



# Salem Housing Authority

January 2021

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## 1 Cover Letter

January 15, 2021

**Subject: Utility Allowance Service Proposal**

Dear Ms. Chiarello,

2RW is pleased to present our response to your request for a comprehensive utility allowance study for the Salem Housing Authority. This energy work represents an important opportunity for 2RW Consultants. We are prepared to commit a team of uniquely qualified professionals experienced in all areas of utility allowances and energy analysis to perform this work.

Since 1985, 2RW has worked with over 200 Public Housing Authorities nationally to implement successful projects, including utility allowances; energy audits; physical needs assessments; mechanical, electrical, and plumbing engineering services; full engineered analyses of conservation potential; commissioning; implementation and monitoring of savings attributable to energy projects; five year plan development; energy performance contract auditing and review; and training for housing personnel and residents. We are well versed in the HUD guidelines and requirements, as well as the Capital Fund Grant application process and code requirements.

We understand the scope of work to calculate engineered utility allowances for the property sites located in New Jersey. 2RW is prepared to commit a highly qualified team to complete the allowance studies in a time frame that suits the needs of your organization. I will serve as Principal-In-Charge of the utility allowance study and Brandon Bate will be the Project/Client Manager. We happy to answer any questions you may have with regard to this proposal of services and present to you our qualifications, if requested. Please feel free to contact me or Brandon Bate should you have any questions.

We look forward to your consideration of our services, qualifications, and proposed team for your utility allowance needs. Further, we welcome the opportunity to build a working history with Salem Housing Authority.

Respectfully,



Robert R. Somers, II, PhD, PE, LEED AP  
President, 2RW Consultants, Inc.

## **2 Scope of Services**

2RW understands the scope of services to develop comprehensive utility allowance studies for the Salem Housing Authority affordable housing units. 2RW has developed a software tool to calculate comprehensive utility allowances called UApro™. UApro™ uses HUD approved methodology to analyze the energy performance and property characteristics specific to the dwellings unit in the Salem Housing Authority housing stock.

## **3 Description of Services**

2RW professionals will develop new utility allowance schedules for the Salem Housing Authority using the web-based tool UApro™.

This tool combines the expertise of 2RW's engineers – over 30 years of experience working with HUD and over 100 of Public Housing Authorities – with the power of an online, automated allowance calculator to provide an unprecedented combination of affordability and accuracy in calculating allowances.

2RW aims to make the set-up process as easy and simple as possible for our clients. As part of the Professional Setup for UApro™, we complete all necessary research and answer your questions regarding the utility allowance study. The Professional Setup is completed in the following steps:

1. 2RW requests a list of utility suppliers and building characteristics from the client
2. 2RW researches current utility rates for each property
3. A 2RW specialist creates a client-specific user account in UApro™ and enters current utility rates and property characteristics.
4. Within minutes UApro™:
  - a. Matches building characteristics with the most up-to-date statistical energy consumption data from Residential Energy Consumption Survey (RECS), which is conducted by the United States Department of Energy
  - b. Localizes the consumption data by ZIP code by applying historical weather data
  - c. Applies the localized consumption data to the client's rates
  - d. Generates a set of unique utility allowance schedules specific to: housing type, building age and dwelling unit size
  - e. Reports are submitted directly on the required Housing and Urban Development (HUD) 52667 form.

## Methodology

UApro™ uses **calculated consumption data** along with local utility rates and weather trends to compute utility allowances for specific unit types at specific locations.

Regressions from an energy consumption database are used to estimate reasonable consumption values for a specific location. Energy consumption data are available from the [Residential Energy Consumption Survey \(RECS\)](#), which is a nation-wide study conducted and periodically updated by the United States Department of Energy. The RECS database is formatted such that utility data for climate region, housing unit type, size, age, heating system, fuel, and end-use can be extracted with multi-variate linear regressions. These regressions are then used to compute consumption allowances specific to individual unit characteristics. Finally, ZIP code-specific weather data<sup>1</sup> are applied to localize the heating and cooling consumption values.

**Due to the availability of consumption based data and the calculation method that UApro™ uses, on-site visits and audits are not necessary to compute accurate utility allowances.**

Water and sewer data is collected from a variety of sources<sup>2</sup> and varies by state, per HUD's formulas.

UApro™ provides the option of including the date of construction in the calculations. They also consider the efficiency of electric heating equipment, providing calculations for both heat pumps and electric resistance heating.

## Time Frame

Utility allowance reports generated by UApro™ are available within 30 days of the receipt of the setup form.

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<sup>1</sup> Heating degree days, cooling degree days, and typical low temperature are provided by the National Oceanic and Atmospheric Administration

<sup>2</sup> Studies by Lawrence Berkeley National Laboratories, Edison Electric Institute, Center for Energy and Environmental Policy, and University of Delaware.

## Support, and Maintenance

A 2RW staff member is available to answer questions and will conduct one annual Professional Setup/Update for each year of your subscription. For each annual update no additional information is needed from the housing authority; 2RW will look up the utility rates again and compute allowances in a similar manner. A full-time technical support representative at 2RW is available year-round to answer inquiries as they may arise.

If desired, you may also contract with 2RW to provide additional updates during the year. In-person training on how to use Uapro™ is available at an additional cost.<sup>3</sup>

## Reporting

Utility allowance schedules that identify the dollar-amount utility allowances for tenant-paid utilities are presented in an easy-to-read, neat PDF form. (See Figures 1 and 2.) All schedules can be viewed onscreen or printed.

Technical documentation will be provided to support the utility allowance calculations. 2RW will submit records of all utility rates referenced in the utility allowance study. A separate technical document will detail how Uapro™ methodology complies with HUD regulations.

**Figure 1: Reporting Form for Section 8/HCV**

**Figure 2: Reporting Form for Public Housing**

<sup>3</sup> Training and additional updates are not included in the price quote.

## 4 Cost of Services

UApro Quote for Salem Housing Authority	
Utility Allowance Reports - Public Housing	\$1,195
Utility Allowance Reports - Section 8 Housing	\$1,195
<b>Total</b>	<b>\$2,390</b>

A signature of an individual with binding authority on this proposal will serve as a contract between 2RW and Salem Housing Authority.

Signed: \_\_\_\_\_

\_\_\_\_\_ Date

\_\_\_\_\_  
Title

## **5 Contact**

Please forward all questions and notifications regarding this proposal to Brandon Bate:

Brandon Bate  
UA Business Development/Marketing Manager, Zappling  
Office: (434) 296-2116 ext. 402  
Fax: (888) 528-6415  
Email: [brandon@Zappling.com](mailto:brandon@Zappling.com)

Mailing Address:  
100 10<sup>th</sup> Street, NE, Suite 202  
Charlottesville, VA 22902-5433

## **6 Insurance**

### **Certified Debarment Statement**

2RW has not been debarred, suspended or otherwise prohibited from doing business by any federal, state or local agency.

### **Insurance/Certification Statement**

2RW carries professional, general, and employee liability and worker's compensation insurances.

### **Financial Statement**

2RW is financially sound and has the financial resources sufficient to successfully execute this project within the outlined time frame.

### **Certified Civil Rights Statement**

2RW operates in full compliance with all applicable civil rights and nondiscrimination statutes, executive orders, rules and regulations.

### **Certified Code Statement**

2RW has worked at over 70 housing authorities throughout the country. 2RW has the knowledge and experience in the Federal, State and Local codes, especially as they relate to this project.

## **7 2RW's Qualifications**

### **7.1 Firm Overview**

Since 2RW Consultants, Inc. (2RW) was founded in 1985, the principals have strived to establish sustainability-focused engineering services that are innovative in approach and cost-effective in practice. We save our clients operating capital by offering common sense, eco-conscious solutions to complex problems. 2RW, a certified small business, has offices in Charlottesville, VA (HQ), Atlanta, GA, and Washington, DC. 2RW was “green” long before such buzzwords became common. It is our mission to stay on the cutting-edge of responsible engineering practices for the betterment of the built environment and the people in it. This is our commitment and base-line principle, and we honor it in every initiative we undertake.

2RW has a wealth of specialized expertise in Public Housing Authority projects relating to multi-family housing, energy and water conservation and facilities inspections. 2RW has performed technical support for utility services to Public Housing Authorities (PHA) for over 30 years, including utility allowance calculations, investment-grade energy and water audits, professional review of energy performance contracts, rolling base calculations, well-head procurement of utilities, and design of energy-using systems. Within the past ten years, 2RW has conducted utility allowance studies for more than 40,000 dwelling units at Housing Authorities around the nation.

Below is a list of some of the comprehensive services provided by 2RW:

- Utility allowances: Public Housing, Section 8/HCV, Tax Credit (LIHTC)
- Energy and water audits, surveys, and analyses;
- Physical Needs Assessments
- Surveys of existing physical plants and preparation of numerous operation and maintenance budgets;
- Design for major building renovations for housing authorities under both the CIAP and Comp Grant programs and now the “Capital Fund”
- Mechanical, electrical and plumbing design projects ranging from new space heating systems, underground water line replacements, site drainage systems, utility metering, and electrical distribution systems to architectural improvements such as ADA accessibility projects, new insulated hard-coat siding, replacement roofing systems, playgrounds, and site landscaping.

### **7.2 Disciplines and Services**

#### **2RW Disciplines**

- Certified Energy Managers
- Certified Energy Auditors
- Energy Engineers
- Certified Commissioning Agents
- Mechanical Engineers
- Electrical Engineers
- Plumbing Engineers
- LEED Accredited Professionals
- IGSHPA Accredited Installer

- Construction Inspectors
- Technicians
- AutoCAD Operators

## **2RW Services**

- Utility Allowance Analysis
- Energy and Water Conservation Audits: (Preliminary Assessments and Investment Grade)
- Energy Cost / Consumption Modeling and Simulations
- Design Services: Mechanical, Electrical and Plumbing
- Commissioning Services: New Construction (LEED Fundamental and LEED Enhanced), Existing Buildings (Retro-Commissioning, Re-Commissioning, and Continuous Commissioning)
- Energy, Water, Infrastructure and Sustainability
- Energy Performance Contracting Services
- Measurement and Verification
- Life Cycle Cost Analysis and Energy Master Planning
- Facility Condition Assessments
- Utility Bill Audits
- Energy Awareness
- Training
- Technical Support
- Building Information Modeling
- Program Development and Execution

### **7.3 Utility Allowance Experience**

2RW has calculated utility allowances for Public Housing Authorities (PHAs) with individual and master metered utilities since 1994. The 2RW staff has directed teams of architects and engineers to give PHAs complete “turn-key” professional services. As a result of many years of experience working with housing authorities, the 2RW staff has a thorough working knowledge of Housing and Urban Development (HUD) regulations and standards.

***In September 2005, HUD contracted with 2RW (P.O. S4C5AAC0062) as the technical member of the team that evaluated, modified and verified a spreadsheet for calculating allowances for Section 8 housing units. 2RW engineers developed techniques to improve the accuracy of the allowances; including adding formulas to account for residence age and the presence of heat pumps.***

To date, 2RW has calculated utility allowances for more than **200 PHAs** throughout the United States. Through our work with authorities who provide housing for as many as 25,000 tenants and as few as 150 tenants, we have a keen understanding of HUD’s requirements as they relate to operating and capital budgets, codes and standards, and special incentive programs such as freezing the rolling base and additional subsidy programs. 2RW has helped to select competent contractors, provided construction administration, and trained maintenance personnel as well as tenants on new equipment and conservation practices.

To streamline an engineered approach to utility allowance analysis, 2RW developed the web-based tool UApro™.

## 7.4 Key Personnel Biographies

Following are biographies of the key personnel who will be responsible for this project.

### **Robert R. Somers II, Ph.D., PE - President, 2RW**

Dr. Somers will be the 2RW Partner-in-Charge for this project. He has more than twenty years' experience working with public housing authorities on utility allowances, energy audits, renovation design, building assessment, as well as the assessment of central HVAC plants and the design of HVAC systems. He has headed teams of architects and engineers in the evaluation, design, and construction administration of comprehensive modernization at numerous public housing authorities throughout the United States.

Dr. Somers received Bachelor of Science and Master of Science degrees in Mechanical Engineering from the Pennsylvania State University in 1975 and 1977, respectively. In 1983, he received a Ph.D. in Mechanical Engineering from the University of Virginia. He is accredited by the U.S. Green Building Council for the LEED (Leadership in Energy and Environmental Design) program and is a frequent speaker for the U.S. Department of Energy Rebuild America Program.

Dr. Somers is President of 2RW, responsible for all management duties associated with the successful operation of the company. He has an extensive background in analysis and design of mechanical and electrical systems to reduce energy consumption and costs. Dr. Somers, a professional engineer registered in Virginia, Indiana, Pennsylvania, Delaware, Ohio, Indiana, Illinois, Rhode Island, Maryland, Georgia, and NCEES. He is also a member of the American Society of Mechanical Engineers, the Association of Energy Engineers, and the American Solar Energy Society.

### **Brandon Bate — Utility Allowance Project/Client Manager**

Brandon Bate oversees Utility Allowance Services and manages expansion of new and existing opportunities for the 2RW division. Brandon provides customer support to clients and is involved with each step in the development of utility allowances to ensure their accuracy and quality meets client expectations.

### **Tom Atkins, CEM - Senior Energy Engineer**

Mr. Atkins is responsible for assuring quality and accuracy in engineered utility allowance analysis. He has a detailed understanding of energy systems, utility rate structures, and energy consumption patterns, particularly relating to affordable housing communities. Tom has over two decades of energy analysis experience and has helped develop several iterations of utility allowance calculation tools with 2RW.

## **8 Standard Terms and Conditions**

These Standard Terms and Conditions have been incorporated by reference into our proposal letter for the calculation of utility allowances ("2RW Services"). These Standard Terms and Conditions are fully binding upon 2RW's Clients accepting 2RW letter proposals just as if they were fully set forth in the letter proposals. However, in the case that terms and conditions set forth in the letter proposal contradict terms set forth here, the letter proposal shall supersede.

1. **PERIOD OF OFFER.** 2RW's proposal to provide professional services must be accepted within thirty (30) days of the date of the proposal and written acceptance will serve as 2RW's Notice to Proceed. Written acceptance of the proposal must be signed by an Owner, Partner, Officer, representative, or agent of the client pursuant to authority of client's governing body. Any extension of this thirty (30) day period may only be extended by mutual written agreement of both 2RW and the Client.

2. **CLIENT'S AUTHORIZED REPRESENTATIVE.** Client will specify in writing their authorized representative who will correspond with 2RW on the Client's behalf. 2RW will, upon initiation of this project, specify the Project Manager who will act on its behalf and communicate with the Client's representative.

3. **OWNERSHIP OF DOCUMENTS.** All field data, drawings, specifications, studies, reports, EnergyVibe "Green Team" toolkit materials, and other work gathered or produced by 2RW for this project are instruments of service for this project. Reuse of any of the instruments of service by the Client on extensions of the property, or on any other project, without the written permission of 2RW, is not permitted and shall be at the Client's risk.

Additionally, all field data, drawings, specifications, studies, reports, EnergyVibe "Green Team" toolkit materials, and other work gathered or produced by 2RW for this project shall remain the property of 2RW. 2RW reserves the right to use these materials and information as we see fit, so long as 2RW does not disclose the Client's identifying information without written permission given by the Client

4. **PAYMENT TERMS.** 2RW shall submit an invoice to Client for each set of utility allowance analysis, separated on a per property basis. Payment shall be due upon receipt of the invoice.

If payment is not received within thirty (30) days of the billing date, one and one-half percent (1.5%) of the billed amount will be added for each 30 days that the bill is outstanding from the original invoice date. If any invoice is not paid within sixty (60) days of the original date, 2RW will be entitled to stop work under this agreement until satisfactory arrangements for payment have been made.

Additionally, 2RW reserves the right to refuse to provide to Client or on Client's behalf, any drawings or documents prepared by 2RW for Client under this or any other agreement with Client until all delinquent invoices are paid in full. If 2RW does not receive notification in written form, within thirty (30) days of the date of a disputed invoice, the invoice will be deemed to be correct. All payments made on account should specify the invoice numbers being paid. If payments are received that do not indicate the invoices 2RW will apply payments against invoices at its discretion. Client agrees not to set off payments of 2RW invoices by amounts due or claimed to be due from 2RW.

5. COORDINATION BETWEEN CLIENT AND 2RW. Client and 2RW agree to give prompt written notification to the other of any development or occurrence that might adversely affect the scope or timing of services, or any defect in the final work submitted by 2RW as they are detected. 2RW is not liable for damages caused by delays in performance in the services which arise from events beyond our reasonable control.

6. ALLOWANCE CALCULATIONS. Utility allowances are calculated in accordance with applicable federal and state regulations using an engineered methodology that accounts for the construction characteristics of the building (windows, insulation, etc.) efficiency of mechanical equipment, schedule of lighting fixtures, schedule of water fixtures, number and type of appliances and electronic equipment, and other factors. Information about these characteristics will be provided by the Client, and 2RW assumes no liability for incorrect information. Further, 2RW makes certain assumptions about the number of occupants and hours of occupancy, which will be provided to the Client, and assumes no responsibility for actual deviations from these assumptions.

7. MEETINGS AND CONFERENCES. We will attend all meetings and conferences required by the Client for successful completion of the Scope of Services. Furthermore, we will meet with any public agencies that might be involved in the development of the project on an as-needed basis.

8. UTILITY ALLOWANCE PROCESSING. The allowances will be prepared in accordance with the regulations and policies in effect at this time with the appropriate governmental agency and in accordance with the criteria specified by the Client at the initiation of this project. The fee schedule does not include changes and revisions to the allowances, other than those required through the normal governmental approval process. The Client will be notified of any changes to governmental regulations and policies that will require additional work and fees by 2RW.

After acceptance of 2RW's proposal, the Client shall promptly furnish the appropriate data for the project to 2RW. The Client will be furnished a set of allowances for their review prior to their initial submission to government agencies. After Client review and acceptance of allowance, any further changes, modifications or revisions requested by the Client or its representatives will be extras to this agreement. 2RW provides routine submission of the allowances for approval; however, it may be necessary to perform special processing with different agencies to better serve the needs of the Client. These special services would include but are not limited to: meetings and conferences with different agencies and hand carrying the plans from and to different agencies.

9. TERMINATION. Upon written notification by the Client, 2RW will immediately stop work on any phase or item of work that the Client may wish to suspend. In the event that all or any portion of the work performed or partially performed by 2RW is suspended, canceled or abandoned, the Client shall pay 2RW for all work completed or partially completed, on the basis of the fee schedule and estimated percent completion, plus compensation for all authorized extras or additional work. All amounts earned by 2RW up to the date of cancellation shall be due and payable thirty (30) days from date of cancellation.