



Reynoldsburg City Schools

Attack Failing School Facilities...

AND WIN

OSBA Conference – Nov. 13, 2018

Reynoldsburg Board of Education:



*(L-R Back Row: Robert Barga, Superintendent Melvin J. Brown, Joe Begeny
L-R Front Row: Debbie Dunlap, Jeni Quesenberry, Neal Whitman)*



Breakout Session Presenters:



Joe Begeny



Debbie Dunlap



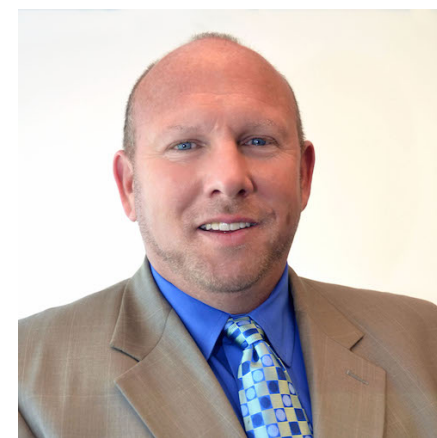
Melvin Brown



Tammy Miller



Chris Reed



Todd Mace

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Board President – Joe Begeny:

School Board Leadership –

- Board Member since 2014
- Board President since 2016
- Teacher-Columbus City Schools,
- Two time Teacher of the Year
- Two kids in the district, 7th and 10th grade



Joe Begeny

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Melvin Brown – Introduction



- My first official day as Superintendent was August 1, 2017.
- Our first day together as a complete administrative team was August 7, 2017.
- Teachers returned on August 14, 2017.
- Students began to return on August 16, 2017.



Melvin Brown – Mission



- Mission—Empowering leaders who impact the NOW and innovate the FUTURE
- Vision—Four Focus Areas:
 - Student Learning
 - Student Experience
 - Communications
 - Finance



Reynoldsburg City Schools

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Melvin Brown – District Demographics



Reynoldsburg City Schools

District Facts




LOCATION

Reynoldsburg is a first-ring suburb of Columbus, Ohio

ENROLLMENT

7,572

SCHOOLS

-  **6** elementary
-  **4** middle (grades 5–8)
-  **4** high school academies

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Melvin Brown – Student Demographics

DIVERSITY



- 39% Black, Non-Hispanic
- 36% White, Non-Hispanic
- 10% Multiracial
- 8% Asian/Other
- 7% Hispanic



12%
Students with Disabilities



53%
Economically Disadvantaged



6.8%
Limited English Proficiency

The Class of 2018 Stats



in Scholarships



College Credits



Internships

Our current goal is for **90%** of our graduates to earn at least 3 hours of college credit.

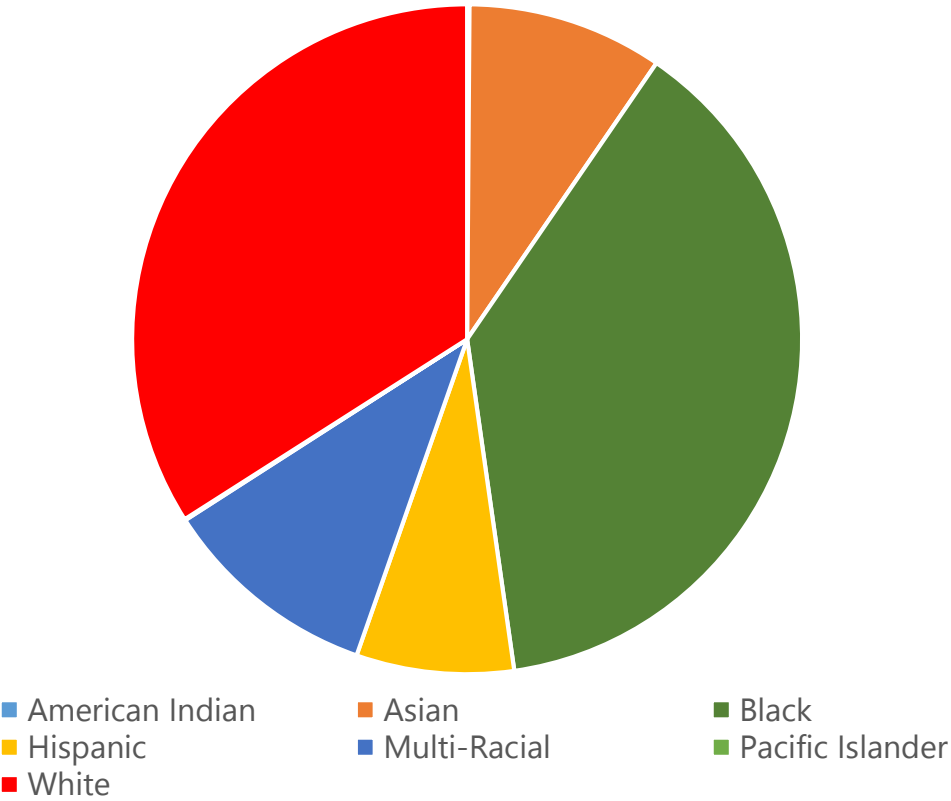


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Melvin Brown – Student Demographics (as of 11/7/2018)

- Gender
 - Females—3,671
 - Males—4,097
- Race
 - American Indian—9
 - Asian—737
 - Black—2,978
 - Hispanic—593
 - Multi-Racial—824
 - Pacific Islander—4
 - White—2,622

Race

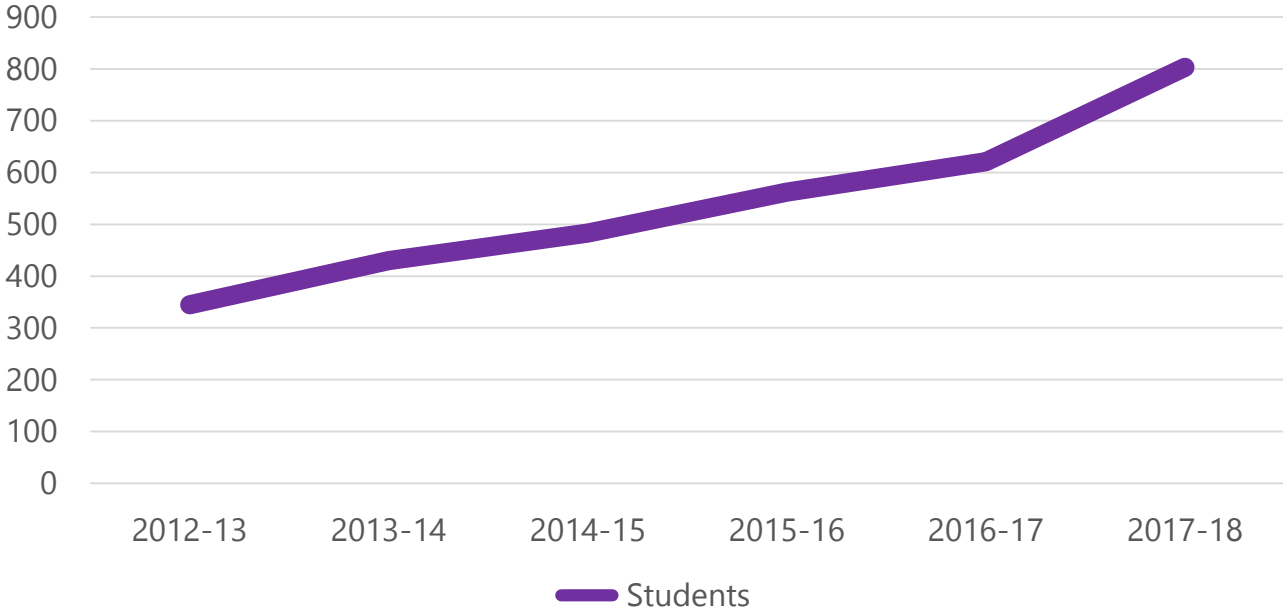




Melvin Brown – Student Demographics

- English Learner Students
 - 803 students enrolled (as of March 2018)
 - Another 800 students who are bilingual.
 - 59 different languages spoken

EL Enrollment



Melvin Brown – THANK YOU!



Together...we can accomplish anything!

Melvin J. Brown
Superintendent
614.501.1020



melvin.brown@reyn.org
Twitter: **@REYNSupt**

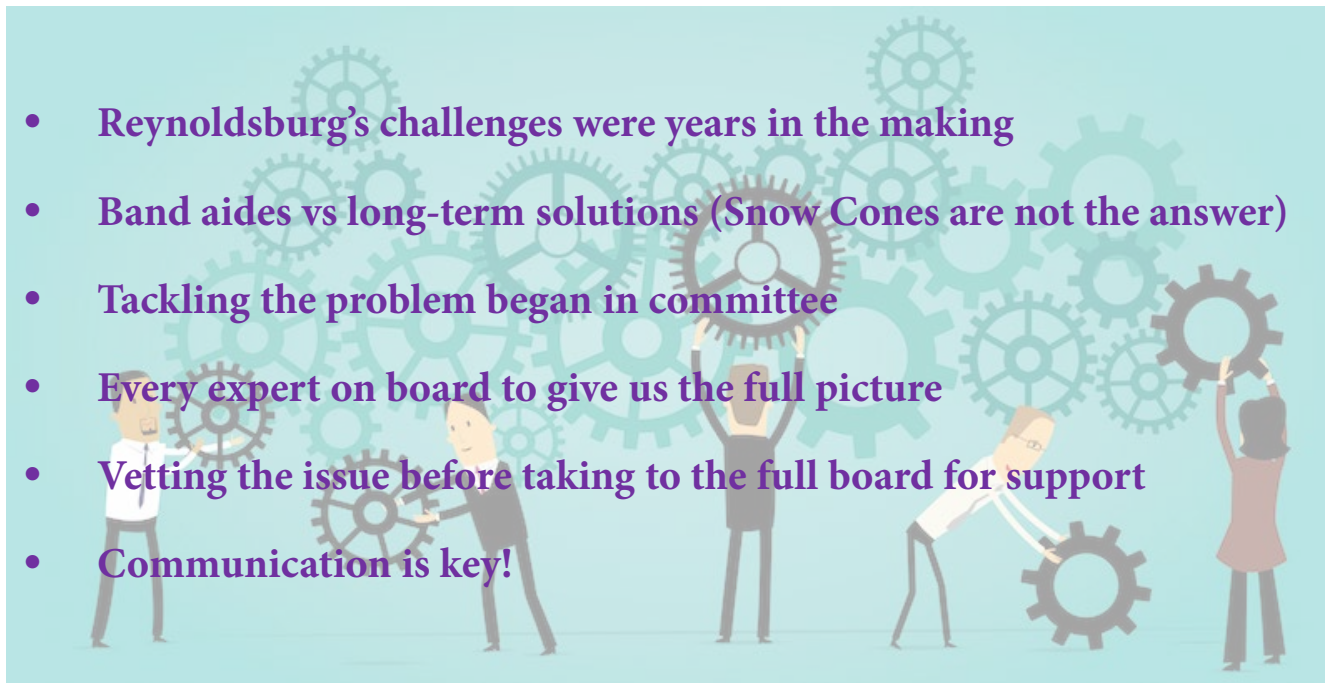
Debbie Dunlap – Board's Perspective



HVAC Crisis:

How did we get here and what did we do to solve it.

- Reynoldsburg's challenges were years in the making
- Band aides vs long-term solutions (Snow Cones are not the answer)
- Tackling the problem began in committee
- Every expert on board to give us the full picture
- Vetting the issue before taking to the full board for support
- Communication is key!



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Debbie Dunlap – Board’s Perspective



Advocating for answers –

- Resident of Reynoldsburg since 1996
- Children in the District since 2003
- Education writer for 15 years
- Web writer for IFMA for 12 years
- Elected to the BOE in 2016
- Member of the Buildings and Grounds Committee since 2017



Debbie Dunlap

Debbie Dunlap – Board’s Perspective



Reynoldsburg’s challenges were years in the making –

- OSFC Project brought lots of new construction/renovations to district buildings
- Follow-up and Follow-through, important in my view as a reporter
- Meanwhile, HVAC systems continued to age



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Debbie Dunlap – Board's Perspective



Band Aids vs long-term solutions –

- HVAC issues began to become very apparent in 2016
- Systems were beginning to fail
- Numerous complaints to BOE from teachers and parents
- **Snow cones were not the answer...**



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Debbie Dunlap – Board's Perspective



Tackling the problem began in committee –

- A Comprehensive 10-year Capital Projects was presented to the B&G Committee in April of 2017
 - Completion date in 2021
 - Did not address all buildings
 - Began addressing the Livingston Campus and one elementary school only



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Debbie Dunlap – Board’s Perspective



Brought experts on board to deliver the Full Picture –

- By August of 2017, the B&G Committee was made aware of the **totality** of the situation
- Chris Reed brought in a panel from Dynamix to give us a comprehensive overview of where we stood
- The need was dire!
- Dynamix provided considerable evidence/data to the committee, along with photos, charts, recommendations



Debbie Dunlap – Board’s Perspective



Vetting the issue before taking to Full Board for support

- Monthly B&G Committee meetings with Chris Reed and Dynamix -- full team
- Knew we could not last another harsh winter without a disaster
- Energy costs were costly and unnecessary



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Debbie Dunlap – Board's Perspective



Making the commitment

- 
- **B&G Committee agrees to both comprehensive HVAC replacement AND LED switch as well**
 - **Time is of the essence**
 - **Full board receives recommendation from B&G Committee and agrees to a long term fix IMMEDIATELY**
 - **Treasurer works with BOE to pay for the multi-million dollar project**
 - **Reynoldsburg enters into contract with Dynamix in Sept. of 2017**
 - **BOE gives full financial support in October of 2017**

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Tammy Miller – Treasurer's Perspective



Financing

There are several financing options – the 2 most viable for us were:

- Unvoted GO Energy Notes
 - Requires OFCC approval
 - Is a longer and more difficult process
 - Is generally the best interest rate, but the lengthier process could affect the rate due to market timing

- Lease Purchase
 - Relatively quick process (started in October 2017, closed January 2018)
 - District required to pledge the buildings where improvements are located as collateral
 - 1) Bid Debt
 - 2) Direct Bank Placement

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Tammy Miller – Treasurer's Perspective



Financing

- Recommend using bond counsel and municipal advisor
 - Bricker & Eckler - bond counsel
 - Bradley Payne Advisors LLC –financial/municipal advisor
- Utilized the lease-purchase option with a direct bank placement
 - Borrowed \$13.5M for 15 years at a rate of 3.285%
 - Used \$2M of general fund monies
 - Annual Payment of \$1.2M
 - Payment partially offset by energy and maintenance savings

Debbie Dunlap – Board’s Perspective



Communication is the KEY!

- Continued monthly B&G Committee meetings to address project
- Updates at BOE meetings as well
- Community very receptive; transparency and quick response to need helped buy-in
- Continued complaints from teachers and parents **BUT** responsive to long term fix
- BOE continues to be the eyes and ears of project



Debbie Dunlap – Board's Perspective



Keys to SUCCESS

- **BOE/District Partnership**
- **Education**
- **Transparency**
- **Realizing effect on students in the classroom**
- **And above all --
COMMUNICATION**



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Chris Reed – No time to bid...



... but didn't need to:

META Solutions Program – Self Funded Energy Projects

- Group of Treasurers & Business Managers
- Interviewed
- Evaluated
- Unanimous Decision



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Chris Reed – Prior knowledge of district...



- Knowledge of RCSD before job was started
- Worked with Tony Van Gundy, META Energy Auditor
- Visited buildings, saw issues with my own eyes
- Asked to see the building automation system; very little information available with little control
- We were blind to our HVAC system, couldn't see anything online/only at the device
- Called Scott McKenzie
- Dynamix did a full district evaluation



Chris Reed – Got started with no time to waste...



Dynamix came in with plan:

- They took over project
- Renovation
- Keeping the doors open (maintaining)
 - Have repaired or fixed over 700 maintenance requests to date through FMx
- I was the internal project manager

The screenshot displays the Dynamix software interface for a December 2018 calendar. The interface includes a sidebar with navigation options like 'Calendar', 'Maintenance Requests', and 'Planned Maintenance'. The main area shows a calendar grid with various events listed for each day, such as 'Woody Underwood', 'Basketball Practice', and 'American Fidelity Meetings'. A search bar and filter options are visible at the top of the calendar view.

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Chris Reed – Positive changes have occurred...



Current state of the district:

- See everything online down to the specific room and can make changes
- Constant progress
- Lower energy bills
- Automatic integration with district scheduling tool
- Automatic capacity management
- Integrate into curriculum

Next 3 slides shows what I can now see and fine-tune:

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Chris Reed – Positive changes have occurred...



Building Model:



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Chris Reed – Positive changes have occurred...



Room layout and temperature in real-time:



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Chris Reed – Positive changes have occurred...



Can view and control down to a granular level:

Room 412 (V5-10)

Room 412 (V5-10) | Air Handler 5 | Chilled Water System | Hot Water System

Graphic | Setpoints | Alarms

Exhaust Fan Command: Start | Exhaust Fan Status: Off | Exhaust Fan Speed Cmd: 42.4 %

ERW Command: Stop | ERW Status: Off | Bypass Dmpr: OPEN

Return Air Temp: 69.5 °F | Return Air Humidity: 39.1 %RH

Outside Air Damper Cmd: 100.0 %

Heating Valve Cmd: 0.0 % | Cooling Valve Cmd: 0.0 %

Outside Air Temp: 58.5 °F | Outside Air Humidity: 63.7 %RH | Outside Air Enthalpy: 21.2 btu/lb

Occupancy & General Info	
Occupied	Occupied
HVAC Mode	Unit Running
Boiler Running:	No
Chiller Running:	No

Room Info	
Min Room Temp	69.3 °F
Avg Room Temp	70.1 °F
Max Room Temp	71.7 °F
Max Terminal Unit Damper	45.1 %
Max Room Cooling Variance:	-0.8 °F
Max Room Unocc Variance:	-8.8 °F

Discharge Air Press: 0.50 in/wc | Discharge Air Press SP: 0.50 in/wc | Discharge Air Temp: 59.9 °F | Discharge Temp SP: 52.0 °F | Supply Fan Command: Start | Supply Fan Status: On | Supply Fan Speed Cmd: 42.3 % | VAV Min Flow Percent: 0.0 %

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Todd Mace – Dynamix Energy Services



Problem:

Reynoldsburg City Schools consists of 14 different Facilities totaling 1.4 Million Square Feet

The HVAC systems were suffering from several years of deferred maintenance. The failure rate of the HVAC system components had reached an exponential rate, and the list of break-fix repair items had become overwhelming for the district. Preventative Maintenance (PM) on functioning HVAC equipment had gone to the back burner, leading to more equipment failures in the queue. The situation had resulted in an uncomfortable temperature environment for the students and the staff, high energy cost, and created a large unknown variable cost in the annual operational budget.

The district was heading into the winter of 2017 and needed to come up with a solution before the situation severely interrupted the educational process.

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Todd Mace – Dynamix Energy Services



Dynamix Solution :

Dynamix proposed an Overall Plan with key objectives. The Overall Plan was divided into two subcomponents with their own key objectives.

OVERALL PLAN

- A. Immediate – Tactical**
- B. Long Term - Strategic**

Todd Mace – Dynamix Energy Services



OVERALL PLAN OBJECTIVES

1. Stabilize and improve the temperature environment for all Students and Staff
2. Fix the variable operational cost resulting from the increasing break-fix items
3. Eliminate the source of the increasing break-fix items by implementing a PM plan
4. Provide a collaborative means for staff to report HVAC issues and track resolution.
5. Openly communicate to the district staff the progress of the Plan
6. Improve the student learning environment and safety by improving light levels
7. Provide a fixed capital cost to implement the plan
8. Guarantee the Energy Savings from implementing the Plan.

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Todd Mace – Dynamix Energy Services



TACTICAL PLAN OBJECTIVES

1. Prioritize and immediately repair all the critical break-fix items in each facility
2. Immediately implement the PM plan on all functioning equipment
3. Roll out FMX as the means to communicate HVAC issues and after school activities
4. Prioritize and implement the plan for equipment replacement in each facility.
5. Coordinate the parallel plans of break-fix repair and equipment replacement
6. Install the IT platform to remotely monitor and control the HVAC system
7. Replace the outside lighting that poses a safety risk to students and staff

Todd Mace – Dynamix Energy Services

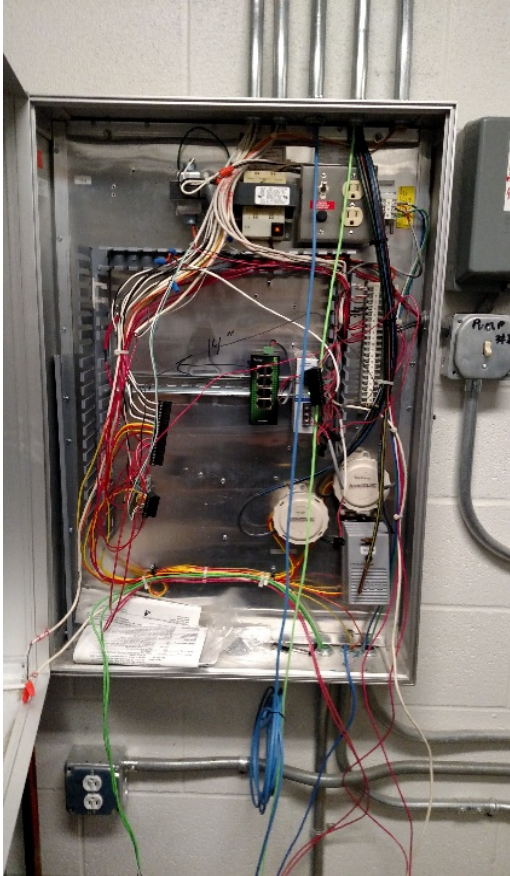


STRATIGIC PLAN OBJECTIVES

1. Provide the long term PM plan to protect the district capital investment
2. Provide the long term plan to sustain the accomplished Energy Savings
3. Provide a plan of support and training for the district facilities personal
4. Fully implement a web based control system to allow for predictive maintenance.
5. Provide a plan to fixed the operational cost for PM and break-fix repair items
6. Provide the long term plan to collaborative communication with the staff
7. Provide a long term plan to monthly inform the district Board and Administration

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Todd Mace – Dynamix Energy Services



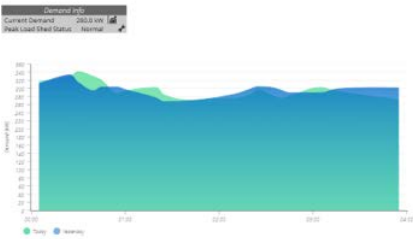
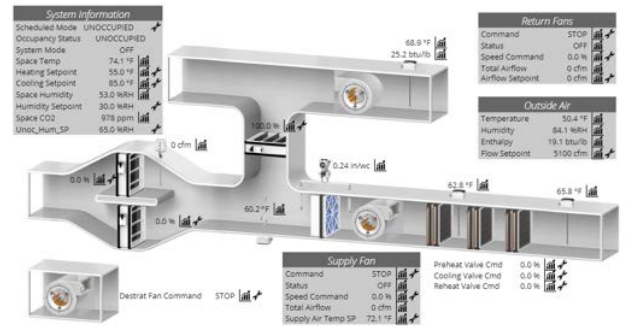
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Air Handler 9 Boiler System Chiller System

Graphic Airflow Info Temp Info Alarms



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Dynamix Energy Services – Todd Mace:



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Thank you for attending!

What questions do you have?