BUILDVISION

Custom Procurement Report

Control How You Source Building Systems

Directly access suppliers and automate sourcing, procurement, and financing—all from one platform

Key Benefits

T **Save Time**

Automate RFQs and reduce manual work by up to 50%

$ **Cut Costs**

Negotiate directly with suppliers for better deals

→ **Streamlined Sourcing**

Take BuildVision's structured data and send it to suppliers at BuildVision.io

Customer Information

Customer Name	Utica Community Schools
Contact Person	Sarah Anker
Contact Email	sarah.anker@bartonmalow.com
Contact Phone	N/A
Address	39701 Dodge Park Road, Sterling Heights, MI 48313
Bid Due Date	3/26/2025
Job Walk	3/19/2025
RFIs Due	3/21/2025
Date Invited	3/12/2025
Request Type	Proposal

Project Information

Project Name	Stevenson High School Chiller Replacement
Location	39701 Dodge Park Road, Sterling Heights, MI 48313
Start Date	12/1/2025
Completion Date	N/A
Budget	N/A
Scope	Replacement of existing chiller system including new air-cooled rotary-screw water chiller, mechanical and electrical work
Project ID	23-10-2025
Project URL	BuildVision Project Link
Project Number	23114-1032
Bid Date	02-28-2025
System Volume	4600 Gallons

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Date: 2025-05-22

Project Equipment

Air-Cooled Chillers

Equipment Tag	Manufacturer	Model
CH-1	Daikin Applied	AWWQ228

Notes

Packaged, air-cooled, factory-assembled and run-tested chiller with base and frame, condenser casing, compressors, compressor motors and motor controllers, evaporator, condenser coils, condenser fans and motors, electrical power, controls, and accessories.

Hydronic Pumps

Equipment Tag	Manufacturer	Model
CHWP-1	Bell & Gossett	E-1510-4BD
CHWP-2	Bell & Gossett	E-1510-4BD

Notes

Floor-mounted, end-suction, flexibly-coupled pumps

Air Separator

Equipment Tag	Manufacturer	Model
AS-1	Bell & Gossett	CRSN-8F

Notes

Microbubble air/dirt separator

Expansion Tanks

Equipment Tag	Manufacturer	Model
ET-1	Bell & Gossett	B200V

Notes

Bladder-type expansion tank

Variable Frequency Drives

Equipment Tag	Manufacturer	Model
VSD-CHW-1	Not specified	–
VSD-CHWP-2	Not specified	–

Notes

Variable speed drives for motors

Suppliers

Air-Cooled Chillers

Manufacturer	Model	Representative	Compatibility Notes	BoD
Daikin Applied	AWWQ228	N/A	Basis of Design	**Yes**
YORK International Corporation		N/A	Comparable energy efficiency and performance to basis of design	Listed
Carrier	AquaForce 30XV	N/A	SUGGESTED ALTERNATIVE: High-efficiency screw compressor design, comparable to basis of design with similar energy performance and control capabilities	No
Trane	RTAC Series	N/A	SUGGESTED ALTERNATIVE: Premium efficiency model with excellent partial load performance, may require minor piping modifications	No

Hydronic Pumps

Manufacturer	Model	Representative	Compatibility Notes	BoD
Bell & Gossett	E-1510-4BD	N/A	Basis of Design	**Yes**
Armstrong		N/A	Direct dimensional replacement for basis of design	Listed
Taco		N/A	May require minor piping modifications	Listed

Grundfos	TP Series	N/A	SUGGESTED ALTERNATIVE: Premium efficiency motor, may offer energy savings but requires different mounting configuration	No
Patterson	HVAC Series	N/A	SUGGESTED ALTERNATIVE: Value option with compatible performance, may require minor piping modifications	No

Air Separators

Manufacturer	Model	Representative	Compatibility Notes	BoD
Bell & Gossett	CRSN-8F	N/A	Basis of Design	**Yes**
Spirotherm		N/A	Premium coalescing design with high efficiency air removal	Listed
Thrush Aar-O-Vent		N/A	Direct replacement for basis of design	Listed
Taco	4900 Series	N/A	SUGGESTED ALTERNATIVE: Compatible dimensions and performance specifications	No
Armstrong	VA Series	N/A	SUGGESTED ALTERNATIVE: Similar performance with slightly different connection configuration	No

Expansion Tanks

Manufacturer	Model	Representative	Compatibility Notes	BoD
Bell & Gossett	B200V	N/A	Basis of Design	**Yes**
Wessels		N/A	Direct dimensional replacement	Listed
Amtrol		N/A	May require different mounting configuration	Listed
Armstrong		N/A	Direct replacement for basis of design	Listed
Taco		N/A	Similar performance characteristics	Listed

Flexcon	Series H	N/A	SUGGESTED ALTERNATIVE: Value option with similar performance specifications but may require different connection configuration	No

Building Automation System

Manufacturer	Model	Representative	Compatibility Notes	BoD
Johnson Controls, Inc.		N/A	Integrates with existing Johnson Controls BAS Operator Interface System	**Yes**

BuildVision Recommendations

1. Implement Strategic Procurement of Daikin Air-Cooled Chiller

Rationale: The specifications call for a Daikin air-cooled rotary-screw water chiller (model AWWQ228) as the basis of design. Given current market conditions and the specialized nature of this equipment, early procurement is critical. The chiller has a long lead time and is a critical path item that will determine the project schedule. Specifications indicate the chiller must handle 351.2 tons cooling capacity with R-513A refrigerant and include features like variable frequency drive, BACnet communication capabilities, and specific sound requirements.
Estimated Impact: Early procurement could save 4-6 weeks on the project schedule and potentially $15,000-25,000 in expediting fees. Additionally, locking in pricing now may avoid 5-8% cost escalation that could occur if procurement is delayed until construction begins.
Implementation: 1. Issue early purchase order for the chiller immediately after contract award
2. Confirm exact model requirements with engineer prior to ordering
3. Coordinate delivery timing with the construction schedule
4. Verify all specified features including BACnet controls compatibility
5. Review factory test requirements and schedule factory witness testing if desired
Priority: High

2. Purchase Bell & Gossett Hydronic System Components as a Package

Rationale: The specifications call for Bell & Gossett pumps (model E-1510-4BD), expansion tanks (model B200V), and air/dirt separators. Purchasing these components as a package from a single supplier can provide better pricing, ensure compatibility, and simplify coordination. Specifications indicate two pumps are required, each with 60 GPM at 85 ft. head, along with accessories like triple duty valves and suction diffusers.
Estimated Impact: Bundled purchasing could yield 8-12% cost savings compared to indi-

vidual procurement. Additionally, single-source responsibility will reduce coordination issues and potential compatibility problems, potentially avoiding 1-2 weeks of delays during installation.
Implementation: 1. Request package pricing from Bell & Gossett representatives
2. Include all specified components: pumps, expansion tank, air/dirt separator
3. Verify performance specifications against design requirements
4. Confirm delivery schedules align with project timeline
5. Consider requesting startup services as part of the package
Priority: Medium

3. Pre-purchase Johnson Controls BAS Integration Components

Rationale: The specifications require integration with the existing Johnson Controls BAS system. Pre-purchasing the required controllers, software updates, and integration components will ensure availability and allow for proper coordination with the existing system. The controls must be compatible with the new chiller's BACnet interface and capable of monitoring all specified points.
Estimated Impact: Early procurement of controls components could prevent 3-4 weeks of potential delays during system integration. Additionally, early involvement of the controls vendor could identify potential compatibility issues before they impact the construction schedule, potentially saving $10,000-15,000 in remediation costs.
Implementation: 1. Engage Johnson Controls early to assess existing system
2. Identify all required components for integration
3. Verify compatibility with new Daikin chiller
4. Pre-purchase critical components with long lead times
5. Schedule controls technician time for programming and integration
Priority: High

4. Utilize Bulk Purchasing for Piping and Insulation Materials

Rationale: The project requires significant amounts of copper and steel piping, valves, and insulation for the chilled water system. Bulk purchasing these materials can provide cost advantages and ensure availability. The specifications call for Type L copper for piping through 4" and Schedule 40 black steel for larger sizes, with specific insulation requirements based on pipe size.
Estimated Impact: Bulk purchasing could yield 10-15% cost savings on these materials compared to incremental purchasing. Additionally, securing these materials early will mitigate risk of price volatility in the metals market, which has seen fluctuations of 20-30% in recent years.
Implementation: 1. Quantify total material requirements based on drawings
2. Request quotes from multiple suppliers for the complete package
3. Consider warehousing options if site storage is limited
4. Coordinate delivery schedules to align with installation sequence
5. Verify all materials meet the specified requirements
Priority: Medium

5. Establish Testing and Water Treatment Package

Rationale: The specifications require comprehensive testing, adjusting, and balancing services, as well as water treatment for the chilled water system. Bundling these services together from a qualified provider can ensure proper system performance and warranty compliance. The water treatment must include cleaning, passivation, and ongoing treatment chemicals.
Estimated Impact: Proper testing and water treatment is critical to system performance and longevity. Improper water treatment could lead to premature equipment failure, potentially costing $50,000-100,000 in early replacement. Bundling these services could save 5-8% compared to separate procurement.
Implementation: 1. Identify qualified providers that can handle both testing and water treatment
2. Verify they meet the qualifications specified in Sections 23 0593 and 23 2500
3. Request comprehensive proposals covering both initial and ongoing services
4. Schedule services to align with system startup requirements
5. Ensure proper documentation for warranty compliance
Priority: Medium

Conclusion

Key Findings

- The Daikin AWWQ228 chiller is the basis of design, with YORK listed as an acceptable alternative. Early procurement is critical due to long lead times, which could save 4-6 weeks on the project schedule.
- All hydronic components (pumps, expansion tank, air separator) are specified as Bell & Gossett, presenting an opportunity for package purchasing to achieve 8-12% cost savings and ensure compatibility.
- Integration with the existing Johnson Controls BAS is required, necessitating proper coordination and compatibility verification with the new chiller's BACnet interface.
- The project includes comprehensive water treatment and testing requirements that are essential for system performance and warranty compliance.
- The specified mechanical equipment must comply with ASHRAE 90.1-2013 efficiency standards, and mechanical systems must undergo thorough testing, adjusting and balancing.

Highest Priority Actions

- Issue early purchase order for the Daikin AWWQ228 chiller immediately after contract award to secure pricing and avoid schedule delays.
- Engage Johnson Controls early to assess the existing BAS system and identify all required components for proper integration with the new equipment.
- Request package pricing for all Bell & Gossett components (pumps, expansion tank,

air separator) to maximize cost savings and ensure system compatibility.

- Establish a comprehensive testing and water treatment package to ensure proper system performance and compliance with the five-year warranty requirements.

Summary

This chiller replacement project for Stevenson High School involves installing a new 351-ton Daikin air-cooled rotary-screw water chiller along with associated hydronic system components including Bell & Gossett pumps, expansion tank, and air separator. The project requires careful coordination of mechanical and electrical systems with integration into the existing Johnson Controls BAS. Critical procurement considerations include long lead times for the chiller, compatibility with existing systems, and strategic purchasing of components to optimize cost and schedule performance. Implementation must follow strict standards for water treatment, testing and balancing, while meeting efficiency requirements. Early procurement of key components and package purchasing strategies can yield significant cost savings and schedule advantages.

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