

**4<sup>th</sup> AMENDMENT  
TO THE ENERGY SERVICES AGREEMENT  
BY AND BETWEEN  
MAHOMET-SEYMOUR CUSD #3  
AND  
AMERESCO, INC.**

**THIS FOURTH AMENDMENT TO THE ENERGY SERVICES AGREEMENT** (this "Fourth Amendment") is entered into this \_\_\_\_\_ day of January, 2016, by and between Mahomet-Seymour CUSD #3, having its principal place of business located at 1301 S. Bulldog Drive, Mahomet, IL 61853 (hereinafter referred to as "Customer") and Ameresco, Inc., having its principal place of business at 111 Speen Street, Suite 410, Framingham, MA 01701 (hereinafter referred to as "Ameresco"). The parties to this Agreement shall be collectively referred to as the "Parties" and individually as a "Party".

**WHEREAS**, CUSTOMER and Ameresco entered into an Energy Services Agreement dated January 11, 2013 (the "Agreement") under the terms of which Ameresco is to provide services for the design and execution of an energy consumption reduction and facility improvement project ("Project") consisting of certain energy conservation and facility improvement services and installations ("Scope of Services") at Customer's buildings that are described therein (the "Property"); and

**WHEREAS**, the Parties have agreed that an added Scope of Services (the "Additional Scope") shall be provided by Ameresco and that such Additional Scope will result in a corresponding increase in the Contract Cost (hereafter the "Additional Contract Cost") as well as an increase in the Annual Guaranteed Savings Amount (hereafter the "Additional Annual Guaranteed Savings Amount"); and

**WHEREAS**, Customer and Ameresco have mutually determined that such changes, reflected in the Additional Scope, Additional Annual Guaranteed Savings Amount, and Additional Contract Cost are necessary and desirable to them, in this limited instance and that the Agreement should be amended to reflect these changes; and

**WHEREAS**, Section 22 of the Agreement indicates that the Agreement may not be modified or amended except in a writing signed by the Parties;

**NOW, THEREFORE**, in consideration of the mutual promises and agreements contained herein, the Parties hereby agree as follows:

1. Capitalized terms not defined herein shall have the same meaning as those set forth in the Agreement.
2. Attachment B of the Agreement is hereby amended by adding to the existing Scope of Services, the Additional Scope described in Exhibit A-4 which is attached hereto and made a part of this Fourth Amendment.
3. The Additional Contract Cost to be charged for the Additional Scope is **TWO MILLION FIVE HUNDRED SIXTY THOUSAND AND 00/100 DOLLARS (\$2,560,000.00)**. The Contract Cost, as modified by the First, Second, Third, and this Fourth Amendment to

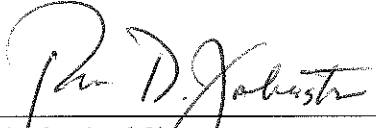
the Agreement, shall now be **THREE MILLION EIGHT HUNDRED TWENTY FIVE THOUSAND NINE HUNDRED FORTY EIGHT AND 00/100 DOLLARS (\$3,825,948.00)**.

4. The Additional Annual Guaranteed Savings Amount associated with the Additional Scope is **TWO HUNDRED FIFTY SIX THOUSAND AND 00/100 DOLLARS (\$256,000.00)**. The Annual Guaranteed Savings Amount set forth in Attachment C of the Agreement as modified by the First, Second, Third, and this Fourth Amendment, shall now be **THREE HUNDRED EIGHTY SEVEN THOUSAND THREE HUNDRED TWENTY EIGHT AND 00/100 DOLLARS (\$387,328.00)**.
5. Attachment C of the Agreement is hereby amended by adding the Fourth Amendment Delivery and Acceptance Certificate set forth in Exhibit B-4 which is attached hereto and made a part of this Fourth Amendment.
6. Attachment D of the Agreement is hereby amended by adding the Fourth Amendment Delivery and Acceptance Certificate set forth in Exhibit C-4 which is attached hereto and made a part of this Fourth Amendment.
7. Attachment E of the Agreement is hereby amended by adding the Fourth Amendment Delivery and Acceptance Certificate set forth in Exhibit D-4 which is attached hereto and made a part of this Fourth Amendment.
8. Attachment G of the Agreement is hereby amended by adding the Additional Savings Calculations which are set forth in Exhibit E-4 which is attached hereto and made a part of this Fourth Amendment.
9. For the convenience of the Parties, a summary of the amended contract values and savings is attached hereto as Exhibit F-4.
10. All other provisions of the Agreement not expressly changed by this Fourth Amendment shall remain in full force and effect.

**IN WITNESS WHEREOF**, the duly authorized officers or representatives of the Parties have set their hand on the date first written above with the intent to be legally bound.

**MAHOMET-SEYMOUR**  
**CUSD#3**

**AMERESCO, INC.**

  
\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Authorized Signature

Name: Ricc Johnston

Name: Louis P. Maltezos

Title: Superintendent

Title: Executive Vice President

*Bo E approved 11/16/16*

## EXHIBIT A-4

### SCOPE OF SERVICES

This Attachment sets forth a description of existing equipment and the Energy Conservation Measures (ECM) and related equipment to be installed by Ameresco at the buildings, facilities, and areas set forth as noted at Lincoln Trail Elementary School ("Property"). Installation of the ECM(s) and the included equipment is subject to change if Ameresco discovers unforeseen conditions at the Property that render its preliminary analysis of the Property inaccurate, or significantly affect achievement of the Guaranteed Savings. Any changes to the installation of the ECM(s) and the included equipment are subject to approval of Customer and issuance of a Change Order, which approval shall not be unreasonably withheld, conditioned or delayed.

The ECMs described below are included in the Scope of Services:

#### **ECM 1: Install VRF System**

A new variable refrigerant flow (VRF) system will be installed to both heat and cool the school. The following Scope of Services will be implemented:

#### **Demolition**

- Abate asbestos containing pipe insulation and drywall joint compound as required to facilitate the installation of a VRF system and to interconnect the boiler plants. Asbestos will only be abated where required to install the new VRF system, and other asbestos will be left as-is.
- Demolish the following components
  - One (1) air handler in mechanical room #84
  - One (1) air handler in mechanical mezzanine room above storage room #80
  - Two (2) air handlers in mechanical room #15
  - One (1) boiler in mechanical room #15
  - One (1) air handler in ceiling above the band room #6
  - One (1) air handler in room #28A
  - Fifty two (52) reheat coils, and the associated supply air diffusers and space thermostats
  - Two (2) heating hot water (HHW) distribution pumps in boiler room #83
  - Two (2) heating hot water (HHW) distribution pumps in boiler room #15
  - One (1) 3-way control valve in boiler room #15. The pipe take-offs to the valve will be capped.

#### **VRF System**

- Install four (4) new VRF style heat-recovery style outdoor heat pump condensing units - capable of simultaneous heating and cooling. Heat pump condensing units will have at least one (1) inverter duty compressor, unit-mounted controls, internal piping, and heat exchangers.
- Mount heat pump condensing units on roof rails and flash to existing roof. Additional structural steel will be installed to allow roof structure to support heat pump condensing units.
- Install as many branch selector boxes as required to allow simultaneous heating and cooling. Final count of branch selector boxes will be based on final equipment purchased. Approved VRF manufactures are Mitsubishi, Daikin, and LG.
- Install fifty seven (57) new indoor cassettes, in existing ceiling grid. Four (4) rooms are too small for indoor cassettes and shall have ducted/concealed units, located in the hallway, to comply with ASHRAE 15. These four (4) units will have filters and filter racks, supply and return ductwork, supply duct insulation, and supply and return grilles.
- Install refrigeration piping between heat pump condensing units, branch selector boxes, and indoor cassettes. All refrigerant piping will be insulated.
- Install refrigerant isolation valves at sixty one (61) indoor units and branch selector boxes.
- Install new insulated condensate piping, and connect to existing plumbing drains. Install new electrical wiring, conduit, sub-panels, and unit-mounted disconnect switches to provide power for new heat pump condensing units, indoor units, and branch selector boxes.
- VRF manufacturer will assist with system start-up.

- All new VRF system components will have a one (1) year warranty on parts and labor.

#### **Ventilation Units**

- Install four (4) new ventilation units to ventilate rooms served by the VRF system. The ventilation units will have the following features:
  - Designed for 100% outside air
  - Packaged direct expansion cooling system, with condenser reheat
  - Gas-fired stainless steel heat exchanger with 10:1 turndown
  - Energy recovery wheel and exhaust fan
  - GFI outlet
- Mount each ventilation unit on a roof curb and flash to existing roof. Additional structural steel will be installed to allow roof structure to support heat pump condensing units.
- Supply ductwork will be re-used. New ductwork will be installed to replace demolished reheat coils, and to connect existing supply ductwork to new ventilation units. Existing supply ductwork will be sealed to mitigate leakage.
- Install new supply air diffusers
- Install new return air ductwork and return air diffusers.
- Install new fire dampers in supply and return ductwork as required. Existing rooms with fire dampers in supply ductwork shall be reused.
- Install new natural gas piping and specialties to connect to new ventilation units.
- Install new electrical wiring, conduit, sub-panels and unit-mounted disconnect switches to provide power for roof mounted ventilation units.
- Install new condensate piping, and connect to existing plumbing system.
- Test and balance airflow.
- Ventilation unit manufacturer will assist with start-up.
- New ventilation units will have a one (1) year warranty on parts and labor.

#### **Electrical Upgrades**

- Install new electrical service for building which shall include new utility transformer (if required by utility company – Ameresco will coordinate new utility transformer with utility company), new electrical switchgear, new step-down transformer, and new electrical panels to serve the new VRF system and ventilation units.
- Modify power for four new heating hot water circulation pumps.

#### **Interconnection of Heating Hot Water Piping Systems**

- Install new heating hot water (HHW) piping to connect the boiler plant in room #83 to the HHW piping served by the boiler plant in room #15.
- With the reduced load due to the VRF system and ventilation units, the boiler plant in room #83 will be sized for the connected heating load of the remaining heating terminal units.
- Install new two (2) new pumps to replace the HHW distribution pumps in boiler room #83.
  - The new pumps will be base mounted in the same locations as the old pumps, and sized for the new connected flow and pressure of the piping system.
  - The boiler circulation pumps and other zone pumps will remain as-is
- Install new two (2) new pumps to replace the HHW distribution pumps in boiler room #15. The new pumps will be base mounted in the same locations as the old pumps, and sized for the connected flow and pressure of the piping system.
- Install eight (8) new radiant ceiling panels in classroom rooms 30 - 37. Extend HHW piping that formerly served reheat coils to new radiant ceiling panels.
- Install four (4) new 3-way control valves at four (4) existing cabinet unit heaters to allow boiler pumps to maintain minimum flow rates.
- Test and balance entire water systems for new pumps
- New components will have a one (1) year parts and labor warranty. Existing components will not be covered under the warranty.

## Controls

- Install a building automation system (BAS) to control the following components:
  - New VRF system
  - New ventilation units
  - Existing boiler plant in boiler room #83:
    - Two (2) existing boilers
    - Two (2) existing boiler circulation pumps
    - Three (3) existing zone pumps
    - Two (2) new distribution pumps
  - Two new HHW pumps in boiler room #15
  - Existing general, toilet and kitchen exhaust fans
- The new BAS will have the following components and features:
  - BACnet interface
  - Web-enabled communication. The system will be accessible from any PC with an updated internet browser.
  - Graphics for the connected HVAC equipment
  - Programmed sequences of operation for
    - Temperature set point control
    - Occupied and unoccupied modes of operation
    - Unit status monitoring
    - Alarm monitoring and notification
  - Trending of data points
- Install new communication wiring to connect the VRF indoor units, VRF heat pump condensing units, ventilation units and boiler plant controls.
- Install sixty one (61) new thermostats to control their associated VRF indoor units. Exposed wiring will be in wire mold.
- Commission the new BAS.
- New components will have a 1-year parts and labor warranty.

## General Scope of Services Comments:

- Unless specifically noted in the Scope of Services – abatement of ACM and other hazardous materials is excluded.
- Material ordering and final scheduling will not occur until a signed agreement is received.
- Ameresco pricing assumes 100% availability of rooms to do the work. Unless noted otherwise, pricing based on 1st shift only (Monday through Friday).
- Unless specifically noted in the Scope of Services – paint / patch is excluded. If noted in the Scope of Services – only the affected areas will be addressed (not the entire area / wall). Paint will match existing adjacent as close as possible but an exact match cannot be guaranteed.
- Piping / conduit / wire mold may be run exposed in occupied spaces (as applicable).
- Unless specifically noted in the Scope of Services – conduit / wire mold is un-painted.
- Some existing equipment may be left abandoned in place.
- Unless specifically noted in the Scope of Services – no piping covers have been included.
- If applicable - tile and carpet in-fill strips will match adjacent existing as close as possible but an exact match cannot be guaranteed.
- If applicable - existing ceiling tiles will be removed and reinstalled. New ceiling / grid is not included in the Scope of Services unless specifically noted.



**EXHIBIT B-4**

**SAVINGS GUARANTEE**

**GUARANTEED SAVINGS AMOUNT; GUARANTEE PERIOD**

Ameresco hereby guarantees to Customer that the amount of the Annual Savings shall equal or exceed the “*Guaranteed Savings*” (as specified in Table C-1 below), over the Guarantee Period (defined below).

The Annual Guaranteed Savings Amount is made up of two (2) savings components:

1. Energy (Electricity and Gas) Savings
2. Operational Cost Savings

Calculation of the Annual Savings, inclusive of Agreed Upon Savings, shall be performed under, and governed by, the methods, formulas, and procedures described in the Measurement and Verification Plan set forth in Exhibit E-4.

Table C-1

<b>Year</b>	<b>Energy Savings</b>	<b>Operational Savings</b>	<b>Total Guaranteed Savings</b>
1	\$4,015	\$251,985	\$256,000
2	\$4,015	\$251,985	\$256,000
3	\$4,015	\$251,985	\$256,000
4	\$4,015	\$251,985	\$256,000
5	\$4,015	\$251,985	\$256,000
6	\$4,015	\$251,985	\$256,000
7	\$4,015	\$251,985	\$256,000
8	\$4,015	\$251,985	\$256,000
9	\$4,015	\$251,985	\$256,000
10	\$4,015	\$251,985	\$256,000

Ameresco and Customer acknowledge and agree:

- a) The Facility is currently operating without central air conditioning systems but, rather, with window air conditioning units in several areas.
- b) Customer’s plans include project(s), and their related costs, to install, operate, and maintain a central air conditioning system.
- c) If the planned central air conditioning project(s) were completed, the Facility would experience higher utility costs than it has historically. As further described in Exhibit E-4, the Baseline was determined, in part, by adjusting historical utility consumption to reflect the impact of operating the Facility with the planned central air conditioning project(s).
- d) By completing the Project contemplated in this Amendment, Customer will eliminate the need for the planned central air conditioning project(s) and, in so doing, customer will realize long term operating savings related to the avoided capital expense associated with the planned central air conditioning project(s);
- e) Accordingly, the Guaranteed Savings set forth herein and the Savings determined under the M&V Plan include:
  - i) utility savings from the adjusted Baseline that would have resulted from operating the buildings with the planned central air conditioning projects; ii) long term operating cost savings associated with avoided capital costs for the planned central air conditioning project(s) that, because of this Project, will not be necessary.

Ameresco hereby guarantees to Customer that the amount of the Annual Savings shall equal or exceed the Guaranteed Savings over the Guarantee Period.

Calculation of the Annual Savings, inclusive of Agreed Upon Savings, shall be performed under, and governed by, the methods, formulas, and procedures described in the Measurement and Verification Plan set forth in Exhibit E-4.

The Guarantee Period shall be 10 years unless terminated earlier as a result of termination of the Agreement or of the M&V Services described in Exhibit E-4.

The termination of this Agreement for convenience shall release Ameresco from its obligation to provide maintenance, monitoring and training services after the effective date of termination, as well as its obligation to provide the Savings Guarantee after the termination date.

#### **CUSTOMER REVIEW**

The Customer has reviewed the Guaranteed Savings calculations, assumptions, and methodologies contained in the M&V Plan and the Baseline set forth in Exhibit E-4, and the Standards of Service and Comfort set forth in Exhibit E-4 and finds them to be reasonable.

**EXHIBIT C (1)-4**  
**DELIVERY AND ACCEPTANCE CERTIFICATE**

**PROJECT COMPLETION LOG**

<i>Sub-Project Tasks/Punch List items</i>	<i>Completion Date</i>

**Notes (special instructions etc.):**

**Items furnished to CUSTOMER with this Delivery and Acceptance Certificate:**

- Receipt of owner's manuals; \_\_\_\_\_ sets.
- Receipt of instruction and training; \_\_\_\_\_
- Completion of inspection and walk-through.
- Receipt of warranty information.

The punch list items are hereby completed in accordance with the Agreement. Customer agrees that the Agreed Upon Savings have been satisfied for the term of the Guarantee Period.

CUSTOMER	By:	Title:	Date:
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**EXHIBIT C (2)-4**

**PERCENT COMPLETE ACKNOWLEDGEMENT CERTIFICATE**

Customer hereby acknowledges receipt and acceptance of the \_\_\_\_\_ portion of the Energy Conservation Measure (the "ECM") described in Attachment B to the Energy Services Agreement (the "Agreement") dated \_\_\_\_\_, 201\_ between Customer and Ameresco. Customer certifies that the work described in the related application for payment submitted by Ameresco has been completed in accordance with the Agreement and that the ECM(s) are \_\_\_\_\_ percent complete, as substantiated by sufficient detail provided by Ameresco. Customer agrees to make payment to Ameresco as set forth in Section 4 of the Agreement.

Date Accepted by Customer: \_\_\_\_\_

Accepted for:

Accepted by:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**ACKNOWLEDGMENT OF AMERESCO**

Ameresco hereby acknowledges that the total amount due based upon percent complete for the ECM's described in Attachment B, and the Notice to Proceed, hereto is \$ \_\_\_\_\_.

Date Accepted by Ameresco:

Accepted for: AMERESCO, INC.

Accepted by:

Name:

Title:

**EXHIBIT C (3)-4**

**SUBSTANTIAL COMPLETION CERTIFICATE**

<b>PROJECT NAME &amp; ADDRESS:</b> _____ _____ _____	<b>PROJECT NO.:</b> _____ <b>CONTRACT DATE:</b> _____ <b>DESCRIPTION:</b> _____ _____
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The installation of [list each ECM being accepted with this certificate] under the Agreement has/have been reviewed and found to be substantially complete. The date of Substantial Completion of the forgoing ECM(s) is hereby established as:

**SUBSTANTIAL COMPLETION DATE:** \_\_\_\_\_

The date of Substantial Completion of an ECM is the date when such ECM is sufficiently complete in accordance with the Agreement so that Customer derives beneficial use thereof. Customer agrees that the Agreed Upon Savings associated with the ECMs listed have been satisfied for the term of the Guarantee Period.

The Substantial Completion date set forth above is the date of commencement of applicable warranties for such ECM(s), as required by the Agreement. A list of items to be completed or corrected is identified below as punch list items.

**CONTRACTOR: Ameresco, Inc., 111 Speen Street, Suite 410, Framingham, Massachusetts 01701**

**AUTHORIZED** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
**NAME:** \_\_\_\_\_  
(type or print)

**CUSTOMER:**

**AUTHORIZED** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
**NAME:** \_\_\_\_\_  
(type or print)

**PUNCHLIST ITEMS**

Attach additional page(s) as necessary. Number of pages attached \_\_\_\_.

[Please Print On Customer Letter Head]

**EXHIBIT D-4**

**NOTICE TO PROCEED**

MONTH DAY YEAR

Louis P. Maltezos  
Executive Vice President  
Ameresco, Inc.  
150 N. Michigan Avenue, Suite 420  
Chicago, IL 60601

**SUBJECT: NOTICE TO PROCEED**

Mr. Maltezos:

In accordance with the terms of the Energy Services Agreement dated January 11, 2013, Customer hereby issues this **Notice to Proceed** to Ameresco in relation to the Scope of Services set forth in Fourth Amendment to such Agreement.

Sincerely,

CUSTOMER

\_\_\_\_\_  
Name:

Title:

**EXHIBIT E-4**

**MEASUREMENT AND VERIFICATION PLAN;  
METHODOLOGY OF CALCULATING SAVINGS;  
TRAINING;  
MEASUREMENT AND VERIFICATION FEE SCHEDULE  
CUSTOMER'S MAINTENANCE RESPONSIBILITIES;  
STANDARDS OF SERVICE AND COMFORT**

**SECTION 1: SAVINGS MEASUREMENT AND VERIFICATION**

**Utility Rates**

Table G1 summarizes the baseline utility rates. These rates were used in establishing the Baseline and calculations in this EXHIBIT E-4. Throughout the Term of the Guarantee Period the utility rates in Table G1, escalated at 0.0% per year shall be used in determining Annual Savings. The Customer acknowledges and accepts the utility rates set forth in Table G1 as reasonable. Table G2 summarizes baseline data received by Ameresco from Customer, as well as the adjusted baseline.

**Table G1: Utility Rates**

Facility	Electric	Natural Gas
	\$/kWh	\$/Therm
Lincoln Trial Elementary School	\$0.100	\$0.50

Note: Ameresco did not receive utility bills from the customer. The values noted in the table above are an estimate based on typical K-12 schools in the region.

**Table G2: Existing Utility Information**

**Existing Utility Information**

Facility	Building Area	Baseline Period	Electric	Natural Gas
	Ft <sup>2</sup>		kWh/Year	Therms/Year
Lincoln Trial Elementary School	76,747	2011-2012	645,822	46,474

Note: The baseline period is for utility data received from Customer. No recent utility bill information was received by Ameresco.

**Post-Adjustment Estimated Utility Information**

Facility	Building Area	Electric	Natural Gas
	Ft <sup>2</sup>	kWh/Year	Therms/Year
Lincoln Trial Elementary School	76,747	961,581	46,474

Note: The "Post-Adjustment Estimated Utility Information" is based on the Facility utilizing an older (less efficient) 4-pipe heating and cooling system with an air cooled chiller along with code required ventilation air into occupied spaces. This represents the facility utility usage with an older less efficient heating and cooling system. Note that the utility usage has increased from the previous table. The proposed system (VRF) is more efficient than the 4-pipe system but with the installation of a full facility heating and cooling system – the Facility would experience higher utility costs than it has historically.

**Agreed Upon Energy Savings**

The Annual Savings identified in the table below are Agreed Upon Savings for the First Guarantee Year documented by the calculations and methodologies described in this EXHIBIT E-4 and are not subject to measurement or verification. In each subsequent Guarantee Year, the Agreed Upon Savings shall be escalated at a rate of 0.0% per year to determine the Agreed Upon Savings from these measures for such Guarantee Year. The Parties have reviewed the savings in Table G3 and the Customer agrees and accepts that upon Substantial Completion of the related ECMs the Agreed Upon Savings set forth in Table G3 below shall be deemed achieved and included, with appropriate escalation as set forth herein, in the Annual Savings determined for each Guarantee Year.

**Table G3: Energy Agreed Upon Savings for First Guarantee Year**

ECM	Agreed Upon Savings
ECM1- Install VRF System	\$4,015
<b>Total Agreed Upon Energy Savings:</b>	<b>\$4,015</b>

**Agreed Upon Operational Savings**

The annual operating cost savings identified in Table G4 below are Agreed Upon Savings for the First Guarantee Year documented by the calculations and methodologies described in this EXHIBIT E-4 and are not subject to measurement or verification. These savings have been reviewed and analyzed by the Parties and may include but are not limited to: repair and maintenance cost reductions; deferred maintenance backlog cost reductions; and other long term operating cost savings. In each subsequent Guarantee Year, the Agreed Upon Savings in Table G4 shall be escalated at a rate of 0.0% per year to determine the Agreed Upon Savings from operating savings for such Guarantee Year. The Customer agrees and accepts that upon Substantial Completion of the Project, the Agreed Upon Savings set forth in Table G4 below shall be deemed achieved and included, with appropriate escalation as set forth herein, in the Annual Savings determined for such Guarantee Year.

**Table G4: Operational Agreed Upon Savings for First Guarantee Year**

ECM	Operational Savings
All ECMs	\$251,985
<b>Total Agreed Upon Savings in First Guarantee Year:</b>	<b>\$251,985</b>

**M&V Services**

After the Delivery and Acceptance date, Ameresco will perform an inspection of installed equipment and verify that the equipment is performing as expected. Ameresco will submit to Customer a measurement and verification report (the "M&V Report"), which shall include verification that equipment is installed and operating correctly. The Guaranteed Savings will be deemed achieved for the balance of the Guarantee Period and no further M&V Services will be performed. The Guaranteed Savings will be deemed achieved for each year for which M&V Services are not required to be performed.

ECM	Description	M&V Services
ECM 1	Install VRF System	The VRF System will be checked to ensure the system / equipment is operating as intended. The equipment will be inspected to ensure that efficiency requirements are met by verification and inspection of nameplate data and/or manufacturer supplied data.

"Agreed Upon Savings" savings are not subject to measurement or verification and do not include measurement and

verification activities and is utilized on ECMs where the costs to accurately calculate, measure, or monitor the projected savings would be greater than the anticipated savings value and/or when the Parties believe the risk associated with realizing the savings does not justify the additional cost of measurement, monitoring, and verification.

### **Dispute Resolution**

Any dispute, claim or disagreement of any kind or nature between the Parties arising out of or in connection with this M&V Plan, Adjustment to the Baseline or the Savings Guarantee shall be resolved in accordance with the Dispute Resolution procedures as noted below:

- Claims, disputes, or other matters in controversy ( a “Dispute”) arising out of or related to the Agreement or the Project shall be subject to informal dispute resolution and mediation as a condition precedent to any and all remedies at law or in equity. If during the term of this Agreement a Dispute arises concerning the Project or this Agreement, the Dispute shall initially be submitted to Customer’s project representative and Ameresco’s project manager for resolution by mutual agreement between the Parties. Any mutual determination by Customer’s project representative and Ameresco’s project manager will be final and binding upon the Parties. However, should Customer representative and Ameresco’s project manager fail to arrive at a mutual decision as to the Dispute within ten (10) business days after notice to both individuals of such Dispute, such Dispute will be submitted to a representative from management of both Parties who shall meet in person or by phone within ten (10) business days after either Party gives the other Party written notice of the Dispute (the “Dispute Notice”). The Dispute Notice shall set forth in reasonable detail the aggrieved Party’s position and its proposal for resolution of the Dispute. If the Dispute is not resolved within thirty (30) calendar days after the first meeting of the Parties, then the Parties shall endeavor to resolve the Dispute by mediation. A request for mediation shall be made in writing and delivered to the other Party. The request may be made concurrently with the filing of any and all remedies at law or in equity but, in such event, mediation shall proceed in advance of any proceedings filed in a judicial forum, which shall be stayed pending mediation for a period of sixty (60) days from the date of filing, unless stayed for a longer period of time by agreement of the Parties or court order.
- The Parties shall share the fees of the mediation equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.
- If the Parties do not resolve the Dispute through informal dispute resolution or mediation, either Party is free to pursue any other available remedy in law or at equity.

**SECTION 2: METHODOLOGY USED TO CALCULATE PROJECT SAVINGS**

The methodology used for projecting savings resulting from the implementation of the proposed project is summarized in the following equation:

$$\text{Annual Savings} = \text{Energy Savings} + \text{Operational Savings}$$

Where:

- Annual Savings: The total annual savings associated with implementation of this project. This is the savings figure that will be used for comparison to the Guaranteed Savings as part of the Guarantee Reconciliation.
- Energy Savings: The total Energy Savings associated with reduction in energy consumption as a result of implementation of this project.
- Operational Savings: Total savings associated with avoided repair, maintenance or other operational costs including future capital expenditures (i.e., capital cost avoidance savings) that the Customer would have required over the term in relation to the systems / equipment / etc. that are included in the Scope of Services had the Project not been implemented. This is an annualized value.



**Summary of Annual Savings**

ECM #	Scope	Electric Savings	Natural Gas Savings	Electric Rate	Natural Gas Rate	Total Savings
		kWh/Year	Therms/Year	\$/kWh	\$/Therm	\$/Year
ECM-1	Install VRF System	(62,330)	20,495	\$0.10	\$0.50	\$4,015

The following details the savings calculations associated with each Energy Conservation Measure (ECM) included in EXHIBIT A-4.

**ECM 1: Install VRF System**

Mahomet-Seymour Lincoln Trail VRF Heating Energy Savings				
Baseline Data				
Existing Gas Usage		46,474	therms/year	From benchmark spreadsheet
HVAC Usage (% of baseline)	90%	41,827	therms/year	Calculated. HVAC typically accounts for 80%-95% of a k-12 school's gas load. Assume 90% since this is an elementary school, with no showers, and a lower domestic hot water load.
Usage for Ventilation (% of HVAC Usage)	40%	16,731	therms/year	Calculated. In the Chicago climate, total heat load is approximately 40 btu/ft2, with skin load being 15-20 btu/ft2 (40%-50%), and ventilation being 20-25 btu/ft2 (50%-60%). The school does not need to be ventilated 24/7, but the skin load is experienced 24/7. Therefore, the percentage of annual heating energy (gas consumption) used for ventilation will be lower than 50%.
Skin Load (HVAC usage - Ventilation usage)		25,096	therms/year	Calculated
Gas Savings				
Skin load transferred to VRF (% of Skin Load. Boilers will only be used on very cold days.)	65%	16,312	therms/year	Calculated. VRF will handle almost all of the heat load above 35 F (52% of bin hours), and the boiler will handle most of the heat load below 20 F (14% of bin hours). In between, there will be some cross-over. Assume 65% of skin load transferred from gas to electric.
Ventilation Load Reduction due to ERVs (% of ventilation)	25%	4,183	therms/year	Calculated. Energy wheels are typically about 50-60% effective. However, the effects of frost control reduce the effectiveness significantly at very cold temperatures. Assume 25% effectiveness, which correlates to the reduced gas energy spent on ventilation
<b>Total Gas Savings</b>		<b>20,495</b>	<b>therms/year</b>	Calculated
VRF Heating Electric Penalty				
Actual Skin Load (Adjusted for boiler efficiency)	80%	13,050	therms/year	Calculated
Convert to kWh (29.3 kWh/therm)	29.3	382,362	kWh/year	Calculated
Airside penalty (DX coil and Energy Wheel)		10,172	kWh/year	13,000 CFM, 60% fan static efficiency, 2" static (1.5 for HRW and 0.5 for DX. Use static efficiency equation. Convert to kW. Assume 2000 occupied hours/year. Applied to both heating and cooling
VRF Heating COP	2.8	136,558	kWh/year	Calculated. Catalog COP of approx 3.3 at 47 F, and 2.2 at 17 F
<b>Total VRF Heating Electric Penalty</b>		<b>146,730</b>	<b>kWh/year</b>	Calculated
Financials				
Gas \$/therm		\$ 0.50	/therm	Assumed, based on other k-12 utility rates in central, IL.
Electric \$/kWh		\$ 0.10	/kWh	Assumed, based on other k-12 utility rates in central, IL.
Gas Savings		\$ 10,248	/year	Calculated
Electric Penalty		\$ 14,673	/year	Calculated
<b>Net Savings</b>		<b>\$ (4,425)</b>	<b>/year</b>	Calculated

Mahomet-Seymour Lincoln Trail VRF Cooling Calculation			
<b>Load Calculation</b>			
Building Area	76,747	ft <sup>2</sup>	From benchmark spreadsheet
Square Footage Per ton	350	ft <sup>2</sup> /ton	Assumed. Engineering rule of thumb for Chicago Climate
Design Tonnage	219	Tons	Calculated
Approximate Run time	2,000	Hours/Year	Assumed. Approximate bin hours for April, May, Sept, Oct above 60 F, plus some time for summer operation
Average Load	60%		Assumed. Weighted hourly average load of 52% (assuming internal load of 30%)
<b>Efficiency Difference</b>			
VRF Efficiency	4.00	COP	Catalog. VRF IEER of 18 (COP of 5.25) and ERV IEER of 13 (COP of 3.8)
Convert to kW/Ton	0.88	kW/ton	Calculated
4-Pipe Unit Vent Efficiency	1.20	kW/Ton	Assumed
<b>Savings</b>			
Annual VRF Usage	231,359	kWh/year	Calculated
4-Pipe Unit Vent Usage	315,759	kWh/year	Calculated
Electric Savings	84,400	kWh/year	Calculated
<b>Financials</b>			
Electric Rate	\$ 0.10	/kWh	Assumed
Electric Savings	\$ 8,440		Calculated

### **Operational and Capital Cost Avoidance Savings**

It is assumed in this calculation that, with or without the Project, the customer must add the heating and cooling capacity associated with ECM-1 in the next ten (10) years and that the customer must address other needed deferred maintenance, repair, and replacement facility needs whether this Project was implemented or not. Therefore, the alternative avoided cost of implementing these systems, deferred maintenance, repairs, and replacement outside of the Project have been incorporated into the total savings. The related long term operational cost savings for the project have been determined by calculating the avoided capital cost savings associated with implementation of the additional heating and cooling capacity and other avoided capital cost savings over the ten (10) year term and the equivalent annual cost savings are assumed to be one tenth (1/10) of that amount.

### SECTION 3: TRAINING

Ameresco shall provide training on the intent, design, operating requirements, and operational and maintenance requirements for all ECMs installed. The following section defines the intent, personnel to be involved, logistics, and tracking and documentation for the Training Plan that shall be provided by Ameresco. The table below indicates total number of training hours per ECM.

Ameresco will implement a training program that involves classroom and hands-on/field training. Training sessions will include a review of the overall installation and performance characteristics of installed Energy Conservation Measures. Documentation will include review of O&M manuals, drawings, and equipment specification literature. Facilities personnel, and select building occupants, will receive comprehensive manuals for reference. The primary goal of Ameresco's training program will be to educate designated operations, maintenance, and building staff in the key areas that relate to the ECMs installed throughout the project. Ameresco has identified three (3) levels of training which may be required depending on the specific ECMs which are installed.

Training levels 1 and 2 are reserved for systems and equipment which are either direct replacements of an existing system, or require general knowledge of their operation and function. Level 1 and 2 training will not be included in this project.

Level 3 training is more in depth, and will be included on this project.

**Level 3:** For systems and equipment which are new to the site, and are more complex in nature - training will be directed to facilities engineering and the operations and maintenance staff. Level 3 training will require more extensive classroom training to discuss design intent, specific system design, energy efficiency considerations, seasonal modes of operations, comfort conditions, operation of individual components, emergency conditions, sequences of operations, alarms, diagnostics, and any additional ECM specific information as required. This training will be conducted up to two (2) sessions and will include up to eight (8) hours per session of combined classroom and field instruction for all ECMs designated for Level 3 training.

- Level 3 classroom training will also include a review of the manufacturer's operation and maintenance manuals, and an explanation of equipment warranties. Following the classroom training session, a site tour will be scheduled to view the specific installation, operation of the equipment, and hands on maintenance instructions by qualified personnel and manufacturers' representatives. This level of training will provide staff with a comprehensive understanding of all equipment details as well as hands on familiarity with the equipment that is installed and a detailed review of manufacture's recommended maintenance procedures and warranty information.
- Note: "Classroom" refers to a setting where information is presented to Customer personnel and may occur on-site in a meeting room, office, boiler room, etc.).
- The Customer shall provide suitable space and make personnel available, as reasonably required for Ameresco to conduct training.

**SECTION 4: MEASUREMENT AND VERIFICATION FEE SCHEDULE**

It is agreed that the Guaranteed Savings for the Guarantee Period are achieved upon Substantial Completion. Therefore no M&V Services or fees are included for the Scope of Services set forth in EXHIBIT A.

**SECTION 5: CUSTOMER'S MAINTENANCE RESPONSIBILITIES;  
STANDARDS OF SERVICE AND COMFORT**

**CUSTOMER'S MAINTENANCE RESPONSIBILITIES**

Customer, at its own expense, will keep and maintain, or cause to be kept and maintained, the ECMs and all equipment in as good operating condition as when delivered to the Customer hereunder, ordinary wear and tear resulting from proper use thereof alone excepted, and will provide maintenance and service and make all repairs necessary for such purpose. Responsibility for the proper maintenance, service, repair and adjustments to each ECM, ECM system and related ancillary systems and equipment, including related expenses, shall transfer to the Customer on an ECM by ECM basis on the date of "Substantial Completion" of each ECM as such date is determined in accordance with the definition of Substantial Completion set forth in Section 1 of the Agreement. The Customer will be responsible for such maintenance, service, repair and adjustments for the remainder of the Term. Operation and Maintenance Manuals (O&M Manuals) will be provided to the Customer, by the ESCO. Included with the O&M manuals will be a list of maintenance responsibilities and tasks for the Customer.

*Start-up and Shutdown.* The Customer's responsibilities include all system start-ups and shut-downs. System start-up (beginning of season) and shut-down (end of season) refers to specific manufacturer recommendations with respect to "proper" system start-up, operation, maintenance, and shut-down as defined in the manufacturer's installation / operation / maintenance (O&M) manuals which will be provided to the Customer upon Substantial Completion and / or Delivery and Acceptance, as appropriate.

*Operations.* The Customer shall operate the equipment installed hereunder in accordance with parameters noted in the manufacturers' recommendations, and any supplemental procedures supplied to the Customer by ESCO, including those set forth in the O&M manuals. The Customer shall also operate the equipment and systems (including ancillary related systems) in accordance with Standards of Comfort noted below.

*Maintenance.* The Customer's maintenance responsibilities include the proper operation and prompt repair and maintenance of each ECM, ECM system and related ancillary systems and equipment such that they are maintained in good working order during the Term. The Customer shall repair and maintain (i) the equipment and all other components which comprise the ECM and (ii) all other equipment which is attached thereto and/or is integral to the proper functioning of the ECM, including performance of the maintenance tasks, manufacturer's recommendations and supplemental procedures included in the O&M Manuals. Maintenance also refers to performing required maintenance of ancillary systems.

In addition to any of its other obligations under this Agreement, Customer agrees to operate and maintain all ECM's to the standards as noted. Deviation from these standards may result in adjustments to the Baseline, the Guaranteed Savings or the determination of Annual Savings.

**STANDARDS OF SERVICE AND COMFORT**

Space temperature set points for locations served by new controls and programmable thermostats will be set and maintained by Customer as shown in the tables below. Ameresco shall not be responsible for existing HVAC equipment and ancillary services (HVAC equipment ancillary services not replaced as part of project) ability to meet the space temperatures provided in the following tables. Deviation from these standards may result in adjustments to the Baseline, the Guaranteed Savings Amount and/or the determination of Annual Savings.

**Heating Set Points:**

Space	Maximum Temperature
Occupied	68°F
Unoccupied	64°F
Storage area requiring heat	40° F, except where existing use does not permit
Areas not requiring heat	Minimum temperature required to prevent damage to the facility

**Cooling Set Points:**

Space	Minimum Temperature
Occupied	75°F
Unoccupied	85°F
Storage area requiring heat	N/A
Areas not requiring heat	N/A

**Outdoor Design Conditions:**

Space	Temperature
Outdoor Winter (DB)	-4 degree F – ASHRAE 99.6% with safety
Outdoor Summer (DB/WB)	90.0/74.0 – ASHRAE 2% with safety

**EXHIBIT F-4**

**Summary of Contract Values and Savings**

Agreement Summary

The following is a summary of the Agreement between Mahomet–Seymour CUSD 3 and Ameresco, Inc. as amended by this Fourth Amendment.

	<b>Contract Value</b>	<b>Annual Energy Savings</b>	<b>Operational Savings</b>	<b>Repair and Maintenance Savings</b>	<b>Annual Guaranteed Savings Amount</b>
Original Contract	\$ 527,272	\$ 56,961	\$ -	\$ -	\$ 56,961
1st Amendment	\$ 133,703	\$ -	\$ 13,370	\$ 500	\$ 13,870
2nd Amendment	\$ 60,873	\$ -	\$ 6,087	\$ -	\$ 6,087
3rd Amendment	\$ 544,100	\$ -	\$ 54,410	\$ -	\$ 54,410
4th Amendment	\$ 2,560,000	\$ 4,015	\$ 251,985	\$ -	\$ 256,000
<b>Total</b>	<b>\$ 3,825,948</b>	<b>\$ 60,976</b>	<b>\$ 325,852</b>	<b>\$ 500</b>	<b>\$ 387,328</b>