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Great By Choice

SITE FEASIBILITY TEST FIT LAYOUT
NORTHERN AREA INTERNATIONAL SCHOOL

DECEMBER 2016

DESIGN TEAM

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Parks & Recreation
M-N C P P C
live more, play more

ARCHITECT OF RECORD
WALDON STUDIO ARCHITECTS COLUMBIA, MD

SUSTAINABILITY + NET ZERO	CIVIL + STRUCTURAL	MEP + ENERGY MODELING	COST ESTIMATING
VMDO ARCHITECTS CHARLOTTESVILLE, VA	ADTEK ADTEK ENGINEERING FREDERICK, MD	cmta CMTA CONSULTING ENGINEERS	FORELLA GROUP LLC FORELLA GROUP, LLC

GENERAL BACKGROUND INFORMATION

"PGCPS received a Carnegie Corporation Opportunity by Design grant to work with the International Network for Public Schools and Casa de Maryland to program and operate two innovative high schools to serve English Language Learners. Since 2004, the International Network has developed 14 similar schools across the country. Casa de Maryland will be a local catalyst to ensure that these schools have partners to open the school and provide opportunities for student and families to engage with the greater school community.

The District selected the Langley Park area for one of the schools because this community is 80% Hispanic with a high percentage of families in poverty. Eighty-one percent (81%) speak a language other than English at home and are isolated from the school. Many of the parents do not have a high school education and work low-skilled jobs. Currently, only 53% of the Langley Park students finish high school. The schools in the northern part of the County are crowded, and there is no room for a new school to co-locate. Therefore, a new site in this densely-developed part of the County will need to be identified."
(From the PGCPS International High School Education Specifications)

NEW INTERNATIONAL HIGH SCHOOL SUMMARY OF FACTS

- Proposed capacity for the school is **400 students.**
- Planning funding is requested in the FY18 CIP from the County to commence site acquisition and the architectural/engineering phase.
- Square footage for the high school is approximately **56,822 SF**
- To accomplish the dual benefits for initial cost and energy savings, the goal and objective is to design the school to achieve **LEED Gold certification**, with an option to achieve **net zero energy use after 12 months of occupancy.**

The Waldon Studio Architects team was contracted to evaluate and provide a recommendation on the site to see if it is suitable to meet the programmatic requirements and is able to achieve Net Zero Energy use, as well as, LEED Gold rating. The final report documents our analysis, incorporates information from the previous middle school site selection studies performed in the 2015-16 school year. It addresses comments from PGCPS / M-NCPPC Stakeholder Group, Facility Advisory Committee, Board of Education and community members for feedback that will be used to determine the final recommendation. After that process, it is anticipated that this report will be shared with the additional design team members selected to design the schools as a resource.

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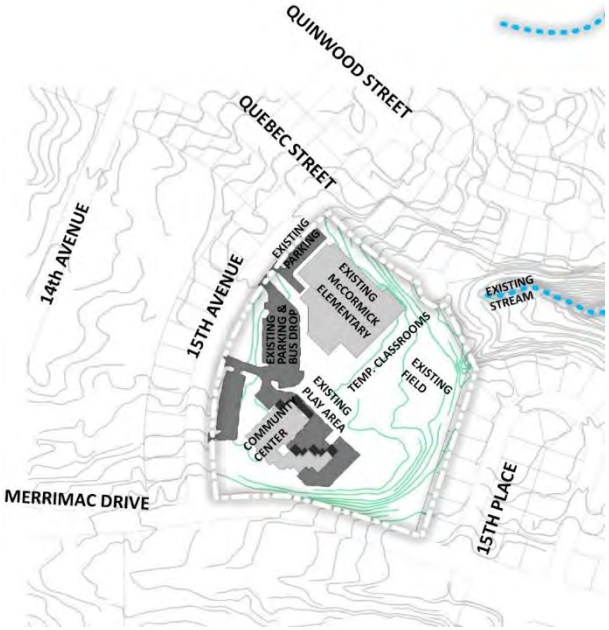
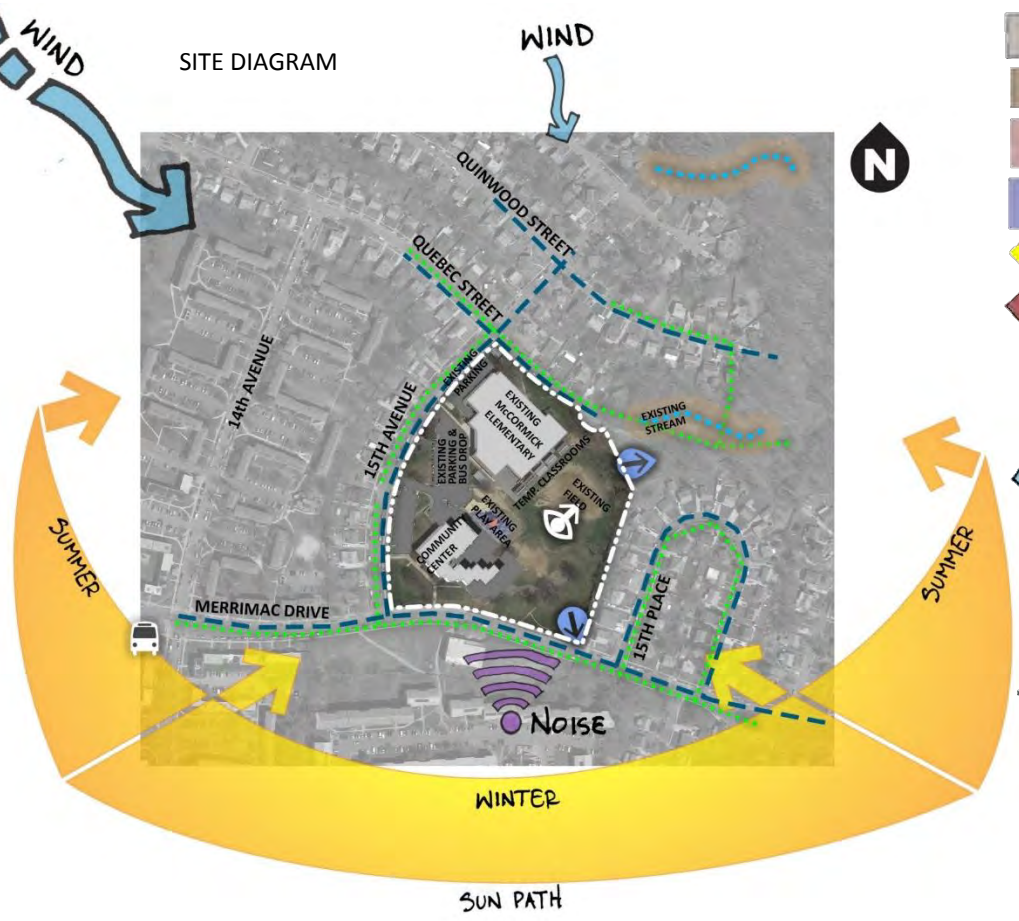
PROJECT HISTORY: WALDON STUDIO INVOVLEMENT

LANGLEY PARK

EXISTING CONTOURS MAP



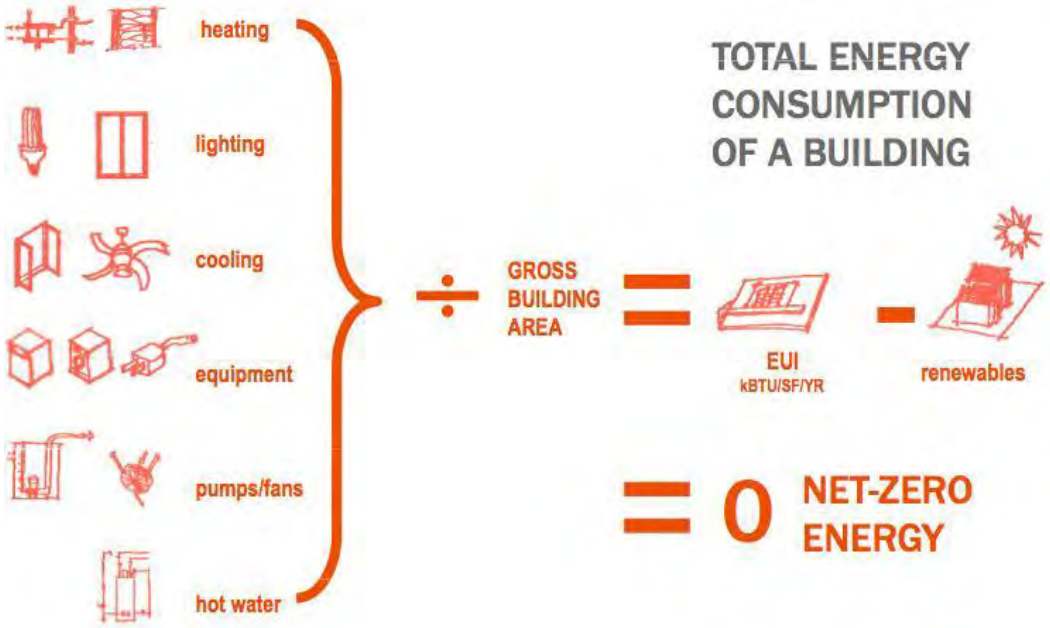
SITE DIAGRAM

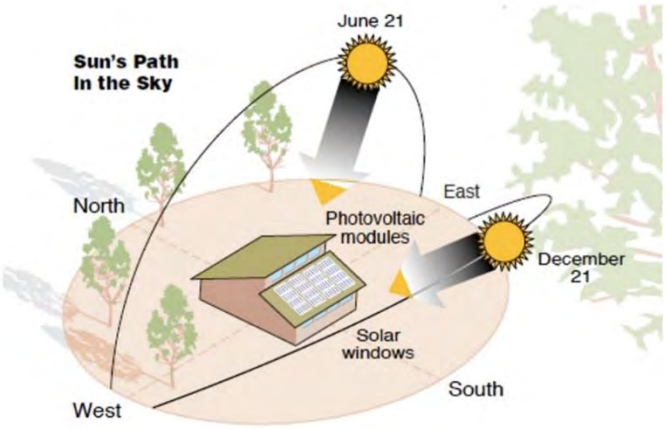


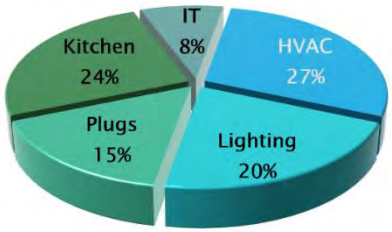
Common Themes

- Insufficient parking space
- Near existing Elementary School and Community Center
- Field space limited
- Roof and ground mounted photovoltaic panels necessary
- Geothermal wells under fields or parking lot
- Located near existing trails and neighborhood park
- Meeting School's program requirements
- Net-Zero and LEED Gold possible at all schemes

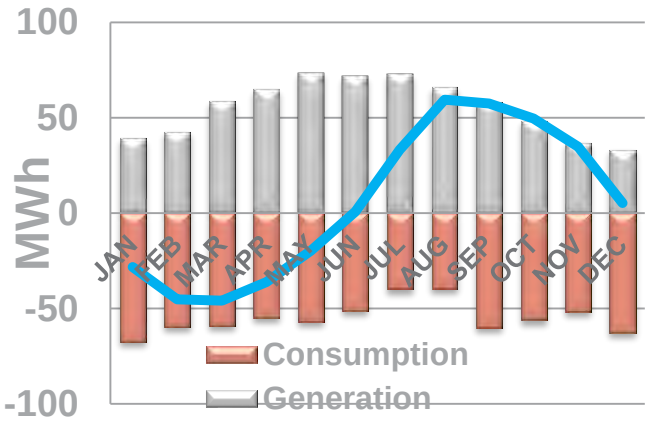






Total EUI: 23 kBtu/sf yr



STORM WATER MANAGEMENT	• Environmental site design • Downstream analysis • Topography	• This section considers the general requirements for and feasibility of providing SWM (Environmental Site Design (ESD) to the Maximum Extent Practicable (MEP) as well as downstream analysis, as required by MDE and Prince George's County) based on site layout, availability of land, land use changes, soils, discharge points and outlets, topography and site complexity (number of drainage areas). As useable site area is a premium on the site considered, it is suggested that the use of micro-bioretention will be the most practical and cost effective way to meet ESD requirements.
WATER / SEWER / UTILITIES	• Water extensions and relocations • Sanitary sewer extensions and relocations	• This section considers availability of existing water and sanitary sewer and potential for extensions and/or relocations based on WSSC GIS information and recent field visits. The site in this study is expected to have readily available sanitary sewer where small or no mainline extensions are required and where existing utilities would not need to be relocated.
SITE WORK	• Earthwork • Retaining walls • Developable area	• This section considers the general complexity and expense of grading and earthwork, retaining walls, developable area and site layout options. The site schemes have different constraints making them difficult to develop, many based on site topography and/or the amount of usable space. Site work for almost all the schemes is expected to consume a large portion of the overall budget.
ENVIRONMENTAL	• Permit feasibility • Land use conditions • Topography • Wetlands, streams, floodplains	• This section considers the difficulty of developing the site from a permitting feasibility standpoint. The rating considers land use conditions, topography, wetlands, stream and stream buffers, floodplains and any other data available. Permitting requirements for the sites vary.
ROW / TRAFFIC / ACCESS	• Streetscape • Lighting • Roadway expansion	• This section considers the location/availability of the site access and potential costs for public right-of-way (ROW) infrastructure development requirements (Per Prince George's County Master Plans) and additional studies. The site is located in an area where some level of ROW expansion and improvements are required per planning documentation and may include, streetscape, lighting, roadway expansion or trails.
PARKING & CIRCULATION	• Separate bus drop-off and car parking	• This section considers the feasibility of providing bus parking in accordance with Prince George's County Public Schools requirements for bus loading, as well as the additional parking spaces required for a typical international high school facility, fire access, and separated bus and parent drop-off areas.
ADA ACCESS	• Ease of movement around and to/from the site	• The necessity of elevators, and connect to existing sidewalks surrounding the site, as well as distance to the existing and new parking lots, were considered for this category.
PUBLIC TRANSPORTATION / WALKABILITY	• Existing sidewalks and lighting • Public buses • Number of students that walk to school	• Consideration was given to existing bus routes, proposed purple line metro stations, and general walkability of the site layout.
CAMPUS & GROWTH POTENTIAL	• Combine with adjacent elementary school • Possibility of expanding in future	• While future growth of this site is practically impossible after adding an additional school, the site will be fully maximized and used to its full potential.
ATHLETIC FIELDS / SITE AMENITIES	• Baseball, soccer, tennis • Community use • Outdoor education space	• Fields - Soccer Field/Lacrosse Field, Baseball Field, and or Tennis Courts (with running track option) • Community Use - It is assumed that the community will use the building for athletic events, recreation, meetings and educational functions. Security during these times is important. The design team has explored ways to zone each building for flexible after-hours use, and note both active and passive security measures. • Outdoor Educational Space - Consider the entire school grounds as a teaching opportunity, with a central space as the "outdoor learning area or classroom". An ideal location for garden plots would be to the north of the school.
STAGING / PHASING	• Minimized disturbance during construction • Existing elementary schools still operating	• Due to Community Center and Elementary School staging will be difficult for all proposed schemes, but some affect the site more than others.
BUILDING ORIENTATION / LAYOUT	• East-West orientation; sun exposure • Learning community concept	• The ideal building orientation for sustainable and net zero design is to locate building along the east – west axis of the site. This is due to the annual sun path throughout the year, along the southern face of the building. Aligning the building along the east west access of the site creates opportunity for even sun exposure on both the north and south faces, making these sides ideal for classrooms and other regularly occupied student spaces. • Learning Community Concept - Small communities facilitate a variety of instructional strategies and provide a learning environment which is characterized by flexibility, a sense of community for the students and teachers, and a safe, well-supervised environment. Teachers will have the option and flexibility within a team to create and organize learning environments that work for students and their learning styles.
ENERGY CONSUMPTION	• Climate data • Geothermal wells • Photovoltaic panels	• Climate Data - Climate data influences many elements of site development including area needed for storm water management, sports field orientation, building shading requirements and, selection of mechanical equipment. • Geothermal Wells - In order to serve the 56,000 sf High School, we have calculated that approximately 60 geothermal wells will be needed on site, spaced approximately 15'-0" – 20'-0" on center. It is estimated that these will occupy about half the size of a soccer field. • Photovoltaic Panels - Photovoltaics have been identified as the most efficient way to generate energy for the new international school. Efficient net zero energy design is most appropriately focused on drastic energy reduction as the most cost effective tool to reduce the first cost of the solar PV system.
COST	• Estimated based on square footage and general assumptions	

Scheme 01a (no parking garage)

Scheme 01b

Scheme 01c

Schemes 01a-01c do not remove existing Community Center

Scheme 02a (no parking garage)

Scheme 02b

*Scheme 02c**

Schemes 02a-02c remove existing Community Center

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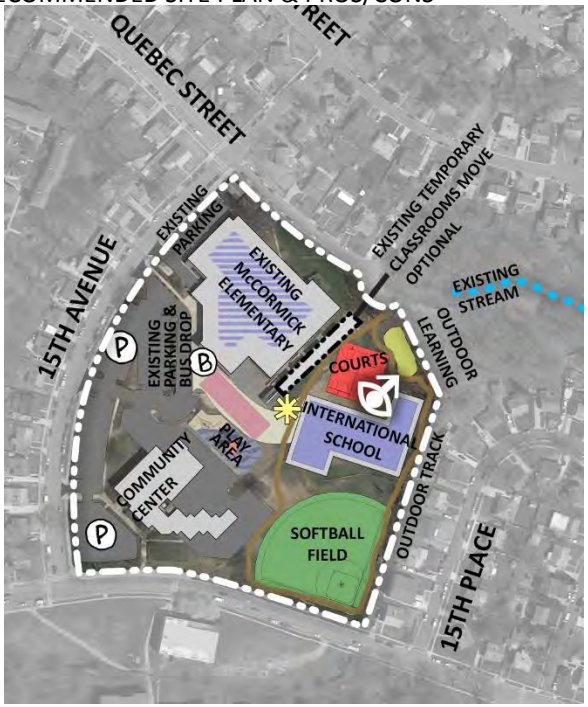
FINAL RECOMMENDATIONS: SCHEME SITE PLANS

SCHEME 01a

RECOMMENDED SITE PLAN & PROS/CONS



1 - Highest Quality / Best Conditions
2 - Good Quality / Good Conditions
3 - Adequate Quality and Conditions
4 - Poor Quality and Conditions
5 - Lowest Quality and Conditions
* - Number differs between schemes

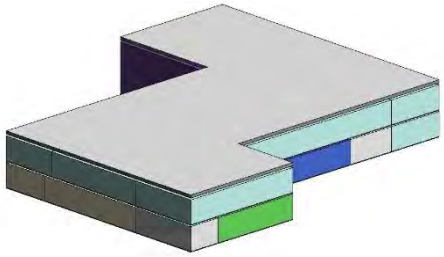
The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

	PROS	CONS	RANK
STORM WATER MANAGEMENT	•Flat areas to accommodate SWM •Redevelopment Site	•May need to outfall SD onto adjacent property •Additional cost for underground storm water storage on site •No green roof for storm water collections due to PV panels on roof	4*
WATER / SEWER / UTILITIES	•Water – Readily Available •Sewer – Readily Available •PEPCO service available	•Services will need to be run to North East corner of the site	1*
SITE WORK	•Not a lot of site work / infill needed •Majority of building site is flat	•Landscaping needed. •Steep slope along South side of site will require retaining walls for athletic fields •Have to increase parking and add bus loop •Less than 15 usable acres, 10+ Acreage	3*
ENVIRONMENTAL	•No Stream. •No known wetlands/water bodies. •No 100-year floodplain on-site •Existing neighborhood is compatible up to site •Site has environmental garden plots	•Soil could be highly erodible and potentially hydric	2
ROW / TRAFFIC / ACCESS	•Good access to Merrimac Drive and 15th Ave. •Planned new trails	•ROW dedication may be required. •Public Improvements to street trees may be required. •Traffic Study needed •Traffic signal and signage may be required	3
PARKING & CIRCULATION	•Shared parking in the middle of site •Extended bus loop shared with Elementary school •Expanded surface parking could add 40 spaces	•Surface parking insufficient to support all three structures •Elementary and High School circulation directly adjacent	5*
ADA ACCESS	•Access to public is close by and already provided.	•Steep slope on Merrimac Drive making access difficult •School far from parking	4*
PUBLIC TRANSPORTATION / WALKABILITY	•Existing sidewalks in surrounding area •Existing sidewalks curb cuts to site •Existing Bus routes walkable (Merrimac St & 14th Ave)	•Planned MTA Purple Line station 1 mile away, not easily walkable •Street lights and road improvements required	2
CAMPUS & GROWTH POTENTIAL	•Potential of sharing campus resources with existing ES and community center maximizing site potential	•Site fully occupied	2
ATHLETIC FIELDS / SITE AMENITIES	•Shared site amenities •Outdoor learning spaces opportunities •Softball, tennis courts, and outdoor track	•New playground would need to be relocated •Soccer/lacrosse field cannot be accommodated •Baseball field cannot be accommodated •Softball field on street, will required fences	5*
STAGING / PHASING	•Both existing buildings to remain	•Staging would be difficult and unsuccessful in avoiding interruptions of Elementary School & Community Center operations	5*
BUILDING ORIENTATION / LAYOUT	•East / West orientation achievable •Daylighting achievable •Views to student occupied spaces	•Very dense site layout •Views limited on South East side to backyards •Possible need to move temporary classrooms	3*
ENERGY CONSUMPTION	•$0.81 per square foot •With further study PV panels could be located on all roofs; take advantage of a complete "net zero site"		4*
COST	•$24.1M This scheme has less of an impact on the surrounding site.		*
			3.31

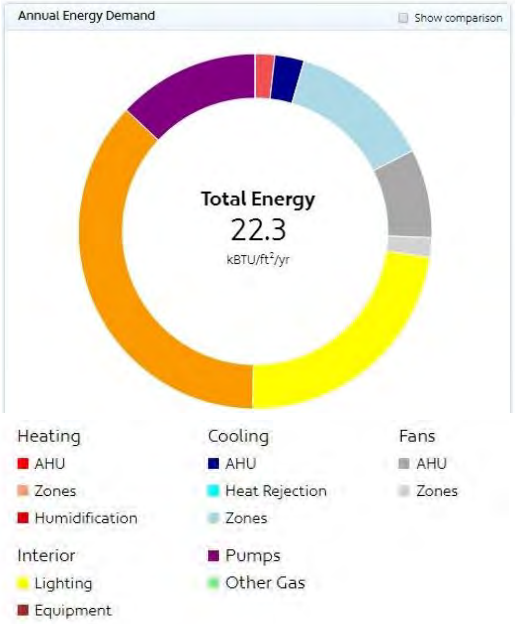
NORTH-SOUTH SITE SECTION

COST, AXON & TOTAL ENERGY

RECOMMENDED BUILDING AXON



SEFAIRA SYSTEMS ENERGY MODELING OUTPUT



COST SUMMARY		1a
1	**Building Sq. Ft.**	55,925
2	**Cost per sq. ft.** (Includes GC OH, Insurance)	$261.80
3	**Building Cost**	$14,641,165.00
4	**Environmental** (Abatement allowance)	-
5	**Demolition**	$175,848.75
6	**Site Work Percentage** (Cost as a % will vary)	25.00%
7	**Site Work Cost**	$3,660,291.25
8	**Parking Garage Sq. Ft.**	-
9	**Cost per sq. ft.**	-
10	**Parking Cost**	-
11	**PV Panels Wattage**	307,000
12	**Cost per watts** (Roof or ground mounted)	$2.15 (80%)
13	**Cost per watts** (Elevated array)	$3.50 (20%)
14	**PV Panels Cost**	$742,940.00
15	**Subtotal**	$4,579,080.00
16	**Design Contingency Percentage**	15.00%
17	**Contingency Cost**	$2,883,036.75
18	**SUBTOTAL**	$22,103,281.75
19	**Inflation Adjustment Percentage** (mid-2018)	9.00%
20	**Escalation Cost**	$1,989,295.36
21	**TOTAL CONSTRUCTION**	**$24,092,577.11**

SCHEME SCORE:

3.31

SCHEME RANK:

#6

(OUT OF 6)

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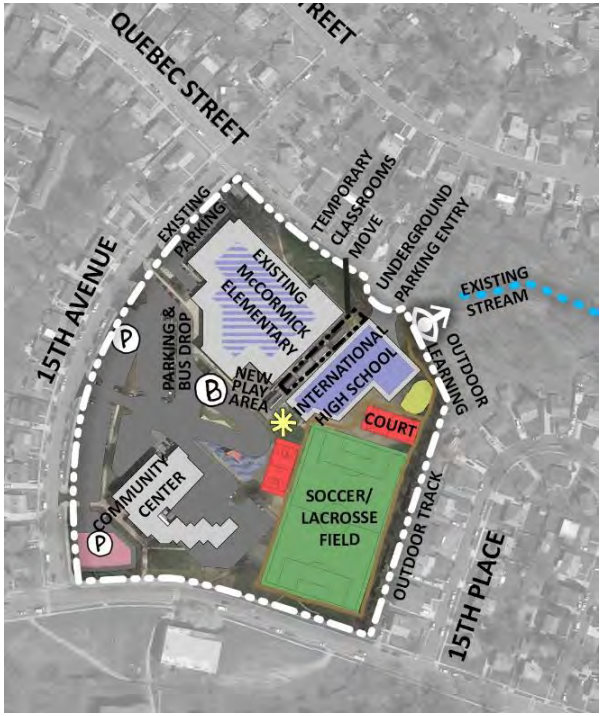
SCHEME 01a - SCORING SUMMARY

SCHEME 01b

RECOMMENDED SITE PLAN & PROS/CONS



1 - Highest Quality / Best Conditions
2 - Good Quality / Good Conditions
3 - Adequate Quality and Conditions
4 - Poor Quality and Conditions
5 - Lowest Quality and Conditions
* - Number differs between schemes

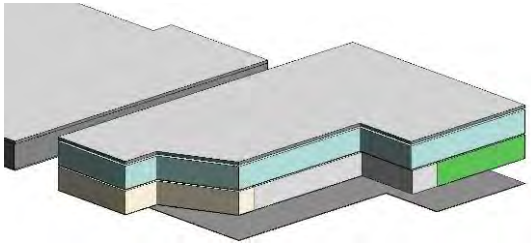
The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

	PROS	CONS	RANK
STORM WATER MANAGEMENT	•Flat areas to accommodate SWM •Redevelopment Site	•May need to outfall SD onto adjacent property •Additional cost for underground storm water storage on site •No green roof for storm water collections due to PV panels on roof	4*
WATER / SEWER / UTILITIES	•Water – Readily Available •Sewer – Readily Available •PEPCO service available	•Services will need to be run to North East corner of the site	1*
SITE WORK	•Not a lot of site work / infill needed •Majority of building site is flat	•Excavation needed for underground parking garage •Steep slope along south side of site will require retaining walls for athletic fields •May require increased parking for community center and add bus loop •Less than 15 usable acres, 10+ Acreage	4*
ENVIRONMENTAL	•No known stream/wetlands/water bodies. •No 100-year floodplain on-site •Existing neighborhood is compatible up to site •Site has environmental garden plots	•Soil could be highly erodible and potentially hydric	2
ROW / TRAFFIC / ACCESS	•Good access to Merrimac Drive and 15th Ave. •Planned new trails	•ROW dedication may be required. •Public Improvements to street trees may be required. •Traffic Study needed •Traffic signal and signage may be required	3
PARKING & CIRCULATION	•Shared parking in the middle of site •Parking garage could add 50 spaces •Expanded surface parking could add 40 spaces •Extended bus loop shared with Elementary school	•Surface parking insufficient to support all three structures •Parking garage provided to supply more parking •Elementary and High Schools' circulation is directly adjacent	4*
ADA ACCESS	•Access to public is close by and already provided.	•Steep slope on Merrimac Drive making access difficult	3*
PUBLIC TRANSPORTATION / WALKABILITY	•Existing sidewalks in surrounding area •Existing sidewalks curb cuts to site •Existing Bus routes walkable (Merrimac St & 14th Ave)	•Planned MTA Purple Line station 1 mile away, not easily walkable •Street lights and road improvements required	2
CAMPUS & GROWTH POTENTIAL	•Sharing campus resources with existing ES and community center maximizing site potential	•Site fully occupied •Required to share gym with Elementary school	2
ATHLETIC FIELDS / SITE AMENITIES	•Shared site amenities •Outdoor learning spaces opportunities •Soccer field, basketball or tennis courts, and outdoor track	•New playground would need to be relocated •Baseball field cannot be accommodated •Soccer/Lacrosse field on street, will require fences	4*
STAGING / PHASING	•Both existing buildings to remain	•Staging would be difficult and unsuccessful in avoiding interruptions of Elementary School and Community Center operations	5*
BUILDING ORIENTATION / LAYOUT	•Access to Elementary School gym	•Very dense site layout •Need to move temporary classrooms •East / West orientation unachievable •Daylighting limited on North West side •Views limited on North West / North East sides to Elem. School maintenance areas	5*
ENERGY CONSUMPTION	•$0.80 per square foot •PV panels could be located on all roofs; take advantage of a complete "net zero site"		3*
COST	•$25.2M This scheme is less of an impact on the surrounding site.		*
			3.23

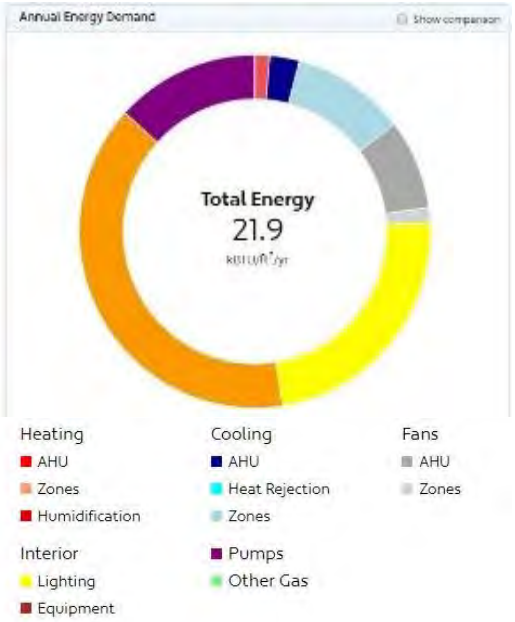
NORTH-SOUTH SITE SECTION

COST, AXON & TOTAL ENERGY

RECOMMENDED BUILDING AXON



SEFAIRA SYSTEMS ENERGY MODELING OUTPUT



COST SUMMARY		1b
1	**Building Sq. Ft.**	49,814
2	**Cost per sq. ft.** (Includes GC OH, Insurance)	$261.80
3	**Building Cost**	$13,041,305.20
4	**Environmental** (Abatement allowance)	-
5	**Demolition**	$175,848.75
6	**Site Work Percentage** (Cost as a % will vary)	30.00%
7	**Site Work Cost**	$3,912,391.56
8	**Parking Garage Sq. Ft.**	23,000
9	**Cost per sq. ft.**	$100.00
10	**Parking Cost**	$2,300,000.00
11	**PV Panels Wattage**	268,000
12	**Cost per watts** (Roof or ground mounted)	$2.15 (80%)
13	**Cost per watts** (Elevated array)	$3.50 (20%)
14	**PV Panels Cost**	$648,560.00
15	**Subtotal**	$7,036,800.31
16	**Design Contingency Percentage**	15.00%
17	**Contingency Cost**	$3,011,715.83
18	**SUBTOTAL**	$23,089,821.34
19	**Inflation Adjustment Percentage** (mid-2018)	9.00%
20	**Escalation Cost**	$2,078,083.92
21	**TOTAL CONSTRUCTION**	**$25,167,905.26**

SCHEME SCORE:

3.23

SCHEME RANK:

#5

(OUT OF 6)

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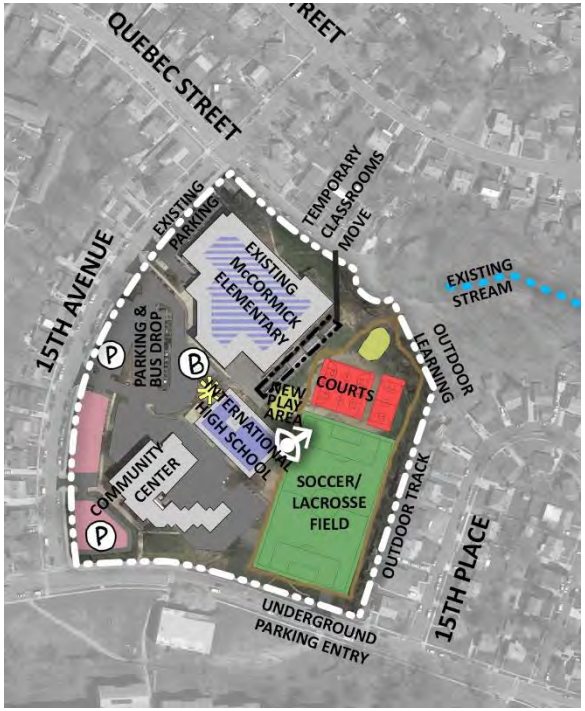
SCHEME 01b - SCORING SUMMARY

SCHEME 01c

RECOMMENDED SITE PLAN & PROS/CONS

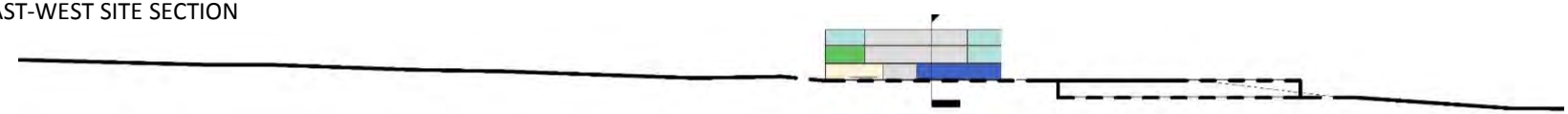


	PROS	CONS	RANK
STORM WATER MANAGEMENT	•Flat areas to accommodate SWM •Redevelopment Site	•May need to outfall SD onto adjacent property •Additional cost for underground storm water storage on site •No green roof for storm water collections due to PV panels on roof	4*
WATER / SEWER / UTILITIES	•Water – Readily Available •Sewer – Readily Available •PEPCO service available	•Services will need to be run to the middle of the site	1*
SITE WORK	•Not a lot of site work / infill needed •Majority of building site is flat	•Major excavation needed for underground parking garage with field above •Have to increase parking and add bus loop •Less than 15 usable acres, 10+ Acreage	4*
ENVIRONMENTAL	•No known stream/wetlands/water bodies. •No 100-year floodplain on-site •Existing neighborhood is compatible up to site •Site has environmental garden plots	•Soil could be highly erodible and potentially hydric	2
ROW / TRAFFIC / ACCESS	•Good access to Merrimac Drive and 15th Ave. •Planned new trails	•ROW dedication may be required. •Public Improvements to street trees may be required. •Traffic Study needed •Traffic signal and signage may be required	3
PARKING & CIRCULATION	•Shared parking in the middle of site •Expanded surface parking could add 40 spaces •Parking garage could add +/-150 parking spaces	•Current Elementary School bus loop may be insufficient for both schools •Surface parking insufficient to support all three structures •Largest parking garage provided to supply more parking •Elementary and High Schools' circulation is directly adjacent	3*
ADA ACCESS	•Access to public is close by and already provided. •School directly adjacent to parking lot/garage for easy access	•Steep slope on Merrimac Drive making street access difficult, but garage access possible	2*
PUBLIC TRANSPORTATION / WALKABILITY	•Existing sidewalks in surrounding area •Existing sidewalks curb cuts to site •Existing Bus routes walkable (Merrimac St & 14th Ave)	•Planned MTA Purple Line station 1 mile away, not easily walkable •Street lights and road improvements required	2
CAMPUS & GROWTH POTENTIAL	•Sharing campus resources with existing ES and community center maximizing site potential	•Site fully occupied •Required sharing of gym with Elementary School	2
ATHLETIC FIELDS / SITE AMENITIES	•Shared site amenities •Outdoor learning spaces opportunities •Soccer field, basketball or tennis courts, and outdoor track	•New playground would need to be relocated •Baseball field cannot be accommodated •Soccer/Lacrosse field on street, fences needed	3*
STAGING / PHASING	•Both existing buildings to remain	•Staging would be difficult and unsuccessful in avoiding interruptions of Elementary School and Community Center operations	5*
BUILDING ORIENTATION / LAYOUT	•Access to Elementary School gym	•Very dense site layout •East / West orientation unachievable •Views limited (back of community center, Elem.) •Quality daylighting limited	4*
ENERGY CONSUMPTION	•$0.83 per square foot •PV panels could be located on all roofs; take advantage of a complete "net zero site"		5*
COST	•$29.8M This scheme is less of an impact on the surrounding site.		*
			3.08

1 - Highest Quality / Best Conditions
2 - Good Quality / Good Conditions
3 - Adequate Quality and Conditions
4 - Poor Quality and Conditions
5 - Lowest Quality and Conditions
* - Number differs between schemes

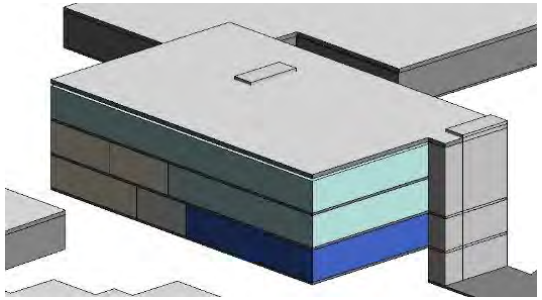
The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

EAST-WEST SITE SECTION

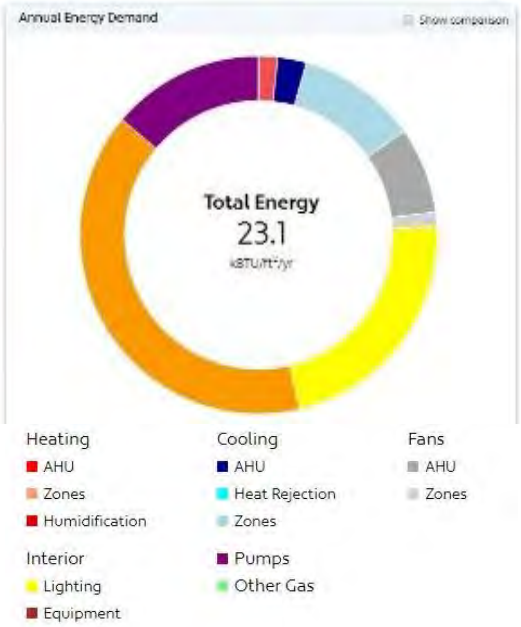


COST, AXON & TOTAL ENERGY

RECOMMENDED BUILDING AXON



SEFAIRA SYSTEMS ENERGY MODELING OUTPUT



COST SUMMARY		1c
1	**Building Sq. Ft.**	47,850
2	**Cost per sq. ft.** (Includes GC OH, Insurance)	$261.80
3	**Building Cost**	$12,527,130.00
4	**Environmental** (Abatement allowance)	-
5	**Demolition**	$175,848.75
6	**Site Work Percentage** (Cost as a % will vary)	35.00%
7	**Site Work Cost**	$4,384,495.50
8	**Parking Garage Sq. Ft.**	59,000
9	**Cost per sq. ft.**	$100.00
10	**Parking Cost**	$5,900,000.00
11	**PV Panels Wattage**	269,000
12	**Cost per watts**	$2.15 (50%)
13	**Cost per watts** (Elevated array)	$3.50 (50%)
14	**PV Panels Cost**	$759,925.00
15	**Subtotal**	$11,220,269.25
16	**Design Contingency Percentage**	15.00%
17	**Contingency Cost**	$3,562,109.89
18	**SUBTOTAL**	$27,309,509.14
19	**Inflation Adjustment Percentage** (mid-2018)	9.00%
20	**Escalation Cost**	$2,457,855.82
21	**TOTAL CONSTRUCTION**	**$29,767,364.96**

SCHEME SCORE:

3.08

SCHEME RANK:

#4

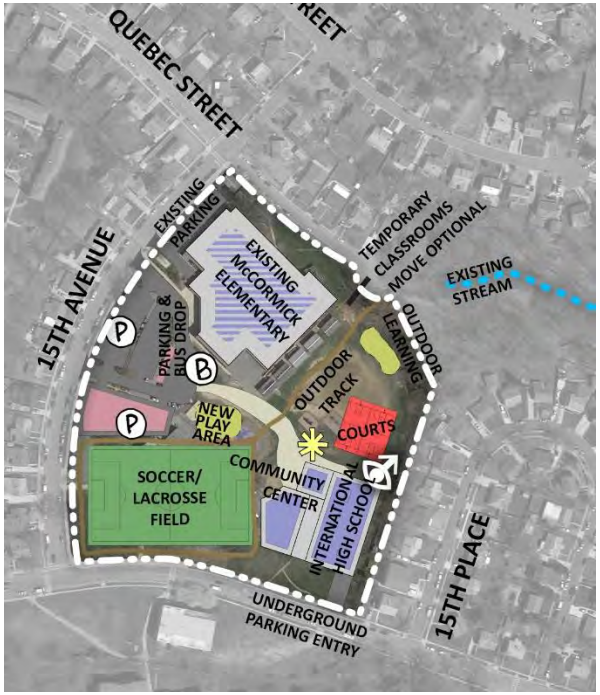
(OUT OF 6)

PGCPS
Great By Choice

SCHEME 01c - SCORING SUMMARY

SCHEME 02c

RECOMMENDED SITE PLAN & PROS/CONS



1 - Highest Quality / Best Conditions
2 - Good Quality / Good Conditions
3 - Adequate Quality and Conditions
4 - Poor Quality and Conditions
5 - Lowest Quality and Conditions
* - Number differs between schemes

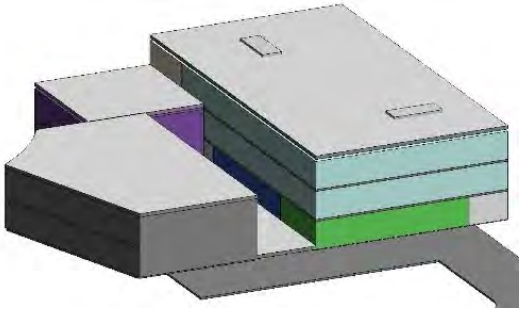
The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

	PROS	CONS	RANK
STORM WATER MANAGEMENT	•Flat areas to accommodate SWM •Redevelopment Site	•May need to outfall SD onto adjacent property •Additional cost for underground storm water storage on site •No Green roof for storm water collections due to PV panels on roof	3*
WATER / SEWER / UTILITIES	•Water – Readily Available •Sewer – Readily Available •PEPCO service available	•Services will need to be run to South East of the site •Existing Community Center utilities need to be capped or moved from field area	2*
SITE WORK	•Not a lot of site work / infill needed •Majority of building site is flat	•Building demolition required with construction of soccer field •Excavation needed for underground parking garage •Steep slope along south side of site will require retaining walls for field •Have to increase parking and adjust existing bus loop •Less than 15 usable acres, 10+ Acreage	4*
ENVIRONMENTAL	•No Stream. •No known wetlands/water bodies. •No 100-year floodplain on-site •Existing neighborhood is compatible up to site •Site has environmental garden plots	•Soil could be highly erodible and potentially hydric	2
ROW / TRAFFIC / ACCESS	•Good access to Merrimac Drive and 15th Ave. •Planned new trails	•ROW dedication may be required. •Public Improvements to street trees may be required. •Traffic Study needed •Traffic signal and signage may be required	3
PARKING & CIRCULATION	•Shared parking in the middle of site •Smallest parking garage could add +/- 40 spaces •Extended bus loop shared with Elementary school	•Loss of 20 surface parking spaces making surface parking insufficient to support both structures •Smallest parking garage provided to supply more parking	4*
ADA ACCESS	•Access to public is close by and already provided.	•Surface parking lot far from building	2*
PUBLIC TRANSPORTATION / WALKABILITY	•Existing sidewalks in surrounding area •Existing sidewalks curb cuts to site •Existing Bus routes walkable (Merrimac St & 14th Ave)	•Planned MTA Purple Line station 1 mile away, not easily walkable •Street lights and road improvements required	2
CAMPUS & GROWTH POTENTIAL	•Potential of sharing campus resources with existing ES •Community center directly connected, maximizing site potential	•Site fully occupied •Coordination of shared space with Community Center	2
ATHLETIC FIELDS / SITE AMENITIES	•Shared site amenities •Outdoor learning spaces opportunities •Soccer field, basketball or tennis courts, and outdoor track	•New playground would need to be relocated to accommodate soccer field •Soccer field on street, fences needed •Baseball field cannot be accommodated	3*
STAGING / PHASING	•Removal of Community Center means staging is further away from Elementary School	•Staging would be difficult in completely avoiding interruptions of Elementary School operations	4*
BUILDING ORIENTATION / LAYOUT	•Daylighting achievable	•Very dense site layout •East / West orientation unachievable •Views limited on North West / South East sides to rooftops and backyards	4*
ENERGY CONSUMPTION	•$0.80 per square foot •PV panels could be located on all roofs; take advantage of a complete “net zero site”		3*
COST	•$29.7M •(+$9.28M Community Center)		*
			2.92

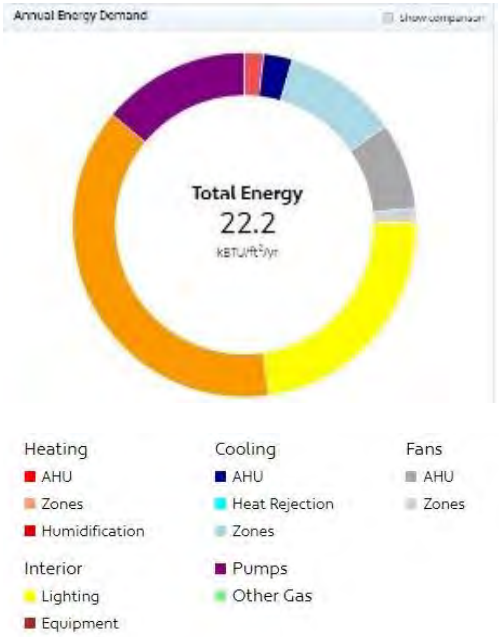
EAST-WEST SITE SECTION

COST, AXON & TOTAL ENERGY

RECOMMENDED BUILDING AXON



SEFAIRA SYSTEMS ENERGY MODELING OUTPUT



COST SUMMARY		02c	Community Center
1	Building Sq. Ft.	59,418	20,000
2	Cost per sq. ft.	$261.80	$285.00
3	Building Cost	$15,555,632.40	$5,700,000.00
4	Environmental	-	-
5	Demolition	$422,037.00	$0.00
6	Site Work Percentage	30.00%	30.00%
7	Site Work Cost	$4,666,689.72	$1,710,000.00
8	Parking Garage Sq. Ft.	21,505	-
9	Cost per sq. ft.	$100.00	-
10	Parking Cost	$2,150,500.00	-
11	PV Panels Wattage	323,000	0
12	Cost per watts	$2.15 (50%)	$2.15
13	Cost per watts (Elevated array)	$3.50 (50%)	$3.50
14	PV Panels Cost	$912,475.00	$0.00
15	Subtotal	$8,151,701.72	$1,710,000.00
16	Design Contingency Percentage	15.00%	15.00%
17	Contingency Cost	$3,556,100.12	$1,111,500.00
18	SUBTOTAL	$27,263,434.24	$8,521,500.00
19	Inflation Adjustment Percentage	9.00%	9.00%
20	Escalation Cost	$2,453,709.08	$766,935.00
21	TOTAL CONSTRUCTION	**$29,717,143.32**	**$9,288,435.00**

SCHEME SCORE:

2.92

SCHEME RANK:

#3

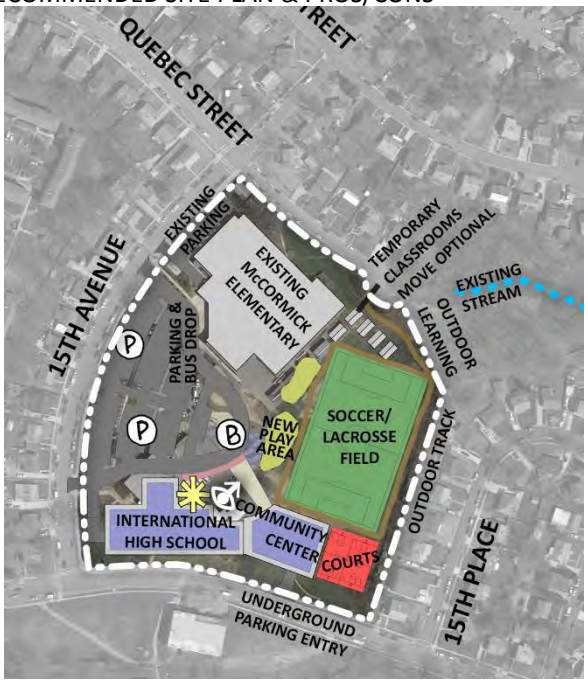
(OUT OF 6)

PGCPS Great By Choice

SCHEME 02c - SCORING SUMMARY

SCHEME 02b

RECOMMENDED SITE PLAN & PROS/CONS



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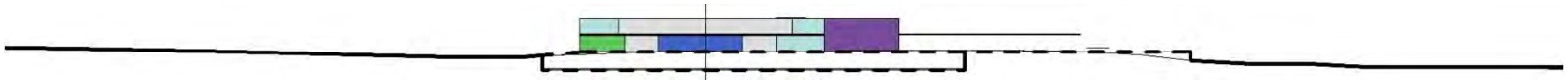
5 - Lowest Quality and Conditions
* - Number differs between schemes

The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

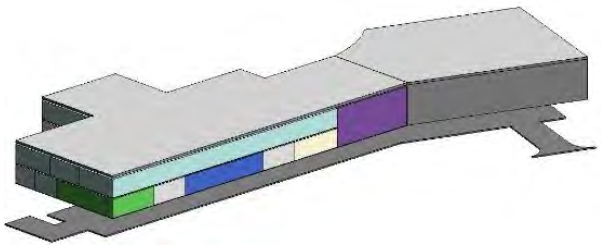
	PROS	CONS	RANK
STORM WATER MANAGEMENT	•Flat areas to accommodate SWM •Redevelopment Site	•May need to outfall SD onto adjacent property •Additional cost for underground storm water storage on site •No Green roof for storm water collections due to PV panels on roof	4*
WATER / SEWER / UTILITIES	•Water – Readily Available •Sewer – Readily Available •PEPCO service available	•Services will need to be run to new Community Center of the site	1*
SITE WORK	•Not a lot of site work / infill needed •Majority of building site is flat	•Existing building demolition required •Excavation needed for underground parking garage •Have to increase parking and add bus loop •Less than 15 usable acres, 10+ Acreage	4*
ENVIRONMENTAL	•No Stream •No known wetlands/water bodies •No 100-year floodplain on-site •Existing neighborhood is compatible up to site •Site has environmental garden plots	•Soil could be highly erodible and potentially hydric	2
ROW / TRAFFIC / ACCESS	•Good access to Merrimac Drive and 15th Ave. •Planned new trails	•ROW dedication may be required. •Public Improvements to street trees may be required. •Traffic Study needed •Traffic signal and signage may be required	3
PARKING & CIRCULATION	•Shared parking in the middle of site •Expanded surface parking could add 40 spaces •Parking garage could add +/-80 parking spaces •Extended bus loop shared with Elementary school	•Surface parking insufficient to support all three structures •Parking garage provided to supply more parking	4*
ADA ACCESS	•Access to public is close by and already provided •School and Community Center close to parking lot	•Steep slope on Merrimac Drive making street access difficult but garage access is possible	2*
PUBLIC TRANSPORTATION / WALKABILITY	•Existing sidewalks in surrounding area •Existing sidewalks curb cuts to site •Existing Bus routes walkable (Merrimac St & 14th Ave)	•Planned MTA Purple Line station 1 mile away, not easily walkable •Street lights and road improvements required	2
CAMPUS & GROWTH POTENTIAL	•Potential of sharing campus resources with existing ES •Community center directly connected, maximizing site potential	•Site fully occupied •Coordination of shared space with Community Center	2
ATHLETIC FIELDS / SITE AMENITIES	•Shared site amenities •Outdoor learning spaces opportunities •Soccer field, basketball or tennis courts, and outdoor track	•New playground would need to be relocated •Athletic fields are tightly packed together •Baseball field cannot be accommodated	4*
STAGING / PHASING	•Removal of Community Center means staging is further away from Elementary School	•Staging would be difficult in completely avoiding interruptions of Elementary School operations	4*
BUILDING ORIENTATION / LAYOUT	•East / West orientation achievable •Daylighting achievable •Views achievable	•Very dense site layout •Need to move temporary classrooms	2*
ENERGY CONSUMPTION	•$0.79 per square foot •PV panels could be located on all roofs; take advantage of a complete “net zero site”		2*
COST	•$28.1M •(+$9.28M Community Center)		*
			2.77

EAST-WEST SITE SECTION

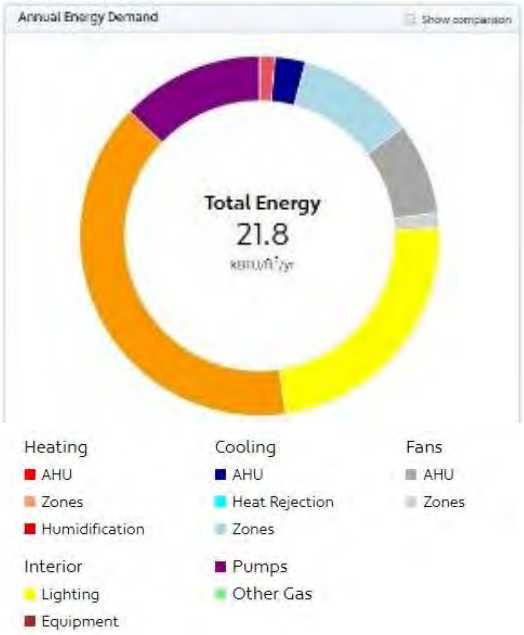


COST, AXON & TOTAL ENERGY

RECOMMENDED BUILDING AXON



SEFAIRA SYSTEMS ENERGY MODELING OUTPUT



COST SUMMARY		2b	COMMUNITY CENTER
1	**Building Sq. Ft.**	54,336	20,000
2	**Cost per sq. ft.**	$261.80	$285.00
3	**Building Cost**	$14,225,164.80	$5,700,000.00
4	**Environmental**	-	-
5	**Demolition**	$422,037.00	$0.00
6	**Site Work Percentage**	30.00%	30.00%
7	**Site Work Cost**	$4,267,549.44	$1,710,000.00
8	**Parking Garage Sq. Ft.**	28,000	-
9	**Cost per sq. ft.**	$100.00	-
10	**Parking Cost**	$2,800,000.00	-
11	**PV Panels Wattage**	290,000	0
12	**Cost per watts**	$2.15 (90%)	$2.15
13	**Cost per watts** (Elevated array)	$3.50 (10%)	$3.50
14	**PV Panels Cost**	$662,650.00	$0.00
15	**Subtotal**	$8,152,236.44	$1,710,000.00
16	**Design Contingency Percentage**	15.00%	15.00%
17	**Contingency Cost**	$3,356,610.19	$1,111,500.00
18	**SUBTOTAL**	$25,734,011.43	$8,521,500.00
19	**Inflation Adjustment Percentage**	9.00%	9.00%
20	**Escalation Cost**	$2,316,061.03	$766,935.00
21	**TOTAL CONSTRUCTION**	**$28,050,072.45**	**$9,288,435.00**

SCHEME SCORE:

2.77

SCHEME RANK:

#2

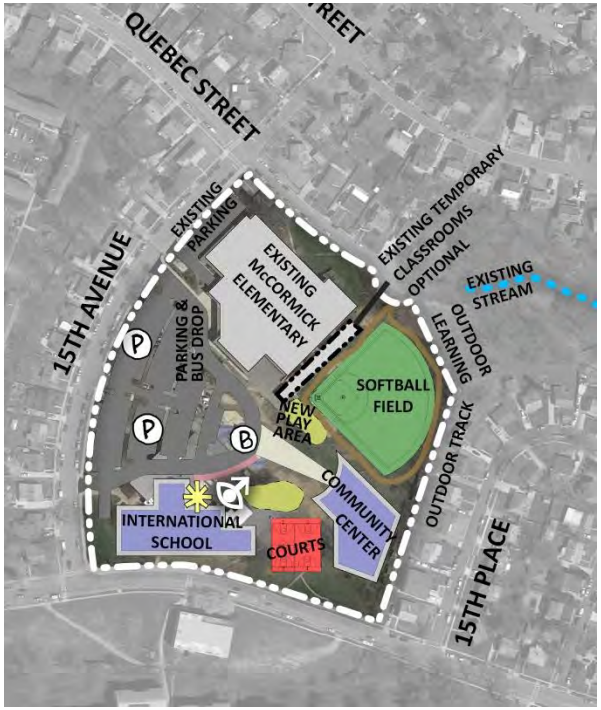
(OUT OF 6)

PGCPS Great By Choice

SCHEME 02b - SCORING SUMMARY

SCHEME 02a

RECOMMENDED SITE PLAN & PROS/CONS



1 - Highest Quality / Best Conditions
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3 - Adequate Quality and Conditions
4 - Poor Quality and Conditions
5 - Lowest Quality and Conditions
* - Number differs between schemes

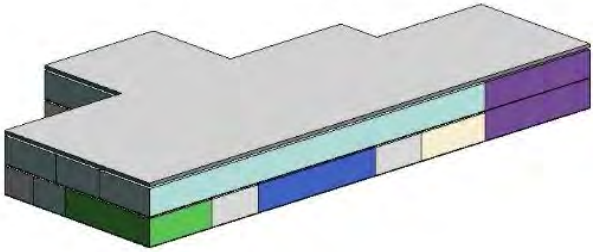
The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

	PROS	CONS	RANK
STORM WATER MANAGEMENT	•Flat areas to accommodate SWM •Redevelopment Site	•May need to outfall SD onto adjacent property •Additional cost for underground storm water storage on site •No Green roof for storm water collections due to PV panels on roof	4*
WATER / SEWER / UTILITIES	•Water – Readily Available •Sewer – Readily Available •PEPCO service available	•Services will need to be run to South East corner of the site	1*
SITE WORK	•Not a lot of site work / infill needed •Majority of building site is flat	•Building demolition required •Steep slope along south side of site will require retaining walls for athletic fields •Have to increase parking and add bus loop •Less than 15 usable acres, 10+ Acreage	3*
ENVIRONMENTAL	•No Stream. •No known wetlands/water bodies. •No 100-year floodplain on-site •Existing neighborhood is compatible up to site •Site has environmental garden plots	•Soil could be highly erodible and potentially hydric	2
ROW / TRAFFIC / ACCESS	•Good access to Merrimac Drive and 15th Ave. •Planned new trails	•ROW dedication may be required. •Public Improvements to street trees may be required. •Traffic Study needed •Traffic signal and signage may be required	3
PARKING & CIRCULATION	•Shared parking in the middle of site •Extended bus loop shared with Elementary school •Expanded surface parking could add 50 spaces	•Surface parking insufficient to support all three structures	5*
ADA ACCESS	•Access to public is close by and already provided.	•The Community Center is further away from parking and access	2*
PUBLIC TRANSPORTATION / WALKABILITY	•Existing sidewalks in surrounding area •Existing sidewalks curb cuts to site •Existing Bus routes walkable (Merrimac St & 14th Ave)	•Planned MTA Purple Line station 1 mile away, not easily walkable •Street lights and road improvements required	2
CAMPUS & GROWTH POTENTIAL	•Potential of sharing campus resources with existing ES and community center maximizing site potential	•Site fully occupied	2
ATHLETIC FIELDS / SITE AMENITIES	•Shared site amenities •Outdoor learning spaces opportunities •Softball field, basketball or tennis courts, and outdoor track	•New playground would need to be relocated •Desired Soccer/Lacrosse field cannot be accommodated •Baseball field cannot be accommodated	5*
STAGING / PHASING	•Removal of Community Center means staging is further away from Elementary School	•Staging would be difficult in completely avoiding interruptions of Elementary School operations	4*
BUILDING ORIENTATION / LAYOUT	•East / West orientation achievable •Daylighting achievable •Views achievable	•Very dense site layout •Possible need to move existing temporary classrooms	2*
ENERGY CONSUMPTION	•$0.77 per square foot •PV panels could be located on all roofs; take advantage of a complete “net zero site”		1*
COST	•$24.2M •(+$8.93M Community Center)		*
			2.77

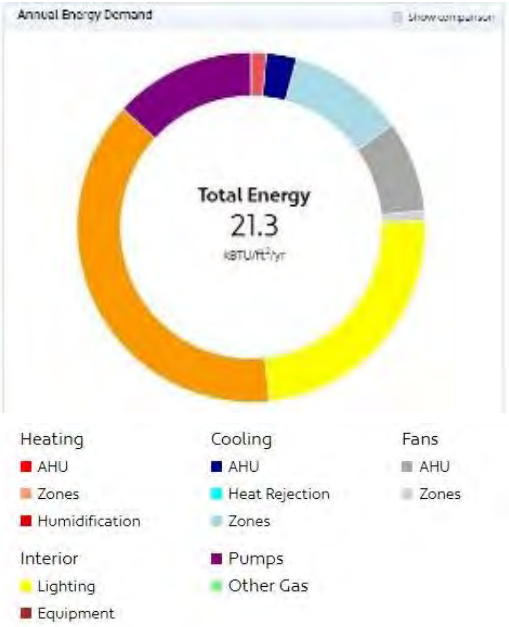
EAST-WEST SITE SECTION

COST, AXON & TOTAL ENERGY

RECOMMENDED BUILDING AXON



SEFAIRA SYSTEMS ENERGY MODELING OUTPUT



COST SUMMARY		2a	COMMUNITY CENTER
1	Building Sq. Ft.	55,655	20,000
2	Cost per sq. ft.	$261.80	$285.00
3	Building Cost	$14,570,479.00	$5,700,000.00
4	Environmental	-	-
5	Demolition	$422,037.00	$0.00
6	Site Work Percentage	25.00%	25.00%
7	Site Work Cost	$3,642,619.75	$1,425,000.00
8	Parking Garage Sq. Ft.	-	-
9	Cost per sq. ft.	-	-
10	Parking Cost	-	-
11	PV Panels Wattage	290,000	0
12	Cost per watts	$2.15	$2.15
13	Cost per watts (Elevated array)	$3.50	$3.50
14	PV Panels Cost	$662,650.00	$0.00
15	Subtotal	$4,727,306.75	$1,425,000.00
16	Design Contingency Percentage	15.00%	15.00%
17	Contingency Cost	$2,894,667.86	$1,068,750.00
18	SUBTOTAL	$22,192,453.61	$8,193,750.00
19	Inflation Adjustment Percentage	9.00%	9.00%
20	Escalation Cost	$1,997,320.83	$737,437.50
21	TOTAL CONSTRUCTION	**$24,189,774.44**	**$8,931,187.50**

SCHEME SCORE:

2.77

SCHEME RANK:

#1

(OUT OF 6)

PGCPS Great By Choice

SCHEME 02a - SCORING SUMMARY

FINAL SCHEME SCORES

	Storm Water Management	Water / Sewer / Utilities	Site Work	Environmental	ROW / Traffic / Access	Parking & Circulation	ADA Access	Public Transportation / Walkability	Campus & Growth Potential	Athletic Fields / Site Amenities	Staging / Phasing	Building Orientation / Layout	Energy Consumption	Cost	Total	Site Score
Scheme 01a	4	1	3	2	3	5	4	2	2	5	5	3	4		43	3.31
Scheme 01b	4	1	4	2	3	4	3	2	2	4	5	5	3		42	3.23
Scheme 01c	4	1	4	2	3	3	2	2	2	3	5	4	5		40	3.08
Scheme 02a	4	1	3	2	3	5	2	2	2	5	4	2	1		36	2.77
Scheme 02b	4	1	4	2	3	4	2	2	2	4	4	2	2		36	2.77
Scheme 02c	3	2	4	2	3	4	2	2	2	3	4	4	3		38	2.92

1 - Highest Quality / Best Conditions

2 - Good Quality / Good Conditions

3 - Adequate Quality and Conditions

4 - Poor Quality and Conditions

5 - Lowest Quality and Conditions

The final ranking for each scheme is an average of all 13 criteria categories listed in the Pros and Cons chart.

FINAL SCHEME SCORES

	Storm Water Management	Water / Sewer / Utilities	Site Work	Environmental	ROW / Traffic / Access	Parking & Circulation	ADA Access	Public Transportation / Walkability	Campus & Growth Potential	Athletic Fields / Site Amenities	Staging / Phasing	Building Orientation / Layout	Energy Consumption	Cost	Total	Site Score
Scheme 01a	●	●	●	●	●	●	●	●	●	●	●	●	●		43	3.31
Scheme 01b	●	●	●	●	●	●	●	●	●	●	●	●	●		42	3.23
Scheme 01c	●	●	●	●	●	●	●	●	●	●	●	●	●		40	3.08
Scheme 02a	●	●	●	●	●	●	●	●	●	●	●	●	●		36	2.77
Scheme 02b	●	●	●	●	●	●	●	●	●	●	●	●	●		36	2.77
Scheme 02c	●	●	●	●	●	●	●	●	●	●	●	●	●		38	2.92

● - Good Quality and Conditions
● - Adequate Quality and Conditions
● - Poor Quality and Conditions

FINAL SCHEME RECOMMENDATIONS

RANK	Scheme		Preliminary Cost (+/-) surface parking	Parking Garage (+) garage parking	Subtotal	Community Center	TOTAL	SCORE
#1	2a	Cost	$24.19	$0.00	$24.19	$8.93	**$33.12 million**	**2.77**
		Parking Spaces	+50 spaces	0 spaces			+50 spaces	
#2	2b	Cost	$25.25	$2.80	$28.05	$9.29	**$37.34 million**	**2.77**
		Parking Spaces	+40 spaces	+80 spaces			+120 spaces	
#3	2c	Cost	$27.57	$2.15	$29.72	$9.29	**$39.01 million**	**2.92**
		Parking Spaces	-20 spaces	+80 spaces			+60 spaces	
#4	1c	Cost	$23.87	$5.90	$29.77	$0.00	**$29.77 million**	**3.08**
		Parking Spaces	+40 spaces	+150 spaces			+190 spaces	
#5	1b	Cost	$22.87	$2.30	$25.17	$0.00	**$25.17 million**	**3.23**
		Parking Spaces	+40 spaces	+50 spaces			+90 spaces	
#6	1a	Cost	$24.09	$0.00	$24.09	$0.00	**$24.09 million**	**3.31**
		Parking Spaces	+40 spaces	0 spaces			+40 spaces	

Scheme 02a (no parking garage)

#1 Score 2.77 $24.19 + $8.93

Scheme 01c

#4 Score 3.08 $29.77

New Community Center

Scheme 02a (no parking garage)

#1 Score 2.77 $24.19 + $8.93

Scheme 02b

#2 Score 2.77 $28.05 + $9.29

Scheme 02c

#3 Score 2.92 $29.72 + $9.29

Existing Community Center

Scheme 01c

#4 Score 3.08 $29.77

Scheme 01b

#5 Score 3.23 $25.17

Scheme 01a (no parking garage)

#6 Score 3.31 $24.09

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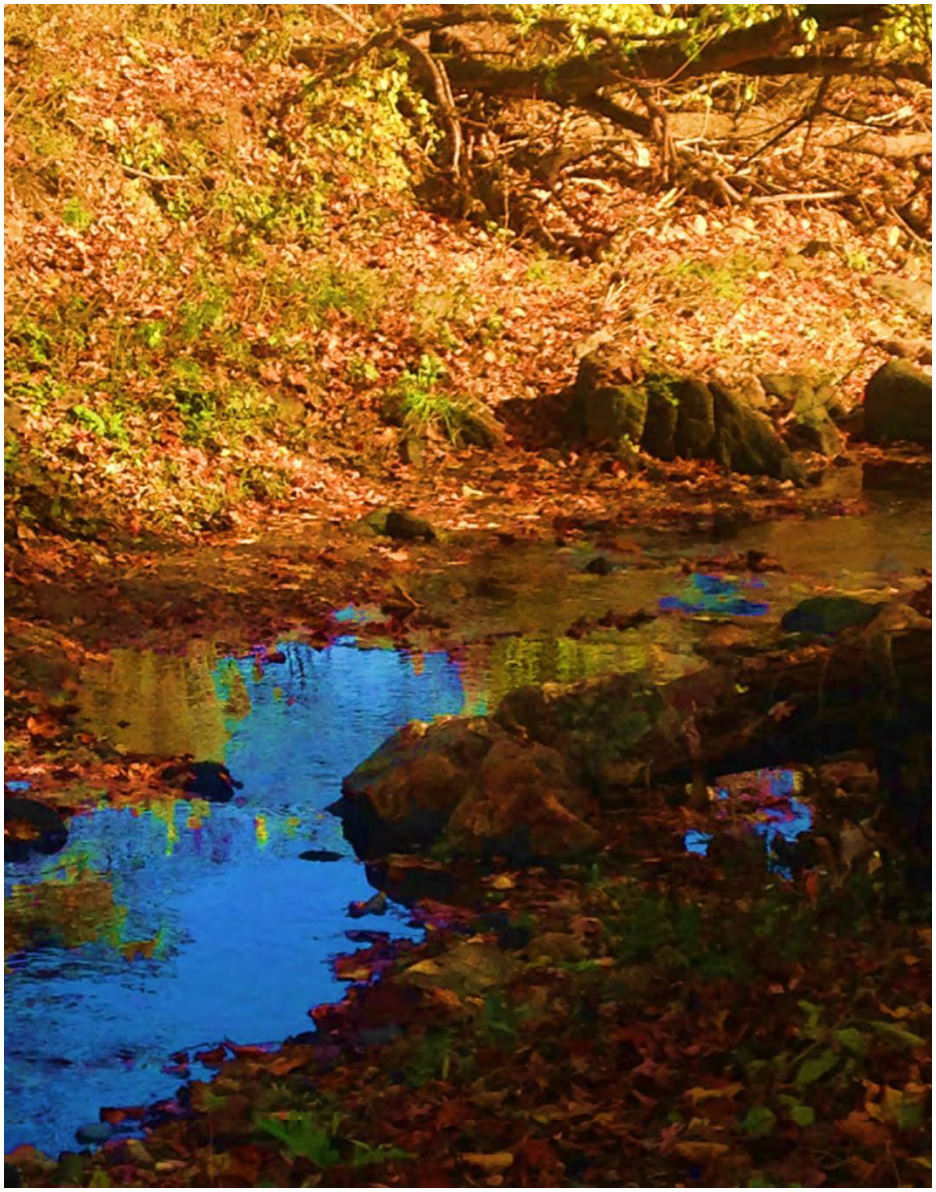
FINAL RECOMMENDATIONS: OVERALL SCHEME RANKINGS



December 14th, 2016

Community Discussion

January 5th, 2017

Board of Education First Reader

January 19th, 2017

Board of Education Second Reader

Final Vote

Spring 2017

Project kick-off meeting with Architectural and Engineering Team

PGCPS
Great By Choice

SCHEDULE

PGCPS
Great By Choice