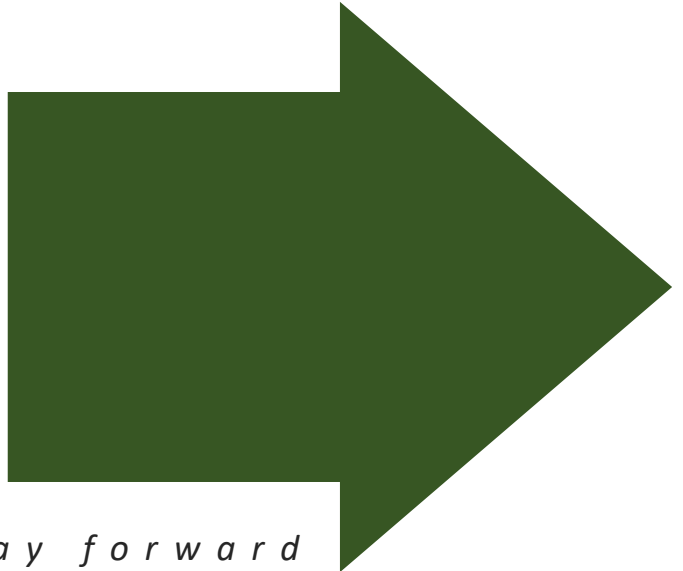




Canton Public Schools

# Feasibility Study



*... establishing a pathway forward*

**Final Report**  
December 13, 2018

Dore & Whittier Architects, Inc.

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**Appendix I : Task One Workshop**

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Presentation Material

Meeting Notes

**Appendix II : Meetings**

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Presentation Material

Meeting Notes

**Appendix III : Rodman Building Structural Evaluation**

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**Appendix IV: Cost Estimates**

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Budget Worksheets for each option

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## ACKNOWLEDGEMENTS

Dore & Whittier Architects, Inc. would like to acknowledge the following individuals from the Canton School District for their assistance in the Canton Public Schools Feasibility Study

Dr. Jennifer Fisher-Mueller	Superintendent
Patricia Kinsella	Assistant Superintendent
Barry Nectow	School Business Administrator
Bob McCarthy	Chairman, Canton Building Renovations Committee
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## EXECUTIVE SUMMARY

### Study Overview

In May of 2018, the Town of Canton, through its Building Renovation Committee, hired Dore & Whittier Architects to conduct a feasibility study to explore topics identified in the District-wide Master Plan Report of October 2017. The purpose of this study was to include cost estimates for a potential repurposing of the Marilyn G. Rodman Building as an 8th-Grade Academy, the design and construction of modular classrooms at one or more of Canton’s elementary schools, and potential options for renovating District offices. D&W structured the feasibility study around these three tasks in order to achieve the following goals:

1. Evaluate the feasibility of renovating the Marilyn G. Rodman Building to potentially serve as an 8th-Grade Academy
2. Evaluate the feasibility of relocating Pre-K students in several scenarios:
  - a. At each elementary school, in modular classrooms
  - b. At each elementary school, integrated into the building
  - c. At the Rodman building
3. Evaluate the feasibility of renovating the Marilyn G. Rodman Building to,
  - a. improve the quality of spaces for District offices and,
  - b. support both District offices and an expanded Pre-K program.

**Task One** - Evaluate the feasibility of renovating the Marilyn G. Rodman Building to potentially serve as an 8th-Grade Academy

The District’s Master Plan explored a variety of grade configurations to support current and projected student enrollment. One configuration – an option where 8<sup>th</sup> grade was removed from Galvin Middle School and relocated to the Rodman building as a stand-alone 8th-Grade Academy next to the Canton High School rose to the top as one worth more study.

Task One began with an exploration of current 8th-Grade Academies in Massachusetts along with academic research on 8th-Grade Academies as a transitional tool to ease the shift from middle school to high school. Currently, nine districts in the state have an 8th-Grade Academy as part of their overall program, and academic research leans more toward 9<sup>th</sup> grade as the more typical year for transitional, academy-type programs.

Task One also included structural investigations at Rodman and further research into Canton Public Schools’ educational goals to determine the feasibility of implementing an 8th-Grade Academy at the Rodman Building.

The completion of Task One focused primarily on responding to the following questions:

1. Would the Rodman Building’s structural design support a renovation that would not require a substantial structural intervention?
2. Why have an 8th-Grade Academy? What does academic research and current precedents reveal?
3. What is the student educational experience? What are students doing? How are they demonstrating learning? Communicating? Working?
4. What are the potential impacts of this program on students, staff, culture, schedule, transportation, budget, etc.?

In order to more closely examine educational program questions and potential solutions, D&W took the District’s Working Group through a series of gallery walks and round-table conversations during an 8th-Grade Academy workshop. As part of the conversation, District administrators agreed on the vision for an 8<sup>th</sup>-Grade experience as one in which students would be active participants and leaders of their own experiential, interdisciplinary, and personalized learning. An in-depth review revealed, however, that the additional cost to renovate Rodman and the cost associated with District-wide impacts to staffing, transportation, scheduling, and resources would most likely not be supported by the Town at this time. Though the focus group philosophically agreed with the academic, social, and emotional benefits of an 8th-Grade Academy, they could not fully justify having the academy in this separate building given the cost and the fact that a similar program could be developed at the current middle school.

Due to the District’s determination that an 8th-Grade Academy is not currently feasible, Dore & Whittier did not pursue cost estimates for this option.

### **Task Two** – Evaluate the feasibility of relocating Pre-Kindergarten in several scenarios

The District’s Master plan revealed a public desire to explore the possibility of decentralizing Pre-Kindergarten so that students could attend Pre-K in their neighborhood school. In response, Task Two focused on evaluating options for the placement of Pre-K students using three different scenarios:

- Option 1: Pre-K placed in modular classrooms at each elementary school
- Option 2: Pre-K integrated into each elementary school
- Option 3: Pre-K placed at the Rodman building where they currently reside.

In each scenario, a total of 8 and 9 classrooms were used given the District’s estimated Pre-K enrollment number of 175 students, as determined during the Master Plan Study. D&W tested feasibility using the following program needs provided by the District:

- 8-9 Pre-K Classrooms (with internal bathrooms)
- Family Room
- OT/PT Room
- Speech and Language Room
- Staff Room
- Administration Area
- General Office/Waiting Area
- Nurse
- Indoor Motor Room

### **Option 1 – Modular Additions at Each Elementary School**

D&W tested the feasibility of a modular addition at each elementary school, including three 1,200 sf classrooms with internal bathrooms per MSBA guidelines. The configuration of classrooms at each school varied based on site constraints and options for connecting the modular addition to the main building. At both the John F. Kennedy Elementary School and Dean S. Luce Elementary School classrooms were configured along a single corridor, however, at Lt. Peter M. Hansen Elementary School, where more space was available, classrooms were configured in a double-loaded corridor with an additional space to be used as a teaching space, office space, or student support space at the District's discretion. D&W determined two alternative options for modular placement at Hansen Elementary School and one option at both JFK and Luce Elementary Schools. In all three locations, Pre-K would need to utilize their connection to the main building to meet all program needs. This would include sharing student support services, the nurse, administration areas, and the gymnasium, and would in general, place a greater demand on the staff at each school.

### **Option 2 – Pre-K Integrated at Each Elementary School**

D&W tested feasibility of Pre-K being integrated into each building, with a possible shuffling and relocation of another grade level into the modular additions at each school as identified in Option 1. At first glance, this relocation of another grade appeared more cost effective given that Pre-K classrooms required 1,200 sf with internal bathrooms per MSBA guidelines whereas classrooms for grades 1-8 required 950 sf with no bathroom requirements. Upon further investigation, D&W determined that relocating another grade would be challenging since each school has, on average, a total of 4 sections per grade level, one more than the 3 modular classrooms planned for Option 1: Pre-K at each school. This would result in splitting grade level clusters and/or the adding a fourth modular classroom at each location, which, in some cases, the site would not support. Overall, Option 2 could potentially be more expensive than Option 1 and could ultimately disrupt a larger population of students given the relocations of multiple grade levels. As is the case in Option 1, Option 2: Pre-K would need to leverage staff and space within each main building to meet program needs. It is worth noting, that the program



requirement for classrooms with internal bathrooms would not be fulfilled in this option as not all classrooms with internal bathrooms would be available for Pre-K at each school. Again, as in Option 1, sharing student support services, the nurse, administration areas, gymnasium, and would in general, place a greater demand on the staff at each school.

### **Option 3 – Pre-K to Remain at Rodman Building**

In Option 3, D&W tested feasibility of Pre-K to remain at the Rodman Building and share the space with District offices. In this option, D&W explored layouts for an 8- and 9-classroom configuration spread out on two floors – the lower and main level – with the remaining space utilized by District offices and/or a future tenant. On the main level, where space is shared by Pre-K and District offices, a set of security doors would provide additional separation.

As a means of limiting overall cost and project scope, D&W worked to remain within the existing partition walls at Rodman, which limited classroom sizes to approximately 726-943 sf, smaller than MSBA guidelines but in line with Pre-K classroom sizes if they were to relocate into the main building at each school. In this option, the added benefit would be the inclusion of internal bathrooms for each classroom. Both 8- and 9-classroom options leverage a new entry location and entry sequence to improve security, overall space layout, and options for relocating the playground closer to the building.

Of all options considered, allowing Pre-K to expand its program at the Rodman Building appears to provide the greatest overall benefit. Leveraging the existing building allows Pre-K to spread out on two floors where clusters of classrooms can create small neighborhoods within the larger space. Pre-K staff and students have their own specific space tied directly to the developmental needs of the age group without sharing spaces designed for older students. Specifically, classrooms would all have internal bathrooms, and an assigned Indoor Motor Room wouldn't need to double as a gym for an entire student body. Ultimately, however, this solution would not support the interest in decentralizing Pre-K.

### **Task Three** – Evaluate the feasibility of renovating the Rodman Building for District offices

Task Three focused on the feasibility of repurposing the Marilyn G. Rodman Building to simultaneously support both District offices and the growing Pre-K program, with the assumption that the Pre-K program would need to accommodate up to eight or nine classrooms with internal bathrooms and additional spaces for staff and student support services.

Dore & Whittier tested the feasibility of supporting both programs within the Rodman building using two guidelines: 1) the idealized space summary as identified in the District-wide Master Plan report of October 2017, and 2) Pre-K program needs as identified by the District. D&W also considered the current location of Pre-K classrooms, District Offices, and spaces used by a third-party tenant as a way of understanding how the building currently functions.

For this portion of the feasibility study, District offices were placed on the main and upper levels, leaving the Pre-K program in the same location as Task 2, Option 3. D&W evaluated a repurposing of the Rodman Building using the assumption that if Pre-K was to decentralize in the future, the same renovated vacant space with its own entry could then be utilized by a third-party tenant. Similarly, if District offices were ever to relocate, the main and upper levels could be rented.

### **Costs Estimates**

D&W worked with cost estimator, PM&C, to prepare the conceptual cost estimates for each option described in Task 2 and Task 3. Cost estimates include hard costs and soft costs to determine overall project costs. Each estimate represents a total project cost calculated using the following methodology:

Constructions Costs (Materials, Contractor Overhead and Profit, escalation)

A: Direct Construction Costs = Cost Quantity x Unit Cost plus 3% escalation per year

B: Design contingency = A x 15%

Given the conceptual nature of this study, the design contingency represents the level of uncertainty of specific design choices.

C: Bonds and Insurance = (A+B) x 1.75%

D: Overhead and Profit = (A+B) x 4%

E: General Conditions = (A+B) x 10%

F: Total Construction Cost = A + B + C + D + E

Soft Costs (Design fees, Consultant Fees, Testing Services, Commissioning, etc.)

G : Soft Costs were estimated individually approximately = F x 25%

Owner's Contingency

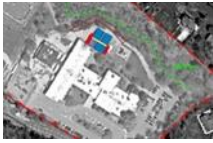



H : Owner's Contingency = F x 10%




An Owner's contingency is typical in most construction projects and represents the Owner's choice and ability to change their mind about design and construction decisions.

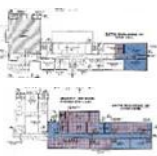
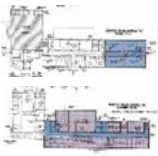

Total Project Cost

J : Total Project Cost = F + G + H

Cost estimates and worksheets are included in Appendix IV. The following page summarizes all options within Tasks 2-3 and the costs associated with each.

<b>Option 1 - Modular Addition at Each Elementary School</b>				
<b>Option</b>				
	<b>1.a.i</b> Lt. Peter M. Hansen Elementary School	<b>1.a.ii</b> Lt. Peter M. Hansen Elementary School	<b>1.b</b> John F. Kennedy Elementary School	<b>1.c</b> Dean S. Luce Elementary School
<b>Total Cost</b>	<b>\$2,654,744</b>	<b>\$2,629,126</b>	<b>\$2,648,766</b>	<b>\$2,593,260</b>

<b>Option 2 - Pre-K Integrated at Each Elementary School</b>				
<b>Option</b>				
		<b>2.a</b> Pre-K Integrated into Lt. Peter M. Hansen Elementary School	<b>2.b</b> Pre-K Integrated into John F. Kennedy Elementary School	<b>2.c</b> Pre-K Integrated into Dean S. Luce Elementary School
<b>Total Cost</b>		<b>\$2,629,126</b>	<b>\$2,648,766</b>	<b>\$2,593,260</b>

<b>Option 3 - Pre-K at Rodman Building &amp; District Offices at Rodman</b>				
<b>Option</b>				
		<b>3.a</b> 8 Pre-K Classrooms	<b>3.b</b> 9 Pre-K Classrooms	<b>District Offices</b>
<b>Total Cost</b>		<b>\$5,200,886</b>	<b>\$5,646,738</b>	<b>\$9,782,278</b>

## General Findings & Recommendations

- Dore & Whittier confirms that renovating the Rodman Building to serve as an 8th-Grade Academy as defined by the District, is feasible, however, after further consideration, the District chose not to pursue the Rodman Building as a location for an 8th-Grade Academy.
- Dore & Whittier confirms that renovating the existing Rodman Building to serve both the Pre-Kindergarten program of eight or nine classrooms and District offices is feasible. The existing building requires a moderate level of renovation and financial investment (from a strictly facility point-of-view) to continue to serve as an educational facility for the long-term.
- Dore & Whittier confirms that maintaining centralized Pre-K classes at the Rodman Building can support all aspects of the Pre-K program.
- Dore & Whittier confirms that placing modular additions at each elementary school to house a decentralized Pre-Kindergarten program is feasible, though sharing certain spaces inside the main buildings will be necessary to meet Pre-K program requirements.
- Given the limitations at each site, Dore and Whittier confirms that a moderate level of site work would be required to adjust access roads, playgrounds, and parking to accommodate modular classroom placement at each elementary school.
- Dore & Whittier confirms that integrating Pre-K students into each elementary school and relocating another grade level cluster into the modular classroom additions is feasible. However, Dore & Whittier notes that this swapping of grade levels could potentially be more expensive and/or disruptive given that all elementary schools have, on average, more than three sections per grade level, requiring an additional modular classroom for a total of four at each school. Not all aspects of the Pre-K program would be supported in this option as some classrooms within the building used by Pre-K do not have internal bathrooms.

At this stage, Canton Public Schools has three potential pathways forward for its Pre-Kindergarten program:

1. Continue the current practice of District offices and Pre-Kindergarten at the Rodman Building and renovate the space for long-term use.
2. Continue the current practice of District offices at the Rodman Building and decentralize Pre-K students into neighborhood schools using modular additions.
3. Continue the current practice of District offices at the Rodman Building and decentralize Pre-K students into neighborhood schools, integrating them into the existing building and relocating another grade level into modular additions.

Should the town of Canton wish to pursue options 1-3, additional facility and site assessments will be required.

## **TASK ONE – EVALUATE THE FEASIBILITY OF RENOVATING THE RODMAN BUILDING TO SERVE AS AN 8TH-GRADE ACADEMY**

### **Overview**

Task One focused on developing the necessary understanding of current 8th-Grade Academy precedents, existing facility conditions, and Canton Public Schools’ educational goals to determine the feasibility of implementing an 8th-Grade Academy at the Rodman Building. Given the previous exploration of the facility itself, the completion of Task One focused primarily on the following areas:

- Structural evaluation of the Marilyn G. Rodman Building
- Why an 8th-Grade Academy?
- What is the student educational experience?
- What are the potential impacts of this program?

### **Structural Evaluation of the Marilyn G. Rodman Building**

D&W and its structural engineers conducted an on-site review and investigation of the Rodman Building to determine if the existing structural framing system could support renovation and expansion without having to conduct a major structural intervention. The structural engineer’s assessment confirmed that the building’s framing system would allow for interior wall relocations (with some limited structural interventions) to facilitate modifying and improving interior building layouts. The structural evaluations performed by Engineers Design Group are included in Appendix I.

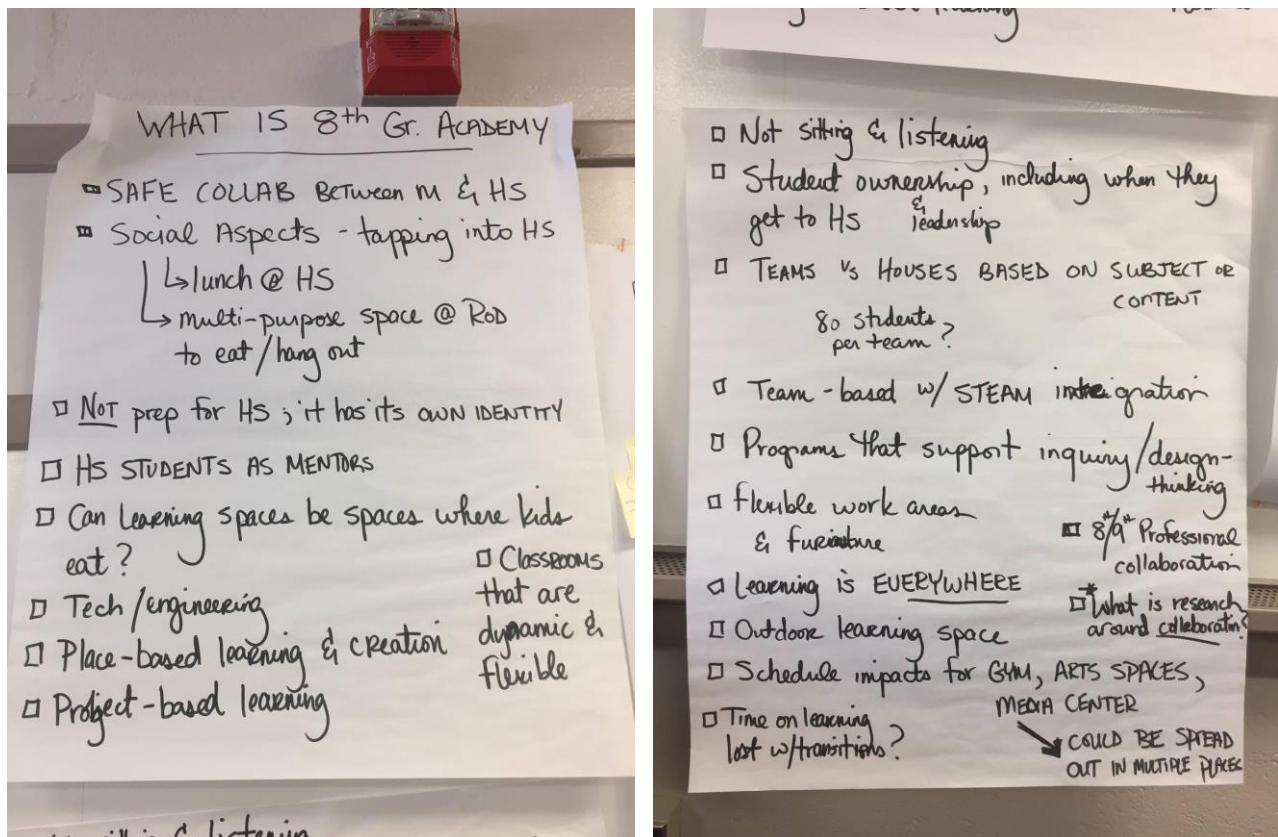
### **Why an 8th-Grade Academy?**

On July 25, 2017, D&W met with the Working Group from Canton Public Schools to determine the feasibility of an 8th-Grade Academy at the existing Rodman Building. The conversation began with a review of academic research highlighting the importance of 9th-Grade academies to ease the transition between middle and high school. A correlation was made to the potential similar benefits with an 8th-Grade Academy in Canton. The group reviewed some existing 8th-Grade academies in Massachusetts, although examples are limited. Currently, only nine districts in the state have an 8th-Grade Academy as part of their overall program, and academic research leans more toward 9th grade as the year for transitional, academy-type programs.

To determine feasibility, the group began with the question, *why an 8th-Grade Academy?* Moving 8<sup>th</sup> grade students to the Rodman building separate from the existing middle school could allow 5<sup>th</sup> grade students to move up to the middle school and relieve overcrowding at each of the elementary schools. As of 2017, during the Master Planning phase, all three elementary schools exceeded capacity by 100+ students per school.

Programmatically speaking, an *8th-Grade Academy* would afford Canton the opportunity to provide a unique educational experience focused specifically on the developmental needs of the age group. It would also help ease the transition from middle to high school given the Rodman Building and the Canton High School adjacency could support potential space sharing and advanced educational opportunities. Being on campus would allow advanced 8<sup>th</sup> grade students to take high school-level courses in addition to high school students serving as mentors to 8<sup>th</sup> graders. Additionally, a single staff solely committed to that developmental level could be advantageous.

Below are images documenting our first round-table conversation where the Working Group defined what an 8th-Grade Academy would be in Canton:



Based on the conversation, several questions were posed:

- a. Does an 8th-Grade Academy need to be in a separate building? Can it happen within the existing middle school or in a new 5-8 school?
- b. If 8<sup>th</sup> graders take classes or participate in activities at the high school, would it be with high school students or not?

The Working Group felt that an 8th-Grade Academy could work at either the Rodman, the existing middle school, or at a new 5-8 middle school. If the 8th-Grade Academy was to take place at Rodman, levels of separation would need further exploration as the Working Group felt the 8<sup>th</sup> grade needed to maintain its own identity.

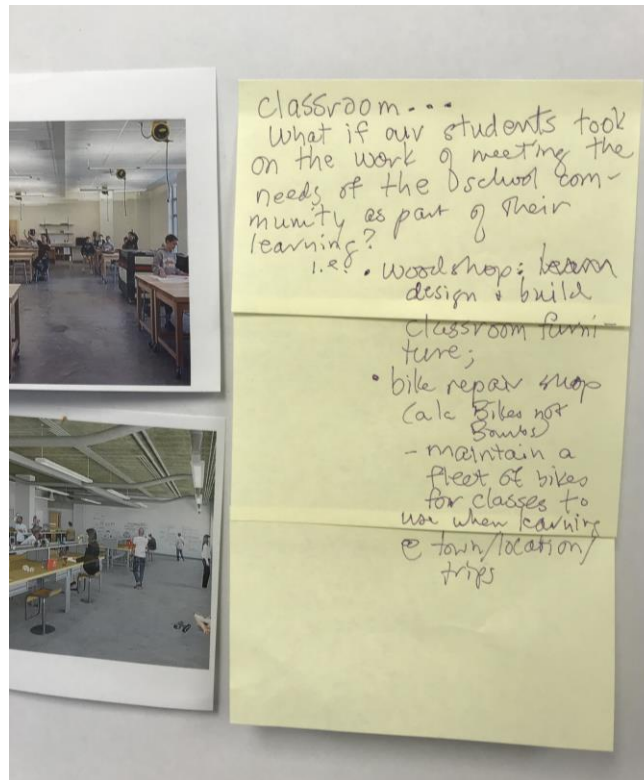
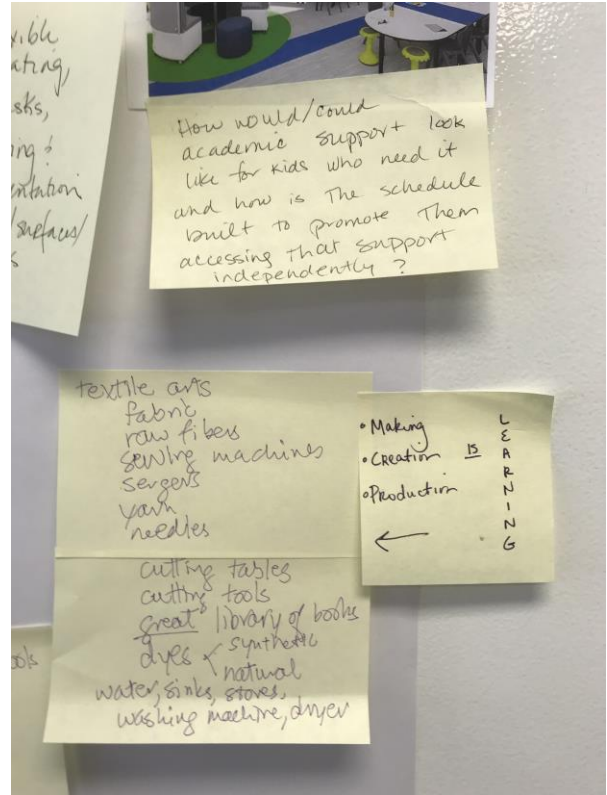
### **What is the Student Educational Experience?**

Using a Chart/Gallery Walk activity, D&W guided the Canton focus group through a series of overarching questions to help further define the vision for an 8th-Grade Academy, and thus determine required spaces tested in the feasibility study. These questions included the following:

- a. How do 8<sup>th</sup> graders & high school students participate within the same community (i.e. – extracurriculars, electives, lunch, etc.)?
- b. What are students doing in the classroom?
- c. How are students organized?
- d. What programs and services are offered?
- e. What does choice and independence look like (i.e. – within course selection, furniture, the learning environment itself)?
- f. What tools and resources can students access?
- g. What does professional culture & collaboration look like?

Members of the Canton Working Group independently responded to these questions on large poster paper using Post-it Notes, inspirational imagery, and snapshots from research on existing academies. Below is a series of photos documenting this work.







In summary, their vision included, but was not limited to, the following:

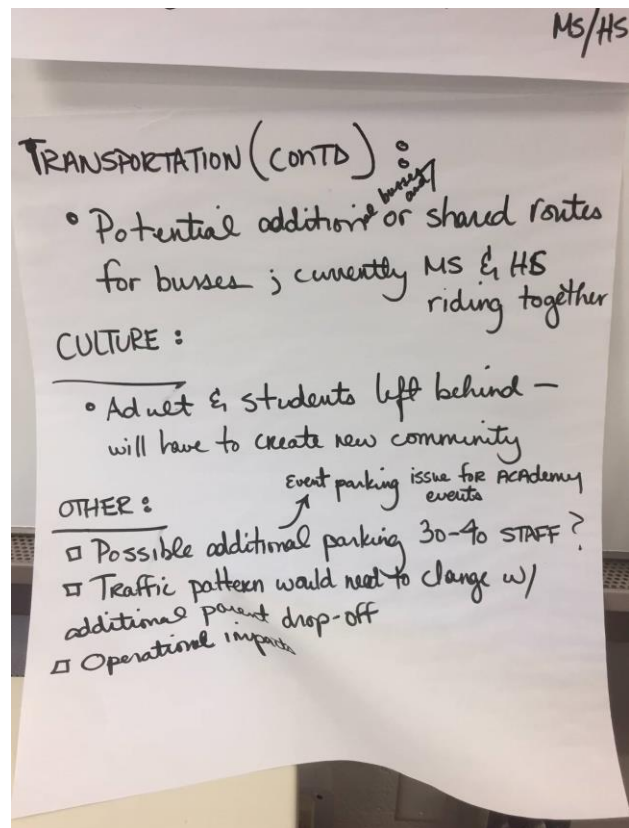
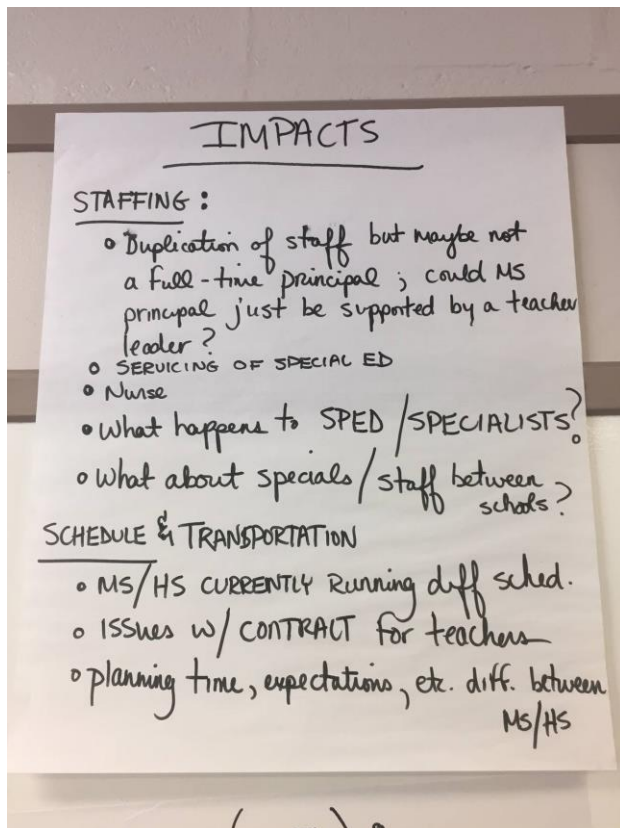
- Safe collaboration between the academy and the high school, yet still separate enough for the academy to have its own identity
- High school students serving as mentors
- Focus on technology and engineering
- Place-based and project-based learning
- Dynamic, flexible learning environments with student choice in resources, furniture, etc.
- Student ownership & leadership
- Heavy integration of STEAM and programs that support design-thinking
- Teams or “houses” based on subjects or content area; 80 students per team
- Opportunities for outdoor education
- Spaces for students to spread out and work, collaborate, and/or eat within the teaching space
- Programs that support inquiry and design-thinking
- Professional collaboration among 8<sup>th</sup> and 9<sup>th</sup> grade teachers

## What are the potential impacts of this program?

Once the Working Group determined a clearer vision for an 8th-Grade Academy, D&W posed additional questions focused around potential impacts. Several logistical issues were raised around the areas of special education, staffing, scheduling, transportation, parking, professional culture, and school culture in general. The further the conversation went, the more the Working Group began to realize the number of potential district-wide impacts associated with making this grade-level move. In summary, their comments included, but were not limited to, the following:

- Staffing:
  - Duplication of staff possible, including nurse, guidance, specialists, SPED
  - Is a full-time principal needed?
  - Could the MS principal be supported by an 8<sup>th</sup> grade teacher leader?
  - How are students receiving SPED services supported?
  - Staff anxiety due to moving between schools
- Schedule & Transportation:
  - MS/HS currently running different schedules
  - Issues with contract for teachers
  - Planning time, expectation etc. different between MS and HS
  - Potential additional or sharing routes for busses; currently MS & HS riding together

- Culture:
  - Adults and students remaining in middle school will have to create a new community
  - What happens to professional culture?
  
- Cost:
  - Additional operational costs
  - Additional maintenance costs
  - Renovation costs
  
- Other:
  - Possible additional 30-40 staff parking spots needed.
  - Event parking issue made worse.
  - Traffic pattern would need to change with additional parent drop-off
  - Operational impacts
  - Since some kids turn 14 during 8<sup>th</sup> grade, there is an impact related to Special Education IEPs



## General Findings and Recommendations

This portion of the feasibility study revealed several findings. For one, renovating the Rodman Building to support a separate 8th-Grade Academy is feasible and would require moderate levels of facility upgrades to support long-term educational goals. An 8th-Grade Academy at Rodman would also create a campus-like proximity between 8<sup>th</sup> graders and the high school, allowing advanced 8<sup>th</sup> grade students to leverage high school level classes when appropriate. Additionally, an 8th-Grade Academy could support mentorships between middle and high school students and could help ease the transition between both school experiences.

Given all the added benefits provided by a specialized, developmentally-centered program like an 8th-Grade Academy, it is important to consider whether the overall value is stronger than the costs and impacts associated with it. Though there are academic and social/emotional developmental benefits of an 8<sup>th</sup> grade academy, there are also many district-wide impacts worth recognizing, including, but not limited to staffing, scheduling, transportation, special education service delivery, operational costs, the duplication of resources, and contractual issues.

It is Dore & Whittier's understanding that the Working Group believes in the educational benefits of an 8th-Grade Academy, but also wondered if the same student experience can be established within the existing middle school. Though keeping the 8<sup>th</sup> grade at the middle school and thus keeping the 5<sup>th</sup> grade at the elementary schools would not help alleviate overcrowding, the District believed that looking ahead toward a more traditional, long-term middle school solution was more fiscally responsible.

Due to the District's determination that an 8<sup>th</sup> Grade Academy would not be appropriate at this time, Dore and Whittier did not pursue cost estimates for this option.

## TASK TWO – EVALUATE OPTIONS FOR PRE-K PLACEMENT

### Overview

Given the of the District’s wish to grow the Canton Public Schools Pre-K program, Dore & Whittier was tasked with evaluating options for the placement of Pre-K students using several different scenarios:

- Option 1: Pre-K in modular classrooms addition at each elementary school
  - a. Lt. Peter M Hansen Elementary School
  - b. John F. Kennedy Elementary School
  - c. Dean S. Luce Elementary School
  
- Option 2: Pre-K students integrated at each elementary school
  - a. Lt. Peter M Hansen Elementary School
  - b. John F. Kennedy Elementary School
  - c. Dean S. Luce Elementary School
  
- Option 3: Pre-K at the Rodman building
  - a. In 8 sections
  - b. In 9 sections

D&W tested each possible scenario using the District’s current Pre-K program needs, including:

- 8-9 Pre-K Classrooms (with internal bathrooms)
- Family Room
- OT/PT Room
- Speech and Language Room
- Staff Room
- Administration Area
- General Office/Waiting Area
- Nurse
- Indoor Motor Room

D&W worked with cost estimator, PM&C, to prepare the conceptual cost estimates for each option based on the following assumptions and methodology

- Each option was estimated as a stand-alone project.
- Each line item is estimated based on a quantity determined either from scaled drawings or field verified measurements. Dore & Whittier attempted to limit the number of lump sum quantities. However, some lump sum quantities were necessary in the cost estimate worksheets.
- Consideration of an existing building (Rodman Building) code triggers

#### Sprinkler System

Per the Comprehensive Facilities Assessment, page II-C-2-5, a building would require a sprinkler system to be installed throughout the building if any “major alteration” is performed. Major alteration is defined as 33% of the total building area *or* 33% of the value of the building.

For Rodman, if the work area exceeds 17,199 SF (33% of the total building area of 52,118SF) **or** if the cost of the work exceeds \$2,378,838 (33% of the value of the building of \$7,208,600), the project scope would be considered “major”.

#### Accessibility

Per the Comprehensive Facilities Assessment page II-C-2-6, Rodman Hall would require accessibility upgrades throughout the building if the cost of the proposed work exceeds 30% of the full and fair cash value of the building.

The threshold for Rodman Building, based on 30% of the value of the building of \$7,208,600, is \$2,162,580.

All proposed new work will be required to comply with the accessibility requirements of 521 CMR (The Massachusetts Architectural Access Board, or MAAB Rules)

#### Structural Upgrades

Per the Structural Assessment of July 2018, Rodman Hall would require structural upgrades throughout the building if the proposed work area exceeds 50% of the total area of the building. All new areas being renovated are required to meet code.

For Rodman, if the work area exceeds 26,059 SF (50% of the total building area of 52,118SF) the project scope would invoke Level 3 Alteration requirements

- Each estimate assumes no work would begin prior to November 2019. Therefore, each estimate includes one year of escalation at 3%. For any work begun beyond November 2019, additional escalation must be added at a rate of 3%-5% per year.
- Costs associated with phasing and swing space were excluded from these preliminary cost estimates.

- Each estimate represents a total project cost calculated using the following methodology:

Constructions Costs (Materials, Contractor Overhead and Profit, escalation)

A: Direct Construction Costs = Cost Quantity x Unit Cost plus 3% escalation per year

B: Design contingency = A x 15%

Given the conceptual nature of this study, the design contingency represents the level of uncertainty of specific design choices.

C: Bonds and Insurance = (A+B) x 1.75%

D: Overhead and Profit = (A+B) x 4%

E: General Conditions = (A+B) x 10%

F: Total Construction Cost = A + B + C + D + E

Soft Costs (Design fees, Consultant Fees, Testing Services, Commissioning, etc.)

G : Soft Costs were estimated individually approximately = F x 25%

Owner's Contingency

H : Owner's Contingency = F x 10%

An Owner's contingency is typical in most construction projects and represents the Owner's choice and ability to change their mind about design and construction decisions.

Total Project Cost

J : Total Project Cost = F + G + H

Cost estimates and worksheets are included in Appendix IV.



## Option 1: Pre-K in Modular Classrooms at Each Elementary School

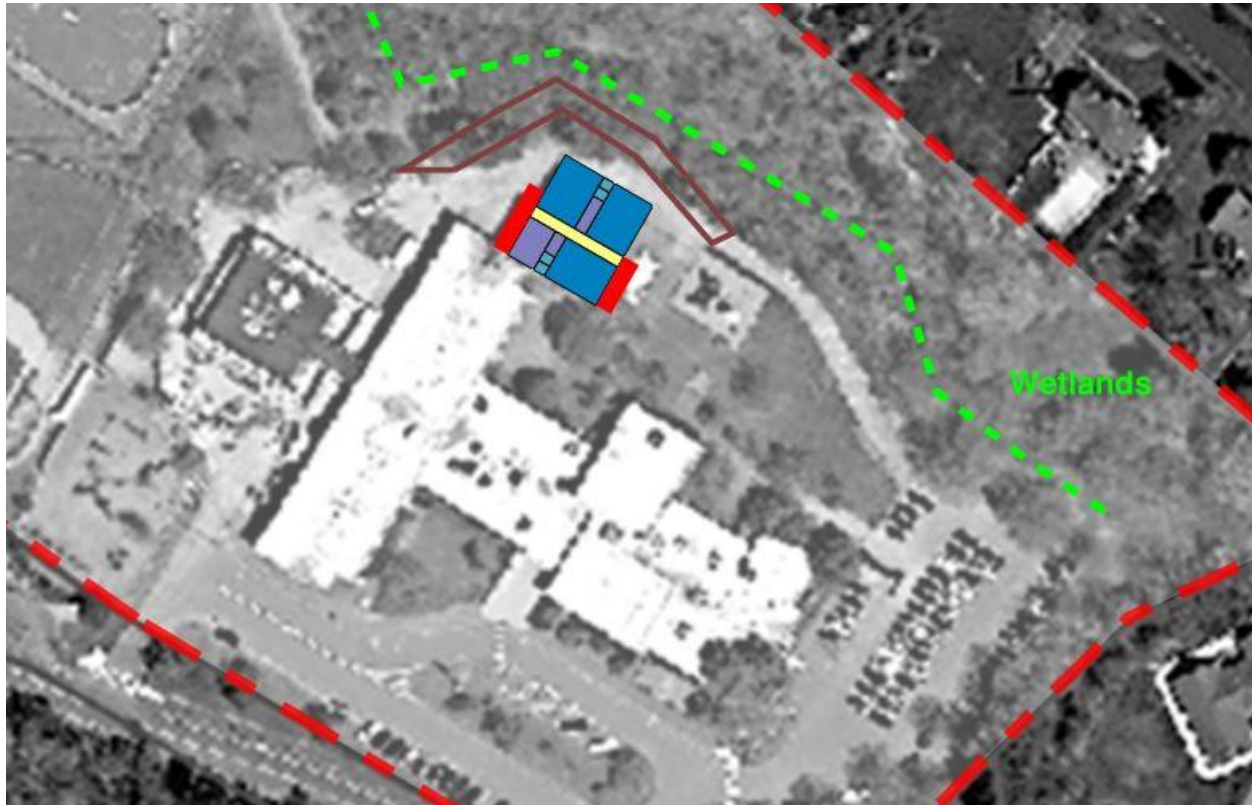
As a means of providing equity throughout the District, D&W tested the location of three modular Pre-K classrooms at each of the District’s elementary schools: Lt. Peter M Hansen Elementary School; John F. Kennedy Elementary School; and Dean S. Luce Elementary School. This would allow Pre-K students to remain in their neighborhood schools and would support equal distribution of the Pre-K program. In this scenario, D&W assumed a cluster of three Pre-K classrooms and, when possible, an additional modular to be used as office space, extra teaching space, breakout space, etc. to meet the needs of the current Pre-K program. Each classroom is approximately 1,200 s.f. and includes a bathroom per MSBA guidelines.

The location of modular clusters at each site was chosen using the following criteria:

- Direct access to the main building from modular classrooms
- Proximity to Kindergarten classrooms for shared materials, supplies
- Proximity to large group spaces (i.e. – gymnasium, cafeteria, library, etc.)
- Proximity to parking to support a direct Pre-K parent drop-off and pick-up without going through the main building
- Proximity to playgrounds

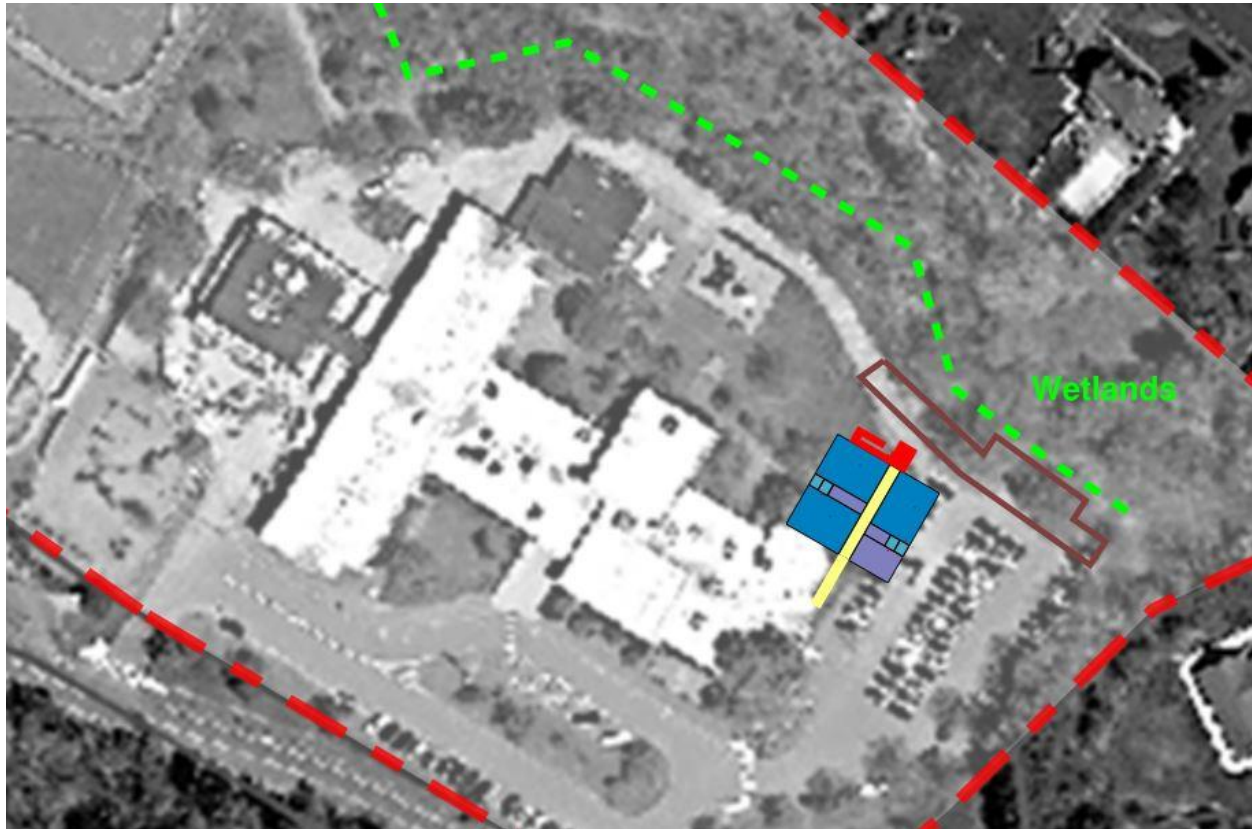
**Option 1.a. – Modular Addition at Lt. Peter M. Hansen Elementary School**

D&W found two possible options for modular additions at Lt. Peter M. Hansen Elementary, both including a 3-classroom cluster and an additional office/classroom space. The first Option 1.a.i locates the modular addition along the northwest corner of the existing structure, where a prior modular classroom addition once existed.

**Hansen Option 1.a.i**

This location supports direct access to the main building through the Kindergarten wing, which would allow for collaboration and resource sharing between Pre-K and K teachers. Common spaces, including the library, gymnasium, and cafeteria, are located on the east side of the building but not too far away for Pre-K students to access.

In terms of site, the location of this modular addition would require a reshaping and offsetting of the rear access road, which runs along an area of wetlands. There is no adjacent parking for Pre-K parent drop-off and pick-up, and with tight site constraints, adding additional parking would require further investigation. Currently, a play structure for younger grades sits to the east of the potential modular addition and to the west is the access road.

**Hansen Option 1.a.ii**

The Second Hansen Option 1.a.ii places the modular addition on the northeast corner of the property where parking currently exists. In this scenario, students would access the existing building using a hallway that is part-service (kitchen and boiler room) and part student circulation (cafeteria and gymnasium). In this option, Pre-K students are closer to all common spaces and down the hall from the main office area, where the nurse is located. This option may require more site work as the rear access road will need to be offset and parking spots will need to be replaced to balance out those taken from the modular addition. Adding parking and offsetting the road in this location may be challenging due to adjacent wetlands that would require further investigating. The adjacency to current parking, however, could potentially support a separate Pre-K student drop-off and pick-up per the District's request.

**Option 1.b – Modular Addition at John F. Kennedy Elementary School****JFK Option 1.b**

The suggested location of the modular addition at the John F. Kennedy Elementary School places the structure on the north side of the building adjacent to the gymnasium, kindergarten wing, and open courtyard. The modular structure would span and, therefore, close in the courtyard connecting the modular addition to the existing building on both the northwest and northeast sides. Pre-K students would access the main building through the northeast-side corridor, which currently houses music, art, and the cafeteria. Potentially, a second access point to the existing building could be added through the gymnasium to support collaboration and resource sharing between Pre-K and Kindergarten teachers. No exterior door connecting the modular addition to the gymnasium currently exists.





Given the limited options at the JFK site, the proposed Pre-K modular addition consists of a 3-classroom cluster with internal toilets and without the additional office/classroom space as provided in the Hansen option. An additional modular addition already allocated for the west side of the JFK site (shown as a dashed line) eliminates a second placement option that would support this 3-classroom cluster plus additional space modular version.

**Option 1.c – Modular Addition at Dean S. Luce School****Luce Option 1.c**

The suggested location of the modular addition at the Dean S. Luce School places the structure on the northwest wing of the existing building, adjacent to the first-grade cluster and down the hall from the Kindergarten wing. Though the ideal location would be adjacent to the Kindergarten wing, the site does not readily support other modular options given its tight constraints. The site location would require a reshaping of the rear access road and a reshaping of the northern tip of the playground where the modular addition would overlap. The play structure itself would remain.

The proposed modular addition includes a cluster of 3 classrooms without an additional breakout, teaching, or office space. The tight rear location of the addition would not support a separate Pre-K parent drop-off and pick-up, however, there is currently a secondary entrance for Kindergarten and first grade that could be utilized.

Below is a cost summary of all Pre-K modular options in Task 2:

<b>Option 1 - Modular Addition at Each Elementary School</b>				
<b>Option</b>				
	<b><u>1.a.i</u></b> Lt. Peter M. Hansen Elementary School	<b><u>1.a.ii</u></b> Lt. Peter M. Hansen Elementary School	<b><u>1.b</u></b> John F. Kennedy Elementary School	<b><u>1.c</u></b> Dean S. Luce Elementary School
<b>Total Cost</b>	<b>\$2,654,744</b>	<b>\$2,629,126</b>	<b>\$2,648,766</b>	<b>\$2,593,260</b>

## Option 2: Pre-K Integrated at Each Elementary School

As a means of providing equity throughout the district, D&W tested the integration of 3 sections of Pre-K inside each of the District’s elementary schools: Lt. Peter M Hansen Elementary School; John F. Kennedy Elementary School; and Dean S. Luce Elementary School. This would allow Pre-K students to remain in their neighborhood schools and would support equal distribution of the Pre-K program.

In this option, Pre-K students would take the place of another grade level cluster, who would then move into the modular additions proposed in Option 1.a.i; Option 1.a.ii; Option 1.b; and, Option 1.c. The swapping of another grade level, particularly one that didn’t require internal classroom bathrooms, would potentially minimize the size of the modular, and thus, reduce costs and issues with site constraints.

One challenge with this option is the existing overcrowding at each elementary school, which, on average, has a minimum of four classes or sections per grade level. Swapping out a four-classroom cluster of one grade level for only 3 sections of Pre-K at each school would cause an imbalance and would require grade level clusters to be split, with all but one grade level classroom in the modular. Having only one 3<sup>rd</sup> grade classroom, for example, separated from its other grade-level counterparts would create inequity. Adding to this challenge is that, in most cases, the rooms Pre-K would take over would not have internal bathrooms.

Another challenge with Option 2 is the District’s ability to maintain its current Pre-K program simply based on limited space existing at each elementary school. Though required spaces like the nurse and staff room could be supported by the existing elementary programs, other Pre-K specific rooms like the Indoor Motor Room and Family Room could not always be provided.

The integration of Pre-K classrooms in each elementary school was assessed using the following criteria:

- Proximity to Kindergarten classrooms for shared materials, supplies
- Proximity to large group spaces (i.e. – gymnasium, cafeteria, library, etc.)
- Proximity to parking to support Pre-K parent drop-off and pick-up, and when possible, to allow for a separate Pre-K entry
- Proximity to playgrounds
- Inclusion of internal bathrooms, and/or proximity to bathrooms

**Option 2.a – Pre-K inside Lt. Peter M Hansen Elementary School**

In this scenario, Pre-K would be integrated as a 3-classroom cluster and family room in the front of the building around the corner from Kindergarten. Two of the classrooms would be approximately 1,000 sf with internal bathrooms. The third classroom would be smaller, around 840 sf, and with no internal bathroom. The integration of Pre-K would displace one grade level into the modular addition.

Parent drop-off and pick-up would take place through the main office entry, which is around the corner from the Pre-K wing. Common spaces like the gymnasium and cafeteria are on the east side of the building, opposite of the proposed Pre-K wing. This relationship between the Pre-K wing and the common spaces would be like that of the Kindergarten wing.



**Option 2.b – Pre-K inside John F. Kennedy Elementary School**

In this scenario, Pre-K would be integrated in the southwest corner of the building, adjacent to Kindergarten classrooms, bathrooms, and the gymnasium. The 3-classroom Pre-K cluster would displace four classes of Grade 2 into a modular addition connected to the building. Given that only three Pre-K classrooms would be needed, the additional classroom vacated by Grade 2 would be leveraged to support Pre-K's need for a Family Room and office space.




On average, each Pre-K room would be approximately 850 sf with no internal bathroom, though bathrooms are located at each end of the Pre-K wing. Given the location of Pre-K rooms, there is potential for a separate parent drop-off and pick up through an existing exterior door connected to the Pre-K and Kindergarten wings. Additionally, proximity to the gymnasium would support Pre-K's need for an Indoor Motor Room.

**Option 2.c – Pre-K inside Dean S. Luce School**

In this scenario, Pre-K classrooms would be placed in the southwest corner of the building, adjacent to Kindergarten and the gymnasium. This location would support a separate parent drop-off and pick-up through a secondary entrance currently used during arrival and dismissal times. Additionally, proximity to the gymnasium would support use of Indoor Motor Room and proximity to the Kindergarten wing would support staff collaboration and a sharing of resources and materials.

In this scenario, music, science, and health would be relocated to modular classrooms attached to the main building. The justification for choosing these spaces for Pre-K is given the size of each room (approximately 1,000 sf), inclusion of internal bathrooms, and proximity to the Kindergarten wing. Additionally, pairing science and health in the modular could support interdisciplinary work and a sharing of materials and resources.

Below is a summary of all integrated Pre-K options in Task 2:

<b>Option 2 - Pre-K Integrated at Each Elementary School</b>				
<b>Option</b>				
		<b><u>2.a</u></b> Pre-K Integrated into Lt. Peter M. Hansen Elementary School	<b><u>2.b</u></b> Pre-K Integrated into John F. Kennedy Elementary School	<b><u>2.c</u></b> Pre-K Integrated into Dean S. Luce Elementary School
<b>Total Cost</b>		<b>\$2,654,744</b>	<b>\$2,648,766</b>	<b>\$2,593,260</b>

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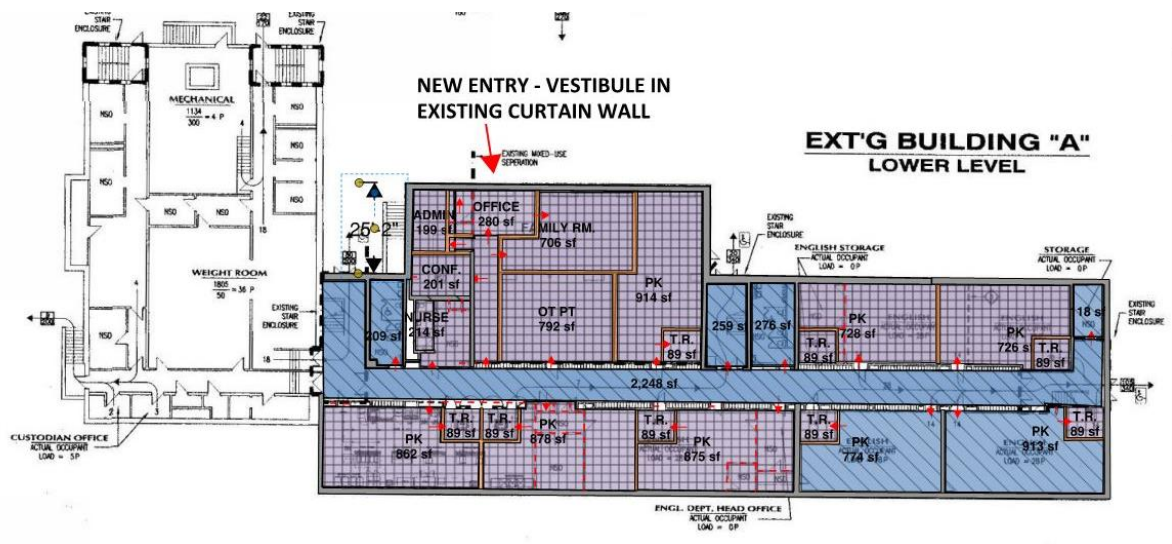
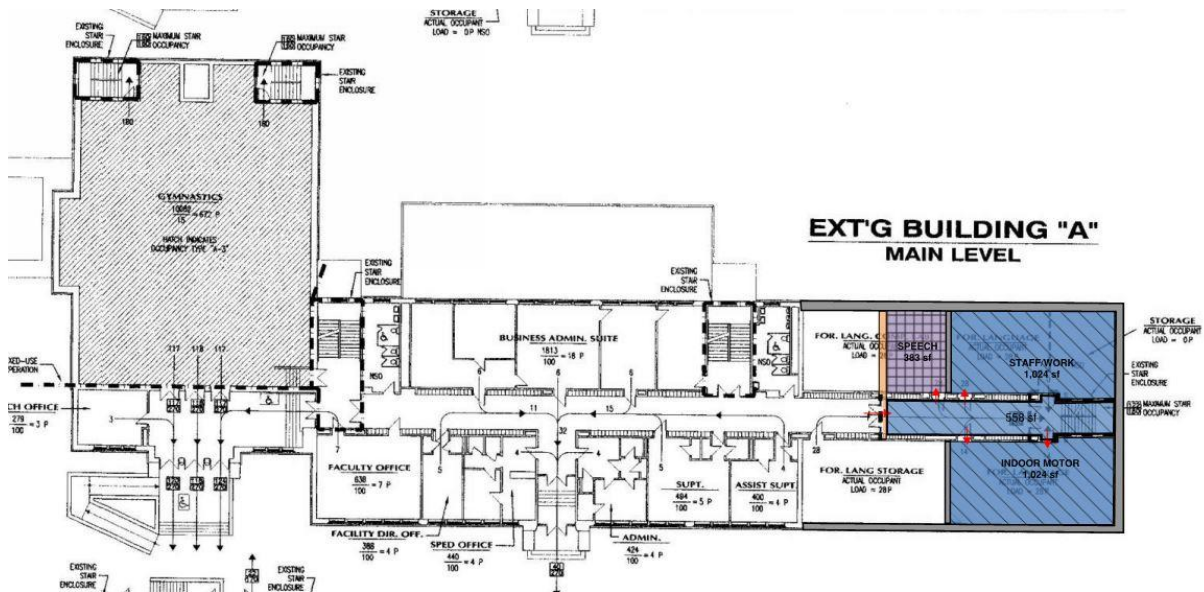
### Option 3: Pre-K at the Rodman Building

As part of Option 3, Dore and Whittier was tasked with assessing the potential for Pre-K to remain at the Rodman Building while the program grew to include eight or nine Pre-K classrooms. In this option, D&W was able to include all Pre-K program needs at Rodman while still maintaining space to house District offices. These program needs include the following:

- 8-9 Pre-K Classrooms (with internal toilets)
- Family Room
- OT/PT Room
- Speech and Language Room
- Staff Room
- Administration Area
- General Office/Waiting Area
- Nurse
- Indoor Motor Room

Though the 8- and 9-classroom options differ in their overall layout, both share similarities worth noting. Both Pre-K options spread out on two floors – the lower and main level – with the remaining space capable of housing the District offices and/or a future tenant. On the main level where space is shared by Pre-K and District offices, a set of security doors separates these spaces. In both options, classrooms range in size from approximately 726-943 sf. with internal bathrooms and exterior views. Finally, both options leverage a new entry location and entry sequence to improve security, overall space layout, and options for relocating the playground closer to the building.

Option 3.a – Pre-K at Rodman in 8 classrooms



PLAN LEGEND:

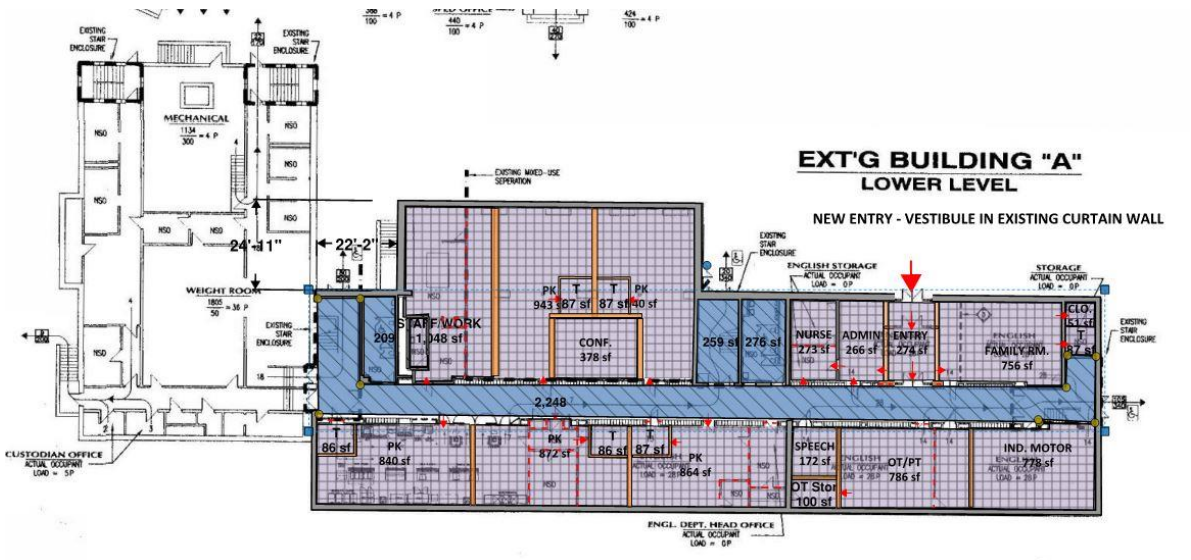
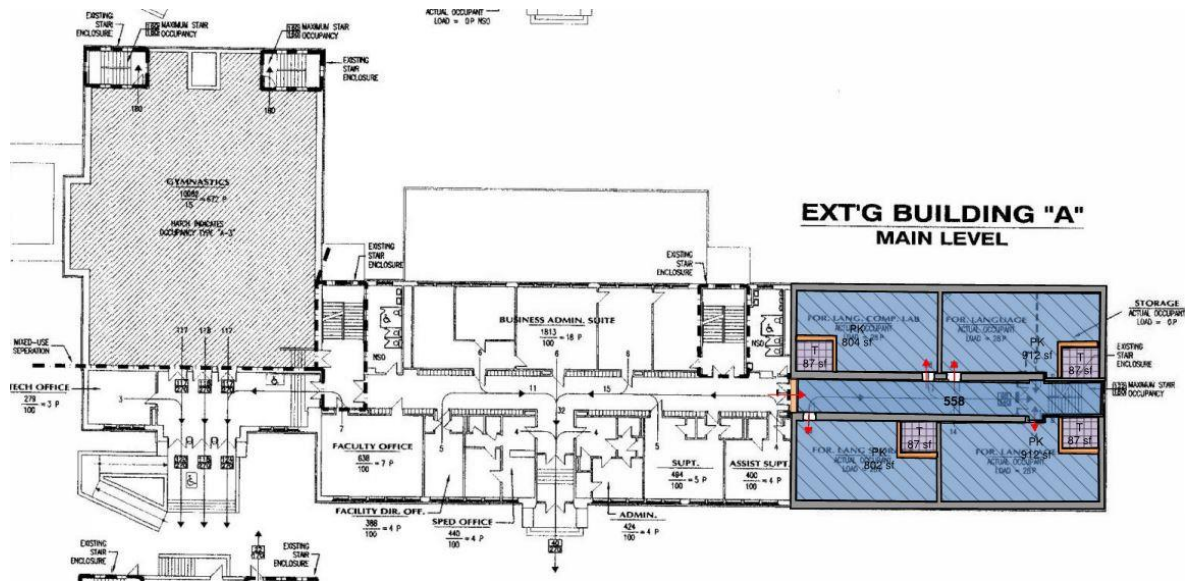
- EXISTING WALLS TO REMAIN
- LIGHT RENOVATION (PAINT & FLOOR FINISH REPLACEMENT; TOTAL 12,339 NSF)
- MEDIUM RENOVATION (REPLACE CEILINGS, DOORS, PAINT, NEW FLOOR FINISHES, REPARTITION AS SHOWN, NEW TOILET RMS./PLUMBING, MEP, LIGHTING, ELECTRICAL; TOTAL 22,971 NSF)
- NEW WALLS
- TO BE DEMOLISHED
- NEW DOOR

**Option 3.a**

This option includes eight Pre-K classrooms all on the lower floor of the building at the same level of discharge as drop-off and pick-up. In this option, Pre-K classrooms range in size from 726-914 sf. all with internal bathrooms and exterior views. The reason for such a range in classroom sizes is due to the moderate level of renovation scope, which utilizes as many of the current interior partition walls as possible.

In this option, a new secured, dedicated entry has been added in the rear lower level of the building for the Pre-K program to function independently. Visitors would be buzzed into a locked vestibule where they are checked in and then permitted to enter the main office/waiting area. Adjacent to the main office area is a Family Room, small conference room, nurse, administrator's office, and OT/PT room. Speech and Language, the Indoor Motor Room, and the Staff Room are located on the main level.

Option 3.b – Pre-K at Rodman in 9 classrooms



- PLAN LEGEND:**
- EXISTING WALLS TO REMAIN
  - LIGHT RENOVATION (PAINT & FLOOR FINISH REPLACEMENT; TOTAL 12,339 NSF)
  - MEDIUM RENOVATION (REPLACE CEILINGS, DOORS, PAINT, NEW FLOOR FINISHES, REPARTITION AS SHOWN, NEW TOILET RMS./PLUMBING, MEP, LIGHTING, ELECTRICAL; TOTAL 22,971 NSF)
  - NEW WALLS
  - TO BE DEMOLISHED
  - NEW DOOR



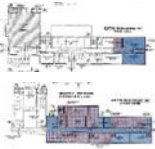
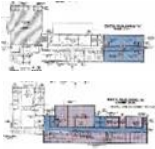
**Option 3.b**

This option includes nine Pre-K classrooms split on two floors with a cluster of five classrooms on the lower level and four classrooms on the main level to create a sense of neighborhood. In this option, Pre-K classrooms range in size from 802-943 sf. all with internal bathrooms and exterior views. The reason for such a range in classroom sizes is due to the moderate level of renovation scope, which utilizes as many of the current interior partition walls as possible.

In this option, a new secured, dedicated entry has been added in the rear lower level of the building for the Pre-K program to function independently. Visitors would be buzzed into a locked vestibule where they are checked in and then permitted to enter the main office/waiting area. Adjacent to the main office area is a Family Room, nurse, and administrator's office. The staff room, conference room, Speech and Language, OT/PT, and Indoor Motor Room are also located on this lower level.

The proposed location of the new secured entry would allow for a relocation of the existing Pre-K playground and play structure. Currently, Pre-K students exit the building and must cross traffic to access the playground. In Option 3.b, the proposed solution would be to relocate the play structure just south of the Pre-K entry where parking currently exists. This lost parking could be replicated where the existing playground is currently.

Below is a cost summary of all Rodman Pre-K options in Task 2. Costs of Options 3.a and 3.b include sprinkler system and accessibility upgrades for the entire building. The sprinkler system requirement is triggered due to the cost of the work estimated to be more than 33% of the value of the building. The accessibility requirements are triggered due to the cost of the work estimated to be more than 30% of the value of the building. The Structural upgrades were not required as the work area is less than 50% of the total area of the building.

<b>Option 3 - Pre-K at Rodman Building</b>		
<b>Option</b>		
	<b><u>3.a</u></b> <b>8 Pre-K Classrooms</b>	<b><u>3.b</u></b> <b>9 Pre-K Classrooms</b>
<b>Total Cost</b>	<b>\$5,200,886</b>	<b>\$5,646,738</b>

## General Findings & Recommendations

Task Two of the feasibility study proves that placing modular additions at each elementary school to house a decentralized Pre-Kindergarten program is feasible, though sharing certain spaces inside each of the existing schools, including, but not limited to administration, cafeteria, nurse, gymnasium, and special education spaces would be necessary to meet the needs of the Pre-K program. Given the limitations at each site, a moderate level of site work would be required to adjust access roads, playgrounds, and parking to accommodate modular placement at each site.

Integrating Pre-K students into each elementary school and relocating another grade level cluster into modular classrooms is also feasible, however this option could potentially be more expensive and disruptive to a larger student population given that all elementary schools have, on average, more than three sections per grade level, requiring an additional modular classroom for a total of four at each school. Placing another grade level into the modular classrooms for only three sections of Pre-K could potentially result in the splitting of grade-level clusters.

It is important to note that enrollment analysis performed during the Master Planning phase revealed overcrowding already at each of the elementary schools. Though adding Pre-K students to modular additions at each school would not add to overall capacity numbers, having them utilize spaces within the building (i.e. the nurse) would potentially put further strain on staff and a facility that is already beyond carrying capacity.

Option 3 – keeping the Pre-K program at the Rodman building while it continues to grow and until a larger shift in grade configuration can occur within the district – does not provide the same strain on staffing. Rather, in this option, continuing to centralize Pre-K students allows the District to maintain and deepen the quality of its program within one facility where all aspects of the Pre-K program could be met through a series of medium and light building renovations. This would allow the Canton School District to fully implement their Pre-K program in a specialized environment without the additional strain on each elementary school.

## TASK THREE – DISTRICT OFFICES AT RODMAN BUILDING

### Overview

Task Three focused on the feasibility of renovating the Marilyn G. Rodman Building to improve spaces for both District offices and the proposed Pre-K program, with the assumption that the Pre-K program would need to accommodate up to 8 or 9 classrooms with internal bathrooms and additional spaces for staff and student support services.

Dore & Whittier tested the feasibility of supporting both programs within the Rodman building based on two assumptions: 1) the idealized space summary for District offices as determined in the District-wide Master Plan Study, and 2) Pre-K program needs as identified by the District. D&W also considered the current location of Pre-K classrooms, District offices, and spaces used by a third-party tenant as a way of understanding how the building currently functions.

For this feasibility testing, D&W used the location of the Pre-K program as identified in Task Two, Option 3.b – the 9-classroom Pre-K option with 5 classrooms clustered on the lower level and 4 classrooms clustered on the main level. D&W utilized the remaining space on the main level and upper level for a reimagining of District offices with no changes proposed to the existing Gym wing.

As identified in Task Two, security doors would be added to the main level hallway toward the north end of the building, separating the cluster of 4 Pre-K classrooms from District offices and any public access. This level of security would also support use of a future tenant, given the assumption that if District offices were to relocate at some point, those vacant spaces on the main and upper level could be used.

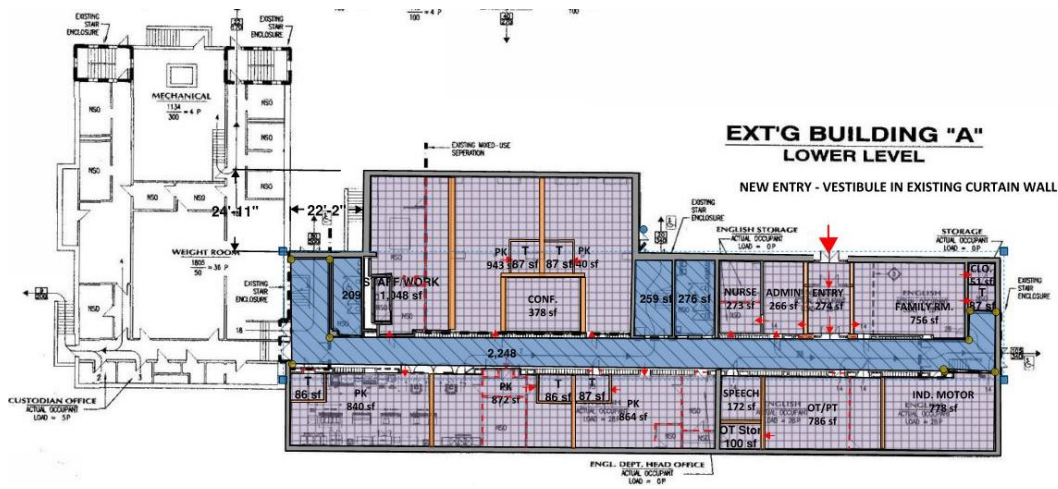
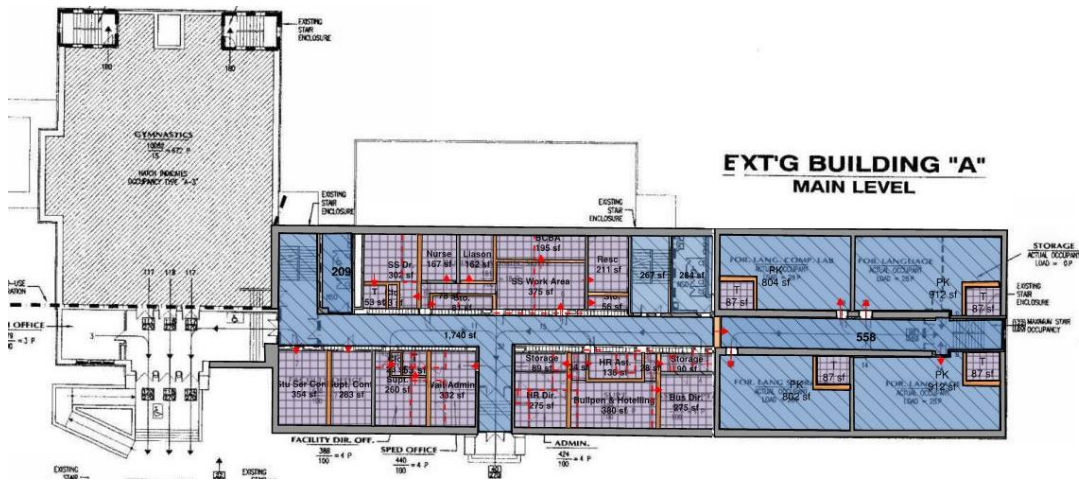
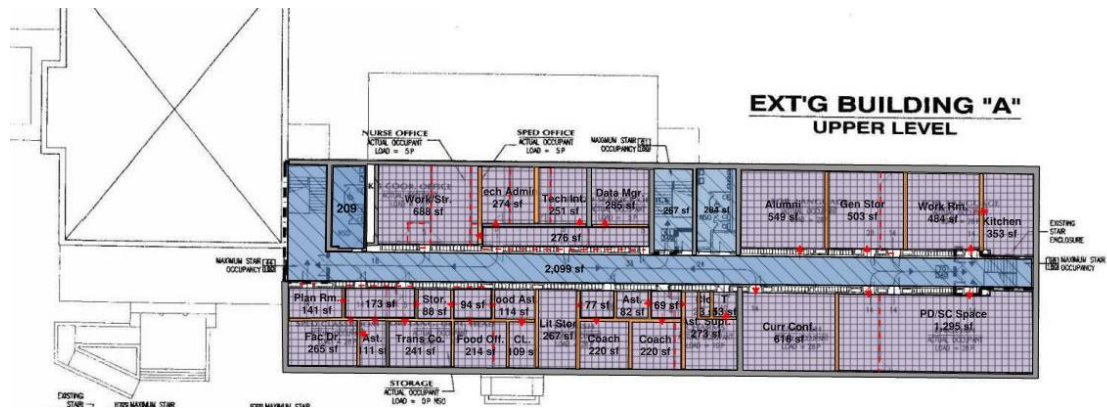
### District Offices

During the District-wide Master Plan Study, several scoping sessions were held with District administrative staff to determine their needs for office space, collaborative space, professional development space, and community use space and storage. The result was an idealized space summary for District offices that defined spatial relationships and required a larger gross and net program square footage than the current District offices occupy. Dore & Whittier used this idealized space summary to test the feasibility of fitting both the Pre-Kindergarten program and District offices at Rodman.

The proposed solution for District offices is a 2-level floor plan that leverages a portion of the main level not utilized by Pre-K and the entire upper floor of the Rodman Building.

**TASK THREE**

**Canton Public Schools – Feasibility Study**



**PLAN LEGEND:**

- EXISTING WALLS TO REMAIN
- LIGHT RENOVATION (PAINT & FLOOR FINISH REPLACEMENT; TOTAL 12,389 NSF)
- MEDIUM RENOVATION (REPLACE CEILING, DOORS, PAINT, NEW FLOOR FINISHES, REPARTITION AS SHOWN, NEW TOILET RMS./PLUMBING, MEP, LIGHTING, ELECTRICAL; TOTAL 22,971 NSF)
- NEW WALLS
- TO BE DEMOLISHED
- NEW DOOR

This proposed layout, which removed and/or relocated partition walls, would require a medium level of renovation to all the office spaces and a light level of renovation to existing bathrooms and corridors. Care was taken to minimize the need for major structural modifications while still attempting to accommodate the need for a more collaborative working environment.

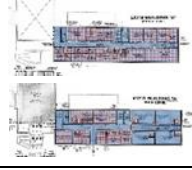
Nevertheless, since the Rodman Building is an existing building, and this option has a work area that exceeds 26,059 SF (50% of the total building area of 52,118SF) the project scope would invoke Level 3 Alteration requirements in order to comply with code. That results in structural upgrades require to clip the tops of all existing masonry walls to the structure above it (these will be the exterior and corridor walls) increasing the cost of the project. If this option is constructed as one project, or if it is anticipated to be done in two phases (i.e. Phase 1: Pre-k renovation and Phase Two: District Offices), the entire Level three alteration required for the entire area. Therefore, if this option is constructed in 2 phases, D&W recommends that Phase One be constructed with Level 3 Alterations, even though by itself Phase One would not invoke Level 3 Alterations. This strategy would save an extensive renovation of Phase One in the future.

The District office option was presented to the Working Group on October 11, 2018. At that time, a request was made by District administration to minimize the scope of Rodman renovations to include only those spaces needed for the Pre-K options. Members of the Working Group stated that their current spaces supported their work and that it was fiscally more responsible and cost-effective for the District to focus on Pre-K spaces at this time.

Using the existing space diagram of Canton District offices provided at the October 11 Working Group Meeting, D&W determined that the 9-classroom Pre-K proposed layout (as identified in Task 2, Option 3.b) would only impact one space currently used as District conference space at the north end of the building on the main level. It was determined by members of the Working Group that this space could easily be relocated to another area of the building not used by the proposed Pre-K layout or a third-party tenant.

In order to fully complete the Feasibility Study as defined in its scope, Dore & Whittier submitted the proposed plan for District offices for cost estimating purposes only, even though the District expressed a desire to remain in their office spaces as is.

The following page summarizes the costs associated with Task 3.

<b>Task 3 - District Offices at Rodman Building</b>		
<b>Option</b>		
		<b><u>District Offices</u></b>
<b>Total Cost</b>		<b>\$9,782,278</b>

### General Findings & Recommendations

Dore & Whittier confirms that it is feasible for the Rodman Building to be renovated using medium and light levels of renovation to support District offices as per MSBA guidelines. Given the District’s request to leave District offices as they are, Dore & Whittier also confirms that the Rodman Building would be able to support the current layout of District offices and the new Pre-K Option 3.b – the 9-classroom option – as identified in Task 2.

# MEETING MINUTES



**DATE OF MEETING:** June 21, 2018  
**PROJECT:** Canton Public Schools Pre-Feasibility Study  
**PROJECT NO.:** 18-0773  
**SUBJECT:** Focus Group Meeting: 8<sup>th</sup> Grade Academy Workshop  
**ATTENDING:**

Dr. Jennifer Fisher-Muella,	Superintendent
Patricia Kinsella,	Assistant Superintendent
Barry Nectow,	Business Manager
Debbie Rooney	K-8th
Sarah Shannon	Galvin MS Principal
Brad Dore	Dore & Whittier, Principal
Jason Boone	Dore & Whittier, Educational Planner
Mike Pirolo	Dore & Whittier
Maria Fernandez-Donovan	Dore & Whittier, Project Manager

## PURPOSE

The primary purpose of this meeting is to discuss the option of an 8<sup>th</sup> grade academy in the Canton School System.

NOTES	ACTION BY
1. All present introduced themselves.	
2. D&W provided a description of the structural system of the Rodman Building based on an investigative site visit by the Structural Engineer, EDG and Maria Fernandez-Donovan, D&W. The building has concrete structure, floors, roof and exterior walls with columns along the interior corridors. Most interior partitions along the corridor and between the corridor and the exterior wall are not load bearing. Therefore, most interior walls can be removed. This provides flexibility for future designs and uses for the building. Even though the existing masonry walls along the corridor and demising walls between classrooms are not load bearing, the walls are considered shear walls. If the proposed renovations require reconfiguration of these walls, a structural analysis would be necessary and may include the addition of new masonry shear walls.	

ARCHITECTS  
PROJECT MANAGERS

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NOTES	ACTION BY
<p>3. It is probable that the Rodman Building can be renovated to house an 8<sup>th</sup> grade academy. Therefore, the following questions need to be answered:</p> <ul style="list-style-type: none"> <li>a. Is an 8<sup>th</sup> Grade Academy is a good idea for the Canton School District?</li> <li>b. If it is a good idea, what does it look like?</li> <li>c. What is the program to be used to truth test the Rodman Building?</li> </ul>	
<p>4. D&amp;W emailed a research package related to Academies before the meeting.  Comments:</p> <ul style="list-style-type: none"> <li>a. Most academies in the research package were 9<sup>th</sup> grade academies.</li> <li>b. Canton has the opportunity to define something new for an 8<sup>th</sup> grade academy by translating the information to 8<sup>th</sup> grade as appropriate.</li> <li>c. A grade Academy provides the opportunity to soften the transition between to the next grade by providing an educational experience tailored for that age.</li> <li>d. It is important <i>not</i> to consider the 8<sup>th</sup> grade as part of the High School to maintain athletic competition 9-12.</li> </ul>	
<p>5. The group discussed an 8<sup>th</sup> grade Academy at Canton School District.</p> <ul style="list-style-type: none"> <li>a. An 8<sup>th</sup> grade academy separate from the existing Middle School would relieve overcrowding at the Middle School and, consequently, the Elementary Schools.</li> <li>b. An 8<sup>th</sup> grade academy would provide Canton the opportunity to have a unique 8<sup>th</sup> grade educational experience which is attractive to some, although not all.</li> <li>c. It is understood that 8<sup>th</sup> Grade Academy would soften the transition between 8<sup>th</sup> and 9<sup>th</sup> grades,</li> <li>d. A single staff body that is solely committed to that developmental level.</li> <li>e. The transition to an academy can begin to happen before a compatible facility exists for it by adjusting the program.</li> <li>f. Does an 8<sup>th</sup> grade academy need to be in a separate building or can it happen within at 5-8 school? 8-12?</li> <li>g. There has been negativity around the 8<sup>th</sup> grade academy idea. The Building Committee would need to make a good case, with successful precedents.</li> <li>h. The 8<sup>th</sup> grade academy could impact the students earlier and therefore speed up the master plan 5B1.</li> </ul>	
<p>6. The group discussed an 8<sup>th</sup> grade Academy at Rodman Building:</p> <ul style="list-style-type: none"> <li>a. Rodman is an underutilized building close to the High School that could provide the benefits of an 8<sup>th</sup> grade academy plus some benefits at the high school after a renovation, at a cost.</li> <li>b. Rodman could provide a small school experience with opportunities of a bigger school. A small school at another location would also be OK, but would need to find way to support students who might be at higher level</li> <li>c. 8<sup>th</sup> at Rodman would be less part of MS and more part of HS.</li> <li>d. Advanced students could take courses at higher grade level in the High School,</li> <li>e. All students could have more elective options offered at the high school.</li> </ul>	

NOTES	ACTION BY
<p>f. Possible space sharing economy by utilizing spaces at the high school for 8<sup>th</sup> graders, therefore not necessary to include those spaces at the 8<sup>th</sup> grade academy or include them in different forms.</p> <p>g. High school students would have the option to mentor 8<sup>th</sup> graders.</p> <p>h. If 8<sup>th</sup> graders take classes or participate in activities, would it be with HS students or not? Scheduling could help with the separation. Others see academic and social benefits in not separating 8<sup>th</sup> graders from high schooler grades.</p> <p>i. It is important for the High School is that the 8th grade not be considered part of the High School due to athletics. (Do not want to change their division).</p> <p>j.</p>	
<p>7. The group discussed what if no 8th grade Academy at Rodman</p> <p>a. If an 8th academy existed elsewhere from Rodman, the Masterplan would need to “pivot.”</p>	
<p>8. Rodman was turned down as part of the High School in the past:</p> <p>a. Too expensive to renovate</p> <p>b. Safety and security</p> <p>c. Going back and forth between Rodman and HS was not desirable.</p> <p>Jenn will look for the related document and pass it along to D&amp;W.</p>	Jenn
<p>9. D&amp;W guided the Focus Group through a series of activities to explore the 8<sup>th</sup> grade academy at Rodman Building.</p> <p>Topics explored: (See attached photographs)</p> <p>a. How do 8<sup>th</sup> graders &amp; high school students participate within the same community (i.e. – extracurriculars, electives, lunch, etc.)?</p> <p>b. What are students doing in the classroom?</p> <p>c. How are students organized</p> <p>d. What programs and services are offered?</p> <p>e. What does choice independence look like (i.e. – within course selection furniture the learning environment itself)?</p> <p>f. What tools and resources can students access?</p> <p>g. What does professional culture &amp; collaboration look like?</p> <p>Conclusions:</p> <p>What is an 8<sup>th</sup> Grade Academy?</p> <ul style="list-style-type: none"> <li>• Safe collaboration between MH and HS</li> <li>• Social aspects-tapping into HS             <ul style="list-style-type: none"> <li>○ Lunch at HS</li> <li>○ Multi-purpose space at Rodman to eat and hangout</li> </ul> </li> <li>• Not prep for HS; it has its own identity</li> <li>• Not sitting and listening</li> <li>• HS as Mentors</li> </ul>	

NOTES	ACTION BY
<ul style="list-style-type: none"> <li>• Can learning spaces be spaces where kids eat?</li> <li>• Tech/Engineering</li> <li>• Classes that are dynamic and flexible</li> <li>• Place based learning creation</li> <li>• Project-based learning</li> <li>• Student ownership &amp; leadership, including when they get to HS</li> <li>• Teams vs Houses based on subject or content; 80 students per team?</li> <li>• Team based with STEAM integration</li> <li>• Programs that support inquiry/design thinking</li> <li>• Flexible work areas and furniture</li> <li>• Learning is everywhere</li> <li>• Outdoor learning space</li> <li>• Schedule impacts for Gym, Art spaces, media center, could be spread out in multiple spaces.</li> <li>• 8<sup>th</sup>/9<sup>th</sup> professional collaboration</li> <li>• What is the research around collaboration?</li> <li>• More learning time is lost during transitions between classrooms far apart.</li> </ul> <p>Impacts of having 8<sup>th</sup> grade academy in Rodman</p> <p>Staffing</p> <ul style="list-style-type: none"> <li>• Duplication of staff possible</li> <li>• Is a full time principal needed?</li> <li>• Could the MS principle be supported by an 8<sup>th</sup> grade teacher leader?</li> <li>• Servicing of Special Education?</li> <li>• Nurse?</li> <li>• What happens to SPED/Specialists?</li> <li>• Staff between schools</li> </ul> <p>Schedule &amp; B Transportation</p> <ul style="list-style-type: none"> <li>• MS/HS currently running different schedules</li> <li>• Issues with contract for teachers</li> <li>• Planning time, expectation etc different between MS and HS</li> <li>• Potential additional or sharing routes for busses; currently MS &amp; HS riding together</li> </ul> <p>Culture:</p> <ul style="list-style-type: none"> <li>• Adults and students left behind in middle school will have to create a new community</li> </ul> <p>Other</p> <ul style="list-style-type: none"> <li>• Possible additional 30-40 staff parking spots needed.</li> <li>• Event parking issue made worse.</li> <li>• Traffic pattern would need to change with additional parent drop-off</li> <li>• Operational impacts</li> </ul>	
<p>10. If the 8th grade academy is not at Rodman Building, what is the disposition for Rodman? Potential options mentioned:</p> <ol style="list-style-type: none"> <li>a. District offices (as present or renovated)</li> <li>b. Teen Center</li> <li>c. Adult education</li> </ol>	

NOTES	ACTION BY
11. d. Multi-purpose space for building, maker-space e. PD Space	
12. Next Steps and Timeline a.	D&WA

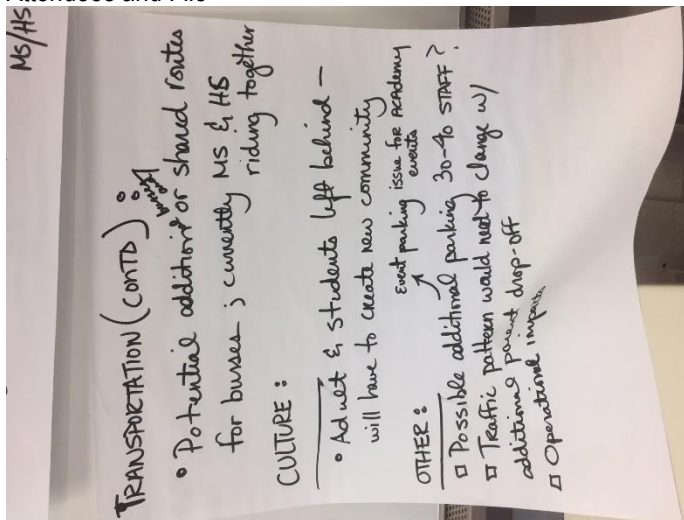
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes. After 10 days, we will accept these minutes as an accurate summary of our discussion and enter them into the permanent record of the project.

Sincerely,

**DORE & WHITTIER ARCHITECTS, INC.**  
Architects ▪ Project Managers

Maria Fernandez-Donovan AIA, LEED AP BD+C  
Project Manager

c: Attendees and File





# 8TH GRADE ACADEMY Feasibility Study



How do 8th graders & high school students participate within the same community (i.e. – extracurriculars, electives, lunch, etc.)?

Very little

together when safe - extracurriculars  
Lunch - lunch  
by - work  
from - work

How much  
we align  
an existing  
schedule  
to 8th can  
take advantage  
of AS?

Separate lunch  
blocks?

Learn  
Diverse

and  
not have to be  
too as us?  
making about 40  
minutes - 45 minutes  
and option to  
be in school  
clubs

lunchtime activities  
Maybe  
8 + 9  
Grade

SMART  
COUNCIL

PEER MENTORS  
10 → 8th  
✓

Community  
Service  
in school, out of school  
to other schools

Access to  
rooms,  
resources  
(ie Art)  
But  
separate lockers  
program

PERFORMING  
ARTS

Would we do some  
clubs geared toward  
8th to help ease  
that transition to?



# 8TH GRADE ACADEMY Feasibility Study



\*ARE THERE CLASSROOMS?

## What are students doing in the classroom?

learning  
classroom



Identifying real-  
life problems &  
solving them

Learning in their own  
way

Project Based  
Learning  
classroom



Simply  
reading things  
reading  
thinking  
demonstrating  
reading  
making music  
debating

Writing  
Learning  
Questioning  
Explaining  
Researching  
Thinking  
Reflecting  
Collaborating



DOING

Area  
used

entering technology,  
design, science  
centers  
building note

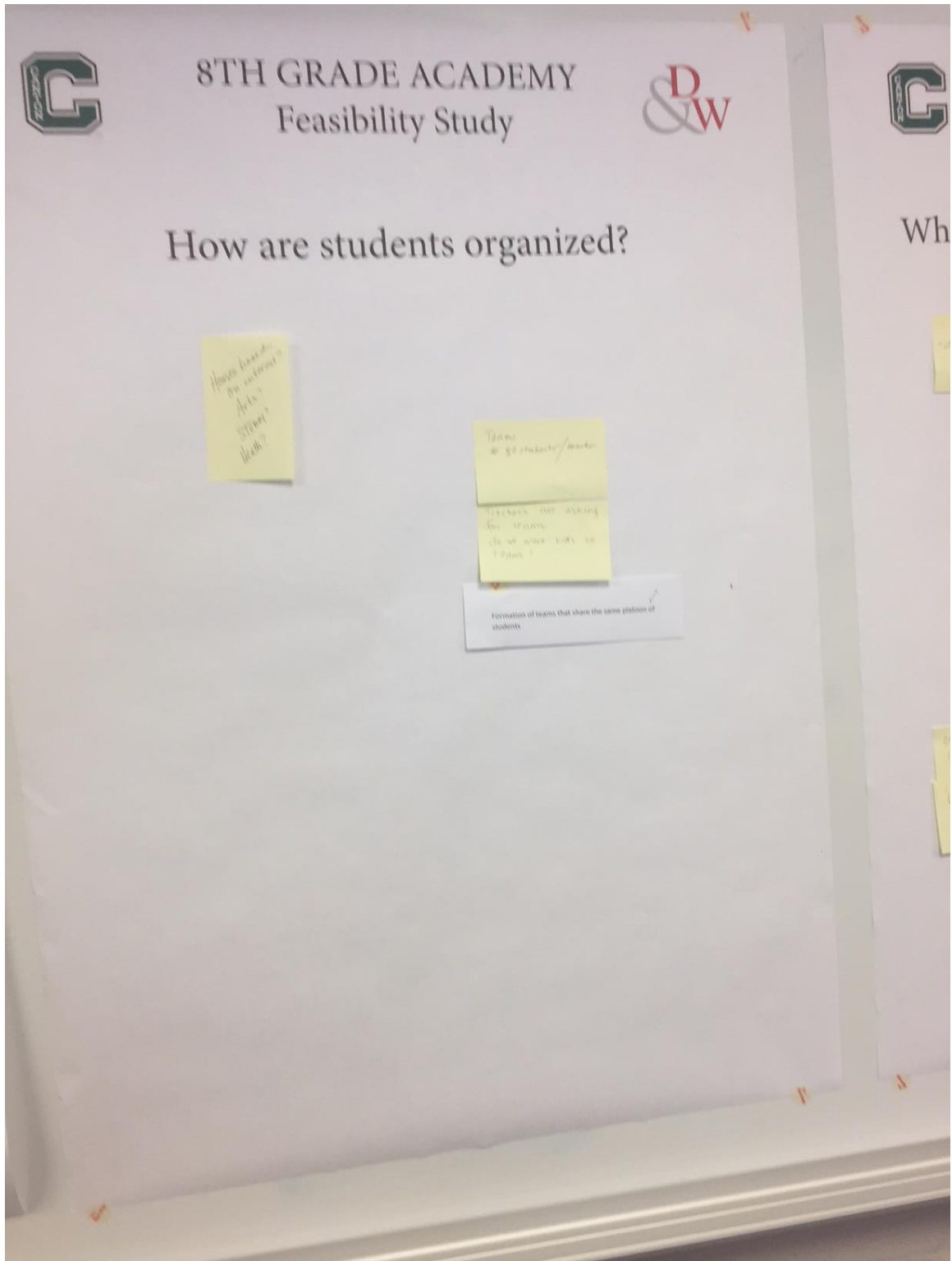


classroom...  
What if our students had  
on the wall a meeting the  
need. It also showed some  
things to put in their  
learning...  
- watching learn  
- design & build  
- problem  
- like never stop  
- maintain a  
- that of how  
- on the steps to  
- sustainability  
- up

What if 8th grade  
were focused on  
project or if they  
were doing projects that  
related to their learn-  
ing & then to history  
in general...  
- learning & ones  
- community at a time  
- having a great day  
- in a place  
- mapping center  
- in a million  
ways

Constructing things for  
community, data for  
i.e. chicken eggs  
for science class  
best building  
- i.e. Design, build, fly  
- up and fly  
- have been used in  
- whether that possible  
- allows learning  
- preparing to lead  
- school community  
- members - stay on  
- management role  
- duty which the student  
- breaks a real connection

More  
New lines of  
course leads itself  
to more experiential  
learning and civic  
engagement that used  
to be...  
- have the community  
- to let into BSM  
- for learning project





# 8TH GRADE ACADEMY Feasibility Study



## What programs & services are offered?

P&L

What programs and services  
are needed that support  
learning, growth, ...?

Themes for projects or  
exhibitions that are  
highlighted  
the year

Virtual  
Learning  
Courses  
& appropriate

- Digital resources
- ed resources
- virtual resources

Entrepreneurship  
Club/Forum/  
Blotter

Internship  
opportunities  
(Are appropriate)

Open  
for AS  
courses for  
accelerated  
students

Guidance -  
Counseling for  
social/emotional needs  
to support those  
who may need extra  
support

French

Sports





# 8TH GRADE ACADEMY Feasibility Study



What does choice & independence look like  
(i.e. – within course selection, furniture, the  
learning environment itself)?



flexible  
work spaces  
with classrooms

Learning & learning  
environment

Electors that  
are truly  
"electable"  
- Voted -  
- Motion  
- offerings

CHS  
Electives

High level  
student  
ownership

Inspiring  
conferences  
flexible  
independent/intercourse

Natural  
light

Permissible  
to  
multiple  
learning  
spaces

Power  
Ventilators -  
flexible  
options

Round  
Shedule  
flexible for  
topics  
Allow for  
flexibility  
in it



Consistent & the community

High  
level



# 8TH GRADE ACADEMY Feasibility Study



## What tools and resources can students access?


• Computer Support  
• Number of Computers  
CHS  
Instructional Staff

CHS Field Complex  
CHS Auditorium Cafeteria  
• A wide variety of space

Flexible Spaces  
- classrooms  
- workrooms  
- open areas  
- presentation spaces  
- etc.

• THE OUTDOORS  
- wood deck  
- picnic table  
- wood, etc.  
- table top  
- table top

Personal devices (i.e. a Blob)  
Access to Technology  
Tools that promote 21st century skills



Senior Information room for any student who needs it

CHS Media Center  
CHS GYM



Bulldog Van

standing library filled with books that provide inspiration in the arts, history, social justice, the physical environment, etc.

• TRIMMED MACHINES (LUMBER) @ WOODS CENTER

Flexible Seating, desks, Writing + Presentation speed surfaces/tools

Textile arts  
fabrics  
raw fabric  
sewing machines  
sewing  
yarn  
needles

• Making Creation Production

C  
L  
E  
A  
N  
I  
N  
G

Cutting tables  
cutting tools  
great library of books  
dye  
natural  
water, sink, sprayer  
washing machine, dryer

Increase awareness of academic programs offered at the high school

**8TH GRADE ACADEMY Feasibility Study**

**What does professional culture & collaboration look like?**

**TIME**

Committed group of teachers to provide instruction in core subjects... students can more easily make a transition from middle school while using the high school facilities for electives, co-curricular activities lunch, and library use

Common preparation period for each core team to facilitate developing intervention strategies for at-risk students, planning student activities, and developing professional learning communities

- Love blocks a time to collaborate
- Everyone has gone through SEI

Time with students  
Time with colleagues

**SPACE**

Committed group of teachers to provide instruction in core subjects... students can more easily make a transition from middle school while using the high school facilities for electives, co-curricular activities lunch, and library use

...more of a philosophy than just a school coming

Teachers voice philosophy and beliefs among all staff - they're all "pumped in"

Example Collaboration/Connection

Freshman counselors working closely with 8<sup>th</sup> grade counselors

Connect 8<sup>th</sup> grade parents with current high school parents

**CHARACTERISTICS OF PROFESSIONAL CULTURE**

Collegial  
Collaborative  
Focused on student learning + the student experience  
Creative, innovative

Creating, revising, Reflecting on curriculum together

Teachers are learners as well as leaders


Teachers seek student voice in curriculum decisions

Teacher Collaboration Spaces

**FEELINGS**

Teachers feel deeply respected, "known" as individuals. They want to be in a place where they are supported to be exactly who they are so they can do their best work

People are so happy to work here!



Example Collaboration/Connection

## IMPACTS

### STAFFING :

- Duplication of staff but maybe not a full-time principal ; could MS principal just be supported by a teacher leader ?
- SERVICING OF SPECIAL ED
- Nurse
- What happens to SPED / SPECIALISTS ?
- What about specials / staff between schools ?

### SCHEDULE & TRANSPORTATION

- MS/HS CURRENTLY running diff sched.
- ISSUES w/ CONTRACT for teachers
- planning time, expectations, etc. diff. between MS/HS

MS/HS

## TRANSPORTATION (CONTD)

- Potential additional <sup>buses and</sup> or shared routes for busses; currently MS & HS riding together

### CULTURE :

- Adnet & students left behind - will have to create new community

### OTHER :

- Possible additional parking <sup>Event parking issue for Academy events</sup> 30-40 STAFF?
- Traffic pattern would need to change w/ additional parent drop-off
- Operational impacts

## WHAT IS 8<sup>th</sup> Gr. ACADEMY

- SAFE COLLAB BETWEEN M & HS
- Social Aspects - tapping into HS
  - ↳ lunch @ HS
  - ↳ multi-purpose space @ Rod to eat / hang out
- NOT prep for HS ; it has its own IDENTITY
- HS STUDENTS AS MENTORS
- Can Learning spaces be spaces where kids eat?
  - Classrooms that are dynamic & flexible
- Tech / engineering
- Place-based learning & creation
- Project-based learning

... sitting & listening

- Not sitting & listening
- Student ownership, including when they get to HS & leadership
- TEAMS vs HOUSES BASED ON SUBJECT OR CONTENT
  - 80 students per team?
- Team-based w/ STEAM integration
- Programs that support inquiry/design-thinking
- Flexible work areas & furniture
  - 8<sup>th</sup>/9<sup>th</sup> Professional collaboration
- Learning is EVERYWHERE
  - \*What is research around collaboration?
- Outdoor learning space
- Schedule impacts for GYM, ARTS SPACES, MEDIA CENTER
- Time on learning lost w/transitions?
  - COULD BE SPREAD OUT IN MULTIPLE PLACES

# Alternative Space Uses

- Adult learning
- Teen center
- Multi-purpose space for crafting, building, maker space
- PD space
- District Offices

(H...  
J...  
ST...  
F...

using...  
the physical...  
etc.

Writing +  
Presentation  
Speed surface  
tools

How...  
academic support...  
like to use...  
and how...  
build...  
attending that support  
independently?

textile arts  
fabric  
raw fabric  
sewing machines  
scissors  
pins  
needles

• Making  
• Creation B  
• Production  
←  
L  
S  
A  
M  
I  
N  
G

cutting tables  
cutting tools  
great library of books  
dye natural  
water, sinks, stoves  
washing machine, dryer

Increase awareness of academic programs offered at the high school



## IMPACTS

STAFFING:

- Duplication of staff but maybe not a full-time principal; could MS principal just be supported by a teacher leader?
- SERVICING OF SPECIAL ED
- Nurse
- What happens to SPED/SPECIALISTS?
- What about specials/staff between schools?

SCHEDULE & TRANSPORTATION

- MS/HS CURRENTLY running diff sched.
- ISSUES w/ CONTRACT for teachers
- planning time, expectations, etc. diff. between MS/HS

## WHAT IS 8<sup>th</sup> Gr. ACADEMY

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- Can learning spaces be spaces where kids eat?
  - ◻ Classrooms that are dynamic & flexible
- ◻ Tech/engineering
- ◻ Place-based learning & creation
- ◻ Project-based learning

## TRANSPORTATION (CONTD)

- Potential additional <sup>bus</sup> or shared routes for busses; currently MS & HS riding together

CULTURE:

- Adult & students left behind - will have to create new community

OTHER:

- Possible additional parking <sup>event parking issue for Academy events</sup> 30-40 STAFF?
- Traffic pattern would need to change w/ additional <sup>parent</sup> drop-off
- Operational impacts

- Not sitting & listening
- Student ownership, including when they get to HS <sup>leadership</sup>
- TEAMS vs HOUSES BASED ON SUBJECT OR CONTENT
  - 80 students per team?
- Team-based w/ STEAM integration
- Programs that support inquiry/design-thinking
- flexible work areas & furniture
- Learning is EVERYWHERE
- Outdoor learning space
- Schedule impacts for GYM, ARTS SPACES, MEDIA CENTER

◻ 8<sup>th</sup> Professional collaboration

◻ What is research around collaboration?

↘ COULD BE SPREAD OUT IN MULTIPLE PLACES

Area/Department	2018-2019 Budget	2019-2020 Budget	% Change
Administrative Services	1,200,000	1,250,000	4.2%
Business Services	800,000	820,000	2.5%
Capital Construction	500,000	550,000	10.0%
Community Development	300,000	300,000	0.0%
Education Services	10,000,000	10,500,000	5.0%
Food Services	1,500,000	1,500,000	0.0%
Health Services	2,000,000	2,000,000	0.0%
Information Services	1,000,000	1,000,000	0.0%
Legal Services	500,000	500,000	0.0%
Library Services	1,000,000	1,000,000	0.0%
Public Safety	1,500,000	1,500,000	0.0%
Recycling Services	500,000	500,000	0.0%
Transportation Services	2,000,000	2,000,000	0.0%
Utilities	1,000,000	1,000,000	0.0%
Waste Management	1,000,000	1,000,000	0.0%
Other	1,000,000	1,000,000	0.0%
<b>Total</b>	<b>20,000,000</b>	<b>20,500,000</b>	<b>2.5%</b>

# Canton 8<sup>TH</sup> Grade academy

Feasibility Study  
User Group Meeting  
7.25.18

# Welcome & Introductions

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light to dark. These shapes are primarily located on the right side of the slide, creating a modern, layered effect. The text 'Welcome & Introductions' is positioned on the left side of the slide in a clean, green, sans-serif font.

# Gather Information

Why an 8<sup>th</sup> Grade Academy?



What is the 8<sup>th</sup> Grade experience?



What are the impacts?



What spaces are we testing for feasibility?

# Why an 8<sup>th</sup> Grade Academy?

- ▶ Current Considerations
  - ▶ Relieve overcrowding at elementary schools
  - ▶ Leverage Rodman facility for higher and better use
- ▶ Academic Research & Current Models

# What is the 8<sup>th</sup> grade experience?

## ▶ Chart Walk to explore...

- ▶ What programs & services are offered?
- ▶ How are students organized?
- ▶ What are students doing in the classroom?
- ▶ How do 8<sup>th</sup> graders & high school students participate within the same community (i.e. – extracurriculars, electives, lunch, etc.)?
- ▶ What does choice & independence look like (i.e. – within course selection, furniture, the learning environment itself)?
- ▶ What tools and resources can students access?
- ▶ What does professional culture & collaboration look like?

# What is the 8<sup>th</sup> grade experience?

- ▶ Review & Synthesis
  - ▶ What is common in our vision?
  - ▶ What are some differences or areas for further discussion?
- ▶ Working Mission Statement – Canton 8<sup>th</sup> Grade Academy

# What are the impacts?

- ▶ Staffing & Service Delivery
- ▶ Space
- ▶ Schedule
- ▶ Transportation
- ▶ Curriculum
- ▶ Extracurriculars & the school community
- ▶ Other?



# Next steps?

- ▶ Questions & topics for further exploration
- ▶ Upcoming School Committee Meeting

# MEETING MINUTES



**DATE OF MEETING:** September 13, 2018

**PROJECT:** Canton Public Schools Feasibility Study and JFK Modular Classrooms

**PROJECT NO.:** 18-0773 and 18-0776

**SUBJECT:** Working Group Meeting: Pre-K at Elementary Schools

**ATTENDING:**

Dr. Jennifer Fisher-Mueller (JFM)	Superintendent
Patricia Kinsella (PK)	Assistant Superintendent
Barry Nectow (BN)	Business Manager
Debbie Rooney (DR)	K-8 <sup>th</sup>
Bob McCarthy (BM)	Building Renovations Committee
Sarah Shannon (SS)	Galvin MS Principal
Donna Kilday	E.C.C.
Deborah Bromfield	Director of Student Services
Brad Dore (BD)	Dore & Whittier, Principal
Jason Boone (JB)	Dore & Whittier, Educational Planner
Mike Pirolo (MP)	Dore & Whittier
Maria Fernandez-Donovan (MFD)	Dore & Whittier, Project Manager

**PURPOSE**

On September 13, 2018, D&W met with the working group from Canton Public Schools to discuss feasibility options for Pre-K classrooms at the 3 Canton elementary schools and Rodman Hall.

NOTES	ACTION BY
<p>1. The meeting began with an update of a meeting that took place at Canton Rodman Hall with Barry, Donna and D&amp;W to determine a planning target for the number of Pre-K modular classrooms needed to support the current and future educational program.</p> <p>Meeting conclusions:</p> <ul style="list-style-type: none"> <li>a. There is need for 9 Pre-K classrooms.</li> <li>b. Options to investigate:               <ul style="list-style-type: none"> <li>• 9 Pre-K classrooms at Rodman Hall with related program</li> <li>• 3 Pre-K classrooms at each elementary school (3)</li> </ul> </li> </ul>	

ARCHITECTS  
PROJECT MANAGERS

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NOTES	ACTION BY
<p>c. Items to keep in mind</p> <ul style="list-style-type: none"> <li>• A separate entry is ideal</li> <li>• Pre-K classroom size goal: 1,200SF</li> <li>• Related Program: <ul style="list-style-type: none"> <li>i. Family Room</li> <li>ii. OP/PT</li> <li>iii. Office space</li> <li>iv. Nurse</li> <li>v. Speech/Language</li> <li>vi. Teachers Room</li> <li>vii. Parking/Drop-off; independent entry is ideal</li> </ul> </li> </ul>	
<p>2. D&amp;W presented the following 2 options for a consolidated Pre-K center at Rodman Hall:</p> <p>Option 1</p> <ul style="list-style-type: none"> <li>• 9 classrooms - size compromised (not 1,200SF)</li> <li>• Smaller OT/PT</li> <li>• Layout appears feasible despite smaller classroom sizes</li> <li>• Lacks speech and language, Family Room, Teachers Room</li> <li>• Parking is an issue now, so added enrollment would worsen parking situation</li> <li>• This solution is not meeting program.</li> </ul> <p>Option 2</p> <ul style="list-style-type: none"> <li>• A variation of Option 1; with smaller classrooms and more office space.</li> <li>• This solution is not meeting program.</li> </ul> <p>Conclusion: One level of Rodman Hall does not have enough square footage to house the entire Pre-K program as originally intended.</p>	
<p>3. D&amp;W presented options for 3-classroom additions at each existing elementary school: Three 1200 SF classrooms with bathrooms and new offices, meeting program by sharing other spaces with the existing school.</p> <p>a. Hansen Elementary School</p> <p>Option 1 – Addition to be located at a similar place as pre-existing modular addition:</p> <ul style="list-style-type: none"> <li>• This addition is far from the main entry. If dedicated entry was added, parking and drop-off area would need to be added.</li> <li>• It appears that the existing service road is at the edge of wetlands and so this option may be problematic because the new road may be encroaching on wetlands or/and may not be able to go around the building. Space is tight.</li> <li>• Pre-K is close to Kindergarten and considered a good thing.</li> <li>• Large travel distance to spaces like Gym, music, etc. may be acceptable.</li> </ul>	

NOTES	ACTION BY
<ul style="list-style-type: none"> <li>• Close to existing playground: dedicated playground could be added next to existing.</li> </ul> <p>Option 2- Attached at east of the school.</p> <ul style="list-style-type: none"> <li>• Location at edge of parking lot allows for independent entry and parking lot may be easily extended to accommodate additional enrollment. Nevertheless, there is a potential wetlands issue at the north side of parking lot.</li> <li>• Dedicated playground could be added next to the existing.</li> <li>• Large separation between Pre-K and Kindergarten is not ideal.</li> <li>• Pre-K classrooms separated from the other grade classrooms.</li> </ul> <p>b. JFK Elementary School – 3 classrooms with a single loaded corridor creating a courtyard.</p> <ul style="list-style-type: none"> <li>• The courtyard created is a potential location for a dedicated playground. Potential issues: playground noise for classrooms at courtyard perimeter, fire chief may be concerned regarding access.</li> <li>• Easy access to existing playground; the existing playground could be adapted for both K and Pre-K.</li> <li>• Good drop-off sequence.</li> <li>• Pre-k would be close to Kindergarten.</li> <li>• Direct dedicated entry into Gym.</li> </ul> <p>There are plans underway to occupy the south site space with a modular classroom addition, therefore, that location is not an option for a Pre-K addition.</p> <p>c. Luce Elementary School-single loaded corridor close to north site perimeter.</p> <ul style="list-style-type: none"> <li>○ Addition would create an open courtyard south of it.</li> <li>○ If the classrooms face the north site boundary, there would be minimal impact on the existing playground. If the classrooms face the courtyard, the existing playground would need to be relocated.</li> <li>○ The service road would need to squeeze between the addition and the site boundary.</li> <li>○ Drop-off would need to be through the existing front door (quite far) or the existing secondary entry used by Kindergarten (a bit less far), as there is no space for an independent entry.</li> <li>○ The existing 1st grade would divide K from new Pre-K.</li> <li>○ This site is very tight</li> </ul>	
<p>4. Preference for Pre-K to be close to Kindergarten or other spaces at the elementary schools:</p> <ul style="list-style-type: none"> <li>▪ Very positive if possible.</li> </ul>	

NOTES	ACTION BY
<ul style="list-style-type: none"> <li>▪ Staff feels more part of the school if Pre-K and Kindergarten are close to each other.</li> <li>▪ Long distance from Gym, music, etc. may be OK because Pre-K kids are “cute” when they walk thru the school creating a positive environment.</li> </ul>	
<p>5. Other options talked about:</p> <p>a. 5th graders from all elementary schools would move to new modular classrooms at Galvin Middle School so Pre-K can move into each of the existing elementary schools:</p> <ul style="list-style-type: none"> <li>• All 5<sup>th</sup> graders added to the existing Middle School building is seen as too burdensome given the amount of space and staff of shared activities (gym, music, art, etc.) without additional FTEs.</li> <li>• 12-13 modular classrooms would be required to house the 5<sup>th</sup> grade; more than needed to house the Pre-K.</li> <li>• Pre-k would be in smaller existing spaces.</li> </ul> <p>b. Pre-K at Rodman Hall occupying more than the lower floor to meet the entire program.</p> <ul style="list-style-type: none"> <li>• Playground could be relocated to the front of the building to address the vehicular cross circulation conflict.</li> <li>• Additional parking would be required.</li> <li>• Rodman Hall has available space that would be used by the Pre-K program.</li> <li>• Jason pointed out that this plan can be executed any time between now and when the MSBA funds the main project.</li> <li>• D&amp;W Whittier to explore this option.</li> </ul> <p>c. Pre-K at Rodman Hall occupying one lower floor only and meeting the entire intended program</p> <ul style="list-style-type: none"> <li>• The group understands that the program spaces will need to be reduced in order to make it fit in one floor.</li> </ul> <p>D&amp;W to provide options b and c layouts for Pre-K in Rodman Hall.</p>	<p>D&amp;W</p>
<p>6. Discussion about individual spaces:</p> <p>a. Family room: a place to meet with families for new and existing students, IEP, special ed, waiting area for service, faculty room, struggle space. This space is best ideally near the school entry.</p> <p>b. Indoor motor room is a need for young children that can be located in the gym.</p> <p>c. The goal is to have pre-k to 4<sup>th</sup> in one school.</p>	
<p>7. D&amp;W requested access to JFK elementary school to confirm fixture count. D&amp;W visited the school after the meeting.</p>	
<p>8. D&amp;W provided two options of cost information for survey work at the JFK. CPS informed D&amp;W to proceed with surveying the entire school site.</p>	<p>D&amp;W</p>

<b>NOTES</b>	<b>ACTION BY</b>
9. Next Steps: a. D&W to provide additional options for Pre-K at Rodman Hall b. Next Meeting September 27, 2018	D&W

The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes. After 10 days, we will accept these minutes as an accurate summary of our discussion and enter them into the permanent record of the project.

Sincerely,

**DORE & WHITTIER ARCHITECTS, INC.**  
Architects ▪ Project Managers

Maria Fernandez-Donovan AIA, LEED AP BD+C  
Project Manager

**cc:** Attendees and File

# CANTON PUBLIC SCHOOLS

Feasibility Study Update



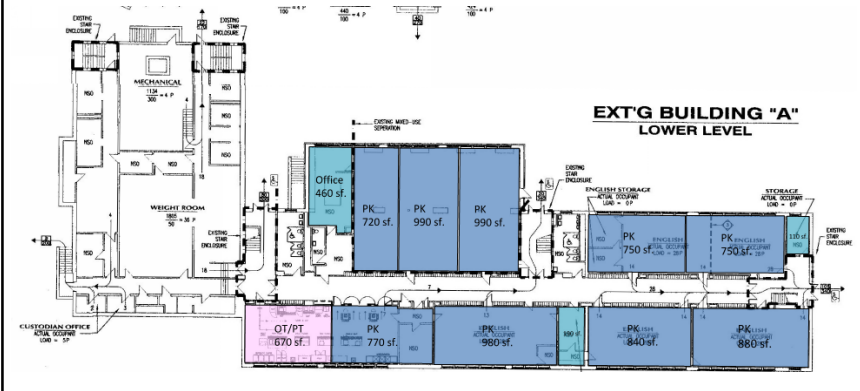
9.13.18 Working Group



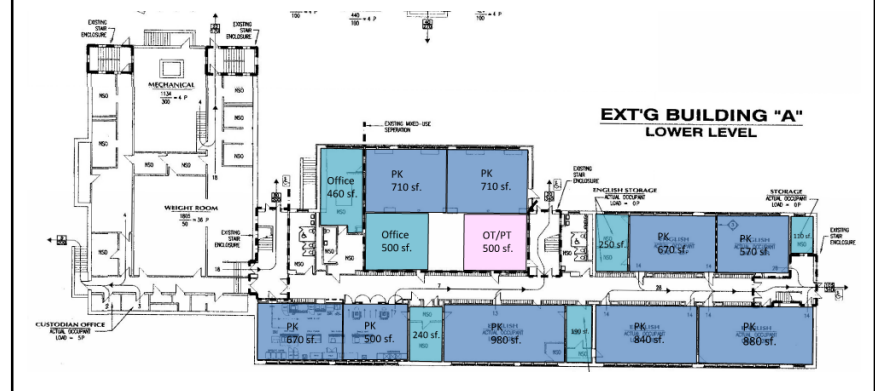
## Agenda

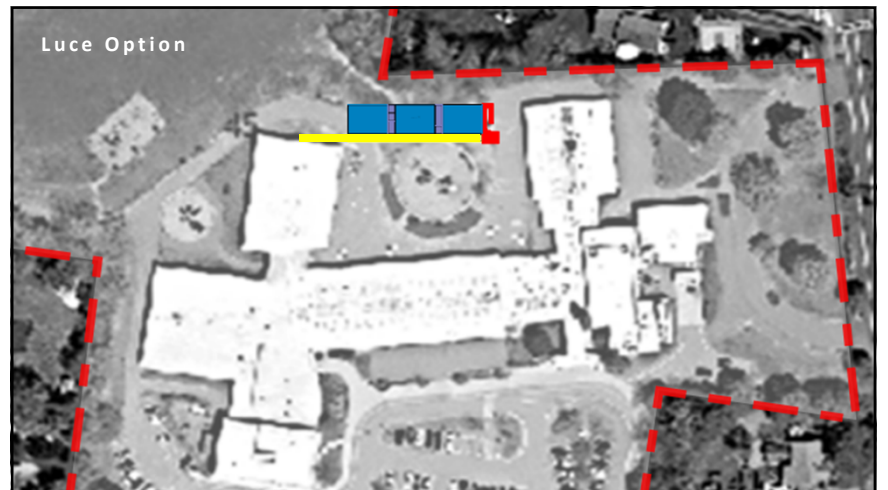
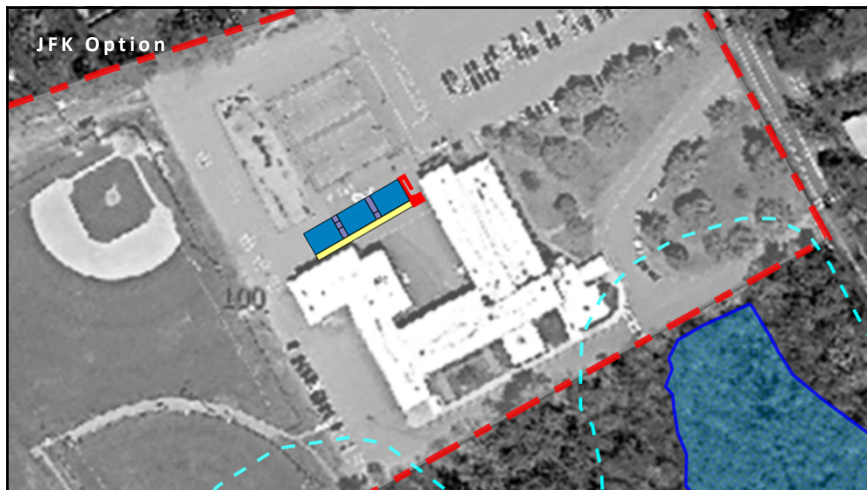
- Review Pre-K Modular Options:
  - 9 at Rodman in 2 ways
  - 3 at each elementary school
- Next Steps

### Rodman Option 1: Maximize Space Strategy



### Rodman Option 2: Minimal Intervention Strategy







# MEETING MINUTES



**DATE OF MEETING:** September 27, 2018

**PROJECT:** Canton Public Schools Feasibility Study and JFK Modular Classrooms

**PROJECT NO.:** 18-0773 and 18-0776

**SUBJECT:** Working Group Meeting: Pre-K at Elementary Schools

**ATTENDING:**

Dr. Jennifer Fisher-Mueller (JFM)	Superintendent
Patricia Kinsella (PK)	Assistant Superintendent
Barry Nectow (BN)	Business Manager
Debbie Rooney (DR)	K-8 <sup>th</sup>
Bob McCarthy (BM)	Building Renovations Committee
Donna Kilday	E.C.C.
Mike Pirolo (MP)	Dore & Whittier
Maria Fernandez-Donovan (MFD)*	Dore & Whittier, Project Manager

**PURPOSE**

To provide update and discuss feasibility options for Pre-K classrooms at the 3 Canton elementary schools and Rodman Hall as well as discuss JFK modular classroom addition.

NOTES	ACTION BY
<p>1. D&amp;W presented 2 options for Pre-K at Rodman Building</p> <p style="margin-left: 20px;">a. Option 1: All classrooms on the lower floor, some program on the second floor.</p> <ul style="list-style-type: none"> <li>• Classroom size range: 793-870 SF.</li> <li>• Donna stated that this scheme would give her at least a capacity of 150 children for the program.</li> <li>• Speech on the upper floor is not advantageous.</li> <li>• OT/PT and Indoor Motor work well together.</li> <li>• Speech and OT/PT also work well together.</li> <li>• Indoor Motor was perceived as too big initially. It was concluded that more space is better for the children to move more. Overall size for Indoor Motor can be similar to a standard classroom.</li> <li>• For security concerns, the addition of a door at the second floor to control public access was suggested.</li> </ul>	

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NOTES	ACTION BY
<ul style="list-style-type: none"> <li>• A new entry proposal is welcome, yet it conflicts with a proposed relocated playground that the group had been thinking about.</li> </ul> <p>b. Option 2: 4 classrooms at the upper level while the rest of the program at the lower level.</p> <ul style="list-style-type: none"> <li>• The location of the entry works well with the alternate location for the playground.</li> <li>• Donna likes the layout:             <ol style="list-style-type: none"> <li>1. Add a security door at upper level.</li> <li>2. Better entry location</li> <li>3. Indoor Motor, OT/PT and Speech make sense together.</li> <li>4. The nurse is close to all at this location.</li> <li>5. Parking works well when classrooms are divided in two levels because parking at both sides of the building can be used.</li> <li>6. This scheme offers better construction phasing.</li> <li>7. Noise created by Indoor Motor is not an issue at the lower floor.</li> <li>8. The staff room looks too long. (con)</li> <li>9. The Family Room can be used for meetings.</li> <li>10. Classroom locations create more sense of security for the children.</li> </ol> </li> <li>• Classrooms all along the one hall create a runway affect that does not provide the same neighborhood cluster as the 4 rooms on the upper floor. D&amp;W to work through an alternative option where 2 classrooms are switched with Indoor Motor and OT/PT.</li> </ul>	<p>D&amp;W</p>
<p>2. D&amp;W presented the options for Pre-K within the existing elementary schools.</p> <p>a. Luce:</p> <ul style="list-style-type: none"> <li>• Pro: Science, health, &amp; music would be relocated to 850 sf. Modular classrooms could be smaller and potentially less expensive than if PK was in the modular classrooms.</li> <li>• Pro: The Music Room size would be similar to other music rooms in the district</li> <li>• Pro: PK configured inside the building in rooms with internal toilets, may result in less costly renovation.</li> <li>• PK and Kindergarten switch would improve the layout.</li> <li>• Con: Despite a smaller modular classroom addition, the site is very tight; the playground would be affected, the wetlands would be encroached; the road would need to be relocated in an already tight area.</li> <li>• Con: Drawing shows OT/PT where there is currently and entry that the school does not want to lose.</li> <li>• The consensus is that this option is not great.</li> </ul>	

NOTES	ACTION BY
<p>b. Hansen</p> <ul style="list-style-type: none"> <li>• Con: PK configured inside the building displacing one grade to the modular would consist of 4 classrooms, so the modular addition would not be smaller; no site benefit.</li> <li>• 3 PK classrooms and 1 family room would take the four grade classrooms.</li> <li>• The site constraints remain the same as previously proposed addition options, at either side of the building, the same as if PK was in the modular.</li> <li>• The consensus is that this option is not great.</li> </ul> <p>c. JFK</p> <ul style="list-style-type: none"> <li>• PK would replace the grade 2 classrooms in the main building near K.</li> <li>• CON: 4 classrooms of Grade 2 would be relocated to modular classrooms, therefore making the additions larger.</li> <li>• The consensus is that this option is not great.</li> </ul> <p>In general, the group felt that putting PK within the existing building has no benefit to either school.</p>	
<p>3. D&amp;W presented two options for the JFK Modular classroom expansion. Both maintain fire department access and require parking relocation.</p> <p>a. Five (5) 850 SF Modular General Classrooms, no bathrooms</p> <p>b. Three (3) 1200 SF Pre-K/K Classrooms with Toilets</p> <ul style="list-style-type: none"> <li>• The group agreed that more than three classrooms are needed and that it is not necessary for these classrooms to have internal bathrooms as the Pre-K solution will be elsewhere.</li> <li>• The options on the table are: <ul style="list-style-type: none"> <li>a. Five classrooms, although the school would prefer them bigger than 850SF and closer to 1000SF.</li> <li>b. Four bigger classrooms if 5 large classrooms do not fit in the site.</li> </ul> </li> <li>• Either options should remain within the budget.</li> </ul>	D&W
<p>4. The group discussed the advantages of having PK in Rodman Building.</p> <p>a. Renovating Rodman for PK seems more economic than addition or renovation at all three elementary schools.</p> <p>b. Renovating Rodman for PK seems less disruptive than addition or renovation at all three elementary schools.</p> <p>c. Rodman renovation works better with controlled growth and phasing- renovate what is needed as it is needed.</p> <p>d. One PK area is better for the staff instead of dispersed into 3 areas.</p> <p>e. Both Rodman Building options offer great natural light.</p>	

NOTES	ACTION BY
5. Next Steps: a. Survey JFK site - Staff is being CORI'd so survey can be scheduled. b. Complete preliminary cost estimates 1. 2 options for PK at Rodman building 2. PK modular at each school 3. PK inside at each school w/ modulars to house alternate grade 4. 8th grade academy at Rodman (for study purposes) c. D&W and Working Group will recommend best option following the cost estimates and site survey	
6. Next meeting: October 4, 2018.	ALL

The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes. After 10 days, we will accept these minutes as an accurate summary of our discussion and enter them into the permanent record of the project.

Sincerely,

**DORE & WHITTIER ARCHITECTS, INC.**  
Architects ▪ Project Managers

Maria Fernandez-Donovan AIA, LEED AP BD+C  
Project Manager

cc: Attendees and File

# MEETING MINUTES



**DATE OF MEETING:** October 11, 2018  
**PROJECT:** Canton Public Schools Feasibility Study and JFK Modular Classrooms  
**PROJECT NO.:** 18-0773 and 18-0776  
**SUBJECT:** Working Group Meeting: Pre-K at Elementary Schools  
**ATTENDING:**

Barry Nectow (BN)	Business Manager
Brian Lynch	CPS Director of Facilities
Debbie Rooney (DR)	K-8 <sup>th</sup>
Bob McCarthy (BM)	Building Renovations Committee
Donna Kilday	E.C.C.
Mike Pirolo (MP)	Dore & Whittier
Maria Fernandez-Donovan (MFD)*	Dore & Whittier, Project Manager

**PURPOSE**

To provide update and discuss feasibility options for Pre-K classrooms and District Offices at Rodman Hall as well as discuss JFK modular classroom addition.

NOTES	ACTION BY
<ol style="list-style-type: none"> <li>1. D&amp;W presented 3 options for Pre-K at Rodman Building                             <ol style="list-style-type: none"> <li>a. Option 1: All classrooms on the lower floor, some program on the second floor.                                     <ul style="list-style-type: none"> <li>• This option was not preferred previously due to the locations of the entry in conflict with proposed playground location.</li> </ul> </li> <li>b. Option 2: 4 classrooms at the upper level while the rest of the program at the lower level.                                     <ul style="list-style-type: none"> <li>• This option was presented previously, liked with requested revisions.</li> </ul> </li> <li>c. Option 2 revised 4 classrooms at the upper level while the rest of the program at the lower level clustered in the middle of the building as opposed to a row.                                     <ul style="list-style-type: none"> <li>• The location of the entry works well with the alternate location for the playground with glass front door.</li> <li>• Donna likes the layout the best:   <ol style="list-style-type: none"> <li>1. Add a security door at upper level.</li> <li>2. Better entry location</li> </ol> </li> </ul> </li> </ol> </li> </ol>	

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NOTES	ACTION BY
<ol style="list-style-type: none"> <li>3. Indoor Motor, OT/PT and Speech make sense together at new location.</li> <li>4. The nurse is close to all at this location.</li> <li>5. Parking works well when classrooms are divided in two levels because parking at both sides of the building can be used.</li> <li>6. Noise created by Indoor Motor is not an issue at the lower floor in new location.</li> <li>7. The staff room layout was improved.</li> <li>8. The Family Room can be used for meetings near entry.</li> <li>9. Classroom locations create more sense of security for the children.</li> </ol>	D&W
<ol style="list-style-type: none"> <li>2. Playground location is acceptable where proposed: I deal for Pre-K. . No need to replace the parking spots taken as there is enough on site.</li> </ol>	
<ol style="list-style-type: none"> <li>3. The group discussed the advantages of having PK in Rodman Building.           <ol style="list-style-type: none"> <li>a. Renovating Rodman for PK seems more economic than addition or renovation at all three elementary schools.</li> <li>b. Renovating Rodman for PK seems less disruptive than addition or renovation at all three elementary schools.</li> <li>c. Rodman renovation works better with controlled growth and phasing- renovate what is needed as it is needed.</li> <li>d. One PK area is better for the staff instead of dispersed into 3 areas.</li> <li>e. Both Rodman Building options offer great natural light.</li> </ol> </li> </ol>	
<ol style="list-style-type: none"> <li>4. D&amp;W presented District Offices options at Rodman.           <ol style="list-style-type: none"> <li>a. One option placed the District Offices at space left after Pre-K Option 2 revised would be build. Part of main floor and all the top floor.</li> <li>b. Next options showed the District offices with our Pre-K in the building, occupying main floor and half of lower floor.</li> </ol> <p>The group stated that the District offices do not need to be renovated in Rodman. The existing space less that space that the Option 2revised would leave is acceptable without renovation.</p> <p>D&amp;W will price the District Office with Pre-K option for reference.</p> </li> </ol>	
<ol style="list-style-type: none"> <li>5. JFK Options           <ul style="list-style-type: none"> <li>-5 Class rooms options is beyond Canton's budget.</li> <li>-4 classroom option is with budget and fits well on site.</li> <li>-Consider options with 4 classrooms with the 5<sup>th</sup> classroom as an add-alternate.</li> </ul> <p>Barry will think about the options an provide direction to D&amp;W.</p> </li> </ol>	

<b>NOTES</b>	<b>ACTION BY</b>
6. Next Steps: <ul style="list-style-type: none"><li>• Complete preliminary cost estimates:<ul style="list-style-type: none"><li>○ 2 options for PK at Rodman building</li><li>○ PK modular at each school</li><li>○ PK inside at each school w/ modular classrooms to house alternate grade</li><li>○ 8th grade academy at Rodman (for study purposes)</li></ul></li><li>• D&amp;W to proceed with Working Group's JFK selection</li></ul> 7.	ALL
Next meeting: October 25, 2018.	

The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes. After 10 days, we will accept these minutes as an accurate summary of our discussion and enter them into the permanent record of the project.

Sincerely,

**DORE & WHITTIER ARCHITECTS, INC.**  
Architects ▪ Project Managers

Maria Fernandez-Donovan AIA, LEED AP BD+C  
Project Manager

cc: Attendees and File

# Canton Public Schools

Working Group Meeting 10.11.18





# AGENDA

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- ❑ Rodman:
  - Pre-K Option (Revised)
  - Pre-K Playground
  - Pre-K & District Combined
  - District Only
  
- ❑ JFK Modular Classrooms
  
- ❑ Next Steps

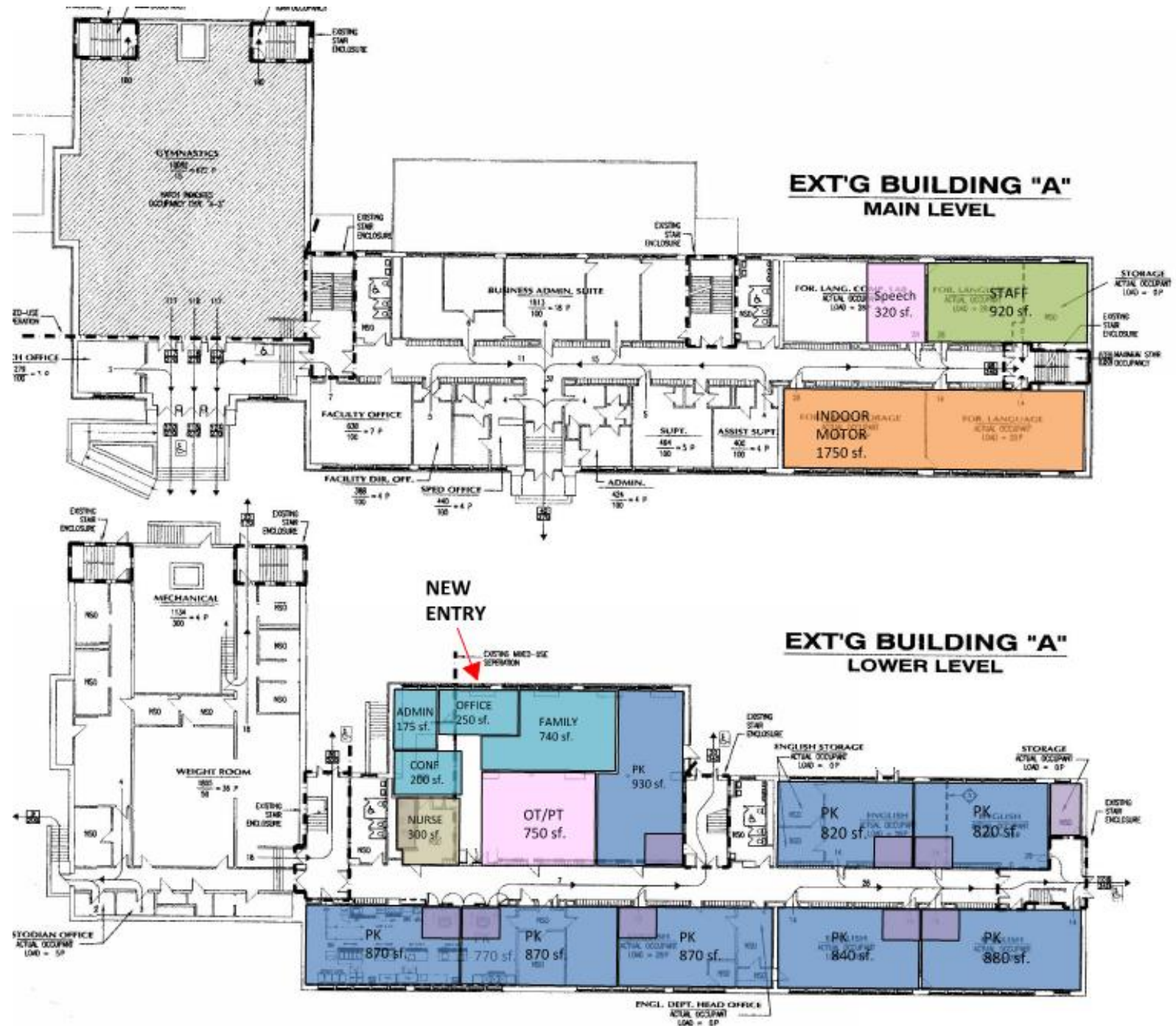
**Pros:**

- ❑ PK classrooms (8) w/internal toilets
- ❑ Admin Suite
- ❑ Meets Program Needs

**Cons:**

- ❑ Room sizes are inequitable
- ❑ Indoor Motor, Speech, Staff Rm. disconnected on 2<sup>nd</sup> floor

**Moderate level of construction**



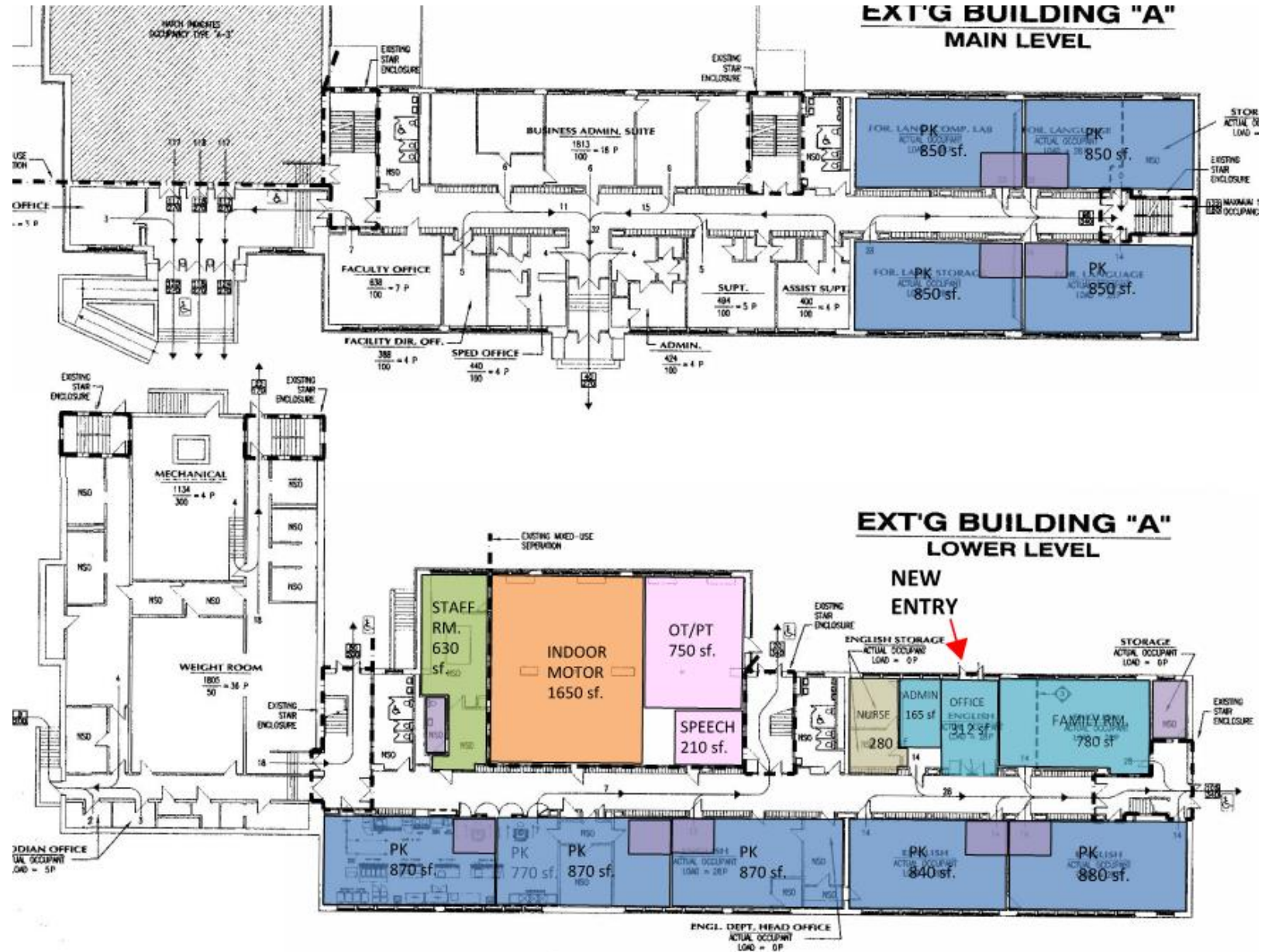
**Pros:**

- ❑ PK classrooms (9) w/internal toilets
- ❑ Admin Suite
- ❑ Meets Program Needs
- ❑ Indoor Motor, Speech, Staff Rm. connected on 1st floor

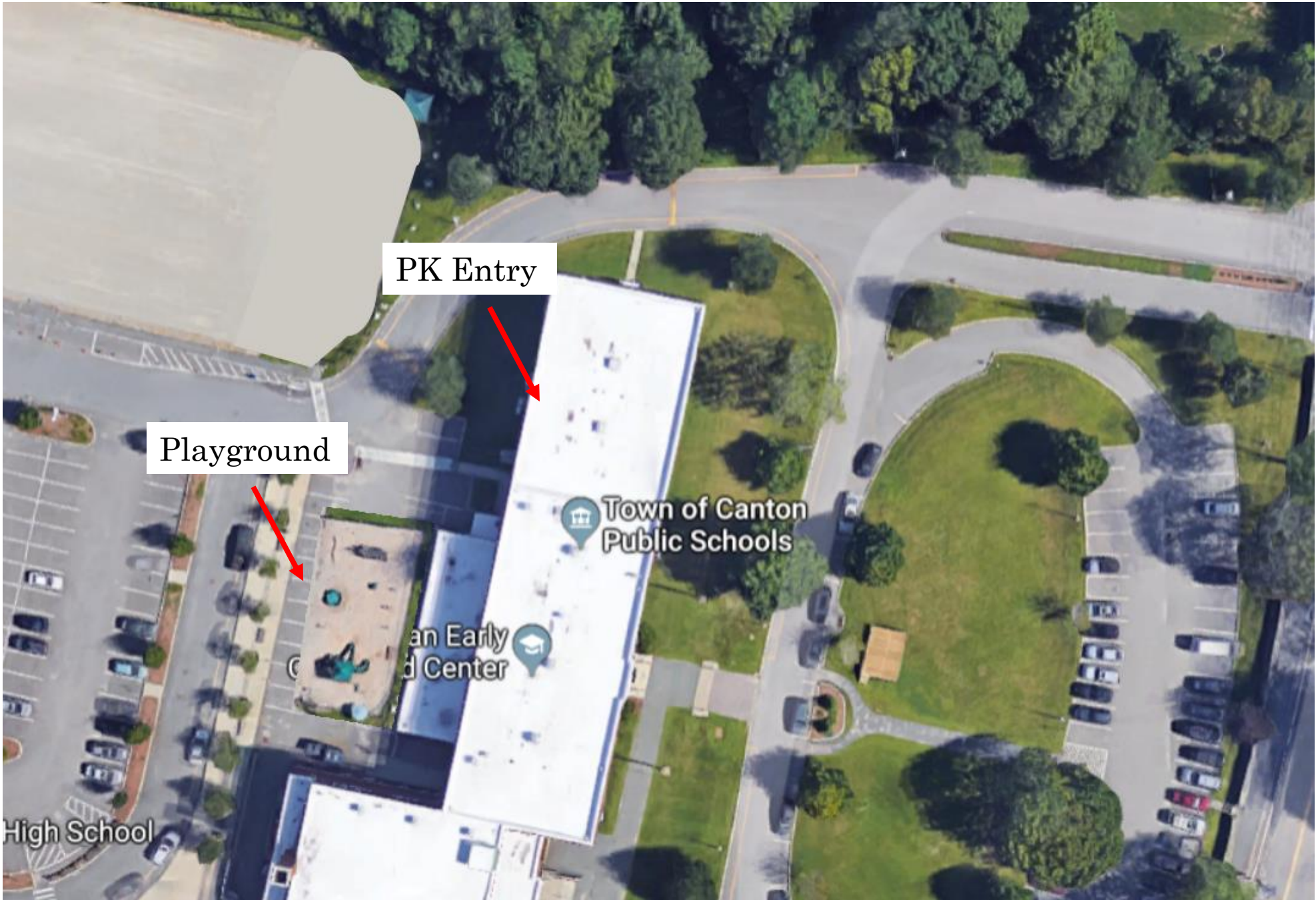
**Cons:**

- ❑ Classrooms disconnected between 2 floors

**Moderate level of construction**







Rodman - PK Playground





# JFK Options

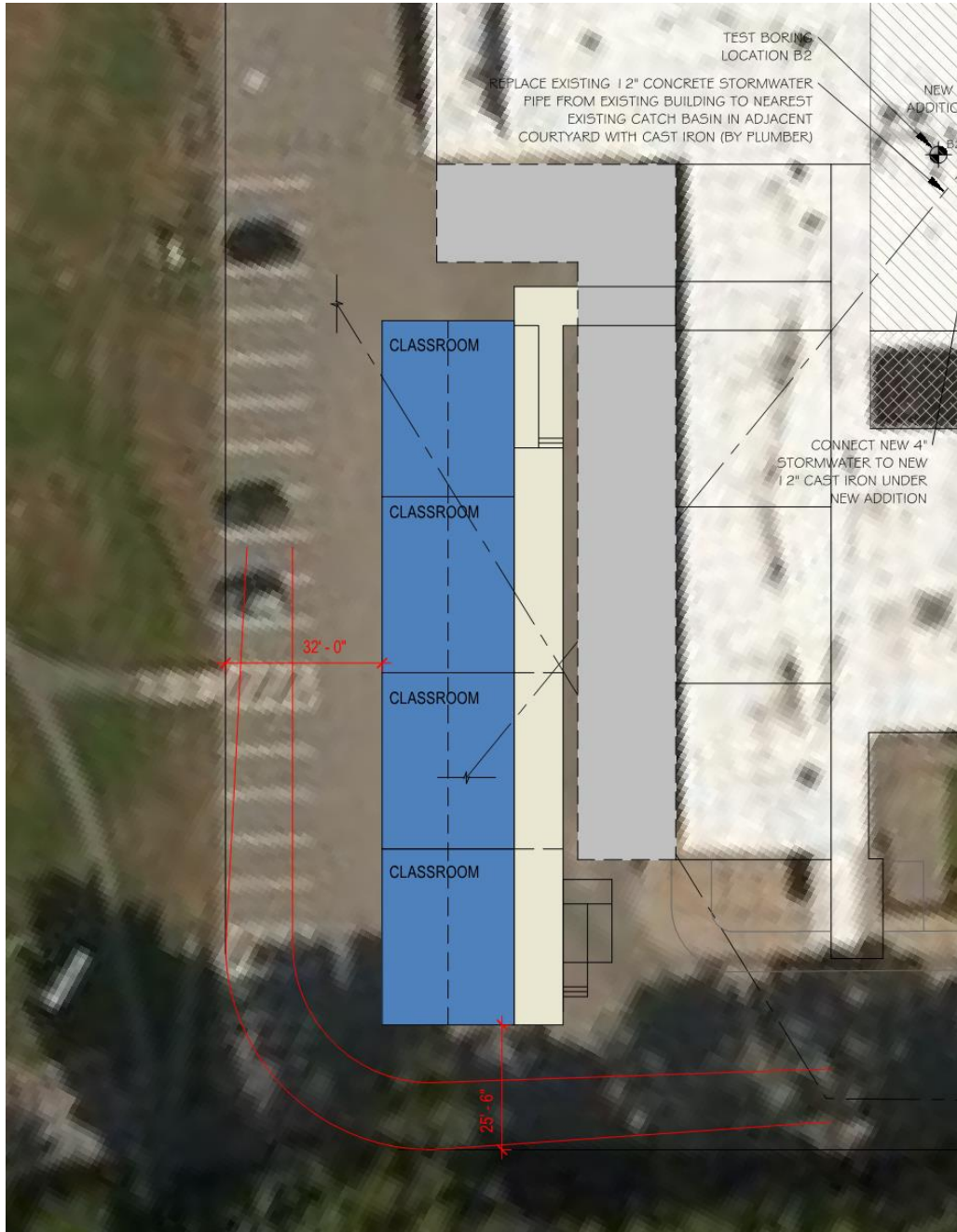
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- ❑ 5 classrooms
- ❑ 4 classrooms
- ❑ 4 classrooms with 5<sup>th</sup> add/alt

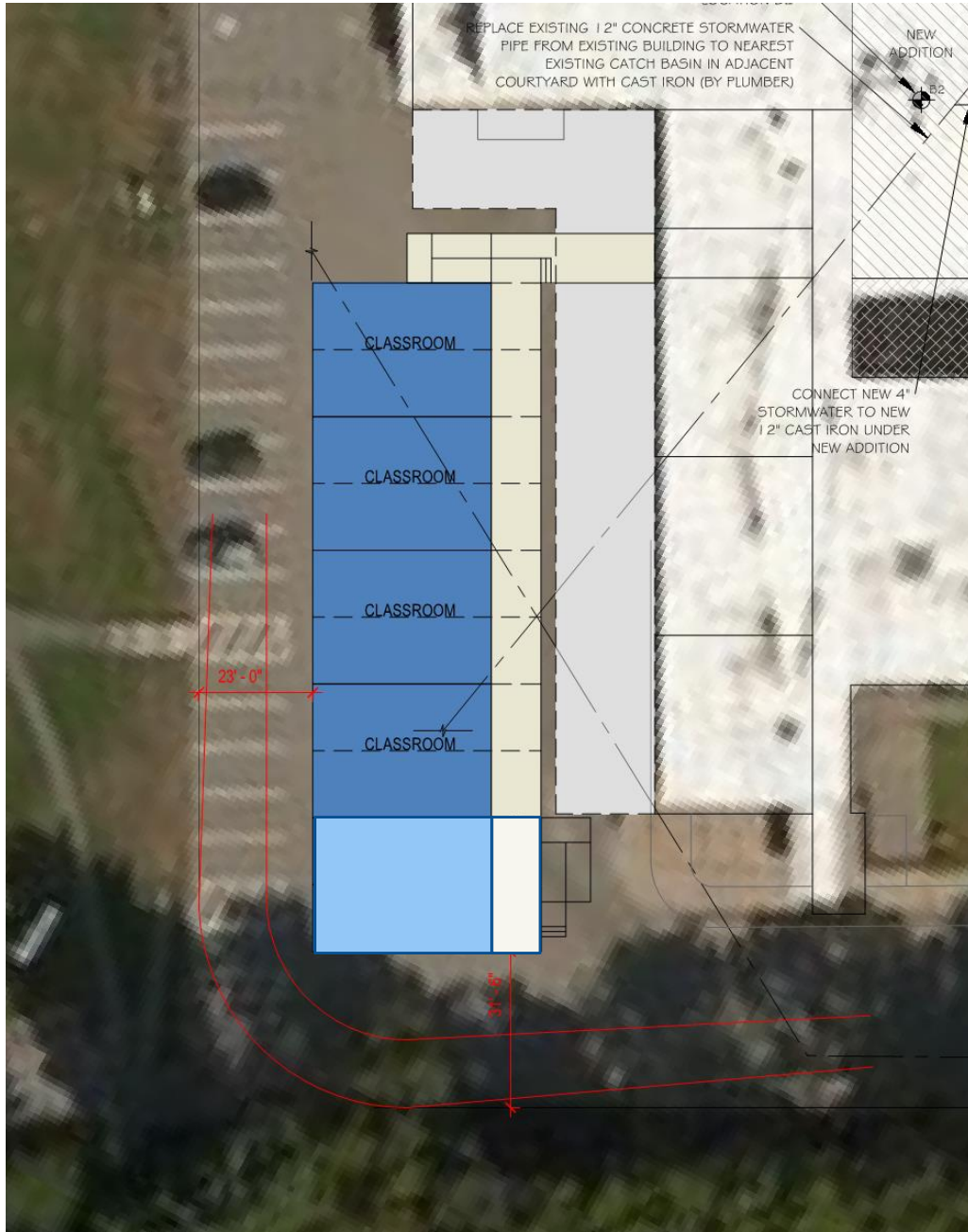




JFK ELEMENTARY MODULAR PROJECT		
<b>October 11, 2018</b>		OVERALL BUILDING GSF 6,210
Estimated Project Budget	Construction Cost Building \$/SF	<b>\$401</b>
<b>Option 1b, 5 classrooms</b>		
<b>CONSTRUCTION</b>		
1 Construction Cost including Site work (Trade Costs)		\$1,881,315
Classrooms / Corridor (6,201 SF @ \$200/SF)		\$1,242,000
Connector (500 SF @ \$300/SF)		\$150,000
Secondary Ramp / Stair (250 SF @ \$150/SF)		\$37,500
Sitework (6,951 SF @ \$65/SF)		\$451,815
2 Bonds & Insurance		\$47,033
3 Overhead & Profit		\$188,132
4 General Requirements/General Conditions		\$225,758
5 Escalation		\$56,439
6 D&P Contingency @ 5%		\$94,066
<b>7 Construction Subtotal</b>		<b>\$2,492,742</b>
<b>PROFESSIONAL SERVICES</b>		
8 Architect/Engineering Fees		\$255,450
9 Owner's Project Manager (OPM)		\$87,246
10 Hazardous Abatement Design/Oversight (Industrial Hygienist)		\$0
11 Information Technology Procurement (Loose) (by School District)		\$0
12 FF&E Procurement (Loose)		\$0
13 Traffic Study		\$0
14 Geotechnical Engineering (monitoring)		\$0
15 GeoEnvironmental Engineering		\$0
16 Survey/Wetlands		\$0
17 Permitting		\$0
<b>18 Professional Services Subtotal</b>		<b>\$342,696</b>
<b>OTHER SOFT COSTS</b>		
19 Furnishings, Fixtures and Equipment (allowance)		\$0
20 Loose Technology (allowance)		\$25,000
21 Construction Testing (allowance)		\$10,000
22 Moving Costs (by School)		\$0
23 Property Title Review (allowance)		\$0
24 Utility Back Charges (allowance)		\$5,000
25 Legal (allowance)		\$0
26 Printing (allowance)		\$2,500
27 Advertising (allowance)		\$500
30 Miscellaneous Expenses		\$2,500
<b>28 Other Soft Costs Subtotal</b>		<b>\$45,500</b>
<b>CONTINGENCY</b>		
29 Owner Construction Contingency (7.5%)		\$186,956
30 Owner Discretionary Contingency (2.5%)		\$62,319
<b>31 Contingency Subtotal</b>		<b>\$249,274</b>
<b>32 Total Project Cost</b>		<b>\$3,130,213</b>
Note: All costs are estimated		
<b>BUDGET</b>	<b>\$</b>	<b>2,000,000</b>
		<b>(\$1,130,213)</b>



JFK ELEMENTARY MODULAR PROJECT		
<b>October 11, 2018</b>	OVERALL BUILDING GSF	5,068
Estimated Project Budget	Construction Cost Building \$/SF	<b>\$419</b>
<b>Option 1c - 4 classrooms</b>		
<b>CONSTRUCTION</b>		
1	Construction Cost including Site work (Trade Costs)	\$1,601,170
	Classrooms / Corridor (5,068 SF @ \$200/SF)	\$1,013,600
	Connector (560 SF @ \$300/SF)	\$168,000
	Secondary Ramp / Stair (250 SF @ \$150/SF)	\$37,500
	Sitework (5,878 SF @ \$65/SF)	\$382,070
2	Bonds & Insurance	\$40,029
3	Overhead & Profit	\$160,117
4	General Requirements/General Conditions	\$192,140
5	Escalation	\$48,035
6	D&P Contingency @ 5%	\$80,059
7	<b>Construction Subtotal</b>	<b>\$2,121,550</b>
<b>PROFESSIONAL SERVICES</b>		
8	Architect/Engineering Fees	\$255,450
9	Owner's Project Manager-OPM (est. 3.5%)	\$74,254
10	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$0
11	Information Technology Procurement (Loose) (by School District)	\$0
12	FF&E Procurement (Loose)	\$0
13	Traffic Study	\$0
14	Geotechnical Engineering (monitoring)	\$0
15	GeoEnvironmental Engineering	\$0
16	Survey/Wetlands	\$0
17	Permitting	\$0
18	<b>Professional Services Subtotal</b>	<b>\$329,704</b>
<b>OTHER SOFT COSTS</b>		
19	Furnishings, Fixtures and Equipment (allowance)	\$0
20	Loose Technology (allowance)	\$20,000
21	Construction Testing (allowance)	\$10,000
22	Moving Costs (by School)	\$0
23	Property Title Review (allowance)	\$0
24	Utility Back Charges (allowance)	\$5,000
25	Legal (allowance)	\$0
26	Printing (allowance)	\$2,500
27	Advertising (allowance)	\$500
30	Miscellaneous Expenses	\$2,500
28	<b>Other Soft Costs Subtotal</b>	<b>\$40,500</b>
<b>CONTINGENCY</b>		
29	Owner Construction Contingency (7.5%)	\$159,116
30	Owner Discretionary Contingency (2.5%)	\$53,039
31	<b>Contingency Subtotal</b>	<b>\$212,155</b>
<b>32 Total Project Cost</b>		<b>\$2,703,910</b>
Note: All costs are estimated		
<b>BUDGET</b>	<b>\$</b>	<b>2,000,000</b>
		<b>(\$703,910)</b>



- 4 classrooms with 5<sup>th</sup> add/alt
  - Classroom orientation
  - Exterior Views & Daylighting
  - Borrowed Lights
  - Massing

# next steps

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- ❑ Complete preliminary cost estimates:
  - 2 options for PK at Rodman building
  - PK modular at each school
  - PK inside at each school w/ modulars to house alternate grade
  - 8th grade academy at Rodman (for study purposes)
- ❑ D&W to proceed with Working Group's JFK selection

thank you

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## STRUCTURAL ASSESSMENT

The purpose of this report is to follow-up on the structural assessment conducted in November of 2016. This report will describe, in broad terms, the structure of the existing building; comment on the condition of the existing building; and on the feasibility of renovations and expansion of the school

### SCOPE

- Description of existing structure
- Comments on the existing condition
- Comments on the feasibility of renovation and expansion.

### BASIS OF REPORT

This report is based on our visual observations during our site visit on July 11, 2018 and a review of the assessment report of the Childhood Center conducted in November of 2016.

During our site visit, we did not remove any permanent finishes or take measurements. Our understanding of the structure is limited to the exposed structure and the exterior facade.

### BUILDING DESCRIPTION

The Rodman Early Childhood Center is located in the former Rodman School located on Washington Street in Canton, Massachusetts. The original school was constructed in 1949, followed by the addition of an academic wing housing 12 classrooms on three levels a few years later. An interior elevator and lobby was constructed in 2007. The building is essentially a three-story concrete framed structure with a double-story gymnasium above the main level.

The lower level is a concrete slab on grade. The main level floor, the upper level floor and the roof are of similar construction. The typical floor and roof of the original building is a concrete one-way slab spanning between reinforced concrete beams. The concrete beams span between concrete columns along the corridor walls and exterior concrete columns or masonry piers located between exterior windows. The corridor floor is a two-way, reinforced concrete slab spanning between reinforced concrete beams supported on columns on each side of the corridor and beams spanning across the corridor.

The later addition is framed a little differently than the original construction. The typical floor and roof is reinforced concrete slab spanning between concrete beams. We measured the thickness of the roof slab at an existing core location; the slab thickness measured was 8 in. thick.

The corridor walls and the demising walls between the classrooms are masonry; they do not appear to be load bearing, but, probably provide some lateral load resistance to the building structure.

### EXISTING CONDITIONS

Based on our observations, the structure is performing well. We did not observe any signs of foundation settlement or any excessive vibrations due to footfall on supported floors. The conditions are essentially the same as we observed during the study and assessment conducted in November of 2016.

### PROPOSED SCHEMES

Based on our observations and analysis of the existing drawings, no structural upgrades are required for any proposed renovations of limited scope that do not invoke any required structural modifications. The extent of the code required structural upgrades is dependent on the extents of the proposed renovations. The following is a description of the compliance methods that may be triggered depending on the extents of the proposed schemes as dictated by other disciplines.

## GENERAL CODE CONSIDERATIONS

If any repairs, renovations, additions or change of occupancy or use are made to the existing structure, an evaluation of the structure is required to demonstrate compliance with 780 CMR, Chapter 34 "Existing Building Code" (Massachusetts Amendments to The International Existing Building Code 2015). The intent of the IEBC and the related Massachusetts Amendments to IEBC is to provide alternative approaches to alterations, repairs, additions and/or a change of occupancy or use without requiring full compliance with the code requirements for new construction.

The IEBC provides three compliance methods for the repair, alteration, change of use, or additions to an existing structure. The three compliance methods are as follows:

1. Prescription Compliance Method.
2. Work Area Compliance Method.
3. Performance Compliance Method.

### *Prescriptive Compliance Method*

In this method, compliance with Chapter 4 of the IEBC is required. As part of the scope of this report, the extent of the compliance requirements identified are limited to the structural requirements of this chapter.

#### *Alterations*

- If the proposed alterations of the structures increase the demand-capacity ratio of any lateral load resisting element by more than 10 percent, the structure of the altered building or structure shall meet the requirements for the code for new construction.
- Where alterations increase the design gravity loads by more than 5 percent on any structural members, those members would have to be strengthened, supplemented, or replaced.

#### *Additions*

Additions can be designed to be structurally separate or structurally connected to the existing building. Based on the project scope, the following structural issues must be addressed: The requirements applicable to the existing structure for connected additions are similar to those for altered structures.

- All construction of all addition areas must comply with the code requirements for new construction in the IBC.
- For additions that are not structurally independent of an existing structure, the following rules apply to the existing building:
  - The existing structure and its addition - acting as a single structure - must meet the requirements of the code for new construction for resisting lateral loads. Exceptions allow that structural elements that only resist lateral forces whose demand-capacity ratio is not increased by more than 10 percent may remain unaltered.

Any load-bearing structural element for which the addition or its related alterations causes an increase in the design gravity load of more than 5 percent shall be strengthened. In order to avoid invoking required structural modifications to the existing building, any planned additions should be designed as structurally separate buildings.

### *Work Area Compliance Method*

In this method, compliance with Chapter 5 through 13 of the IEBC is required. The extent of alterations has to be classified into LEVELS OF WORK based on the scope and extent of the alterations to the existing building. Refer to the Regulatory Overview section of this report for an explanation of the Levels of Work.

This report assumes that planned renovation schemes would affect more than 50 percent of the floor area and invoke Level 3 Alteration requirements, and the following analysis is based on that assumption. In addition, there are requirements that have to be satisfied for additions to the existing structure.

### *Level 3 Alterations*

- Any existing load-bearing structural element for which an alteration causes an increase in the design gravity load of more than 5 percent shall be strengthened, supplemented or replaced.
- If the proposed structural alterations of an existing structure exceed 30 percent of the total floor and roof areas of an existing structure, we have to demonstrate that the altered structure complies with the IBC for wind loading and with reduced IBC level seismic forces.
- Existing anchorage of all unreinforced masonry walls to the structure have to be evaluated. If the existing anchorage of the walls to the structure is deficient, the tops of the masonry walls will require new connections to the structure.
- If the proposed structural alterations of an existing structure are less than 30 percent of the total floor and roof areas of the existing structure, the project must demonstrate that the altered structure complies with the loads applicable at the time of the original construction (or the most recent major renovation) and that the seismic demand-capacity ratio is not increased by more than 10 percent on any existing structural element. Those structural elements whose seismic demand-capacity ratio is increased by more than 10 percent must be strengthened, supplemented, or replaced in order to comply with reduced IBC level seismic forces.
- Anchorage of all unreinforced masonry walls to the structure have to be evaluated.

### *Additions*

- All additions shall comply with the requirements for the code for new construction in the IBC.
- Any existing gravity, load-carrying structural element for which an addition or its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented or replaced.
- For additions that are not structurally independent of any existing structures, the existing structure and its additions, acting as a single structure, shall meet the requirements of the code for new construction in the IBC for resisting wind loads and IBC Level Seismic Forces (may be lower than loads from the Code for New Construction in the IBC), except for small additions that would not increase the lateral force story shear in any story by more than 10 percent cumulative. In this case, the existing lateral load resisting system can remain unaltered.

### *Performance Compliance Method*

Following the requirements of this method for the alterations and additions may be onerous on the project because this method requires that the altered existing structure and the additions meet the requirements for the code for new construction in the IBC.

## **SUMMARY**

The existing school structure appears to be performing well. All of the structural components that are visible appear to be in sound condition. The cracks in the interior masonry walls and the minor spalling of concrete that was observed are not a structural concern. We would recommend that these cracks in the masonry walls and spalls in the concrete foundation walls be repaired as part of the regular maintenance program.

The compliance requirements of the two Prescriptive and Work Area Compliance methods are very similar in most respects for a major renovation. The Prescriptive Compliance Method would be more restrictive, as it



## **RODMAN EARLY CHILDHOOD CENTER**

Canton, Massachusetts

Structural Assessment

would likely require that the existing lateral load resisting systems of the existing building meet the requirements of the code for new construction of the IBC, even for small increases of design lateral loads. Based on this, we would recommend the Work Area Compliance Method for the project.

Any major proposed renovations and additions would likely require that the structure be updated to meet the requirements for the Code for New Construction. This may require addition of some shear walls, connecting the floor and roof diaphragms to the existing masonry walls and the clipping of non-structural walls to the structure. All of the existing masonry walls would have to be adequately connected to the roof and floor structure.

It should be noted that even though the existing masonry walls along the corridor and the demising walls between classrooms are not load bearing walls, the walls would be considered as shear walls. If the proposed renovations require reconfiguration of these walls, a structural analysis would be required and may require addition of new masonry shear walls.



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## **Feasibility Estimate**

# **Canton Schools Design Options**

Canton, MA

Prepared for:

**Dore + Whittier Architects, Inc.**

December 11, 2018



**Canton Schools**  
 Design Options  
 Canton, MA

11-Dec-18

**Feasibility Estimate**

**MAIN CONSTRUCTION COST SUMMARY**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>RODMAN OPTION 1.0</b>				
	May-19			
RENOVATIONS TO EXISTING SCHOOL		15,810	\$147.09	\$2,325,542
REMOVE HAZARDOUS MATERIALS				\$10,000
SITework - RELOCATE PLAYGROUND				\$150,000
<b>SUB-TOTAL</b>		15,810	\$157.21	\$2,485,542
ESCALATION TO START OF CONSTRUCTION	3%			\$74,566
DESIGN AND PRICING CONTINGENCY	15%			\$384,016
<b>SUB-TOTAL</b>		15,810	\$186.22	\$2,944,124
GENERAL CONDITIONS	10%			\$294,412
BONDS	1.25%			\$36,802
INSURANCE	1.50%			\$44,162
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$117,765
PHASING PREMIUM				NIC
<b>TOTAL OF ALL CONSTRUCTION</b>		15,810	\$217.41	<b>\$3,437,265</b>
<b>RODMAN ACCESSIBILITY UPGRADES</b>				<b>\$380,880</b>



**Canton Schools**  
 Design Options  
 Canton, MA

11-Dec-18

**Feasibility Estimate**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>RODMAN OPTION 2.0</b>				
	May-19			
RENOVATIONS TO EXISTING SCHOOL		17,223	\$149.33	\$2,571,959
REMOVE HAZARDOUS MATERIALS				\$10,000
SITework - RELOCATE PLAYGROUND				\$150,000
SUB-TOTAL		17,223	\$158.62	\$2,731,959
ESCALATION TO START OF CONSTRUCTION	3%			\$81,959
DESIGN AND PRICING CONTINGENCY	15%			\$422,088
SUB-TOTAL		17,223	\$187.89	\$3,236,006
GENERAL CONDITIONS	10%			\$323,601
BONDS	1.25%			\$40,450
INSURANCE	1.50%			\$48,540
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$129,440
PHASING PREMIUM				NIC
<b>TOTAL OF ALL CONSTRUCTION</b>		17,223	\$219.36	<b>\$3,778,037</b>
<b>RODMAN ACCESSIBILITY UPGRADES</b>				<b>\$380,880</b>



**Canton Schools**  
 Design Options  
 Canton, MA

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**Feasibility Estimate**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>RODMAN OPTION 3.0</b>				
	May-19			
RENOVATIONS TO EXISTING SCHOOL		35,310	\$137.93	\$4,870,438
REMOVE HAZARDOUS MATERIALS				\$10,000
SITework - RELOCATE PLAYGROUND				\$150,000
<b>SUB-TOTAL</b>		<b>35,310</b>	<b>\$142.46</b>	<b>\$5,030,438</b>
ESCALATION TO START OF CONSTRUCTION	3%			\$150,913
DESIGN AND PRICING CONTINGENCY	15%			\$777,203
<b>SUB-TOTAL</b>		<b>35,310</b>	<b>\$168.75</b>	<b>\$5,958,554</b>
GENERAL CONDITIONS	10%			\$595,855
BONDS	1.25%			\$74,482
INSURANCE	1.50%			\$89,378
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$238,342
PHASING PREMIUM				NIC
<b>TOTAL OF ALL CONSTRUCTION</b>		<b>35,310</b>	<b>\$197.02</b>	<b>\$6,956,611</b>
<b>RODMAN ACCESSIBILITY UPGRADES</b>				<b>\$380,880</b>



**Canton Schools**  
 Design Options  
 Canton, MA

11-Dec-18

**Feasibility Estimate**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>HANSEN EAST</b>				
	May-19			
MODULAR BUILDING		5,600	\$200.00	\$1,120,000
STAIR/RAMP (interior)		450	\$300.00	\$135,000
STAIR/RAMP (exterior)		450	\$150.00	\$67,500
SITework - Allowance				\$120,000
<b>SUB-TOTAL</b>		<b>6,050</b>	<b>\$238.43</b>	<b>\$1,442,500</b>
ESCALATION TO START OF CONSTRUCTION	3%			\$43,275
DESIGN AND PRICING CONTINGENCY	15%			\$222,866
<b>SUB-TOTAL</b>		<b>6,050</b>	<b>\$282.42</b>	<b>\$1,708,641</b>
GENERAL CONDITIONS	10%			\$170,864
BONDS	1.25%			\$21,358
INSURANCE	1.50%			\$25,630
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$68,346
<b>TOTAL OF ALL CONSTRUCTION</b>		<b>6,050</b>	<b>\$329.73</b>	<b>\$1,994,839</b>



**Canton Schools**  
Design Options  
Canton, MA

11-Dec-18

**Feasibility Estimate**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>HANSEN WEST</b>				
	May-19			
MODULAR BUILDING		5,600	\$200.00	\$1,120,000
STAIR/RAMP (interior)		450	\$300.00	\$135,000
STAIR/RAMP (exterior)		550	\$150.00	\$82,500
SITework - Allowance				\$120,000
SUB-TOTAL		6,050	\$240.91	\$1,457,500
ESCALATION TO START OF CONSTRUCTION	3%			\$43,725
DESIGN AND PRICING CONTINGENCY	15%			\$225,184
SUB-TOTAL		6,050	\$285.36	\$1,726,409
GENERAL CONDITIONS	10%			\$172,641
BONDS	1.25%			\$21,580
INSURANCE	1.50%			\$25,896
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$69,056
<b>TOTAL OF ALL CONSTRUCTION</b>		6,050	\$333.15	<b>\$2,015,582</b>



**Canton Schools**  
Design Options  
Canton, MA

11-Dec-18

**Feasibility Estimate**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>LUCE</b>				
	May-19			
MODULAR BUILDING		5,020	\$200.00	\$1,004,000
STAIR/RAMP (interior)		450	\$300.00	\$135,000
STAIR/RAMP (exterior)		550	\$150.00	\$82,500
SITework - Allowance				\$200,000
SUB-TOTAL		5,470	\$259.87	\$1,421,500
ESCALATION TO START OF CONSTRUCTION	3%			\$42,645
DESIGN AND PRICING CONTINGENCY	15%			\$219,622
SUB-TOTAL		5,470	\$307.82	\$1,683,767
GENERAL CONDITIONS	10%			\$168,377
BONDS	1.25%			\$21,047
INSURANCE	1.50%			\$25,257
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$67,351
<b>TOTAL OF ALL CONSTRUCTION</b>		5,470	\$359.38	<b>\$1,965,799</b>





**Canton Schools**  
Design Options  
Canton, MA

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**Feasibility Estimate**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Construction Cost</b>
<b>JFK</b>				
	May-19			
MODULAR BUILDING		4,536	\$200.00	\$907,200
STAIR/RAMP (interior)		534	\$300.00	\$160,200
STAIR/RAMP (exterior)		550	\$150.00	\$82,500
SITework - Allowance				\$100,000
SUB-TOTAL		5,070	\$246.53	\$1,249,900
ESCALATION TO START OF CONSTRUCTION	3%			\$37,497
DESIGN AND PRICING CONTINGENCY	15%			\$193,110
SUB-TOTAL		5,070	\$292.01	\$1,480,507
GENERAL CONDITIONS	10%			\$148,051
BONDS	1.25%			\$18,506
INSURANCE	1.50%			\$22,208
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$59,220
<b>TOTAL OF ALL CONSTRUCTION</b>		5,070	\$340.93	<b>\$1,728,492</b>



Canton Schools  
Design Options  
Canton, MA

11-Dec-18

Feasibility Estimate

	Construction Start	Gross Floor Area	\$/sf	Estimated Construction Cost
<b>JFK NORTH</b>				
	May-19			
MODULAR BUILDING		5,020	\$200.00	\$1,004,000
STAIR/RAMP (interior)		1,100	\$300.00	\$330,000
SITework - Allowance				\$120,000
SUB-TOTAL		6,120	\$237.58	\$1,454,000
ESCALATION TO START OF CONSTRUCTION	3%			\$43,620
DESIGN AND PRICING CONTINGENCY	15%			\$224,643
SUB-TOTAL		6,120	\$281.42	\$1,722,263
GENERAL CONDITIONS	10%			\$172,226
BONDS	1.25%			\$21,528
INSURANCE	1.50%			\$25,834
PERMIT				Waived
OVERHEAD + PROFIT	4.0%			\$68,891
<b>TOTAL OF ALL CONSTRUCTION</b>		6,120	\$328.55	<b>\$2,010,742</b>



**Canton Schools**

Design Options

Canton, MA

11-Dec-18

**Feasibility Estimate**

This feasibility cost estimate was produced from drawings, narratives and other documentation prepared by Dore and Whittier Architects Inc. and their design team dated November 20, 2018. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, general contractor's overhead, fee and design contingency. Cost escalation assumes start dates indicated.

Bidding conditions are expected to be public bidding under Chapter 149 of the Massachusetts General Laws to pre-qualified general contractors, and pre-qualified sub-contractors, open specifications for materials and manufactures.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

**ITEMS NOT CONSIDERED IN THIS ESTIMATE**

Items not included in this estimate are:

- Land acquisition, feasibility, and financing costs
- All professional fees and insurance
- Site or existing conditions surveys investigations costs, including to determine subsoil conditions
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items as indicated in the estimate
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)
- Construction contingency
- Contaminated soils removal



**CONSTRUCTION COST SUMMARY**

<i>BUILDING SYSTEM</i>	<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
<b>RODMAN OPTION 1.0</b>				
<b>A10 FOUNDATIONS</b>				
A1010 Standard Foundations	\$15,000			
A1020 Special Foundations	\$0			
A1030 Lowest Floor Construction	\$73,860	<b>\$88,860</b>	\$5.62	3.8%
<b>B10 SUPERSTRUCTURE</b>				
B1010 Upper Floor Construction	\$21,000			
B1020 Roof Construction	\$0	<b>\$21,000</b>	\$1.33	0.9%
<b>B20 EXTERIOR CLOSURE</b>				
B2010 Exterior Walls	\$0			
B2020 Windows/Curtainwall	\$14,500			
B2030 Exterior Doors	\$18,000	<b>\$32,500</b>	\$2.06	1.4%
<b>B30 ROOFING</b>				
B3010 Roof Coverings	\$0			
B3020 Roof Openings	\$0	<b>\$0</b>	\$0.00	0.0%
<b>C10 INTERIOR CONSTRUCTION</b>				
C1010 Partitions	\$130,496			
C1020 Interior Doors	\$175,922			
C1030 Specialties/Millwork	\$50,952	<b>\$357,370</b>	\$22.60	15.4%
<b>C20 STAIRCASES</b>				
C2010 Stair Construction	\$0			
C2020 Stair Finishes	\$0	<b>\$0</b>	\$0.00	0.0%
<b>C30 INTERIOR FINISHES</b>				
C3010 Wall Finishes	\$73,655			
C3020 Floor Finishes	\$150,195			
C3030 Ceiling Finishes	\$232,263	<b>\$456,113</b>	\$28.85	19.6%
<b>D10 CONVEYING SYSTEMS</b>				
D1010 Elevator	\$0	<b>\$0</b>	\$0.00	0.0%
<b>D20 PLUMBING</b>				
D20 Plumbing	\$134,512	<b>\$134,512</b>	\$8.51	5.8%
<b>D30 HVAC</b>				
D30 HVAC	\$294,245	<b>\$294,245</b>	\$18.61	12.7%
<b>D40 FIRE PROTECTION</b>				
D40 Fire Protection	\$499,387	<b>\$499,387</b>	\$31.59	21.5%
<b>D50 ELECTRICAL</b>				
D5010 Electrical Systems	\$252,210	<b>\$252,210</b>	\$15.95	10.8%
<b>E10 EQUIPMENT</b>				
E10 Equipment	\$0	<b>\$0</b>	\$0.00	0.0%



Canton Schools  
 Design Options  
 Canton, MA

11-Dec-18

Feasibility Estimate

GFA 15,810

<b>CONSTRUCTION COST SUMMARY</b>					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
<b>RODMAN OPTION 1.0</b>					
<b>E20 FURNISHINGS</b>					
E2010	Fixed Furnishings	\$67,256			
E2020	Movable Furnishings	NIC	<b>\$67,256</b>	\$4.25	2.9%
<b>F10 SPECIAL CONSTRUCTION</b>					
F10	Special Construction	\$0	<b>\$0</b>	\$0.00	0.0%
<b>F20 SELECTIVE BUILDING DEMOLITION</b>					
F2010	Building Elements Demolition	\$122,089			
F2020	Hazardous Components Abatement	\$0	<b>\$122,089</b>	\$7.72	5.2%
<b>TOTAL DIRECT COST (Trade Costs)</b>			<b>\$2,325,542</b>	\$147.09	100.0%



Feasibility Estimate

GFA 15,810

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 1.0**

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**GROSS FLOOR AREA CALCULATION**

<i>Light Renovation</i>	7,403
<i>Medium Building Renovation</i>	8,407

<b>TOTAL GROSS FLOOR AREA (GFA)</b>	<b>15,810 sf</b>
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**A10 FOUNDATIONS**

**A1010 STANDARD FOUNDATIONS**

New footing for shearwall	50	lf	300.00	15,000	
<b>SUBTOTAL</b>					15,000

**A1020 SPECIAL FOUNDATIONS**

No work in this section					
<b>SUBTOTAL</b>					

**A1030 LOWEST FLOOR CONSTRUCTION**

Sawcut slab for new footings	124	lf	15.00	1,860	
Remove slab for new footings	300	sf	10.00	3,000	
Patch slab at new footings	300	sf	20.00	6,000	
Cutting and patching	14,500	sf	4.00	58,000	
Equipment pads	1	ls	5,000.00	5,000	
<b>SUBTOTAL</b>					73,860

<b>TOTAL - FOUNDATIONS</b>	<b>\$88,860</b>
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**B10 SUPERSTRUCTURE**

**B1010 FLOOR CONSTRUCTION**

New shear walls, 8" CMU	700	sf	30.00	21,000	
<b>SUBTOTAL</b>					21,000

**B1020 ROOF CONSTRUCTION**

No work in this section					
<b>SUBTOTAL</b>					-

<b>TOTAL - SUPERSTRUCTURE</b>	<b>\$21,000</b>
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**B20 EXTERIOR CLOSURE**

**B2010 EXTERIOR WALLS**

No work in this section					
<b>SUBTOTAL</b>					-

**B2020 WINDOWS/CURTAINWALL**

New CW at vestibule	116	sf	125.00	14,500	
<b>SUBTOTAL</b>					14,500

**B2030 EXTERIOR DOORS**

New entry doors	2	pr	9,000.00	18,000	
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Feasibility Estimate

GFA

15,810

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 1.0**

55 SUBTOTAL 18,000

56	<b>TOTAL - EXTERIOR CLOSURE</b>						<b>\$32,500</b>
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59 **B30 ROOFING**

62 **B3010 ROOF COVERINGS**  
No work in this section  
63  
64 SUBTOTAL -

66 **B3020 ROOF OPENINGS**  
No work in this section  
67  
68 SUBTOTAL -

70	<b>TOTAL - ROOFING</b>						
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73 **C10 INTERIOR CONSTRUCTION**

75 **C1010 PARTITIONS**  
76 Light renovation - minor patching 7,403 gsf 4.00 29,612  
77 Medium renovation 8,407 gsf 12.00 100,884  
78 SUBTOTAL 130,496

80 **C1020 INTERIOR DOORS**  
81 Light renovation - new doors/frames/hardware 7,403 gsf 6.00 44,418  
82 Medium renovation - new doors/frames/hardware 8,407 gsf 6.00 50,442  
83 Overall building - new hardware 40,531 gsf 2.00 81,062  
84 SUBTOTAL 175,922

86 **C1030 SPECIALTIES / MILLWORK**  
87 Light renovation NIC  
88 Medium renovation  
89 Toilet Partitions and accessories 8,407 gsf 0.80 6,726  
90 Miscellaneous metals throughout 8,407 gsf 1.00 8,407  
91 Rough blocking 8,407 gsf 0.50 4,204  
92 Miscellaneous sealants throughout building 8,407 gsf 1.50 12,611  
93 Code compliant signage 8,407 gsf 0.25 2,102  
94 General Building  
95 Lockers - paint existing 56,341 gsf 0.30 16,902  
96 SUBTOTAL 50,952

98	<b>TOTAL - INTERIOR CONSTRUCTION</b>						<b>\$357,370</b>
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101 **C20 STAIRCASES**

103 **C2010 STAIR CONSTRUCTION**  
104 Code upgrades to existing stairs 8 flts 7,500.00 See ADA Upgrades  
105 SUBTOTAL -

107 **C2020 STAIR FINISHES**



Feasibility Estimate

GFA

15,810

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	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
<b>RODMAN OPTION 1.0</b>							
	SUBTOTAL					-	
<b>TOTAL - STAIRCASES</b>							
<b>C30 INTERIOR FINISHES</b>							
<b>C3010 WALL FINISHES</b>							
	Light renovation - paint	7,403	gsf	2.00	14,806		
	Medium renovation	8,407	gsf	7.00	58,849		
	SUBTOTAL					73,655	
<b>C3020 FLOOR FINISHES</b>							
	Light renovation	7,403	gsf	8.00	59,224		
	Medium renovation	8,407	gsf	8.00	67,256		
	Floor prep	15,810	sf	1.50	23,715		
	SUBTOTAL					150,195	
<b>C3030 CEILING FINISHES</b>							
	Light renovation	7,403	gsf	7.00	51,821		
	Medium renovation	8,407	gsf	7.00	58,849		
	General building - remove and replace for fire protection installation	40,531	sf	3.00	121,593		
	SUBTOTAL					232,263	
<b>TOTAL - INTERIOR FINISHES</b>							<b>\$456,113</b>
<b>D10 CONVEYING SYSTEMS</b>							
	<i>No work in this section</i>						
	SUBTOTAL					-	
<b>TOTAL - CONVEYING SYSTEMS</b>							
<b>D20 PLUMBING</b>							
<b>D20 PLUMBING, GENERALLY</b>							
	Light renovation				ETR		
	Medium Renovation - new plumbing - bathrooms	8,407	gsf	16.00	134,512		
	SUBTOTAL					134,512	
<b>TOTAL - PLUMBING</b>							<b>\$134,512</b>
<b>D30 HVAC</b>							
<b>D30 HVAC, GENERALLY</b>							
	Light renovation				ETR		
	Medium renovation - complete HVAC system	8,407	gsf	35.00	294,245		
	SUBTOTAL					294,245	
<b>TOTAL - HVAC</b>							<b>\$294,245</b>





Feasibility Estimate

GFA

15,810

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 1.0**

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**D40 FIRE PROTECTION**

**D40 FIRE PROTECTION, GENERALLY**

New water line	1	ls	30,000.00	30,000		
Fire pump	1	ls	75,000.00	75,000		
Sprinkler system throughout	56,341	gsf	7.00	394,387		
SUBTOTAL						499,387

<b>TOTAL - FIRE PROTECTION</b>						<b>\$499,387</b>
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**D50 ELECTRICAL**

**D5010 ELECTRICAL SYSTEMS**

Light renovation				ETR		
Medium renovation	8,407	gsf	30.00	252,210		
SUBTOTAL						252,210

<b>TOTAL - ELECTRICAL</b>						<b>\$252,210</b>
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**E10 EQUIPMENT**

**E10 EQUIPMENT, GENERALLY**

No work in this section						
SUBTOTAL						-

<b>TOTAL - EQUIPMENT</b>						
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**E20 FURNISHINGS**

**E2010 FIXED FURNISHINGS**

<b>CASEWORK</b>						
Light renovation				ETR		
Medium renovation	8,407	gsf	8.00	67,256		
SUBTOTAL						67,256

**E2020 MOVABLE FURNISHINGS**

All movable furnishings to be provided and installed by owner						
SUBTOTAL						NIC

<b>TOTAL - FURNISHINGS</b>						<b>\$67,256</b>
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**F10 SPECIAL CONSTRUCTION**

**F10 SPECIAL CONSTRUCTION**

SUBTOTAL						-
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<b>TOTAL - SPECIAL CONSTRUCTION</b>						
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Feasibility Estimate

GFA

15,810

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 1.0**

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<b>F20 SELECTIVE BUILDING DEMOLITION</b>
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**F2010 BUILDING ELEMENTS DEMOLITION**

Minor renovation - flooring and ceilings	<b>7,403</b>	gsf	3.00	22,209	
Medium renovation - finishes, partitions, MEP	<b>8,407</b>	gsf	10.00	84,070	
Temporary enclosures/protection	<b>15,810</b>	gsf	1.00	15,810	
SUBTOTAL					122,089

**F2020 HAZARDOUS COMPONENTS ABATEMENT**

See summary  
 SUBTOTAL

<b>TOTAL - SELECTIVE BUILDING DEMOLITION</b>						<b>\$122,089</b>
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**CONSTRUCTION COST SUMMARY**

<i>BUILDING SYSTEM</i>	<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
<b>RODMAN OPTION 2.0</b>				
<b>A10 FOUNDATIONS</b>				
A1010 Standard Foundations	\$15,000			
A1020 Special Foundations	\$0			
A1030 Lowest Floor Construction	\$73,860	<b>\$88,860</b>	\$5.16	3.5%
<b>B10 SUPERSTRUCTURE</b>				
B1010 Upper Floor Construction	\$21,000			
B1020 Roof Construction	\$0	<b>\$21,000</b>	\$1.22	0.8%
<b>B20 EXTERIOR CLOSURE</b>				
B2010 Exterior Walls	\$0			
B2020 Windows/Curtainwall	\$14,500			
B2030 Exterior Doors	\$18,000	<b>\$32,500</b>	\$1.89	1.3%
<b>B30 ROOFING</b>				
B3010 Roof Coverings	\$0			
B3020 Roof Openings	\$0	<b>\$0</b>	\$0.00	0.0%
<b>C10 INTERIOR CONSTRUCTION</b>				
C1010 Partitions	\$150,836			
C1020 Interior Doors	\$181,574			
C1030 Specialties/Millwork	\$58,387	<b>\$390,797</b>	\$22.69	15.2%
<b>C20 STAIRCASES</b>				
C2010 Stair Construction	\$0			
C2020 Stair Finishes	\$0	<b>\$0</b>	\$0.00	0.0%
<b>C30 INTERIOR FINISHES</b>				
C3010 Wall Finishes	\$85,661			
C3020 Floor Finishes	\$163,619			
C3030 Ceiling Finishes	\$237,915	<b>\$487,195</b>	\$28.29	18.9%
<b>D10 CONVEYING SYSTEMS</b>				
D1010 Elevator	\$0	<b>\$0</b>	\$0.00	0.0%
<b>D20 PLUMBING</b>				
D20 Plumbing	\$163,888	<b>\$163,888</b>	\$9.52	6.4%
<b>D30 HVAC</b>				
D30 HVAC	\$358,505	<b>\$358,505</b>	\$20.82	13.9%
<b>D40 FIRE PROTECTION</b>				
D40 Fire Protection	\$499,387	<b>\$499,387</b>	\$29.00	19.4%
<b>D50 ELECTRICAL</b>				
D5010 Electrical Systems	\$307,290	<b>\$307,290</b>	\$17.84	11.9%
<b>E10 EQUIPMENT</b>				
E10 Equipment	\$0	<b>\$0</b>	\$0.00	0.0%



Canton Schools  
 Design Options  
 Canton, MA

11-Dec-18

Feasibility Estimate

GFA 17,223

<b>CONSTRUCTION COST SUMMARY</b>					
<i>BUILDING SYSTEM</i>		<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
<b>RODMAN OPTION 2.0</b>					
<b>E20</b>	<b>FURNISHINGS</b>				
E2010	Fixed Furnishings	\$81,944			
E2020	Movable Furnishings	NIC	<b>\$81,944</b>	\$4.76	3.2%
<b>F10</b>	<b>SPECIAL CONSTRUCTION</b>				
F10	Special Construction	\$0	<b>\$0</b>	\$0.00	0.0%
<b>F20</b>	<b>SELECTIVE BUILDING DEMOLITION</b>				
F2010	Building Elements Demolition	\$140,593			
F2020	Hazardous Components Abatement	\$0	<b>\$140,593</b>	\$8.16	5.5%
<b>TOTAL DIRECT COST (Trade Costs)</b>			<b>\$2,571,959</b>	\$149.33	100.0%



Feasibility Estimate

GFA 17,223

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
<b>RODMAN OPTION 2.0</b>							
<b>GROSS FLOOR AREA CALCULATION</b>							
	Light Renovation				6,980		
	Medium Building Renovation				10,243		
<b>TOTAL GROSS FLOOR AREA (GFA)</b>					<b>17,223 sf</b>		
<b>A10 FOUNDATIONS</b>							
<b>A1010 STANDARD FOUNDATIONS</b>							
	New footing for shearwall	50	lf	300.00	15,000		
	SUBTOTAL					15,000	
<b>A1020 SPECIAL FOUNDATIONS</b>							
	No work in this section						
	SUBTOTAL						
<b>A1030 LOWEST FLOOR CONSTRUCTION</b>							
	Sawcut slab for new footings	124	lf	15.00	1,860		
	Remove slab for new footings	300	sf	10.00	3,000		
	Patch slab at new footings	300	sf	20.00	6,000		
	Cutting and patching	14,500	sf	4.00	58,000		
	Equipment pads	1	ls	5,000.00	5,000		
	SUBTOTAL					73,860	
<b>TOTAL - FOUNDATIONS</b>							<b>\$88,860</b>
<b>B10 SUPERSTRUCTURE</b>							
<b>B1010 FLOOR CONSTRUCTION</b>							
	New shear walls, 8" CMU	700	sf	30.00	21,000		
	SUBTOTAL					21,000	
<b>B1020 ROOF CONSTRUCTION</b>							
	No work in this section						
	SUBTOTAL						
<b>TOTAL - SUPERSTRUCTURE</b>							<b>\$21,000</b>
<b>B20 EXTERIOR CLOSURE</b>							
<b>B2010 EXTERIOR WALLS</b>							
	No work in this section						
	SUBTOTAL						
<b>B2020 WINDOWS/CURTAINWALL</b>							
	New CW at vestibule	116	sf	125.00	14,500		
	SUBTOTAL					14,500	
<b>B2030 EXTERIOR DOORS</b>							
	New entry doors	2	pr	9,000.00	18,000		



Feasibility Estimate

GFA

17,223

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 2.0**

55 SUBTOTAL 18,000

56	<b>TOTAL - EXTERIOR CLOSURE</b>						<b>\$32,500</b>
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59 **B30 ROOFING**

62 **B3010 ROOF COVERINGS**

63 No work in this section  
64 SUBTOTAL -

66 **B3020 ROOF OPENINGS**

67 No work in this section  
68 SUBTOTAL -

70	<b>TOTAL - ROOFING</b>						
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73 **C10 INTERIOR CONSTRUCTION**

75 **C1010 PARTITIONS**

76 Light renovation - minor patching 6,980 gsf 4.00 27,920  
77 Medium renovation 10,243 gsf 12.00 122,916  
78 SUBTOTAL 150,836

80 **C1020 INTERIOR DOORS**

81 Light renovation - new doors/frames/hardware 6,980 gsf 6.00 41,880  
82 Medium renovation - new doors/frames/hardware 10,243 gsf 6.00 61,458  
83 Overall building - new hardware 39,118 gsf 2.00 78,236  
84 SUBTOTAL 181,574

86 **C1030 SPECIALTIES / MILLWORK**

87 Light renovation NIC  
88 Medium renovation  
89 Toilet Partitions and accessories 10,243 gsf 0.80 8,194  
90 Miscellaneous metals throughout 10,243 gsf 1.00 10,243  
91 Rough blocking 10,243 gsf 0.50 5,122  
92 Miscellaneous sealants throughout building 10,243 gsf 1.50 15,365  
93 Code compliant signage 10,243 gsf 0.25 2,561  
94 General Building  
95 Lockers - paint existing 56,341 gsf 0.30 16,902  
96 SUBTOTAL 58,387

98	<b>TOTAL - INTERIOR CONSTRUCTION</b>						<b>\$390,797</b>
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101 **C20 STAIRCASES**

103 **C2010 STAIR CONSTRUCTION**

104 Code upgrades to existing stairs 8 flts 7,500.00 See ADA Upgrades  
105 SUBTOTAL -

107 **C2020 STAIR FINISHES**



Feasibility Estimate

GFA

17,223

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	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
<b>RODMAN OPTION 2.0</b>							
	SUBTOTAL					-	
<b>TOTAL - STAIRCASES</b>							
<b>C30 INTERIOR FINISHES</b>							
<b>C3010 WALL FINISHES</b>							
	Light renovation - paint	6,980	gsf	2.00	13,960		
	Medium renovation	10,243	gsf	7.00	71,701		
	SUBTOTAL					85,661	
<b>C3020 FLOOR FINISHES</b>							
	Light renovation	6,980	gsf	8.00	55,840		
	Medium renovation	10,243	gsf	8.00	81,944		
	Floor prep	17,223	sf	1.50	25,835		
	SUBTOTAL					163,619	
<b>C3030 CEILING FINISHES</b>							
	Light renovation	6,980	gsf	7.00	48,860		
	Medium renovation	10,243	gsf	7.00	71,701		
	General building - remove and replace for fire protection installation	39,118	sf	3.00	117,354		
	SUBTOTAL					237,915	
<b>TOTAL - INTERIOR FINISHES</b>							<b>\$487,195</b>
<b>D10 CONVEYING SYSTEMS</b>							
	<i>No work in this section</i>						
	SUBTOTAL					-	
<b>TOTAL - CONVEYING SYSTEMS</b>							
<b>D20 PLUMBING</b>							
<b>D20 PLUMBING, GENERALLY</b>							
	Light renovation				ETR		
	Medium Renovation - new plumbing - bathrooms	10,243	gsf	16.00	163,888		
	SUBTOTAL					163,888	
<b>TOTAL - PLUMBING</b>							<b>\$163,888</b>
<b>D30 HVAC</b>							
<b>D30 HVAC, GENERALLY</b>							
	Light renovation				ETR		
	Medium renovation - complete HVAC system	10,243	gsf	35.00	358,505		
	SUBTOTAL					358,505	
<b>TOTAL - HVAC</b>							<b>\$358,505</b>



Feasibility Estimate

GFA

17,223

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 2.0**

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**D40 FIRE PROTECTION**

**D40 FIRE PROTECTION, GENERALLY**

New water line	1	ls	30,000.00	30,000		
Fire pump	1	ls	75,000.00	75,000		
Sprinkler system throughout	56,341	gsf	7.00	394,387		
SUBTOTAL						499,387

<b>TOTAL - FIRE PROTECTION</b>						<b>\$499,387</b>
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**D50 ELECTRICAL**

**D5010 ELECTRICAL SYSTEMS**

Light renovation				ETR		
Medium renovation	10,243	gsf	30.00	307,290		
SUBTOTAL						307,290

<b>TOTAL - ELECTRICAL</b>						<b>\$307,290</b>
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**E10 EQUIPMENT**

**E10 EQUIPMENT, GENERALLY**

No work in this section						
SUBTOTAL						-

<b>TOTAL - EQUIPMENT</b>						
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**E20 FURNISHINGS**

**E2010 FIXED FURNISHINGS**

<b>CASEWORK</b>						
Light renovation				ETR		
Medium renovation	10,243	gsf	8.00	81,944		
SUBTOTAL						81,944

**E2020 MOVABLE FURNISHINGS**

All movable furnishings to be provided and installed by owner						
SUBTOTAL						NIC

<b>TOTAL - FURNISHINGS</b>						<b>\$81,944</b>
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**F10 SPECIAL CONSTRUCTION**

**F10 SPECIAL CONSTRUCTION**

SUBTOTAL						-
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<b>TOTAL - SPECIAL CONSTRUCTION</b>						
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Feasibility Estimate

GFA

17,223

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 2.0**

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<b>F20 SELECTIVE BUILDING DEMOLITION</b>
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**F2010 BUILDING ELEMENTS DEMOLITION**

Minor renovation - flooring and ceilings	<b>6,980</b>	gsf	3.00	20,940	
Medium renovation - finishes, partitions, MEP	<b>10,243</b>	gsf	10.00	102,430	
Temporary enclosures/protection	<b>17,223</b>	sf	1.00	17,223	
SUBTOTAL					140,593

**F2020 HAZARDOUS COMPONENTS ABATEMENT**

See summary  
 SUBTOTAL

<b>TOTAL - SELECTIVE BUILDING DEMOLITION</b>						<b>\$140,593</b>
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**CONSTRUCTION COST SUMMARY**

BUILDING SYSTEM		SUB-TOTAL	TOTAL	\$/SF	%
<b>RODMAN OPTION 3.0</b>					
<b>A10</b>	<b>FOUNDATIONS</b>				
A1010	Standard Foundations	\$30,000			
A1020	Special Foundations	\$0			
A1030	Lowest Floor Construction	\$84,720	<b>\$114,720</b>	\$3.25	2.4%
<b>B10</b>	<b>SUPERSTRUCTURE</b>				
B1010	Upper Floor Construction	\$427,713			
B1020	Roof Construction	\$0	<b>\$427,713</b>	\$12.11	8.8%
<b>B20</b>	<b>EXTERIOR CLOSURE</b>				
B2010	Exterior Walls	\$0			
B2020	Windows/Curtainwall	\$14,500			
B2030	Exterior Doors	\$18,000	<b>\$32,500</b>	\$0.92	0.7%
<b>B30</b>	<b>ROOFING</b>				
B3010	Roof Coverings	\$0			
B3020	Roof Openings	\$0	<b>\$0</b>	\$0.00	0.0%
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>				
C1010	Partitions	\$325,008			
C1020	Interior Doors	\$204,566			
C1030	Specialties/Millwork	\$109,936	<b>\$639,510</b>	\$18.11	13.1%
<b>C20</b>	<b>STAIRCASES</b>				
C2010	Stair Construction	\$0			
C2020	Stair Finishes	\$0	<b>\$0</b>	\$0.00	0.0%
<b>C30</b>	<b>INTERIOR FINISHES</b>				
C3010	Wall Finishes	\$185,475			
C3020	Floor Finishes	\$335,445			
C3030	Ceiling Finishes	\$289,232	<b>\$810,152</b>	\$22.94	16.6%
<b>D10</b>	<b>CONVEYING SYSTEMS</b>				
D1010	Elevator	\$0	<b>\$0</b>	\$0.00	0.0%
<b>D20</b>	<b>PLUMBING</b>				
D20	Plumbing	\$367,536	<b>\$367,536</b>	\$10.41	7.5%
<b>D30</b>	<b>HVAC</b>				
D30	HVAC	\$803,985	<b>\$803,985</b>	\$22.77	16.5%
<b>D40</b>	<b>FIRE PROTECTION</b>				
D40	Fire Protection	\$499,387	<b>\$499,387</b>	\$14.14	10.3%
<b>D50</b>	<b>ELECTRICAL</b>				
D5010	Electrical Systems	\$689,130	<b>\$689,130</b>	\$19.52	14.1%
<b>E10</b>	<b>EQUIPMENT</b>				
E10	Equipment	\$0	<b>\$0</b>	\$0.00	0.0%



Canton Schools  
 Design Options  
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Feasibility Estimate

GFA 35,310

**CONSTRUCTION COST SUMMARY**

<i>BUILDING SYSTEM</i>	<i>SUB-TOTAL</i>	<i>TOTAL</i>	<i>\$/SF</i>	<i>%</i>
<b>RODMAN OPTION 3.0</b>				
<b>E20 FURNISHINGS</b>				
E2010 Fixed Furnishings	\$183,768			
E2020 Movable Furnishings	NIC	<b>\$183,768</b>	\$5.20	3.8%
<b>F10 SPECIAL CONSTRUCTION</b>				
F10 Special Construction	\$0	<b>\$0</b>	\$0.00	0.0%
<b>F20 SELECTIVE BUILDING DEMOLITION</b>				
F2010 Building Elements Demolition	\$302,037			
F2020 Hazardous Components Abatement	\$0	<b>\$302,037</b>	\$8.55	6.2%
<b>TOTAL DIRECT COST (Trade Costs)</b>		<b>\$4,870,438</b>	<b>\$137.93</b>	<b>100.0%</b>



Feasibility Estimate

GFA

35,310

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 3.0**

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**GROSS FLOOR AREA CALCULATION**

<i>Light Renovation</i>	12,339
<i>Medium Building Renovation</i>	22,971

<b>TOTAL GROSS FLOOR AREA (GFA)</b>	<b>35,310 sf</b>
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**A10 FOUNDATIONS**

**A1010 STANDARD FOUNDATIONS**

New footing for shearwall	100	lf	300.00	30,000	
<b>SUBTOTAL</b>					30,000

**A1020 SPECIAL FOUNDATIONS**

No work in this section					
<b>SUBTOTAL</b>					

**A1030 LOWEST FLOOR CONSTRUCTION**

Sawcut slab for new footings	248	lf	15.00	3,720	
Remove slab for new footings	600	sf	10.00	6,000	
Patch slab at new footings	600	sf	20.00	12,000	
Cutting and patching	14,500	sf	4.00	58,000	
Equipment pads	1	ls	5,000.00	5,000	
<b>SUBTOTAL</b>					84,720

<b>TOTAL - FOUNDATIONS</b>	<b>\$114,720</b>
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**B10 SUPERSTRUCTURE**

**B1010 FLOOR CONSTRUCTION**

Seismic clips to masonry walls	56,341	gsf	5.00	281,705	
Cut and patch upper floor for new shear wall	8	loc	2,501.00	20,008	
New shear walls, 8" CMU	4,200	sf	30.00	126,000	
<b>SUBTOTAL</b>					427,713

**B1020 ROOF CONSTRUCTION**

No work in this section					
<b>SUBTOTAL</b>					-

<b>TOTAL - SUPERSTRUCTURE</b>	<b>\$427,713</b>
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**B20 EXTERIOR CLOSURE**

**B2010 EXTERIOR WALLS**

No work in this section					
<b>SUBTOTAL</b>					-

**B2020 WINDOWS/CURTAINWALL**

New CW at vestibule	116	sf	125.00	14,500	
<b>SUBTOTAL</b>					14,500



Canton Schools  
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GFA

35,310

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST	
<b>RODMAN OPTION 3.0</b>								
55	<b>B2030 EXTERIOR DOORS</b>							
56	New entry doors	2	pr	9,000.00	18,000			
57	SUBTOTAL					18,000		
58	<b>TOTAL - EXTERIOR CLOSURE</b>							<b>\$32,500</b>
61	<b>B30 ROOFING</b>							
64	<b>B3010 ROOF COVERINGS</b>							
65	No work in this section							
66	SUBTOTAL					-		
68	<b>B3020 ROOF OPENINGS</b>							
69	No work in this section							
70	SUBTOTAL					-		
72	<b>TOTAL - ROOFING</b>							
75	<b>C10 INTERIOR CONSTRUCTION</b>							
77	<b>C1010 PARTITIONS</b>							
78	Light renovation - minor patching	12,339	gsf	4.00	49,356			
79	Medium renovation	22,971	gsf	12.00	275,652			
80	SUBTOTAL					325,008		
82	<b>C1020 INTERIOR DOORS</b>							
83	Light renovation - new hardware	12,339	gsf	2.00	24,678			
84	Medium renovation - new doors/frames/hardware	22,971	gsf	6.00	137,826			
85	Overall building - new hardware	21,031	gsf	2.00	42,062			
86	SUBTOTAL					204,566		
88	<b>C1030 SPECIALTIES / MILLWORK</b>							
89	Light renovation					NIC		
90	Medium renovation							
91	Toilet Partitions and accessories	22,971	gsf	0.80	18,377			
92	Miscellaneous metals throughout	22,971	gsf	1.00	22,971			
93	Rough blocking	22,971	gsf	0.50	11,486			
94	Miscellaneous sealants throughout building	22,971	gsf	1.50	34,457			
95	Code compliant signage	22,971	gsf	0.25	5,743			
96	General Building							
97	Lockers - paint existing	56,341	gsf	0.30	16,902			
98	SUBTOTAL					109,936		
100	<b>TOTAL - INTERIOR CONSTRUCTION</b>							<b>\$639,510</b>
103	<b>C20 STAIRCASES</b>							
105	<b>C2010 STAIR CONSTRUCTION</b>							
106	Code upgrades to existing stairs	8	flts	7,500.00	See ADA Upgrades			
107	SUBTOTAL					-		



Feasibility Estimate

GFA

35,310

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 3.0**

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**C2020 STAIR FINISHES**

SUBTOTAL

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<b>TOTAL - STAIRCASES</b>							
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**C30 INTERIOR FINISHES**

**C3010 WALL FINISHES**

Light renovation - paint

12,339

gsf

2.00

24,678

Medium renovation

22,971

gsf

7.00

160,797

SUBTOTAL

185,475

**C3020 FLOOR FINISHES**

Light renovation

12,339

gsf

8.00

98,712

Medium renovation

22,971

gsf

8.00

183,768

Floor prep

35,310

sf

1.50

52,965

SUBTOTAL

335,445

**C3030 CEILING FINISHES**

Light renovation

12,339

gsf

7.00

86,373

Medium renovation

22,971

gsf

7.00

160,797

General building - remove and replace for fire protection installation

21,031

sf

2.00

42,062

SUBTOTAL

289,232

<b>TOTAL - INTERIOR FINISHES</b>							<b>\$810,152</b>
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**D10 CONVEYING SYSTEMS**

No work in this section

SUBTOTAL

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<b>TOTAL - CONVEYING SYSTEMS</b>							
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**D20 PLUMBING**

**D20 PLUMBING, GENERALLY**

Light renovation

ETR

Medium Renovation - new plumbing - bathrooms

22,971

gsf

16.00

367,536

SUBTOTAL

367,536

<b>TOTAL - PLUMBING</b>							<b>\$367,536</b>
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**D30 HVAC**

**D30 HVAC, GENERALLY**

Light renovation

ETR

Medium renovation - complete HVAC system

22,971

gsf

35.00

803,985

SUBTOTAL

803,985



Feasibility Estimate

GFA 35,310

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 3.0**

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<b>TOTAL - HVAC</b>							<b>\$803,985</b>
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**D40 FIRE PROTECTION**

**D40 FIRE PROTECTION, GENERALLY**

New water line	1	ls	30,000.00	30,000		
Fire pump	1	ls	75,000.00	75,000		
Sprinkler system throughout	56,341	gsf	7.00	394,387		
SUBTOTAL						499,387

<b>TOTAL - FIRE PROTECTION</b>							<b>\$499,387</b>
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**D50 ELECTRICAL**

**D5010 ELECTRICAL SYSTEMS**

Light renovation				ETR		
Medium renovation	22,971	gsf	30.00	689,130		
SUBTOTAL						689,130

<b>TOTAL - ELECTRICAL</b>							<b>\$689,130</b>
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**E10 EQUIPMENT**

**E10 EQUIPMENT, GENERALLY**

No work in this section						
SUBTOTAL						-

<b>TOTAL - EQUIPMENT</b>							
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**E20 FURNISHINGS**

**E2010 FIXED FURNISHINGS**

<b>CASEWORK</b>						
Light renovation				ETR		
Medium renovation	22,971	gsf	8.00	183,768		
SUBTOTAL						183,768

**E2020 MOVABLE FURNISHINGS**

All movable furnishings to be provided and installed by owner						
SUBTOTAL						NIC

<b>TOTAL - FURNISHINGS</b>							<b>\$183,768</b>
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**F10 SPECIAL CONSTRUCTION**

**F10 SPECIAL CONSTRUCTION**

SUBTOTAL						-
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Canton Schools  
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GFA

35,310

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**RODMAN OPTION 3.0**

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<b>TOTAL - SPECIAL CONSTRUCTION</b>							
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**F20 SELECTIVE BUILDING DEMOLITION**

**F2010 BUILDING ELEMENTS DEMOLITION**

Minor renovation - flooring and ceilings	12,339	gsf	3.00	37,017		
Medium renovation - finishes, partitions, MEP	22,971	gsf	10.00	229,710		
Temporary enclosures/protection	35,310	sf	1.00	35,310		
SUBTOTAL						302,037

**F2020 HAZARDOUS COMPONENTS ABATEMENT**

See summary  
 SUBTOTAL

<b>TOTAL - SELECTIVE BUILDING DEMOLITION</b>							<b>\$302,037</b>
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Feasibility Estimate

	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
<b>RODMAN ACCESSIBILITY UPGRADES</b>							
<b>ITEM 1</b>							
	New 30ft long exterior ramp	1	ls	30,000.00	30,000		
	New stairs	1	ls	10,000.00	10,000		
	New ADA lift	1	ls	45,000.00	45,000		
	Markups	38%			32,300		
	SUBTOTAL					117,300	
<b>ITEM 2</b>							
	New sloped walks	1	ls	15,000.00	15,000		
	Raise grades	1	ls	10,000.00	10,000		
	New exit pad	1	ls	5,000.00	5,000		
	Markups	38%			11,400		
	SUBTOTAL					41,400	
<b>ITEM 3</b>							
	Resurface ramps	300	sf	20.00	6,000		
	Markups	38%			2,280		
	SUBTOTAL					8,280	
<b>ITEM 4</b>							
	Remove and replace guardrails	250	lf	300.00	75,000		
	Remove and replace handrails	250	lf	110.00	27,500		
	Markups	38%			38,950		
	SUBTOTAL					141,450	
<b>ITEM 5</b>							
	Remove and replace stair finishes with rubber flooring tread/riser system	1,500	sf	25.00	37,500		
	Markups	38%			14,250		
	SUBTOTAL					51,750	
<b>ITEM 6</b>							
	Remove and replace guardrails		lf	300.00	See Item 4		
	Remove and replace handrails		lf	110.00	See Item 4		
	Markups	38%			-		
	SUBTOTAL					-	
<b>ITEM 7</b>							
	Remove and replace door hardware with lever type hardware	20	set	600.00	12,000		
	Markups	38%			4,560		
	SUBTOTAL					16,560	



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Feasibility Estimate

	<i>DESCRIPTION</i>	<i>QTY</i>	<i>UNIT</i>	<i>UNIT COST</i>	<i>EST'D COST</i>	<i>SUB TOTAL</i>	<i>TOTAL COST</i>
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**RODMAN ACCESSIBILITY UPGRADES**

**ITEM 8**

Remove and replace bathroom thresholds with new ceramic tile

**60** sf

50.00

3,000

Markups

**38%**

1,140

SUBTOTAL

4,140

**TOTAL - ADA UPGRADES**

**\$380,880**

<b>Canton Schools- Feasibility Study</b>			
<b>Lt. Peter M Hansen Elementary School - West</b>		<b>Task 2, Option 1.a.i</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	6,050	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>		<b>\$333</b>
		<i>Clssrms +/- 1000SF</i>	
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$1,457,500	
1a	Classrooms / Corridor (5,600 SF @ \$200/SF)	\$1,120,000	included in Line 1 above
1b	Connector (450 SF @ \$300/SF)	\$135,000	included in Line 1 above
1c	Secondary Ramp / Stair (450 SF @ \$150/SF)	\$82,500	included in Line 1 above
1d	Sitework	\$120,000	included in Line 1 above
2	Escalation	\$43,725	3% of item 1
3	Sub Total	\$1,501,225	Items 1+2
4	D&P Contingency @ 15%	\$225,184	15% of item 3
5	Sub Total	\$1,726,409	Items 3+4
6	Bonds	\$21,580	1.25% of item 5
7	Insurance	\$25,896	1.5% of item 5
8	Overhead & Profit	\$69,056	4% of item 5
9	General Requirements/General Conditions	\$172,641	10% of item 5
10	<b>Construction Subtotal</b>	<b>\$2,015,582</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$201,558	10% of item 10 - estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$70,545	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$0	N/A
14	Information Technology Procurement (Loose) (by School District)	\$10,000	Allowance
15	FF&E Procurement (Loose)	\$10,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	Allowance
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$10,000	Allowance
20	Permitting	\$20,000	Allowance
21	<b>Professional Services Subtotal</b>	<b>\$342,104</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$40,000	Allowance
23	Loose Technology (allowance)	\$20,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$5,000	Allowance
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	
33	<b>Other Soft Costs Subtotal</b>	<b>\$95,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$151,169	
35	Owner Discretionary Contingency (2.5%)	\$50,390	
36	<b>Contingency Subtotal</b>	<b>\$201,558</b>	
<b>37 Total Project Cost</b>		<b>\$2,654,744</b>	
Note: All costs are estimated			

<b>Canton Schools- Feasibility Study</b>			
<b>Lt. Peter M Hansen Elementary School - East</b>		<b>Task 2, Option 1.a.ii</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	6,050	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>	<b>\$330</b>	
		<i>Clssrms +/- 1000SF</i>	
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$1,442,500	
1a	Classrooms / Corridor (5,600 SF @ \$200/SF)	\$1,120,000	included in Line 1 above
1b	Connector (450 SF @ \$300/SF)	\$135,000	included in Line 1 above
1c	Secondary Ramp / Stair (450 SF @ \$150/SF)	\$67,500	included in Line 1 above
1d	Sitework	\$120,000	included in Line 1 above
2	Escalation	\$43,275	3% of item 1
3	Sub Total	\$1,485,775	Items 1+2
4	D&P Contingency @ 15%	\$222,866	15% of item 3
5	Sub Total	\$1,708,641	Items 3+4
6	Bonds	\$21,358	1.25% of item 5
7	Insurance	\$25,630	1.5% of item 5
8	Overhead & Profit	\$68,346	4% of item 5
9	General Requirements/General Conditions	\$170,864	10% of item 5
10	<b>Construction Subtotal</b>	<b>\$1,994,839</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$199,484	10% of item 10 - estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$69,819	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$0	N/A
14	Information Technology Procurement (Loose) (by School District)	\$10,000	Allowance
15	FF&E Procurement (Loose)	\$10,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	Allowance
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$10,000	Allowance
20	Permitting	\$20,000	Allowance
21	<b>Professional Services Subtotal</b>	<b>\$339,303</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$40,000	Allowance
23	Loose Technology (allowance)	\$20,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$5,000	Allowance
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	
33	<b>Other Soft Costs Subtotal</b>	<b>\$95,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$149,613	
35	Owner Discretionary Contingency (2.5%)	\$49,871	
36	<b>Contingency Subtotal</b>	<b>\$199,484</b>	
<b>37 Total Project Cost</b>		<b>\$2,629,126</b>	
Note: All costs are estimated			

<b>Canton Schools- Feasibility Study</b>			
<b>John F. Kennedy Elementary School - North</b>		<b>Task 2, Option 1b</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	6,120	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>		<b>\$329</b>
		<b>Clssrms +/- 1000SF</b>	
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$1,454,000	
1a	Classrooms / Corridor (5,600 SF @ \$200/SF)	\$1,004,000	included in Line 1 above
1b	Connector (450 SF @ \$300/SF)	\$330,000	included in Line 1 above
1c	Secondary Ramp / Stair (450 SF @ \$150/SF)	\$0	included in Line 1 above
1d	Sitework	\$120,000	included in Line 1 above
2	Escalation	<u>\$43,620</u>	3% of item 1
3	Sub Total	\$1,497,620	Items 1+2
4	D&P Contingency @ 15%	<u>\$224,643</u>	15% of item 3
5	Sub Total	\$1,722,263	Items 3+4
6	Bonds	\$21,528	1.25% of item 5
7	Insurance	\$25,834	1.5% of item 5
8	Overhead & Profit	\$68,891	4% of item 5
9	General Requirements/General Conditions	\$172,226	10% of item 5
<b>10</b>	<b>Construction Subtotal</b>	<b>\$2,010,742</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$201,074	10% of item 10 -estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$70,376	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$0	N/A
14	Information Technology Procurement (Loose) (by School District)	\$10,000	Allowance
15	FF&E Procurement (Loose)	\$10,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	Allowance
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$10,000	Allowance
20	Permitting	\$20,000	Allowance
<b>21</b>	<b>Professional Services Subtotal</b>	<b>\$341,450</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$40,000	Allowance
23	Loose Technology (allowance)	\$20,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$5,000	Allowance
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	Allowance
<b>33</b>	<b>Other Soft Costs Subtotal</b>	<b>\$95,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$150,806	
35	Owner Discretionary Contingency (2.5%)	\$50,269	
<b>36</b>	<b>Contingency Subtotal</b>	<b>\$201,074</b>	
<b>37</b>	<b>Total Project Cost</b>	<b>\$2,648,766</b>	
	<b>Note: All costs are estimated</b>		

<b>Canton Schools- Feasibility Study</b>			
<b>Dean S. Luce Elementary School</b>		<b>Task 2, Option 1c</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	5,470	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>		<b>\$359</b>
		<i>Clssrms +/- 1000SF</i>	
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$1,421,500	
1a	Classrooms / Corridor (5,600 SF @ \$200/SF)	\$1,004,000	included in Line 1 above
1b	Connector (450 SF @ \$300/SF)	\$135,000	included in Line 1 above
1c	Secondary Ramp / Stair (450 SF @ \$150/SF)	\$82,500	included in Line 1 above
1d	Sitework	\$200,000	included in Line 1 above
2	Escalation	\$42,645	3% of item 1
3	Sub Total	\$1,464,145	Items 1+2
4	D&P Contingency @ 15%	\$219,622	15% of item 3
5	Sub Total	\$1,683,767	Items 3+4
6	Bonds	\$21,047	1.25% of item 5
7	Insurance	\$25,257	1.5% of item 5
8	Overhead & Profit	\$67,351	4% of item 5
9	General Requirements/General Conditions	\$168,377	10% of item 5
10	<b>Construction Subtotal</b>	<b>\$1,965,798</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$196,580	10% of item 10 - estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$68,803	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$0	N/A
14	Information Technology Procurement (Loose) (by School District)	\$10,000	Allowance
15	FF&E Procurement (Loose)	\$10,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	Allowance
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$10,000	Allowance
20	Permitting	\$20,000	Allowance
21	<b>Professional Services Subtotal</b>	<b>\$335,383</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$40,000	Allowance
23	Loose Technology (allowance)	\$20,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$5,000	Allowance
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	
33	<b>Other Soft Costs Subtotal</b>	<b>\$95,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$147,435	
35	Owner Discretionary Contingency (2.5%)	\$49,145	
36	<b>Contingency Subtotal</b>	<b>\$196,580</b>	
<b>37 Total Project Cost</b>		<b>\$2,593,260</b>	
Note: All costs are estimated			

<b>Canton Schools- Feasibility Study</b>			
<b>Rodman Building (Option 3.0)</b>		<b>Task 3</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	35,310	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>		<b>\$212</b>
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$5,411,238	
1a	Renovation to Existing School	\$3,891,618	included in Line 1 above
1b	Hazardous Material Removal	\$10,000	included in Line 1 above
1c	Site Work-Relocate Playground	\$150,000	included in Line 1 above
1d	Sprinkler System	\$499,387	Included if Item 1a+b+c exceeds \$2,378838*
1e	Accessibility Upgrades	\$380,800	Included if Item 1a+b+c exceeds \$2,162580**
1f	Structural upgrades	\$479,433	Included if work area exceeds 50%
2	Escalation	\$162,337	3% of item 1
3	Sub Total	\$5,573,575	Items 1+2
4	D&P Contingency @ 15%	\$836,036	15% of item 3
5	Sub Total	\$6,409,611	Items 3+4
6	Bonds	\$80,120	1.25% of item 5
7	Insurance	\$96,144	1.5% of item 5
8	Overhead & Profit	\$256,384	4% of item 5
9	General Requirements/General Conditions	\$640,961	10% of item 5
10	<b>Construction Subtotal</b>	<b>\$7,483,221</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$748,322	10% of item 10 - estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$261,913	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$10,000	Allowance
14	Information Technology Procurement (Loose) (by School District)	\$80,000	Allowance
15	FF&E Procurement (Loose)	\$80,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	interior footings
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$0	N/A
20	Permitting	\$10,000	Allowance
21	<b>Professional Services Subtotal</b>	<b>\$1,210,235</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$150,000	Allowance
23	Loose Technology (allowance)	\$100,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$60,000	By Owner
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	
33	<b>Other Soft Costs Subtotal</b>	<b>\$340,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$561,242	
35	Owner Discretionary Contingency (2.5%)	\$187,081	
36	<b>Contingency Subtotal</b>	<b>\$748,322</b>	
37	<b>Total Project Cost</b>	<b>\$9,782,278</b>	
<b>Note All costs are estimated</b>			
*	Sprinkler System	\$499,387	
**	Accessibility Upgrades	\$380,800	

<b>Canton Schools- Feasibility Study</b>			
<b>Rodman Building (Option 2.0)</b>		<b>Task 2, Option 3.b</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	17,223	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>		<b>\$250</b>
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$3,112,759	
1a	Renovation to Existing School	\$2,072,572	included in Line 1 above
1b	Hazardous Material Removal	\$10,000	included in Line 1 above
1c	Site Work-Relocate Playground	\$150,000	included in Line 1 above
1d	Sprinkler System	\$499,387	Included if Item 1a+b+c exceeds \$2,378838*
1e	Accessibility Upgrades	\$380,800	Included if Item 1a+b+c exceeds \$2,162580**
1f	Structural upgrades	\$0	Included if work area exceeds 50%
2	Escalation	\$93,383	3% of item 1
3	Sub Total	\$3,206,142	Items 1+2
4	D&P Contingency @ 15%	\$480,921	15% of item 3
5	Sub Total	\$3,687,063	Items 3+4
6	Bonds	\$46,088	1.25% of item 5
7	Insurance	\$55,306	1.5% of item 5
8	Overhead & Profit	\$147,483	4% of item 5
9	General Requirements/General Conditions	\$368,706	10% of item 5
10	<b>Construction Subtotal</b>	<b>\$4,304,646</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$430,465	10% of item 10 - estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$150,663	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$10,000	Allowance
14	Information Technology Procurement (Loose) (by School District)	\$40,000	Allowance
15	FF&E Procurement (Loose)	\$40,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	interior footings
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$0	N/A
20	Permitting	\$10,000	Allowance
21	<b>Professional Services Subtotal</b>	<b>\$701,127</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$100,000	Allowance
23	Loose Technology (allowance)	\$50,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$30,000	By Owner
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	
33	<b>Other Soft Costs Subtotal</b>	<b>\$210,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$322,848	
35	Owner Discretionary Contingency (2.5%)	\$107,616	
36	<b>Contingency Subtotal</b>	<b>\$430,465</b>	
37	<b>Total Project Cost</b>	<b>\$5,646,738</b>	
<b>Note: All costs are estimated</b>			
*	Sprinkler System	\$499,387	
**	Accessibility Upgrades	\$380,800	



<b>Canton Schools- Feasibility Study</b>			
<b>Rodman Building (Option 1.0)</b>		<b>Task 2, Option 3.a</b>	
<b>December 11, 2018</b>	<i>Overall Building GSF</i>	15,810	
<i>Estimated Project Budget</i>	<i>Construction Cost Building \$/SF</i>		<b>\$251</b>
<b>CONSTRUCTION</b>			Notes:
1	Construction Cost including Site work (Trade Costs)	\$2,866,342	
1a	Renovation to Existing School	\$1,826,155	included in Line 1 above
1b	Hazardous Material Removal	\$10,000	included in Line 1 above
1c	Site Work-Relocate Playground	\$150,000	included in Line 1 above
1d	Sprinkler System	\$499,387	Included if Item 1a+b+c exceeds \$2,378838*
1e	Accessibility Upgrades	\$380,800	Included if Item 1a+b+c exceeds \$2,162580**
1f	Structural upgrades	\$0	Included if work area exceeds 50%
2	Escalation	\$85,990	3% of item 1
3	Sub Total	\$2,952,332	Items 1+2
4	D&P Contingency @ 15%	\$442,850	15% of item 3
5	Sub Total	\$3,395,182	Items 3+4
6	Bonds	\$42,440	1.25% of item 5
7	Insurance	\$50,928	1.5% of item 5
8	Overhead & Profit	\$135,807	4% of item 5
9	General Requirements/General Conditions	\$339,518	10% of item 5
10	<b>Construction Subtotal</b>	<b>\$3,963,875</b>	
<b>PROFESSIONAL SERVICES</b>			
11	Architect/Engineering Fees	\$396,388	10% of item 10 - estimated
12	Owner's Project Manager-OPM (est. 3.5%)	\$138,736	3.5% of item 10 - estimated
13	Hazardous Abatement Design/Oversight (Industrial Hygienist)	\$10,000	Allowance
14	Information Technology Procurement (Loose) (by School District)	\$40,000	Allowance
15	FF&E Procurement (Loose)	\$40,000	Allowance
16	Traffic Study	\$0	N/A
17	Geotechnical Engineering (monitoring)	\$10,000	interior footings
18	GeoEnvironmental Engineering	\$10,000	Allowance
19	Survey/Wetlands	\$0	N/A
20	Permitting	\$10,000	Allowance
21	<b>Professional Services Subtotal</b>	<b>\$655,123</b>	
<b>OTHER SOFT COSTS</b>			
22	Furnishings, Fixtures and Equipment (allowance)	\$80,000	Allowance
23	Loose Technology (allowance)	\$45,000	Allowance
24	Construction Testing (allowance)	\$10,000	Allowance
25	Moving Costs (by School)	\$30,000	By Owner
26	Property Title Review (allowance)	\$0	Allowance
27	Utility Back Charges (allowance)	\$5,000	Allowance
28	Legal (allowance)	\$5,000	Allowance
29	Printing (allowance)	\$2,500	Allowance
30	Advertising (allowance)	\$500	Allowance
31	Cost Estimating	\$5,000	Allowance
32	Miscellaneous Expenses	\$2,500	Allowance
33	<b>Other Soft Costs Subtotal</b>	<b>\$185,500</b>	
<b>CONTINGENCY</b>			
34	Owner Construction Contingency (7.5%)	\$297,291	
35	Owner Discretionary Contingency (2.5%)	\$99,097	
36	<b>Contingency Subtotal</b>	<b>\$396,388</b>	
37	<b>Total Project Cost</b>	<b>\$5,200,886</b>	
<b>Notes: All costs are estimated</b>			
*	Sprinkler System	\$499,387	
**	Accessibility Upgrades	\$380,800	