



## FOREST HILL PUBLIC SCHOOL KITCHENER, ONTARIO



“Forest Hill is highly committed to the environment. A few years ago, Forest Hill participated in the Schools in Bloom program. The school was evaluated on five dimensions of environmental awareness, commitment, and efficacy. Forest Hill for two years in a row attained the highest scores for schools in the ‘Over 400 Students’ category and was awarded the trophy for best school in Ontario. Forest Hill has been a Gold ECO school since 2009.”



### PROJECT OVERVIEW

Forest Hill Public School in Kitchener, Ontario was built in 1958, and serves a growing population of over 550 students from JK to 6th grade. The two-story building has a combined total of 51,270 sq. ft. including 25 classrooms. Recent renovations include a new Kindergarten wing, double gym, library, and expanded main office.

The Waterloo District School Board worked directly with Yanmar to replace their outdated electricity-powered heating system with Yanmar’s natural gas-powered Variable Refrigerant Flow (VRF) units with interior wall mounted indoor units for both heating and cooling.

### REASON FOR CHOOSING YANMAR

After seeing a successful demonstration at Stewart Avenue Public School in 2016, the Waterloo District School Board decided to explore the option of installing Yanmar units to replace their outdated and inefficient electricity-powered heating system. The new Yanmar system would not only save on operational costs for heating and reduce electrical load, but it would also offer new cooling capabilities through the warm summer months.

Known locally as “the school with heart,” Forest Hill Public School centers the student in all decisions they make. This new system provides maximum comfort for students, faculty, and staff throughout the fluctuating temperatures of the year, able to effortlessly provide heat even in freezing cold temperatures due to engine heat recovery technology built in.

One 10-ton unit and one 14-ton unit were installed on the rooftop. Due to the age of the building, ceiling space inside is tight. Yanmar’s flexible system made it possible to install 22 VRV wall-mounted units to work with the two-pipe system without requiring major renovations, saving on installation costs.

As a school highly committed to the environment, Yanmar’s ability to reduce emissions was also key in the decision to choose Yanmar. Forest Hill is a participant in the Schools in Bloom/Communities in Bloom program, and they have been recognized as a Gold ECO School since 2009.

### ABOUT YANMAR AMERICA ENERGY SYSTEMS

Yanmar America Energy Systems is the North, Central and South American headquarters for the company’s Variable Refrigerant Flow and Combined Heat and Power systems. Yanmar Energy Systems Canada is located in Hamilton, Ontario, and supports variable

refrigerant flow and combined heat and power systems sales and service for Canadian customers. Our team and products are focused on sustainability, reliability, and efficiency.



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### QUICK FACTS

**APPLICATION:** Public School  
**LOCATION:** Kitchener, ON  
**COMMISSIONING DATE:** Sept 2020

### PRODUCTS INSTALLED

- (1) GHP120 (10 – Ton/35kW) 2 Pipe System
- (1) GHP168 (14 – Ton/49kW) 2 Pipe System
- (1) 0.75 -Ton VRV Wall Mounted Unit
- (5) 1.0 -Ton VRV Wall Mounted Unit
- (16) 1.5 -Ton VRV Wall Mounted Unit

### OVERVIEW

- Reduced electrical consumption
- Added cooling capabilities
- Reduced operational costs
- Reduced emissions

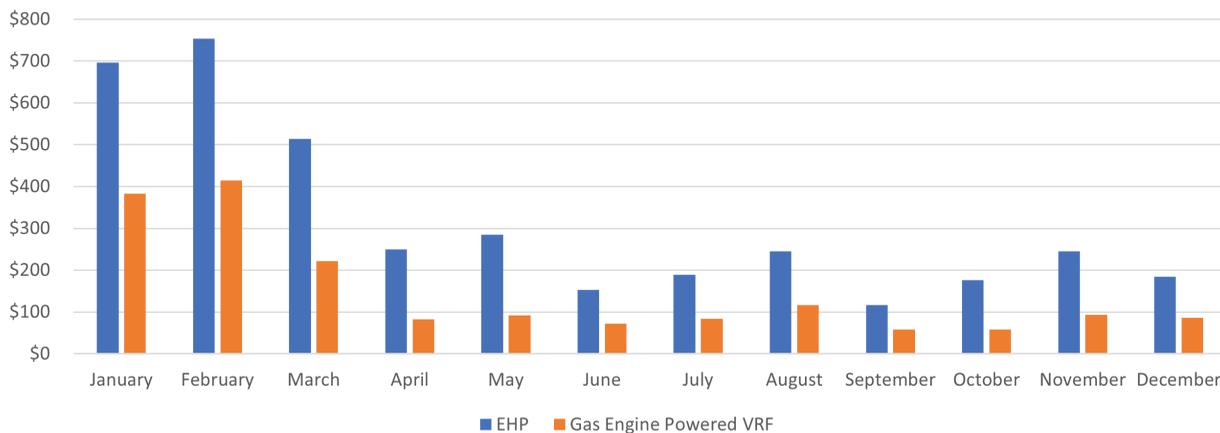


### RESULTS

By installing a pair of whisper-quiet Yanmar natural gas-powered Variable Refrigerant Flow (VRF) units, Forest Hill Public School was able to reduce operation and installation costs from their outdated and inefficient electricity-based system.

By using natural gas as an energy source, the school produces lower amounts of harmful emissions than traditional heating and cooling equipment. The students, faculty, and staff are now able to enjoy cooled classrooms during the warm summer months.

YANMAR VRF Operating Costs in 2021 (\*)



December's data reflects usage from December 1st to 20th only.

Operating cost data is a calculated estimate based only on remote monitoring data and local average utility costs or bills.