



Rochester Community Schools
Purchasing Department

Request for Proposal

Date:	June 4, 2026	Project:	Natatorium Boiler Replacement – Rochester Adams High School
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Project Number: 27.01

Response Due Date and Time:	June 19, 2026 at 12:00 p.m. Local Time
Submit Response to:	All proposals, required forms, and pricing shall be submitted electronically on BidNet Direct (https://www.bidnetdirect.com)
Submit Questions to:	Requests for clarification shall be submitted through BidNet Direct and all responses will be released as addendum within the online posting.
Description of Procurement:	Natatorium Boiler Replacement – AHS

Estimated Project Timeline:

Notice of Advertisement in Local Newspaper:	June 4, 2026
Release of RFP:	June 4, 2026
Mandatory Site Walk-through:	June 11, 2026 at 10:00 a.m. Local Time Address: 3200 West Tienken Road, Rochester Hills, MI 48306
Online Requests for Clarification Deadline:	June 12, 2026 at 5:00 p.m. Local Time
Release of Addenda with RFC Answers:	June 16, 2026
Bid Due Date:	June 19, 2026 at 12:00 p.m. Local Time
Anticipated Board of Education Bid Award:	August, 2026
Project Completion Date:	ASAP

→*Notice: The right to modify the project timeline is held by Rochester Community Schools in absolute discretion.*

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Information to Bidders

Overview

Rochester Community Schools, known herein as “Owner” or “District”, is requesting bids for the replacement of one of the existing Patterson Kelly boilers that serve the Natatorium and surrounding Athletic wing area at Rochester Adams High School. The existing boiler is rated at 2,000,000 BTU/hour. Rochester Adams High School is located at 3200 West Tienken Road, Rochester Hills, MI 48306.

Project Purpose and Expectations

The existing boiler is failing and needs to be replaced. The existing boiler is to be completely removed, and a new boiler is to be reinstalled in its place.

Timeline

The expected timeline is as follows:

Estimated Project Timeline:

Notice of Advertisement in Local Newspaper:	June 4, 2026
Release of RFP:	June 4, 2026
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Scope

The scope of this project consists of the removal and replacement of a Patterson Kelly C2000H boiler that was installed in 2018. The boiler is located in the 2nd Floor Mechanical Room mezzanine, which is only accessible by stairs from the 1st Floor or from the roof. Refer to Attachment 'A' that contains the drawings and specifications for the current boiler installation from 2018 for reference.

NOTE: All bidders must attend the mandatory walk-through to confirm existing site conditions in order to submit a complete bid. No bids will be accepted from vendors that do not attend the mandatory walk-through. There will be no additional costs approved for not including any scope that could have been discovered during the pre-bid walk-through. Only

costs associated to unforeseen conditions will be considered in excess of the submitted bid.

1. Remove existing Patterson Kelly boiler and dispose of off-site. Removal is to include disconnection of all utilities.
2. Install new boiler (non-Patterson Kelly), matching existing capacity and performance of the existing boiler. Reconnect all utilities including the District BAS controls to provide for a complete installation. Preferred boiler manufacturer to be Cleaver Brooks. District Controls vendor is CSI.
3. Provide all required permits and inspections.
4. Coordinate and provide manufacture startup and owner training.
5. Coordinate installation with the District's Commissioning agent.
6. Coordinate installation with the District's Commissioning Agent for all equipment submittals, equipment installation and startup.
7. Coordinate installation with the District's boiler certification representative, Hartford Steam Boiler, for the inspection and approval of the boiler.
8. Complete CSD-1 testing and certification.
9. Prior to start-up of the boiler, complete chemical testing of the hydronic loop and validate all parameters are within manufacturer specified tolerances for heat exchanger surfaces.
10. For any deficiencies identified during startup, CSD-1 testing, inspections, and chemical testing of the boiler / system, provide the District material and labor pricing necessary for resolution.
11. Remove all debris from site and leave area clean and free of all debris created by the removal and installation of the new boiler.
12. Provide all warranty and closeout documentation.

In your Bid Response, clearly identify and note any deviations, if any, from the provided Equipment Specifications. Otherwise, your bid response is assumed to meet all the requirements and meet all the specifications as provided, including making any accommodations noted in the site walk-through.

Mandatory Bid Alternates:

Please provide pricing for the following Bid Alternates:

1. Rebuild or furnish and install a replacement boiler primary pump.
2. Perform loop flush and clean, provide glycol to meet 30% by volume target for the system. Glycol to be provided and funded separately by the District.
3. Provide cost to replace both boilers with a complete new system.

Selection Process and Owner's Rights

The Owner reserves the following:

1. To reject any or all proposals without compensation to the bidders and to waive any or all variances, irregularities, or informalities in the bid package.
2. In the event that all acceptable proposals exceed the owner's budget, the Owner reserves the right to negotiate a contract with the lowest and best acceptable bidder or any other one of the acceptable bidders.

Award of Contract

Project is expected to be approved by the Rochester Community Schools Board of Education at a regular meeting in August, 2026. Please note the project will not necessarily be awarded to the lowest bidder or lowest price. Rochester Community Schools reserves to award the project to the most qualified bidder based on the criteria noted. A contract will be drafted and provided for both parties to agree upon.

Bid Due Date and Proposal Submission Requirements:

1. All proposals, required forms, and pricing shall be submitted electronically on BidNet Direct (<https://www.bidnetdirect.com>) **no later than 12:00 p.m., local time, June 19, 2026** (the "Due Date".) No oral, telephonic, or facsimile proposals will be considered.
2. RCS will not consider or accept any late Bids received after the Due Date specified within the RFP. It is the sole responsibility of the Bidder to ensure their proposal is entered completely and forms are uploaded on BidNet Direct before the closing date and hour indicated within the RFP. Bidders shall plan ample time to respond to all requirements and input all requirements. RCS is not responsible for any delivery delays.

Qualification of Bidder

1. The Owner reserves the right to request qualification information from any bidder before issuing documents, receiving bids or awarding a contract. The Owner may, at its sole discretion, accept or reject bidders as qualified. The right to waive any informalities in qualification materials is reserved by the Owner. The Bidder, in submitting his/her bid, agrees to accept the decision of the Owner as final.
2. The submitters shall provide full disclosure of all existing client relationships that currently or prospectively may give rise to conflicts of interest and disqualification as governed by the codes of rules of professional responsibility and conduct.

Sole Bidder

1. It is the Owner's intent that this Request for qualification permits competition. It shall be the proposal respondent's responsibility to advise the Owner, in writing, if any language, requirements, scope specifications, etc., or any combinations thereof, inadvertently restricts or limits the requirements stated in this Proposal, to a single source. Owner shall receive such notification no later than five (5) days prior to the date set for acceptance of proposals.
2. If only one proposal is received in response to this request, an evaluation and/or audit shall be performed of the submitted response in order to determine if the respondent's proposal submission is fair and reasonable.
3. The Owner reserves the right to cancel the proposal submission process, or reschedule the proposal opening, if there is only one proposal received. The decision by the Owner will be final.

Addenda

1. Each bidder shall ascertain prior to submitting their bid that they have received all addenda issued.
2. Addenda notices will be sent to all who are known by the Owner to have a set of contract documents. Copies of addenda will be made available for inspection wherever contract documents are on file for that purpose.

Bid Bond

Not required.

Sales Tax

1. Owner is exempt from all taxes. A tax exemption certificate will be issued upon request.

Method of Ordering

1. Issuance of a written purchase order by the Purchasing Department is the method of ordering product or services. All vendor invoices and packing/delivery tickets must include the purchase order number.

Payment

1. Payment to be made from Vendor's invoice, and a copy of the signed delivery invoices, submitted to cover items received and accepted during the billing period. Invoices must contain the bid number under which the contract is awarded.
2. Pricing shall be F.O.B. delivered to RCS at 52585 Dequindre Road, Rochester MI 48307, unloaded, and installed.

Familial Relationship Disclosure

1. All bidders shall provide familial disclosure in compliance with MCL 380.1267 and attach this information to the bid proposal. The bid proposal shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the bidder or any employee of the bidder, and any member of the Board of Education of the school district, or the Superintendent of the school district. The District will not consider a bid proposal that does not include this sworn and notarized statement.

Iran Economic Sanctions Act

1. Each bid must be accompanied by a sworn and notarized statement certifying that the Contractor is not an "Iran linked business" within the meaning of the Iran Economic Sanctions Act.

Withdrawal or Revision of Bid Proposals

1. A bid may not be modified, withdrawn or cancelled by the bidder for ninety (90) calendar days following the time and date designated for the opening of bids, and bidder so agrees in submitting his/her bid.

Acceptance and Rejection of Bid Proposals

1. Low bid price is not always the determining factor in the awarding of the bid. Other factors considered may include, but not be limited to, the following: delivery and/or completion time, judged quality of product, past performance, inventory availability, financial stability, and references.
2. The Owner shall have the right to waive any informality or irregularity in any bid received and to accept bids which, in their judgment, are in their own best interest.
3. The Owner shall have the right to accept or reject alternates in any order or combination and to determine the apparent low bidder on this basis.

Post-Bid Information

1. After the proposals are received, tabulated, and evaluated by the Owner, the apparent lowest qualified respondent shall meet with the Owner at a post-bid meeting if requested by Owner.
2. The Owner reserves the right to request additional information from the firms submitting proposals for evaluation criteria, as needed.

Addenda:

Identify in your proposal response acknowledgement of all Addendums issued.

Bid Proposal Form: Natatorium Boiler Replacement – AHS

Name of Bidder

Firm Name:	
Address:	
Telephone:	Fax:

Agreements

The undersigned understands that the Owner reserves the right to reject any and all bids and to waive informalities and irregularities in bidding.

Owner also reserves the right to withhold bids for a period of time (90 days) from bid closing date.

The Owner reserves the right to accept or reject any or all Bids in whole or in part, or to waive any informalities therein. If in the Owner opinion it is in their best interest, the contract may be awarded to other than the lowest bidder, for reason of establishing uniformity, delivery time, etc.

If award is made to us under this proposal, we agree to enter into an Agreement with Rochester Community Schools to furnish products and/or services, in strict accordance with this proposal, bid documents and all pertinent portions of plans, drawings and specifications.

Addenda

The undersigned acknowledges receipt of the following addenda:

Addendum Number:	Dated:
Addendum Number:	Dated:
Addendum Number:	Dated:

My signature certifies that the proposal as submitted complies with all Terms and Conditions as set forth in this RFP.

My signature also certifies that the accompanying proposal is not the result of, or affected by, any unlawful act of collusion with another person or company engaged in the same line of business or commerce, or any act of fraud. Furthermore, I understand that fraud and unlawful collusion are crimes under Federal Law, and can result in fines, prison sentences, and civil damage awards.

My signature also certifies that this firm has no business or personal relationships with any other companies or persons that could be considered as a conflict of interest or potential conflict of interest to Rochester Community Schools, and that there are no principals, officers, agents, employees, or representatives of this firm that have any business or personal relationships with any other companies or persons that could be considered as a conflict of interest or a potential conflict of interest to Rochester Community Schools, pertaining to any and all work or services to be performed as a result of this request and any resulting contract with Rochester Community Schools.

I hereby certify that I am authorized to sign as a Representative for the Firm:

Legal Status of Bidder

1. A Corporation organized and existing under the laws of the State of _____.
2. Name, title, and signature of individual duly authorized to execute contracts:

Name: _____

Title: _____

Signature: _____

CONTACT PERSON: _____ PHONE NO: _____

Base Bid

BASE BID: Bid to furnish all labor, material, equipment and services necessary to provide **Natatorium Boiler Replacement – AHS** with the Base Bid Category descriptions, including all addenda, for the amount as follows:

TOTAL (BASE BID)	\$ _____ _____ Dollars
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*PRICES ARE NOT TO INCLUDE ANY STATE OR LOCAL TAXES.

*PRICING GOOD THROUGH DECEMBER 31, 2026. PLEASE NOTE ANY EXCEPTION:

ALTERNATE PRICING:

Mandatory Bid Alternates:

- 1) Rebuild or furnish and install a replacement boiler primary pump.

\$ _____

- 2) Perform loop flush and clean, provide glycol to meet 30% by volume target for the system (owner to provide glycol):

\$ _____

- 3) Replace entire pool boiler system with a new boiler system in lieu of replacing a single boiler. This includes complying with all Scope items listed in this RFP:

\$ _____

Voluntary Alternates

Whenever any material or equipment is specified by patent or proprietary name or by the name of the manufacturer, such specification shall be considered as if followed by the words "or acceptable equal". The Bidder may offer material or equipment with equal or better

qualities and performance in substitution for those specified which it considers would be in the Owner's interest to accept. The Bidder shall include sufficient specification data that will, together with any other data the Owner may require, enable the Owner to assess the acceptability of the proposed alternate material or equipment.

Voluntary Alternates:

\$_____

_____ Dollars

Description of Voluntary Alternate:

FAMILIAL DISCLOSURE AFFIDAVIT OF BIDDER

The undersigned, owner or authorized officer of _____ (the bidder/contractor), pursuant to the familial disclosure requirement provided in the Request for Proposals, hereby represent and warrant, except as provided below, that no familial relationships exist between the bidder/contractor or any employee of the bidder/contractor, and any member of Rochester Community Schools Board of Education, the Superintendent and/or any Rochester Community Schools Administrator.

☐ The following are the bidder's familial relationship(s) with Rochester Community Schools:

Bidder/Contractor Employee Name Related to:

1 _____

2 _____

(Attach additional pages if necessary to disclose all familial relationships.)

☐ There is no familial relationship that exists between the bidder/contractor and/or any employee of the bidder and any member of the Rochester Community Schools Board of Education, Superintendent, or Administration.

Bidder: (Company Name)

By:

(Signature)

(Title)

This instrument was acknowledged before me, a Notary Public, in and for _____ County,
_____ on this _____ day of _____, 20____.

_____ SS:

(Notary Public Signature)

My Commission expires: _____

Acting in the County of: _____

Certification of Compliance – IRAN ECONOMIC SANCTIONS ACT
(MICHIGAN PUBLIC ACT NO. 517 OF 2012)

The undersigned, the owner or authorized officer of the Below named Firm, pursuant to the compliance certification requirement provided in the Rochester Community Schools' (the "School District") Request for proposal, hereby certifies, represents and warrants that the Bidder (Including its officers, directors and employees) is not an "Iran linked business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event Firm is awarded a contract as a result of the aforementioned RFQ, the proposing firm will not become an "Iran linked business" at any time during the course of performing the Work or any service under the contract.

The responding firm further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more the \$250,000.00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the School District's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to submit bid or submit a proposal response to a request for bid (RFB) or request for proposal /qualification (RFP or RFQ) for three (3) years from the date that it is determined that the person has submitted the false certification.

Name of Company

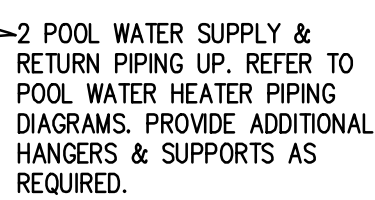
Name and Title of Authorized Representative

Signature

ATTACHMENT 'A'
EXISTING DRAWING AND EQUIPMENT SCHEDULE

1. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME AGREED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL LOCATIONS AND SIZES OF EXISTING PIPING AND DUCTWORK MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
3. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
4. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. SUBMIT PROPOSED METHODS OF ANCHORING AND GUIDING PIPING SYSTEMS TO STRUCTURAL ENGINEER FOR APPROVAL.



- A. REMOVE EXISTING BOILER, VENT STACKS, ASSOCIATED PIPING, EXPANSION TANKS, ACCESSORIES AND CONTROLS COMPLETE. PREPARE GAS PIPING FOR NEW CONNECTIONS. COORDINATE ROOF/WALL REPAIRS WITH ARCHITECTURAL TRADES.
- B. REMOVE EXISTING COMBUSTION AIR MOTORIZED DAMPERS AND DUCTWORK OR HOOD ASSOCIATED WITH THE EXISTING BOILER, AND DOMESTIC WATER HEATERS. BLANK OFF AND INSULATE EXISTING LOUVERS AS INDICATED ON THE DETAILS SHEETS. COORDINATE ROOF REPAIRS WITH ARCHITECTURAL TRADES
- C. REMOVE EXISTING HEATING SYSTEM CIRCULATION PUMPS IN ORDER TO BE REPLACED.
- D. REMOVE EXISTING DOMESTIC WATER HEATER, VENT STACK, IN ORDER TO BE REPLACED. COORDINATE ROOF REPAIRS WITH ARCHITECTURAL TRADES. PREPARE EXISTING PIPING FOR NEW CONNECTIONS.

1. NEW CONDENSING BOILER. PROVIDE AND INSTALL FLUE CONDENSATE NEUTRALIZER AS SPECIFIED. RE-USE OR EXTEND EXISTING CONCRETE HOUSEKEEPING PAD AS REQUIRED TO ACCOMMODATE NEW BOILER(S).
2. 10" DIAMETER (AL294C STAINLESS STEEL, FOR CATEGORY IV BOILERS) FLUE STACK UP AND THROUGH WALL. REFER TO MANUFACTURER DETAILS AND INSTRUCTIONS.
3. INSULATED 10" DIAMETER (STAINLESS STEEL) COMBUSTION AIR INTAKE PIPE UP AND THROUGH WALL. ROUTE COMBUSTION AIR INTAKE AND EXHAUST FLUE PER 2006 INTERNATIONAL FUEL GAS CODE AND PER MANUFACTURERS RECOMMENDATIONS. THE EXHAUST VENT MUST BE AT LEAST 3 FEET ABOVE THE AIR INTAKE AND BOTH SHOULD EXTEND AT LEAST 12" FROM THE EXTERIOR WALL.
4. EMERGENCY SHUT OFF SWITCH FOR BOILERS.
5. NEW POOL INDIRECT WATER HEATER. PROVIDE NEW CONCRETE HOUSEKEEPING PAD.
6. 8" DIAMETER (AL294C STAINLESS STEEL, FOR CATEGORY IV BOILERS) FLUE STACK UP AND THROUGH WALL. PROVIDE MANUFACTURER'S RECOMMEND TERMINATION CAP.
7. INSULATED 6" DIAMETER (STAINLESS STEEL) COMBUSTION AIR INTAKE PIPE, ROUTE COMBUSTION AIR INTAKE AND EXHAUST FLUE PER 2006 INTERNATIONAL FUEL GAS CODE AND PER MANUFACTURERS RECOMMENDATIONS. PROVIDE MINIMUM 10' DISTANCE BETWEEN INTAKE AND EXHAUST OR LOCATE COMBUSTION AIR TERMINATION MIN 3 FT UNDER THE VENT TERMINATION.
8. 2" NEW SUPPLY AND RETURN POOL WATER PIPING. ROUTE DOWN TO HEAT EXCHANGER IN POOL EQUIPMENT ROOM. FOR CONTINUATION/ROUTING ON FIRST FLOOR REFER TO SHEET M3.10F. COORDINATE ROUTING WITH EXISTING CONDITIONS. FOR PIPING CONNECTIONS REFER TO PIPING DIAGRAMS ON M6.02.
9. NEW DOMESTIC INDIRECT WATER HEATER. RE-USE OR EXTEND EXISTING CONCRETE HOUSEKEEPING PAD. COORDINATE EXACT LOCATION WITH MANUFACTURER CLEARANCE/SERVICE RECOMMENDATIONS. FOR PIPING CONNECTIONS AND DETAILS REFER TO PIPING DIAGRAM ON SHEET M6.02.
10. 8" DIAMETER (AL294C STAINLESS STEEL, FOR CATEGORY IV BOILERS) FLUE STACK UP AND THROUGH WALL. PROVIDE MANUFACTURER'S RECOMMEND TERMINATION CAP.
11. INSULATED 6" DIAMETER (STAINLESS STEEL) COMBUSTION AIR INTAKE PIPE. ROUTE COMBUSTION AIR INTAKE AND EXHAUST FLUE PER 2006 INTERNATIONAL FUEL GAS CODE AND PER MANUFACTURERS RECOMMENDATIONS. PROVIDE MINIMUM 10' DISTANCE BETWEEN INTAKE AND EXHAUST OR LOCATE COMBUSTION AIR TERMINATION MIN 3 FT UNDER THE VENT TERMINATION.
12. AIR AND DIRT SEPARATOR. PROVIDE INDEPENDENT SUPPORT FROM EXISTING STEEL. REFER TO PIPING DIAGRAM ON SHEET M6.01 FOR FURTHER DETAIL.
13. CHEMICAL SHOT FEEDER. REFER TO PIPING DIAGRAM ON SHEET M6.01 FOR FURTHER DETAIL. PROVIDE MISCELLANEOUS STEEL SUPPORT AS REQUIRED.
14. HOT WATER HEATING SUPPLY AND RETURN DOWN TO FIRST FLOOR CEILING AND DEMINERALIZATION UNIT PIPING CONNECTIONS. COORDINATE ROUTING WITH EXISTING CONDITIONS. REFER TO SHEET M3.10F FOR CONTINUATION.
15. NEW GLYCOL FILL SYSTEM. REFER TO THE PIPING DIAGRAM FOR FURTHER DETAIL. BEFORE INTRODUCING GLYCOL TO THE HOT WATER HEATING SYSTEM CONTRACTOR IS RESPONSIBLE TO DRAIN AND PERFORM FLUSHING AND CLEANING OF THE ENTIRE SYSTEM.
16. 6 GAS. REFER TO "NATURAL GAS PIPING DIAGRAM" FOR WORK SCOPE.



SCALE: 1/4" = 1' - 0"



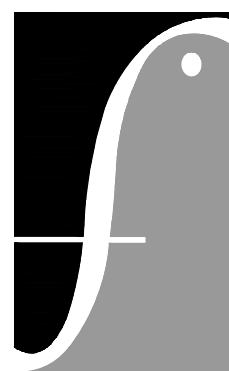
SCALE: 1/4" = 1' - 0"

ISSUE DATE	ISSUED FOR
5/26/2017	BID DOCUMENTS
DRAWN	ZAV
CHECKED	GRN
APPROVED	RNR



PBA
Peter Basso Associates Inc.
CONSULTING ENGINEERS

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PBA Project No. 2016-0105



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Rochester Community
Schools
Adams High School
Remodel

1 SHEET

2015-074

SHEET NUMBER

M5.02

g:\2016\2016-0105-00\CAD\2016-0105-M7-SH.dwg, M7.05, 6/2/2017 10:22:18 AM, Jason E. Flint, Peter Bosso Associates Inc.

FUEL FIRED POOL WATER HEATER SCHEDULE													
UNIT IDENTIFICATION	LOCATION	STORAGE CAPACITY GALLONS	FUEL TYPE	FIRING RATE MBH	RECOVERY GPH	E.W.T. °F	L.W.T. °F	MODULATION/CONTROL TYPE	ELECTRICAL			MODEL NUMBER	REMARKS
									VOLTS	PHASE	OPTIONS/ACCESSORIES		
PWH-1N	MECHANICAL F100	---	NAT GAS @ 14" W.C. MAX. /3.5" MIN.	1,050	1967	40	100	AUTO	115	1	---	MNR1050	COMPLETE WITH DOUBLE-WALL S.S. HEX FOR POOL WATER

NOTE:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE PATTERSON-KELLY-HARSCO, UNLESS OTHERWISE NOTED.

FUEL FIRED DOMESTIC WATER HEATER SCHEDULE													
UNIT IDENTIFICATION	LOCATION	STORAGE CAPACITY GALLONS	FUEL TYPE	FIRING RATE MBH	RECOVERY GPH	E.W.T. °F	L.W.T. °F	MODULATION/CONTROL TYPE	ELECTRICAL			MODEL NUMBER	REMARKS
									VOLTS	PHASE	OPTIONS/ACCESSORIES		
DWH-1N	MECHANICAL F100	318	NAT GAS @ 14" W.C. MAX. /3.5" MIN.	1,050	1148	40	140	AUTO	115	1	---	MNR1050	COMPLETE WITH DOUBLE-WALL S.S. HEX
DWH-2N	MECHANICAL F100		NAT GAS @ 14" W.C. MAX. /3.5" MIN.	1,050	1148	40	140	AUTO	115	1	---	MNR1050	COMPLETE WITH DOUBLE-WALL S.S. HEX
DWH-3N	BOILER ROOM M104	500	NAT GAS @ 14" W.C. MAX. /3.5" MIN.	750	820	40	140	AUTO	115	1	---	MNR750	COMPLETE WITH DOUBLE-WALL S.S. HEX

NOTE:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE PATTERSON-KELLY-HARSCO, UNLESS OTHERWISE NOTED.

HOT WATER HEATING COIL SCHEDULE																
UNIT IDENTIFICATION	AREA SERVED	MAXIMUM NUMBER ROWS	MAXIMUM FIN DENSITY FINS/INCH	CAPACITY MBH	AIR				MINIMUM FACE AREA SQ. FT.	WATER (30% EG)				CONTROL VALVE W.P.D. FT. HD.	MODEL NUMBER	REMARKS
					AIRFLOW CFM	E.D.B. °F	L.D.B. °F	MAXIMUM A.P.D. IN. W.G.		FLOW GPM	E.W.T. °F	L.W.T. °F	MAXIMUM W.P.D. FT. HEAD			
HC-1N	K203	1	10	26.5	800	50	80.3	0.15	1.3	1.5	200	162.1	1.1	11.55	5BS1001B	
HC-2N	K205	1	10	38.9	1000	50	85.6	0.16	2.0	2.0	200	158.2	2.0	11.55	5BS0901C	
HC-3N	K208	1	10	17.3	400	50	89.6	0.12	1.0	1.0	200	162.8	0.4	11.55	5BS1101C	
HC-4N	K207	1	10	15.9	380	50	88.3	0.11	1.0	0.8	200	159.7	0.3	11.55	5BS1101C	

NOTE:
1. MODEL NUMBERS ARE DAIKIN UNLESS OTHERWISE NOTED.
2. COIL SELECTION BASED ON .00025 FOULING FACTOR.
3. COIL SELECTIONS SHALL BE BASED ON 30% ETHYLENE GLYCOL SOLUTION.

EXPANSION TANK SCHEDULE													
UNIT IDENTIFICATION	SYSTEM SERVED	ESTIMATED TOTAL SYSTEM VOLUME GALLON	TYPE	OPERATING PRESSURE		OPERATING TEMPERATURE		TANK VOLUME GALLON	ACCEPTANCE VOLUME GALLON	DIMENSIONS		MODEL NUMBER	REMARKS
				MINIMUM PSIG	MAXIMUM PSIG	MINIMUM °F	MAXIMUM °F			DIAMETER INCHES	HEIGHT INCHES		
ET-1N	HWH	500	BLADDER	—	50	40	180	44	27	20	40	B-165LA	
ET-2N	DWH-1N & 2N	475	DIAPHRAGM	50	100	40	140	12.5	10	16.25	16.5	PTA-30V	

NOTE:
1. MODEL NUMBERS ARE BELL & GOSSETT UNLESS OTHERWISE NOTED.

HOT WATER CABINET UNIT HEATER SCHEDULE																							
UNIT IDENTIFICATION	CAPACITY MBH	AIR			FAN		WATER (30% EG)				CONTROL VALVE W.P.D. FT. HEAD	DIMENSIONS			RECESS DEPTH INCHES	FILTER		MODULATION / CONTROL TYPE	ELECTRICAL			MODEL NUMBER	REMARKS
		AIRFLOW CFM	E.D.B. °F	L.D.B. °F	HP	RPM	FLOW GPM	E.W.T. °F	L.W.T. °F	MAXIMUM W.P.D. FT. HEAD		LENGTH INCHES	HEIGHT INCHES	DEPTH INCHES		TYPE	AREA SQ. FT.		VOLTS	PHASE	OPTIONS / ACCESSORIES		
CUH-1N	44.1	1060	60	98.3	1 ♂ 1/10 1 ♂ 1/15	1050	2.5	180	140	1	11.55	66	25	9.5	9.5	THROW AWAY	3.1	AUTO	115	1	B	RC-1200-10	

NOTE:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE STERLING UNLESS OTHERWISE NOTED.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE									
UNIT IDENTIFICATION	TYPE	FACE SIZE	NECK SIZE	FRAME TYPE	ACCESSORY	CONSTRUCTION	FINISH	MODEL NUMBER	REMARKS
S-1	DIFFUSER	24x24	SEE PLANS	LAY IN	----	STEEL	WHITE	OMNI	
S-2	DIFFUSER	NECK SIZE + 1 3/4"	SEE PLANS	SURFACE MOUNT	----	ALUMINUM	WHITE	300RL	
R-1	GRILLE	24x24	22x22	LAY IN	----	STEEL	WHITE	PAR	
R-2	GRILLE	24x12	22x10	LAY IN	----	STEEL	WHITE	PAR	
R-3	GRILLE	SEE PLANS	SEE PLANS	SURFACE MOUNT	----	STEEL	SELECTED BY ARCH	DETAIL ON SHEET M6.05	
E-1	GRILLE	24x24	SEE PLANS	LAY IN	----	STEEL	WHITE	PAR	
E-4	GRILLE	NECK SIZE + 1 1/4"	SEE PLANS	SURFACE MOUNT	----	ALUMINUM	WHITE	350RL	

NOTE:
1. MODEL NUMBERS ARE TITUS UNLESS OTHERWISE NOTED.
2. FIELD MEASURE EXISTING GRILLE SIZE AND PROVIDE SAME SIZE.

AIR & DIRT SEPARATOR SCHEDULE						
INLET/OUTLET PIPE SIZE (INCHES)	MAX SYSTEM FLOW (GPM)	MAX PRESSURE DROP CLEAN (FT HD)	MIN. BUNDLE REMOVAL CLEARANCE NOTE 3 (INCHES)	OPERATING WEIGHT (LBS)	TYPE	MODEL NUMBER
6	375	1.30	25	400	STANDARD VELOCITY / AIR & DIRT	VDN 600 FA

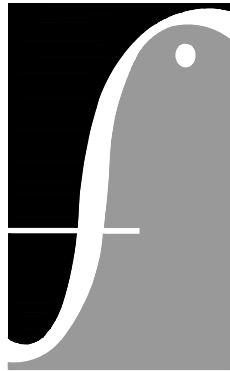
NOTE:
1. MODEL NUMBERS ARE SPIROTERM UNLESS OTHERWISE NOTED.
2. SEPARATOR FLANGE CONNECTION MUST BE A MINIMUM OF THE PIPE DIAMETER SIZE OF WHICH THE SEPARATOR IS INSTALLED.
3. MINIMUM BUNDLE REMOVAL CLEARANCE IS MEASURED FROM CENTERLINE OF INLET/OUTLET PIPING. PROVIDE CLEARANCE BELOW UNIT TO DIMENSION LISTED TO ALLOW REMOVAL OF HEAD AND ELEMENT BUNDLE.
4. REFER TO PUMP SCHEDULE FOR SYSTEM FLOW.

VARIABLE SPEED DRIVE SCHEDULE				
MARK	PUMP ID	SYSTEM SERVING	MOTOR HP	REMARKS
VSD-1N	CP-3N	HWH	7.5	
VSD-2N	CP-4N	HWH	7.5	

KEY PLAN

ISSUE DATE	ISSUED FOR
5/26/2017	BID DOCUMENTS
DRAWN	ZAV
CHECKED	GRN
APPROVED	RNR


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PROJECT

Rochester Community Schools
Adams High School Remodel

Rochester Hills, Michigan

SHEET

MECHANICAL SCHEDULES

PROJECT NUMBER

2015-074

SHEET NUMBER

M7.05

SECTION 22 3420 - CONDENSING, FUEL-FIRED POOL WATER HEATERS

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Section includes the following:
 - 1. Division 20 Section "Mechanical General Requirements."
 - 2. Division 20 Section "Basic Mechanical Materials and Methods."
 - 3. Division 23 Section "Breechings, Chimneys, and Stacks."

1.2 DEFINITIONS

- A. LP Gas: Liquefied-petroleum fuel gas.

1.3 SUBMITTALS

- A. Product Data: For each type and size of water heater indicated. Include rated capacities, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: Detail water heater assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection
 - 1. Wiring Diagrams: Power, signal, and control systems. Differentiate between manufacturer-installed and field-installed wiring.
- C. Product Certificates: For each type of water heater, signed by product manufacturer.
- D. Source quality-control test reports.
- E. Field quality-control test reports.

- F. Operation and Maintenance Data: For water heaters to include in operation and maintenance manuals.
- G. Warranty: Warranty specified in this Section.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain same type of water heaters through one source from a single manufacturer.
- B. Product Options: Drawings indicate size, profiles, and dimensional requirements of water heaters and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a NRTL acceptable to authorities having jurisdiction, and marked for intended use.
- D. ASME Compliance:
 - 1. Where ASME-code construction is indicated, fabricate and label commercial, finned-tube water heaters to comply with ASME Boiler and Pressure Vessel Code: Section IV.
- E. ASHRAE Standards: Comply with performance efficiencies prescribed for the following:
 - 1. ASHRAE 90.1, "Energy Efficient Design of New Buildings except Low-Rise Residential Buildings," for commercial water heaters.
- F. Comply with NSF 61, "Drinking Water System Components - Health Effects; Sections 1 through 9" for all components that will be in contact with potable water.

1.5 COORDINATION

- A. Coordinate size and location of concrete bases with Architectural and Structural Drawings.

1.6 WARRANTY

- A. Warranty Period(s): From date of Substantial Completion:
 - 1. Commercial, Gas Water Heaters: One year.
 - a. Controls and Other Components: One year.
 - 1) Compression Tanks: One year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. This Section includes skid packaged, by the manufacture of the boiler and controls package equipment factory fabricated and assembled, gas-fired condensing boilers, trim, primary boiler recirculation pumps, system efficiency buffer tanks accessories and associated interconnecting piping, drain piping, combustion air intakes, exhausts, power

wiring and controls wiring and controls into skid-mounted packages for generating hot water for pool heating.

2.2 MODULAR CONDENSING BOILER AND POOL WATER HEAT EXCHANGER SYSTEM

- A. Description: Factory-fabricated, -assembled, and -tested, modular aluminum condensing boiler with heat exchanger sealed pressure tight, built on a steel base; including insulated jacket; flue-gas vent; combustion-air intake connections; water supply, return, and condensate drain connections and controls. Water heating and domestic hot water service. Unit shall include a domestic hot water package (used for pool water heating), including pressure vessel, stainless steel heat exchanger with trim, service isolation valves, pump, control system, and all related components, accessories and appurtenances as herein specified shall all be assembled and furnished by the boiler manufacturer. The boiler manufacturer shall provide unit responsibility for the engineering, coordination, workmanship, performance, warranties, and all field services for each factory "packaged" system as specified herein. The boiler manufacturer shall be fully responsible for all components assembled and furnished by him whether or not they are of his own manufacture.
- B. Each heat exchanger included in the fabricated package shall be provided with all necessary inlet and outlet connections for boiler water and domestic water with all accessories as follows:
1. One (1) Pool water supply outlet 2" Stainless steel threaded pipe
 2. One (1) Pool water return inlet 2" Stainless steel threaded pipe
 3. One (1) Boiler water supply outlet 2" Black steel threaded pipe or grooved adapter
 4. One (1) Boiler water return inlet 2" Black steel threaded pipe or grooved adapter
 5. One (1) Electrical control panel connection with sensors/thermistor
 6. Two (2) Drain valve connections 3/4" size, FPT for drain and simple cleaning of exchanger
 7. One (1) Boiler water "ALL BRONZE" bronze pump selected per model
 8. One (1) Pool water "ALL STAINLESS STEEL" pump selected per model
 9. Required sensor and wells integral to the control sequence and monitoring required
 10. One (1) Manual reset high temperature control
 11. One (1) Pressure gauge for hydronic and pool system
- C. Manufacturers: Subject to compliance with requirements, provide packaged system by one of the following:
1. Patterson-Kelley Co./a Harsco Co.; P-K Mach "N" Roll Series.
- D. Condensing boiler shall comply with requirements in Specification Section 23 5216-3.
- E. The Domestic Hot Water Heat Exchanger shall comply with ASME Section VIII for 150 PSIG (max 210° F) (used for pool water heating).
- F. System relief valve setting (included with the hydronic system design) shall be 50 PSIG.
- G. Power voltage shall be 120 VAC, 1-phase 60 hertz. Control voltage shall be 120 VAC (transformer to be supplied by manufacturer if required).

2.3 EXPANSION TANKS

- A. Description: Steel, pressure-rated tank constructed with welded joints and factory-installed, butyl-rubber diaphragm. Include air precharge to minimum system-operating pressure at tank.
1. Construction:

- a. Tappings: Factory-fabricated steel, welded to tank before testing and labeling. Include ASME B1.20.1 pipe thread.
- b. Interior Finish: Comply with NSF 61 barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets.
- c. Air-Charging Valve: Factory installed.

2. Capacity and Characteristics: Integral with packaged system.

2.4 WATER HEATER ACCESSORIES

- A. Gas Shutoff Valves: ANSI Z21.15/CGA 9.1, manually operated. Furnish for installation in piping.
- B. Gas Pressure Regulators: ANSI Z21.18, appliance type. Include pressure rating, capacity, and pressure differential required between gas supply and water heater.
- C. Gas Automatic Valves: ANSI Z21.21, appliance, electrically operated, on-off automatic valve.
- D. Pressure Relief Valves: Include pressure setting less than working-pressure rating of water heater.
 1. Gas Water Heaters: ANSI Z21.22/CSA 4.4.
- E. Water Heater Stand: Water heater manufacturer's factory-fabricated steel stand (skid) for floor mounting and capable of supporting water heater and water.
- F. Flue Side Condensate Neutralizer:
 1. Description: Designed to raise the PH level of flue side condensate to near neutral prior to condensate entering the sanitary drainage system.
 2. Materials: Neutralizer constructed of PVC pipe and fittings mounted on channel strut base with galvanized or stainless steel clamps and hardware; and charged with calcium carbonate.
 3. Manufacturers:
 - a. BKI Industries, Inc.; Acid Neutralizer Kits.
 - b. J.J.M. Boiler Works; JM Neutralizing Tubes.
 - c. Any of the approved water heater manufacturers.

PART 3 - EXECUTION

3.1 WATER HEATER INSTALLATION

- A. Install water heater level and plumb, according to layout drawings, original design, and referenced standards. Maintain manufacturer's recommended clearances. Arrange units so controls and devices needing service are accessible.
- B. Install gas water heaters according to NFPA 54.
- C. Install gas shutoff valves on gas supplies to gas water heaters without shutoff valves.
- D. Install gas pressure regulators on gas supplies to gas water heaters without gas pressure regulators if gas pressure regulators are required to reduce gas pressure at burner.
- E. Install automatic gas valves on gas supplies to gas water heaters, if required for operation of safety control.

- F. Install water heater drain piping as indirect waste to spill by positive air gap into open drains or over floor drains. Install hose-end drain valves at low points in water piping for water heaters that do not have tank drains. Refer to Division 20 Section "Valves" for hose-end drain valves.
- G. Install thermometer on outlet piping of water heaters. Refer to Division 20 Section "Meters and Gages" for thermometers.
- H. Install pressure gage(s) on inlet and outlet piping of commercial, fuel-fired water heater piping. Refer to Division 20 Section "Meters and Gages" for pressure gages.
- I. Fill water heaters with water.
- J. Install expansion tanks with isolation and drain valves. Charge expansion tanks with air.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 20 and 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to water heaters to allow service and maintenance. Arrange piping for easy removal of water heaters.
- C. Connect vent to full size of water heater flue outlet. Refer to Division 23 Section "Breechings, Chimneys, and Stacks" for venting materials.
- D. Ground equipment according to Division 26 Section "Grounding and Bonding."
- E. Connect wiring according to Division 26 Section "Conductors and Cables."
- F. Each fabricated package shall be provided with all necessary inlet and outlet connections for boiler water and domestic water with all accessories for each separate heat exchanger as follows:
 - 1. One (1) Pool water supply outlet (2" Stainless Steel threaded pipe)
 - 2. One (1) Pool water return inlet (2" Stainless Steel threaded pipe)
 - 3. One (1) Boiler water supply outlet (2" Black steel threaded pipe or grooved adapter)
 - 4. One (1) Boiler water return inlet (2" Black steel threaded pipe grooved adapter)
 - 5. One (1) Condensate drain (3/4" flexible tubing from condensate trap)
 - 6. Two (2) Drain valve connections (3/4" size, FPT for drain and simple cleaning of exchanger)
 - 7. One (1) Flue connection (8" for Category IV certified vent materials)
 - 8. One (1) Combustion air inlet (6" for Stainless Steel)
 - 9. One (1) Main gas connection (1" FPT for Natural Gas)
 - 10. One (1) Incoming power junction box (120VAC, 1 Phase, 60 Hz)

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing.
- B. Perform the following field tests and inspections and prepare test reports:
 - 1. Leak Test: After installation, test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Operational Test: After electrical circuitry has been energized, confirm proper operation.
 - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

- C. Remove and replace water heaters that do not pass tests and inspections and retest as specified above.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain water heaters. Refer to Division 20 Section "Mechanical General Requirements."

END OF SECTION 22 3420