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EDUCATION CENTER - FEASIBILITY STUDY
CONVERSION OF 1st, 2nd, 3rd & 4th FLOORS TO CLASSROOM SPACE

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Bowie Gridley Architects w/ Potomac Energy Group & Downey & Scott

EXECUTIVE SUMMARY

Introduction

The Education Center is located at 1426 North Quincy Street in Arlington, directly adjacent to Washington-Lee High School. The original building was built in 1967, and has a Ground Floor below grade on three sides, and four floors above grade with the main entrance on the 1st Floor. Currently the building is used for Arlington Public Schools non-classroom spaces, including: office space, meeting rooms, School Board Hearing Room, maintenance and facilities offices, the central IT Hub server room. This study examines the feasibility of converting the upper four floors to classrooms and associated support spaces to be used by the adjacent High School, and preserving the current uses on the Ground Floor. The original construction drawings of the building, as well as site visits and photographic documentation were used to assess the current condition and layout of the facility for this study. No destructive investigation or detailed as-built measurement was included. This study is limited to evaluation of an interior alteration of the building for classroom space.

Suitability and Scope

The existing office and meeting spaces on the 1st thru 4th floors are of recent construction, having been renovated within the last 20-25 years, and are in good condition. The typical floors, 1st through 3rd, are 9,300 square feet per story and the Ground and 4th Floors are both larger, at over 12,000 s.f. each. Because the existing office layouts are unsuitable for conversion to classroom space, and because existing toilet rooms on all floors do not meet accessibility code, we determined that the interior partitions and finishes will require full removal, including ceilings, lights and air distribution ducts. The existing elevators, and egress stairs, and several utility spaces would remain, and the rest of each floor would be demolished to exposed structure. New partitions, finishes, lighting power and data fixtures would be required. The existing mechanical system can be partially preserved (the floor level air handlers and the full building cooling and heating plants), but these systems are outdated and approaching the end of their useful lives, and are recommended to be replaced concurrent with this alteration.

With a full reconfiguration, the typical floors (1-3) are well suited to provide seven classrooms per the APS Space Guidelines for High Schools of 750 square feet and 20 to 25 students per classroom. These could easily be arranged in a single loaded configuration, with each classroom of reasonable size and shape. Though the quarter circle shape of the building gives these classrooms a wedge shape, the distortion is small and would not adversely affect function. The existing egress stairs are adequately sized to hold the occupant load generated by this classroom configuration. The stair capacity and proposed occupant numbers are close, so storage space or wider corridors will be necessary to ensure that the existing stair capacity is not exceeded. On the fourth floor, the building cantilevers out an additional 8 feet in all directions. This additional space cannot be used effectively for classroom space due to the continuation of columns through it, and the existing stairs do not have capacity for the occupant load of additional classrooms. Therefore the fourth floor could incorporate some unusually configured storage or teacher office spaces in addition to the 7 classrooms similar to the floors below. Additionally, the columns in the line of the exterior wall below continue thru this floor, which with the cantilever result in columns 8 feet in from the exterior. This results in an exposed column within the open space of each classroom on the 4th floor.

(See sketch plans in the appendix for proposed classroom and support space layouts)

Major Upgrades

The building is too tall for an Educational use based upon its current construction type under current building codes. To make the building acceptable for the proposed change of use (B to E), it will be necessary to fully sprinkler the building, and potentially to upgrade the fire rating of its structure.

If the building was used for Adult Education this would remain type B (Business) use. But because of the extensive interior alteration it would still be required to meet current code. To comply with the code, based on its current construction type, it would require sprinklering, but no upgrade to the fire proofing. The occupant loads and life safety capacities would remain unchanged from those analyzed for the High School use.

The building is currently sprinklered on 4 of 5 floors, but the Ground Floor would require a wholly new sprinkler system. In order to avoid disturbance of and potential damage to the central IT Hub/ Server room on the Ground Floor, a separate dry chemical extinguishing system should be used in this room, instead of the wet system used elsewhere. This dry chemical system could potentially be installed with the servers functioning and in place, but this requires verification. The structural fire resistance can be upgraded with spray on fireproofing material when the interior partitions are removed to expose the beams and columns. The perimeter details will make it infeasible to fully upgrade the fire resistance, therefore requiring a Code Modification for its acceptance. It is possible that this fireproofing would not be required under the IBC 2009 code allowances for Compliance Alternatives for Existing Structures, but this is subject to the judgment of the Code Official. Therefore the cost of this has been included as a separate line item. As previously noted, the per floor Air Handling units and central heating and cooling plants are recommended to be replaced as part of the alteration.

Conclusion

The Ed Center building can be converted on its upper 4 floors to accommodate 27 classrooms of about 800 square feet each, for a total capacity of 540-675 students at Arlington standard class size (20-25) and maximum utilization rate (1.0). Additionally a central administrative space and door monitoring front desk on the main entrance floor, and significant storage space on each floor can be provided. This will require the full demolition and replacement of all interior partitions, floor and ceiling finishes, lights wiring etc., with new accessible toilet rooms and corridors as well as the new classroom and support spaces. While the radial layout of the building should not cause significant issues for classroom function, the single loaded corridor configuration, and the requirement of adding excess storage area to manipulate occupant loads both make the building relatively less efficient. This report does not evaluate the condition of the building envelope, but it should be noted that the building is 44 years old, and this may affect the duration of the useful life of any anticipated improvement.

The mechanical system will require upgrading, either replacement of only the VAV terminal boxes and distribution ducts, or the full system. Sprinklers will need to be added to the Ground Floor, and upgraded throughout. The steel structure may require the addition of sprayed on fireproofing if used for High School classrooms, although the Alternative Compliance section of the code, if accepted by regulatory officials, indicates it would not be necessary. Sprinklers will be required, but no spray on fireproofing upgrade if used for Adult Education classrooms instead. The upgrading of the structural fireproofing, and the addition of sprinklers would cause disruption of the uses to remain on the Ground Floor, and would require careful coordination to avoid the relocation of the Central IT Hub there due to the sensitivity of the equipment and the inability to interrupt service for the School system. We believe the sprinklers, and if necessary the fire proofing upgrade, could potentially be done without disrupting the continuous operation of the Central IT Hub, but this needs to be confirmed.

The total construction cost of this demolition and new interior construction, not including the added fireproofing, and optional replacement of major mechanical systems, is estimated to be $7,700,000*. If required by regulatory authorities, the fire proofing would cost an additional $550,000. If chosen by APS, the replacement of all the major mechanical systems, both Air Handlers and Central Plant, would add $600,000, for a maximum total estimated cost of $8,850,000. This is $2,650,000, or 23% less than the anticipated construction cost of a new high school building of similar size of $11,500,000.

The total estimated project cost for altering the Ed Center, with all upgrades and anticipated soft costs, would be $11,032,000.

*(costs are rounded, see detail estimate in appendix)

DETAIL

CODE: IBC 2009

PLANNING STANDARD: Arlington Public Schools Space Guideline for High Schools dated February 2001

Classroom area: 700-750 nsf

Class size: 20-25 students

AREA:	Ground-	12,800 gsf
	1st-	9,300 gsf
	2nd -	9,300 gsf
	3rd -	9,300 gsf
	4th -	12,450 gsf
	Total -	53,150 gsf

COST ESTIMATE:

Construction Cost, Alteration Base:	$ 7,670,243	
HVAC Alt. 1 replace AHU's 1-3:	$ 232,777	
HVAC Alt. 2 replace Central Plant:	$ 372,082	
Struct. Spray Fire Proofing Upgrade:	$ 550,128	
Total Construction Cost:	**$ 8,825,230**	
Project Soft Costs*:	$ 2,206,307	
TOTAL PROJECT COST	**$11,031,537**	
Similar New Building Const. Cost	$11,500,000	(130% of alteration cost)
Similar New Building Project Cost	$14,375,000	

*(professional fees, licensing and regulatory fees, furniture, construction contingencies etc. , estimated at 25% of construction costs)

CODE ANALYSIS

Code Summary -Height and Area / Construction Type-(see attached Code analysis for further Detail), the change of Occupancy from Offices to High School (B to E), and extensive alteration requires that the building either be made to comply with code for new construction, or section 3412 Compliance Alternatives for Existing Buildings. With the existing construction type (IIB) and sprinklering, the building meets maximum area criteria but is 2 stories above the allowable height (change B to E). If the building remains use B (Adult Education), then it is 1 story above allowable height.

- Sprinkler alone: If the building is made fully sprinklered, and remains type IIB, then it is 1 story above the allowable (B to E). If it remains use B, then it is allowable height.

- Sprinklers and SFRM Type IIA upgrade: If a Code Modification is accepted for the upgrade of construction type from IIB to IIA, and the building was made fully sprinklered, it would be acceptable.

- Alternative Compliance: If the building is evaluated per section 3412 Compliance Alternatives (for the High School use, change from use B to E) , and most elements are upgraded (new fire detection, alarms, stand pipe, partitions and ratings, etc), but no Construction Type upgrade (no spray on fireproofing), the building receives an "in compliance" score, and should be acceptable at a story above the allowable for new construction. This will need to be verified with Arlington County Inspection Services Division.

Structural- the Design Live Loads listed on S2 of the original Ed Center design documents equal or exceed the Live Loads listed for the Wakefield school on S0.01 by Thornton Tomasetti, so the structure is presumed to be adequate to anticipated new loads, though this must be verified by a structural engineer.

CODE DETAIL

Construction Type Summary- the building is partially sprinkled Construction Type IIB (non-combustible unprotected, 0hr) in its current state, with composite slabs spanning between unprotected steel W section beam and columns. The building could feasibly be made fully sprinklered. The building could feasibly be mostly brought up to type IIA (non combustible protected, 1hr) by demolishing most of the partitions and spraying on fireproofing on steel columns and beams, but, perimeter beams could not be adequately accessed in blind conditions, and a Code Modification would be required to count this as acceptable.

Existing Occupancy Classification- BUSINESS GROUP 'B'- Civic Administration (304)

Proposed Occupancy Classification- EDUCATIONAL GROUP 'E' (305)

Heights and Areas (table 503)	Group	Const. Type	Height	Stories	Area
Allowable	E	IIB	55 ft	2	14,500 (max floor)
Proposed/Existing			52 ft	**4**	12,450

Frontage Increase (506.2)

100% open perimeter = 0.75 tabular area increase

Sprinkler Increase (504.2, 506.3)

Sprinkler System = 2.0 tabular area increase

= 1 story increase

Life Safety Summary- The capacity of the existing stair and access doors to the stair is roughly sufficient for the anticipated Occupant Loads per floor, no matter whether the classrooms are used by adults or high school students, though some storage area are required to tweak the occupied areas to ensure hitting the target. Stairs would require the addition of new Panic Hardware doors, signage and emergancy lighting, but otherwise have acceptable railing, widths, and tread and riser dimensions .

Egress Capacity (1005)

-Existing Stair door width = 36" Width/ occ = 0.2 inch Capacity = 180 (240 per3412.6.11)

-Existing Stair width = 45"(44" min.1009.1) Width/ occ = 0.3 inch Capacity = 150 (225)

-Total Egress Capacity per floor = 300 occupants per floor (alt 450 per 3412.6.11)

-Maximum Classrooms at Code occ. per floor = 7.5 (alt 11.25 per 3412.6.11)

Classroom Occupant Load (table 1004.1.1)

-Educational, Classroom Area =20 nsf / occupant

Exit Enclosure (1022)

-Existing Enclosure: 6" CMU (expanded slag) =2hr

-Required (1022.1) 2hr (4 floors or more)

Plumbing Fixtures (table 2902.1)

Water Closets

-Required WC's / occupant = 1/50

-Max Occupants/ floor = 300 per above

-Required WC's = 6 (3 male/ 3 female)

-Existing WC's =3 female, 4 male

Lavatories

-Required Lav's / occupant = 1/50

-Max Occupants/ floor = 300 per above

-Required WC's = 6 (3 male/ 3 female)

-Existing Lav's =2 female, 2 male

Accessibility (ADA and IBC Chapter 11 and 3411)

Accessibility Summary- The building has accessible entrances and ADA compliant elevators, but non-compliant toilet rooms which would require full reconstruction to be compliant.

Exterior Accessible Route:

- existing accessible parking and accessible route to 2 primary entrances

-accessible route from main school- not evaluated in this report

Interior Accessible Route:

-All floors level, no ramps required

-2 Elevators, larger than ADA minimum

-All classroom doors will be new and comply with minimum widths

Accessible Means of Egress:

-Existing stair doors meet accessible width criteria (1008.1)

-No stair Area of Refuge required due to sprinklering (1007.3 ex 3)

-Width complies with 44" minimum (1007.3 ex2, 1009.1)

-No elevator Area of Refuge required due to sprinklering (1007.4 ex 2)

Toilet Rooms:

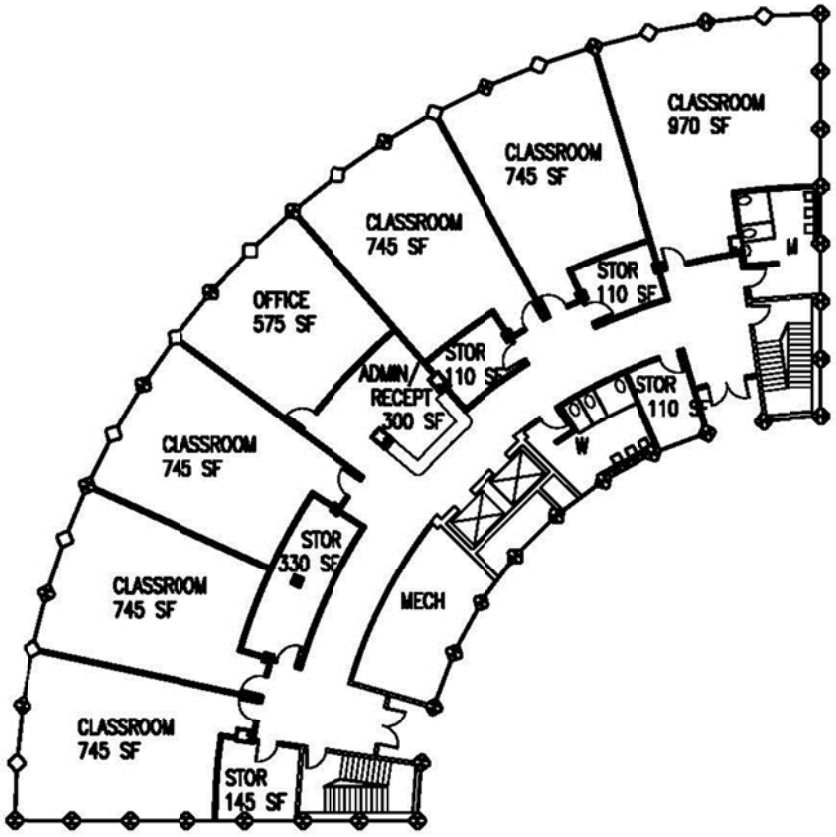
-Existing Toilet rooms do not have minimum clearances, turning radii, or accessible lavatories. Toilet rooms require full reconfiguration.

FEASIBILITY SPACE PROGRAM (1st-4th Floors Only)

Room Name	Capacity	Qty	Area (nsf)	
Classroom	20-25*	17	745 ea	*(class size range per APS guidelines)
Classroom	20-25**	1	970	**(number of students, 1 faculty per class)
Classroom	20-25	2	920 ea	
Classroom	20-25	1	885	
Classroom	20-25	1	990	
Classroom	20-25	5	810 ea	
Classroom Total	**540-675 *** **383-479 ******	**27**-rooms	**21,400**	***(at max 1.0 utilization rate) ****(at 0.71 utilization rate)
Storage	n/a	4	110 ea	
Storage	n/a	3	330 ea	
Storage	n/a	2	235 ea	
Storage	n/a	2	360 ea	
Storage	n/a	1	180	
Storage	n/a	1	240	
Storage	n/a	2	145 ea	
Storage Total	**n/a**	**15**-rooms	**3,330**	
Admin- Office	6	1	575	
Admin- Office	5	2	390 ea	
Reception Desk	2	1	300	
Administrative Total	**18**-Staff	**4**-rooms	**1,265**	
TOTAL	**45-**Faculty/Staff **383-675 Students** - (dependent on class size and utilization rate)	**46**-rooms	**25,995 -**net square feet	

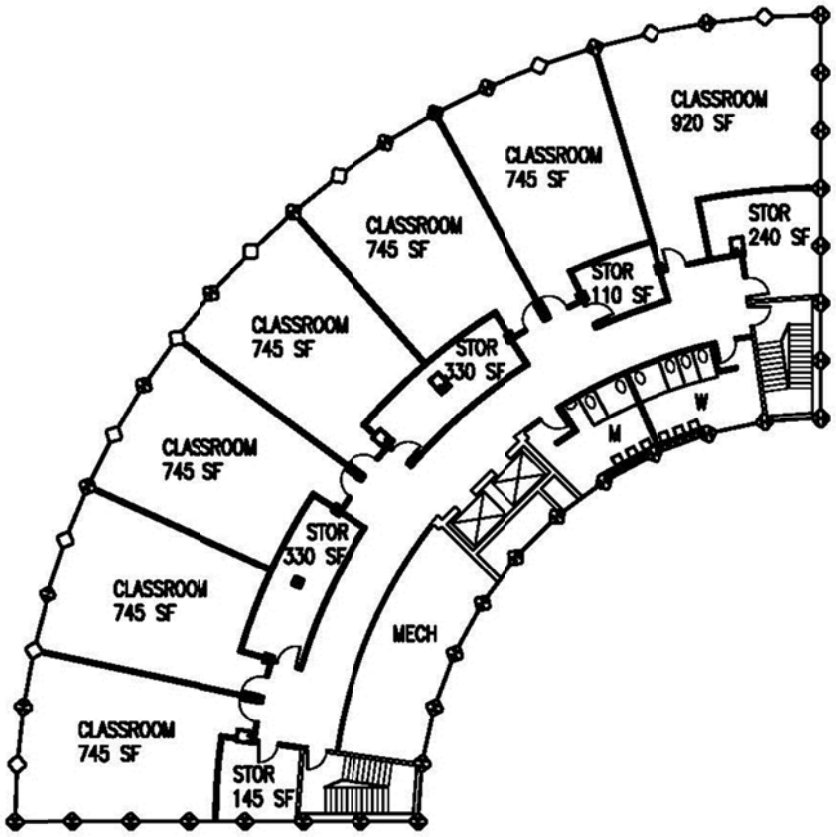
FEASIBILITY EFFICIENCY & COST ANALYSIS

EFFICIENCY (Floors 1-4 only)	**25,995 nsf / 40,350 gsf**	**=64%**
COST PER SF- ED CENTER RENOVATION	**$7,700,000* / 53,150 gsf****	**= $145/ sf**
	*(base cost w/ min. mech upgrade w/o fire rating struct. upgrade)	
	**(gross area all floors)	
COST PER SF- TYP. NEW CLASSROOM BUILDING		**= $285 / sf**
COST PER STUDENT ED CENTER	**$7,700,000* /383 students*****	**= $20,104/student**
	***(uses min. of range)	
COST PER STUDENT WAKEFIELD	**$88,273,000 / 1600 students********	**= $55,171/ student**
	****(uses design population Wakefield)	



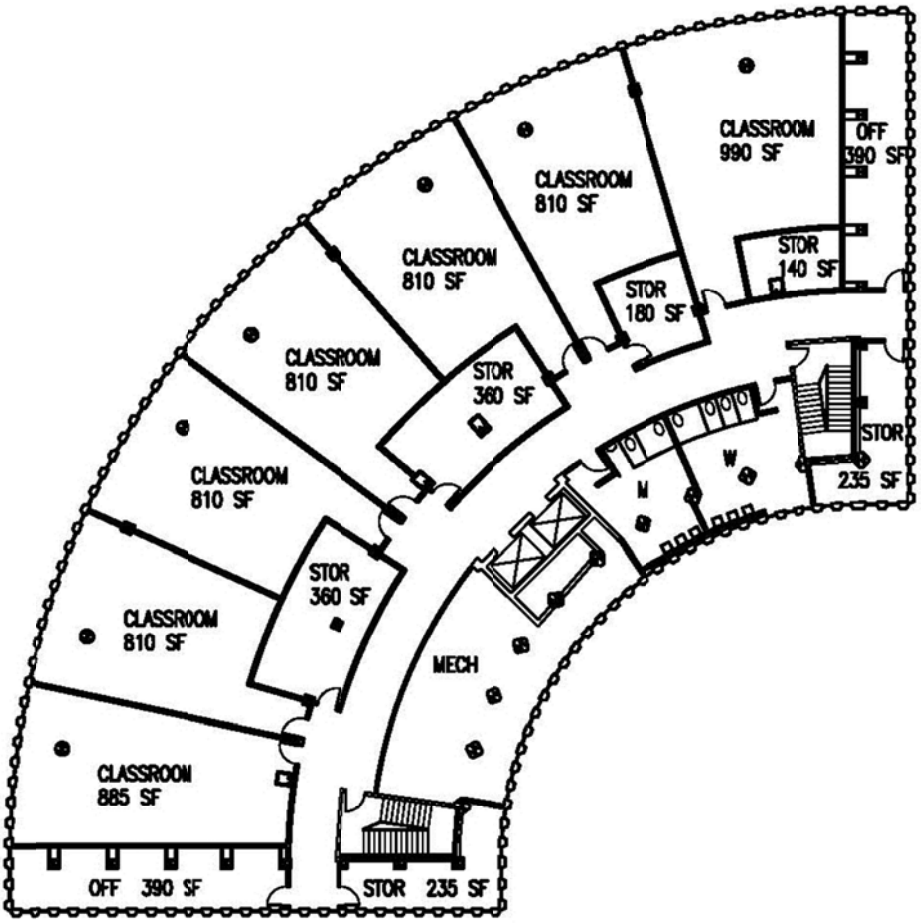
PROPOSED PLAN -1ST FLOOR

1" = 30' 0"



PROPOSED PLAN -2ND AND 3RD FLOORS

1" = 30' 0"



PROPOSED PLAN -4TH FLOOR

1" = 30' 0"

FEASIBILITY STUDY –Mechanical, Electrical, Plumbing

by Potomac Energy Group

The evaluations and descriptions of existing systems included within this report are based on visual examination, measurements, and the existing drawings of the building.

The information contained within this report is based on a site surveys conducted by representatives of Potomac Energy Group in June of 2011. The engineering team did not dismantle or conduct tests on building materials, components, or equipment to identify material compositions, evaluate hidden conditions, or inspect working parts.

This report represents our experienced judgment. The report is limited by the nature of our survey and the existing engineering documents for the existing systems.

MECHANICAL SYSTEMS

General Overview: The existing mechanical system plant design concepts are either original and/or consistent with the original building construction intent. The original building mechanical system plant equipment has been replaced as needed in the past as part of building maintenance. The air distribution systems and air handling equipment has been replaced and modified on the first, second, third, and fourth floor levels during previous interior renovations.

Cooling Plant System: The existing cooling plant consists of two split system air-cooled direct expansion chillers with the remote air-cooled refrigerant condensers located on the roof and the indoor evaporator sections located in the ground floor mechanical room. Each chiller has a nominal capacity of 100 cooling tons for a total building plant capacity of 200 cooling tons. The plant utilizes a constant volume chilled water distribution system distributed throughout the building by hydronic pumps located in the lower level mechanical room. Based on initial load density calculations for the proposed renovations, the existing central plant has the capacity to support the new classroom layout and function.

The units were replaced approximately 20 or more years ago and are nearing the end of their expected life cycle. While the units have been properly maintained in operating condition, we recommend that a planned unit replacement is scheduled to ensure cooling capacity for the existing building and renovated spaces.

Heating Plant System: The existing heating plant consists of a modular gas-fired boiler arrangement to produce heating capacity for the entire building; rated at approximately 2.5 million Btuh. The plant utilizes a constant volume hot water distribution system distributed throughout the building by hydronic pumps located in the ground floor mechanical room. Based on initial load density calculations for the proposed renovations, the existing central plant has the capacity to support the new classroom layout and function.

The units were replaced approximately 20 years ago and appear to be near the end of their expected life cycle. While the units have been properly maintained in operating condition, we recommend that the units are evaluated for replacement to ensure heating capacity for the existing building and renovated spaces.

Air Handling Units: The existing first, second, third, and fourth floors are all served by central air handling units located in mechanical closets at the building core of the respective floor level. The units are connected to the existing cooling and heating plant distribution and have hot and chilled water coils for heating and cooling mode operation. The first, second, and third floor units' air distribution is controlled with an outdated vortex outlet vane variable air volume system. The units are equipped with return air connection to the floor level plenum, outside air ductwork connection to exterior louver, and relief air system. The units were installed within the last twenty years and appear to be in good operating condition. However, the existing unit clearances for the maintenance and replacement of equipment are not appropriate.

The existing fourth floor air handling unit was replaced recently with a modular air-handling unit with variable frequency drive control for variable air volume partial load control. The unit is in good operating condition and should be re-used for the proposed renovations.

The existing first, second, and third floor air handling units could have their controls and sequences modified to support the proposed renovations, but to support the new secondary air distribution for the proposed renovations we recommend removal of the existing air handling units on the first, second, and third floors. We recommend replacing the units with new central modular air-handling units with modern variable frequency drive control for variable air volume partial load control similar to the unit currently installed at the fourth floor.

Air Distribution: The existing air distribution for the first, second, and third floors is via low-pressure ductwork with terminal zone damper controls. The current layout is zoned and distributed to support the current office usage. We recommend complete removal of the existing distribution ductwork to support the new classroom layout and zone control for each classroom. While the existing distribution could be modified and redistributed to serve the new layout, new variable air volume terminal devices will provide improved thermal comfort control for the individual classrooms.

The existing flour floor air distribution is via medium pressure ductwork connected to variable air volume terminal devices with individual zone controls. From the variable air volume terminal devices low pressure ductwork distributes air to various diffusers. The existing fourth floor air distribution shall be modified and re-used as needed to support the renovations.

The recommended new air-handling units will distribute air through new medium-pressure ductwork systems concealed in the above ceiling space to new variable air volume terminal devices. From the new variable air volume terminal devices low-pressure supply distribution shall feed supply to the space through 24" by 24" louvered face lay-in ceiling diffusers for most of the areas. Areas of special ceilings and of high visibility will be supplied with continuous linear slot diffusers. The perimeter zone terminal devices shall be supplied with hot water heating coils connected to the existing hot water distribution piping.

Return in most of the areas will be individual 24" by 24" perforated lay-in ceiling grilles to the return air plenum.

Perimeter Fin-Tube Heating: The existing fin-tube hot water heating at the building perimeter of the first, second and third floor levels shall be removed. Perimeter re-heat and zone control shall be handled by the new variable air volume terminal devices' hot water heating coils through the renovated air distribution. The fourth floor level already exists in the arrangement from the previous renovations and shall be re-used and modified as needed.

Ventilation: Outside air for the facility is to be provided directly through the air-handling units. The air-handling units will obtain their outside air from the existing exterior sidewall louvers. Each unit shall be provided with airside economizer control; enthalpy based. The building relief shall be provided by mechanical pressurization relief air control systems terminating at the existing building relief air louver locations.

The ventilation, exhaust, and relief systems shall help maintain a positive air balance for the building to prevent the infiltration of unconditioned air into the building.

The updated core toilet rooms and janitor closets will be exhausted through the existing central exhaust system to the outside. The existing central exhaust system shall be modified as needed to meet current ventilation code requirements.

Automatic Temperature Controls: The existing facility has an existing pneumatic control system to serve the current HVAC plant systems and main air-handling unit hydronic coil control valves. The existing space and zone controls for each floor level have been updated to various digital controls during previous renovations.

The existing system will be removed from the hydronic coil control valves for the new air-handling units and replaced with new digital direct controls. The air-handling units will have duct-mounted sensors that will be monitored and controlled to main temperature and humidity set point conditions. Each classroom shall be provided with zone space control connected to the terminal air devices. The new DDC central system shall provide remote access for the facilities management.

PLUMBING SYSTEMS

Domestic Water: The existing water service that enters the building in the automatic sprinkler service room is adequate to support the proposed renovations. The existing domestic water distribution shall be modified and as needed to support any core bathroom renovations and new plumbing fixtures.

Plumbing Fixtures: The existing fixtures shall all be removed and new fixtures that meet accessibility requirements and current energy standards shall be provided. The new toilets shall be low consumption dual-flush valve, floor mounted type with automatic flush sensors reduce water usage for the project.

Sanitary Sewer System: The existing sanitary system is adequate to support the proposed renovation and shall be modified as needed.

ELECTRICAL SYSTEMS

Incoming Service: The existing electrical service has been recently renovated and upgraded and should not need to be upgraded to accommodate the electrical load for the renovation of existing spaces. The existing electrical service is rated at 800 amps, 480/277 volts, 3-phase, 4-wire. The secondary lateral service terminates in the recently renovated distribution center at the existing ground floor mechanical room.

Power Distribution: From the existing distribution panel the power will be distributed to new branch circuit panels located at each level. The existing branch circuit panels shall be removed. Within the updated floor level layouts a new electrical distribution closet shall be coordinated with high voltage distribution panel, step-down transformer and low voltage distribution panel. The new branch panels shall be installed at each floor and shall be provided such as to accommodate associated lighting, receptacle and mechanical load per floor.

Lighting: The existing building lights were modified or replaced to support the previous space renovations. The existing fixtures shall be removed and replaced with new energy efficient, electronic ballast fixtures that use T-5 lamps to support the proposed classroom layouts. In the areas of computers, fixtures should be at minimum parabolic type to minimize glare on the screen, or indirect lighting may be considered as well. In all cases, new fixtures will be selected to have better efficiency and lower maintenance cost than the existing. Special lighting for the high visibility areas shall be coordinated with the architect

Telephone/Data System: The incoming telephone/data services for the existing telephone system shall be modified to support the new classroom requirements. New fire rated plywood backboard shall be provided in new electrical floor level closets to accommodate new telephone/data service equipment.

LIFE SAFETY SYSTEMS

Sprinkler System: The existing building is equipped with a wet fire protection service and fire pump. All levels of the building except the ground floor are provided with complete automatic sprinkler coverage with zone valves and tamper flow switches located off the main riser in the existing stair at each respective level. The existing floor level sprinkler mains and head layout shall be modified as needed to support the proposed renovations on the first, second, third, and fourth floors.

Depending on the building construction and usage, the ground floor may need to have the existing fire protection service extended to provide complete building coverage. The existing fire service and pump has adequate flow and pressure capacity to handle expansion of the system to provide coverage on the ground floor. For the majority of the ground floor a new zone valve, tamper flow switch, and complete automatic sprinkler coverage shall be provided from the wet system. The new zone connection shall tap into the existing riser at the stair.

The computer server areas on the lower level shall not be covered by the main building wet automatic sprinkler system if the spaces are to remain in their current use. Our suggestion is to provide the areas with a separate non-water based clean agent gas suppression system; Halon 1301 or FM-200 extinguishing agent. The system can be installed while the server room remains in operation. However, the existing building partitions for the server space will need to be upgraded and sealed to ensure the area served can maintain proper pressure for the system to suppress a fire. The system will also require an alarm and verification system to ensure no persons are present in the server areas prior to an active suppression cycle purge.

Fire Alarm System: The existing building fire alarm devices and coverage for the areas of work will need to be updated and replaced to meet current codes requirements. New NAC expander fire alarm panels shall be provided per floor to connect the new fire alarm devices on the first, second and third floor levels. The new NAC panels shall then be connected to the existing building Simplex fire alarm main control for communication and supervision. The existing fourth floor fire alarm expander panel shall remain and devices relocated/added as needed to support the renovations.

COST ESTIMATE CLARIFYING NOTES & EXCLUSIONS

- We have incorporated construction costs for a single Contractor procurement via lump sum General Contract. It is assumed that the floors involved (Ground, 1st, 2nd, 3rd and 4th Floors) will be vacated and the current uses will be relocated. We do not include phased sequenced construction costs. We do not include relocation costs for the current occupants.

- Without exception, **we have included hard construction costs only** and all soft construction costs are excluded. Please refer to list of Owner Budget Items.

- The Limits of Construction are those indicated on the documents provided and our costs are limited strictly to the interior of the building. No exterior Envelope improvements are included. We specifically exclude any site work or costs related to parking, or any exterior improvements to the facility.

- We exclude all **HAZMAT abatement costs for** Lead Paint, Asbestos, PCB's or Mold. Any type of HAZMAT remediation cost is not included in our analysis.

- Design Contingency accounts for the costs of yet unidentified scope requirements. **A 15% Design Contingency has been included.**

- Construction Contingency accounts for the costs of change orders. A **Construction Contingency has not been included. We recommend that the owner carry an additional 5% Construction Contingency for unforeseen conditions.**

- Escalation accounts for the inflationary effects of elapsed time. **Escalation costs have been included to the project bid date in the amount indicated in the project summary.**

- Our costs do not include any Owner Furniture storage or moving costs.

- All cost data is based on Open shop wage and burden rates.

OWNER COSTS NOT INCLUDED IN OUR COSTS ANALYSIS

We have found during the budgeting phase, Owners sometimes do not fully consider all the costs they will incur when implementing capital improvements. For convenience, we provide below a list of common non-construction Owner costs.

FURNITURE, FIXTURE & EQUIPMENT [FF&E]

- Loose, unattached system furniture, traditional furniture, etc.
- Special fixtures relevant to subject facility operations and uses
- Communications equipment, such as servers, telephone sets, communications cables, instruments, & accessories
- Vending equipment purchases and/or leases, etc.
- Exterior equipment, such as exercise equipment, pay telephones.

MOVING & STORAGE COSTS

- Contract and/or internal staff implemented moving costs.
- Temporary storage and insurance.
- Removal and disposal of furnishings of no salvage value.

TEMPORARY FACILITIES

- Non-contractor temporary storage trailers.
- Non-contractor temporary utilities.

REAL ESTATE

- Land acquisitions, leases, easements and rights of way.
- Real estate taxes.
- Transfer taxes.
- Recordation fees & taxes.
- Brokerage commissions.
- Settlement charges.
- Legal fees.

MANAGEMENT Indirect Owner Management Expenses

- Real estate necessary to house management & staff.
- Utilities.
- Insurance.
- Furniture, fixture & equipment.
- Project management salaries.
- Communications, telephone, facsimile expenses, e-mail, etc.
- Travel, parking, courier services, etc.
- Security.
- Office equipment & supplies.

PROMOTION / RESPONDING TO PUBLIC & MEDIA INQUIRIES

- Artwork and reproduction of advertising, brochures, hand-outs.
- Advertising fees.
- Postage.
- Signage.
- Photography.
- Renderings.
- Public and/or promotional events, such as hearings, fund raisers, etc.

FINANCIAL

- Accounting [in-house].
- Accounting [CPA].
- Interim financing [loan, bond, other] origination fees, expenses & interest.
- Permanent financing [loan, bond, other] origination fees, expenses & interest.
- Appraisal fees.
- Working capital / start-up.
- Performance [Owner, not to be confused with contractor] bonds

INSURANCE PREMIUMS

- Builder's risk
- Liability
- Title
- Other

LEGAL FEES

- Real estate, land, zoning, proffers
- Partnerships
- Financing
- Contracts
- Leasing

JURISDICTIONAL FEES

- Zoning, site and general building permit fees & expenses. Note: jurisdictional trade permit fees are included in our computations.
- Primary water utility availability and connection fees
- Primary sewer utility availability and connection fees
- Gas Company fees
- Power company fees
- Telephone company fees
- Cable TV company fees
- State & local highway fees
- Mandatory completion bonds
- Adjoining owner demands
- Mandated off-site storm water management contributions

DESIGN FEES

- Architect / Engineer / Cost Management / Construction Management Consultant Fees
- Surveys, Civil Engineering, Testing and Third Party Inspection Fees
- Traffic Consultant Fees

RECOMMENDED COST CONTROL PROCESS

Controlling construction costs is a continuous process that spans from the initial programmatic level through to final completion. We recommend that further construction cost estimates be performed if the project advances past the concept/feasibility study level.

MARKET CONDITIONS & OPINIONS OF PROBABLE COST

Downey and Scott, LLC has no control over market conditions or acts of God that can create rapid fluctuations in material prices. We have extensive experience in similar projects and have employed our best judgment in analyzing the subject project. We cannot, however, guarantee that actual construction costs will not vary from the opinions of probable construction costs herein provided.

Please contact William G. (Bill) Downey, AACE, CSI – Managing Principal regarding this project should you have any questions or concerns.

(see attached Cost Estimate breakdown spreadsheet for additional detail)