



DASNY


ANDREW M. CUOMO
Governor

ALFONSO L. CARNEY, JR.
Chair

GERRARD P. BUSHELL
President

Memorandum

TO: Jack D. Homkow, Director, Office of Environmental Affairs

FROM: Sara E. Stein, AICP, Environmental Manager 

DATE: March 3, 2016

RE: *State Environmental Quality Review (SEQR) Determination* for the Columbia University 2016 Financing Project — Independent Colleges and Universities Program

DASNY (“Dormitory Authority State of New York”) has received a funding request from Columbia University (“Columbia” or the “University”) pursuant to DASNY’s Independent Colleges and Universities Program for its 2016 Financing Project (the “Proposed Project”). Accordingly, the Proposed Project is subject to environmental review pursuant to the *State Environmental Quality Review Act (“SEQRA”)*. Based on a review of the attached *Credit Summary and Staff Report* dated February 26, 2016, and supporting documentation completed by a representative of the University, it has been determined that for purposes of *SEQRA*, the Proposed Action would consist of DASNY’s authorization of the issuance of up to \$430,000,000 in one or more series of fixed- or variable-rate, tax-exempt and/or taxable bonds to be sold through one or more negotiated offerings and/or private placements at one or more times on behalf of the University.

The proceeds of DASNY’s bond issuance would be used to finance various University-wide construction and renovation projects located at Columbia’s Medical Center, Morningside and Manhattanville campuses located in the borough of Manhattan, New York County, New York. The bond issuance would also be used to fully and/or partially refinance the University’s commercial paper, which was used to refund DASNY’s Columbia University Insured Revenue Bonds, Series 2006A and 2006B.

DASNY completed this environmental review in accordance with *SEQRA*, codified at Article 8 of the New York *Environmental Conservation Law (“ECL”)*, and its implementing regulations, promulgated at Part 617 of Title 6 of the *New York Codes, Rules and Regulations (“N.Y.C.R.R.”)*, which collectively contain the requirements for the *State Environmental Quality Review (“SEQR”)* process. Representatives of the University completed a series of Project Documents that detail each of the Proposed Project activities, along with a summary list of eligible projects that may be funded from DASNY Series 2016 bond proceeds (see attached).

The Proposed Project would include design development, construction and/or renovation of the following buildings or facilities on the Manhattanville Campus to be used for academic and research purposes:

- Jerome L. Greene Science Center for the Mind, Brain and Behavior: Design development and construction of all systems required to complete the facility;
- Central Below-Grade Facility (slurry walls and foundations): Design and construction of a multilevel, interconnected, underground space that will provide additional science, academic, and mechanical support spaces, parking and central materials distribution;
- Open Spaces: Design and construction of the approximately 11,800-square-foot (“sf”) landscaped “small square” and design development for the approximately 40,000-sf “large square”, plus landscape and streetscape work; and
- 615 West 131st Street: Renovation of the 600 level of the Studebaker Building to convert space formerly leased by the Alexander Doll Company into office space for University administrators.

It has been determined that these project components were previously reviewed under *SEQRA* and have not changed from the previous *SEQR* process and, therefore, no further environmental review by DASNY is required.¹

The Proposed Project would also include the following renovation projects in buildings or facilities on the Medical Center Campus and the Morningside Heights Campus to be used for academic and research purposes:

- Institute for Comparative Medicine Animal Facilities (650 West 168th Street): Renovation of animal research and support spaces on the 18th and 19th floors of the William Black Medical Research and College of Physicians and Surgeons (“P&S”) Building and on the 17th floor of the Hammer Health Sciences Building;
- Fairchild Hall, 800 Level (1212 Amsterdam Avenue): Renovation of approximately 6,000 gross square feet (“gsf”) of existing laboratory space in the Department of Biological Sciences for academic/research purposes;
- Northwest Corner Building, 1100 Level (550 West 120th Street): Renovation of approximately 5,200 gsf of laboratory and support space in the Physics Department for research purposes;
- Shapiro Center for Engineering and Physical Space Research (“CEPSR”), 1000 Level (530 West 120th Street): Renovation and expansion of approximately 4,600 gsf of Columbia Nanofabrication Facility space (“Shared Facility Clean Room”) to support current and emerging efforts in nanobiology and nanomedicine in the Fu

¹ Certain projects included in this Columbia University 2016 Series Financing Project were previously reviewed under *SEQRA* as part of the Columbia University Series 2015 Financing Project (see DASNY’s *SEQR Determination for the 2015 Financing Project* and DASNY’s *Findings Statement for the Continuation of Phase I Components of the Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development Project* dated March 9, 2015).

Foundation School of Engineering and Applied Science, Arts and Sciences, and the School of Physicians and Surgeons;

- Havemeyer Hall, 400 Level (3000 Broadway): Renovation of an existing, approximately 2,300 gsf, unused laboratory space in the Chemistry Department for academic/research purposes;
- Pupin Hall, Levels 800 and 900 (538 West 120th Street): Conversion of approximately 7,500 gsf of academic space in the east side of the 800 and 900 levels into a new Physics Theory Center for use by faculty, postdoctoral researchers and graduate students;
- Watson Hall, 600 Level (612 West 115th Street): Renovation of approximately 3,000 gsf of academic space to accommodate the expansion of the Statistics Department for Columbia's Information Technology and Gender-Based Misconduct offices; and
- Chandler Hall, 700 level (3010 Broadway): Conversion of approximately 1,100 gsf of space into new and additional wet laboratory space for academic/research purposes.

Additionally, the Proposed Project would involve upgrades to various existing Institutional Real Estate ("IRE") apartment properties for University-related housing on the Upper West Side of Manhattan and the Bronx, New York, New York, located in the areas bounded by West 107th Street to West 108th Street from Columbus Avenue to Central Park West, West 108th Street to West 110th Street from Amsterdam Avenue to Riverside Drive, West 110th Street to West 122nd Street from Morningside Drive to Riverside Drive, and West 122nd Street to West 125th Street from Amsterdam Avenue to Riverside Drive, and at the following locations or addresses: 52 West 85th Street, 200 West End Avenue, 258 Riverside Drive, 2700 Broadway, 455 Central Park West, the Morningside Gardens Complex from 122nd to 125th from Amsterdam to Broadway, and 3260 Henry Hudson Parkway.

As described above and in the attached documents, the Proposed Project components located on the University's Medical Center and Morningside Heights campuses and at the University's IRE properties located on the Upper West Side of Manhattan and the Bronx would involve maintenance or repair involving no substantial changes in an existing structure or facility; the replacement, rehabilitation, or reconstruction of a structure or facility, in kind, on the same site, including upgrading buildings to meet building or fire codes; and/or the purchase of furnishings and equipment, which are Type II actions as specifically designated by 6 *N.Y.C.R.R.* § 617.5(c)(1), 6 *N.Y.C.R.R.* § 617.5(c)(2), and 6 *N.Y.C.R.R.* § 617.5(c)(25), respectively. The Proposed Project would also involve the refinancing of taxable commercial paper issued by the University (Columbia University Insured Revenue Bonds, Series 2006A and 2006B). Refinancing existing debt is also a Type II action as specifically designated by 6 *N.Y.C.R.R.* § 617.5(c)(23). Type II "actions have been determined not to have significant impact on the environment or are otherwise precluded from environmental review under Environmental Conservation Law, article 8."² Therefore, no further *SEQR* determination or procedure is required for any component of the Proposed Project identified as Type II.

The Proposed Project was reviewed in conformance with the *New York State Historic Preservation Act of 1980 ("SHPA")*, especially the implementing regulations of section 14.09 of the *Parks, Recreation*

² 6 *N.Y.C.R.R.* § 617.5(a).

and Historic Preservation Law ("PRHPL"), as well as with the requirements of the Memorandum of Understanding ("MOU"), dated March 18, 1998, between DASNY and the New York State Office of Parks, Recreation and Historic Preservation ("OPRHP"). In compliance with Article III, Section 3.0 of the MOU, OPRHP will be notified of the Proposed Project being funded with bond proceeds. The Studebaker Building, which is located on Columbia's Manhattanville Campus, is eligible for listing on the State and National Registers of Historic Places. In a letter dated December 8, 2005, OPRHP opined that the proposed renovation of the building would have no adverse impact upon historic resources. It is the opinion of DASNY that the Proposed Project would have no impact on historical or cultural resources in or eligible for inclusion in the National and/or State Registers of Historic Places.

Attachments

cc: Donna A. Rosen, Esq.
David P. Ostrander
SEQR File
OPRHP File

Columbia University
DASNY Series 2016- New Money Projects

Location/Campus	Project	Property Address or Location	Project Description	Nature of Work	Purpose	SEQRA Review	PROJECT COST (000's)	Square Footage
						Completed in Previous Bond Issue		
Manhattanville	Jerome L. Greene Science Center	No address yet -CIP (Between 129th to 130 Streets from Broadway to 12th Avenue, New York, NY 10027)	Design development and construction of all systems required to complete the Jerome L. Greene Science Center for the Mind, Brain and Behavior initiative.	New Construction & associated site preparation	Academic and Research	Yes	253,234	445,000
Manhattanville	Slurry Wall and Foundations Construction	No address yet -CIP (125/129th to 131st Streets from Broadway to 12th Avenue, New York, NY 10027)	Design and construction a multilevel, interconnected underground space to the Central Below Grade Facility. These areas will provide additional science, academic mechanical support spaces to parking, central materials distribution. Renovations of animal research and support spaces in the Black & Physicians & Surgeons buildings 18th & 19th floor & Hammer Health Sciences building 17th floor project. ¹	New Construction & associated site preparation	Infrastructure, Academic, Research and Administrative	Yes	21,453	N/A
Medical Center	Institute for Comparative Medicine Animal Facilities in William Black, Physicians and Surgeons & Hammer Health Sciences	650 West 168th Street		Renovation, upgrading and alteration	Academic and Research	Yes	15,468	33,950
Manhattanville	Open Space in Manhattanville	No address assigned yet - CIP	Design and construction of the small square and design development only for the large square, phase II landscape and streetscape work and the open space. Renovation of the 600 level of the Studebaker Building to convert space formerly leased by Alexander Doll Company into office space for University administrators.	New Construction & associated site preparation	Green Space	Yes	14,539	51,800
Manhattanville	615 West 131st St 600 level	615 West 131st Street	Renovation of the department of Biological Sciences existing laboratories for professor Hobert and Professor Greenwald.	Renovation, upgrading and alteration	Administrative	Yes	7,044	35,000
Morningside	Fairchild Hall 800 level	1212 Amsterdam Avenue	Renovation of physics department laboratory and support space in the Northwest Corner Building to accommodate professor Basov's research needs in two phases.	Renovation, upgrading and alteration	Academic and Research	Yes	6,411	6,000
Morningside	Northwest Building Department of Physics Professor Basov Laboratory Renovation 1100 level	550 West 120th Street	Renovation and expansion of an existing 3,000 square foot Columbia Nanofabrication Facility to 4,600 square feet to support current and emerging efforts in nanobiology and nanomedicine in the Fu Foundation School of Engineering and Applied Science, Arts and Sciences and the School of Physicians and Surgeons.	Renovation, upgrading and alteration	Academic and Research	No	5,400	5,200
Morningside	A&S - Nanoscience Shared Facilities Clean Room Upgrade & Expansion in CEPSR 1000 level	530 West 120th Street	Renovation of Chemistry department of the 400 level of Havemeyer Hall to renovate of an existing, unused laboratory space for professor Lambert. The new laboratory includes construction, new furniture, upgrades or replace new mechanical supply.	Renovation, upgrading and alteration	Academic and Research	No	2,501	4,600
Morningside	A&S - Havemeyer Hall Chemistry Laboratory 400 lvl	3000 Broadway	Conversion of the east side of 800 and 900 levels into new Physics Theory Center for use by faculty, postdoctoral researchers and graduate students of the University.	Renovation, upgrading and alteration	Academic and Research	Yes	1,575	2,300
Morningside	A&S - Pupin Hall Physics Theory Center 800 & 900 levels	538 West 120th Street		Renovation, upgrading and alteration	Academic, Research and Administrative	Yes	1,568	7,500
Morningside	A&S - Watson Hall Statistics Faculty Offices 600 level	612 West 115th Street	Renovation of the 600 level of Watson Hall to accommodate the expansion of Statistics department for CUIT offices and the Gender Based Misconduct office.	Renovation, upgrading and alteration	Academic, Research and Administrative	No	1,296	3,000
Morningside	A&S - Chandler Hall Chemistry Department Laboratory 700 level	3010 Broadway	Conversion of Chandler Hall into new and additional wet laboratory space for professor Nuckolls to meet his expanding research needs.	Renovation, upgrading and alteration	Academic and Research	No	990	1,100
	Institutional Real Estate Renovation		Various properties on Upper West Side of Manhattan, New York, NY 10027: 107th to 108th Street from Columbus Ave to Central Park West; and/or 108th to 110th streets from Amsterdam Ave to Riverside Drive; and/or 110th to 122th Streets from Morningside to Riverside Drives; and/or 122th to 125th from Broadway to Riverside Drive	Renovation, upgrading and alteration	Residential	Yes	33,500	

1. a) Hammer 17th floor = 14,050 square feet; b) Black/P&S 18th floor = 9,950 square feet; c) Black/P&S = 9,950 square feet.

Total 364,980

Project Document

JEROME L. GREENE
SCIENCE CENTER FOR THE MIND, BRAIN AND BEHAVIOR INITIATIVE
MANHATTANVILLE IN WEST HARLEM
Construction Phase

Statement of Purpose and Need

The Jerome L. Greene Science Center for the Mind, Brain, Behavior Initiative, will be built as part of the initial phase of development of the University's campus expansion plans into Manhattanville in West Harlem. The new research building will bring together significant research activities from the Medical School and the Morningside Heights campus to expand upon the University's pre-eminence in this area of study. This building will allow the University to provide additional capacity to develop new related interdisciplinary thematic programs to foster scientific discoveries.

Project Scope

Previous approvals have provided for the programming, schematic design and design development phases associated with the Jerome L. Greene Science Center as well as the procurement of major trades for curtainwall systems and structural steel. The work that will be undertaken in this phase of the project will include the remaining procurement and construction of all systems required to complete the Jerome L. Greene Science Center.

It is anticipated that the majority of HVAC and electrical systems to be included in the Jerome L. Greene Science Center will be purchased during the Fall of 2011 and remaining equipment, systems and supporting construction will be procured during the Spring and Summer of 2012.

Project Budget

	<u>Previous Request</u>	<u>Current Request</u>	<u>Total Request</u>
Construction	\$73,000,000	\$362,191,842	\$435,191,842
A/E Fees and Expenses	45,000,000	17,565,218	62,565,218
Furniture, Fixtures and Equipment	0	51,126,441	51,126,441
Contingency	11,600,000	53,200,000	64,800,000
Commissioning	950,000	700,045	1,650,045
Project Management	3,930,000	26,236,454	30,166,454
Infrastructure*	<u>0</u>	<u>0</u>	<u>0</u>
Total	\$134,480,000	\$511,020,000	\$645,500,000

*Infrastructure costs include the Below Grade, the central energy plant, and other site utility costs. A portion of these costs will be allocated to this project in the future.

Project Financing

The overall project budget of \$645,500,000 is based upon detailed cost estimates for construction trade costs prepared by Lend Lease (US) Construction LMB Inc. at 50% completion of the design development phase. This estimate is based upon design development documents prepared by Renzo Piano Building Workshop and Davis Brody Bond Architects and on an estimated building area of 445,000 gross square feet.

The total project cost of \$645,500,000 will be funded as follows: \$250,000,000 with gifts in-hand or pledged and central reserves to the extent possible with the remainder to be funded by University debt to be serviced by the schools that will ultimately draw benefit from the work and by the Central University budget. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based upon current cost estimates is \$395,500,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Maintenance and Operations

Maintenance and Operations costs that will be incurred by the construction of this facility will be determined at the end of the design phase. These costs will be the responsibility of the end-users that will ultimately occupy the building and by the Central University.

Energy Considerations

Energy costs that will be incurred by the construction of this facility will be determined at the end of the design phase. These costs will be the responsibility of the end-users that will ultimately occupy the building and by the Central University.

Sustainable Design

Sustainable elements of the project include conformance with Laboratories for the 21st Century (Labs21). The project has also been registered with the U.S. Green Building Council LEED v2.2.

Safety and Security

This project will be designed in accordance with all University and New York City safety and security regulations.

Yearly safety and security costs associated with this facility will be determined at a subsequent date. These costs, once identified, will be the responsibility of the Central University.

Consideration for the Disabled

This project will be designed to be in compliance with the Americans with Disabilities Act requirements.

Mode of Accomplishment

The firms of Renzo Piano Building Workshop, the design architect, and Davis Brody Bond LLP, the architect of record, will provide construction documentation services. Lend Lease (US) Construction LMB Inc. has provided pre-construction services to date and they will provide construction management services through the completion of construction. All vendors are selected in accordance with University procurement procedures. The Columbia University Facilities Manhattanville Development Group will provide project management.

Certificate of Occupancy

This new facility will require a Certificate of Occupancy at project completion.

Project Schedule

The anticipated start of construction of the building is scheduled to be the Fall of 2012 and the project is estimated to be completed in 2016.

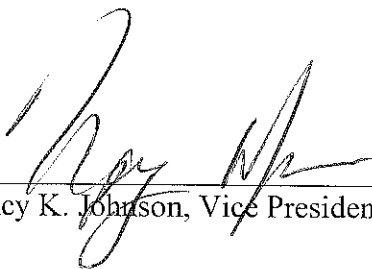
Approved by:



Joseph A. Iannuso, Executive Vice President, Columbia University Facilities

2/17/12

Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

4/3/12

Date

Project Document

SLURRY WALL AND FOUNDATIONS CONSTRUCTION **MANHATTANVILLE IN WEST HARLEM**

Phase I - MBB-CEP Foundations and Phase II Slurry Wall - Construction Work

Statement of Purpose and Need

The proposed Manhattanville campus is planned to be constructed above a multilevel, interconnected underground space referred to as the Central Below Grade Facility. The Below Grade Facility is planned to interconnect 130th, 131st and 132nd Streets, between Broadway on the east and 12th Avenue on the west, and house parking, loading, freight distribution, a Central Energy Plant, utility and telecommunication pathways, and support functions serving the various above-ground occupancies. Given the shallow ground water elevation in the area, the Below Grade Facility will be enclosed by a slurry wall and foundation slab that will serve as a water barrier or “bathtub”.

As more above-grade buildings are developed in future phases, their construction will include extensions of the Central Below Grade Facility, in stages, to the blocks north of 131st Street. These areas will provide additional science, academic mechanical support spaces as well as parking, central materials distribution.

Project Scope

Previous approvals have provided for the design and construction documentation of the slurry walls, foundations and other structural systems associated with the Central Below Grade Facility bounded by Broadway on the east, 129th Street and 125th Streets on the south, Twelfth Avenue on the west, and 131st Street on the north. They have also provided for soil studies and analysis required to support the design of these structural systems.

Work undertaken in this phase will include the construction of slurry walls necessary for construction of the Jerome L. Greene Science Center, the Lantern Building, and the Central Energy Plant. In addition, the balance of the slurry wall on 125th Street on the south, Twelfth Avenue on the west, Broadway on the east, and 131st Street on the north will be installed. Work of this phase will also include the construction of load bearing elements (LBEs), structural steel and floor slabs supporting the Jerome L. Greene Science Center and the Central Energy Plant.

This work supports the parallel development of the Energy Center, Academic and Science Support Areas, however the costs identified above do not include costs for the equipment or construction associated with the those areas.

Project Budget

	Previous Request	Current Request	Total Project Cost
Construction	\$10,500,000	\$ 232,200,000	\$ 242,700,000
A/E Fees and Expenses	48,000,000	(10,300,000)	37,700,000
Contingency	6,100,000	38,700,000	44,800,000
Commissioning	1,500,000	(1,500,000)	-
Project Management	5,800,000	12,500,000	18,300,000
Pre-Development Costs*	1,100,000	(1,100,000)	-
Total	\$73,000,000	\$ 270,500,000	\$ 343,500,000

Pre-development costs comprise FY '05 and FY '06 expenses

Project Financing

The overall project budget of \$343,500,000 for the construction of the MBB-CEP Foundations and the Phase II Slurry Wall is based upon bids from slurry wall and foundation contractors received by Bovis and the University in September 2010 and detailed estimates for construction trade costs prepared by Bovis Lend Lease at 100% completion of the construction documentation Phase.

These estimates and bids are based upon construction documents prepared by Renzo Piano Building Workshop and Davis Brody Bond Architects.

The current request of \$270,500,000 and the total project cost of \$343,500,000 will be funded with Central Reserves to the extent possible with the remainder to be funded by University debt to be serviced by the schools that will ultimately draw benefit from the work and by the Central University budget. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based upon current cost estimates is \$343,500,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Maintenance and Operations

Maintenance and operations costs that will be incurred due to the construction of this facility will be minimal. These costs, if any, will be the responsibility of the schools that will ultimately occupy the facility and by the Central University.

Energy Considerations

There should be no energy costs associated with the MBB-CEP Foundations once completed.

Sustainable Design

Sustainable elements of the project include conformance to Leadership in Energy and Environmental Design standards.

Safety and Security

This project will be designed in accordance with all University and New York City safety and security regulations.

There will be no yearly safety or security costs associated with these building foundations.

Consideration for the Disabled

Once constructed, these foundations will not be accessible to University or other personnel.

Mode of Accomplishment

The firms of Renzo Piano Building Workshop, the design architect and Davis Brody Bond, the architect of record, who have been selected in accordance with University procurement procedures, have provided design services. Langan Engineering, an environmental engineering firm, selected in accordance with University guidelines, will provide environmental services associated with remediation and abatement of Phase I and II hazardous materials. Construction management will be provided by Bovis Lend Lease, a construction firm, selected in accordance with University guidelines. The Manhattanville Development Group will provide project management.

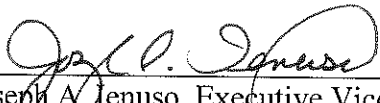
Certificate of Occupancy

This phase of the project will not affect the Certificate of Occupancy.

Project Schedule

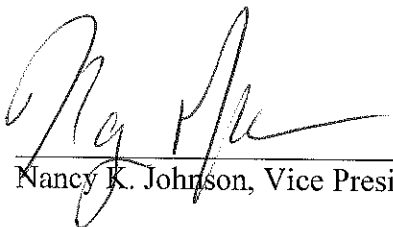
This phase of the project is scheduled to be completed by August 2013.

Approved by:



Joseph A. Jenuso, Executive Vice President, Columbia University Facilities

10/25/10
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

11/4/10
Date

Project Document

MANHATTANVILLE IN WEST HARLEM **PHASE I OPEN SPACE** **Design and Early Construction Phase**

Statement of Purpose and Need

A carefully composed series of plazas, streetscapes and green spaces are planned to be constructed as part of the initial phase of the University's campus expansion in Manhattanville in West Harlem. The unique character of plazas and open spaces provides a rich backdrop to Columbia's Morningside campus and the design and development of the landscapes and open spaces within the Manhattanville campus will provide critical linkages between buildings within the campus and the surrounding community.

Columbia and the City of New York have established a landscape agreement which requires that no fences, gates or walls be used in the open space plan thus enhancing the public perception of linkages between the campus and the community. To ensure an integrated overall master plan and design, these open spaces need to be designed in tandem with the buildings that will compose the first phase of the Manhattanville development.

Project Scope

Previous approvals have provided for the schematic design of the small square, adjacent to the Jerome L. Greene Science Center and the Lenfest School of the Arts, and the large square between sites 6B and 7 and the open space on site 1.

The current request will fund the continued design development, construction documentation and cost estimation of the small square and design development only for the large square, phase II landscape and streetscape work and the open space on site 1.

This request will also fund the procurement of the construction trades to complete the installation of the concrete slab and waterproofing for the portion of the small square that lies above the Central Energy Plant. The construction of these elements of the small square will be coordinated with the installation of the concrete structures associated with the Central Energy Plant and the Jerome L. Greene Science Center.

Project Budget

	Previous Request	Current Request	Total Request
Construction	\$0	\$2,500,000	\$2,500,000
A/E Fees and Expenses	2,750,000	2,000,000	4,750,000
Contingency	250,000	250,000	500,000
Commissioning	0	200,000	200,000
Project Management	175,000	342,000	517,000
Total	<u>\$3,175,000</u>	<u>\$5,292,000</u>	<u>\$8,467,000</u>

Project Financing

The conceptual budget for design and construction of the small square and design development only for the large square, phase II landscape and streetscape work and the open space is estimated to be \$17,000,000. This estimate is based upon master plan drawings developed by Renzo Piano Building Workshop and Field Operations in 2008. The project budget will be further refined during this phase of the project.

The current request of \$5,292,000 will be funded, to the extent possible, with central reserves, and with the remainder to be funded by University debt to be serviced by the Central University. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based upon current cost estimates is \$8,467,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in maintenance and operations costs will be determined during this phase of the project. These costs, once identified, will be the responsibility of the Central University.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once identified, will be the responsibility of the Central University.

Sustainable Design

This project will conform to the U.S. Green Building Council's Leadership in Energy and Environmental Design rating system for the Neighborhood Development Pilot program (LEED-ND). Costs associated with these sustainable components will be estimated as a result of this phase and added to the budget.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations. Yearly safety and security costs associated with this project will be determined during this phase of the project.

Consideration for the Disabled

This project will be designed to be in compliance with the Americans with Disabilities Act requirements.

Mode of Accomplishment

The firm of Field Operations, a landscape architectural firm, will provide design and construction documentation services. Construction Management for the construction of the small square will be provided by Lend Lease Americas. Construction management for the large square will be provided by a construction firm to be determined at a future phase of the project. The Columbia University Facilities Manhattanville Development Group will provide project management services. All vendors are selected in accordance with University procurement procedures.

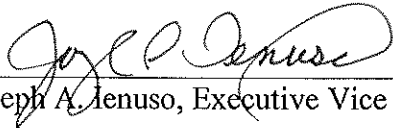
Certificate of Occupancy

This project will not require a Certificate of Occupancy at project completion.

Project Schedule

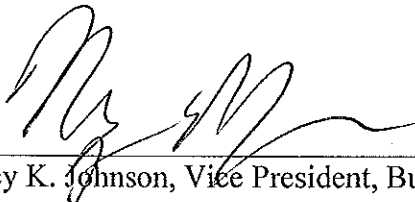
The construction of the small square will be completed in coordination with the Jerome L. Greene Science Center and the Lenfest School of the Arts. The design phase for the small square and the Phase II streetscapes portion of the project is scheduled to be completed during the spring of 2013.

Approved by:



Joseph A. Jenuso, Executive Vice President, Columbia University Facilities

10/18/12
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

12.12.12
Date

Project Document

STUDEBAKER BUILDING **FULL FLOOR RENOVATION** **600 Level** **Design and Construction Phase**

Statement of Purpose and Need

The Studebaker building, located at 615 West 131st Street, is a six-story building of approximately 210,000 square feet that houses a significant portion of the University's central administration office space.

The 300, 400 and 500 levels house University administrators from the Departments of Finance, Human Resources and Columbia University Information Technology (CUIT). The 200 level houses the offices of the University Facilities Manhattanville Development Group, Sponsored Projects Administration and Internal Audit. Most of the 100 level houses file storage for various Finance and Human Resources departments and support spaces for the operation and maintenance of the building.

The 600 level measures approximately 35,000 square feet and was previously occupied by a non-University tenant, the Alexander Doll Company, Inc., who has since vacated the floor as of December 2012. The space has been reprogrammed for University use.

Project Scope

The previous request funded pre-design services and site preparation work for the 600 level. The scope of work for that request included abatement, demolition and the installation of new windows. In addition, minor design and construction was completed to provide a base level of heating and fire protection to the shelled space at the completion of abatement and demolition.

The current request seeks funding for design and construction work for the build-out of the 600 level to house four to five administrative groups. The scope of work will include the build-out of new offices and workstations as well as shared facilities including conference rooms, bathrooms and an entry area. A new mechanical and electrical room will be built, leveraging the existing building infrastructure.

Project Budget

	Previous Request	Current Request	Total Request
Construction	\$1,820,000	\$5,437,000	\$7,257,000
A/E Fees and Expenses	100,000	683,000	783,000
Hazardous Materials	0	450,000	450,000
Furniture, Fixtures & Equipment	60,000	1,798,000	1,858,000
Commissioning	60,000	250,000	310,000
Legal Fees	25,000	0	25,000
Contingency	294,000	1,136,000	1,430,000
Project Management	153,000	634,000	787,000
Total	<u>\$2,512,000</u>	<u>\$10,388,000</u>	<u>\$12,900,000</u>

Project Financing

The current request of \$10,388,000 is based on the cost per square foot of recent projects completed in the building. The total request of \$12,900,000 will be funded with debt to be serviced by the Central University. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund this phase of the project, based upon current cost estimates is \$12,900,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Maintenance and Operations

Any increase in maintenance and operations costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of the Central University.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of the Central University.

Sustainable Design

Sustainable elements of the project may include the recycling of construction materials and debris, the use of recycled carpet, energy efficient lighting and low volatile organic compound (VOC) paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

An architectural firm to be chosen during this phase of the project will provide design services. Construction services will be provided by a general contractor to be selected during this phase of the project. Columbia University Facilities Department of Capital Project Management will provide project management services for the project. All vendors will be selected in accordance with University procurement procedures.

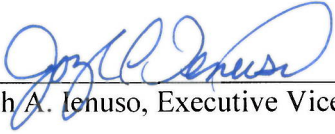
Certificate of Occupancy

The Certificate of Occupancy for the Studebaker building will be amended to reflect the change in occupancy for the 6th floor.

Project Schedule

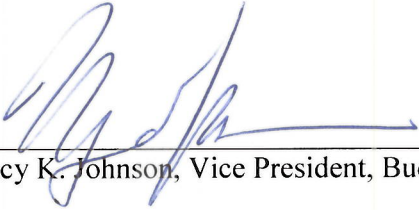
This phase of the project is scheduled to be completed in the fall of 2015.

Approved by:



Joseph A. Ienuso, Executive Vice President, Columbia University Facilities and Operations

2/11/14
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

3-19-14
Date

Project Document

COLUMBIA UNIVERSITY MEDICAL CENTER
WILLIAM BLACK AND PHYSICIANS AND SURGEONS
18TH AND 19TH FLOORS AND
HAMMER HEALTH SCIENCES 17TH FLOOR RENOVATIONS
INSTITUTE FOR COMPARATIVE MEDICINE
Design and Construction

Statement of Purpose and Need

The existing Institute for Comparative Medicine Animal Facilities in the William Black, Physicians and Surgeons and Hammer Health Sciences buildings are in need of repair and modernization to be in compliance with regulatory agencies as well as to address antiquated and deteriorating infrastructure. The forty year old infrastructure, vivarium systems, animal caging and security systems are at the end of their life cycle and in severe need of replacement. The layout and functionality is in need of improvement to accommodate more efficiency in managing animal populations, enhancing procedural activities and research functions. There is a lack of current/integrated vivarium systems, including animal watering, security, variable air volume (VAV), animal lighting control and optimization systems, which have resulted in a poor and underperforming facility that risks major failure.

Project Scope

A previous project document requested funds for an evaluation and feasibility study to identify various deficiencies and prioritize proposed improvements for the animal care facility. This request is for the design and construction of the project. The scope of work will include updating and replacing the aged infrastructure, developing flexible planning efficiencies, remodeling the cage wash areas at each location, and conducting phased renovations of animal research and support spaces in the Black and Physicians and Surgeons buildings 18th and 19th floor project as well as in the Hammer Health Sciences building 17th floor project.

Project Budget

	<u>Previous Request</u>	<u>Current Request</u>	<u>Total Request</u>
Construction	\$0	\$22,254,398	\$22,254,398
Asbestos Abatement	0	106,250	106,250
Furniture, Fixtures and Equipment	0	40,000	40,000
A/E Fees and Expenses	\$300,000	\$2,305,329	\$2,605,329
Tel/Data	0	265,000	265,000
Other Project Costs	0	328,500	328,500
Commissioning	0	129,511	129,511
Contingency	30,000	2,542,899	2,572,899
Project Management	19,800	1,678,313	1,698,113
Total	<u>\$349,800</u>	<u>\$29,650,200</u>	<u>\$30,000,000</u>

Project Financing

The previously approved project document 2011.112 for \$349,800 was funded with reserves residing in account #0-13772 and was approved in September 2010. The current request of \$29,650,200 is for the design and construction of the project and will be funded with University debt to be serviced by the College of Physicians and Surgeons. Columbia University Medical Center has set a maximum target budget of \$30,000,000. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$30,000,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Maintenance and Operations

Any impact on maintenance and operations costs that will result from this project will be assessed upon the completion of the construction documents. These costs, once identified, will be the responsibility of the Columbia University Medical Center.

Energy Considerations

Any impact on energy consumption costs that will result from this project will be assessed upon the completion of the construction documents. These costs, once identified, will be the responsibility of the Columbia University Medical Center.

Sustainable Design

Sustainable design components will be developed during this phase of the project.

Consideration for the Disabled

This project will conform to all applicable regulations that govern handicapped access. Specifically, this project will conform to recent Americans with Disabilities Act requirements and New York City Local Law #58.

Safety and Security

This project will be designed to be in accordance with all University and New York City safety and security regulations.

Mode of Accomplishment

A request for proposal for architectural services has been issued and the selection process for architectural and engineering firms is underway. Construction management will be provided by a construction firm. All vendors are selected in accordance with University procurement procedures. Project management will be provided by the Columbia University Medical Center's Facilities Project Management Department.


Certificate of Occupancy

This phase of the project will not affect the Certificate of Occupancy of the William Black, Physicians and Surgeons or the Hammer Health Sciences buildings.

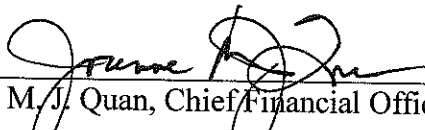
Project Schedule

This project is scheduled to be completed in the spring of 2016.

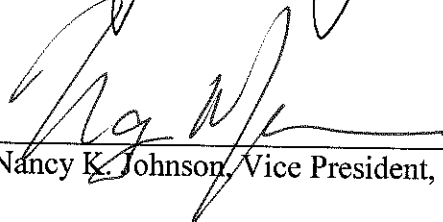
Approved by:



Amador Centeno, Vice President, Columbia Medical Center Facilities
2/6/12
Date



Joanne M. J. Quan, Chief Financial Officer, Columbia Medical Center
2/10/12
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning
3/5/12
Date

Project Document

FAIRCHILD HALL
DEPARTMENT OF BIOLOGICAL SCIENCES
LABORATORY RENOVATION
800 Level
Design and Collateral Project Construction Phase

Statement of Purpose and Need

The Department of Biological Sciences has recruited two new faculty members that conduct research of molecular mechanisms and cellular development.

The recruitment of Professor Hobert and Professor Greenwald requires the renovation of existing laboratory areas and support spaces in Fairchild Hall to accommodate their research. A space of approximately 6,000 square feet on the 800 level of Fairchild Hall has been identified to house the wet laboratories, administrative space and new equipment rooms for the two researchers.

The program will also include the collateral relocations of three existing laboratories that currently occupy the designated space on the 800 level. Two faculty members in the Department of Biological Sciences will be relocated to a newly renovated laboratory space of approximately 1,700 square feet in Fairchild 1002, 100A, B, C, D, F and G. Additionally, the Proteomics Lab currently located on the 800 level of Fairchild will be relocated to a newly renovated laboratory space of approximately 900 square feet in Mudd 738, 740 and 740A.

Project Scope

The previous request was for a feasibility study to define the program, establish a range of costs as well as relocation options. This phase of the project will include the design phase for the entire scope of work including the collateral relocations and the construction work for only the collateral relocations. Both the existing and collateral spaces will undergo a gut renovation that will require new HVAC, electrical, plumbing, sprinklers, finishes and data upgrades to meet the research needs of the wet biological lab spaces.

Project Budget

	Previous Request	Current Request	Total Request
Construction	\$21,000	\$1,879,000	\$1,900,000
A/E Fees and Expenses	57,000	617,000	674,000
Furniture, Fixtures and Equipment	0	215,000	215,000
Contingency	11,800	368,200	380,000
Commissioning	1,200	81,800	83,000
Project Management	9,000	196,000	205,000
Total	\$100,000	\$3,357,000	\$3,457,000

Project Financing

The current request of \$3,357,000 is based upon the proposed scope of work and the cost per square foot for similar past projects. The total request of \$3,457,000 will be funded with debt to be serviced by Arts and Sciences. The total cost of the project will be determined after this phase of the project. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$3,457,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in operations and maintenance will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Sustainable Design

Sustainable elements of the project will include the recycling of construction materials and debris, the use of recycled carpet, energy efficient lighting and low volatile organic compound paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

The firm of Mitchell | Giurgola Architects has been selected to provide design services. Construction services will be provided by a general contractor to be selected during this phase of the project. The Columbia University Facilities and Operations Department of Capital Project Management will provide project management services for the project. All vendors will be selected in accordance with University procurement procedures.

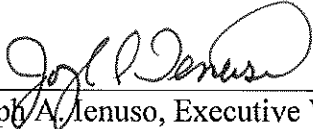
Certificate of Occupancy

Any modifications to the certificate of occupancy for Fairchild Hall will be determined during this phase of the project.

Project Schedule

This phase of the project is scheduled for completion in April of 2015.

Approved by:



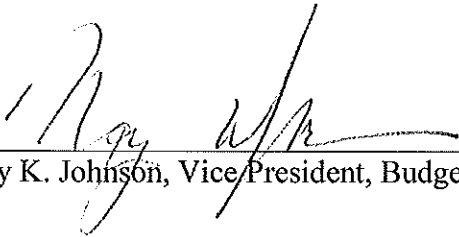
Joseph A. Menuso, Executive Vice President, Columbia University Facilities and Operations

1/14/15

Date

David B. Madigan, Executive Vice President, Arts and Sciences

Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

2/16/15

Date

Project Document

NORTHWEST CORNER BUILDING
DEPARTMENT OF PHYSICS
PROFESSOR BASOV LABORATORY RENOVATION
1100 Level
Construction Phase

Statement of Purpose and Need

The Department of Physics has recruited Professor Dimitri Basov who conducts research in infrared spectroscopy of novel electronic and magnetic materials. His recruitment requires the renovation of existing laboratory and support spaces in the Northwest Corner Building to accommodate his research.

A space of approximately 5,200 square feet on the 1100 level of the Northwest Corner Building will be renovated for Professor Basov's research needs in two phases. The first phase includes approximately 3,200 square feet along the north side of the building and will proceed immediately. The second phase includes approximately 2,000 square feet along the south side of the building and will proceed once the current occupants are relocated to the Jerome L. Greene Science Center in Manhattanville in the fall of 2016. The combined spaces will be designed to accommodate multiple optics tables and a superconducting magnet which will require meeting stringent criteria for temperature, humidity, vibration and radio frequency.

Project Scope

This request will provide funding for the construction of both phases. The first phase will include the construction of five optics laboratories, a sample preparation room, a control room, laboratory support space and a supporting mechanical room. A mesh mezzanine space will be constructed for equipment storage. The second phase will include the construction of two optics laboratories, a control room, and laboratory support space. The mechanical, electrical, plumbing and fire suppression systems will be modified during both phases.

Project Budget

	Previous Request	Current Request	Total Request
Construction	\$330,000	\$4,050,000	\$4,380,000
A/E Fees and Expenses	310,000	72,000	382,000
Furniture, Fixtures & Equipment	10,000	125,000	135,000
Contingency	60,000	530,000	590,000
Commissioning	20,000	127,000	147,000
Project Management	48,000	318,000	366,000
Total	\$778,000	\$5,222,000	\$6,000,000

Project Financing

The current request of \$5,222,000 is based on recently completed projects in the Northwest Corner building which had similar requirements. The total request of \$6,000,000 will be funded with debt to be serviced by Arts and Sciences. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$6,000,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in maintenance and operations costs will be determined at the completion of construction documents. These costs, once determined, will be the responsibility of Arts and Sciences.

Energy Considerations

Any increase in energy consumption costs will be determined at the completion of construction documents. These costs, once determined, will be the responsibility of Arts and Sciences.

Sustainable Design

Sustainable elements of the project will include the recycling of construction materials and debris, energy efficient lighting and low volatile organic compound (VOC) paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

The firm of Mitchell | Giurgola Architects has been selected to provide design services. Construction services will be provided by a general contractor selected during this phase of the project. The Columbia University Facilities and Operations Department of Capital Project Management will provide project management services for the project. All vendors are selected in accordance with University procurement procedures.

Certificate of Occupancy

This project will not affect the Certificate of Occupancy for the Northwest Corner building.

Project Schedule

The first phase is anticipated to be completed in the fall of 2016. The second phase will be completed approximately 9 months after the current occupants vacate the space.

Approved by:

David M. Greenberg, Executive Vice President, Columbia University Facilities and Operations Date

David B. Madigan, Executive Vice President, Dean of the Faculty, Arts and Sciences Date

Nancy K. Johnson, Vice President, Budget and Financial Planning Date

Project Document

SCHAPIRO CENTER FOR ENGINEERING AND PHYSICAL SCIENCE RESEARCH
ARTS AND SCIENCES AND
FU FOUNDATION SCHOOL OF ENGINEERING AND APPLIED SCIENCE
NANOSCIENCE SHARED FACILITIES
CLEAN ROOM UPGRADE AND EXPANSION
1000 Level
Construction Phase

Statement of Purpose and Need

The Columbia Nanofabrication Facility (CNF) is located on the 1000 level of the Schapiro Center for Engineering and Physical Science Research (CEPSR) building on Columbia's Morningside campus. The current facility does not support the growing list of microfabrication tools being acquired by the research programs. In addition, the facility requires modernization to handle the burgeoning needs of nanobiology and nanomedicine research which now represents more than half of the activity at CNF. The upgrade and expansion will allow for a much broader collaboration between the Morningside campus and the Columbia University Medical Center and, in addition, position Columbia as a regional center for nanofabrication that would strengthen links with nearby institutions such as New York University, City University of New York, Mount Sinai Hospital, Rutgers University, New Jersey Institute of Technology, Stevens Institute in New Jersey, as well as private industries, notably IBM Research and GE Life Sciences.

This project proposes to renovate and expand the existing 3,000 square foot Columbia Nanofabrication Facility to 4,600 square feet to support current and emerging efforts in nanobiology and nanomedicine, directly impacting the educational and research activities of over 200 researchers at Columbia (faculty, staff and students) who use these clean room facilities. This includes faculty in the Fu Foundation School of Engineering and Applied Science, Arts and Sciences and the School of Physicians and Surgeons. The classification of the CNF will be class 10,000 which is a level of cleanliness equivalent to 10,000 particles per cubic foot.

This project will also include the relocation of the Shared Material Characterization Lab (SMCL). SMCL is currently located in the expansion area of the 1000 level of CEPSR and therefore must be relocated to accommodate the clean room facilities expansion.

Project Scope

Previous requests included funding for schematic design, design services and construction documents for the upgrade and expansion of the current clean room on the western portion of the 1000 level of CEPSR (rooms 1027A, 1027B, 1027C, 1027D and 1027E) as well as part of the eastern portion of the same floor (rooms 1027F and 1027G).

In addition, previous requests funded the design and construction for the relocation of the SMCL to room 224 of Havemeyer Hall. Room 224, a space of approximately 750 square feet, currently houses shared instrumentation used by the Department of Chemistry that will be renovated to support the additional equipment from the existing SMCL. There will also be minor modifications to the existing lab benches as well as the electrical and mechanical systems.

The current request is for the construction phase of the clean room upgrade and expansion at the 1000 level of CEPSR. The 1,600 square foot addition to the current clean room will include a new gowning area and lithography bay. The ACID/Base Etch Bay and Furnace Bay in the current clean room space will be replaced and the space will be reorganized for better efficiency of use. The cost for new equipment for the clean room will not be included as part of this project budget.

Project Budget

	Previous Request	Current Request	Total Request
Construction	\$292,000	\$3,293,000	\$3,585,000
A/E Fees and Expenses	745,000	0	745,000
Furniture & Equipment	0	192,000	192,000
Contingency	124,000	576,000	700,000
Commissioning	31,000	105,000	136,000
Collateral Moves	0	202,000	202,000
Project Management	78,000	262,000	340,000
Total	\$1,270,000	\$4,630,000	\$5,900,000

Project Financing

The current request of \$4,630,000 is based upon the proposed scope of work and comparable costs of similar campus projects. The total request of \$5,900,000 will be funded with \$2,950,000 in debt to be serviced by Arts and Sciences and \$2,950,000 in Fu Foundation School of Engineering and Applied Science operating reserves. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$5,900,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

The need for one additional staff member to be funded by Arts and Sciences and the Fu Foundation School of Engineering and Applied Science has been identified as a result of this project. Any other additional operating expenses, if identified, will be funded 50% by Arts and Sciences and 50% by the Fu Foundation School of Engineering and Applied Science.

Energy Considerations

This project is anticipated to increase utilities costs by \$21,600 per year. These costs will be funded 50% by Arts and Sciences and 50% by the Fu Foundation School of Engineering and Applied Science.

Sustainable Design

Sustainable elements of the project will include the recycling of construction materials and debris, the use of recycled carpet, energy efficient lighting and low volatile organic compound paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

The architectural firm Stantec Architecture Inc. has been selected to provide design services. A construction manager will be selected during this phase of the project. Columbia University Facilities and Operations Department of Capital Project Management will provide project management services for the project. All vendors are selected in accordance with University procurement procedures.

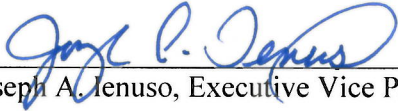
Certificate of Occupancy

This phase of the project will not affect the Certificate of Occupancy for the Schapiro CEPSR building.

Project Schedule

This phase of the project is scheduled for completion in the fall of 2015.

Approved by:



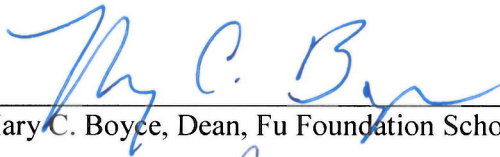
Joseph A. Jenuso, Executive Vice President, Columbia University Facilities and Operations

6/24/14
Date



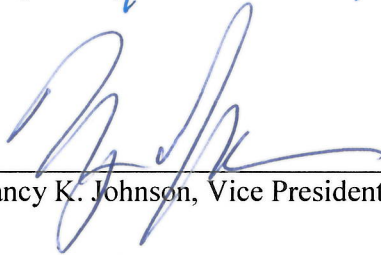
David B. Madigan, Executive Vice President, Dean of the Faculty, Arts and Sciences

8/26/14
Date



Mary C. Boyce, Dean, Fu Foundation School of Engineering and Applied Science

9/9/14
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

7/31/14
Date

Project Document

HAVEMEYER HALL **DEPARTMENT OF CHEMISTRY** **PROFESSOR LAMBERT LABORATORY RENOVATION** **400 Level** **Design and Construction Phase**

Statement of Purpose and Need

The Department of Chemistry requests to renovate 2,300 square feet of existing, unused laboratory space on the 400 level of Havemeyer Hall (rooms 412-414) for Professor Tristan Lambert. Renovation of this space will free-up approximately 3,100 square feet of existing laboratory space on the 500 level of Havemeyer Hall (rooms 510-512) currently occupied by Professor Lambert for the future recruitment of a senior organic chemist. Professor Lambert will utilize the newly renovated space to continue his research of catalysis, specializing in the development of novel catalytic strategies for selective organic synthesis.

Project Scope

This phase of the project will provide funding for the design and construction of the space. The finished laboratory will include space for wet laboratory functions, an equipment and gas storage room, a group room and an office. The scope will include new laboratory benches, fume hoods and their corresponding services, work desks, upgrades to existing floor surfaces and finishes, new lighting and the upgrade or replacement of the existing mechanical, electrical and life safety systems supporting the space. The scope will also include eleven new energy efficient, low-flow fume hoods that will match existing units that are currently used by the department. The mechanical supply and exhaust air ducts will be modified to obtain proper air exchange in each laboratory.

Project Budget

	Total Request
Construction	\$1,160,000
A/E Fees and Expenses	140,000
Furniture, Fixtures & Equipment	100,000
Contingency	200,000
Commissioning	43,000
Project Management	107,000
Total	\$1,750,000

Project Financing

The total request of \$1,750,000 is based upon a completed feasibility study and will be funded with debt to be serviced by Arts and Sciences. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$1,750,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in maintenance and operations costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Sustainable Design

Sustainable elements of the project will include the recycling of construction materials and debris, energy efficient lighting and low volatile organic compound (VOC) paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

An architect will be selected during this phase of the project to provide design services and a general contractor will be selected to provide construction services for the project. The Columbia University Facilities and Operations Department of Capital Project Management will provide project management services for the project. All vendors are selected in accordance with University procurement procedures.

Certificate of Occupancy

This project will not affect the Certificate of Occupancy for Havemeyer Hall.

Project Schedule

The project is scheduled for completion in December of 2016.

Approved by:

David M. Greenberg, Executive Vice President, Columbia University Facilities and Operations Date

David B. Madigan, Executive Vice President, Dean of the Faculty, Arts and Sciences Date

Nancy K. Johnson, Vice President, Budget and Financial Planning Date

Project Document

PUPIN HALL
DEPARTMENT OF PHYSICS
PHYSICS THEORY CENTER
800 and 900 Levels
Construction Phase

Statement of Purpose and Need

As part of the Arts and Sciences Science Master Plan, the Department of Physics will establish a new Physics Theory Center to provide modern, contiguous and secure office, meeting and scientific interaction space for research in theoretical physics. Faculty, postdoctoral researchers and graduate students will be located in this space, which is designed to facilitate the type of interactions between its occupants that lead to new scientific advances. The Theory Center will make it possible to compete effectively with the department's peers in attracting the best theoretical talent to Columbia University. This new Center will occupy the former Physics Library on the 800 and 900 levels of Pupin, part of which was vacated with the construction of the new consolidated Science Library in the Northwest Corner building.

Project Scope

The previous phase provided for design services for the project. This phase of the project will include construction through project close-out. The scope of work for the overall project will include the renovation of the former library on the east side of the 800 level and office space on the east side of the 900 level, a space of approximately 7,500 square feet. The office space on the east side of the 900 level will need to be vacated before the project can proceed and these relocation costs are not included in the scope of this project. All costs associated with the required relocations will be funded by the Physics Department.

The new center will provide office space for approximately 39 occupants. The space will include scientific interaction space, a pantry, a copy area, storage rooms and the required ancillary mechanical spaces to support the area. The offices will be designed with the flexibility to be converted based on programmatic needs. All areas will be provided with new finishes, furniture, lighting, electrical and mechanical systems and data connectivity. In addition, a dedicated mechanical room will be constructed on the 800 or 900 level to support the center.

Project Budget

	<u>Previous Request</u>	<u>Current Request</u>	<u>Total Request</u>
Construction	\$41,500	\$3,201,500	\$3,243,000
A/E Fees and Expenses	399,756	7,244	407,000
Furniture, Fixtures and Equipment	0	325,000	325,000
Contingency	61,470	365,530	427,000
Commissioning	11,000	108,000	119,000
Project Management	32,774	260,226	293,000
Total	<u>\$546,500</u>	<u>\$4,267,500</u>	<u>\$4,814,000</u>

Project Financing

The current request of \$4,267,500 is based upon comparable costs of similar campus projects. The total cost of the project of \$4,814,000 will be funded by a gift of \$250,000 received by the Physics Department and the remaining \$4,564,000 will be funded with debt to be serviced by Arts and Sciences. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$4,814,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in maintenance and operations costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Sustainable Design

Sustainable elements of the project will include the recycling of construction materials and debris, the use of recycled carpet, energy efficient lighting and low volatile organic compound (VOC) paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

The firm of Perkins Eastman Architects, P.C. was selected to provide architectural design services for the project. Construction services will be provided by a general contractor to be selected during this phase of the project. Columbia University Facilities Department of Capital Project Management will provide project management services for the project. All vendors are selected in accordance with University procurement procedures.

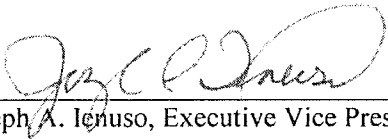
Certificate of Occupancy

Any modifications to the Certificate of Occupancy for Pupin Hall will be determined during this phase of the project.

Project Schedule


This phase of the project is scheduled for completion in December of 2014.

Approved by:



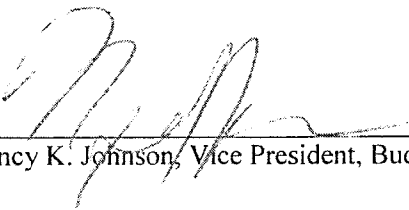
Joseph A. Ienuso, Executive Vice President, Columbia University Facilities

12/26/13
Date



David B. Madigan, Executive Vice President for Arts and Sciences

2/25/14
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

2-9-14
Date

Project Document

WATSON HALL
DEPARTMENT OF STATISTICS
STATISTICS FACULTY OFFICES
600 Level
Design and Construction Phase

Statement of Purpose and Need

The Department of Statistics has expanded beyond its current main space on the 9th and 10th floors at the School of Social Work Building, and requires space for additional faculty and student needs. The Office of the Provost in conjunction with Arts and Sciences would like to renovate the 600 level of Watson Hall to accommodate the expansion of the department.

Located at 612 West 115th Street, Watson Hall houses part of School of Arts Program, offices for CUIT, and is the future location of the Gender Based Misconduct Office. Approximately 3,000 square feet encompassing the entire 600 level has been selected to be upgraded into eight new offices, two conference rooms, and two new Americans with Disabilities Act (ADA) compliant restrooms. This request will address a long standing space need by providing offices for new faculty, postdocs, and graduate student workstations.

Project Scope

This request is to fund the design and construction for improvements to the 600 level of Watson Hall to support the program. The scope of work will include the refresh of rooms 609 to 619 with the installation of new carpeting, refinishing of walls and ceilings, and minor improvements to power and data systems. There will also be a partial gut renovation of rooms 600PL, 602, 603, 604 and 606 that will build out two new ADA compliant restrooms. New furniture will be provided to the entire space.

Project Budget

	Total Request
Construction	\$750,000
A/E Fees and Expenses	130,000
Furniture, Fixtures and Equipment	300,000
Contingency	142,000
Commissioning	30,000
Project Management	88,000
Total	\$1,440,000

Project Financing

The total request of \$1,440,000 is based on benchmark costs of similar projects and will be funded with debt to be serviced by Arts and Sciences. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on the current budget estimate is \$1,440,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in maintenance and operating costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Sustainable Design

Sustainable elements of the project will include reuse of the existing tables and chairs and low volatile organic compound (VOC) paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus. Specifically, two ADA accessible bathrooms will be created on the 600 level.

Mode of Accomplishment

An architectural firm will be selected to provide design services and a general contractor will be selected to provide construction services. The Columbia University Facilities and Operations Department of Capital Project Management will provide project management services for the project. All vendors are selected in accordance with University procurement procedures.

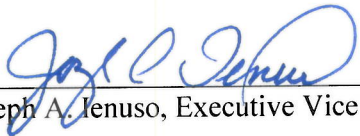
Certificate of Occupancy

This project will not affect the Certificate of Occupancy for Watson Hall.


Project Schedule

The project will be completed in two phases to be completed by January 2016.

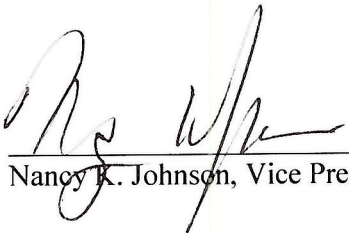
Approved by:



Joseph A. Jenuso, Executive Vice President, Columbia University Facilities and Operations 6/23/15
Date



David B. Madigan, Executive Vice President, Dean of the Faculty, Arts and Sciences 9/6/15
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning 7/30/15
Date

Project Document

CHANDLER HALL **DEPARTMENT OF CHEMISTRY** **LABORATORY RENOVATION** **700 Level** **Design and Construction Phase**

Statement of Purpose and Need

The Department of Chemistry requests to convert a portion of an existing optics lab in room 758 on the 700 level of Chandler Hall into new and additional wet laboratory space for Professor Colin Nuckolls. The additional 1,100 square foot space is required to meet his expanding research needs. The relocation of the existing optics lab in this space will be completed separately by the Department of Chemistry and is not part of this project program or budget.

Project Scope

This request is for the design and construction to convert room 758 into a wet lab space as well as an instrumentation lab and graduate student space.

The scope of work includes the upgrade and expansion of the laboratory gas services, lighting, life-safety, mechanical and electrical systems. New laboratory work benches will be provided.

The scope will include four new large energy efficient, low-flow fume hoods that will match existing units that are currently used in the department. Mechanical supply and exhaust air ducts will be modified to obtain proper air exchange in each laboratory.

Project Budget

	Total Request
Construction	\$750,000
A/E Fees and Expenses	100,000
Furniture, Fixtures & Equipment	60,000
Contingency	92,000
Commissioning	30,000
Project Management	68,000
Total	\$1,100,000

Project Financing

The total request of \$1,100,000 is based upon a feasibility study and will be funded with debt to be serviced by Arts and Sciences. The final allocation of sources of funding will be made prior to the issuance of University debt.

This is a declaration of official intent for purposes of United States Treasury Regulations Section 1.150-2. The maximum principal amount of bonds expected to be issued to permanently fund the project, based on current cost estimates is \$1,100,000 plus costs of issuance and any reserves established in connection with the bonds. To the extent that costs increase, it is expected that the principal amount of bonds will be increased to fund the project. Any costs temporarily financed on an interim basis with University funds are expected to be reimbursed with bond proceeds to the extent that such costs are not funded with external sources and to the extent the University does not elect to permanently finance such costs with University funds.

Operations and Maintenance

Any increase in maintenance and operations costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Energy Considerations

Any increase in energy consumption costs will be determined during this phase of the project. These costs, once determined, will be the responsibility of Arts and Sciences.

Sustainable Design

Sustainable elements of the project will include the recycling of construction materials and debris, energy efficient lighting and low volatile organic compound (VOC) paint. Costs associated with these sustainable components will be negligible.

Safety and Security

This project will be designed and constructed to be in accordance with all University and New York City safety and security regulations.

Consideration for the Disabled

This project will be designed to comply with the 2010 Americans with Disabilities Act (ADA) requirements and Columbia University's commitment to accessibility. This project will include the appropriate building accessibility upgrades to further the goal of fully accessible buildings throughout the campus.

Mode of Accomplishment

An architect will be selected during this phase to provide design services and a general contractor will be selected to provide construction services for the project. The Columbia University Facilities and Operations Department of Capital Project Management will provide project management services for the project. All vendors are selected in accordance with University procurement procedures.

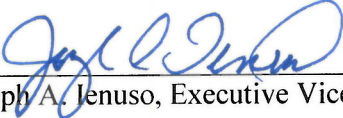
Certificate of Occupancy

This project will not affect the Certificate of Occupancy for Chandler Hall.

Project Schedule


The project is scheduled for completion in February of 2016.

Approved by:



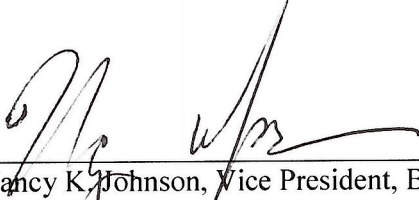
Joseph A. Ienuso, Executive Vice President, Columbia University Facilities and Operations

6/23/15
Date



David B. Madigan, Executive Vice President, Dean of the Faculty, Arts and Sciences

9/6/15
Date



Nancy K. Johnson, Vice President, Budget and Financial Planning

7/30/15
Date