

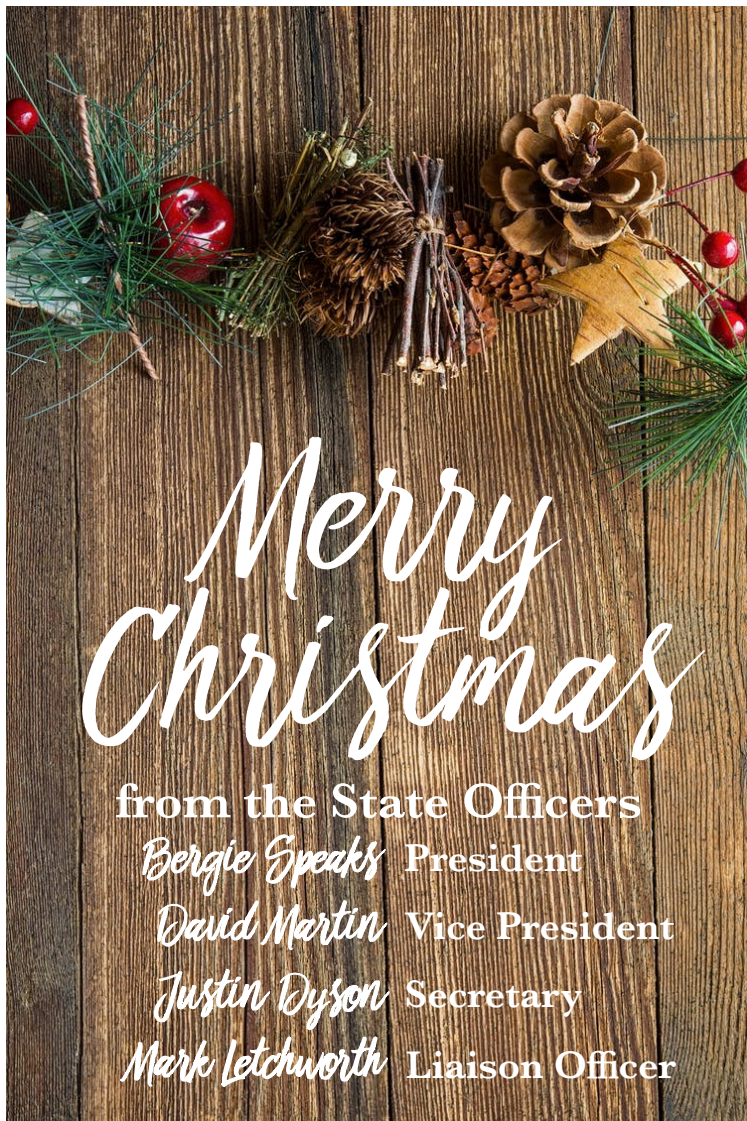
THE MAINTENANCE BEACON

The Monthly Newsletter of the North Carolina Public School Maintenance Association

Volume 58, Number 12
December 2021

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MEETING DATES

The districts of NCPSMA meet twice yearly.

District 1

January, July

District 2

January, July

Pres. Ronald Moore

Phone: 910.296.1875

District 3

February, August

Pres. Mark Letchworth

Phone: 252.399.7822

District 4

February, October

Pres. Donna Fields

Phone: 910.678.2565

District 5

March, September

Pres. Justin Dyson

Phone: 336.909.2280

District 6

April, October

Pres. Chris Adkins

Phone: 980.343.4526

District 7

May, November

Pres. Raymond Bowles

Phone: 336.751.1991

District 8

March, November

V. Pres. Jason Kelly

Phone: 828.456.2402

Meeting Dates & Locations

Should be sent to The Maintenance Beacon two months in advance for publication.

Deadlines

Publication deadline for articles and advertisements is first day of the month prior to month of publication.

49TH ANNUAL NCPSMA EASTERN CONVENTION EXHIBITOR PHOTOS



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Meetings and Events

2022 • 14TH ANNUAL WESTERN CONVENTION WORKSHOP

May 25 & 26, 2022

Ridgecrest Conference Center, Black Mountain, NC

613 Cherry, Street North Wilkesboro, NC 28659

For more information please contact Roxie Mack @ 336.366.4939

2022 • 50TH ANNUAL EASTERN CONVENTION WORKSHOP

September 21-23, 2022

DoubleTree, Atlantic Beach, NC

For more information please contact Roxie Mack @ 336.366.4939

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DEADLY MISTAKES

By Judyth Forte, NC State Plan Coordinator

Fatal Event: A 60-year-old man died at a residential property after he pulled the top of a dead tree onto the ground with a skid steer, then cut the bottom trunk down with a chain saw. As he stepped back away from the falling tree, a nearby dead tree broke off and fell striking him on the head.

Investigative Findings: The employee was conducting arborist operations at the back of a privately owned property, removing dead trees and trees with dead tops. The employer had already removed trees from the west side of the property the week before and was now working on the east side of the property. The plan was to remove the taller trees with dead tops before removing the shorter dead trees by pushing them over with a skid steer. The process used was for an employee to toss a throw ball and line up over a branch, guiding it

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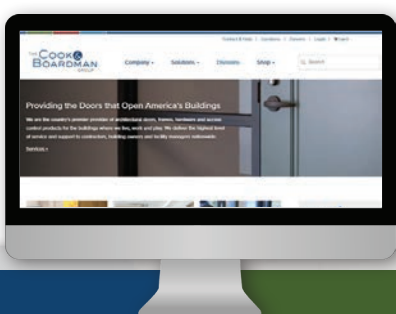
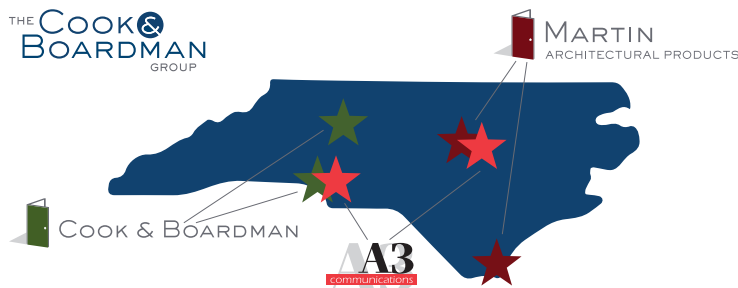
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ROXIE OFF ROAD

Material for *The Maintenance Beacon* has been slim – more so than usual – due to not holding many events. I asked some of our vendors for articles about what they have been up to during the pandemic. Ron Hill with Cook and Boardman Group, LLC sent in the following article. We also welcome articles about your school projects.

Replacement Doors & Expansion of Factory Key System

Cook & Boardman recently was awarded a competitively bid project with Union County Public Schools (UCPS). We replaced several exterior doors with new FRP doors and several new interior wood doors prefinished to match the building standard. As part of the scope of work we were to include over 200 cylinders, supplying, removing & installing new cylinders in the existing doors. This included exit devices, mortise locks, cylindrical locks as well as large format interchangeable cores. This was to expand the UCPS factory registered key system. Further included in the scope of work, it was our responsibility to repair several existing hollow metal frames by blanking out existing strikes and prepping for new strikes. We also repaired years of closer attachment holes while touching up the frames with the building standard paint colors. The paint was supplied by UCPS. We have provided a few before and after pictures of the completed work.



Before Pods
140 Classroom Doors



After Pods
140 Classroom Doors

In order to meet UCPS expectations and their building standards I worked closely with the UCPS Project Manager, Locksmith and Purchasing & Contract Coordinator to develop the bidding documents to insure that their expectations were being met.

This project like most under our current supply chain issues did have its challenges. Manufacturers unable to produce product due to part shortages, not to mention the current situation with the resin shortage where the resin for FRP doors and adhesives used in wood door manufacturing, created challenges I have not seen in the forty plus years I have been in the industry.



Before - Hall Exit



After - Hall Exit

In replacement of existing doors & hardware it is imperative to perform an onsite survey measuring each and every opening to insure that the doors fit when they arrive. In all the years I have been in the industry, few openings have measured the same. Furthermore, when there is existing electronic hardware as we had on this project or if new is required, verification of required voltage is extremely important to protect the electronic components being used. This project was even more challenging due to the type, series and generation of the existing locksets. We had to determine the type of cams, tail pieces, etc. Despite the project challenges, it was a success.

In closing, we as commercial door opening professionals know our goal is to provide solutions meeting the customer's expectations. We hear often after the fact that the materials supplied on a project were not as the owner anticipated, leaving you, the customer, with buyer's remorse. Please feel free to reach out to us at any time. We will be more than happy to work directly with your design team to ensure your needs are met each and every time.

By Ronald A. Hill, AHC CSI
Territory Sales Manager, Cook & Boardman Group, LLC
E: rhill@cookandboardman.com
C: 704-936-6508

more photos on page 6

BEFORE

AFTER

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DEADLY MISTAKES

continued from page 1

around the tree and back down to the employee where a tagline, or pull rope, would be attached and raised and guided up over the branch and then back down to the employee again. The employee would then tie a slip knot on the tagline and tighten it around the tree at branch height. The other end of the rope would be attached to the bucket of a skid steer that was positioned at least a tree length away, in a clear area, to pull off the rotten top of the tree. When that was accomplished the employee would saw off the bottom of the tree using a front side flat cut several inches into the tree, and then use a back side flat cut just above the front cut to create a hinge and a direction for the tree to fall over the lower front cut.

The owner and another employee left the property for a duration and instructed the remaining employee to

continued on page 6

49TH ANNUAL NCPSMA EASTERN CONVENTION EXHIBITOR PHOTOS

continued from page 3



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ROXIE OFF ROAD PHOTOS

continued from page 4



Before - Hall Exit



After - Hall Exit



Before - Classroom



After - Classroom

DEADLY MISTAKES

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get the next tree removal ready. When the employer returned, he noticed the skid steer had been moved from the front of the wooded jobsite to the back. The skid steer was running without an operator with the brake set and it had a rope connected from the bucket to a treetop that had been pulled down. A chainsaw could be heard running in the wooded area. The employee was found, and it was determined that he had been struck in the head by a branch from the rotten top part of an adjacent tree. After being struck by the branch, the employee stumbled approximately 30 feet until he tripped over a dead tree and fell.

Discussion: Before tree removal work commences, carefully consider all relevant factors regarding the trees and site. Take appropriate actions to ensure a safe operation.

The employer stated that he trained the fatally injured employee on operating the skid steer, stump grinder and woodchipper. He had not trained the employee on the use of a chainsaw because he knew the employee owned chainsaws and felt he had experience. The employer stated that the employee wore safety glasses, work gloves, work boots and hearing protection when working. Wearing a hard hat was optional. The employer was not aware that wearing chaps and a face shield is required for chainsaw operators. When asked if he had conducted a Personal Protective Equipment (PPE) hazard assessment for tree removal operations, he said he did not know what that was.

The employee used a chainsaw to cut the bottom trunk of the tree, that was over 20 inches in diameter, 6 inches above the ground. There was no notch cut on the front side of the trunk. ANSI regulations state that a notch should be cut into the front side of the tree if it is more than 5 inches in diameter, at chest height, defined as 4.5 feet above the ground. The employer was also not educated in this requirement and failed to train the employee to do this. He stated that he had never taken any classes on tree trimming or tree removal operations. Dead trees in close proximity to trees being manually felled should be removed before felling of other trees occurs. No PPE hazard assessment was conducted before the job commenced. The employer said he did not require the employee operating a chain saw to wear a protective hard hat and leg chaps. The ANSI Z133-2012, Safety Requirements for Arboricultural Operations, had not been followed.

Recommendations:

- The employer must be aware of all the rules and standards that they must abide by to keep their employees safe.
- The employer must know all the requirements pertaining to the tasks that they have employees working on and must have a safety and health plan in place before the job commences.
- All employees should receive training after they are hired and before a job commences. No assumptions should be made of the employee's skills or knowledge. Employees should either be trained for proficiency or assessed for their skill level. Employers should maintain the relevant paperwork.
- A PPE hazard assessment must be performed, and proper PPE must be provided to the employees for the required tasks, before the work commences. The employee must be supervised to ensure they are wearing all the PPE required and conforming to all the instructions given.

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THE MAINTENANCE BEACON

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Ann Voskamp

SENATE BILL 208

Senate Bill 208, “Labor Law Changes” Becomes Law

By Erin Wilson, Special Assistant for Governmental and Constituent Affairs

On July 8, 2021, Senate Bill 208, Labor Law Changes, was signed into law by Gov. Roy Cooper. The bill received bipartisan support in both the House and Senate chambers. As the agency bill for the N.C. Department of Labor, it provides clarifying language and needed changes to the department’s general statutes.

“I’m happy to report that our agency bill, Senate Bill 208, was signed into law by the governor,” said Labor Commissioner Josh Dobson. “The bill makes minor, but very important, changes to several of the laws we enforce, including the Occupational Safety and Health Act, the Wage and Hour Act and the Amusement Device Safety Act.”

Over the years, the department has had difficulty in obtaining medical records as they relate to an Occupational Safety and Health (OSH) investigation that involves a severe injury or fatality. The new language in G.S. 95-133(b), under the Occupational Safety and Health Act of North Carolina, clarifies that the OSH Division is considered a “health oversight agency” as defined in 45 CFR 164.501 and is a covered entity under HIPAA. The medical records obtained would be restricted to the evaluation, diagnosis, or treatment of an employee injury or fatality. These medical records are strictly confidential, are not public records, shall not be made public and are kept in a secure location that is separate from the OSH investigation files.

Under the Wage and Hour Act, changes were made to the statutes pertaining to youth employment, payment to separated employees, notification, posting and records requirements, and violations of record-keeping requirements. In May of this year, the youth employment certificate application process was updated to a fully electronic filing system from the previous paper application system. This language change removed the words “both directly and electronically” and replaced it with “Certificates will be issued by the Commissioner” since the process is now online only. However, there may be cases where the commissioner would issue a certificate under special circumstances, which would require direct approval from the commissioner’s office.

Employees whose employment is discontinued for any reason shall be paid all wages due on or before the next regular payday either through the regular pay channels or by trackable mail if requested by the employee in writing. This language change in G.S. 95-25.7 allows the payment to be tracked if requested in writing by the employee. Employers must notify employees in writing at the time of hiring of the promised wages and the day and place of payment. Employers must notify employees in writing, at least one pay period prior to any changes in promised wages. Wages may be retroactively increased without prior notice required by this subsection. The language changes in G.S. 95-25.13 require notification to employees, in writing, of promised wages and the day and place for payment. It also requires the employer to give notice of reductions in pay one pay period in advance. A one-word change was made in G.S. 95-25.23 from “investigation” to “violation.” This was done to make the record-keeping statute consistent with youth employment civil penalties.

“The changes that were made to the Wage and Hour section of the bill provided additional clarity and consistency for both the employee and the employer,” said Kisha Holmes, administrator for the Wage and Hour Bureau. “Providing information in writing at the time of hire safeguards all parties involved as to what has been promised. In addition, if the employer would like to make changes to promised wages, giving a notice of one

pay period allows the employer time to make the change and the employee time to receive notification and prepare for the change.”

Article 5B – Regulation of Job Listing Services of Chapter 95 of the General Statutes was repealed. The statute was enacted in 1979 and now most job listing services have shifted to an online presence. Examples of job listing services are Indeed, Monster and ZipRecruiter.

A change to Article 14B – Amusement Device Safety Act of North Carolina, G.S. 95-111.3(a) adds new language to clarify that full-size locomotives and trains are not classified as an amusement device, and therefore, are not subject to inspection and regulation by the N.C. Department of Labor.

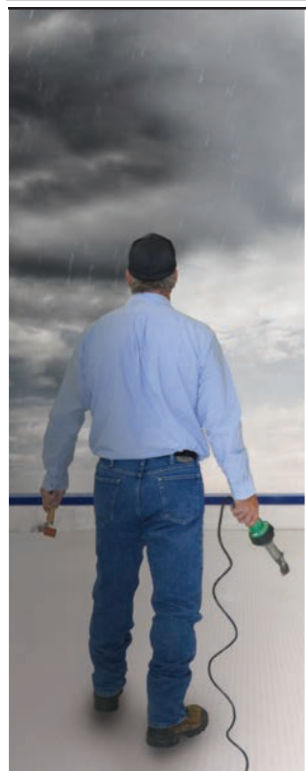
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WSHP SYSTEM DESIGN

PART THREE - OPTIONS FOR CONDITIONING OUTSIDE AIR

By Chad Edmondson

Outdoor air typically requires conditioning before it is brought into a space. By “condition,” we primarily mean dehumidification, a common requirement here in the Southeast. Ideally the conditioned air should be drier than the air in the space. This usually involves overcooling the air, so some amount of reheat is often required, especially during part-load conditions.

There are three basic options for conditioning outdoor air before delivering it to the space. Each has its own advantages and disadvantages to consider with respect to the particular application.

Option 1: Dedicated Outdoor Air System

Dedicated outdoor air systems (DOAS) are the most common choice for conditioning outside air before it is introduced to the heat pump or the space. DOAS units provide conditioned outdoor air to many types of HVAC systems, not just WSHPs, so they are quite common on commercial size systems. These units include both a cooling coil for dehumidification and a reheat coil that uses recovered heat from the refrigeration circuit to heat the air to the desired dry-bulb temperature.

DOAS units are popular because they can remove large amounts of moisture from the air while delivering “neutral” air that has approximately the same dry-bulb temperature as the air in the space. As a result, the WSHP need only be sized for the sensible load, which may lower the cost of the overall installation, depending on the number of heat pumps in the system. Sometimes, the DOAS can supply even cooler air, thus relieving the WSHP of some of the sensible load. This can work as long as no reheat is required.

Option 2: Energy Recovery Unit

Energy recovery units (ERU) condition outdoor air via a desiccant media wheel or other devices that can exchange moisture and BTUs with the building exhaust air. These units have a low operating cost and are often used in combination with a smaller DOAS to help keep costs down. ERUs do not typically have enough dehumidification capacity on their own to manage the latent load of a building, especially on warm, rainy days. Therefore, an ERU is typically “part” of a solution rather than a solution in and of itself. In addition, ERU components (wheel, filters, motors) require regular inspection and maintenance to remain efficient and operable long-term.

Option 3: WSHP with Dehumidification and Built-in Reheat

Standard WSHPs do not typically provide sufficient dehumidification on part-load cooling days, especially if the outdoor humidity is very high. The units tend to run for very short periods, satisfying the sensible load long before adequate dehumidification is achieved. However, some WSHP manufacturers now offer their equipment with integral dehumidification and reheat, allowing owners to avoid the cost of a DOAS and/or ERU. A WSHP with a dehumidification/reheat option can often provide cost-effective dehumidification, depending on the type of reheat that is used.

Reheat options for WSHPs include hot gas, electric, or hot water. Regardless of the heat source, outdoor air is overcooled for the purpose of dehumidification

continued on page 9

JAY PALMER SCHOLARSHIP APPLICATION

2022 Application for Jay Palmer Scholarship North Carolina Public School Maintenance Association

Applications must be postmarked by **February 28, 2022**

Completed application should be mailed to:

John Labban, Scholarship Chairman
C/O James Palmer, III
Jay Palmer Scholarship Fund
6735 East Old US Hwy 64
Lexington, NC 27292-9068

A. APPLICANT INFORMATION:

Full Name _____
*Address _____
City _____ State _____ Zip _____
Phone (____) _____ *E-mail address _____
Date of Birth _____ Age _____ Social Security # _____
Applicant Employer _____

Approximate Salary:

___ \$0-\$10,000 ___ \$10,001-\$20,000 ___ \$20,001-\$30,000

___ \$30,001-\$40,000 ___ \$40,000-above

Current Member of NCPSMA ___ yes ___ no District # _____

*Please include a copy of current NCPSMA membership card with completed application.

Note: if applicant is employed by an LEA Maintenance Department and Active member of NCPSMA, Item C. is not required.

B. APPLICANT SPOUSE INFORMATION (If applicable):

Full Name _____
Address _____
City _____ State _____ Zip _____
Applicant Spouse Employer _____
Work Phone Number _____

Approximate Salary:

___ \$0-\$10,000 ___ \$10,001-\$20,000 ___ \$20,001-\$30,000

___ \$30,001-\$40,000 ___ \$40,000-above

C. APPLICANT'S PARENT INFORMATION:

Father _____	Mother _____
Address _____	Address _____
City _____	City _____
State _____	State _____
Zip _____	Zip _____
Employer _____	Employer _____
Work Phone _____	Work Phone _____
Home Phone _____	Home Phone _____
Father E-mail address _____	
Mother E-mail address _____	

Current Member of NCPSMA ___ yes ___ no * District # _____

*Please include a copy of current NCPSMA membership card with completed application.

D. If applicant is a Dependent Child or Adopted Child, Parents Salaries (combined)

___ \$30,000-\$40,000 ___ \$40,001-\$50,000 ___ \$50,001-\$60,000

___ \$60,001-\$70,000 ___ \$70,001-\$80,000 ___ \$80,001-\$90,000

___ \$90,001-\$100,000 ___ \$100,001 and over

E. Please list other family members (siblings, parents, spouse, etc.) attending school/college

Name & Relationship _____ School/College _____

Expected Graduation Date _____ Age _____

F. *High School Applicant Attended/Attends _____ Year of Completion _____

G. College Attending or Applied to and Accepted _____

Years Attended _____ Year to Begin _____ *Student ID# _____

Address* of college or university/accepted to _____

*Where to send the check made out to the institution and applicant.

*Include a copy of original acceptance letter from university, or a document that is proof of continued acceptance(if 2nd,3rd, or 4th years).

H. List other sources of Financial Assistance _____

I. *On a separate sheet, list applicant's extracurricular activities including, but not limited to academic, church, community, etc.

J. *Briefly convey in 200-500 words on a separate sheet your hopes, wishes and desires for your academic and professional future, along with why you chose the college you plan to attend. Please fill out completely and honestly.

K. PLEASE Include information with a * we need complete applications!

Incomplete applications will not be considered.

Recipients will be announced or notified by the end of June each year. If awarded scholarship, check will be written to the school and applicant, mailed on or about the first week of August of award year.

Completed application should be mailed to:

John Labban, Scholarship Chairman
C/O James Palmer, III
Jay Palmer Scholarship Fund
6735 East Old US Hwy 64
Lexington, NC 27292-9068

OBITUARY

Just learned that Jimmie Williams, former NCPSMA State President, passed away last year.



Jimmie Louis Williams, Sr., 78, of Deep Run passed away on Friday, January 10, 2020, after a lingering illness, at his home. He was born November 26, 1941, in Lenoir County to Redding Henry Williams and Zennie Tyndall Williams. He was preceded in death by his parents, brother Vance Williams and sister-in-law Evelyn Williams. Jimmie was a graduate of Deep Run School, Class of 1960 and went on to study with United Electronics Laboratories and became a licensed electrician. He went on to work for Kinston City Schools and in 2000 retired, after 33 years, from the Lenoir County School system, as the Director of Plant Operations; however, his true passion was serving as pastor of Bethel Baptist Church in Pink Hill for 28 years, retiring 2005.

Jimmie was a 25-year member of Deep Run Volunteer Fire Department, a Mason with Pleasant Hill Lodge #304, where he served as Master in 1978. He served for four years as state president of the North Carolina Public School Maintenance Association, Chairman of the Executive Committee for four years and Chairman of the Legislative Committee for four years. He received awards and decorations from NC Public Schools Plant Operations including Director of the year in 1998 and Honorary Staff Member, NC Department of Education, Division Plant Operations in 1988. Jimmie was a loving husband, father, grandfather, and friend. He is survived by his wife Audrey Hill Williams; daughter Kristen Williams Sumner and husband Mickey of Beulaville; son LTC(R) Jimmie Louis Williams, Jr., and wife Angella of Deep Run; grandsons Ashton Redding Williams, Parker Louis Williams and Isaiah Luke Sumner and loving nieces and nephews.

WSHP SYSTEM DESIGN

PART THREE - OPTIONS FOR CONDITIONING OUTSIDE AIR

and then reheated to the thermostat setting. *continued from page 8*

- Hot gas reheat works by passing the hot discharge gas from the compressor through a separate air coil to warm the dehumidified outdoor air to a suitable space temperature. Unfortunately, these systems rely on complex controls to operate and contain multiple valves and complex piping. In addition, the amount of reheat tends to fluctuate so supply air temperature and humidity tend to be inconsistent.
- Electric reheat coils provide more reliably conditioned air but increase installation costs due to their higher electrical requirements and loads. Electric reheat also yields higher operating costs.
- Hot water reheat is the best option in terms of simplicity, efficiency and reliability. WSHPs with a hot water reheat option include an internal pump that circulates warm condenser water through the hydronic reheat coil during the “cooling with reheat” mode of operation, warming the dehumidified supply air before it enters the *continued on page 10*

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WSHP SYSTEM DESIGN

PART THREE - OPTIONS FOR CONDITIONING OUTSIDE AIR

continued from page 9

space. The amount of reheat that occurs is dependent on the setpoint and how far from setpoint the supply air temperature is. A modulating mixing valve and a proportional controller maintains precise control of water through the reheat coil, so space temperature remains consistent and comfortable at all times, regardless of outdoor conditions.

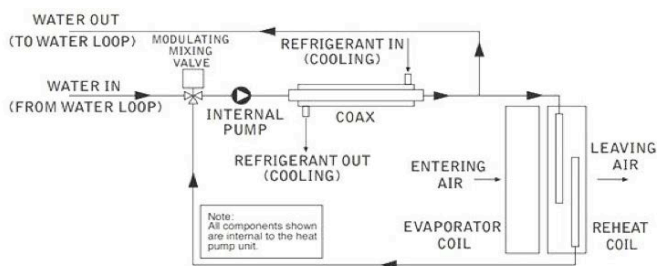
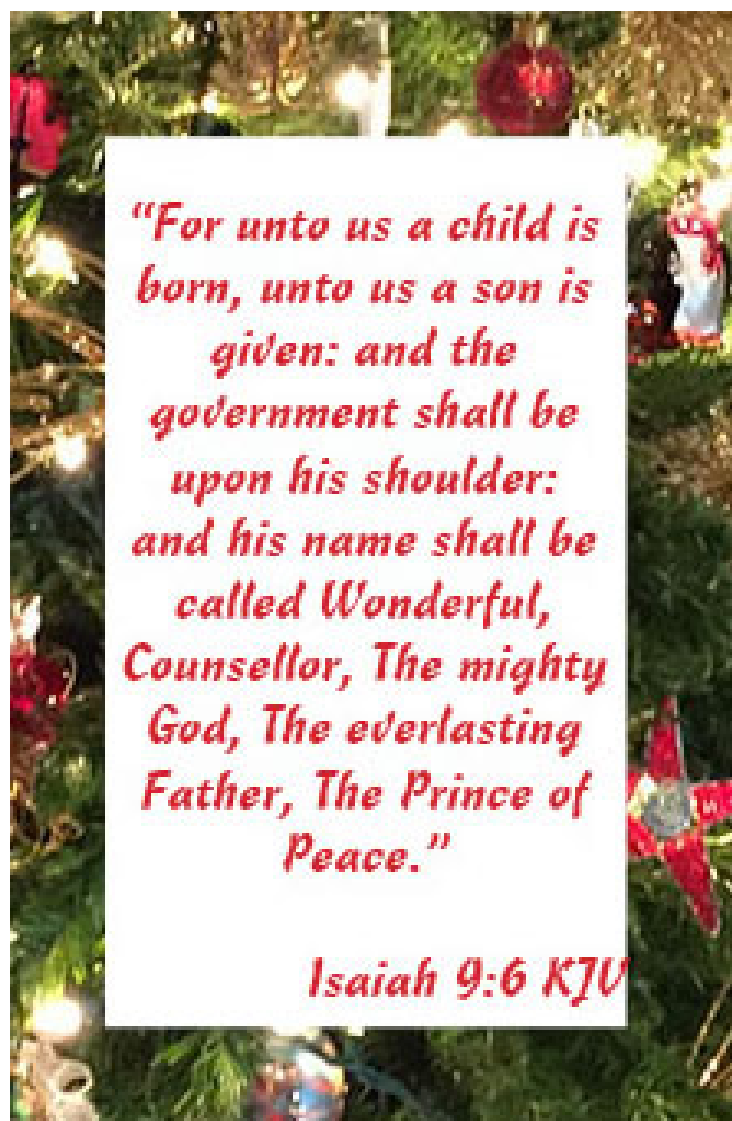


FIGURE 1. INTERNAL SCHEMATIC OF A WSHP WITH HOT WATER REHEAT.

Next up we will look at the water side design and the major equipment that you will find there.

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“Prudence means practical common sense, taking the trouble to think out what you are doing and what is likely to come of it.”

~ C.S. Lewis

DISTRICT SEVEN SCHOLARSHIP ANNOUNCEMENT

Thank-you for your interest in the District Seven Scholarship. We will award a minimum of one scholarship in the amount of \$500.00 annually. The newest recipient(s) will be named during the District Seven Meeting in May of 2022.

Applicants must meet the following requirements:

1. NCPSMA District Seven current active, associate or retired member (minimum of one year) or their immediate family.
2. Financial Need
3. **Acceptance by college, university or technical school**
4. Completed application. If application is not complete and accurate it will not be considered.

In addition to the completed application, on a separate sheet please list applicant’s extracurricular activities including, but not limited to academic, church, community, etc.

Briefly convey in 300 words or less your hopes, wishes and desires along with why you chose the college or continuing education program you plan to attend.

Include copy of current membership card with application.

Include a copy of current membership card. Application must be postmarked by March 11, 2022 and mailed to Tim Pruitt, 689 Maple Grove Church Rd, Hays, NC 28635

DISTRICT SEVEN SCHOLARSHIP APPLICATION

Application must be complete and accurate or it will not be consid-

A. Applicant

Applicants Name _____ Phone _____
 Address _____
 Date of Birth _____ Age _____ Social Security # _____
 Applicant Employer _____
 Approximate Salary _____ \$0-\$20,000 _____ \$20,001-\$30,000
 _____ \$30,001-\$40,000 _____ \$40,000+

High School Attending/Attended _____
 Year of Completion _____
 College Attending or Applied to and Accepted _____
 Years Attended _____ or Year to Begin _____

B. If Applicable

Spouse _____
 Address (if different from applicant) _____
 Employer _____
 Work Phone Number _____
 Approximate Salary _____ \$0-\$20,000 _____ \$20,001-\$30,000
 _____ \$30,001-\$40,000 _____ \$40,000+

Current Member of NCPSMA ___ YES ___ NO
 If YES, how long have you been a member _____

C. Parent(s) of Applicant if Dependant Child or Adopted Child

Name of Father _____
 Address _____
 Home Phone _____ Work Phone _____
 Employer _____
 Current Member of NCPSMA ___ YES ___ NO
 If YES, how long have you been a member? _____
 Name of Mother _____
 Address _____
 Home Phone _____ Work Phone _____
 Employer _____
 Current Member of NCPSMA ___ YES ___ NO
 If YES, how long have you been a member? _____
 Parents Combined Salaries _____ \$0-\$40,000 _____ \$40,001-\$60,000
 _____ \$60,001-\$80,000 _____ \$80,000+

D. NCPSMA Member representing applicant if other then self or parent

Name _____ Relation to Applicant _____
 Employer _____
 Current Member of NCPSMA ___ YES ___ NO
 If YES, how long have you been a member _____

E. Please list other family members attending school/college, etc

Name	College or School	Year to Graduate	Age
_____	_____	_____	_____
_____	_____	_____	_____

F. Finance assistance applied for or received from other sources

Include a copy of current membership card. Application must be postmarked by March 11, 2022 and mailed to Tim Pruitt, 689 Maple Grove Church Rd, Hays, NC 28635