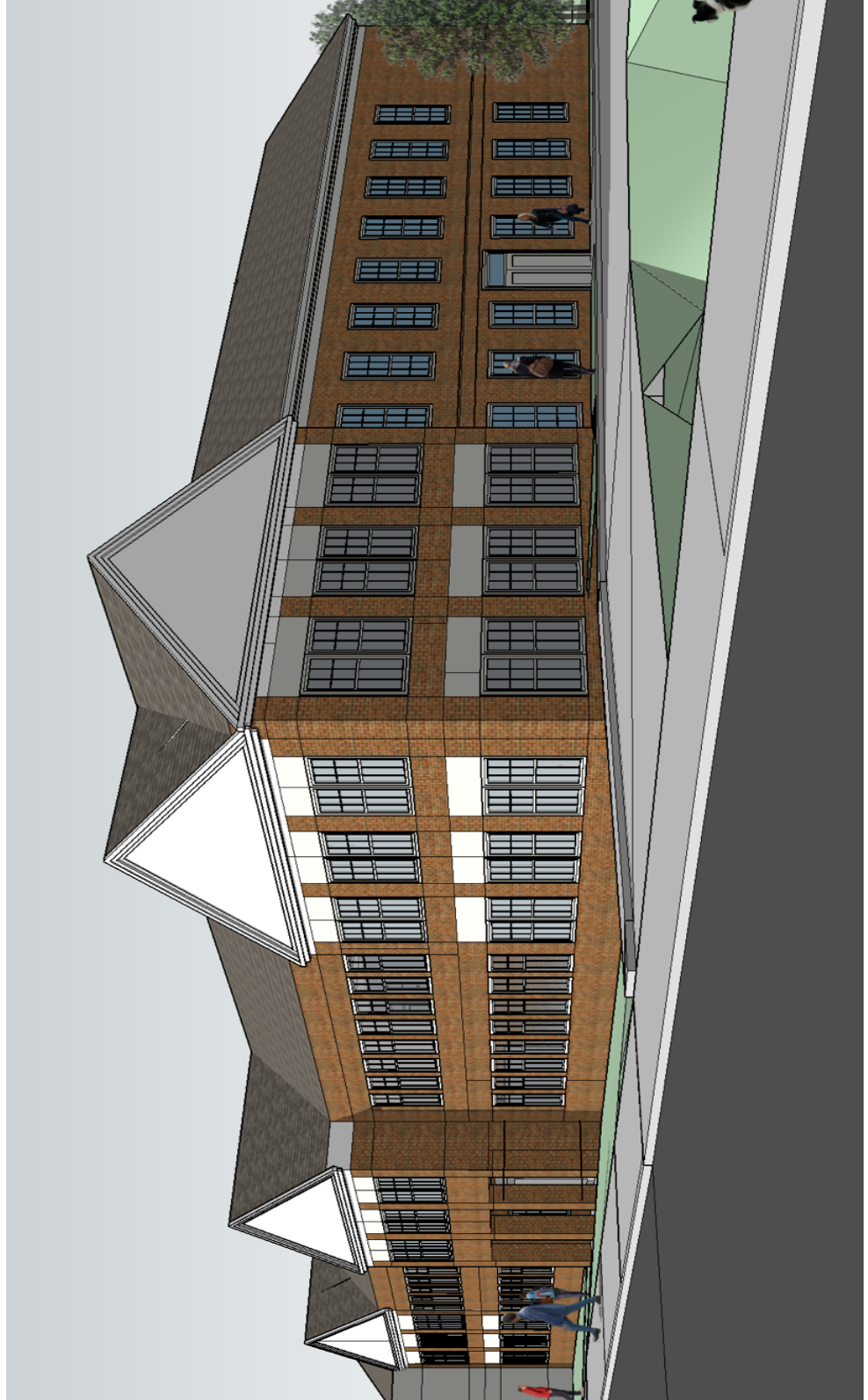
Belmont Public Library

Model View – Renovation And Addition – Option 2



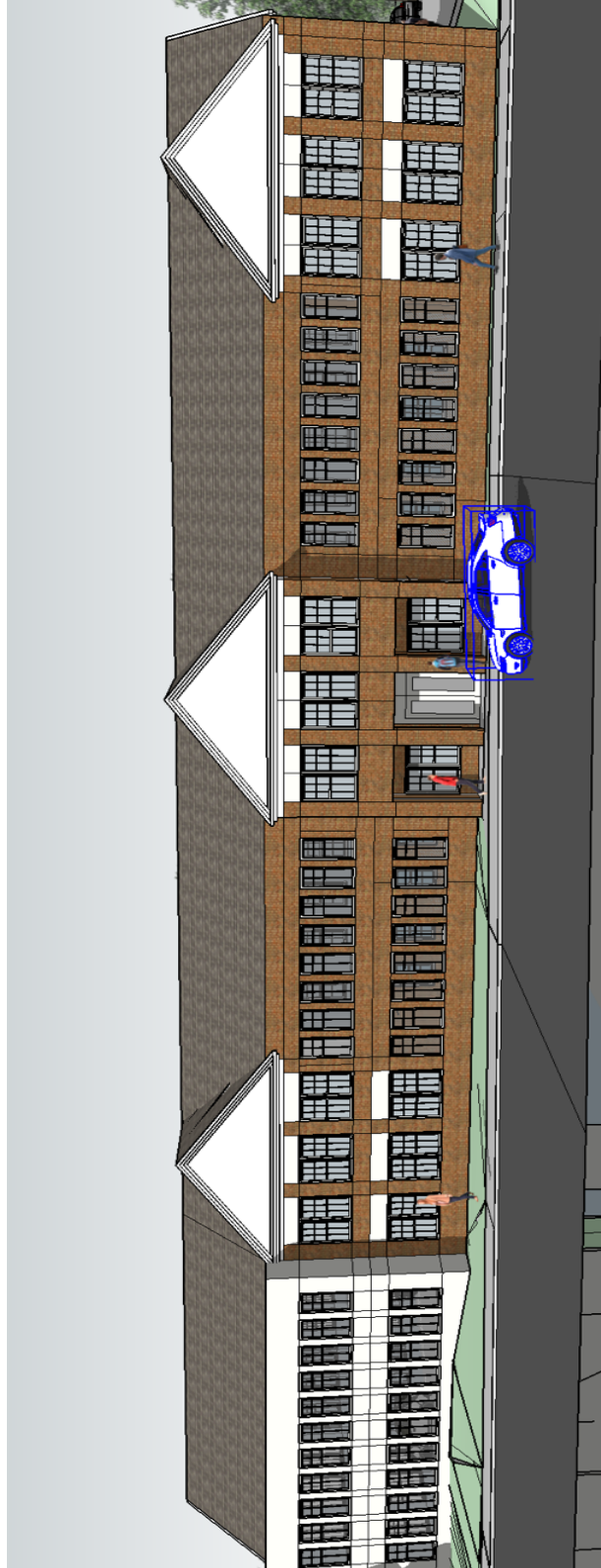
Belmont Public Library

Model View – Renovation And Addition – Option 2



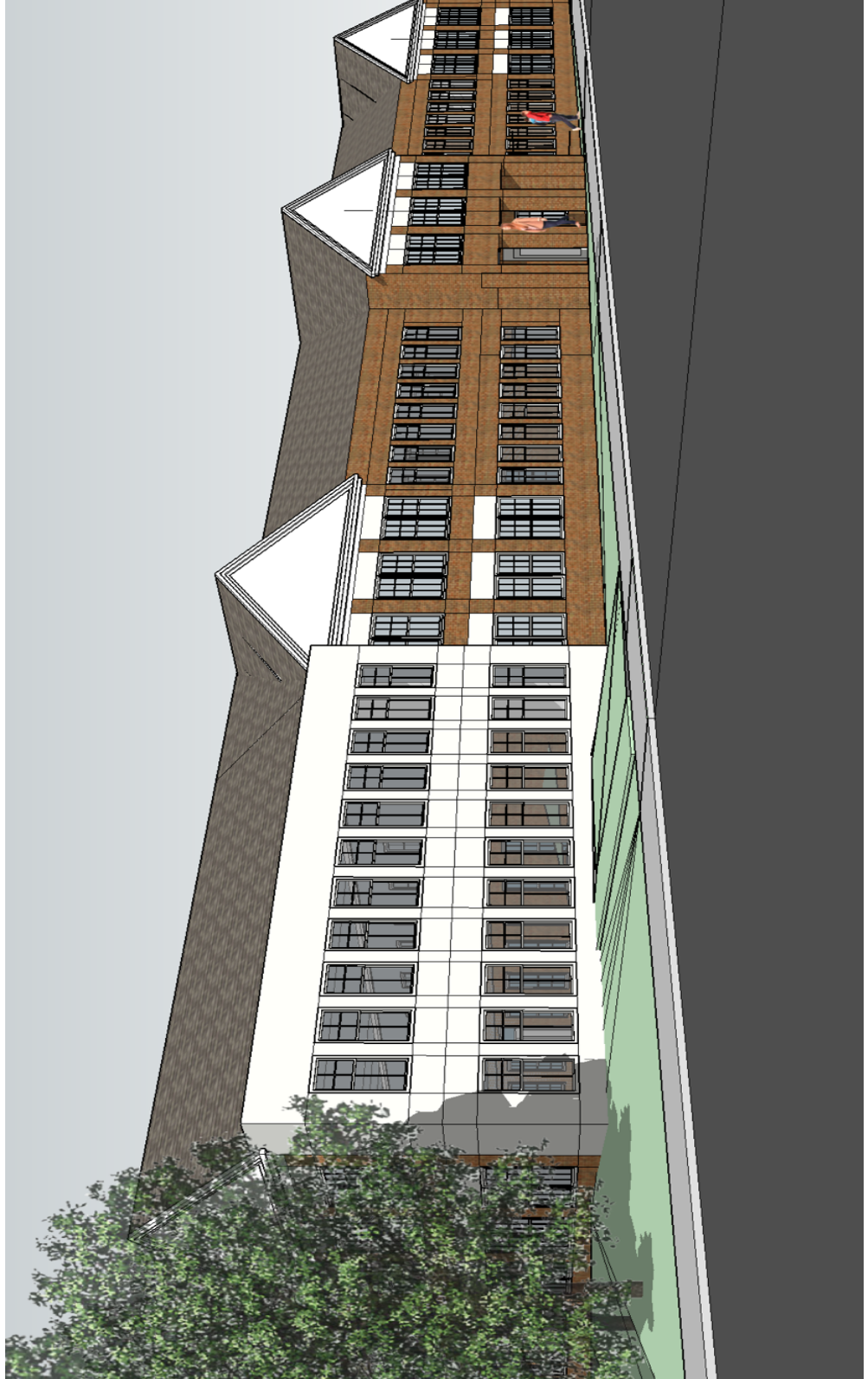
Belmont Public Library

Model View – Renovation And Addition – Option 2



Belmont Public Library

Model View – Renovation And Addition – Option 2



Belmont Public Library

Model View – Renovation And Addition – Option 2





Belmont Public Library

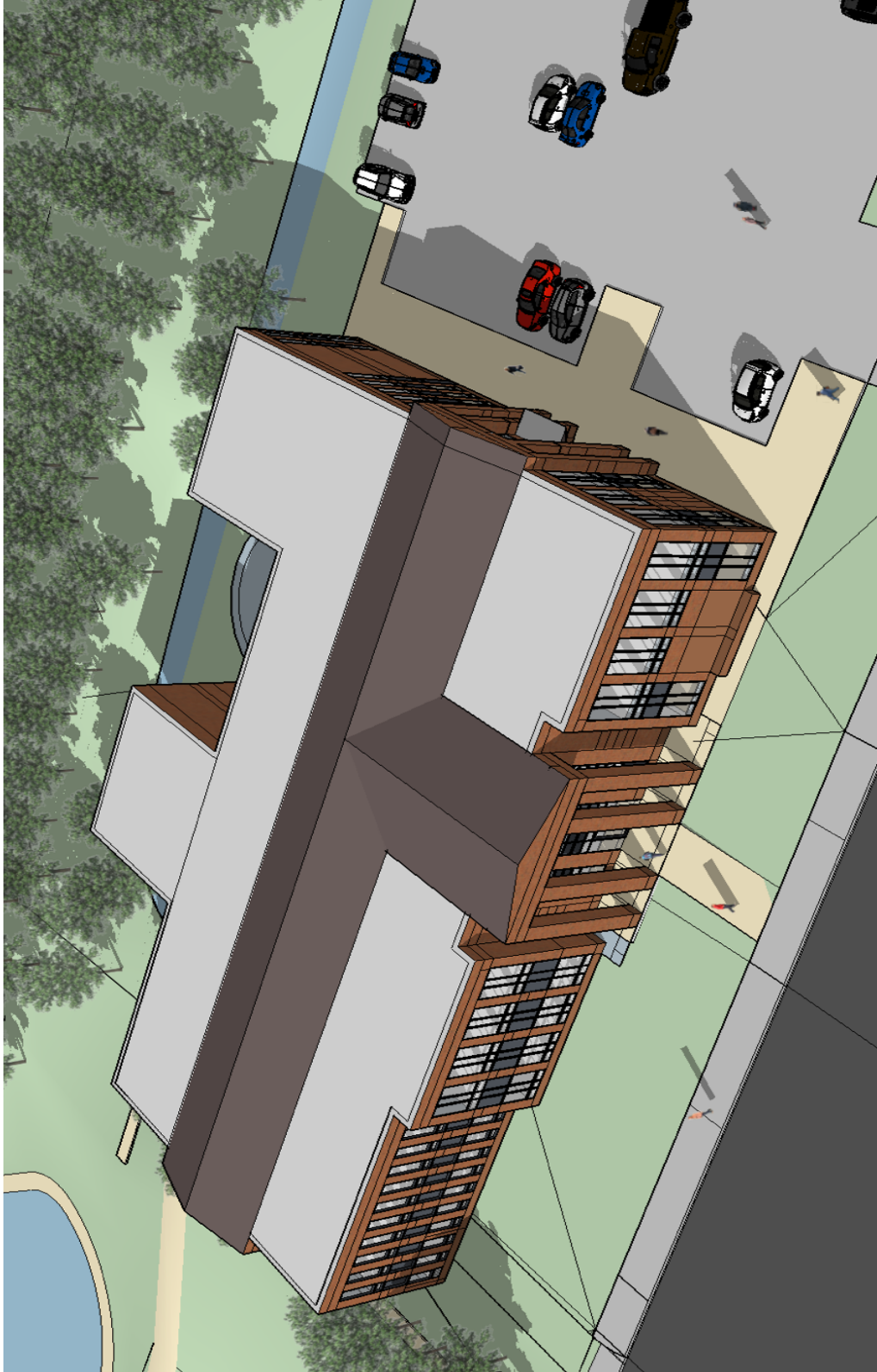
First Floor Plan – New Construction – Option 3





Belmont Public Library

Model View – New Construction – Option 3



Belmont Public Library

Model View – New Construction – Option 3



Belmont Public Library

Model View – New Construction – Option 3



Belmont Public Library

Model View – New Construction – Option 3



Belmont Public Library

Model View – New Construction – Option 3



Belmont Public Library

Model View – New Construction – Option 3



Project Budgets



Belmont Public Library

Renovation No Addition	Renovation and Addition	New Construction
\$15,868,837	\$24,636,165	\$23,403,586
29,650 SF	45,760 SF	38,950 SF
No Expansion	Meets net SF Req. but less efficient	Meets net SF Requirements
Rebuild the Roof	Rebuild the Roof	New Construction
Seismic Reinforcement	Seismic Reinforcement	New Construction
Floor Load Undersized	Floor Load Undersized	Meets Loading Req
No Site Changes	Fewer Parking Spaces	Meets Current Parking
Doesn't Meet Program Needs	Meets Program Needs	Meets Program Needs
Medium Operating costs	Highest Operating costs	Lowest Operating Costs
No Security Improvements	Improves Building Security	Improves Building Security



Belmont Public Library
Belmont, Massachusetts

Estimate of Probable Project Cost
Renovation - Option 1

1/27/17

Construction

Construction	38,950 Sf	See RLB Estimate	\$9,880,570	\$254/Sf
Escalation	3 Years	4.00%/Year	\$1,185,668 *	
Total Construction			\$11,066,238	\$284/Sf

Furnishings

Furniture	38,000 Sf	\$24/Sf	\$912,000	
Computers	Allow		\$50,000	
AV Equipment	Allow		\$15,000	
Phone	Allow		\$20,000	
Total Furnishings			\$997,000	

Fees

Architecture		12%	\$1,327,949	
Furnishings Fee		10%	\$91,200	
Owners Project Manager	4%		\$442,650	
Clerk of the Works	Allow		\$200,000	
Total Fees			\$2,061,798	

Expenses

Survey	Allow		\$7,500	
Testing	Allow		\$20,000	
Misc Expenses	Allow		\$20,000	
Haz Mat	Allow		\$30,000	
Printing Bid docs	Allow		\$7,500	
Moving (Two Way)	Allow		\$60,000	
Temporary Facility	Not Included			
Total Expenses			\$145,000	

Contingencies

Construction Contingency		13%	\$1,438,611	
Project Contingency		5%	\$160,190	
Total Contingencies			\$1,598,801	

Total Probable Project Cost **\$15,868,837** **\$407/Sf**

* Assumes Design Development Starts March 2018 and Construction start March 2019
18 months of Construction - Move in July 2020

Annual Escalation Beyond 3 Years \$634,753

**Belmont Public Library
Belmont, Massachusetts**

**Estimate of Probable Project Cost
Renovation and Addition - Option 2**

1/27/17

Construction

Construction	45,760 Sf	See RLB Estimate	\$16,041,127	\$351/Sf
Escalation	3 Years	4.00%/Year	\$1,924,935 *	
Total Construction			\$17,966,062	\$393/Sf

Furnishings

Furniture	38,000 Sf	\$24/Sf	\$912,000	
Computers	Allow		\$50,000	
AV Equipment	Allow		\$15,000	
Phone	Allow		\$20,000	
Total Furnishings			\$997,000	

Fees

Architecture		11%	\$1,976,267	
Furnishings Fee		10%	\$91,200	
Owners Project Manager	4%		\$718,642	
Clerk of the Works	Allow		\$200,000	
Total Fees			\$2,986,109	

Expenses

Survey	Allow	\$7,500	
Testing	Allow	\$20,000	
Misc Expenses	Allow	\$20,000	
Haz Mat	Allow	\$30,000	
Printing Bid docs	Allow	\$7,500	
Moving (Two Way)	Allow	\$60,000	
Temporary Facility	Not Included		
Total Expenses			\$145,000

Contingencies

Construction Contingency	13%	\$2,335,588.09	
Project Contingency	5%	\$206,405.47	
Total Contingencies			\$2,541,994

Total Probable Project Cost	\$24,636,165	\$538/Sf
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* Assumes Design Development Starts March 2018 and Construction start March 2019
18 months of Construction - Move in July 2020

Annual Escalation Beyond 3 Years	\$985,447
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Belmont Public Library
Belmont, Massachusetts

Estimate of Probable Project Cost
New Building - Option 3

1/27/17

Construction

Construction	38,950 Sf	See RLB Estimate	\$15,679,578	\$403/Sf
Escalation	3 Years	4.00%/Year	\$1,881,549 *	
Total Construction			\$17,561,127	\$451/Sf

Furnishings

Furniture	38,000 Sf	\$24/Sf	\$912,000	
Computers	Allow		\$50,000	
AV Equipment	Allow		\$15,000	
Phone	Allow		\$20,000	
Total Furnishings			\$997,000	

Fees

Architecture		10%	\$1,756,113	
Furnishings Fee		10%	\$91,200	
Owners Project Manager	4%		\$702,445	
Clerk of the Works	Allow		\$200,000	
Total Fees			\$2,749,758	

Expenses

Survey	Allow		\$7,500	
Testing	Allow		\$20,000	
Misc Expenses	Allow		\$20,000	
Haz Mat	Allow		\$30,000	
Printing Bid docs	Allow		\$7,500	
Moving (Two Way)	Allow		\$60,000	
Temporary Facility	Not Included			
Total Expenses			\$145,000	

Contingencies

Construction Contingency	10%	\$1,756,112.74	
Project Contingency	5%	\$194,587.89	
Total Contingencies			\$1,950,701

Total Probable Project Cost \$23,403,586 \$601/Sf

* Assumes Design Development Starts March 2018 and Construction start March 2019
18 months of Construction - Move in July 2020

Annual Escalation Beyond 3 Years \$936,143

Cost Estimates



Construction Cost Estimate

Concept Design Cost Estimate - Revision 2

Belmont Public Library Option 1 - Renovation

Belmont, MA

Prepared for:

Johnson Roberts Associates, Inc.
15 Properzi Way,
Somerville, MA 02143

January 23, 2017



Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Project Details

Description***Basis of Estimate***

This estimate has been prepared at the request of the Johnson Roberts Associates and is to provide a Concept Design Cost Study for the renovation of the existing Belmont Public Library, located at 336 Concord Ave. in Belmont, MA.

The estimate is based upon measured quantities and built-up rates prepared from the Concept Design drawings and Sketch-Up Model issued to RLB on the 16th of December 2016, prepared by Johnson Roberts Associates.

Where information was insufficient, assumptions and allowances were made based wherever possible on discussions with the architect and engineers.

It is assumed that the project will be competitively bid by four to six general contractors and that the awarded contractor and all subcontractors will be required to pay prevailing wage rates. It is also expected that the project will be competitively bid by four to six subcontractors where filed sub-bids are required.

Unit pricing is based on January 2017 costs. A Design / Estimating Contingency of 15.0% has been included. An allowance for escalation has not been included.

Items Specifically Included

- . This estimate is based on a Gross Floor Area of approx. 30,720 sq.ft.

Items Specifically Excluded

- . Modifications and/or repairs to existing window sills, headers, and reveals (unless noted otherwise).
- . Structural repairs and modifications, unless noted otherwise.
- . Wiring and equipment to communications systems (estimate includes infrastructure only).
- . Wiring and equipment to security systems (estimate includes infrastructure only).
- . Book security / detection system (assume by Owner).
- . Library storage, racking, and/or shelving (assume by Owner).
- . Interior feature signage.
- . Removal, storage, and re-installation of existing FF&E.
- . Modifications and/or repairs to existing site hardscaping (unless noted otherwise).
- . Modifications and/or repairs to existing site landscaping (unless noted otherwise).
- . Re-routing and/or modifications to existing water and sewer utilities.
- . Re-routing and/or modifications to existing electrical and communications utilities.
- . Deep foundation systems.
- . Excavation in rock and/or contaminated soils.
- . Excavation within and/or below groundwater table.
- . Hazardous materials abatement, unless noted otherwise.
- . Costs associated with phasing the construction work, including out of hours work.
- . Furniture, Fittings and Equipment (FF&E).
- . Murals and works of art.
- . Mock-ups.

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Project Details

Description

- . Work outside the site boundaries unless noted otherwise.
- . Owner's / Construction contingency.
- . Land and legal costs.
- . Architectural, Engineering and other professional fees.
- . Geotechnical, traffic and all other studies.
- . Items marked as "Excl." in the estimate.
- . Escalation beyond Q1 2017.

Documents

Please refer to Basis of Estimate.

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Location Summary

GFA: Gross Floor Area
Rates Current At January 2017

Location	GFA SF	Cost/SF	Total Cost
R RENOVATION	30,720.0	242.64	7,453,908
ESTIMATED NET COST	30,720	\$242.64	\$7,453,908
MARGINS & ADJUSTMENTS			
General Conditions / Requirements	9.0 %		\$670,852
Bonds and Insurances	2.7 %		\$219,369
Overhead and Profit	4.0 %		\$333,765
Design / Estimating Contingency	15.0 %		\$1,301,684
Escalation			Excl.
ESTIMATED TOTAL COST	30,720	\$324.86	\$9,979,578

Belmont Public Library

Concept Design Cost Estimate - Option 1 - Revision 2

Divisions/Elements Summary

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description	Cost/SF	Total Cost
02 Existing Conditions		
F2010 Building Elements Demolition	12.32	378,490
F2020 Hazardous Components Abatement		Excl.
G1020 Site Demolition and Relocations	0.49	15,153
Existing Conditions	\$12.81	\$393,643
03 Concrete		
A1030 Slab on Grade	3.42	105,175
A2020 Basement Walls	0.49	15,000
B1010 Floor Construction	3.09	95,075
B2010 Exterior Walls	2.41	73,950
Concrete	\$9.41	\$289,200
04 Masonry		
B2010 Exterior Walls	8.22	252,446
C1010 Partitions	4.26	130,896
Masonry	\$12.48	\$383,342
05 Metals		
B1010 Floor Construction	0.98	30,000
B1020 Roof Construction	11.47	352,319
B2010 Exterior Walls	1.83	56,228
C1030 Fittings	4.81	147,860
C2010 Stair Construction	4.39	135,000
Metals	\$23.48	\$721,407
06 Wood, Plastics, and Composites		
B3010 Roof Coverings	0.48	14,843
C1030 Fittings	2.25	69,120
C3010 Wall Finishes	1.82	55,875
E2010 Fixed Furnishings	5.82	178,750
Wood, Plastics, and Composites	\$10.37	\$318,588
07 Thermal and Moisture Protection		
B1010 Floor Construction	0.88	27,045
B1020 Roof Construction	1.45	44,529
B2010 Exterior Walls	1.94	59,668
B3010 Roof Coverings	8.73	268,281
C1030 Fittings	3.00	92,160
C3020 Floor Finishes		Excl.

Belmont Public Library

Concept Design Cost Estimate - Option 1 - Revision 2

Divisions/Elements Summary

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
D2040	Rain Water Drainage	0.85	26,005
Thermal and Moisture Protection		\$16.85	\$517,688
08 Openings			
B2020	Exterior Windows	7.18	220,680
B2030	Exterior Doors	0.72	22,200
C1010	Partitions	2.00	61,440
C1020	Interior Doors	3.59	110,400
Openings		\$13.50	\$414,720
09 Finishings			
B2010	Exterior Walls	0.82	25,161
C1010	Partitions	7.48	229,746
C2020	Stair Finishes	0.24	7,308
C3010	Wall Finishes	2.79	85,801
C3020	Floor Finishes	7.35	225,920
C3030	Ceiling Finishes	7.00	215,033
Finishings		\$25.68	\$788,969
10 Specialties			
C1030	Fittings	1.82	55,820
D4030	Fire Protection Specialties	0.11	3,500
Specialties		\$1.93	\$59,320
11 Equipment			
E1010	Commercial Equipment	0.12	3,800
E1020	Institutional Equipment	0.16	5,000
Equipment		\$0.29	\$8,800
12 Furnishings			
C3020	Floor Finishes	0.08	2,350
E2010	Fixed Furnishings	0.64	19,616
E2020	Movable Furnishings		Excl.
Furnishings		\$0.72	\$21,966
14 Conveying Equipment			
D1010	Elevators & Lifts	3.91	120,000
Conveying Equipment		\$3.91	\$120,000
21 Fire Suppression			
D4010	Sprinklers	6.00	184,320
Fire Suppression		\$6.00	\$184,320

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Summary

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
22 Plumbing			
D2010	Plumbing Fixtures	0.89	27,200
D2020	Domestic Water Distribution	4.50	138,240
D2030	Sanitary Waste	3.50	107,520
D2040	Rain Water Drainage	2.50	76,800
D2090	Other Plumbing Systems	1.84	56,472
Plumbing		\$13.22	\$406,232
23 Heating, Ventilating, and Air Conditioning			
D3020	Heat Generating Systems	4.00	122,880
D3030	Cooling Generating Systems	4.00	122,880
D3040	Distribution Systems	27.00	829,440
D3060	Controls & Instrumentations	6.00	184,320
D3070	Systems Testing & Balancing	0.75	23,040
D3090	Other HVAC Systems & Equipment	3.10	95,360
Heating, Ventilating, and Air Conditioning		\$44.85	\$1,377,920
26 Electrical			
D5010	Electrical Service & Distribution	8.00	245,760
D5020	Lighting and Branch Wiring	17.50	537,600
D5090	Other Electrical Systems	3.30	101,440
Electrical		\$28.80	\$884,800
27 Communications			
D5030	Communications & Security	4.75	145,920
Communications		\$4.75	\$145,920
28 Electronic Safety and Security			
D5030	Communications & Security	5.00	153,600
Electronic Safety and Security		\$5.00	\$153,600
31 Earthwork			
G1010	Site Clearing	0.81	25,000
G1030	Site Earthwork	0.32	9,785
G2030	Pedestrian Paving	0.16	4,989
Earthwork		\$1.29	\$39,774
32 Exterior Improvements			
G2030	Pedestrian Paving	0.45	13,699
G2040	Site Development	4.88	150,000
G2050	Landscaping	0.65	20,000
Exterior Improvements		\$5.98	\$183,699

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Summary

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
33 Utilities			
G3010	Water Supply		Excl.
G3020	Sanitary Water		Excl.
G3030	Storm Sewer	0.81	25,000
G3090	Other Site Mechanical Utilities		Excl.
G4010	Electrical Distribution		Excl.
G4020	Site Lighting	0.49	15,000
G4030	Site Communications & Security		Excl.
Utilities		\$1.30	\$40,000
ESTIMATED NET COST		\$242.64	\$7,453,908
MARGINS & ADJUSTMENTS			
General Conditions / Requirements		9.0 %	\$670,852
Bonds and Insurances		2.7 %	\$219,369
Overhead and Profit		4.0 %	\$333,765
Design / Estimating Contingency		15.0 %	\$1,301,684
Escalation			Excl.
ESTIMATED TOTAL COST		\$324.86	\$9,979,578

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
02	Existing Conditions				
	F2010 Building Elements Demolition				
1	Interior gut demolition of existing building	SF	30,720	6.00	184,320
202	Dismantle and remove existing roofing, including structure	SF	12,690	10.00	126,900
204	Remove and dispose of existing window unit	EA	107	200.00	21,400
206	Remove and dispose of existing bay window	EA	1	750.00	750
208	Remove and dispose of existing single-leaf exterior door	EA	6	150.00	900
207	Remove and dispose of existing double-leaf exterior door	Pr	1	250.00	250
214	Form opening in existing prestressed concrete tees for new elevator pit	SF	50	25.00	1,250
212	Form opening in existing floor construction for new elevator / circulation stair	SF	240	50.00	12,000
209	Allowance for miscellaneous demolition not identified	SF	30,720	1.00	30,720
Building Elements Demolition				\$12.32/SF	\$378,490
	F2020 Hazardous Components Abatement				
153	Hazardous materials abatement - Excluded (assume not required)	Item			Excl.
Hazardous Components Abatement					Excl.
	G1020 Site Demolition and Relocations				
195	Sawcut, break-up, and remove existing pedestrian pavement	SF	3,435	1.50	5,153
154	Allowance for miscellaneous site demolition not identified	Item			10,000
Site Demolition and Relocations				\$0.49/SF	\$15,153
Existing Conditions				\$12.81/SF	\$393,643
03	Concrete				
	A1030 Slab on Grade				
256	Allowance for selective trenching and patching for new underslab MEP services	SF	2,538	25.00	63,450
221	Allowance for concrete topping slab to existing prestressed concrete tees	SF	12,690	2.50	31,725
217	Strengthening / repairs at slab opening for new elevator pit	EA	1	10,000.00	10,000
Slab on Grade				\$3.42/SF	\$105,175
	A2020 Basement Walls				
123	Concrete elevator pit	Item			15,000
Basement Walls				\$0.49/SF	\$15,000
	B1010 Floor Construction				
224	Allowance for concrete topping slab to existing floor construction	SF	18,030	2.50	45,075

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
257	Allowance for miscellaneous structural modifications not identified	Item			50,000
Floor Construction				\$3.09/SF	\$95,075
B2010 Exterior Walls					
270	WWF Reinforcement to exterior wall strengthening	SF	12,150	2.50	30,375
271	Shotcrete to exterior wall strengthening, 4" thick, 4,000 PSI	CY	150	250.00	37,500
272	Finish shotcrete exterior wall strengthening	SF	12,150	0.50	6,075
Exterior Walls				\$2.41/SF	\$73,950
Concrete				\$9.41/SF	\$289,200
04 Masonry					
B2010 Exterior Walls					
233	Re-pointing of existing brick veneer facade	SF	9,869	18.00	177,642
234	Pressure-wash existing brick veneer facade	SF	9,869	1.50	14,804
235	Allowance for miscellaneous repairs to existing brick facade to remain	Item			50,000
263	Allowance for miscellaneous repairs to existing entrance columns	Item			10,000
Exterior Walls				\$8.22/SF	\$252,446
C1010 Partitions					
53	CMU Partition, allow 8" thick	SF	4,536	22.00	99,792
54	CMU Partition, allow 12" thick (elevator shaft)	SF	1,296	24.00	31,104
Partitions				\$4.26/SF	\$130,896
Masonry				\$12.48/SF	\$383,342
05 Metals					
B1010 Floor Construction					
215	Strengthening / repairs at floor opening for new circulation stair	EA	2	10,000.00	20,000
216	Strengthening / repairs at floor opening for new elevator	EA	2	5,000.00	10,000
Floor Construction				\$0.98/SF	\$30,000
B1020 Roof Construction					
232	Structural steel roof framing, allow 12 psf	T	76.14	3,750.00	285,525
11	Metal roof deck, allow 1 1/2" thick	SF	14,843	4.50	66,794
Roof Construction				\$11.47/SF	\$352,319
B2010 Exterior Walls					
12	Metal stud framing to exterior walls	SF	519	12.00	6,228

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
229	Allowance for seismic reinforcing to existing exterior walls	Item			50,000
Exterior Walls				\$1.83/SF	\$56,228
C1030 Fittings					
248	Painted steel interior guardrail	LF	220	200.00	44,000
179	Roof access ladder / stair	Item			2,500
180	Elevator pit ladder	EA	1	1,200.00	1,200
230	Cast-iron downspout boot	EA	16	500.00	8,000
227	Allowance for miscellaneous metals	SF	30,720	3.00	92,160
Fittings				\$4.81/SF	\$147,860
C2010 Stair Construction					
158	Metal stairs with concrete filled pan and landings, including railings	FT/R	90	1,500.00	135,000
Stair Construction				\$4.39/SF	\$135,000
Metals				\$23.48/SF	\$721,407
06 Wood, Plastics, and Composites					
B3010 Roof Coverings					
13	Allowance for roof blocking	SF	14,843	1.00	14,843
Roof Coverings				\$0.48/SF	\$14,843
C1030 Fittings					
228	Allowance for rough carpentry	SF	30,720	1.25	38,400
15	Allowance for wood blocking	SF	30,720	1.00	30,720
Fittings				\$2.25/SF	\$69,120
C3010 Wall Finishes					
261	Wood window sill and apron	LF	379	75.00	28,425
262	Wood window trim / reveal	LF	1,830	15.00	27,450
Wall Finishes				\$1.82/SF	\$55,875
E2010 Fixed Furnishings					
16	Casework: Main reception desk	LF	23	700.00	16,100
252	Casework: Self-check desk	LF	6	600.00	3,600
17	Casework: Children's Area reception desk	LF	10	600.00	6,000
18	Casework: Adult space reference desk	LF	35	600.00	21,000
160	Casework: Children's story room craft base cabinet with plastic laminate countertop	LF	10		Excl.
19	Casework: Base cabinet with plastic laminate countertop	LF	61	400.00	24,400

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
20	Casework: Overhead wall cabinet	LF	21	250.00	5,250
251	Casework: Built-in workstation / desk	LF	113	200.00	22,600
21	Casework: Solid surface lavatory including supports and brackets	LF	15	200.00	3,000
161	Allowance for miscellaneous casework not identified	SF	30,720	2.50	76,800
Fixed Furnishings				\$5.82/SF	\$178,750
Wood, Plastics, and Composites				\$10.37/SF	\$318,588
07 Thermal and Moisture Protection					
B1010 Floor Construction					
254	Touch-up and repairs to existing fire-proofing	SF	18,030	1.50	27,045
Floor Construction				\$0.88/SF	\$27,045
B1020 Roof Construction					
185	Spray-applied fire-proofing to structural steel roof framing	SF	14,843	3.00	44,529
Roof Construction				\$1.45/SF	\$44,529
B2010 Exterior Walls					
226	Fiber cement wall cladding	SF	519	20.00	10,380
31	Air and vapor barrier to exterior walls	SF	519	6.00	3,114
27	Gypsum board sheathing to exterior walls	SF	519	2.50	1,298
28	Batt insulation to exterior walls	SF	519	4.00	2,076
255	Allowance for repairs to weatherproofing at existing window opening	EA	107	400.00	42,800
Exterior Walls				\$1.94/SF	\$59,668
B3010 Roof Coverings					
32	Membrane roofing, complete	SF	4,990	20.00	99,800
33	Asphalt shingle roofing	SF	9,853	4.50	44,339
34	Gypsum board sheathing	SF	9,853	3.00	29,559
36	Rigid insulation, allow 2" thick	SF	9,853	4.50	44,339
35	Ice and water protection	SF	9,853	1.25	12,316
37	Allowance for exterior roof soffits	SF	215	45.00	9,675
38	Allowance for miscellaneous roof flashings	SF	14,843	1.50	22,265
162	Allowance for roof walkway	SF	499	12.00	5,988
Roof Coverings				\$8.73/SF	\$268,281
C1030 Fittings					
39	Miscellaneous fire-stopping	SF	30,720	0.50	15,360

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
40	Miscellaneous caulking and sealing	SF	30,720	2.50	76,800
		Fittings		\$3.00/SF	\$92,160
C3020 Floor Finishes					
269	Allowance for moisture mitigation - assumed not required	SF	21,754		Excl.
		Floor Finishes			Excl.
D2040 Rain Water Drainage					
186	Aluminum gutter to pitched roof	LF	423	35.00	14,805
187	Aluminum downspout	LF	448	25.00	11,200
		Rain Water Drainage		\$0.85/SF	\$26,005
		Thermal and Moisture Protection		\$16.85/SF	\$517,688
08 Openings					
B2020 Exterior Windows					
253	Window unit fixed into existing opening	SF	2,452	90.00	220,680
		Exterior Windows		\$7.18/SF	\$220,680
B2030 Exterior Doors					
42	Double leaf glazed aluminum doors including frame, hardware and finish	Pr	1	7,500.00	7,500
236	Single leaf glazed aluminum doors including frame, hardware and finish	EA	3	3,500.00	10,500
43	Single leaf hollow metal doors including frame, hardware and finish	EA	3	1,400.00	4,200
		Exterior Doors		\$0.72/SF	\$22,200
C1010 Partitions					
164	Allowance for miscellaneous interior borrowed lights and storefront not identified	SF	30,720	2.00	61,440
		Partitions		\$2.00/SF	\$61,440
C1020 Interior Doors					
44	Double leaf glazed aluminum doors including frame, hardware and finish	Pr	1	7,500.00	7,500
258	Double leaf wood doors including frame, hardware and finish	Pr	1	2,900.00	2,900
249	Double leaf hollow metal doors including frame, hardware and finish	Pr	2	2,500.00	5,000
47	Single leaf wood doors including frame, hardware and finish	EA	35	1,600.00	56,000
48	Single leaf hollow metal doors including frame, hardware and finish	EA	9	1,400.00	12,600

Belmont Public Library

Concept Design Cost Estimate - Option 1 - Revision 2

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
259 Allowance for roll-down security grille (after hours gate)	SF	480	55.00	26,400
Interior Doors			\$3.59/SF	\$110,400
Openings			\$13.50/SF	\$414,720
09 Finishings				
B2010 Exterior Walls				
165 Gypsum board lining to inside face of exterior wall	SF	519	2.00	1,038
238 Gypsum board lining to inside face of existing exterior wall	SF	9,649	2.50	24,123
Exterior Walls			\$0.82/SF	\$25,161
C1010 Partitions				
50 Gypsum board partition	SF	13,884	8.50	118,014
52 Gypsum board partition, plumbing chase	SF	648	6.50	4,212
264 Allowance for miscellaneous drywall, column enclosures, etc	SF	30,720	3.50	107,520
Partitions			\$7.48/SF	\$229,746
C2020 Stair Finishes				
181 Carpet flooring to stair treads and risers	SY	44	75.00	3,300
182 Concrete sealer to stair treads	SF	535	2.50	1,338
183 Resilient floor base to stair treads and risers	LF	445	6.00	2,670
Stair Finishes			\$0.24/SF	\$7,308
C3010 Wall Finishes				
119 Ceramic tiles to restroom walls	SF	725	20.00	14,500
152 Prepare and apply paint to interior walls	SF	38,584	1.20	46,301
120 Allowance for architectural feature wall finishes	Item			25,000
Wall Finishes			\$2.79/SF	\$85,801
C3020 Floor Finishes				
265 Terrazzo flooring	SF	1,215	45.00	54,675
143 Carpet flooring	SY	2,205	45.00	99,225
145 Porcelain floor tiling	SF	347	24.00	8,328
144 Resilient flooring	SF	1,915	5.00	9,575
146 Concrete sealer	SF	486	1.20	583
266 Terrazzo floor base	LF	370		Incl.
147 Stained wood base	LF	3,992	12.00	47,904
148 Rubber floor base	LF	573	3.50	2,006
149 Porcelain floor base	LF	151	24.00	3,624
Floor Finishes			\$7.35/SF	\$225,920

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
C3030 Ceiling Finishes					
150	Acoustic ceiling tile system	SF	13,286	5.50	73,073
166	Gypsum board ceiling system	SF	9,049	9.00	81,441
188	Allowance for decorative ceiling system	SF	1,215	40.00	48,600
267	Prepare and apply paint to gypsum board ceiling	SF	9,049	1.25	11,311
268	Prepare and apply paint to exposed structure	SF	486	1.25	608
Ceiling Finishes				\$7.00/SF	\$215,033
Finishings				\$25.68/SF	\$788,969
10 Specialties					
C1030 Fittings					
129	Toilet compartment: Handicap	EA	2	1,400.00	2,800
130	Toilet compartment: Standard	EA	4	1,250.00	5,000
131	Toilet compartment: Urinal screen	EA	2	600.00	1,200
132	Toilet accessories: Paper towel dispenser / waste receptacle	EA	4	750.00	3,000
133	Toilet accessories: Grab bars	EA	8	75.00	600
134	Toilet accessories: Sanitary napkin disposal unit	EA	6	250.00	1,500
135	Toilet accessories: Liquid soap dispenser	EA	8	50.00	400
136	Toilet accessories: Baby changing station	EA	4	550.00	2,200
137	Toilet accessories: Toilet paper holder	EA	8	45.00	360
138	Toilet accessories: Coat hooks	EA	8	25.00	200
139	Toilet accessories: Mirror	EA	8	400.00	3,200
140	Allowance for interior signage	SF	30,720	0.50	15,360
141	Allowance for exterior building signage	Item			20,000
Fittings				\$1.82/SF	\$55,820
D4030 Fire Protection Specialties					
142	Allowance for fire extinguisher and cabinets	EA	10	350.00	3,500
Fire Protection Specialties				\$0.11/SF	\$3,500
Specialties				\$1.93/SF	\$59,320
11 Equipment					
E1010 Commercial Equipment					
170	Refrigerator	EA	2	1,500.00	3,000
171	Microwave	EA	2	400.00	800
Commercial Equipment				\$0.12/SF	\$3,800

Belmont Public Library

Concept Design Cost Estimate - Option 1 - Revision 2

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
E1020 Institutional Equipment				
167 Allowance for book and media through wall drop return including drop cart	Item			5,000
189 Book detection system - Excluded (assume by Owner)	Item			Excl.
190 Projectors and/or project screens - Excluded (assume by Owner)	Item			Excl.
Institutional Equipment			\$0.16/SF	\$5,000
Equipment			\$0.29/SF	\$8,800
12 Furnishings				
C3020 Floor Finishes				
168 Recessed entry mat	SF	47	50.00	2,350
Floor Finishes			\$0.08/SF	\$2,350
E2010 Fixed Furnishings				
169 Manually operated window shades	SF	2,452	8.00	19,616
Fixed Furnishings			\$0.64/SF	\$19,616
E2020 Movable Furnishings				
192 Library shelving, racks, etc - Excluded (assume by Owner)	Item			Excl.
191 FF&E - Excluded (by Owner)	Item			Excl.
Movable Furnishings				Excl.
Furnishings			\$0.72/SF	\$21,966
14 Conveying Equipment				
D1010 Elevators & Lifts				
121 3-Stop passenger elevator	EA	1	120,000.00	120,000
Elevators & Lifts			\$3.91/SF	\$120,000
Conveying Equipment			\$3.91/SF	\$120,000
21 Fire Suppression				
D4010 Sprinklers				
239 Allowance for fire sprinkler system	SF	30,720	6.00	184,320
Sprinklers			\$6.00/SF	\$184,320
Fire Suppression			\$6.00/SF	\$184,320
22 Plumbing				
D2010 Plumbing Fixtures				
55 Water closet - handicap	EA	4	1,200.00	4,800

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
56	Water closet - standard	EA	4	1,200.00	4,800
57	Urinal	EA	2	1,000.00	2,000
58	Lavatory sink	EA	8	1,300.00	10,400
59	Kitchen sink	EA	1	1,300.00	1,300
60	Staff lounge sink	EA	1	1,300.00	1,300
61	Mop sink	EA	1	1,600.00	1,600
62	Hose bibb	EA	2	500.00	1,000
Plumbing Fixtures				\$0.89/SF	\$27,200
D2020 Domestic Water Distribution					
240	Allowance for domestic water distribution system	SF	30,720	4.50	138,240
Domestic Water Distribution				\$4.50/SF	\$138,240
D2030 Sanitary Waste					
241	Allowance for sanitary waste system	SF	30,720	3.50	107,520
Sanitary Waste				\$3.50/SF	\$107,520
D2040 Rain Water Drainage					
242	Allowance for roof drainage systems	SF	30,720	2.50	76,800
Rain Water Drainage				\$2.50/SF	\$76,800
D2090 Other Plumbing Systems					
243	Allowance for gas distribution systems	SF	30,720	1.00	30,720
67	Balancing and testing	SF	30,720	0.35	10,752
68	Subcontractors GC's/GR's	Item			15,000
Other Plumbing Systems				\$1.84/SF	\$56,472
Plumbing				\$13.22/SF	\$406,232
23 Heating, Ventilating, and Air Conditioning					
D3020 Heat Generating Systems					
244	Allowance for heat generation systems	SF	30,720	4.00	122,880
Heat Generating Systems				\$4.00/SF	\$122,880
D3030 Cooling Generating Systems					
245	Allowance for cooling generation systems	SF	30,720	4.00	122,880
Cooling Generating Systems				\$4.00/SF	\$122,880
D3040 Distribution Systems					
246	Allowance for HVAC distribution systems	SF	30,720	27.00	829,440
Distribution Systems				\$27.00/SF	\$829,440

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
D3060 Controls & Instrumentations					
72	Allowance for controls	SF	30,720	6.00	184,320
Controls & Instrumentations				\$6.00/SF	\$184,320
D3070 Systems Testing & Balancing					
73	Systems testing and balancing	SF	30,720	0.75	23,040
Systems Testing & Balancing				\$0.75/SF	\$23,040
D3090 Other HVAC Systems & Equipment					
74	Rigging & hoisting	Item			20,000
75	Temporary heating and cooling	SF	30,720	0.50	15,360
76	Subcontractors GC's/GR's	Item			60,000
Other HVAC Systems & Equipment				\$3.10/SF	\$95,360
Heating, Ventilating, and Air Conditioning				\$44.85/SF	\$1,377,920
26 Electrical					
D5010 Electrical Service & Distribution					
247	Allowance for electrical service and distribution	SF	30,720	8.00	245,760
Electrical Service & Distribution				\$8.00/SF	\$245,760
D5020 Lighting and Branch Wiring					
78	Allowance for interior lighting & controls	SF	30,720	14.00	430,080
79	Allowance for branch power and receptacles	SF	30,720	3.50	107,520
Lighting and Branch Wiring				\$17.50/SF	\$537,600
D5090 Other Electrical Systems					
193	Allowance for miscellaneous electrical systems (grounding, lighting protection, etc)	SF	30,720	2.00	61,440
80	Subcontractor GC's/GR's	Item			40,000
Other Electrical Systems				\$3.30/SF	\$101,440
Electrical				\$28.80/SF	\$884,800
27 Communications					
D5030 Communications & Security					
81	Allowance for Tel/Data systems - infrastructure only	SF	30,720	1.25	38,400
82	Allowance for AV / Sound systems - infrastructure only	SF	30,720	3.50	107,520
173	Wiring and equipment to Tel/Data systems - Excluded (assume by owner)	Item			Excl.

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
174	Wiring and equipment to AV / Sound systems - Excluded (assume by owner)	Item			Excl.
Communications & Security				\$4.75/SF	\$145,920
Communications				\$4.75/SF	\$145,920
28	Electronic Safety and Security				
D5030	Communications & Security				
83	Allowance for fire alarm system	SF	30,720	3.00	92,160
84	Allowance for security systems - infrastructure only	SF	30,720	2.00	61,440
175	Wiring and equipment to security systems - Excluded (assume by Owner)	Item			Excl.
Communications & Security				\$5.00/SF	\$153,600
Electronic Safety and Security				\$5.00/SF	\$153,600
31	Earthwork				
G1010	Site Clearing				
90	Temporary construction entrance	EA	1	5,000.00	5,000
177	Allowance for erosion and sediment control	Item			20,000
Site Clearing				\$0.81/SF	\$25,000
G1030	Site Earthwork				
91	Allowance for site earthworks and grading	SF	1,957	5.00	9,785
Site Earthwork				\$0.32/SF	\$9,785
G2030	Pedestrian Paving				
96	Excavate for walkways	CY	67	10.00	670
97	Remove excavated spoil from site	CY	67	25.00	1,675
98	Prepare and compact sub-base	SF	1,957	0.50	979
99	Granular fill to pedestrain walkways	CY	37	45.00	1,665
Pedestrian Paving				\$0.16/SF	\$4,989
Earthwork				\$1.29/SF	\$39,774
32	Exterior Improvements				
G2030	Pedestrian Paving				
105	Concrete walkway, allow 5" thick	SF	1,957	7.00	13,699
Pedestrian Paving				\$0.45/SF	\$13,699

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
G2040 Site Development				
128 Allowance for site development not identified	Item			150,000
Site Development			\$4.88/SF	\$150,000
G2050 Landscaping				
108 Allowance for miscellaneous modifications to existing landscaping	Item			20,000
Landscaping			\$0.65/SF	\$20,000
Exterior Improvements			\$5.98/SF	\$183,699
33 Utilities				
G3010 Water Supply				
111 Re-working of existing domestic and fire water utilities - Excluded (assume existing to remain)	Item			Excl.
Water Supply				Excl.
G3020 Sanitary Water				
112 Re-working of existing site sanitary sewer service - Excluded (assume existing to remain)	Item			Excl.
Sanitary Water				Excl.
G3030 Storm Sewer				
113 Allowance for re-working existing site storm drainage systems	Item			25,000
Storm Sewer			\$0.81/SF	\$25,000
G3090 Other Site Mechanical Utilities				
114 Gas piping and meter - Excluded (assume by Utility Company)	Item			Excl.
115 Allowance for re-working existing site gas distribution (trenching only)	Item			Excl.
Other Site Mechanical Utilities				Excl.
G4010 Electrical Distribution				
116 Re-working of existing site electrical distribution - Excluded (assume existing to remain)	Item			Excl.
Electrical Distribution				Excl.
G4020 Site Lighting				
117 Allowance for site lighting	Item			15,000
Site Lighting			\$0.49/SF	\$15,000

Belmont Public Library**Concept Design Cost Estimate - Option 1 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 30,720 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
G4030 Site Communications & Security				
118 Re-working of existing site communications distribution - Excluded (assume existing to remain)	Item			Excl.
Site Communications & Security				Excl.
Utilities			\$1.30/SF	\$40,000
ESTIMATED NET COST			\$242.64/SF	\$7,453,908

Construction Cost Estimate

Concept Design Cost Estimate - Revision 2

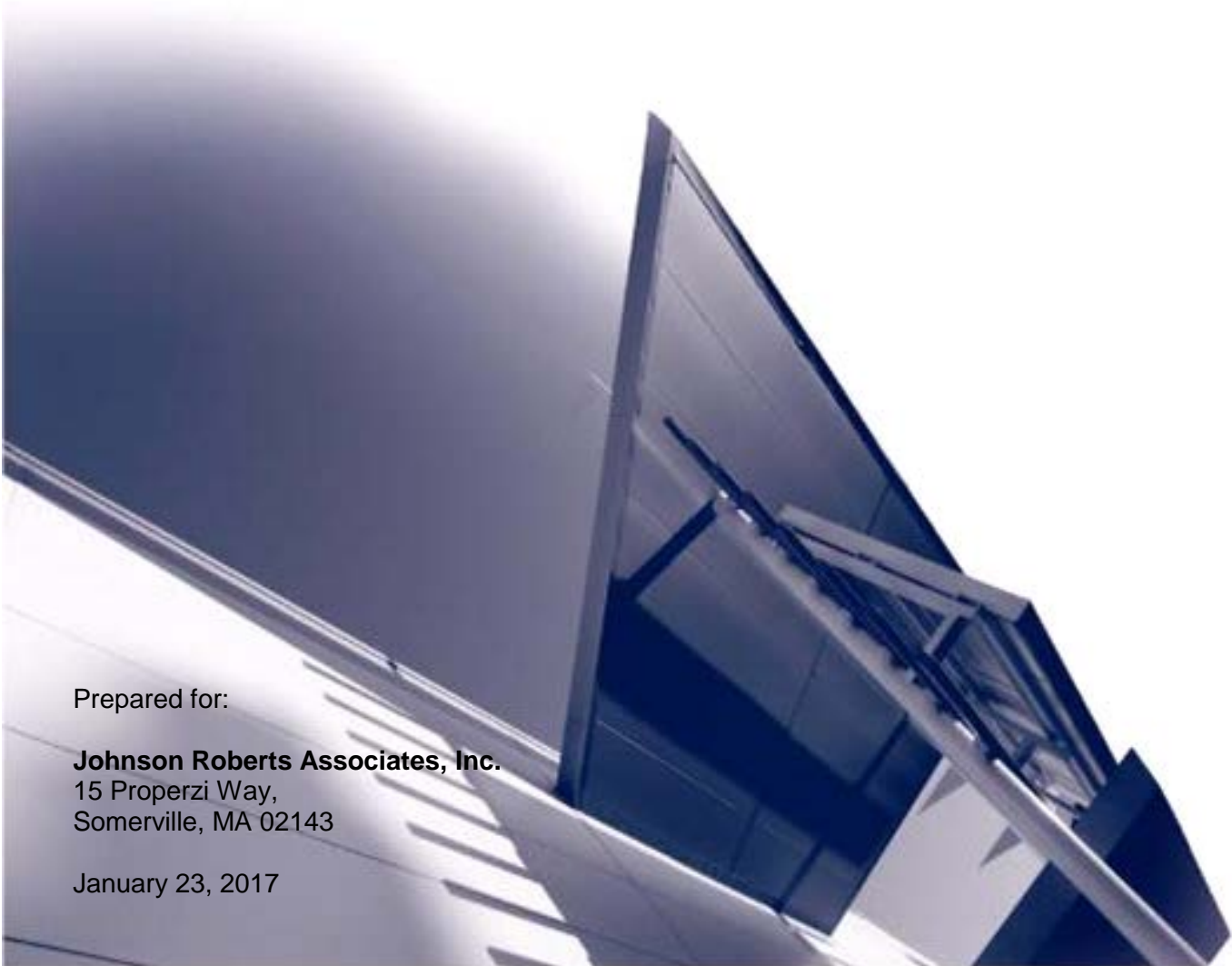
Belmont Public Library Option 2 - Renovation and Addition

Belmont, MA

Prepared for:

Johnson Roberts Associates, Inc.
15 Properzi Way,
Somerville, MA 02143

January 23, 2017



Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Project Details

Description***Basis of Estimate***

This estimate has been prepared at the request of the Johnson Roberts Associates and is to provide a Concept Design Cost Study for the renovation and addition to the existing Belmont Public Library, located at 336 Concord Ave. in Belmont, MA.

The estimate is based upon measured quantities and built-up rates prepared from the Concept Design drawings and Sketch-Up Model issued to RLB on the 16th of December 2016, prepared by Johnson Roberts Associates.

Where information was insufficient, assumptions and allowances were made based wherever possible on discussions with the architect and engineers.

It is assumed that the project will be competitively bid by four to six general contractors and that the awarded contractor and all subcontractors will be required to pay prevailing wage rates. It is also expected that the project will be competitively bid by four to six subcontractors where filed sub-bids are required.

Unit pricing is based on January 2017 costs. A Design / Estimating Contingency of 15.0% has been included. An allowance for escalation has not been included.

Items Specifically Included

- . This estimate is based on a "Renovation" Gross Floor Area of approx. 30,720 sq.ft.
- . This estimate is based on an "Addition" Gross Floor Area of approx. 15,040 sq.ft.

Items Specifically Excluded

- . Modifications and/or repairs to existing masonry façade (unless noted otherwise).
- . Modifications and/or repairs to existing window sills, headers, and reveals (unless noted otherwise).
- . Structural repairs and modifications, unless noted otherwise.
- . Wiring and equipment to communications systems (estimate includes infrastructure only).
- . Wiring and equipment to security systems (estimate includes infrastructure only).
- . Book security / detection system (assume by Owner).
- . Library storage, racking, and/or shelving (assume by Owner).
- . Interior feature signage.
- . Removal, storage, and re-installation of existing FF&E.
- . Re-routing and/or modifications to existing water and sewer utilities.
- . Re-routing and/or modifications to existing electrical and communications utilities.
- . Deep foundation systems.
- . Excavation in rock and/or contaminated soils.
- . Excavation within and/or below groundwater table.
- . Hazardous materials abatement, unless noted otherwise.
- . Costs associated with phasing the construction work, including out of hours work.
- . Furniture, Fittings and Equipment (FF&E).
- . Murals and works of art.
- . Mock-ups.

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Project Details

Description

- . Work outside the site boundaries unless noted otherwise.
- . Owner's / Construction contingency.
- . Land and legal costs.
- . Architectural, Engineering and other professional fees.
- . Geotechnical, traffic and all other studies.
- . Items marked as "Excl." in the estimate.
- . Escalation beyond Q1 2017.

Documents

Please refer to Basis of Estimate.

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Location Summary

GFA: Gross Floor Area
Rates Current At January 2017

Location	GFA SF	Cost/SF	Total Cost
A ADDITION	15,040.0	348.37	5,239,476
R RENOVATION	30,720.0	220.08	6,760,838
ESTIMATED NET COST	45,760	\$262.24	\$12,000,314
MARGINS & ADJUSTMENTS			
General Conditions / Requirements	9.0 %		\$1,080,028
Bonds and Insurances	2.7 %		\$353,169
Overhead and Profit	4.0 %		\$537,340
Design / Estimating Contingency	15.0 %		\$2,095,628
Escalation			Excl.
ESTIMATED TOTAL COST	45,760	\$351.10	\$16,066,479

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Summary

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
02 Existing Conditions			
F2010	Building Elements Demolition	9.30	425,390
F2020	Hazardous Components Abatement		Excl.
G1020	Site Demolition and Relocations	1.80	82,213
Existing Conditions		\$11.09	\$507,603
03 Concrete			
A1010	Standard Foundations	3.88	177,700
A1020	Special Foundations	5.68	260,000
A1030	Slab on Grade	3.60	164,695
B1010	Floor Construction	3.16	144,475
B2010	Exterior Walls	1.62	73,950
Concrete		\$17.94	\$820,820
04 Masonry			
B2010	Exterior Walls	9.39	429,842
C1010	Partitions	2.86	130,752
Masonry		\$12.25	\$560,594
05 Metals			
B1010	Floor Construction	5.94	271,750
B1020	Roof Construction	11.18	511,740
B2010	Exterior Walls	3.41	155,840
C1030	Fittings	4.72	216,200
C2010	Stair Construction	2.95	135,000
Metals		\$28.20	\$1,290,530
06 Wood, Plastics, and Composites			
B3010	Roof Coverings	0.42	19,270
C1030	Fittings	2.09	95,440
C3010	Wall Finishes	2.29	104,820
E2010	Fixed Furnishings	4.98	228,060
Wood, Plastics, and Composites		\$9.78	\$447,590
07 Thermal and Moisture Protection			
A1010	Standard Foundations	0.12	5,320
A1030	Slab on Grade	1.14	52,040
B1010	Floor Construction	1.80	82,345
B1020	Roof Construction	1.26	57,810
B2010	Exterior Walls	2.93	133,970
B3010	Roof Coverings	8.23	376,747
C1030	Fittings	3.00	137,280

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Summary

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
C3020	Floor Finishes		Excl.
D2040	Rain Water Drainage	0.54	24,675
Thermal and Moisture Protection		\$19.02	\$870,187
08 Openings			
B2020	Exterior Windows	7.03	321,810
B2030	Exterior Doors	0.38	17,300
C1010	Partitions	5.50	251,630
C1020	Interior Doors	2.69	122,900
Openings		\$15.60	\$713,640
09 Finishings			
B2010	Exterior Walls	0.84	38,303
C1010	Partitions	5.60	256,391
C2020	Stair Finishes	0.15	7,048
C3010	Wall Finishes	1.98	90,486
C3020	Floor Finishes	8.01	366,732
C3030	Ceiling Finishes	7.95	363,952
Finishings		\$24.54	\$1,122,912
10 Specialties			
C1030	Fittings	1.48	67,530
D4030	Fire Protection Specialties	0.12	5,600
Specialties		\$1.60	\$73,130
11 Equipment			
E1010	Commercial Equipment	0.12	5,700
E1020	Institutional Equipment	0.11	5,000
Equipment		\$0.23	\$10,700
12 Furnishings			
C3020	Floor Finishes	0.08	3,500
E2010	Fixed Furnishings	0.67	30,824
E2020	Movable Furnishings		Excl.
Furnishings		\$0.75	\$34,324
14 Conveying Equipment			
D1010	Elevators & Lifts	2.62	120,000
Conveying Equipment		\$2.62	\$120,000
21 Fire Suppression			
D4010	Sprinklers	5.84	267,040
Fire Suppression		\$5.84	\$267,040

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Summary

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
22 Plumbing			
D2010	Plumbing Fixtures	0.73	33,500
D2020	Domestic Water Distribution	4.34	198,400
D2030	Sanitary Waste	3.34	152,640
D2040	Rain Water Drainage	2.50	114,400
D2090	Other Plumbing Systems	1.90	86,776
Plumbing		\$12.80	\$585,716
23 Heating, Ventilating, and Air Conditioning			
D3020	Heat Generating Systems	4.34	198,400
D3030	Cooling Generating Systems	3.34	152,640
D3040	Distribution Systems	26.34	1,205,440
D3060	Controls & Instrumentations	6.00	274,560
D3070	Systems Testing & Balancing	0.75	34,320
D3090	Other HVAC Systems & Equipment	3.23	147,880
Heating, Ventilating, and Air Conditioning		\$44.00	\$2,013,240
26 Electrical			
D5010	Electrical Service & Distribution	8.67	396,800
D5020	Lighting and Branch Wiring	17.50	800,800
D5090	Other Electrical Systems	3.31	151,520
Electrical		\$29.48	\$1,349,120
27 Communications			
D5030	Communications & Security	4.75	217,360
Communications		\$4.75	\$217,360
28 Electronic Safety and Security			
D5030	Communications & Security	5.00	228,800
Electronic Safety and Security		\$5.00	\$228,800
31 Earthwork			
A1010	Standard Foundations	0.63	28,980
A1030	Slab on Grade	0.41	18,785
G1010	Site Clearing	1.12	51,328
G1030	Site Earthwork	1.10	50,444
G2020	Parking Lots	1.59	72,875
G2030	Pedestrian Paving	0.17	7,685
Earthwork		\$5.03	\$230,097
32 Exterior Improvements			
G2020	Parking Lots	1.51	69,101

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Summary

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
G2030	Pedestrian Paving	0.52	23,710
G2040	Site Development	5.46	250,000
G2050	Landscaping	1.34	61,500
Exterior Improvements		\$8.84	\$404,311
33 Utilities			
G3010	Water Supply		Excl.
G3020	Sanitary Water		Excl.
G3030	Storm Sewer	1.81	82,600
G3090	Other Site Mechanical Utilities		Excl.
G4010	Electrical Distribution		Excl.
G4020	Site Lighting	1.09	50,000
G4030	Site Communications & Security		Excl.
Utilities		\$2.90	\$132,600
ESTIMATED NET COST		\$262.24	\$12,000,314
MARGINS & ADJUSTMENTS			
General Conditions / Requirements		9.0 %	\$1,080,028
Bonds and Insurances		2.7 %	\$353,169
Overhead and Profit		4.0 %	\$537,340
Design / Estimating Contingency		15.0 %	\$2,095,628
Escalation			Excl.
ESTIMATED TOTAL COST		\$351.10	\$16,066,479

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
02	Existing Conditions				
F2010	Building Elements Demolition				
1	Interior gut demolition of existing building	SF	30,720	6.00	184,320
202	Dismantle and remove existing roofing, including structure	SF	12,690	10.00	126,900
205	Dismantle and remove existing entrance overhang, including columns, etc	SF	190	25.00	4,750
203	Take-down and remove existing brick veneer facade back to frame	SF	5,610	5.00	28,050
204	Remove and dispose of existing window unit	EA	98	200.00	19,600
206	Remove and dispose of existing bay window	EA	1	750.00	750
208	Remove and dispose of existing single-leaf exterior door	EA	6	150.00	900
207	Remove and dispose of existing double-leaf exterior door	Pr	1	250.00	250
214	Form opening in existing prestressed concrete tees for new elevator pit	SF	50	25.00	1,250
212	Form opening in existing floor construction for new elevator / circulation stair	SF	240	50.00	12,000
211	Form opening in existing exterior wall for new corridor opening	SF	396	25.00	9,900
210	Form opening in existing exterior wall for new single-leaf door opening	EA	7	500.00	3,500
220	Form opening in existing exterior wall for new double-leaf door opening	Pr	1	1,000.00	1,000
219	Form opening in existing exterior wall for new window opening	EA	2	750.00	1,500
209	Allowance for miscellaneous demolition not identified	SF	30,720	1.00	30,720
Building Elements Demolition				\$9.30/SF	\$425,390
F2020	Hazardous Components Abatement				
153	Hazardous materials abatement - Excluded (assume not required)	Item			Excl.
Hazardous Components Abatement					Excl.
G1020	Site Demolition and Relocations				
194	Sawcut, break-up, and remove existing parking lot	SF	27,060	1.00	27,060
195	Sawcut, break-up, and remove existing pedestrian pavement	SF	3,435	1.50	5,153
154	Allowance for miscellaneous site demolition not identified	Item			50,000
Site Demolition and Relocations				\$1.80/SF	\$82,213
Existing Conditions				\$11.09/SF	\$507,603
03	Concrete				
A1010	Standard Foundations				
3	Concrete perimeter strip footing to foundation walls, allow 3' x 12" deep	LF	380	125.00	47,500

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
124	Concrete isolated spread footing, allow 6' x 6' x 12" deep (perimeter)	EA	24	750.00	18,000
125	Concrete isolated spread footing, allow 5' x 5' x 12" deep (internal)	EA	15	600.00	9,000
6	Concrete piers, allow 2' x 2'	LF	137	200.00	27,400
4	Concrete perimeter foundation walls, allow 12" thick	SF	1,520	40.00	60,800
123	Concrete elevator pit	Item			15,000
Standard Foundations				\$3.88/SF	\$177,700
A1020 Special Foundations					
218	Allowance for underpinning	LF	260	1,000.00	260,000
Special Foundations				\$5.68/SF	\$260,000
A1030 Slab on Grade					
7	Concrete slab on grade, allow 5" thick	SF	7,440	8.00	59,520
256	Allowance for selective trenching and patching for new underslab MEP services	SF	2,538	25.00	63,450
221	Allowance for topping slab to existing prestressed concrete tees	SF	12,690	2.50	31,725
217	Strengthening / repairs at slab opening for new elevator pit	EA	1	10,000.00	10,000
Slab on Grade				\$3.60/SF	\$164,695
B1010 Floor Construction					
155	Concrete topping to slab on metal deck, allow 5-1/2" thick overall depth	SF	7,600	6.50	49,400
224	Allowance for topping slab to existing floor construction	SF	18,030	2.50	45,075
257	Allowance for miscellaneous structural modifications not identified	Item			50,000
Floor Construction				\$3.16/SF	\$144,475
B2010 Exterior Walls					
272	WWF Reinforcement to exterior wall strengthening	SF	12,150	2.50	30,375
273	Shotcrete to exterior wall strengthening, 4" thick, 4,000 PSI	CY	150	250.00	37,500
274	Finish shotcrete exterior wall strengthening	SF	12,150	0.50	6,075
Exterior Walls				\$1.62/SF	\$73,950
Concrete				\$17.94/SF	\$820,820
04 Masonry					
B2010 Exterior Walls					
8	Brick veneer to exterior walls	SF	5,865	40.00	234,600
9	Brick veneer to exterior columns	SF	352	50.00	17,600
225	Precast / cast-stone wall cladding	SF	294	60.00	17,640

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
197	CMU Back-up to brick veneer column	SF	352	22.00	7,744
233	Re-pointing of existing brick veneer facade	SF	5,244	18.00	94,392
234	Pressure-wash existing brick veneer facade	SF	5,244	1.50	7,866
235	Allowance for miscellaneous repairs to existing brick facade to remain	Item			50,000
Exterior Walls				\$9.39/SF	\$429,842
C1010 Partitions					
53	CMU Partition, allow 12" thick	SF	4,152	24.00	99,648
54	CMU Partition, allow 12" thick (elevator shaft)	SF	1,296	24.00	31,104
Partitions				\$2.86/SF	\$130,752
Masonry				\$12.25/SF	\$560,594
05 Metals					
B1010 Floor Construction					
156	Structural steel floor framing, allow 15 psf	T	57.00	3,750.00	213,750
157	Metal floor deck, allow 3" thick	SF	7,600	5.00	38,000
215	Strengthening / repairs at floor opening for new circulation stair	EA	1	10,000.00	10,000
216	Strengthening / repairs at floor opening for new elevator	EA	2	5,000.00	10,000
Floor Construction				\$5.94/SF	\$271,750
B1020 Roof Construction					
10	Structural steel roof framing, allow 10 psf (addition)	T	37.20	3,750.00	139,500
232	Structural steel roof framing, allow 12 psf (renovation)	T	76.14	3,750.00	285,525
11	Metal roof deck, allow 1-1/2" thick	SF	19,270	4.50	86,715
Roof Construction				\$11.18/SF	\$511,740
B2010 Exterior Walls					
12	Metal stud framing to exterior walls	SF	6,820	12.00	81,840
198	Galvanized steel lintel to opening in brick veneer facade	LF	400	60.00	24,000
229	Allowance for seismic reinforcing to existing exterior walls	Item			50,000
Exterior Walls				\$3.41/SF	\$155,840
C1030 Fittings					
248	Painted steel interior guardrail	LF	180	200.00	36,000
179	Roof access ladder / stair	Item			2,500
180	Elevator pit ladder	EA	1	1,200.00	1,200
230	Cast-iron downspout boot	EA	17	500.00	8,500
159	Allowance for miscellaneous metals (addition)	SF	15,040	3.00	45,120

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
227	Allowance for miscellaneous metals (renovation)	SF	30,720	4.00	122,880
		Fittings		\$4.72/SF	\$216,200
C2010 Stair Construction					
158	Metal stairs with concrete filled pan and landings, including railings	FT/R	90	1,500.00	135,000
		Stair Construction		\$2.95/SF	\$135,000
		Metals		\$28.20/SF	\$1,290,530
06 Wood, Plastics, and Composites					
B3010 Roof Coverings					
13	Allowance for roof blocking	SF	19,270	1.00	19,270
		Roof Coverings		\$0.42/SF	\$19,270
C1030 Fittings					
14	Allowance for rough carpentry (addition)	SF	15,040	0.75	11,280
228	Allowance for rough carpentry (renovation)	SF	30,720	1.25	38,400
15	Allowance for wood blocking	SF	45,760	1.00	45,760
		Fittings		\$2.09/SF	\$95,440
C3010 Wall Finishes					
258	Wood window sill and apron	LF	745	75.00	55,875
259	Wood window trim / reveal	LF	3,263	15.00	48,945
		Wall Finishes		\$2.29/SF	\$104,820
E2010 Fixed Furnishings					
16	Casework: Main reception desk	LF	35	700.00	24,500
252	Casework: Self-check desk	LF	15	600.00	9,000
17	Casework: Children's Area reception desk	LF	23	600.00	13,800
18	Casework: Adult space reference desk	LF	23	600.00	13,800
160	Casework: Children's story room craft base cabinet with plastic laminate countertop	LF	27	400.00	10,800
19	Casework: Base cabinet with plastic laminate countertop	LF	119	400.00	47,600
20	Casework: Overhead wall cabinet	LF	108	250.00	27,000
251	Casework: Built-in workstation / desk	LF	164	200.00	32,800
21	Casework: Solid surface lavatory including supports and brackets	LF	15	200.00	3,000

Belmont Public Library

Concept Design Cost Estimate - Option 2 - Revision 2

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
161 Allowance for miscellaneous casework not identified	SF	45,760	1.00	45,760
Fixed Furnishings			\$4.98/SF	\$228,060
Wood, Plastics, and Composites			\$9.78/SF	\$447,590
07 Thermal and Moisture Protection				
A1010 Standard Foundations				
22 Air and vapor barrier	SF	1,520	0.50	760
23 Rigid insulation	SF	1,520	3.00	4,560
Standard Foundations			\$0.12/SF	\$5,320
A1030 Slab on Grade				
24 Air and vapor barrier	SF	7,440	0.50	3,720
25 Rigid insulation	SF	7,440	3.00	22,320
222 Expansion joint to existing first floor slab	LF	260	100.00	26,000
Slab on Grade			\$1.14/SF	\$52,040
B1010 Floor Construction				
223 Expansion joint to existing floor construction	LF	260	125.00	32,500
184 Spray-applied fire-proofing to structural steel floor framing	SF	7,600	3.00	22,800
254 Touch-up and repairs to existing fire-proofing	SF	18,030	1.50	27,045
Floor Construction			\$1.80/SF	\$82,345
B1020 Roof Construction				
185 Spray-applied fire-proofing to structural steel roof framing	SF	19,270	3.00	57,810
Roof Construction			\$1.26/SF	\$57,810
B2010 Exterior Walls				
226 Fiber cement wall cladding	SF	956	20.00	19,120
31 Air and vapor barrier to exterior walls	SF	6,820	6.00	40,920
27 Gypsum board sheathing to exterior walls	SF	6,820	2.50	17,050
28 Batt insulation to exterior walls	SF	6,820	4.00	27,280
261 Expansion joint at existing brick veneer facade	LF	44	100.00	4,400
255 Allowance for repairs to weatherproofing at existing window opening	EA	63	400.00	25,200
Exterior Walls			\$2.93/SF	\$133,970
B3010 Roof Coverings				
32 Membrane roofing, complete	SF	10,418	20.00	208,360
33 Asphalt shingle roofing	SF	8,853	4.50	39,839
34 Gypsum board sheathing	SF	8,853	3.00	26,559

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
36	Rigid insulation, allow 2" thick	SF	8,853	4.50	39,839
35	Ice and water protection	SF	8,853	1.25	11,066
37	Allowance for exterior roof soffits	SF	215	45.00	9,675
38	Allowance for miscellaneous roof flashings	SF	19,270	1.50	28,905
162	Allowance for roof walkway	SF	1,042	12.00	12,504
Roof Coverings				\$8.23/SF	\$376,747
C1030 Fittings					
39	Miscellaneous fire-stopping	SF	45,760	0.50	22,880
40	Miscellaneous caulking and sealing	SF	45,760	2.50	114,400
Fittings				\$3.00/SF	\$137,280
C3020 Floor Finishes					
271	Allowance for moisture mitigation - assumed not required	SF	36,540		Excl.
Floor Finishes					Excl.
D2040 Rain Water Drainage					
186	Aluminum gutter to pitched roof	LF	365	35.00	12,775
187	Aluminum downspout	LF	476	25.00	11,900
Rain Water Drainage				\$0.54/SF	\$24,675
Thermal and Moisture Protection				\$19.02/SF	\$870,187
08 Openings					
B2020 Exterior Windows					
260	Window unit fixed into new brick facade	SF	2,496	80.00	199,680
253	Window unit fixed into existing opening	SF	1,357	90.00	122,130
Exterior Windows				\$7.03/SF	\$321,810
B2030 Exterior Doors					
42	Double leaf glazed aluminum doors including frame, hardware and finish	Pr	1	7,500.00	7,500
236	Single leaf glazed aluminum doors including frame, hardware and finish	EA	2	3,500.00	7,000
43	Single leaf hollow metal doors including frame, hardware and finish	EA	2	1,400.00	2,800
Exterior Doors				\$0.38/SF	\$17,300
C1010 Partitions					
49	Interior glazed aluminum storefront system	SF	1,620	50.00	81,000
231	Interior window unit fixed into existing opening	SF	879	90.00	79,110

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
164	Allowance for miscellaneous interior borrowed lights and storefront not identified	SF	45,760	2.00	91,520
Partitions				\$5.50/SF	\$251,630
C1020 Interior Doors					
44	Double leaf glazed aluminum doors including frame, hardware and finish	Pr	5	7,500.00	37,500
249	Double leaf hollow metal doors including frame, hardware and finish	Pr	1	2,500.00	2,500
250	Single leaf glazed aluminum doors including frame, hardware and finish	EA	1	3,500.00	3,500
47	Single leaf wood doors including frame, hardware and finish	EA	40	1,600.00	64,000
48	Single leaf hollow metal doors including frame, hardware and finish	EA	11	1,400.00	15,400
Interior Doors				\$2.69/SF	\$122,900
Openings				\$15.60/SF	\$713,640
09 Finishings					
B2010 Exterior Walls					
165	Gypsum board lining to inside face of exterior wall	SF	6,820	2.00	13,640
238	Gypsum board lining to inside face of existing exterior wall	SF	9,865	2.50	24,663
Exterior Walls				\$0.84/SF	\$38,303
C1010 Partitions					
50	Gypsum board partition	SF	9,396	8.50	79,866
52	Gypsum board partition, plumbing chase	SF	360	6.50	2,340
237	Gypsum board wall lining over existing framing (at removed brick veneer)	SF	5,610	2.50	14,025
262	Allowance for miscellaneous drywall, column enclosures, etc	SF	45,760	3.50	160,160
Partitions				\$5.60/SF	\$256,391
C2020 Stair Finishes					
181	Carpet flooring to stair treads and risers	SY	36	75.00	2,700
182	Concrete sealer to stair treads	SF	623	2.50	1,558
183	Resilient floor base to stair treads and risers	LF	465	6.00	2,790
Stair Finishes				\$0.15/SF	\$7,048
C3010 Wall Finishes					
119	Ceramic tiles to restroom walls	SF	875	18.00	15,750
152	Prepare and apply paint to interior walls	SF	41,447	1.20	49,736

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
120	Allowance for architectural feature wall finishes	Item			25,000
	Wall Finishes			\$1.98/SF	\$90,486
C3020 Floor Finishes					
263	Terrazzo flooring	SF	2,079	45.00	93,555
143	Carpet flooring	SY	3,725	45.00	167,625
145	Porcelain floor tiling	SF	644	24.00	15,456
144	Resilient flooring	SF	3,023	5.00	15,115
146	Concrete sealer	SF	1,125	1.20	1,350
264	Terrazzo floor base	LF	195		Incl.
147	Stained wood base	LF	5,349	12.00	64,188
148	Rubber floor base	LF	1,059	3.50	3,707
149	Porcelain floor base	LF	239	24.00	5,736
	Floor Finishes			\$8.01/SF	\$366,732
C3030 Ceiling Finishes					
150	Acoustic ceiling tile system	SF	22,118	5.50	121,649
166	Gypsum board ceiling system	SF	15,389	9.00	138,501
188	Allowance for decorative ceiling system	SF	2,079	40.00	83,160
265	Prepare and apply paint to gypsum board ceiling	SF	15,389	1.25	19,236
266	Prepare and apply paint to exposed structure	SF	1,125	1.25	1,406
	Ceiling Finishes			\$7.95/SF	\$363,952
	Finishings			\$24.54/SF	\$1,122,912
10 Specialties					
C1030 Fittings					
129	Toilet compartment: Handicap	EA	2	1,400.00	2,800
130	Toilet compartment: Standard	EA	4	1,250.00	5,000
131	Toilet compartment: Urinal screen	EA	2	600.00	1,200
132	Toilet accessories: Paper towel dispenser / waste receptacle	EA	6	750.00	4,500
133	Toilet accessories: Grab bars	EA	12	75.00	900
134	Toilet accessories: Sanitary napkin disposal unit	EA	7	250.00	1,750
135	Toilet accessories: Liquid soap dispenser	EA	10	50.00	500
136	Toilet accessories: Baby changing station	EA	6	550.00	3,300
137	Toilet accessories: Toilet paper holder	EA	10	45.00	450
138	Toilet accessories: Coat hooks	EA	10	25.00	250
139	Toilet accessories: Mirror	EA	10	400.00	4,000
140	Allowance for interior signage	SF	45,760	0.50	22,880

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
141	Allowance for exterior building signage	Item			20,000
	Fittings			\$1.48/SF	\$67,530
D4030 Fire Protection Specialties					
142	Allowance for fire extinguisher and cabinets	EA	16	350.00	5,600
	Fire Protection Specialties			\$0.12/SF	\$5,600
	Specialties			\$1.60/SF	\$73,130
11 Equipment					
E1010 Commercial Equipment					
170	Refrigerator	EA	3	1,500.00	4,500
171	Microwave	EA	3	400.00	1,200
	Commercial Equipment			\$0.12/SF	\$5,700
E1020 Institutional Equipment					
167	Allowance for book and media through wall drop return including drop cart	Item			5,000
189	Book detection system - Excluded (assume by Owner)	Item			Excl.
190	Projectors and/or project screens - Excluded (assume by Owner)	Item			Excl.
	Institutional Equipment			\$0.11/SF	\$5,000
	Equipment			\$0.23/SF	\$10,700
12 Furnishings					
C3020 Floor Finishes					
168	Recessed entry mat	SF	70	50.00	3,500
	Floor Finishes			\$0.08/SF	\$3,500
E2010 Fixed Furnishings					
169	Manually operated window shades	SF	3,853	8.00	30,824
	Fixed Furnishings			\$0.67/SF	\$30,824
E2020 Movable Furnishings					
192	Library shelving, racks, etc - Excluded (assume by Owner)	Item			Excl.
191	FF&E - Excluded (by Owner)	Item			Excl.
	Movable Furnishings				Excl.
	Furnishings			\$0.75/SF	\$34,324

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
14	Conveying Equipment				
	D1010 Elevators & Lifts				
121	3-Stop passenger elevator	EA	1	120,000.00	120,000
	Elevators & Lifts			\$2.62/SF	\$120,000
	Conveying Equipment			\$2.62/SF	\$120,000
21	Fire Suppression				
	D4010 Sprinklers				
63	Allowance for fire sprinkler system (addition)	SF	15,040	5.50	82,720
239	Allowance for fire sprinkler system (renovation)	SF	30,720	6.00	184,320
	Sprinklers			\$5.84/SF	\$267,040
	Fire Suppression			\$5.84/SF	\$267,040
22	Plumbing				
	D2010 Plumbing Fixtures				
55	Water closet - handicap	EA	6	1,200.00	7,200
56	Water closet - standard	EA	4	1,200.00	4,800
57	Urinal	EA	2	1,000.00	2,000
58	Lavatory sink	EA	10	1,300.00	13,000
59	Kitchen sink	EA	1	1,300.00	1,300
60	Staff lounge sink	EA	2	1,300.00	2,600
61	Mop sink	EA	1	1,600.00	1,600
62	Hose bibb	EA	2	500.00	1,000
	Plumbing Fixtures			\$0.73/SF	\$33,500
	D2020 Domestic Water Distribution				
64	Allowance for domestic water distribution system (addition)	SF	15,040	4.00	60,160
240	Allowance for domestic water distribution system (renovation)	SF	30,720	4.50	138,240
	Domestic Water Distribution			\$4.34/SF	\$198,400
	D2030 Sanitary Waste				
65	Allowance for sanitary waste system (addition)	SF	15,040	3.00	45,120
241	Allowance for sanitary waste system (renovation)	SF	30,720	3.50	107,520
	Sanitary Waste			\$3.34/SF	\$152,640
	D2040 Rain Water Drainage				
172	Allowance for roof drainage systems (addition)	SF	15,040	2.50	37,600

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
242	Allowance for roof drainage systems (renovation)	SF	30,720	2.50	76,800
Rain Water Drainage				\$2.50/SF	\$114,400
D2090 Other Plumbing Systems					
66	Allowance for gas distribution systems (addition)	SF	15,040	1.00	15,040
243	Allowance for gas distribution systems (renovation)	SF	30,720	1.00	30,720
67	Balancing and testing	SF	45,760	0.35	16,016
68	Subcontractors GC's/GR's	Item			25,000
Other Plumbing Systems				\$1.90/SF	\$86,776
Plumbing				\$12.80/SF	\$585,716
23 Heating, Ventilating, and Air Conditioning					
D3020 Heat Generating Systems					
69	Allowance for heat generation systems (addition)	SF	15,040	4.00	60,160
244	Allowance for heat generation systems (renovation)	SF	30,720	4.50	138,240
Heat Generating Systems				\$4.34/SF	\$198,400
D3030 Cooling Generating Systems					
70	Allowance for cooling generation systems (addition)	SF	15,040	3.00	45,120
245	Allowance for cooling generation systems (renovation)	SF	30,720	3.50	107,520
Cooling Generating Systems				\$3.34/SF	\$152,640
D3040 Distribution Systems					
71	Allowance for HVAC distribution systems (addition)	SF	15,040	25.00	376,000
246	Allowance for HVAC distribution systems (renovation)	SF	30,720	27.00	829,440
Distribution Systems				\$26.34/SF	\$1,205,440
D3060 Controls & Instrumentations					
72	Allowance for controls	SF	45,760	6.00	274,560
Controls & Instrumentations				\$6.00/SF	\$274,560
D3070 Systems Testing & Balancing					
73	Systems testing and balancing	SF	45,760	0.75	34,320
Systems Testing & Balancing				\$0.75/SF	\$34,320
D3090 Other HVAC Systems & Equipment					
74	Rigging & hoisting	Item			30,000
75	Temporary heating and cooling	SF	45,760	0.50	22,880

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
76	Subcontractors GC's/GR's	Item			95,000
	Other HVAC Systems & Equipment			\$3.23/SF	\$147,880
	Heating, Ventilating, and Air Conditioning			\$44.00/SF	\$2,013,240
26	Electrical				
	D5010 Electrical Service & Distribution				
77	Allowance for electrical service and distribution (addition)	SF	15,040	8.00	120,320
247	Allowance for electrical service and distribution (renovation)	SF	30,720	9.00	276,480
	Electrical Service & Distribution			\$8.67/SF	\$396,800
	D5020 Lighting and Branch Wiring				
78	Allowance for interior lighting & controls	SF	45,760	14.00	640,640
79	Allowance for branch power and receptacles	SF	45,760	3.50	160,160
	Lighting and Branch Wiring			\$17.50/SF	\$800,800
	D5090 Other Electrical Systems				
193	Allowance for miscellaneous electrical systems (grounding, lighting protection, etc)	SF	45,760	2.00	91,520
80	Subcontractor GC's/GR's	Item			60,000
	Other Electrical Systems			\$3.31/SF	\$151,520
	Electrical			\$29.48/SF	\$1,349,120
27	Communications				
	D5030 Communications & Security				
81	Allowance for Tel/Data systems - infrastructure only	SF	45,760	1.25	57,200
82	Allowance for AV / Sound systems - infrastructure only	SF	45,760	3.50	160,160
173	Wiring and equipment to Tel/Data systems - Excluded (assume by owner)	Item			Excl.
174	Wiring and equipment to AV / Sound systems - Excluded (assume by owner)	Item			Excl.
	Communications & Security			\$4.75/SF	\$217,360
	Communications			\$4.75/SF	\$217,360
28	Electronic Safety and Security				
	D5030 Communications & Security				
83	Allowance for fire alarm system	SF	45,760	3.00	137,280
84	Allowance for security systems - infrastructure only	SF	45,760	2.00	91,520

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
175	Wiring and equipment to security systems - Excluded (assume by Owner)	Item			Excl.
Communications & Security				\$5.00/SF	\$228,800
Electronic Safety and Security				\$5.00/SF	\$228,800
31	Earthwork				
A1010	Standard Foundations				
267	Excavate for building foundations	CY	441	10.00	4,410
268	Remove excavated materials from site	CY	441	25.00	11,025
269	Prepare and compact sub-base	SF	2,379	0.50	1,190
270	Imported foundation backfill	CY	353	35.00	12,355
Standard Foundations				\$0.63/SF	\$28,980
A1030	Slab on Grade				
86	Excavate for slab on grade	CY	253	10.00	2,530
87	Remove and dispose of excavated spoil from site	CY	253	25.00	6,325
88	Prepare and compact sub-base	SF	7,440	0.50	3,720
89	Granular fill below slab on grade	CY	138	45.00	6,210
Slab on Grade				\$0.41/SF	\$18,785
G1010	Site Clearing				
196	Strip existing topsoil and stockpile on-site	CY	166	8.00	1,328
176	Site clearing and grubbing	Item			20,000
90	Temporary construction entrance	EA	1	5,000.00	5,000
177	Allowance for erosion and sediment control	Item			25,000
Site Clearing				\$1.12/SF	\$51,328
G1030	Site Earthwork				
91	Allowance for site earthworks and grading	SF	40,355	1.25	50,444
Site Earthwork				\$1.10/SF	\$50,444
G2020	Parking Lots				
92	Excavate for parking lot sub-base	CY	924	10.00	9,240
93	Remove excavated spoil from site	CY	924	25.00	23,100
94	Prepare and compact sub-base	SF	18,700	0.50	9,350
95	Granular fill to parking pavement	CY	693	45.00	31,185
Parking Lots				\$1.59/SF	\$72,875
G2030	Pedestrian Paving				
96	Excavate for walkways	CY	103	10.00	1,030

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
97	Remove excavated spoil from site	CY	103	25.00	2,575
98	Prepare and compact sub-base	SF	3,030	0.50	1,515
99	Granular fill to pedestrain walkways	CY	57	45.00	2,565
Pedestrian Paving				\$0.17/SF	\$7,685
Earthwork				\$5.03/SF	\$230,097
32	Exterior Improvements				
G2020 Parking Lots					
100	Bituminous asphalt top and finish course to parking pavement	SY	2,078	25.00	51,950
101	Concrete curb	LF	930	15.00	13,950
102	Pavement marking, parking lanes	LF	801	2.50	2,003
103	Pavement marking, striping	SF	166	3.00	498
104	Pavement marking, handicap symbol	EA	2	350.00	700
Parking Lots				\$1.51/SF	\$69,101
G2030 Pedestrian Paving					
105	Concrete walkway, allow 5" thick	SF	3,030	7.00	21,210
200	Allowance to repair existing sidewalk at eliminated driveway	Item			2,500
Pedestrian Paving				\$0.52/SF	\$23,710
G2040 Site Development					
128	Allowance for site development not identified	Item			250,000
Site Development				\$5.46/SF	\$250,000
G2050 Landscaping					
110	Allowance for loam and seed	SF	11,000	1.50	16,500
108	Allowance for trees	Item			25,000
109	Allowance for ground covers, shrubs, evergreens, etc.	Item			20,000
178	Irrigation - Excluded (assume not required)	Item			Excl.
Landscaping				\$1.34/SF	\$61,500
Exterior Improvements				\$8.84/SF	\$404,311
33	Utilities				
G3010 Water Supply					
111	Re-working of existing domestic and fire water utilities - Excluded (assume existing to remain)	Item			Excl.
Water Supply					Excl.

Belmont Public Library**Concept Design Cost Estimate - Option 2 - Revision 2**

Divisions/Elements Item

Gross Floor Area: 45,760 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
G3020 Sanitary Water				
112 Re-working of existing site sanitary sewer service - Excluded (assume existing to remain)	Item			Excl.
Sanitary Water				Excl.
G3030 Storm Sewer				
113 Allowance for re-working existing site storm drainage systems	Item			75,000
201 Perimeter foundation drain	LF	380	20.00	7,600
Storm Sewer			\$1.81/SF	\$82,600
G3090 Other Site Mechanical Utilities				
114 Gas piping and meter - Excluded (assume by Utility Company)	Item			Excl.
115 Allowance for re-working existing site gas distribution (trenching only)	Item			Excl.
Other Site Mechanical Utilities				Excl.
G4010 Electrical Distribution				
116 Re-working of existing site electrical distribution - Excluded (assume existing to remain)	Item			Excl.
Electrical Distribution				Excl.
G4020 Site Lighting				
117 Allowance for site lighting	Item			50,000
Site Lighting			\$1.09/SF	\$50,000
G4030 Site Communications & Security				
118 Re-working of existing site communications distribution - Excluded (assume existing to remain)	Item			Excl.
Site Communications & Security				Excl.
Utilities			\$2.90/SF	\$132,600
ESTIMATED NET COST			\$262.24/SF	\$12,000,314

Construction Cost Estimate

Concept Design Cost Estimate

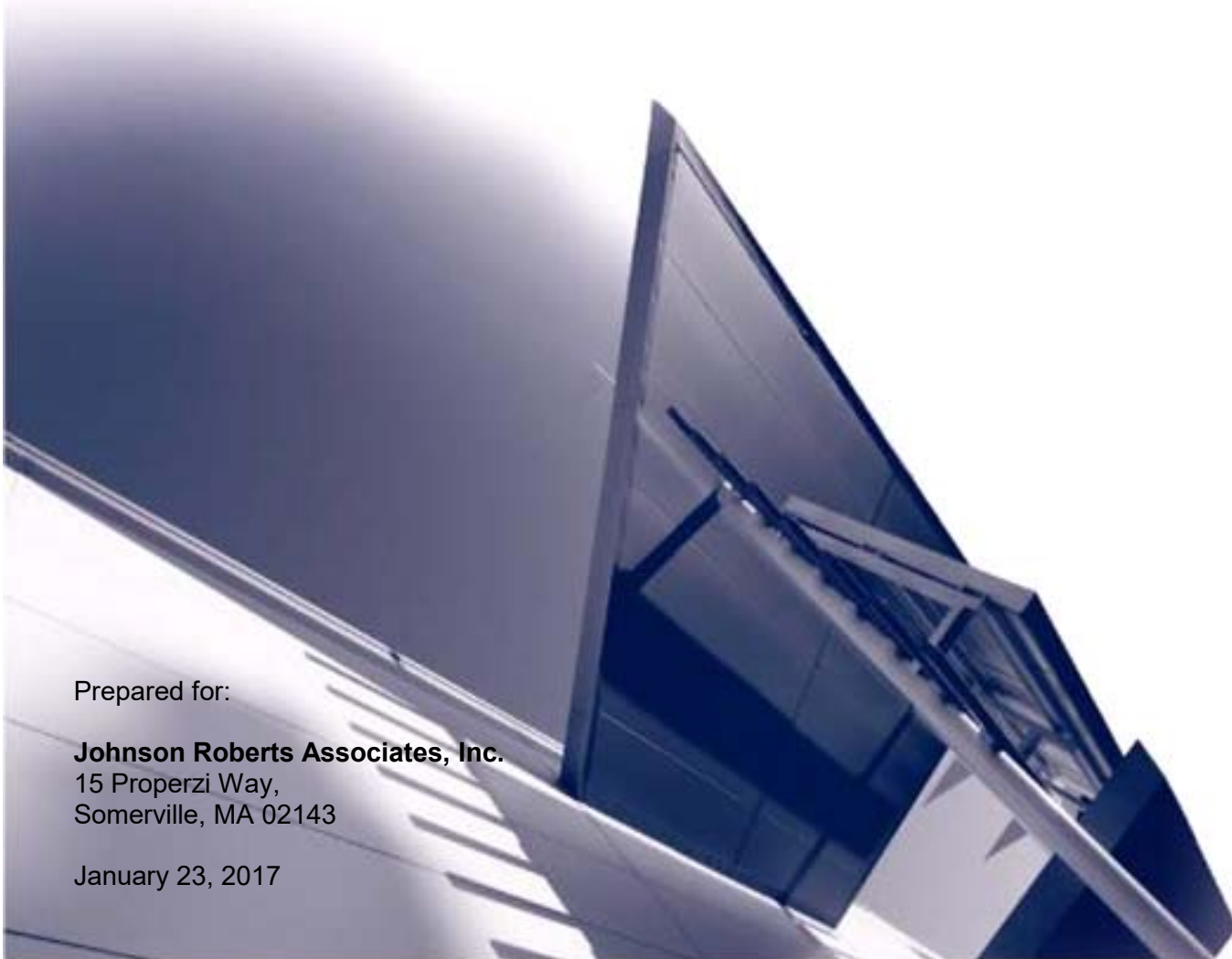
Belmont Public Library Option 3 - New Construction

Belmont, MA

Prepared for:

Johnson Roberts Associates, Inc.
15 Properzi Way,
Somerville, MA 02143

January 23, 2017



Belmont Public Library

Concept Design Cost Estimate - Option 3

Project Details

Description

Basis of Estimate

This estimate has been prepared at the request of the Johnson Roberts Associates and is to provide a Concept Design Cost Study for the demolition and new construction of the Belmont Public Library, located at 336 Concord Ave. in Belmont, MA.

The estimate is based upon measured quantities and built-up rates prepared from the Concept Design drawings and Sketch-Up Model issued to RLB on the 16th of December 2016, prepared by Johnson Roberts Associates.

Where information was insufficient, assumptions and allowances were made based wherever possible on discussions with the architect and engineers.

It is assumed that the project will be competitively bid by four to six general contractors and that the awarded contractor and all subcontractors will be required to pay prevailing wage rates. It is also expected that the project will be competitively bid by four to six subcontractors where filed sub-bids are required.

Unit pricing is based on January 2017 costs. A Design / Estimating Contingency of 15.0% has been included. An allowance for escalation has not been included.

Items Specifically Included

- . This estimate is based on a Gross Floor Area of approx. 38,950 sq.ft.

Items Specifically Excluded

- . Wiring and equipment to communications systems (estimate includes infrastructure only).
- . Wiring and equipment to security systems (estimate includes infrastructure only).
- . Book security / detection system (assume by Owner).
- . Library storage, racking, and/or shelving (assume by Owner).
- . Interior feature signage.
- . Removal, storage, and re-installation of existing FF&E.
- . Deep foundation systems.
- . Excavation in rock and/or contaminated soils.
- . Excavation within and/or below groundwater table.
- . Hazardous materials abatement, unless noted otherwise.
- . Costs associated with phasing the construction work, including out of hours work.
- . Furniture, Fittings and Equipment (FF&E).
- . Murals and works of art.
- . Mock-ups.
- . Work outside the site boundaries unless noted otherwise.
- . Owner's / Construction contingency.
- . Land and legal costs.
- . Architectural, Engineering and other professional fees.
- . Geotechnical, traffic and all other studies.
- . Items marked as "Excl." in the estimate.

Belmont Public Library
Concept Design Cost Estimate - Option 3

Project Details

Description
<div><div>. Escalation beyond Q1 2017.</div><div><div>Documents</div><div>Please refer to Basis of Estimate.</div></div></div>

Belmont Public Library**Concept Design Cost Estimate - Option 3**

Location Summary

GFA: Gross Floor Area
Rates Current At January 2017

Location		GFA SF	Cost/SF	Total Cost
ALL	ALL LOCATIONS	38,950	300.68	11,711,331
	ESTIMATED NET COST	38,950	\$300.68	\$11,711,331
MARGINS & ADJUSTMENTS				
	Genral Conditions / Requirements	9.0 %		\$1,054,020
	Bonds and Insurances	2.7 %		\$344,664
	Overhead and Profit	4.0 %		\$524,401
	Design / Estimating Contingency	15.0 %		\$2,045,162
	Escalation			Excl.
	ESTIMATED TOTAL COST	38,950	\$402.56	\$15,679,578

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Summary

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Cost/SF	Total Cost
02 Existing Conditions		
F2010 Building Elements Demolition	5.96	232,000
F2020 Hazardous Components Abatement		Excl.
G1020 Site Demolition and Relocations	2.11	82,213
Existing Conditions	\$8.07	\$314,213
03 Concrete		
A1010 Standard Foundations	8.03	312,925
A1030 Slab on Grade	3.99	155,600
B1010 Floor Construction	3.25	126,750
Concrete	\$15.28	\$595,275
04 Masonry		
B2010 Exterior Walls	22.54	877,864
C1010 Partitions	1.07	41,760
Masonry	\$23.61	\$919,624
05 Metals		
B1010 Floor Construction	13.77	536,250
B1020 Roof Construction	12.48	486,111
B2010 Exterior Walls	5.53	215,520
C1030 Fittings	3.09	120,550
C2010 Stair Construction	1.08	42,000
Metals	\$35.95	\$1,400,431
06 Wood, Plastics, and Composites		
B3010 Roof Coverings	0.54	20,908
C1030 Fittings	1.75	68,163
C3010 Wall Finishes	2.50	97,375
E2010 Fixed Furnishings	5.80	225,925
Wood, Plastics, and Composites	\$10.59	\$412,371
07 Thermal and Moisture Protection		
A1010 Standard Foundations	0.27	10,430
A1030 Slab on Grade	1.75	68,075
B1010 Floor Construction	1.50	58,500
B1020 Roof Construction	1.61	62,724
B2010 Exterior Walls	5.12	199,313
B3010 Roof Coverings	11.80	459,578
C1030 Fittings	3.00	116,850
C3020 Floor Finishes		Excl.

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Summary

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Cost/SF	Total Cost
D2040	Rain Water Drainage	0.29	11,260
Thermal and Moisture Protection		\$25.33	\$986,730
08 Openings			
B2010	Exterior Walls	16.99	661,810
B2030	Exterior Doors	0.65	25,300
C1010	Partitions	2.17	84,550
C1020	Interior Doors	2.89	112,700
Openings		\$22.71	\$884,360
09 Finishings			
B2010	Exterior Walls	0.82	31,890
C1010	Partitions	8.32	324,107
C2020	Stair Finishes	0.09	3,414
C3010	Wall Finishes	2.73	106,169
C3020	Floor Finishes	8.48	330,441
C3030	Ceiling Finishes	8.85	344,685
Finishings		\$29.29	\$1,140,706
10 Specialties			
C1030	Fittings	1.59	61,905
D4030	Fire Protection Specialties	0.07	2,800
Specialties		\$1.66	\$64,705
11 Equipment			
E1010	Commercial Equipment	0.10	3,800
E1020	Institutional Equipment	0.13	5,000
Equipment		\$0.23	\$8,800
12 Furnishings			
C3020	Floor Finishes	0.38	14,950
E2010	Fixed Furnishings	1.41	55,040
E2020	Movable Furnishings		Excl.
Furnishings		\$1.80	\$69,990
14 Conveying Equipment			
D1010	Elevators & Lifts	2.31	90,000
Conveying Equipment		\$2.31	\$90,000
21 Fire Suppression			
D4010	Sprinklers	5.50	214,225
Fire Suppression		\$5.50	\$214,225

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Summary

 Gross Floor Area: 38,950 SF
 Rates Current At January 2017

Description	Cost/SF	Total Cost
22 Plumbing		
D2010 Plumbing Fixtures	0.76	29,700
D2020 Domestic Water Distribution	4.00	155,800
D2030 Sanitary Waste	3.00	116,850
D2040 Rain Water Drainage	2.50	97,375
D2090 Other Plumbing Systems	1.99	77,583
Plumbing	\$12.25	\$477,308
23 Heating, Ventilating, and Air Conditioning		
D3020 Heat Generating Systems	4.00	155,800
D3030 Cooling Generating Systems	4.00	155,800
D3040 Distribution Systems	25.00	973,750
D3060 Controls & Instrumentations	6.00	233,700
D3070 Systems Testing & Balancing	0.75	29,213
D3090 Other HVAC Systems & Equipment	3.02	117,475
Heating, Ventilating, and Air Conditioning	\$42.77	\$1,665,738
26 Electrical		
D5010 Electrical Service & Distribution	8.50	331,075
D5020 Lighting and Branch Wiring	17.50	681,625
D5090 Other Electrical Systems	3.54	137,900
Electrical	\$29.54	\$1,150,600
27 Communications		
D5030 Communications & Security	4.75	185,013
Communications	\$4.75	\$185,013
28 Electronic Safety and Security		
D5030 Communications & Security	5.00	194,750
Electronic Safety and Security	\$5.00	\$194,750
31 Earthwork		
A1010 Standard Foundations	1.34	52,375
A1030 Slab on Grade	1.26	49,105
G1010 Site Clearing	1.32	51,328
G1030 Site Earthwork	1.04	40,355
G2020 Parking Lots	1.62	63,183
G2030 Pedestrian Paving	0.28	10,813
Earthwork	\$6.86	\$267,159
32 Exterior Improvements		
G2020 Parking Lots	1.48	57,518

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Summary

 Gross Floor Area: 38,950 SF
 Rates Current At January 2017

Description		Cost/SF	Total Cost
G2030	Pedestrian Paving	0.69	26,965
G2040	Site Development	6.42	250,000
G2050	Landscaping	1.67	64,950
Exterior Improvements		\$10.26	\$399,433
33 Utilities			
G3010	Water Supply	1.28	50,000
G3020	Sanitary Water	0.64	25,000
G3030	Storm Sewer	1.67	64,900
G3090	Other Site Mechanical Utilities	0.13	5,000
G4010	Electrical Distribution	1.28	50,000
G4020	Site Lighting	1.28	50,000
G4030	Site Communications & Security	0.64	25,000
Utilities		\$6.93	\$269,900
ESTIMATED NET COST		\$300.68	\$11,711,331
MARGINS & ADJUSTMENTS			
Genral Conditions / Requirements		9.0 %	\$1,054,020
Bonds and Insurances		2.7 %	\$344,664
Overhead and Profit		4.0 %	\$524,401
Design / Estimating Contingency		15.0 %	\$2,045,162
Escalation			Excl.
ESTIMATED TOTAL COST		\$402.56	\$15,679,578

Belmont Public Library**Concept Design Cost Estimate - Option 3**

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
02	Existing Conditions				
	F2010 Building Elements Demolition				
1	Demolition of existing building	SF	29,000	8.00	232,000
	Building Elements Demolition			\$5.96/SF	\$232,000
	F2020 Hazardous Components Abatement				
153	Hazardous materials abatement - Excluded (assume not required)	Item			Excl.
	Hazardous Components Abatement				Excl.
	G1020 Site Demolition and Relocations				
194	Sawcut, break-up, and remove existing parking lot	SF	27,060	1.00	27,060
195	Sawcut, break-up, and remove existing pedestrian pavement	SF	3,435	1.50	5,153
154	Allowance for miscellaneous site demolition not identified	Item			50,000
	Site Demolition and Relocations			\$2.11/SF	\$82,213
	Existing Conditions			\$8.07/SF	\$314,213
03	Concrete				
	A1010 Standard Foundations				
3	Concrete perimeter strip footing to foundation walls, allow 3' x 12" deep	LF	745	125.00	93,125
124	Concrete isolated spread footing, allow 6' x 6' x 12" deep (perimeter)	EA	40	750.00	30,000
125	Concrete isolated spread footing, allow 5' x 5' x 12" deep (internal)	EA	25	600.00	15,000
6	Concrete piers, allow 2' x 2'	LF	228	200.00	45,600
4	Concrete perimeter foundation walls, allow 12" thick	SF	2,980	40.00	119,200
123	Concrete elevator pit	Item			10,000
	Standard Foundations			\$8.03/SF	\$312,925
	A1030 Slab on Grade				
7	Concrete slab on grade, allow 5" thick	SF	19,450	8.00	155,600
	Slab on Grade			\$3.99/SF	\$155,600
	B1010 Floor Construction				
155	Concrete topping to slab on metal deck, allow 5-1/2" thick overall depth	SF	19,500	6.50	126,750
	Floor Construction			\$3.25/SF	\$126,750
	Concrete			\$15.28/SF	\$595,275

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
04	Masonry				
	B2010 Exterior Walls				
8	Brick veneer to exterior walls	SF	14,266	40.00	570,640
9	Brick veneer to exterior columns	SF	2,272	50.00	113,600
204	Precast / cast-stone wall cladding	SF	714	60.00	42,840
202	Precast / cast-stone exterior wall base	SF	1,680	60.00	100,800
197	CMU Back-up to brick veneer column	SF	2,272	22.00	49,984
	Exterior Walls			\$22.54/SF	\$877,864
	C1010 Partitions				
53	CMU Partition, allow 12" thick	SF	660	24.00	15,840
54	CMU Partition, allow 12" thick (elevator shaft)	SF	1,080	24.00	25,920
	Partitions			\$1.07/SF	\$41,760
	Masonry			\$23.61/SF	\$919,624
05	Metals				
	B1010 Floor Construction				
156	Structural steel floor framing, allow 12 psf	T	117.00	3,750.00	438,750
157	Metal floor deck, allow 3" thick	SF	19,500	5.00	97,500
	Floor Construction			\$13.77/SF	\$536,250
	B1020 Roof Construction				
10	Structural steel roof framing, allow 10 psf	T	104.54	3,750.00	392,025
11	Metal roof deck, allow 1-1/2" thick	SF	20,908	4.50	94,086
	Roof Construction			\$12.48/SF	\$486,111
	B2010 Exterior Walls				
12	Metal stud framing to exterior walls	SF	15,945	12.00	191,340
198	Galvanized steel lintel to opening in brick veneer facade	LF	403	60.00	24,180
	Exterior Walls			\$5.53/SF	\$215,520
	C1030 Fittings				
179	Roof access ladder / stair	Item			2,500
180	Elevator pit ladder	EA	1	1,200.00	1,200
159	Allowance for miscellaneous metals	SF	38,950	3.00	116,850
	Fittings			\$3.09/SF	\$120,550

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
C2010 Stair Construction				
158 Metal stairs with concrete filled pan and landings, including railings	FT/R	28	1,500.00	42,000
Stair Construction			\$1.08/SF	\$42,000
Metals			\$35.95/SF	\$1,400,431
06 Wood, Plastics, and Composites				
B3010 Roof Coverings				
13 Allowance for roof blocking	SF	20,908	1.00	20,908
Roof Coverings			\$0.54/SF	\$20,908
C1030 Fittings				
14 Allowance for rough carpentry	SF	38,950	0.75	29,213
15 Allowance for wood blocking	SF	38,950	1.00	38,950
Fittings			\$1.75/SF	\$68,163
C3010 Wall Finishes				
206 Allowance for miscellaneous wood window trim	SF	38,950	2.50	97,375
Wall Finishes			\$2.50/SF	\$97,375
E2010 Fixed Furnishings				
16 Casework: Main reception desk	LF	32	700.00	22,400
17 Casework: Children's Area reception desk	LF	30	600.00	18,000
18 Casework: Adult space reference desk	LF	28	600.00	16,800
160 Casework: Children's story room craft base cabinet with plastic laminate countertop	LF	30	400.00	12,000
19 Casework: Base cabinet with plastic laminate countertop	LF	87	400.00	34,800
20 Casework: Overhead wall cabinet	LF	87	250.00	21,750
21 Casework: Solid surface lavatory including supports and brackets	LF	14	200.00	2,800
161 Allowance for miscellaneous casework not identified	SF	38,950	2.50	97,375
Fixed Furnishings			\$5.80/SF	\$225,925
Wood, Plastics, and Composites			\$10.59/SF	\$412,371
07 Thermal and Moisture Protection				
A1010 Standard Foundations				
22 Air and vapor barrier	SF	2,980	0.50	1,490
23 Rigid insulation	SF	2,980	3.00	8,940
Standard Foundations			\$0.27/SF	\$10,430

Belmont Public Library**Concept Design Cost Estimate - Option 3**

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
A1030 Slab on Grade				
24 Air and vapor barrier	SF	19,450	0.50	9,725
25 Rigid insulation	SF	19,450	3.00	58,350
Slab on Grade			\$1.75/SF	\$68,075
B1010 Floor Construction				
184 Spray-applied fire-proofing to structural steel floor framing	SF	19,500	3.00	58,500
Floor Construction			\$1.50/SF	\$58,500
B1020 Roof Construction				
185 Spray-applied fire-proofing to structural steel roof framing	SF	20,908	3.00	62,724
Roof Construction			\$1.61/SF	\$62,724
B2010 Exterior Walls				
31 Air and vapor barrier to exterior walls	SF	15,945	6.00	95,670
27 Gypsum board sheathing to exterior walls	SF	15,945	2.50	39,863
28 Batt insulation to exterior walls	SF	15,945	4.00	63,780
Exterior Walls			\$5.12/SF	\$199,313
B3010 Roof Coverings				
32 Membrane roofing, complete	SF	12,194	20.00	243,880
33 Asphalt shingle roofing	SF	8,714	4.50	39,213
34 Gypsum board sheathing	SF	8,714	3.00	26,142
36 Rigid insulation, allow 2" thick	SF	8,714	4.50	39,213
35 Ice and water protection	SF	8,714	1.25	10,893
37 Allowance for exterior roof soffits	SF	983	45.00	44,235
199 Allowance for exterior entrance canopy	Item			10,000
38 Allowance for miscellaneous roof flashings	SF	20,908	1.50	31,362
162 Allowance for roof walkway	SF	1,220	12.00	14,640
Roof Coverings			\$11.80/SF	\$459,578
C1030 Fittings				
39 Miscellaneous fire-stopping	SF	38,950	0.50	19,475
40 Miscellaneous caulking and sealing	SF	38,950	2.50	97,375
Fittings			\$3.00/SF	\$116,850
C3020 Floor Finishes				
215 Allowance for moisture mitigation - assumed not required	SF	31,149		Excl.
Floor Finishes				Excl.

Belmont Public Library**Concept Design Cost Estimate - Option 3**

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
D2040 Rain Water Drainage					
186	Aluminum gutter to pitched roof	LF	36	35.00	1,260
187	Allowance for rain water leaders	Item			10,000
Rain Water Drainage				\$0.29/SF	\$11,260
Thermal and Moisture Protection				\$25.33/SF	\$986,730
08 Openings					
B2010 Exterior Walls					
30	Curtain wall system	SF	5,134	100.00	513,400
29	Storefront system	SF	1,746	85.00	148,410
Exterior Walls				\$16.99/SF	\$661,810
B2030 Exterior Doors					
42	Double leaf glazed aluminum doors including frame, hardware and finish	Pr	3	7,500.00	22,500
43	Single leaf hollow metal doors including frame, hardware and finish	EA	2	1,400.00	2,800
Exterior Doors				\$0.65/SF	\$25,300
C1010 Partitions					
49	Interior glazed aluminum storefront system	SF	912	50.00	45,600
164	Allowance for miscellaneous interior borrowed lights and storefront not identified	SF	38,950	1.00	38,950
Partitions				\$2.17/SF	\$84,550
C1020 Interior Doors					
44	Double leaf glazed aluminum doors including frame, hardware and finish	Pr	4	7,500.00	30,000
45	Double leaf wood doors including frame, hardware and finish	Pr	7	2,900.00	20,300
47	Single leaf wood doors including frame, hardware and finish	EA	32	1,600.00	51,200
48	Single leaf hollow metal doors including frame, hardware and finish	EA	8	1,400.00	11,200
Interior Doors				\$2.89/SF	\$112,700
Openings				\$22.71/SF	\$884,360
09 Finishings					
B2010 Exterior Walls					
165	Gypsum board lining to inside face of exterior wall	SF	15,945	2.00	31,890
Exterior Walls				\$0.82/SF	\$31,890

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

 Gross Floor Area: 38,950 SF
 Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
C1010 Partitions				
50 Gypsum board partition	SF	21,416	8.50	182,036
52 Gypsum board partition, plumbing chase	SF	884	6.50	5,746
205 Allowance for miscellaneous drywall, column enclosures, etc	SF	38,950	3.50	136,325
Partitions			\$8.32/SF	\$324,107
C2020 Stair Finishes				
181 Carpet flooring to stair treads and risers	SY	34	75.00	2,550
182 Concrete sealer to stair treads	SF	120	2.50	300
183 Resilient floor base to stair treads and risers	LF	94	6.00	564
Stair Finishes			\$0.09/SF	\$3,414
C3010 Wall Finishes				
119 Ceramic tiles to restroom walls	SF	532	18.00	9,576
120 Allowance for architectural feature wall finishes	Item			25,000
152 Prepare and apply paint to interior walls	SF	59,661	1.20	71,593
Wall Finishes			\$2.73/SF	\$106,169
C3020 Floor Finishes				
207 Terrazzo flooring	SF	2,628	40.00	105,120
143 Carpet flooring	SY	3,203	45.00	144,135
145 Porcelain floor tiling	SF	607	24.00	14,568
144 Resilient flooring	SF	2,327	5.00	11,635
146 Concrete sealer	SF	490	1.20	588
208 Terrazzo floor base	LF	306		Incl.
147 Stained wood base	LF	3,842	12.00	46,104
148 Rubber floor base	LF	730	3.50	2,555
149 Porcelain floor base	LF	239	24.00	5,736
Floor Finishes			\$8.48/SF	\$330,441
C3030 Ceiling Finishes				
150 Acoustic ceiling tile system	SF	18,870	5.50	103,785
166 Gypsum board ceiling system	SF	13,187	9.00	118,683
188 Allowance for decorative ceiling system	SF	2,628	40.00	105,120
209 Prepare and apply paint to gypsum board ceiling	SF	13,187	1.25	16,484
210 Prepare and apply paint to exposed structure	SF	490	1.25	613
Ceiling Finishes			\$8.85/SF	\$344,685
Finishings			\$29.29/SF	\$1,140,706

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
10 Specialties				
C1030 Fittings				
129 Toilet compartment: Handicap	EA	2	1,400.00	2,800
130 Toilet compartment: Standard	EA	4	1,250.00	5,000
131 Toilet compartment: Urinal screen	EA	2	600.00	1,200
132 Toilet accessories: Paper towel dispenser / waste receptacle	EA	5	750.00	3,750
133 Toilet accessories: Grab bars	EA	10	75.00	750
134 Toilet accessories: Sanitary napkin disposal unit	EA	6	250.00	1,500
135 Toilet accessories: Liquid soap dispenser	EA	9	50.00	450
136 Toilet accessories: Baby changing station	EA	5	550.00	2,750
137 Toilet accessories: Toilet paper holder	EA	9	45.00	405
138 Toilet accessories: Coat hooks	EA	9	25.00	225
139 Toilet accessories: Mirror	EA	9	400.00	3,600
140 Allowance for interior signage	SF	38,950	0.50	19,475
141 Allowance for exterior building signage	Item			20,000
Fittings			\$1.59/SF	\$61,905
D4030 Fire Protection Specialties				
142 Allowance for fire extinguisher and cabinets	EA	8	350.00	2,800
Fire Protection Specialties			\$0.07/SF	\$2,800
Specialties			\$1.66/SF	\$64,705
11 Equipment				
E1010 Commercial Equipment				
170 Refrigerator	EA	2	1,500.00	3,000
171 Microwave	EA	2	400.00	800
Commercial Equipment			\$0.10/SF	\$3,800
E1020 Institutional Equipment				
167 Allowance for book and media through wall drop return including drop cart	Item			5,000
189 Book detection system - Excluded (assume by Owner)	Item			Excl.
190 Projectors and/or project screens - Excluded (assume by Owner)	Item			Excl.
Institutional Equipment			\$0.13/SF	\$5,000
Equipment			\$0.23/SF	\$8,800

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
12 Furnishings				
C3020 Floor Finishes				
168 Recessed entry mat	SF	299	50.00	14,950
Floor Finishes			\$0.38/SF	\$14,950
E2010 Fixed Furnishings				
169 Manually operated window shades	SF	6,880	8.00	55,040
Fixed Furnishings			\$1.41/SF	\$55,040
E2020 Movable Furnishings				
192 Library shelving, racks, etc - Excluded (assume by Owner)	Item			Excl.
191 FF&E - Excluded (by Owner)	Item			Excl.
Movable Furnishings				Excl.
Furnishings			\$1.80/SF	\$69,990
14 Conveying Equipment				
D1010 Elevators & Lifts				
121 2-Stop passenger elevator	EA	1	90,000.00	90,000
Elevators & Lifts			\$2.31/SF	\$90,000
Conveying Equipment			\$2.31/SF	\$90,000
21 Fire Suppression				
D4010 Sprinklers				
63 Allowance for fire sprinkler system	SF	38,950	5.50	214,225
Sprinklers			\$5.50/SF	\$214,225
Fire Suppression			\$5.50/SF	\$214,225
22 Plumbing				
D2010 Plumbing Fixtures				
55 Water closet - handicap	EA	5	1,200.00	6,000
56 Water closet - standard	EA	4	1,200.00	4,800
57 Urinal	EA	2	1,000.00	2,000
58 Lavatory sink	EA	9	1,300.00	11,700
59 Kitchen sink	EA	1	1,300.00	1,300
60 Staff lounge sink	EA	1	1,300.00	1,300
61 Mop sink	EA	1	1,600.00	1,600
62 Hose bibb	EA	2	500.00	1,000
Plumbing Fixtures			\$0.76/SF	\$29,700

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
D2020 Domestic Water Distribution					
64	Allowance for domestic water distribution system	SF	38,950	4.00	155,800
Domestic Water Distribution				\$4.00/SF	\$155,800
D2030 Sanitary Waste					
65	Allowance for sanitary waste system	SF	38,950	3.00	116,850
Sanitary Waste				\$3.00/SF	\$116,850
D2040 Rain Water Drainage					
172	Allowance for roof drainage systems	SF	38,950	2.50	97,375
Rain Water Drainage				\$2.50/SF	\$97,375
D2090 Other Plumbing Systems					
66	Allowance for gas distribution systems	SF	38,950	1.00	38,950
67	Balancing and testing	SF	38,950	0.35	13,633
68	Subcontractors GC's/GR's	Item			25,000
Other Plumbing Systems				\$1.99/SF	\$77,583
Plumbing				\$12.25/SF	\$477,308
23 Heating, Ventilating, and Air Conditioning					
D3020 Heat Generating Systems					
69	Allowance for heat generation systems	SF	38,950	4.00	155,800
Heat Generating Systems				\$4.00/SF	\$155,800
D3030 Cooling Generating Systems					
70	Allowance for cooling generation systems	SF	38,950	4.00	155,800
Cooling Generating Systems				\$4.00/SF	\$155,800
D3040 Distribution Systems					
71	Allowance for HVAC distribution systems	SF	38,950	25.00	973,750
Distribution Systems				\$25.00/SF	\$973,750
D3060 Controls & Instrumentations					
72	Allowance for controls	SF	38,950	6.00	233,700
Controls & Instrumentations				\$6.00/SF	\$233,700
D3070 Systems Testing & Balancing					
73	Systems testing and balancing	SF	38,950	0.75	29,213
Systems Testing & Balancing				\$0.75/SF	\$29,213

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
D3090 Other HVAC Systems & Equipment					
74	Rigging & hoisting	Item			18,000
75	Temporary heating and cooling	SF	38,950	0.50	19,475
76	Subcontractors GC's/GR's	Item			80,000
Other HVAC Systems & Equipment				\$3.02/SF	\$117,475
Heating, Ventilating, and Air Conditioning				\$42.77/SF	\$1,665,738
26 Electrical					
D5010 Electrical Service & Distribution					
77	Allowance for electrical service and distribution	SF	38,950	8.50	331,075
Electrical Service & Distribution				\$8.50/SF	\$331,075
D5020 Lighting and Branch Wiring					
78	Allowance for interior lighting & controls	SF	38,950	14.00	545,300
79	Allowance for branch power and receptacles	SF	38,950	3.50	136,325
Lighting and Branch Wiring				\$17.50/SF	\$681,625
D5090 Other Electrical Systems					
193	Allowance for miscellaneous electrical systems (grounding, lighting protection, etc)	SF	38,950	2.00	77,900
80	Subcontractor GC's/GR's	Item			60,000
Other Electrical Systems				\$3.54/SF	\$137,900
Electrical				\$29.54/SF	\$1,150,600
27 Communications					
D5030 Communications & Security					
81	Allowance for Tel/Data systems - infrastructure only	SF	38,950	1.25	48,688
82	Allowance for AV / Sound systems - infrastructure only	SF	38,950	3.50	136,325
173	Wiring and equipment to Tel/Data systems - Excluded (assume by owner)	Item			Excl.
174	Wiring and equipment to AV / Sound systems - Excluded (assume by owner)	Item			Excl.
Communications & Security				\$4.75/SF	\$185,013
Communications				\$4.75/SF	\$185,013
28 Electronic Safety and Security					
D5030 Communications & Security					
83	Allowance for fire alarm system	SF	38,950	3.00	116,850
84	Allowance for security systems - infrastructure only	SF	38,950	2.00	77,900

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
175 Wiring and equipment to security systems - Excluded (assume by Owner)	Item			Excl.
Communications & Security			\$5.00/SF	\$194,750
Electronic Safety and Security			\$5.00/SF	\$194,750
31 Earthwork				
A1010 Standard Foundations				
211 Excavate for building foundations	CY	797	10.00	7,970
212 Remove excavated materials from site	CY	797	25.00	19,925
213 Prepare and compact sub-base	SF	4,300	0.50	2,150
214 Imported foundation backfill	CY	638	35.00	22,330
Standard Foundations			\$1.34/SF	\$52,375
A1030 Slab on Grade				
86 Excavate for slab on grade	CY	661	10.00	6,610
87 Remove and dispose of excavated spoil from site	CY	661	25.00	16,525
88 Prepare and compact sub-base	SF	19,450	0.50	9,725
89 Granular fill below slab on grade	CY	361	45.00	16,245
Slab on Grade			\$1.26/SF	\$49,105
G1010 Site Clearing				
196 Strip existing topsoil and stockpile on-site	CY	166	8.00	1,328
176 Site clearing and grubbing	Item			20,000
90 Temporary construction entrance	EA	1	5,000.00	5,000
177 Allowance for erosion and sediment control	Item			25,000
Site Clearing			\$1.32/SF	\$51,328
G1030 Site Earthwork				
91 Allowance for site earthworks and grading	SF	40,355	1.00	40,355
Site Earthwork			\$1.04/SF	\$40,355
G2020 Parking Lots				
92 Excavate for parking lot sub-base	CY	801	10.00	8,010
93 Remove excavated spoil from site	CY	801	25.00	20,025
94 Prepare and compact sub-base	SF	16,206	0.50	8,103
95 Granular fill to parking pavement	CY	601	45.00	27,045
Parking Lots			\$1.62/SF	\$63,183
G2030 Pedestrian Paving				
96 Excavate for walkways	CY	119	10.00	1,190

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description		Unit	Qty	Rate	Total Cost
97	Remove excavated spoil from site	CY	198	25.00	4,950
98	Prepare and compact sub-base	SF	3,495	0.50	1,748
99	Granular fill to pedestrain walkways	CY	65	45.00	2,925
Pedestrian Paving				\$0.28/SF	\$10,813
Earthwork				\$6.86/SF	\$267,159
32	Exterior Improvements				
G2020	Parking Lots				
100	Bituminous asphalt top and finish course to parking pavement	SY	1,801	25.00	45,025
101	Concrete curb	LF	609	15.00	9,135
102	Pavement marking, parking lanes	LF	864	2.50	2,160
103	Pavement marking, striping	SF	166	3.00	498
104	Pavement marking, handicap symbol	EA	2	350.00	700
Parking Lots				\$1.48/SF	\$57,518
G2030	Pedestrian Paving				
105	Concrete walkway, allow 5" thick	SF	3,495	7.00	24,465
200	Allowance to repair existing sidewalk at eliminated driveway	Item			2,500
Pedestrian Paving				\$0.69/SF	\$26,965
G2040	Site Development				
128	Allowance for site development not identified	Item			250,000
Site Development				\$6.42/SF	\$250,000
G2050	Landscaping				
110	Allowance for loam and seed	SF	13,300	1.50	19,950
108	Allowance for trees	Item			25,000
109	Allowance for ground covers, shrubs, evergreens, etc.	Item			20,000
178	Irrigation - Excluded (assume not required)	Item			Excl.
Landscaping				\$1.67/SF	\$64,950
Exterior Improvements				\$10.26/SF	\$399,433
33	Utilities				
G3010	Water Supply				
111	Allowance for re-working existing domestic and fire water utilities	Item			50,000
Water Supply				\$1.28/SF	\$50,000

Belmont Public Library

Concept Design Cost Estimate - Option 3

Divisions/Elements Item

Gross Floor Area: 38,950 SF
Rates Current At January 2017

Description	Unit	Qty	Rate	Total Cost
G3020 Sanitary Water				
112 Allowance for re-working existing site sanitary sewer service	Item			25,000
Sanitary Water			\$0.64/SF	\$25,000
G3030 Storm Sewer				
113 Allowance for re-working existing site storm drainage systems	Item			50,000
201 Perimeter foundation drain	LF	745	20.00	14,900
Storm Sewer			\$1.67/SF	\$64,900
G3090 Other Site Mechanical Utilities				
114 Gas piping and meter - Excluded (assume by Utility Company)	Item			Excl.
115 Allowance for re-working existing site gas distribution (trenching only)	Item			5,000
Other Site Mechanical Utilities			\$0.13/SF	\$5,000
G4010 Electrical Distribution				
116 Allowance for re-working existing site electrical distribution	Item			50,000
Electrical Distribution			\$1.28/SF	\$50,000
G4020 Site Lighting				
117 Allowance for site lighting	Item			50,000
Site Lighting			\$1.28/SF	\$50,000
G4030 Site Communications & Security				
118 Allowance for re-working existing site communications distribution	Item			25,000
Site Communications & Security			\$0.64/SF	\$25,000
Utilities			\$6.93/SF	\$269,900
ESTIMATED NET COST			\$300.68/SF	\$11,711,331

