

WILSON SCHOOL

1601 Wilson Boulevard, Arlington, VA

BLPC #7

September 9, 2015

LEO A DALY |  | BIG

GENERAL UPDATE

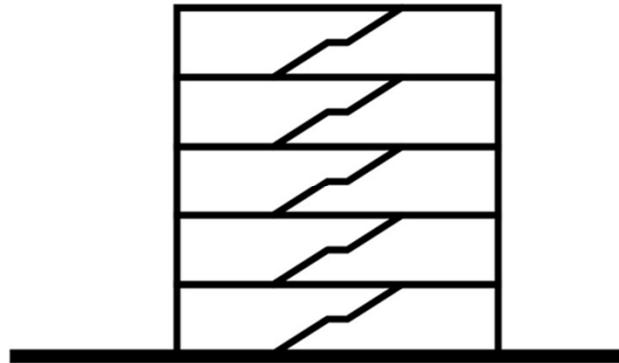
CONSTRUCTION MANAGER AT-RISK

DESIGN OVERVIEW



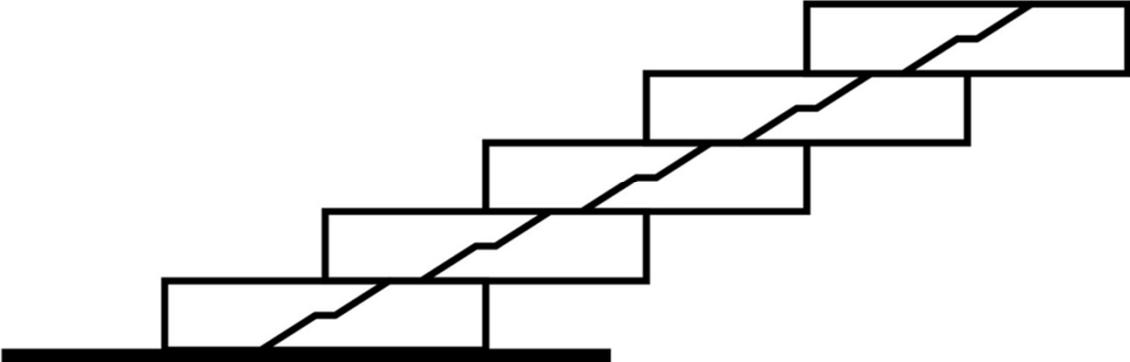
WILSON SCHOOL SITE

The Wilson School site is located in Rosslyn, VA along Wilson Blvd, right at the edge of the Rosslyn Central Business District.



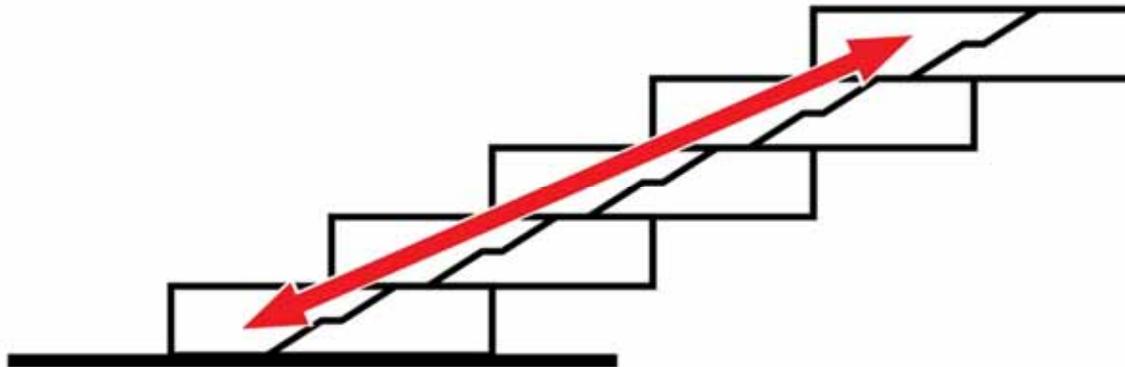
VERTICAL SCHOOL + COMMUNITY

Understanding that the Wilson School will be spread across multiple levels, the main goal was to provide a central space that connects the buildings levels and provide access to outdoor spaces adjacent to all levels.



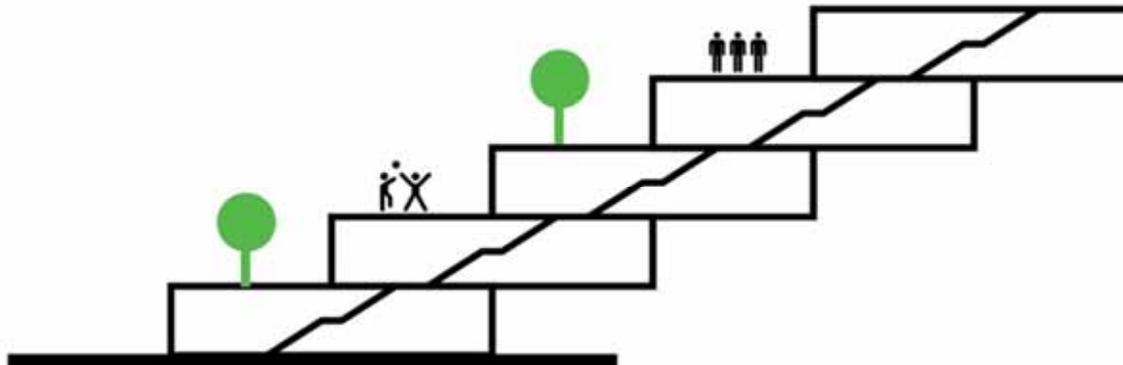
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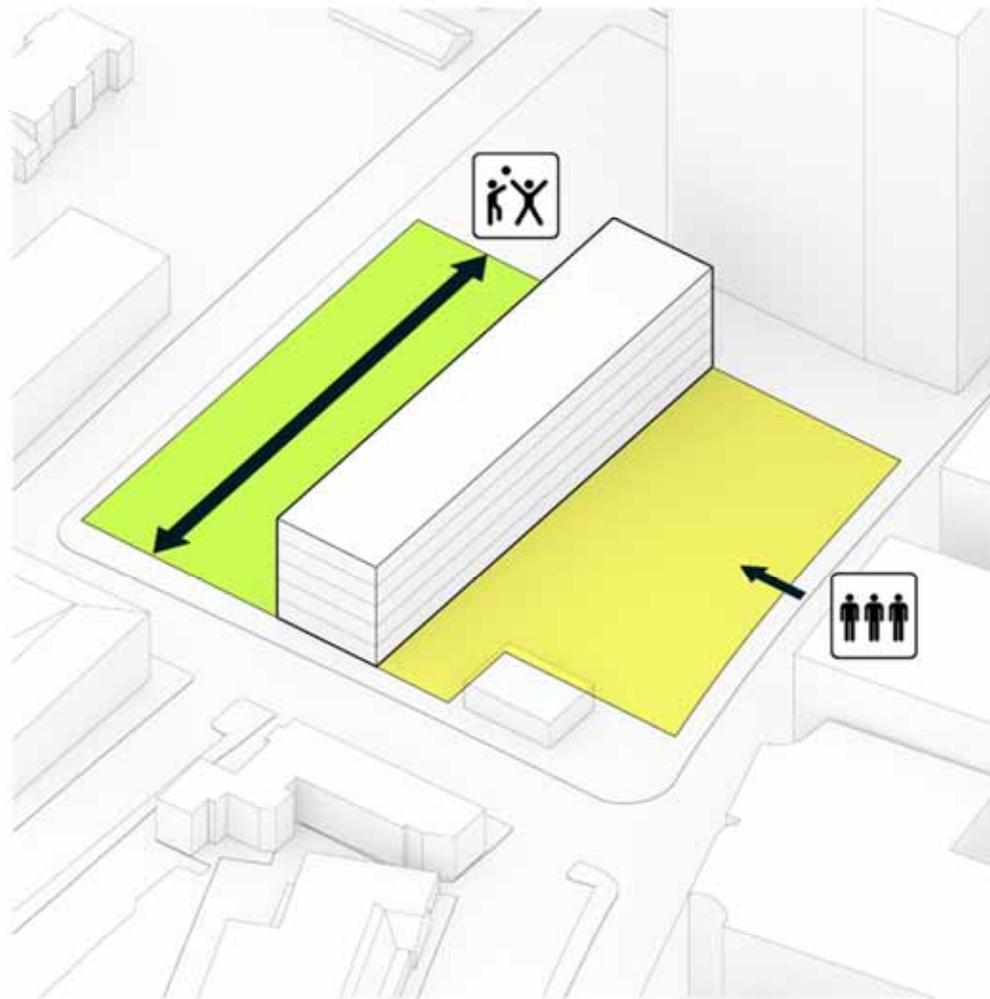
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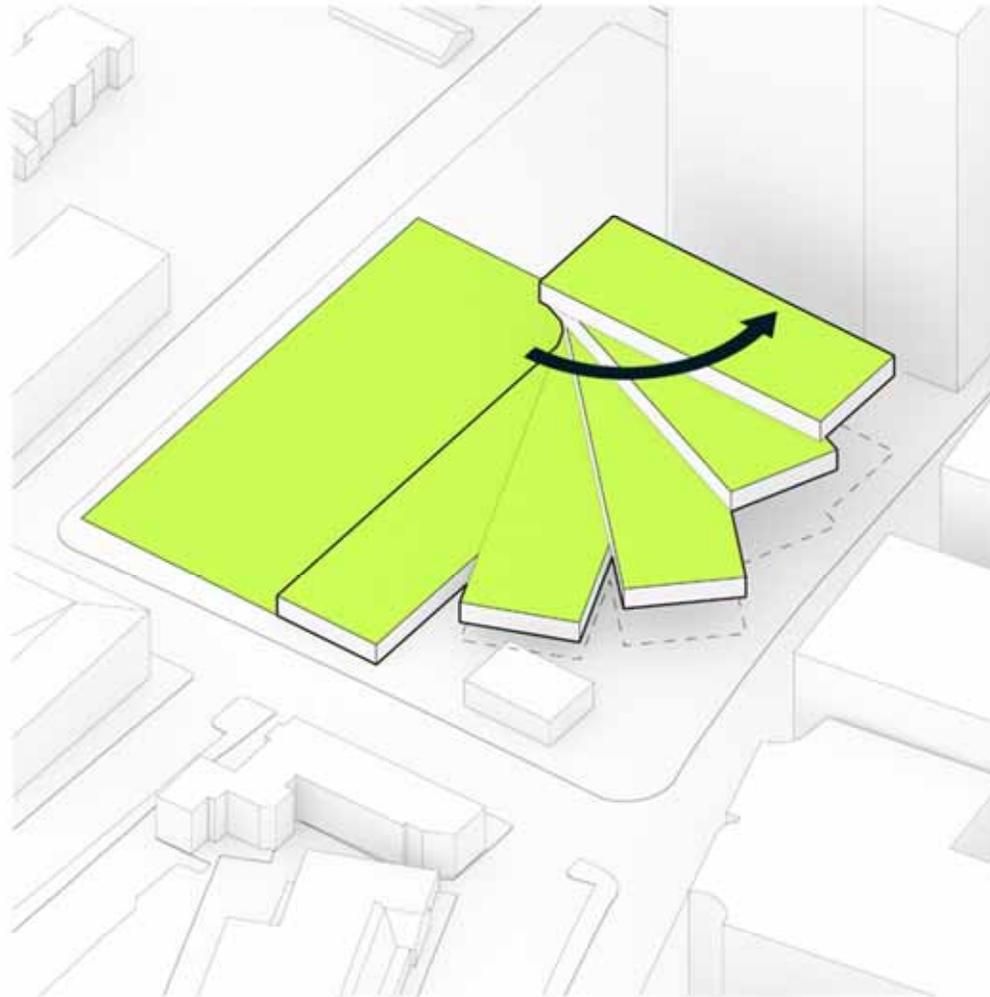
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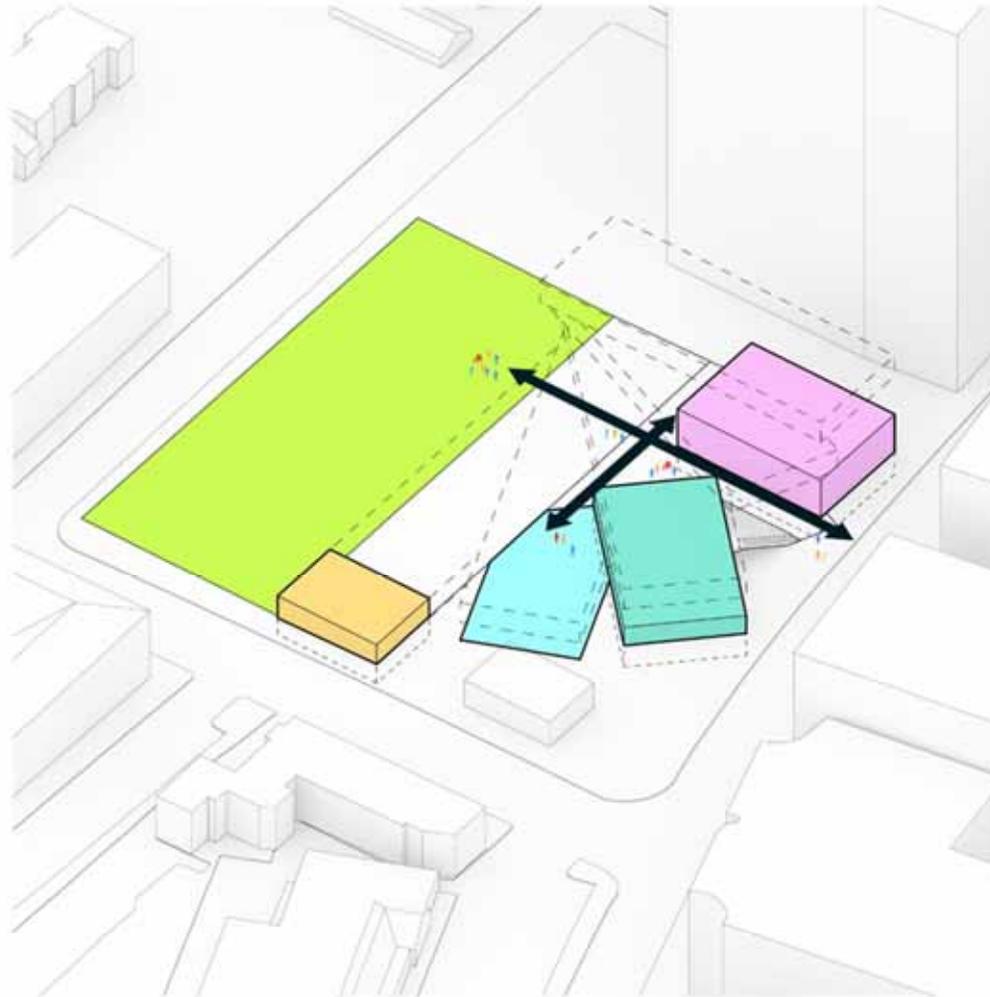
OPEN SPACES & BUILDING LOCATION

As a starting point, a stacked bar of typical classrooms is located in the middle of the site. This allows for the open space behind the building to be connected to the adjacent park, and protected by the building. Towards Wilson Boulevard a portion of the site is reserved for civic uses.



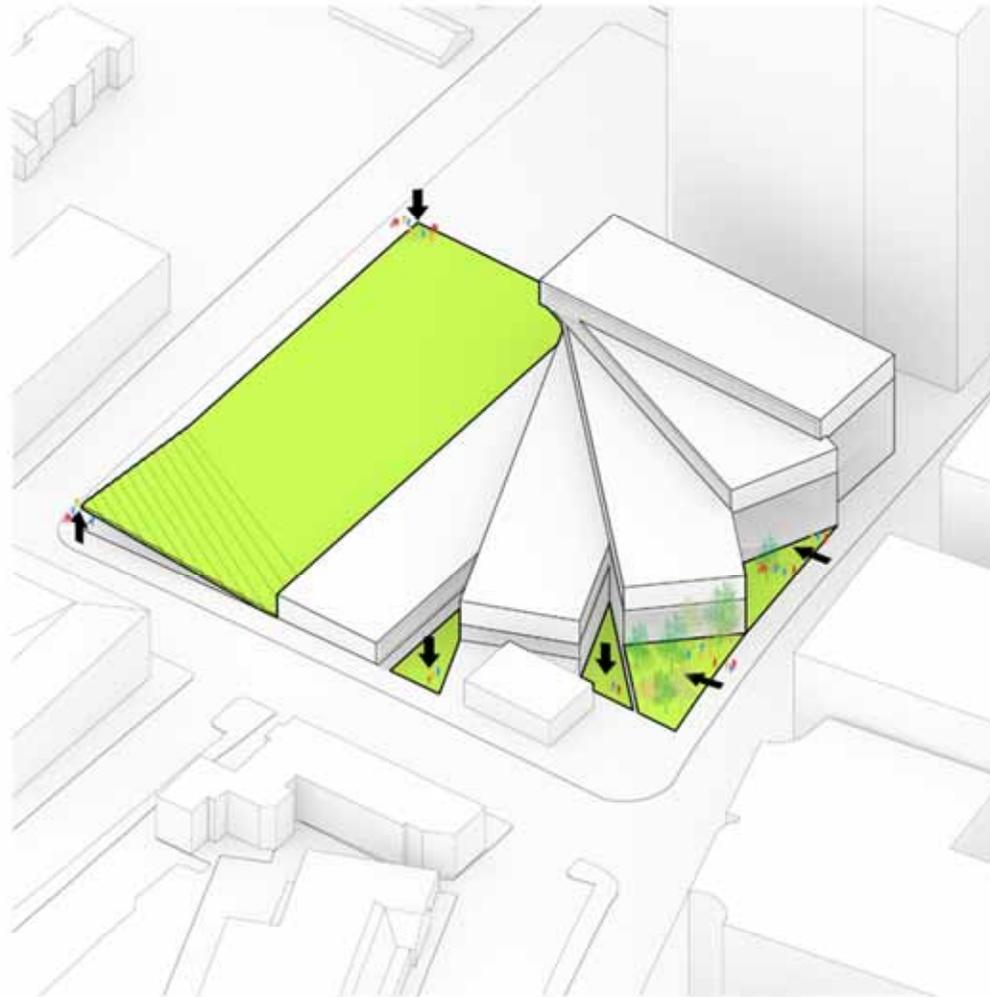
TERRACES CONNECTING SCHOOL TO FIELD

To create green space adjacent to the instructional spaces the bars are rotated along a single hinge point. This creates sequential terraces leading from the instructional spaces of the school to the field.



LARGE, OPEN & COMMUNITY PROGRAMS ALONG WILSON BLVD

Beneath the rotated classroom bars is a large open ground floor with varying ceiling heights. The large and public functions of the building are placed here. The result is also that all of the spaces shared with the community are located along the sites public edge at Wilson Blvd.



SITE MANIPULATIONS FOR ENTRIES AND DAYLIGHT

Manipulations to the landscape and ground surface create daylight to the lower level, access under the field to the Stratford Program, and access to 18th St. The remaining wedges facing Wilson Boulevard are programmed as small public parks, one near the entrance to the school and another facing the corner of Wilson & Quinn.



ACTIVATED TERRACES

Each of the terraces have their own themes relating to the use of the floor they are accessed by. These terraces give an opportunity for an urban school to have a 1-story feel, that otherwise would not be possible in a 5-Story school.

SITE PLAN

GENERAL UPDATE
DESIGN OVERVIEW





























STRATFORD STUDENT ENTRANCE

GENERAL UPDATE
DESIGN OVERVIEW







August 6, 2015

Dr. Patrick Murphy
Superintendent
Arlington Public Schools
1426 26th Street, North
Arlington, Virginia 22207

Dear Dr. Murphy,

I am pleased to report to you on behalf of the Building Level Planning Committee (BLPC) for the new school building on Wilson Boulevard. The committee selected "Fanning Bars" (concept 3) to be further developed in the schematic design phase. This new facility, which will house 775 students enrolled in the H-B Woodlawn Program and the Stratford Program, as well as other smaller school initiatives currently housed on Vacation Lane, promises to be an important new educational asset for Arlington, as well as a vital community resource for those who live and work in Rosslyn.

As part of its work this spring, our BLPC reviewed a number of concepts for the building, as well as research findings and information provided by consultants and APS staff related to the geographic characteristics of the site, plus data on transportation and parking options for students, staff and visitors. The architects presented three concept designs for the project and, by strong majority agreement the Committee selected "Fanning Bars" (concept 3) as the best way forward for this project.

The concept design selected by the BLPC seemed the best choice in that it meets the building and site goals set out by APS and presents a creative, yet practical, building that will be an architectural centerpiece for the community.

The concept drawings place the building facing Wilson Boulevard to integrate the building into the existing urban environment, while the design of the building still allows for adequate solar exposure. The current plan calls for bus drop-off for both programs on North 18th Street, along the proposed athletic field, with a covered entrance for Stratford students adjacent to the parking structure. Parent drop off is proposed along North Quinn Street. The building's position on Wilson Boulevard also allows for the school's athletic field and nearby park to maximize contiguous open space in the neighborhood.

The design provides both indoor and outdoor educational and recreational spaces for each program, as well as integrated spaces for all students to share. Additional recreational and other outdoor amenities will be available on the roof of the building for use by the school, and some of these facilities will likely be available to the community, as well.

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findings.

My fellow BLPC committee members and I look forward to continuing our work during the schematic design phase of this project this fall, as well as continuing our collaboration with others in our community to complete the new school in Rosslyn for a fall 2019 opening.

Sincerely,



Melissa McCracken
Chair, Building Level Planning Committee
Wilson Project



PUBLIC FACILITIES REVIEW COMMITTEE
2100 Clarendon Boulevard, Suite 700, Arlington, VA 22201
941.703.428-3021 Fax 703.226.5043 www.aapschools.org

August 7, 2015

Stephen Stockwell, Chair
J. Lander Allen
Jeffrey Catterman
Christopher Farnsworth
Elizabeth Gowan
Nancy Iacomin
Jane Lynott
Todd McCracken
John Miller
Heather Oboza
Tom Piel
Gabriel Thounis
Jason Whitman

The Honorable Emma Vieland-Sanchez, Chair
The Arlington County School Board
1426 N. Quincy St.
Arlington, Virginia 22207

RE: Wilson School – Concept Design

The Public Facilities Review Committee (PFRC) has so far held three (3) meetings during 2015 to consider Arlington Public Schools' ("APS's") concept design plan for a new Wilson Secondary School. The main issues discussed at the Wilson School meetings were related to building siting, maximizing the amount of open space on the site, ensuring public access to site recreational space, and parking. Some of the main issues discussed are summarized below.

Building Massing and Design

The PFRC reviewed five concept designs for the building design and massing of the proposed school building, including a consideration of which street, Wilson Boulevard or 18th Street North, should provide primary frontage. Members of the PFRC felt strongly that the school should be sited along Wilson Boulevard. Although APS's design team presented options for placement along both 18th Street and Wilson during the process, later designs put the school facing Wilson Boulevard. The design team also presented several alternatives for the design and massing of the school. The PFRC generally endorsed the current modernist design, known as the "Fanning Bars" design. At its July 15, 2015, meeting, an informal straw poll of members showed that an overwhelming majority of the PFRC supported both the location of the school building along Wilson Boulevard and the "Fanning Bars" concept.

A design detail that continues to be of interest is the placement of public entrances. Members continue to have a desire to have entrances, as much as practicable, be attractive, open, and accessible by the general public.

Ultimate Frisbee and Elevated Playing Fields

PFRC discussion initially dealt with the use of open space on the site. The PFRC dealt with a desire, expressed by some members of the community currently using the Stratford School site, of locating a regulation size Ultimate Frisbee field on the Wilson site. The APS design team provided a number of drawings showing the configuration of a playing field on the site, with frontage on the Wilson Boulevard or 18th Street North. After evaluating existing site characteristics and Frisbee field requirements, it was clear that a regulation size Ultimate Frisbee field would not fit wholly within the boundaries of the school owned property. However, a reason for PFRC members' preference for location of the school along Wilson Boulevard was to allow for creation of the largest, contiguous open space on the 18th Street North side of the site.

supportive of APS staff and architects. APS has committed to working closely with all residents to continue to address outstanding issues and the PFRC will be working to ensure they are addressed during the schematic design and use permit phase of the project.



Stephen Stockwell, Chairman
Public Facilities Review Committee

BLPC PARKING SUB-COMMITTEE UPDATE

HALRB WORKSHOP



WILSON BLVD ENTRANCE

GENERAL UPDATE
HALRB WORKSHOP



WILSON BOULEVARD ENTRANCE

GENERAL UPDATE
HALRB WORKSHOP



BRICK PATTERNING



BRICK PATTERNING



We are interested in incorporating this pattern/material in some way in the new building.



TIN CEILING





Yearbook walls



Gym Floor from H-BWoodlawn Program's Original Site.



Fish Pond in Lobby

WRAPS



SCHOOL BOARD MEETING

AUG 13TH SCHOOL BOARD PRESENTATION

GENERAL UPDATE
SCHOOL BOARD MEETING



Proposed Wilson School Project

- HB Woodlawn Program – 720 students
- Stratford Program – 55 students
- Total 775 students (10% enrollment increase)
- September 2019 completion date
- Funding approved in FY2015-24 CIP:
\$80,200,000

Total Project Cost Summary

- CIP estimate (Dec 2014): \$80,200,000
- Current estimate: \$100,153,000
- Difference: **\$19,953,000**

Description of Variances

Floor Area Increase

	Existing	CIP Estimate	Current Estimate
Area of Building	138,000 sf	150,000 sf	170,000 sf
Stratford	19,300 sf	21,000 sf	30,900 sf
HB Woodlawn	106,300 sf	115,500 sf	124,600 sf
Shared Spaces	12,400 sf	13,500 sf	14,600 sf
Cost Differences *			\$2,650,000

* 20,000 sf @ \$344/sf hard cost.

Floor Area Increase

Stratford Program:

- Larger gymnasium to accommodate program and specialized equipment needs
- Larger support spaces to accommodate staff collaboration and storage

H-B Woodlawn Program:

- Larger classrooms to comply with Ed. Specs.
- More classrooms to accommodate expanded enrollment and comply with Ed. Specs.
- Appropriate support space for performing & fine arts program

Description of Variances

Parking

	CIP Estimate	Current Estimate
Parking Structure	81 spaces	92 spaces
Cost Estimates*	\$4,210,000	\$5,731,000
Cost Difference		\$1,521,000

* Estimated each underground parking space range of costs per space \$50,000 - \$60,000, plus additional covered area for Stratford entrance.

Description of Variances

Community Improvements

	CIP Estimate	Current Estimate
Community Use of 2 nd Level Terrace	0	\$1,063,000
Turf Field with Lights	0	\$1,097,000
Safe Routes to School Improvements	0	\$1,022,000
Enhanced/Raised Height Parking for Community Use/Access	0	\$401,000
Underground Utilities	0	\$331,000
Total Cost Impact		\$3,914,000

Description of Variances

Escalation Impact

	CIP Estimate	Current Estimate
Escalation Factor	\$ 3,590,000	\$ 6,740,000
	5.8%	9.9%
Cost Differences		\$ 3,150,000
Market Factor*	0	\$ 6,081,000
	0	9.25%
Cost Differences		\$ 6,081,000
Total Cost Impact		\$9,231,000

* Industry construction cost increase factor from Fall 2014 to August 2015

Description of Variances

Soft Cost Increase

	CIP Estimate	Current Estimate
Soft Cost	\$14,730,000	\$ 17,677,000
	22.5%	22.5%
Total Cost Increase		\$2,947,000

Detailed Cost Summary

	CIP Estimate		Current Estimate		Differences	
Building	\$370.00/SF	\$55,500,000	\$344.00/SF	\$58,150,000		\$2,650,000
Site Improvements/demolition		\$2,170,000		\$ 1,860,000		\$310,000
Parking		\$4,210,000		\$ 5,731,000		\$1,521,000
TOTAL HARD COSTS		\$61,880,000		\$65,741,000		\$3,861,000
Market factor (9.25%)				\$6,081,000		\$6,081,000
Escalation (changes from 5.8% to 9.9%)		\$3,590,000		\$6,740,000		\$3,150,000
Soft costs (22.5%)		\$14,730,000		\$17,677,000		\$2,947,000
Consultants, Project Management, etc	\$12,130,000		\$14,553,293		\$2,423,293	
Furniture	\$1,500,000		\$1,802,138		\$302,138	
Technology	\$1,100,000		\$1,321,568		\$221,568	
Community improvements with soft costs				\$3,914,000		\$3,914,000
SUBTOTAL PROJECT COST		\$80,200,000		\$100,153,000		\$19,953,000

Possible Cost Modifications

	CIP Estimate	Current Estimate	Recommendations	Difference Between CIP and Recommendations
Project Cost Baseline	\$80,200,000	\$100,153,000	\$100,153,000	\$19,953,000
Reduction in Program of Building 2,000 sf	\$0	-\$843,000	-\$843,000	-\$843,000
Enhanced Sustainability Measures				
Sensors & Dashboard	\$0	\$385,000		
Geothermal System	\$0	\$5,454,000		
Solar Hot Water & PV Panels	\$0	\$2,181,000		
Gray Water Reclamation	\$0	\$570,000		
D&C Staff	\$0	\$550,000	\$550,000	\$550,000
SUBTOTAL OF MODIFICATIONS	\$0	\$8,297,000	-\$293,000	
TOTAL PROJECT COST	\$80,200,000	\$108,450,000	\$99,860,000	\$19,660,000
				Additional Funding Required

Funding Available/Required

Available/Required Funding	CIP Estimate	Current Estimate w/Recommendations	Differences
Bond (FY2014-2019)	\$ 80,200,000	\$ 80,200,000	
Community Improvements (county/APS joint fund)		\$ 3,914,000	\$3,914,000
Transfer from annual operation's budget *		\$ 1,862,000	\$1,862,000
Additional funding required **		\$ 13,884,000	\$13,884,000
TOTAL	\$ 80,200,000	\$ 99,860,000	\$19,660,000

* 30% of furniture cost and all technology equipment.

** Potential Sources for additional funding required:

- Funding reserved for additional 300 MS seats in FY2015-24 CIP (16.6M)
- Capital Reserve.

Funding Available/Required

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Additional funding required **		\$ 13,884,000	
TOTAL	\$ 80,200,000	\$ 99,860,000	

THESE NUMBERS ARE ONLY ESTIMATES. COMMUNITY IMPROVEMENTS WILL BE DEPENDANT ON FURTHER DISCUSSIONS WITH COUNTY.

* 30% of furniture cost and all technology equipment.

** Potential Sources for additional funding required:

- Funding reserved for additional 300 MS seats in FY2015-24 CIP (16.6M)
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WHAT DOES A BASIC BOX BUILDING COST?

WHAT CAN WE GET FOR \$80.2M?

WHERE CAN WE SAVE MONEY?

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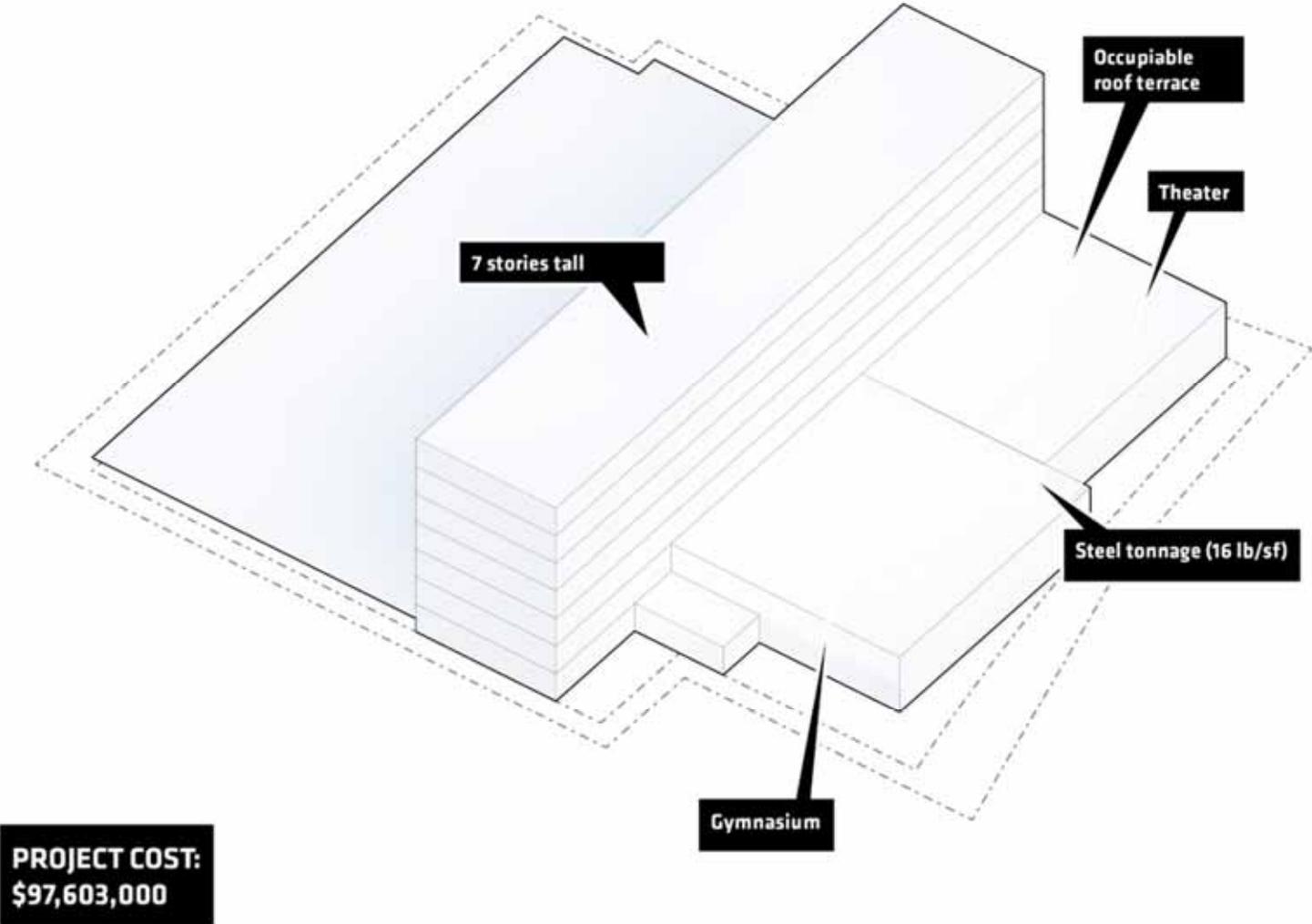
COST REDUCTION STUDIES

PREMIUMS IN EXISTING DESIGN

The Design Team compared the current design to a basic rectangular building containing the same program area in order to understand the cost premiums that are inherent in the current design.

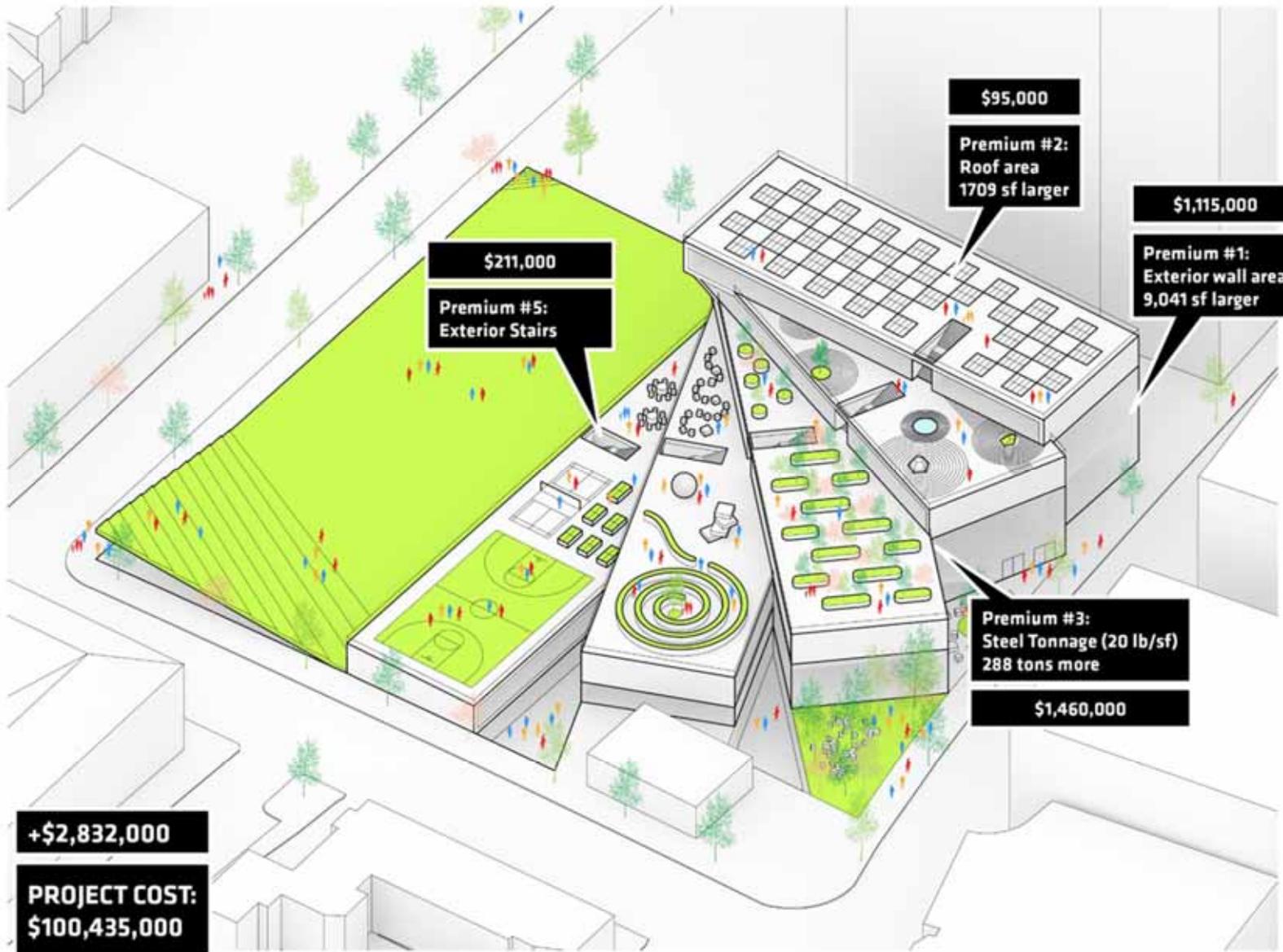
BASIC BOX DESIGN

COST REDUCTION STUDIES
PREMIUMS IN EXISTING DESIGN



PROPOSED CONCEPT DESIGN

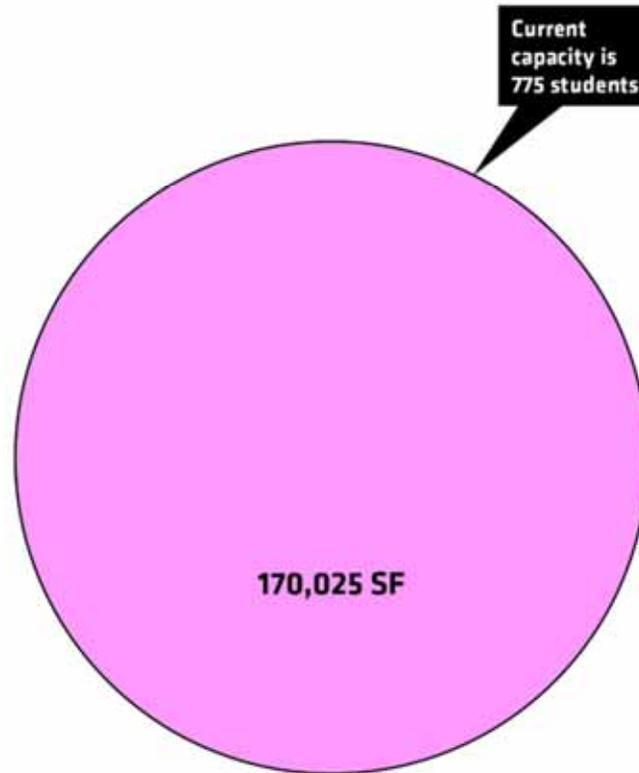
COST REDUCTION STUDIES PREMIUMS IN EXISTING DESIGN



PROGRAM

The Design Team and Principals from H-B Woodlawn and Stratford programs have investigated areas for possible reduction in program.

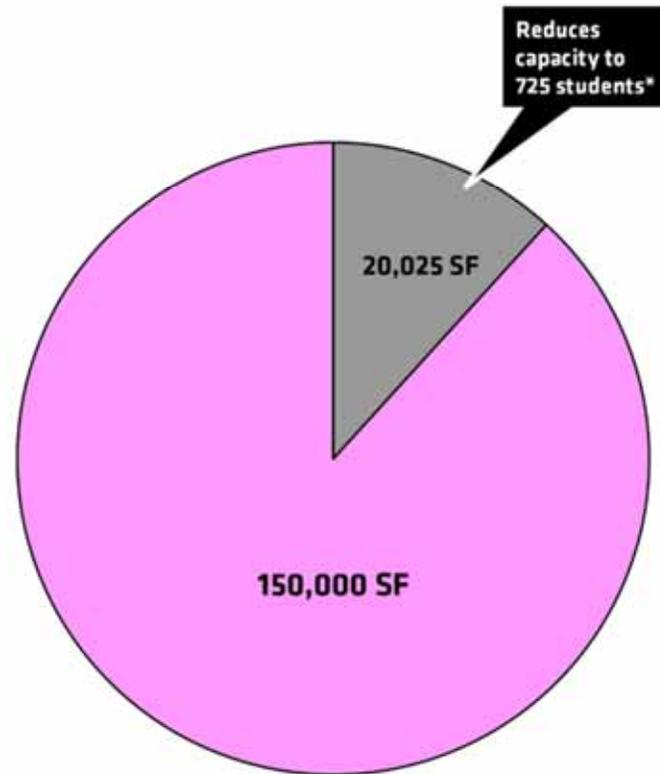
CONCEPT DESIGN PROPOSED SIZE



\$100,435,000

Cost for the current building area.

REDUCTION TO PLANNED 150,000 GSF

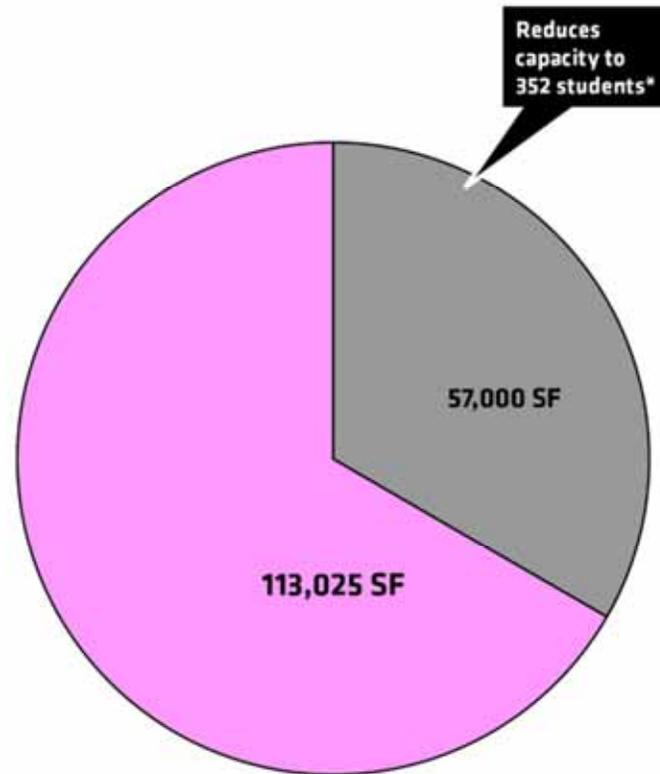


\$93,626,000

Reduce building area to 150,000 gsf, **saves \$6,809,000**, using a unit cost of \$340/sf.

*Student capacity may range from 704-730 students, depending on the specific program reductions..

REQUIRED REDUCTION TO GET TO \$80.2M



\$80,200,000

Required building area reduction to meet CIP budget.

*Student capacity may range from 340-370 students, depending on the specific program reductions..

EXISTING VS. PROPOSED SPACES

	PROGRAM	EXISTING	PROVIDED	DELTA
H-B Woodlawn	Classrooms	34,671 sf	34,309 sf	-362 sf
	Administration	3,163 sf	5,789 sf	2,626 sf
	Performing Arts	7,575 sf	15,427 sf	7,952 sf
	Music	5,529 sf	5,530 sf	1 sf
	Visual Arts	3,352 sf	4,387 sf	1,035 sf
	Physical Education	9,513 sf	10,007 sf	494 sf
				Subtotal
Stratford	Classrooms	5,904 sf	6,846 sf	942 sf
	Special Instruction	2,160 sf	1,959 sf	-201 sf
	Administration	1,069 sf	2,120 sf	1,051 sf
	Related Services	979 sf	2,209 sf	1,230 sf
	Physical Education	1,304 sf	2,865 sf	1,561 sf
	Transition	119 sf	1,083 sf	964 sf
				Subtotal
Shared	H-B Clinic	699 sf	1532 sf	465 sf
	Stratford Clinic	368 sf		
	H-B Library	3,033 sf	5,581 sf	1,586 sf
	Stratford Library	962 sf		
	Food Services	8,378 sf	5,909 sf	-2,469 sf
				Subtotal
Total				16,875 sf

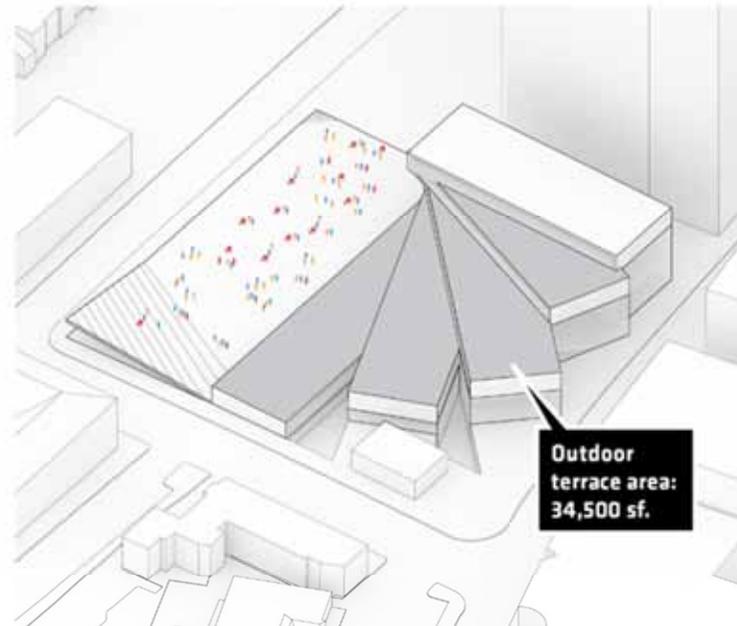
EXISTING VS. PROPOSED PROGRAM

The Design Team will work with Stratford and H-B Woodlawn principals to look for inefficiencies in the program, targeting the delta between their existing and proposed programs, while still meeting the needs of both schools.

\$80,200,000 BUILDING

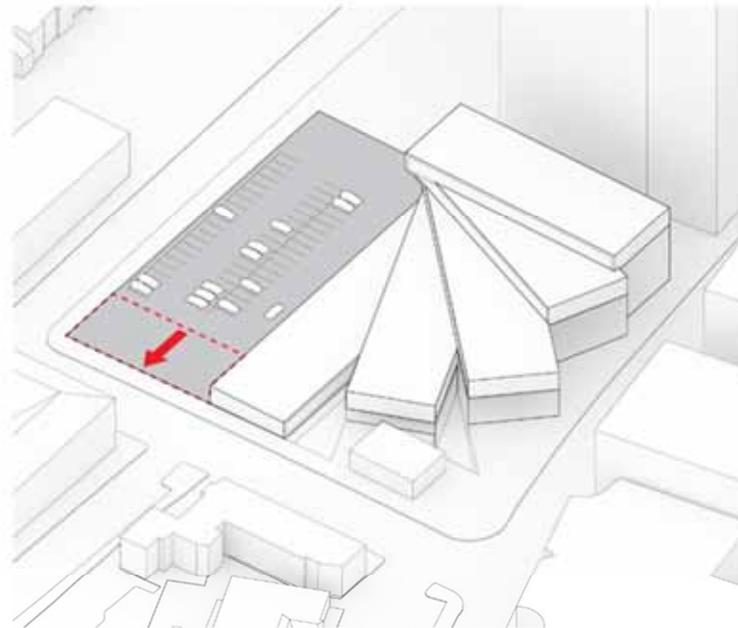
The Design Team has investigated a series of changes and reductions to the project that would be required in order to meet the CIP budget.

These examples are drastic.



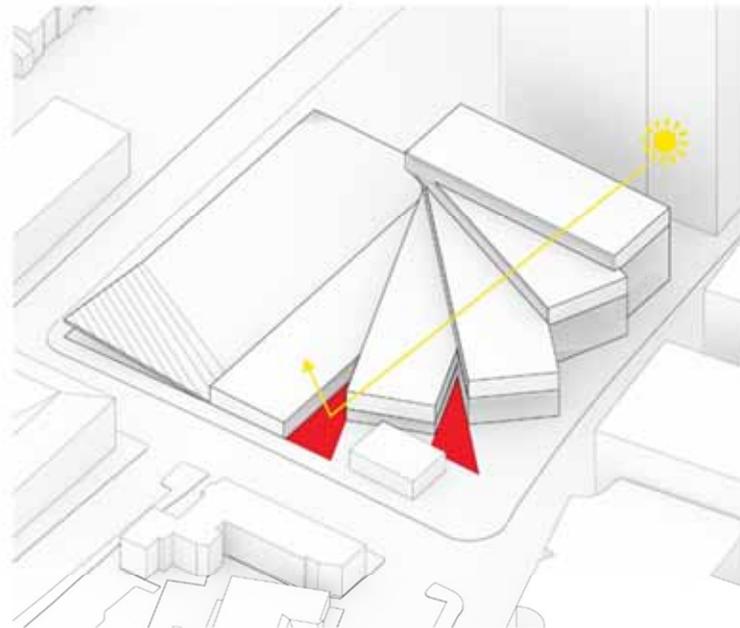
REMOVE OCCUPIED TERRACES
-\$1,933,000

1. Proposed outdoor spaces (courtyards, terraces, and field) are **76,200 sf**, equal to 94% of existing H-B & Stratford facilities.
2. Removing terraces reduces student outdoor space by **50%**.
3. Increases stormwater basin below grade.



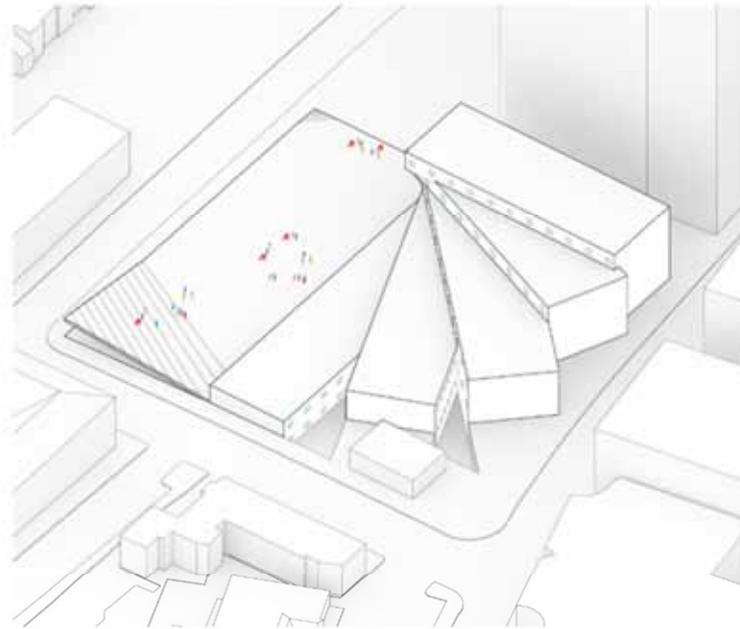
**REMOVE ATHLETIC FIELD & PARKING GARAGE
-\$7,944,000**

1. Adds 25 parking spaces
2. Provides potential space for farmers market / community activity.
3. Eliminates play surface for school and community.
4. Eliminates covered entrance to Stratford program.
5. Eliminates covered bicycle parking / storage.



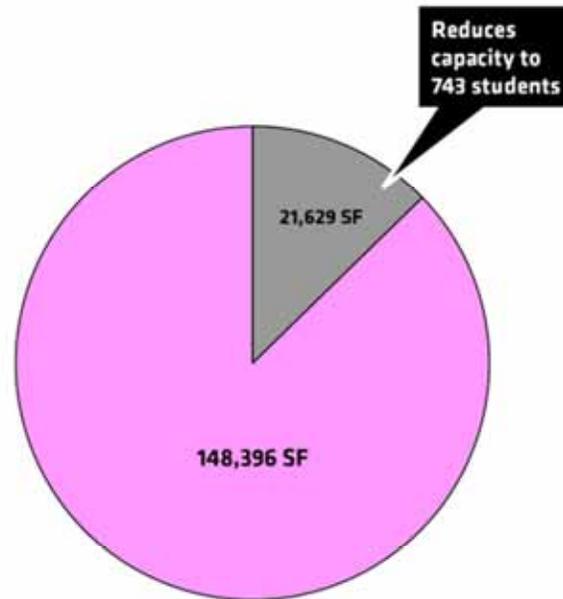
DELETE SUNKEN COURTYARDS
-\$792,000

1. Eliminates controlled outdoor play area for Stratford program.
2. Decreases daylight into classrooms and auxiliary gym by 75%.



MINIMIZE FENESTRATION
-\$2,212,000

1. Slight increase in building thermal performance.
2. Reduces daylight into classrooms by 92%.
3. No glass in building entries or gym, only one window in cafeteria.
4. Creates oppressive interior environment for students, staff, and visitors.
5. Not an inviting street front on Wilson Blvd.

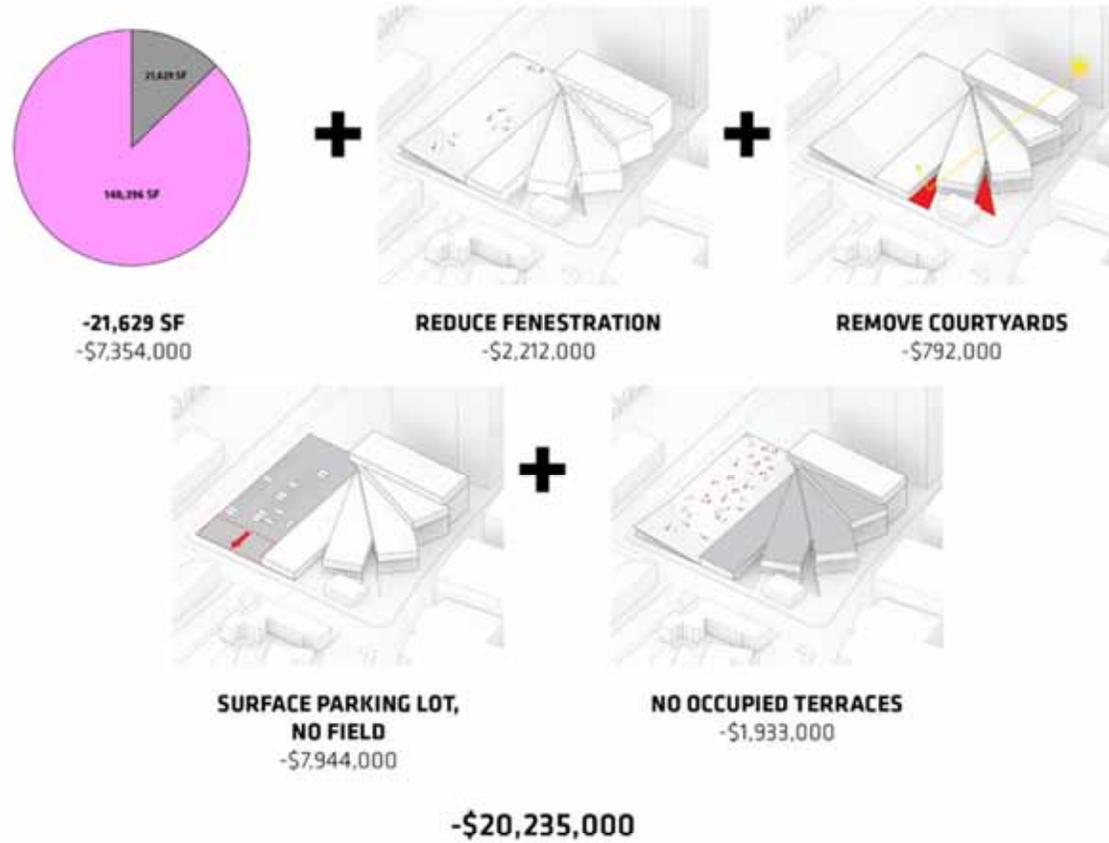


**REDUCE 21,629 SF OF PROGRAM
-\$7,354,000**

To meet the \$80.2M target a significant amount of reduction in the size of the school is required.

\$80.2M SCENARIO

COST REDUCTION STUDIES
\$80,200,000 BUILDING

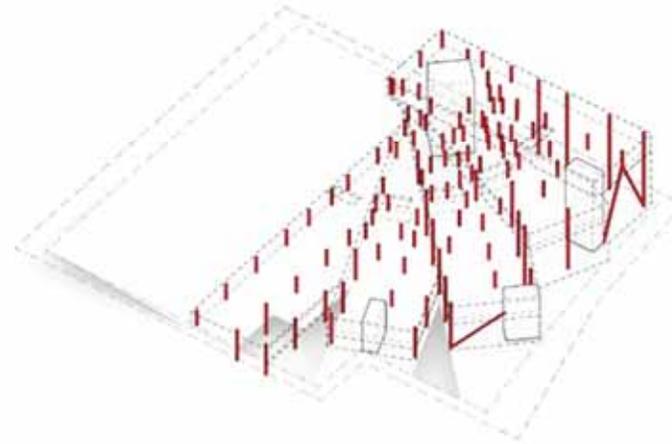


Total Project Cost = **\$80,200,000**

The Design Team has looked at a series of drastic measures to demonstrate the reductions needed to meet the CIP budget. However, **the Design Team does not support these measures**, as they compromise the design goals established with the BLPC & PFRC Committees.

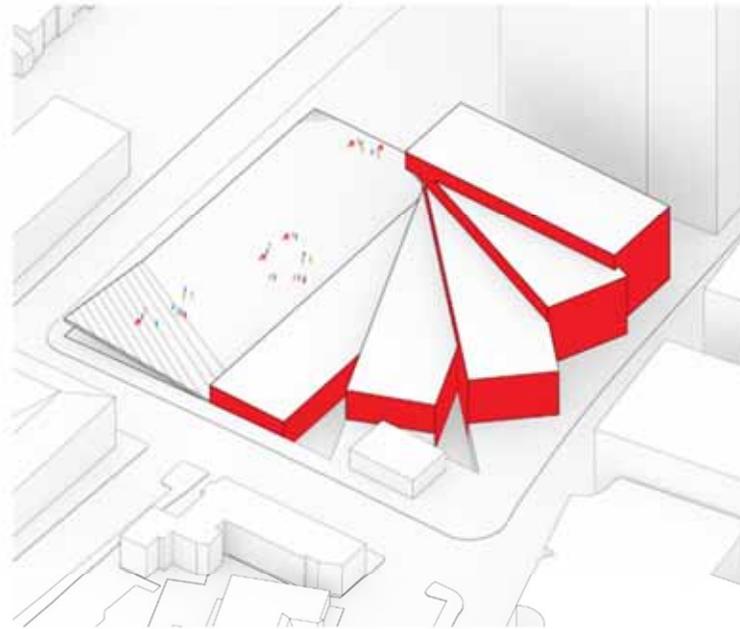
TARGETED MODIFICATIONS

The Design Team has begun a list of cost control measures that will continue to develop and evolve, which demonstrates items we know can be reduced and anticipate further reductions in the future.



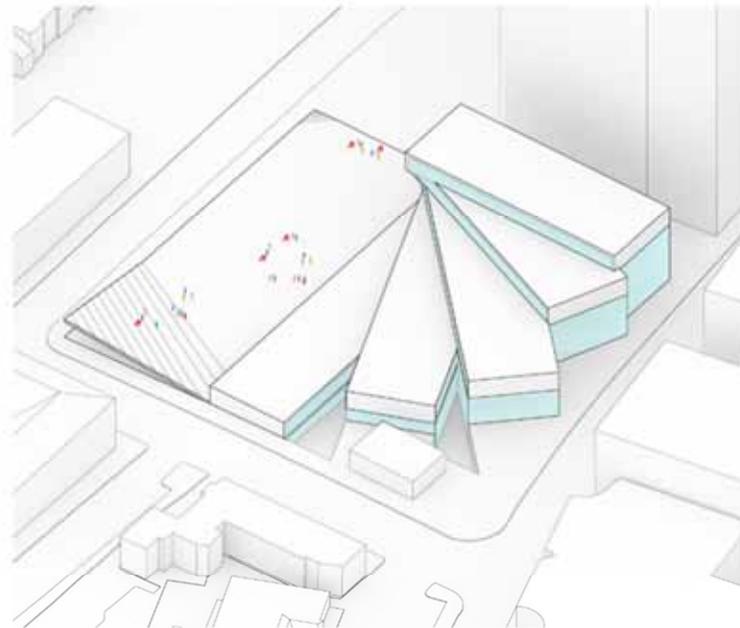
**OPTIMIZE STRUCTURE, REDUCE TONNAGE
-\$365,000**

Due to the apparent complexity of the structure in Concept Design, our structural engineers have taken a conservative approach to estimating the weight of required steel. As we move into Schematic Design, we will work together to design the structure to be as efficient as possible, reducing weight and cost.



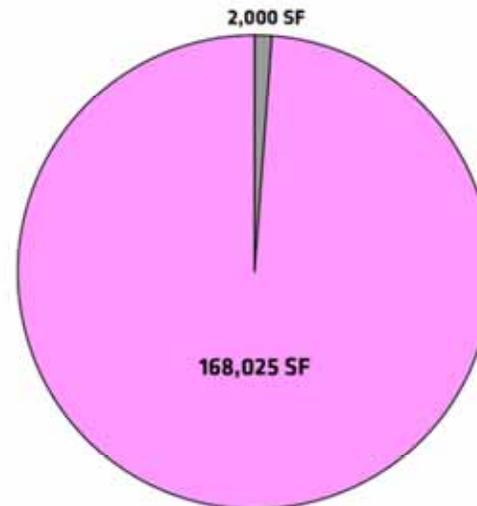
OPTIMIZE ENCLOSURE, REDUCE COST
-\$350,000

The Design Team is optimistic that we can provide a high-performance exterior enclosure at reduced cost.



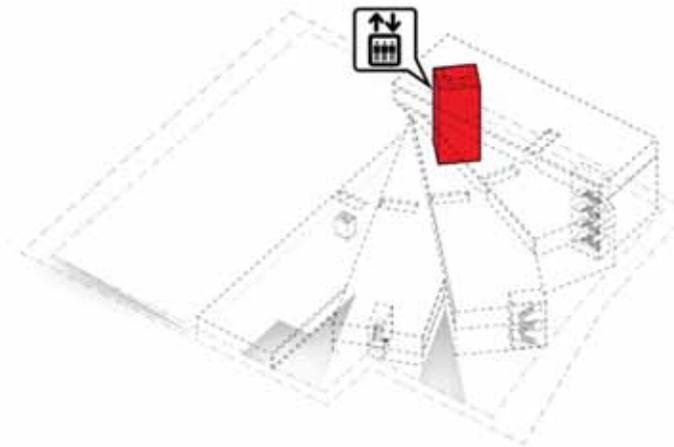
**REDUCE 6,500 SF OF EXTERIOR GLAZING
-\$82,000**

As we look in further detail at the classroom design, we will balance daylight considerations with thermal performance and practical use of wall perimeter at classroom interiors.



**REDUCE 2,000 SF OF PROGRAM
-\$534,000**

As we look in further detail at the classroom design, we will balance daylight considerations with thermal performance and practical use of wall perimeter at classroom interiors.



REMOVE ONE PASSENGER ELEVATOR
-\$370,000

We currently have a bank of 3 elevators, in addition to a dedicated elevator for the Stratford Program. Removing one elevator allows for additional vertical shaft space. However, it has a few potential drawbacks:

1. Reduces quality of elevator service from "Good" to "Unacceptable."
2. Should one elevator go down, only one elevator will be in service for the interim.
3. Peak wait times are estimated to increase from 30 seconds to 49 seconds.

REDUCTION SCENARIOS

The Design Team has begun a list of cost control measures that will continue to develop and evolve, which demonstrates items we know can be reduced and anticipate further reductions in the future.

CONCEPT DESIGN PROPOSAL

COST REDUCTION STUDIES
REDUCTION SCENARIOS



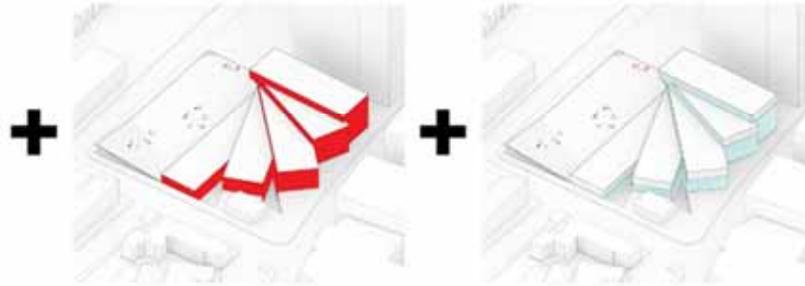
Total Project Cost = **\$100,435,000**
Community Improvements = **\$3,914,000**
Transfer from Operations = **\$1,862,000**

Bond Money Required = \$94,659,000

OPTION 1



-2000 SF
-\$534,000



OPTIMIZE ENCLOSURE
-\$350,000

OPTIMIZE GLAZING
-\$82,000



OPTIMIZE STRUCTURE
-\$365,000

REMOVE 1 ELEVATOR
-\$370,000

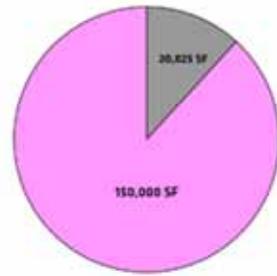
TARGETED MODIFICATIONS ONLY

-\$1,701,000

Total Project Cost = **\$98,734,000**
Community Improvements = **\$3,914,000**
Transfer from Operations = **\$1,862,000**

Bond Money Required = \$92,958,000

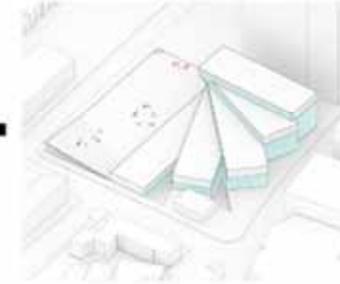
OPTION 2



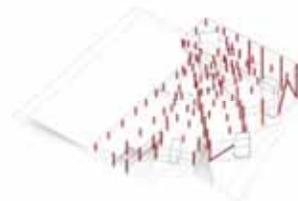
-20,025sf
-\$6,809,000



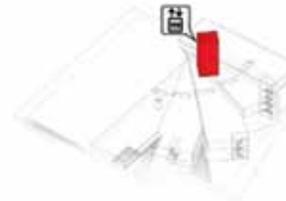
OPTIMIZE ENCLOSURE
-\$350,000



OPTIMIZE GLAZING
-\$82,000



OPTIMIZE STRUCTURE
-\$365,000



REMOVE 1 ELEVATOR
-\$370,000

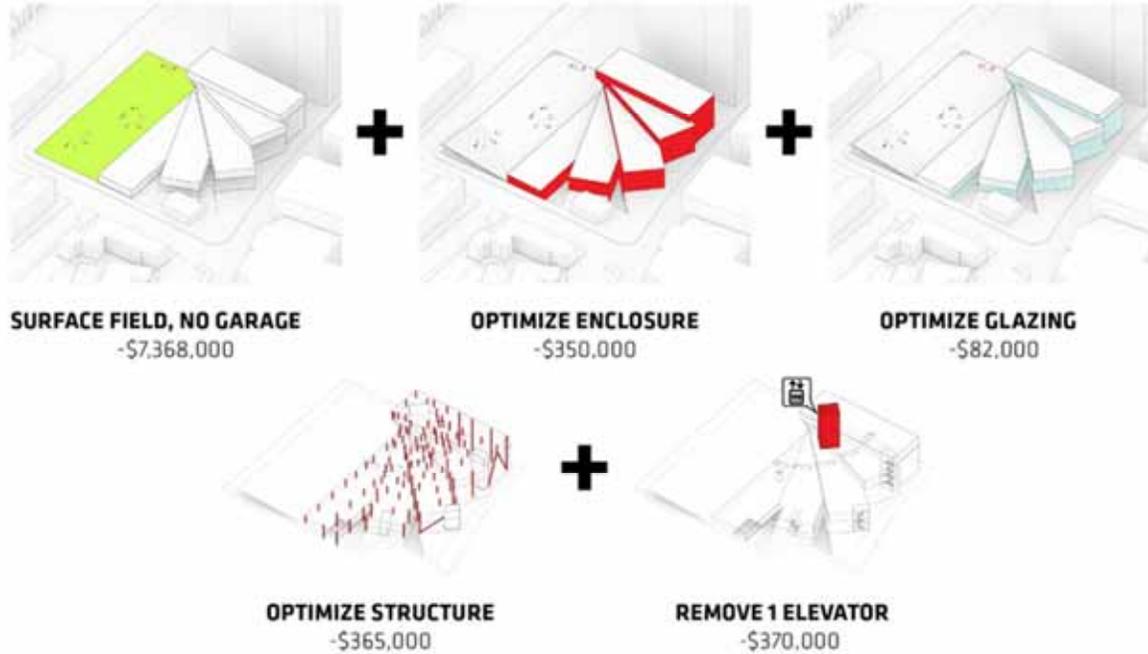
**TARGETED MODIFICATIONS &
FURTHER REDUCTION IN PROGRAM**

-\$7,976,000

Total Project Cost = **\$92,449,000**
Community Improvements = **\$3,914,000**
Transfer from Operations = **\$1,862,000**

Bond Money Required = \$86,673,000

OPTION 3



SURFACE FIELD, NO GARAGE
-\$7,368,000

OPTIMIZE ENCLOSURE
-\$350,000

OPTIMIZE GLAZING
-\$82,000

OPTIMIZE STRUCTURE
-\$365,000

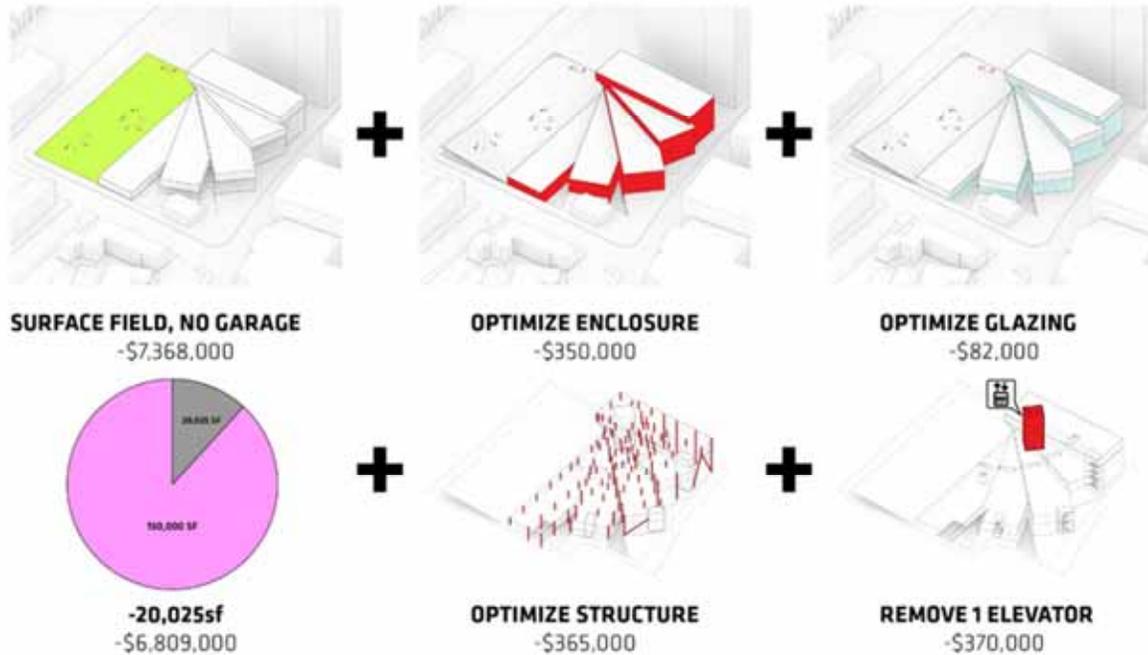
REMOVE 1 ELEVATOR
-\$370,000

**NO PARKING GARAGE
& TARGETED MODIFICATIONS**
-\$8,535,000

Total Project Cost = **\$91,900,000**
Community Improvements = **\$3,914,000**
Transfer from Operations = **\$1,862,000**

Bond Money Required = \$86,124,000

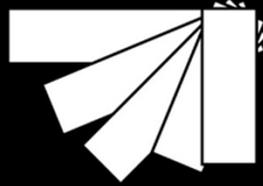
OPTION 4



**NO PARKING GARAGE
& TARGETED MODIFICATIONS**
-\$15,344,000

Total Project Cost = **\$85,091,000**
Community Improvements = **\$3,914,000**
Transfer from Operations = **\$1,862,000**

Bond Money Required = \$79,315,000



WILSON SCHOOL

1601 Wilson Boulevard, Arlington, VA

BLPC #7

September 9, 2015

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