



Notice of Addendum No.1

Date of Addendum No.1: March 17, 2023

Arlington Public Schools
Procurement Office

Invitation to Bid 14FY23

Invitation to Bid Title: Water Testing and Treatment Services for HVAC Systems

Invitation to Bid Number: 14FY23

Invitation to Bid Issue Date: March 03, 2023

Pre-Bid Conference: A Pre-Bid Conference will not be held for this Solicitation

Bid Closing Date/Time: March 28, 2023, No Later Than 11:59 P.M. (Local Prevailing Time)

Bid Opening Date/Time: March 29, 2023, at 10:00 A.M. (Local Prevailing Time)

Procurement Office Representative: Carolina Sorto, Procurement Specialist
(703) 228-6193, carolina.sorto@apsva.us

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- **Modifications to the ITB:** The following information is provided to help bidders submit a bid in response to Bid 14FY23.
 - **Q1.** Do you have aluminum boilers?
 - A1.** Gunston Middle School is the only location with an aluminum boiler. See modifications in Scope of Work Section 1.5 Modifications are highlighted in red for additions and black for deletions.

Scope of Work

The Contractor shall provide all supervision, labor, tools, equipment, transportation, and permits required for the complete and satisfactory performance of the Work. No “portal-to-portal” charges or fuel surcharges are permitted under the awarded Contract.

1.0 Services:

- 1.1 The Contractor shall provide Water Testing and Treatment Services for HVAC Systems listed in Sections 1.13 and 1.14 below. Frequency of the testing shall be monthly. Treatment shall be done during Operating Months. Results of the testing and any treatments will be provided in a report to Maintenance Services each month.
- 1.2 The Contractor will ensure that the mechanical equipment (cooling towers, boilers, pumps, condensers and other related equipment) is protected from pitting, scaling, corrosion and chemical action, thereby lengthening the life of the equipment.
- 1.3 The Contractor shall provide portable kits for sampling and testing of boiler and cooling tower water for each building sufficient to perform testing for each unit so the local treatment levels can be checked periodically by APS representatives. These kits shall be furnished, at each location, without additional cost to APS, and the Contractor shall also provide, without additional cost, replenishment chemicals for this kit as necessary.
- 1.4 APS reserves the right to sample water and have analysis performed by an independent testing laboratory at any time during the contract period. Should the water not prove to be within the tolerance and specification stated herein, the cost shall be the Contractors. Any costs incurred by APS in correcting the deficiencies shall be debited to the account of the Contractor.
- 1.5 The Contractor will maintain the water within the equipment listed in Sections 1.13 and 1.14 in a stable condition, consistent with efficient heat transfer by monthly inspection and automatic metered introduction of chemical water treatment. The following two tables shows the preferred operational range and testing criteria for various parameters.

SYSTEM	Conductivity (uS)	PTSA (ppb)	Cycles of Conc.	Nitrite (ppm)	Molybdate (ppm)	Sulfite (ppm)	Hydroxyl and Total Alkalinity (ppm)	PH	ATP (RLU's)	Total Aerobic Bacteria (CFUs)
Cooling Towers	1000-1300	50-120	3-5	N/A	N/A	N/A	N/A	7-9	<300	Less than 10,000
Low Pressure Steam Boilers	2000-2500	N/A	N/A	N/A	N/A	40-80	OH: 200-500 Total: 400-700	10-12	N/A	N/A
Closed Systems	1500-3000	N/A	N/A	400-1500	40-120	N/A	N/A	8-10.5	<200	Less than 10,000

Water Quality Standards for Boilers with Aluminum Heat Exchanger:

Water Quality Standards for Peak Efficiency	
pH	6.5 to 8.5 (6.5-9*)
Alkalinity	<300 ppm
Copper	<3 ppm
Iron	<20ppm
Aluminum	<3ppm
TSS	<20 ppm
Chlorides	<100 ppm
Hardness	<200 ppm
Conductivity	<3000 uS/cm
Filtration Rate	10 microns

***Stainless (Do not use softened water)**

1.6 Water treatment chemicals will be automatically injected into some Open Loop – Cooling Tower systems. The chemical feed systems will automatically dispense a scale and corrosion inhibitor that alternate the feed of two different EPA registered biocides to prevent immunity buildup by bacteria. A microprocessor controller shall control the towers with conductivity control, to include dual biocide, a selectable feed timer and flow switch, three chemical feed pumps and solenoid bleed valve, and a feed tank for inhibitor.

1.6.1 Some Closed Loop systems have hot and chilled water in the same loop and utilize the existing chemical feed by-pass piping for each closed loop or use a force pump method for addition of chemicals where necessary.

- 1.6.2 All chemicals used for water treatment will be reimbursed at Contractors actual invoiced cost with no markup.

Water Treatment Equipment in APS Open Loops

School	Chemical & Biocide Feed Pumps	# Of Conductivity Controllers	# Of Solenoids	Notes
Ashlawn	1	1	1	
Claremont	3	N/A	1	Not installed – closed circuit Cooling Tower (CT)
Drew	3	1	1	
Gunston	4	1	1	
Jamestown	1	1	1	
Jefferson	6	2	2	2 CTs
Kenmore	6	2	2	2 CTs
Montessori Public School of Arlington	1	1	1	
Washington Liberty	1	1	1	
Yorktown	6	2	2	New CT and old CT

- 1.7 Should scaling occur in any system, APS may request chemical or mechanical cleaning to be done in accordance with the additional services listed in Items 5 through 10 of the Appendix 3. APS reserves the right to perform this work in house.
- 1.8 All systems with glycol shall be tested after September 1 of each year and the results reported to the HVAC Supervisor in writing and included in the monthly report prior to October 15 for the protection level of 30% glycol and 0 degrees Fahrenheit. The Contractor shall add additional glycol (uninhibited ethylene glycol which is compatible with the corrosion inhibitors used) as directed by the HVAC Supervisor in writing and in accordance with the schedule of services herein. The Contractor shall also test and report in writing to both the HVAC Supervisor and in the monthly report to Maintenance Services, the protection levels (degree Fahrenheit protection and % of glycol) in the systems where additional glycol was added within fifteen (15) days of the addition of glycol during that preheating season. APS reserves the option of changing the level of protection needed in any of its buildings. Such a change may be in level of protection needed (more or less) and in whether or not any protection is needed. Such a change will be provided to the Contractor in writing by APS.
- 1.9 Contractor shall provide documentation with their Bid that certifies the chemicals and services provided are ISO 9001 compliant.
- 1.10 Laboratory facilities used for testing shall be equipped for all EPA water quality standards analysis.
- 1.11 Scheduling of all work will be coordinated with the APS Maintenance Supervisor.
- 1.12 The following definitions will apply to this ITB:

- 12.1 BTU: British Thermal Unit
- 12.2 CHW: Chilled Water
- 12.3 CT: Cooling Tower
- 12.4 DX: Direct Expansion
- 12.5 HP: Horsepower
- 12.6 HW: Hot Water
- 12.7 HX: Heat Exchanger
- 12.8 MBH: Million BTU Per Hour
- 12.9 RTU: Roof Top Unit
- 12.10 SWHP: Water Source Heat Pump
- 12.11 WC: Water Cooled

1.13 Cooling System Equipment and Location

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	Chiller Type	# Of Chillers & # Tons Each	# Of Chilled Water Pumps & GPM of Each	Glycol In System	# Of Closed Loop Condenser Water Pumps & GPM of Each	# Of Cooling Towers & # Tons of Each	# Of Cooling Tower Pumps & # GPM of Each	Remarks	Operating Months
Abingdon Elementary 3035 S. Abingdon Street Arlington, VA. 22206	88,413	12	None	None	None	NO	None	None	None	2 Pipe HW & DX Cooling	12
Alice West Fleet Elementary 115 S. Old Glebe Road Arlington VA. 22204	11,538	12	None	None	None	N/A	3 Building pumps 2 Geothermal field pumps	None	None	Ground Source	12
Arlington Career Center 816 S. Walter Reed Drive Arlington, VA. 22204	165,000	N/A	N/A	2	2	NO	N/A	N/A	N/A	N/A	8
Arlington Community H.S. 800 S. Walter Reed Drive Arlington VA. 22204	24,149	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	N/A	N/A
Arlington Science Focus 1501 N. Lincoln Street Arlington, VA. 22201	68,127	12	Air Cooled	(1) 105	(2) 284	NO	N/A	N/A	N/A	4 Pipe	8
Arlington Traditional 1030 N. McKinley Road Arlington, VA. 22205	62,122	12	N/A	N/A	N/A	NO	N/A	N/A	N/A	2 Pipe HW & DX	N/A
Ashlawn Elementary 5950 N. 8 TH Road Arlington, VA. 22205	68,995	12	N/A	N/A	N/A	NO	(2) 450	(1) 150	(1) 450	Most WSHP Some 2 Pipe HW/DX	12

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	Chiller Type	# Of Chillers & # Tons Each	# Of Chilled Water Pumps & GPM of Each	Glycol In System	# Of Closed Loop Condenser Water Pumps & GPM of Each	# Of Cooling Towers & # Tons of Each	# Of Cooling Tower Pumps & # GPM of Each	Remarks	Operating Months
Barcroft Elementary 625 S. Wakefield Street Arlington, VA. 22204	77,940	14	Air Cooled	(1) 100	N/A	YES	N/A	N/A	N/A	4 Pipe, Some DX	8
Barrett Elementary 4401 N. Henderson Road Arlington, VA. 22204	77,696	12	Air Cooled	(1) 243	(2) 611 (2) 135	YES	N/A	N/A	N/A	4 Pipe	8
Campbell Elementary 737 S, Carlin Springs Rd. Arlington, VA. 22206	71,919	12	Air Cooled	(1) 146	(1) 345	NO	N/A	N/A	N/A	4 Pipe Some DX	8
Cardinal Elementary 1644 N. McKinley Road Arlington VA. 22207	N/A	N/A	N/A	N/A	N/A	2 loops of Glycol	N/A	N/A	N/A	3 Loops, 2 Glycol and 1 non Glycol	12
Carlin Springs Elementary 5995 S. 5 TH Road Arlington, VA. 22204	86,745	12	Air Cooled	(1) 140	(2) 415	NO	N/A	N/A	N/A	4 Pipe	8
Claremont Elementary 4700 S. Chesterfield Road Arlington, VA. 22204	76,038	12	N/A	(1) 80	(2) 190	NO	(2) 380	(1) Closed Loop at CT	(1) 380	Mix: 4 Pipe & WSHP & Chiller	12
Discovery Elementary 5241 36 th Street North Arlington VA. 22207	97,588	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	Closed Geothermal Loop	12
Dorothy Hamm Middle School 4100 Vacation Lane Arlington, VA. 22207	142,649	16	Air Cooled	(1) (2) 80 Each	(1)	NO	N/A	N/A	N/A	4 Pipe	8

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	Chiller Type	# Of Chillers & # Tons Each	# Of Chilled Water Pumps & GPM of Each	Glycol In System	# Of Closed Loop Condenser Water Pumps & GPM of Each	# Of Cooling Towers & # Tons of Each	# Of Cooling Tower Pumps & # GPM of Each	Remarks	Operating Months
Dr. Charles Drew Elementary 3500 S. 23 RD Street Arlington, VA. 22206	100,815	14	1 Screw WC 1 Screw AC	(1) 136 (1) 140	(1) (1) 334	NO	N/A	N/A	(2) 400	4 Pipe	8
Education Center 1426 N. Quincy Street Arlington, VA. 22207	60,530	16	N/A	N/A	N/A	Yes 2 Glycol loops	N/A	1	N/A	2 closed Glycol loops and 1 open Loop	12
Glebe Elementary 1770 N. Glebe Road Arlington, VA. 22207	82,349	12	Air Cooled	(1) 185	(2) 531	NO	N/A	N/A	N/A	4 Pipe	8
Gunston Middle School 2700 S. Lang Street Arlington, VA. 22206	209,212	16	N/A	N/A	N/A	NO	N/A	N/A	N/A	2 Pipe HW, DX & WSHP	12
Hoffman-Boston Elementary 1415 S. Queen Street Arlington, VA. 22204	108,135	16	Air Cooled	(1) 130	(2) 410	NO	N/A	N/A	N/A	4 Pipe + DX	8
Innovation Elementary 2300 Key Boulevard Arlington, VA. 22201	84,437	12	Air Cooled	(1) 160 (2)	(1) 385 (2) 180	NO	N/A	N/A	N/A	2 Pipe & 4 Pipe HW, CHW	8
Jamestown Elementary 3700 N. Delaware Street Arlington, VA. 22207	75,899	12	Air Cooled	(1) 60	(2) 160	YES (CHW)	(7) 7	(1) 105	(1)	Mix: 4 Pipe & WSHP & Tower	CHW = 8 WSHP = 12
Jefferson Middle School 125 S. Old Glebe Road Arlington, VA. 22204	233,728	16	WC Centrifugal	(2) 400	(2)	NO	N/A	(2) 400	(2) 1260	4 Pipe	12

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	Chiller Type	# Of Chillers & # Tons Each	# Of Chilled Water Pumps & GPM of Each	Glycol In System	# Of Closed Loop Condenser Water Pumps & GPM of Each	# Of Cooling Towers & # Tons of Each	# Of Cooling Tower Pumps & # GPM of Each	Remarks	Operating Months
Kenmore Middle School 200 S. Carlin Springs Road Arlington, VA. 22204	204,000	14	WC Centrifugal	(2) 335	(2) 2070	YES	N/A	(2) 310	(2) 930	4 Pipe (With Water Side Economizer)	12
Key Elementary 855 N. Edison Street Arlington, VA. 22205	77,261	12	Air Cooled	(1) 200	(2) 570	NO	N/A	N/A	N/A	4 Pipe	8
Long Branch Elementary 33 N. Filmore Street Arlington, VA. 22201	70,754	12	Air Cooled	(1) 115	(2) 350	NO	N/A	N/A	N/A	4 Pipe	8
Maintenance 2770 S. Taylor Street Arlington, VA. 22206	53,435	14	N/A	N/A	N/A	NO	N/A	N/A	N/A	2 Pipe HW & DX	N/A
Montessori Public School of Arlington 701 S. Highland Street Arlington, VA. 22204	142,649	12	Air Cooled	N/A	N/A	NO	(2) 450	(1) 150	(2) 450	WSHP Boilers & Tower	12
New Directions / Langston High School Continuation 2121 N. Culpepper Street Arlington, VA. 22207	46,786	16	Air Cooled	(1) 140	(2) 350	NO	N/A	N/A	N/A	4 Pipe HW, CHW	8
Nottingham Elementary 5900 Little Falls Road Arlington, VA. 22207	72,655	12	Air Cooled	(1) 125	(3) 390	NO	N/A	N/A	N/A	4 Pipe	8
Oakridge Elementary 1414 S. 24 TH Street Arlington, VA. 22201	79,305	12	Air Cooled	(1) 80	(2) 186	YES (CHW to RTU's)	N/A	N/A	N/A	4 Pipe, some DX	N/A

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	Chiller Type	# Of Chillers & # Tons Each	# Of Chilled Water Pumps & GPM of Each	Glycol In System	# Of Closed Loop Condenser Water Pumps & GPM of Each	# Of Cooling Towers & # Tons of Each	# Of Cooling Tower Pumps & # GPM of Each	Remarks	Operating Months
Randolph Elementary 1306 S. Quincy Street Arlington, VA. 22204	69,636	12	N/A	N/A	N/A	NO	N/A	N/A	N/A	2 Pipe HW DX	N/A
Swanson Middle School 5800 N. Washington Blvd. Arlington, VA. 22207	132,158	14	Air Cooled	(1) 200 (1) 100	(2) 700	NO	N/A	N/A	N/A	4 Pipe Some DX	8
Taylor Elementary 2600 N. Stuart Street Arlington, VA. 22207	78,319	12 (WT on Large Loop)	N/A	N/A	N/A	NO	(2) 467 + (Small Loop Pumps)	N/A	N/A	Ground Source Heat Pump	12
The Heights Building 1601 Wilson Boulevard Arlington, VA. 22201	116,000	N/A	N/A	N/A	N/A	No	N/A	N/A	N/A	Condenser water for Water Cooled VRF	12
Tuckahoe Elementary 6550 N. 26 TH Street Arlington, VA. 22213	73,085	12	N/A	N/A	N/A	NO	N/A	N/A	N/A	2 Pipe HW & DX	N/A
Wakefield High School 4901 S. Chesterfield Road Arlington, VA. 22206	287,000	16	WC Centrifugal	N/A	N/A	NO	N/A	N/A	N/A	N/A	8
Washington Liberty H.S. 1301 N. Stafford Street Arlington, VA. 22201	378,068	16	N/A	(2)	(4)	NO	(2)	N/A	(2)	N/A	8
Williamsburg Middle School 3600 N. Harrison Street Arlington, VA. 22207	163,308	14	Screw	(2) 160	(2)	NO	N/A	N/A	N/A	4 Pipe	8

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	Chiller Type	# Of Chillers & # Tons Each	# Of Chilled Water Pumps & GPM of Each	Glycol In System	# Of Closed Loop Condenser Water Pumps & GPM of Each	# Of Cooling Towers & # Tons of Each	# Of Cooling Tower Pumps & # GPM of Each	Remarks	Operating Months
Yorktown High School 5200 Yorktown Boulevard Arlington, VA. 22207	355,887	16	N/A	(3)	(6)	NO	(6)	(3)	(6)	N/A	8

1.14 Heating System Equipment and Location

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	# of Hot Water Boilers & # MBH of Each	# of Hot Water Pumps & GPM of Each	Glycol In System	Remarks	Operating Months
Abingdon Elementary 3035 S. Abingdon Street Arlington, VA. 22206	88,413	12	(3) 1000	(2) 264	NO	2 Pipe HW/DX	8
Alice West Fleet Elementary 115 S. Old Glebe Road Arlington VA. 22204	N/A	N/A	N/A	N/A	N/A	See cooling	Ground source Heat pumps
Arlington Career Center 816 S. Walter Reed Drive Arlington, VA. 22204	165,000	18	2 (3100)	2 (500)	No	4 Pipe	12
Arlington Community H.S. 800 S. Walter Reed Drive Arlington VA. 22204	N/A	N/A	N/A	N/A	No	No boiler or chilled water systems in building	12
Arlington Science Focus 1501 N. Lincoln Street Arlington, VA. 22201	68,127	12	(3) 1900	(2) 300	NO	4 Pipe	8
Arlington Traditional 855 N. Edison Street Arlington, VA. 22205	62,122	12	(2) 2009	(2) 250	YES (HW from HX to RTU's)	2 Pipe HW/DX	8
Ashlawn Elementary 5950 N. 8 TH Road Arlington, VA. 22205	68,995	12	(2) 1570	(2) 265	NO	WSHP 2 Pipe HW/DX	12
Barcroft Elementary 625 S. Wakefield Street Arlington, VA. 22204	77,940	14	(2) 2716	(2)	YES	4 Pipe & DX	8
Barrett Elementary 4401 N. Henderson Road Arlington, VA. 22204	77,696	12	(1) 3361	(2) 105 (2) 515	YES	4 Pipe	8

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	# of Hot Water Boilers & # MBH of Each	# of Hot Water Pumps & GPM of Each	Glycol In System	Remarks	Operating Months
Campbell Elementary 737 S, Carlin Springs Road Arlington, VA. 22206	71,919	12	(2)	(2) 220	NO	4 Pipe & DX	8
Cardinal Elementary 1644 N. McKinley Road Arlington VA. 22207	N/A	N/A	N/A	N/A	Yes, see cooling system	Geothermal Heat Pumps	12
Carlin Springs Elementary 5995 S. 5 TH Road Arlington, VA. 22204	86,745	12	(3) 1500	(2) 613 secondary	NO	4 Pipe	8
Claremont School 4700 S. Chesterfield Road Arlington, VA. 22204	76,038	12	(2) 1620	(2) 250	NO	4 Pipe & WSHP	8
Discovery Elementary 5241 36 th Street North Arlington VA. 22207	N/A	N/A	N/A	N/A	No	Geothermal Heat pumps	12
Dorothy Hamm Middle School 4100 Vacation Lane Arlington, VA. 22207	142,649	16	(2) 2730	(3) 666	NO	4 Pipe	8
Dr. Charles Drew Elementary 3500 S. 23 RD Street Arlington, VA. 22206	100,815	14	(2) 1445	(2) 401	NO	4 Pipe	12
Education Center 1426 N. Quincy Street Arlington, VA. 22207	N/A	N/A	N/A	N/A	Yes, see cooling system	Water Source Heat pumps	N/A
Glebe Elementary 1770 N. Glebe Road Arlington, VA. 22207	82,349	12	(3) 1500	(3) 127	NO	4 Pipe	8

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	# of Hot Water Boilers & # MBH of Each	# of Hot Water Pumps & GPM of Each	Glycol In System	Remarks	Operating Months
Gunston Middle School 2700 S. Lang Street Arlington, VA. 22206	209,212	16	(10) 1000 Lockinvar	(2) 770	NO	2 Pipe HW, DX & WSHP	12
Hoffman-Boston Elementary 1415 S. Queen Street Arlington, VA. 22204	108,135	14	(2) 3340	(2) 495	NO	4 Pipe	8
Innovation Elementary 2300 Key Boulevard Arlington, VA. 22201	84,437	12	(2) 1445	(1) 385 (2) 290	NO	2 Pipe & 4 Pipe	8
Jamestown Elementary 3700 N. Delaware Street Arlington, VA. 22207	75,899	12	(2) 2930 (2) 750	(2) 230	YES (New HW)	New 4 Pipe & WSHP	8
Jefferson Middle School 125 S. Old Glebe Road Arlington, VA. 22204	233,728	16	(5) 2000	(2) 1400 (2) 520	NO	4 Pipe	8
Kenmore Middle School 200 S. Carlin Springs Road Arlington, VA. 22204	204,000	14	(5) 2000	(2) 825	YES	4 Pipe	12
Key Elementary 855 N. Edison Street Arlington, VA. 22205	77,261	12	(1) 2000	(2) 400	NO	4 Pipe	8
Long Branch Elementary 33 N. Filmore Street Arlington, VA. 22201	70,754	12	(2) 1020	(2) 150	NO	4 Pipe	8
Maintenance 2770 S. Taylor Street Arlington, VA. 22206	53,435	14	(1) 3347	(2)	NO	2 Pipe HW & DX	8

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	# of Hot Water Boilers & # MBH of Each	# of Hot Water Pumps & GPM of Each	Glycol In System	Remarks	Operating Months
Montessori Public School of Arlington 701 S. Highland Street Arlington, VA. 22204	142,649	12	(2) 1722	(2) 140	NO	WSHP	8
New Directions / Langston High School Continuation 2121 N. Culpepper Street Arlington, VA. 22207	46,786	16	(3) 1000	(2) 200	NO	4 Pipe	8
Nottingham Elementary 5900 Little Falls Road Arlington, VA. 22207	72,655	12	(2) 2100	(2) 307	NO	4 Pipe	8
Oakridge Elementary 1414 S. 24 TH Street Arlington, VA. 22201	79,305	12	(1)	(2) 375	YES (HX to RTU's)	4 Pipe	8
Randolph Elementary 1306 S. Quincy Street Arlington, VA. 22204	69,636	12	(2) 60 HP	N/A	(2) 300	2 Pipe HW DX	N/A
Swanson Middle School 5800 N. Washington Blvd. Arlington, VA. 22207	132,158	14	(3) 3348	(3) 600	NO	4 Pipe	8
Taylor Elementary 2600 N. Stuart Street Arlington, VA. 22207	78,319	12	N/A	N/A	NO	Ground Source Heat Pump	12
The Heights Building 1601 Wilson Boulevard Arlington, VA. 22201	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tuckahoe Elementary 6550 N. 26 TH Street Arlington, VA. 22213	73,085	12	(3) 700	(2) 188	NO	2 Pipe HW & DX	8

Building or School Name and Address	SQ. FT.	Daily Hours of Operation	# of Hot Water Boilers & # MBH of Each	# of Hot Water Pumps & GPM of Each	Glycol In System	Remarks	Operating Months
Wakefield High School 4901 S. Chesterfield Road Arlington, VA. 22206	287,000	16	N/A	(8) 1400	NO	4 Pipe & DX	8
Washington Liberty H.S. 1301 N. Stafford Street Arlington, VA. 22201	362,673	16	10	1400	NO	HW/CW/DX 4 Pipe	8
Williamsburg Middle School 3600 N. Harrison Street Arlington, VA. 22207	163,308	14	(2) 5230	(2)	NO	4 Pipe	8
Yorktown High School 5200 Yorktown Boulevard Arlington, VA. 22207	355,887	16	10	1500	NO	HW/CW/DX 4 Pipe	8

2.0 Estimates:

All installation and repair work requires the submission of a detailed, written Not to Exceed Cost Proposal (Cost Proposal) from the Contractor.

- 2.1 The Cost Proposals shall be furnished by the Contractor at no charge and are considered an overhead item to be included in the bid amount using the Job Authorization Form (JAF).
- 2.2 The Contractor shall inspect each site upon request within four (4) business days after initial contact from APS, to ascertain the site conditions and work to be performed. Within four (4) business days of visiting the site(s), the Contractor shall be required to provide a Cost Proposal in the form of a detailed JAF for the entire work to be completed in accordance with the Contract requirements and instructions listed in the Contract, Project Manual and/or drawings. The Contractor shall use the JAF to submit its Cost Proposal. The Cost Proposals are to be detailed, outlining the Contract unit prices and materials. All Cost Proposals shall be based on the unit prices provided in the Pricing Schedule. The unit prices will also be used for additions and/or deletions of work identified in the cost proposal. Unit Prices shall include all labor, tools, profit, and, overhead as may be necessary to complete the requested work.
- 2.3 **Unusual Equipment Requirements**
If the project assigned requires the use of rental equipment including by way of illustration and not limitation, boom lifts, scissor lifts and backhoes, the estimated costs of the additional equipment and/or services shall be identified in the Contractor's JAF. If APS accepts the use of rental equipment, the Contractor will be reimbursed for the actual amount of the cost of such equipment with no markup. The Contractor shall make every attempt to obtain the lowest price for rental equipment provided under the Contract. APS reserves the right to have others provide the additional equipment.
- 2.4 Any Cost Proposal greater than \$200,000.00 may be subject to a separate solicitation.

3.0 Materials:

- 3.1 All materials furnished under this Contract shall be new and original manufacturer's recommended or authorized replacement parts. Use of manufacturer's rebuilt parts and/or components shall be authorized by the APS Project Officer and shall carry the same warranty as new parts or components. Use of used parts is strictly prohibited unless specifically authorized by the APS project Officer.
- 3.2 Contractor(s) shall make every attempt to obtain the lowest price for materials provided under the Contract(s).
- 3.3 The Contractor(s) agree that APS may, at its option and sole discretion, provide materials or fixtures to the Contractor(s) for installation by the Contractor(s) at the Contract unit prices.
- 3.4 All Warranties shall be in effect for the entirety of the Warranty Period, or the manufacturer's standard warranty, whichever is longer. In the event corrective work is required during the Warranty Period, the Warranty on the repaired Work shall extend for one (1) year from the date of acceptance by APS of the completed repairs. The Warranty shall include all parts, labor, transportation, and any other costs necessary to keep the product in good operating condition, but shall not be applicable to damage caused by Owner's misuse of the item or due to normal wear and tear. If seasonal limitations prevent any required performance testing of the completed Work, the Warranty Period for such Work shall begin after the performance tests have been successfully performed.
- 3.5 No date other than the date of final acceptance may be established to govern the effective date of the Guaranty, unless that date is agreed upon by APS and the Contractor(s) in a signed Addendum to the Contract.
- 3.6 Standard tools of the trade and trade consumables shall be available to the Contractor's personnel from their service vehicle. Tools of the trade and other trade consumables are not valid Contract expenses. The cost

of consumables (including, by way of illustration and not limitation, solder, caulking, tape, wirenuts, fasteners, gases and other consumable items) are considered administrative expenses. These shall be included as part of the hourly rates bid.

4.0 Personnel:

- 4.1 The Contractor's personnel assigned to any resulting Contract shall be equipped with all tools required to perform the job.
- 4.2 The Contractor shall have sufficient tradesmen available to perform all assigned work under any resulting Contract.
- 4.3 If any person employed on the work by the Contractor shall appear to the APS Project Officer to be incompetent or to act in a disorderly or improper manner, such person shall be removed immediately on the request of the APS Project Officer and shall not again be re-employed (on subject project) except on written consent of the APS Project Officer.
 - 4.3.1 Alcoholic beverages and illegal drugs are prohibited on the job site. Possession of any of these items on the job site by a Contractor's employee will result in immediate removal of the individual from the site.
 - 4.3.2 The use of tobacco is prohibited on APS property by anyone at any time.
- 4.4 APS reserves the right to reject any of Contractor's service personnel who, in APS' judgment, are not adequately qualified to perform the work.
- 4.5 A Contractor's vehicle parked at an APS site other than in a parking space or at on-street parking will be clearly labeled with the Contractor's name.
- 4.6 When entering any APS building, the Contractors' employees shall have picture identification. Identification shall include employees photograph and name. The Contractor's employees are required to check-in at each location with the Main Office or the Building Manager when reporting to the work site. Prior to leaving a site, the Contractor's employees will also be required to check-out with the Main Office and/or the APS Project Officer.

5.0 Critical Response Repairs:

- 5.1 The Contractor shall provide an emergency phone number to APS for service required outside regular business hours. This number shall be monitored and responded to by the Contractor, twenty-four (24) hours a day, seven (7) days a week.
- 5.2 Critical Response Repair work orders may be called in or e-mailed.

End of Scope of Work