

Williamsville Central School District

Initial Presentation for a New Capital Project on School Building Air Conditioning February 8, 2022



Presented by:

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Why a School Building Air Conditioning Capital Project?

- Climate change resulting in hotter weather in the early fall and late spring which has the potential to negatively impact the learning environment of students
- The ability to offer summer school/programming may be impacted in the future by the rising summer temperatures and the inability to have adequate air conditioned space
- The addition of air conditioning systems will also provide improved school air filtration
- The District's schools will be positioned for any future changes in the student school year (earlier start and/or later end dates) that may be considered



2022 School Building

Air Conditioning Capital Project Planning

Goal # 1 – Prioritize air conditioning in all elementary school classrooms

Goal # 2 – Prioritize air conditioning in all middle school classrooms

Goal # 3 – Prioritize air conditioning in all high school classrooms

Goal # 4 – Prioritize air conditioning in school gyms

Goal # 5 – Prioritize air conditioning in other school spaces (i.e. offices, and non-classroom student/teacher work areas)



2022 School Building Air Conditioning Capital Project Analysis of School Structures – *Age of Buildings*

School	Built
Dodge elementary	1953, additions 1961 and 1992
Forest elementary	1955, additions 1961 and 1992
Maple East elementary	1959, additions 1961, and 1992
Heim elementary	1966, addition 1992
Maple West elementary	1966, addition 1992
Country Parkway elementary	1968, addition 1992
Mill middle	1958, addition 2000
Heim middle	1964
Casey middle	1970, addition 2000
South high	1949, additions 1961, 1992, 2021
North high	1968, additions 2002, 2021

2022 School Building Air Conditioning Capital Project Decision-making Criteria for System Designs

Design Decision Issue	Criteria	Decision
Reliability/proven technology	Review installations in other school districts	Has the system performed well in northeastern schools
Low maintenance	Research manufacturer and current user information	Compare warranty information, maintenance recommendations
Energy efficient	Review SEER (Surveillance, Epidemiology, and End Results) ratings	Is the system SEER rated, how does it compare to other systems
Least impacting construction methods	Detailed discussions with construction manager and architect	Understand the level of difficulty to retro-fit the system into our schools
Integration with current heating systems	Review current systems and verify integration	Is the system integrated with our heating system or is it separate system
Cost	Supported by the financial plan	Consider construction costs and long-term maintenance costs

2022 School Building Air Conditioning Capital Project

Analysis of Air Conditioning Systems

System	Description	Decision Points
Ducted Variable Air Volume (VAV)	Utilizes roof mounted units to provide cooling/heating with fresh air into classrooms using new ductwork. System uses variable speed motors to maximize air flow and minimize energy costs	Requires ductwork to all classrooms which is the most expensive option. Proven and reliable system.
Four-Pipe Unit Ventilator	Utilizes cold or hot water coils to heat or chill rooms. Each classroom requires a uni-ventilators (present in most classrooms-replacement necessary). External air is received through wall louvers that connect the unit to outside air	Requires replacement of all uni-ventilators, and adding additional piping to and throughout every school classroom. Higher maintenance due to the number of units
Displacement Ventilation	Uses gravity, slow moving fresh air to change room temperature and displace room contaminants. Minimal equipment in classrooms, major equipment normally on roofs	Relatively new technology for a school building, less ductwork saves construction costs, integrated with heating system, requires more time to reach temperature setpoint

2022 School Building Air Conditioning Capital Project

Ranking of Identified Systems

Design Decision Issue Rating Scale 1-5 5=best Rating Cost (\$-\$\$\$\$\$)	Ducted Variable Air Volume (VAV)	Four-Pipe Unit Ventilator	Displacement Ventilation
Reliability/proven technology	5	4	3
Low maintenance	4	3	5
Energy efficient	4	3	4
Least impacting construction methods	3	3	4
Integration with current heating systems	4	3	3
Total Rating	20	16	19
Cost	\$\$\$\$\$	\$\$\$\$	\$\$\$

2022 School Building Air Conditioning Capital Project

System Selection – Phase 1

All three systems are viable and may in fact be implemented in the District

1. The chosen system must be proven and excel in cooling performance
2. The chosen system must be easily integrated into the heating systems
3. The chosen system must balance all of the decision criteria and be reliable

Decision for Phase 1: Ducted Variable Air Volume System

Why? Although the most expensive option, it is the most reliable, proven, and fits best into our elementary schools, essentially, the option with the highest degree of success for our youngest students



2022 School Building Air Conditioning Capital Project

Initial (February 2022) Project Cost Estimates

Elementary School	Classroom	Cafeteria	Multi-purpose	Auditorium	Gym	Total
Dodge	\$7,802,620	\$427,101	\$332,308	\$265,280	\$526,139	\$9,353,448
Forest	\$9,195,181	\$362,751	\$275,892	\$144,698	TBD	\$9,978,522
Heim	\$9,080,789	\$439,119	\$332,308	NA	\$402,342	\$10,254,558
Maple East	\$9,471,073	\$362,751	NA	\$144,698	TBD	\$9,978,522
Maple West	\$9,080,789	\$439,119	\$332,308	NA	\$402,342	\$10,254,558
Country Parkway	\$9,080,789	\$439,119	\$332,308	NA	\$402,342	\$10,254,558
Totals	\$53,711,241	\$2,469,960	\$1,605,124	\$554,676	\$1,733,165	\$60,074,166



2022 School Building Air Conditioning Capital Project

Initial (February 2022) Project Cost Estimates

Middle School	Classroom	Cafeteria	Gym	Total
Mill	\$13,109,976	\$663,067	\$746,771	\$14,519,814
Heim	\$12,357,453	\$579,380	\$725,435	\$13,662,668
Casey Original school only	\$8,510,845		\$452,183	\$8,963,028
Totals	\$33,978,274	\$1,242,447	\$1,924,389	\$37,145,510

Omitted dollars in a category doesn't mean the area is not included, refined estimates will add cost to these areas



2022 School Building Air Conditioning Capital Project

Initial (February 2022) Project Cost Estimates

High School	Classroom	Cafeteria	Gym	Total
South	\$13,706,539	\$680,786	\$351,698	\$14,739,023
North	\$16,358,372		\$1,055,093	\$17,413,465
Totals	\$30,064,911	\$680,786	\$1,406,791	\$32,152,488

Omitted dollars in a category doesn't mean the area is not included, refined estimates will add cost to these areas

2022 School Building Air Conditioning Capital Project

Initial (February 2022) Project Cost Estimates

School Level	Classroom	Cafeteria	Auditorium	Gym	Total
Elementary schools	\$55,316,365	\$2,469,960	\$554,676	\$1,733,165	\$60,074,166
Middle schools	\$33,978,274	\$1,242,447		\$1,924,389	\$37,145,510
High schools	\$30,064,911	\$680,786		\$1,406,791	\$32,152,488
Totals	\$119,359,550	\$4,393,193	\$554,676	\$5,064,345	\$129,371,164

Omitted dollars in a category doesn't mean the area is not included, refined estimates will add cost to the areas



2022 School Building Air Conditioning Capital Project

Reasons for Considering a Phased Project Plan

Phase 1 – Elementary Schools May 17, 2022 (Vote)	Phase 2 – Middle Schools May 20, 2025 (Tentative Vote)	Phase 3 – High Schools May 15, 2028 (Tentative Vote)
\$60,074,166	\$37,145,510	\$32,152,488

1. Additional time may mitigate the negative impact that COVID-19 cost increases have on the budget for work that would not occur until 2025 and 2026
2. Cost experience from phase 1 work may reduce cost escalation/contingency budgets
3. Extending the design time for middle/high schools provides an opportunity to better match a system to the age of these schools
4. Provides additional time to save dollars in the capital reserves which will decrease the financing cost of the project



2022 School Building Air Conditioning Capital Project

Reasons for a Phased Project Plan – Debt Funding

Year	General Fund Debt Budget	Existing / Projected Debt Payments As of 1/31/22	Available Budget for Air Conditioning Project	Maximum Budget Funding Interest rate @ 5.0%
2022-23	\$ 4,876,822	\$ (1,172,244)	\$ 3,704,578	\$ 33,000,000
2023-24	\$ 4,876,822	\$ (1,170,119)	\$ 3,706,703	\$ 33,000,000
2024-25	\$ 4,876,822	\$ (1,170,581)	\$ 3,706,241	\$ 33,000,000
2025-26	\$ 4,876,822	\$ (1,168,069)	\$ 3,708,753	\$ 33,000,000
2026-27	\$ 4,876,822	\$ (623,194)	\$ 4,253,628	\$ 38,000,000
2027-28	\$ 4,876,822	\$ (382,569)	\$ 4,494,253	\$ 39,500,000
2028-29	\$ 4,876,822	\$ (385,369)	\$ 4,491,453	\$ 39,500,000
2029-30	\$ 4,876,822	\$ (382,969)	\$ 4,493,853	\$ 39,500,000
2030-31	\$ 4,876,822	\$ -	\$ 4,876,822	\$ 43,250,000
2031-32	\$ 4,876,822	\$ -	\$ 4,876,822	\$ 43,250,000
2032-33	\$ 4,876,822	\$ -	\$ 4,876,822	\$ 43,250,000
2033-34	\$ 4,876,822	\$ -	\$ 4,876,822	\$ 43,250,000
2034-35	\$ 4,876,822	\$ -	\$ 4,876,822	\$ 43,250,000

1. Greater borrowing capacity begins in 2026-27
2. Budgeted district bond anticipation note paydowns not factored into these numbers, will improve borrowing principal amounts without increasing the general fund budget



2022 School Building Air Conditioning Capital Project

Initial Financial Plan – February 2022 (No budget increase)

Debt – Bond Funding	\$ 33,000,000
Capital Reserve Funding – 2014	\$ 438,159
Capital Reserve Funding - 2016	\$ 8,060,000
Capital Reserve Funding – 2019	\$ 15,318,300
Budgetary Appropriations- 2023-24	\$ 750,000
Budgetary Appropriations – 2024-25	<u>\$ 750,000</u>
Total Project funding	<u>\$ 58,316,459</u>



- Financial plan maximizes the current balances in reserves
- Financial plan maximizes debt issuance without increasing the budget

2022 School Building Air Conditioning Capital Project

Proposition Budget Summary – February 2022

Williamsville Central School District Phased Plan Option	February 2022 Projected Budget	February 2022 Projected Funding	February 2022 Projected Shortfall
Phase 1 -Elementary	\$ 60,074,166	\$ 58,316,459	\$ (1,757,707)
Phase 2 -Middle	\$ 37,145,510	\$ -	\$ (37,145,510)
Phase 3 -High School	\$ 32,152,488	\$ -	\$ (32,152,488)
Totals	\$ 129,372,164	\$ 58,316,459	\$ (71,055,705)

Note: Projected budgets may increase or decrease as the construction costs are analyzed and reviewed by the construction manager, architect, and district project team



2022 School Building Air Conditioning Capital Upcoming Action Items and Decision Items

1. Finalization of Project Cost
2. Finalization of Funding Plan
3. Decision/recommendation on phasing project
4. Decision/recommendation on increasing General Fund budget for debt service to offset revenue shortfall
5. Decision on adding proposition to the May 17, 2022 ballot



February Summary and Future Timeline

2022 School Building Air Conditioning Capital Project

- **February 8, 2022** – Initial presentation and discussion of project
- **March 8, 2022** – Updated presentation of project including costs
- **March 8, 2022** – Public Forum on project
- **March 22, 2022** – Project discussion at work session
- **March 22, 2022** – Tentative proposition approval date
- **May 17, 2022** – Tentative vote date for air conditioning project

