The University of New Mexico

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Physical Plant Department

El Servicio Real

The Royal Service of the Physical Plant

Volume 19, Issue 4, September-October 2002

El Servicio Real is published six times a year by and for the employees of the Physical Plant Department of The University of New Mexico. Submission of letters to the Editor, articles, photos, and suggestions is encouraged.

2002 Schedule

Issue	Deadline	Publication
No. 1	Feb 11	Feb 28
No. 2	Apr 12	Apr 30
No. 3	Jun 10	Jun 28
No. 4	Aug 12	Aug 30
No. 5	Oct 14	Oct 31
No. 6	Dec 6	Dec 20

THE CHALLENGE

by Harvey Chace, Associate Director for Maintenance and Construction

As I began to compose this article on the Maintenance and Construction Division's preparations for the beginning of the Fall Semester, I was reminded of that assignment we had to do when we started fifth grade. "Everyone write a paragraph about what you did during the summer while school was out of session." Remember how we struggled to write a hundred words about fishing and bike riding? My challenge, this time, is not to try to fill a page. I could write a book about the significant campus improvements Maintenance and Construction has made in preparation for the start of UNM's 2002-2003 academic year. Let me give you the *Reader's Digest* condensed version.

Our Remodel Section pulled another rabbit out of the hat by performing fast-track alterations in Tapy and Wagner Halls for the relocation of Engineering College programs from the Engineering Annex. It was a race between Remodel and the wrecking ball (which hit the old Annex building on August 8). Remodel also prepped the north end of the Geology building for the arrival of a 30-ton press that will be used to crush rock samples returned to earth by NASA's space exploration missions. The restrooms in the "dungeon" below Mitchell Hall also got the Remodel treatment—new finishes and lighting throughout, and water-conserving automatic flushers and faucets, to boot.

Just when they thought they were caught up, the Remodel team walked into another gotta-be-done-yesterday project at the commercial strip mall across from the credit union on Lomas Boulevard. One of the new tenants will be the Human Resources employment office. What an improvement from the "can't find it, and can't park when you get there" place on Roma! The second new tenant in the new "Lobo Center" will be one of UNM's most important community service programs, the Speech and Hearing Therapy Clinic that has struggled to serve its bus-loads of APS clients from portable buildings on the east edge of the Health Sciences Center for many years. Remodel's challenge is to alter the Lomas facility for these important customer service activities as soon as possible.

Our Engineering staff has been equally busy around the campus, taking full advantage of the summer lull in vehicle and pedestrian traffic. The clipboard-and-hardhat group has been diligently bringing the new campus domestic water distribution excavation to a successful conclusion while adding new pavement to Redondo, south and west, and to Campus Boulevard. This summer's aggressive paving improvement progam replaced almost all of UNM's tooth-rattling, corncob sections of roadways.

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The engineers also excercised their expanded responsibility for inspection of new construction and technical compliance with specifications. They stayed very busy assisting Facility Planning with the management of the Student Union Building, Hibben Center, and Law School construction projects. They continued to improve our electrical distribution system by adding Coronado Dorm, Dane Smith Hall, and the Human Resources complex of buildings to the new, highly reliable, dual-feed, 12,470-volt system. They designed and installed a refrigerated-air cooling system that serves major portions of Hodgin Hall, including the Bobo Room. Now we can comfortably schedule retirement receptions and other key events on the third floor of Hodgin Hall without concern for Albuquerque's hot and humid monsoon season.

The Engineering Section also carried the ball for our campus-wide classroom upgrade program. Area managers nominated their worst classroom. The engineers followed up with new finishes, theater-type seating, and improved lighting in seven high-use instruction spaces: Fine Arts 2018, Mechanical Engineering 218 and 210, Biology 139 and 35, Ortega 152, and Journalism 212.

But most satisfying to the Engineering group was the recent employment of the newly installed switch-gear and tie-feeder between the north and main campus. As I write this article, the new load transfer system will be routing Main Campus Substation power to the Health Sciences Center and UNM Hospital, while the North Substation is down for maintenance.

Summer business has been just as brisk in our Area shops. Area One is hoping to buy some smiles from returning staff and students with renovations to the men's bathroom and replacement of the second floor ceiling at Scholes Hall. Other major renovations in Area One include the Institute for Public Policy and Naval ROTC .

The Health Sciences Center received some significant improvements this summer, thanks to the Area Two maintainers. The HSC remodel crew completed the conversion of a residence at 917 Vassar into office space for the University ethicist. Other high- tech alterations in HSC's research spaces included a new BSL-3 Lab in the Animal Research Facility and the remodeling of a chemotherapy suite that included the relocation of the servicing pharmacy. On the mechanical side, the Area Two staff installed a new 20-ton cooling unit for a computer pod at the Biomedical Research Facility. The auditorium at the Nursing and Pharmacy school also got a major overhaul. And, thankfully, the Area Two locksmiths finished up an enormous security renewal project. Area Two is ready for the fall arrival of new students and the startup of new research projects.

The Area Three team is anxious to show off improvements to the Olympic Pool decking, new carpet in Anderson School, and new paving in front of Coronado Dorm. Ray Garcia, the

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In November 1998 our Custodial Services Department initiated a new cleaning system called OS1 (Operating System 1). Among other methods, this system incorporates a concept called team cleaning, which involves custodians working as task specialists in a team concept to clean an area.

Implementation of the OS1 system took two years, as hundreds of custodians needed to complete the training program. The week-long training was held every month, and Main Campus Custodial Project Manager, Victor Tovar, was there every time to help train and encourage the staff. Victor also busied himself in the buildings as custodians began to put what they'd learned into practice. More than once did Mary Vosevich chase him out of here after a too-long day.

The OS1 system has been going strong at UNM ever since. Ours has become the pilot program for over 100 universities across the nation, who now use this new system.

The implementation of this innovative program was due largely to the untiring efforts of Victor Tovar. During his time here, he has cultivated a rapport and mutual respect with his staff, which facilitated their enthusiasm for the journey. Victor exemplifies professionalism, loyalty, and determination, all qualities which helped make the OS1 system such a success here at UNM.

Victor's willingness to embark on a new method of custodial services has had a significant impact on the University of New Mexico, and on the custodial services industry as a whole. For his achievements, Sodexho, the company that employs him, has awarded Victor the regional Spirit of Sodexho Award in Technical Achievement for the Campus Services Division, and has also received the national award for the Sodexho Campus Services Division. Victor is now in the competition for company-wide recognition. This is a quite an accomplishment, and wonderful recognition!

Victor is part of Sodexho's team, but he's also a vital part of ours. Congratulations to Victor and all of the Custodial Services staff. More importantly, thank you for working so hard to bring this worthwhile program to campus. We're proud of you and your work!

Engineering Section News

Energy engineer Bob Notary has been with the Physical Plant for 3 1/2 years. Bob has been actively involved in energy retrofit projects at UNM, where he has taken the lead on energy management systems. He has put an emphasis on optimizing energy efficiency in sophisticated laboratory environments. His speciality is implementing digital controls in aging campus buildings to enhance mechanical systems for improved comfort and efficiency.

Bob was the 2002 recipient of the Energy Engineer Award, which was presented to him at the New Mexico Chapter of the Association of Energy Engineers on September 17, 2002.

Bob received a B.S. in Mechanical Engineering from Purdue, and an M.B.A. from Indiana University.

PPD hires new manager for facilities maintenance

Coming from a humble Texas family, Glenn Stockard recently relocated to the Albuquerque area to take advantage of the cool summer nights and the hot green chile.

Glenn started out as an electrician many years ago. Having spent a number of years managing maintenance and construction projects in the manufacturing and finance industries, Glenn is new to the public sector. He has a strong background in finance and project management, and, he says, has "a dry, twisted sense of humor."

Glenn and wife Therese have survived four teenagers, with one more to go. Living in Dallas, two are grown, one is in her third year in college, and one is a high school senior. Living at home is a pre-teen soccer fanatic, who is already planning to go to medical school at UNM.

Glenn's hobbies include shooting sports (probably a Texas thing), gunsmithing, boating (when there is any water available), camping, hunting, and restoring old cars.

Glenn says that he is honored to have been chosen to join UNM and the Physical Plant Department. He is very excited to be here, and looks forward to being able to contribute to the continued success of the department and the University.

Welcome to UNM and to PPD, Glenn!

Inside Ford

Utilities Center

(Left to right) Benjamin Dziczek, Lawrence Bojorquez, John Barnhart, and Kendall Ritchie.

John Barnhart, Utility Plant Tech (pre-certified)

John moved from Michigan to be closer to his daughter and her family, and to get away from the Midwestern winters. John previously worked at the Holland, Michigan Board of Public Works' Power Plant.

Lawrence Bojorquez, Coordinator, Utilities Maintenance

Lawrence will be handling all the work orders for the Ford Utilities Center. He was previously the chief engineer at the Radisson Conference Center. His wife, Norma, works in the Office of the President of UNM.

Benjamin Dziczek, Utility Plant Mechanic (pre-certified)

Benjamin recently moved to New Mexico following his service in the U.S. Navy. He served aboard the USS Hartford as a machinist mate, and on the USS Philadelphia as a laboratory technician in the submarine's nuclear power plants.

Craig Eustace, Utility Plant Mechanic (pre-certified)

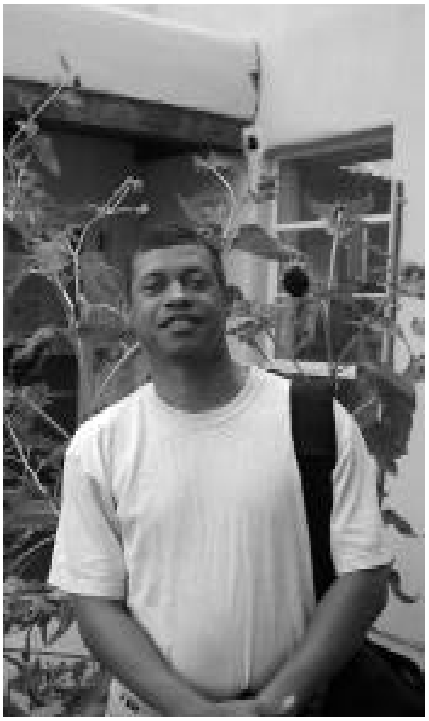
Craig is from Zuni, New Mexico. He has an Associate's degree in Electrical Trades from TVI, and a certificate in Construction Technology from UNM-Gallup. Most recently, Craig was helping to build the nuclear power plant in Gila Bend, Arizona.

Junior Fresquez, Utility Plant Mechanic (pre-certified)

Junior is a native of Taos. He served in the U.S. Navy on the USS Essex and the USS Belleau Wood. Just after getting out of the Navy, Junior worked for an art gallery in Taos, where he crated and shipped paintings and sculptures.

Quent Hudson, Instrumentation Controls Tech (pre-certified)

In addition to his vast experience with instrumentation and controls, Quent has experience in many areas, including driving an ambulance, repairing slot machines and X-ray equipment, and managing a chile product marketing company. He was also a member of the New Mexico Civil Air Patrol.



Ramon Calderon, Student Employee (*above*)

Ramon is working on his Master's degree in Chemical and Nuclear Engineering. He came to the United States from Cuba where he was the chief of Plant Operations with Empressa del Niguel.

Kendall Ritchie, Utility Plant Tech (pre-certified)

Kendall is a graduate of Sandia High School. He served in the Navy aboard the USS Coral Sea as a machinist mate. He is experienced in maintaining and operating printing equipment.

Nelson Sexson, Instrumentation Controls Tech II

Nelson is not new to PPD or to Ford. He returns to Ford after working for several years in the Physics Department. Welcome back, Nelson. We knew you couldn't stay away!

Pete Wakitsch, Utility Plant Tech (pre-certified)

Pete previously worked in the Center's Maintenance Department. He has moved to Operations and has started the year-long Boiler Operator's Training Program.

Building condensate return system upgrades

by Jeff Easton, Interim Associate Director, Utilities Division

THE IMPLEMENTATION OF A PROGRAM TO SYSTEMATICALLY UPGRADE THE BUILDING CONDENSATE RETURN SYSTEMS

What is condensate? The Utilities Division generates steam at Ford Utilities Center by burning natural gas in boilers to convert water into steam. The steam is delivered to campus buildings through piping systems in the utility tunnels. The steam is circulated within most campus buildings for heating and other needs. When the heat from the steam has been used, the steam condenses into water, known as condensate. The condensate is either sent to sewer drains or returned to Ford Utilities Center.

Why return condensate to Ford Utilities Center? The boilers must always have water to replace the steam that leaves them. Without feedwater, the boilers would quickly go dry and steam production would stop. To prevent this, the steam system is designed to be a closed circulating loop. The steam that leaves the boilers turns into condensate in the buildings and is returned to the boilers using pumps in each building's mechanical room.

The system has leaks: When condensate system components fail and can't return pure water from the buildings, the water goes down the drain. This water must be replenished at Ford Utilities Center by softening city or campus water into boiler-quality water. The softened water has less mineral content than tap water, which makes it suitable for boiler feedwater use. Purchasing make-up water and softening it increases the cost of producing steam.

The Goal: While all condensate systems have some leaks, it is important to maximize the amount of condensate returned to the boilers. The Utilities Division measures this performance by comparing the amount of steam produced with the amount of make up water that has been added to the system. Our goal is to maintain less than 20% makeup to the system. From the building operation perspective, the goal is to have less than 20% loss from the system.

The upgrade program: Each building has a condensate tank and pump system that is often several decades old. The building condensate system in each building drains into the tank in the mechanical room. When the tank fills, the pumps turn on to return the condensate to Ford Utilities Center via the condensate piping system in the tunnels. Because of the age and condition of the tank system, it often fails to operate properly. The tank overflows and the water drains to the sewer. This causes added expense to replace the lost water.

To remedy this condition, the Utilities Division is replacing each mechanical room's condensate tank and pumps, and is adding a system flow meter. With each upgraded building, less make-up water will be required to be added to the steam system; the added metering will allow us to monitor the quantity of water loss at each building. The avoided operating cost will be used to offset the capital cost of the new equipment.

Upgrade schedule:

Several building sytems have been completed:

Coronado Hall
Onate Hall
Simpson Hall
Clark Hall
Manzanita Center
Scholes Hall
Northrup Hall (Geology)

Future buildings to be completed:

Alumni Chapel
Carlisle Gym
La Posada
Anthropology
College of Education
Student Health Center

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departing area manager, handled the contract installation of shatterproof glass panels throughout the east wing of the College of Education building before he moved to construction management duties. His replacement, Dwight Kawulok, is now lining up the contractors and materials to begin renovation of the 30-year-old College of Education restrooms early in the fall semester. Finally, Area Three assisted Facility Planning in a complete rehab of Student Financial Aid, an area that is sure to see heavy use this fall.

In Area Four, returning students will see lighting upgrades in Mitchell Hall and Humanities, new bathrooms in Fine Arts, restored rehearsal rooms and hallways in the Music Department, and fresh paint and finish restorations in the Photo Lab and in the atrium of the new Art Building. Outdoors, pedestrians will notice the stucco restoration and new paint on the Anthropology and Chemistry buildings. Contractors working in Area Four also replaced the high-traffic walkway between Clark and Tapy Halls.

In all, it was a frantic but satisfying summer. We have made some great facility improvements, and now our focus shifts to preventive maintenance and quick response to students, faculty, and staff requests for service and repairs. Thanks to all of the Maintenance and Construction troops for working so diligently to make every fall semester opening noticeably better than the last. Go Lobos! ■

High in the Sky

On October 11, 26 employees from across the department participated in Bucket Truck Training conducted by the arboriculture crew. This will allow operation of the bucket truck without relying on help from Grounds and Landscaping. Pictured below are participants Joe Moya, Automotive; Chris French, Area Two; Guy MacMurray, Ford; and Max Apodaca, Sign Shop. To the right, Leo Duran of Area Two is being instructed by Gregg Gutierrez, Arborist.

Physical Plantt New Employees

Accounting Section
Thu Luu, Accountant

Grounds & Landscaping Section
Alex Alvara, Irrigation Tech
Ray Aragon, Grounds Tech
Keith Blake, Grounds Tech
Jim Corcoran, Grounds & Landscaping Manager
Anthony Merchain, Grounds Tech
Raul O'Dell, Turf Tech
Marvin Sedillo, Grounds Tech
Andrew Silva, Grounds Tech
Willie West, Irrigation Tech

Health Sciences Center Custodial
Maria DeJesus Lopez, Custodian
Juan Gallegos, Custodian
John Hollenbeck, Custodian
Michael Olivares, Custodian
Tom Tafoya, Custodian

Maintenance & Construction Division
Myron Jones, Electrician, Remodel
Daniel Kelsey, Facilities Services Tech, Area One
Martin McPherson, Structural Tech, Remodel
Christopher Saunders, Facilities Services Tech, Area One
Sergio Tafoya, Structural Tech, Remodel

Nine PPD staff complete five, ten years of UNM service

Area One
Joel A. Straquadine, manager -- 5 Years

Custodial East
Luciano Jaramillo, custodian--5 Years

Custodial North
Danny J. Padilla, custodian--5 Years
Jose Ramirez, custodian--5 Years
David R. White, custodian--10 Years

Custodial Day & Training
Paul G. Garcia, custodian--10 Years

Custodial West
Mike Aragon, custodian--5 Years

Landscaping
Greggorio Gutierrez, arborist--5 Years
Michael E. Saunders, arborist--5 Years

Bryan's favorite tree

Autumn and Trees

Autumn is such a pleasant season in Albuquerque. The days are shorter and cooler. The fall foliage, ripening fruit, last flowers, and hot air balloons all become pleasant distractions before winter settles in.

Trees are in transition during the last warm days before frost, storing energy to sustain them during the dormant season, and sending pioneer roots out to explore and colonize new areas of soil. There are two primary natural phenomena that trigger the physiological changes in trees in preparation for the cold of winter. These are day length and lower temperatures, which bring on the earliest stages of dormancy. Trees prepare for winter in a methodical progression of physiological changes--they acclimatize to winter in degrees. They will reach their period of highest cold tolerance after a series of progressively colder events. This is usually sometime in January, and they will begin to 'break' dormancy as the days become longer and the temperatures gradually become warmer.

Leaves are the 'grocery stores' of trees, where photosynthesis captures the energy of sunlight and stores it in molecules of sugar. Essential to this process is chlorophyll, which colors foliage with its green pigmentation. As the days grow shorter, chlorophyll production slows and eventually stops. This reveals the other two main pigments that were always present in the leaves, but were masked by the chlorophyll. This brings out the fall colors. These two pigments are carotenoids, which provide the yellow, orange, and brown hues, and anthocyanins, which give the red and purple colors.

Temperature and moisture seem to be big influences on fall color. Warm, sunny days with cool (not freezing) nights make for the most intense displays. Without soil moisture, the trees do not produce the same amounts of sugars, and pigmentation might be earlier and is sometimes less dramatic.

All is not lost with those falling leaves--they act as an insulating cover on the soil, moderating temperatures and conserving moisture. The leaves also decompose and recycle the mineral elements present in them. Mimicking these conditions by applying a layer of mulch is a very good thing to do for the trees in your home landscape.

Common name: Italian stone pine
Botanical name: *Pinuspinea*
Family: Pinaceae

One of my favorite evergreen trees is the Italian stone pine, *Pinus pinea*. There are two beautiful specimens on campus. They are in front of the Latin American Institute at the corner of Yale and Mesa Vista. These trees are among the largest Italian stone pines in Albuquerque. The species name *pinea* literally means 'of pines'. Its beauty and character have earned it this designation as 'pine of the pines'. In its native range in the Mediterranean region, it has long been grown commercially for its pine nuts, which are used in Italian cuisine, and to shelter the villas, farms, and vineyards from wind and weather. It is now used around the world as an ornamental tree.

The stone pine was first introduced into landscape usage in England in about 1548, and to the American nursery trade in about 1818. It had reached California, where it has become common, by 1870. It is still considered rare in much of North America because as a young tree it will not tolerate extreme cold temperatures. The two on campus have withstood temperatures well below zero and into the low hundred-degrees-plus range. Dry summers are normal for much of the

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The Grounds and Landscaping Section recently received a Pollution Prevention Award from the City of Albuquerque's Wastewater Utility Division. Thanks in large part to the efforts of supervisors David Trujillo and Felix Vallejos, the award recognizes the staff for following "Best Management Practices" according to city, state, and federal guidelines. The city says that this accomplishment limits the amount of regulation and monitoring we'll need to undergo in the future.

Some of the innovative practices that have been instituted are recycling cooling tower blow-down water from Ford, having a spill control and chemical hygiene plan, and maintaining records of recycled materials and waste disposal. Many landscape designs and practices have been modified to conserve energy and resources, as well. For instance, using larger mowers requires fewer gas-guzzling passes at the grass, recycling grass clippings reduces fertilizer needs, and replacing particularly high-maintenance turf areas in favor of low-maintenance landscapes reduces water and energy inputs. Further, water harvesting gardens have been installed, and the department is using environmentally friendly de-icers and reduced-pressure irrigation valves which protect the domestic water system from pollutants. Pesticides must be used, but take a tremendous amount of energy to manufacture, and can degrade during long-term storage. To minimize these problems, the staff has limited the quantity and types of fertilizers and pesticides applied on campus, stores them safely, and discards them properly and promptly.

By taking care to be environmentally sensitive, PPD is helping protect not only campus visitors, but also the Rio Grande, as well as the environment as a whole. A city pollution prevention specialist commented that PPD's efforts to go above and beyond "help ensure the safety of our world for generations to come."

Thanks to David, Felix, and the rest of the team for their hard work and concerned attitude. Congratulations on the award!

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Mediterranean region, so the tree flourishes in hot, dry summers. It should grow in any garden soil in Albuquerque.

Stone pine is characterized by its mushroom or umbrella shape. With age it will become quite large. The record tree, growing outside of Rome, is over 120 feet tall. The needles are long, about 3"-6", and are clustered in twos. The color will vary seasonally from a rich, emerald green as the new growth comes out to a deep green in the summer. The cones begin as small reddish flowers on the branch ends and take three years to mature. The mature cones will open to drop the nut, with some cones producing almost a hundred nuts each. The common name "stone pine" is a reference to the hard shell covering the nutmeat.

The tree has no serious insect pests. Pruning is usually limited to removing deadwood, maintaining good structure to avoid breakage, and trimming as needed for clearance.

Fertilize very lightly if at all. A mulched, established tree will need a good, deep watering about twice a month, depending on rainfall and temperature. If the tree is growing in a lawn it may never need any supplemental watering. Don't forget to water occasionally during our warm, dry winters (not much yet this winter).

Enjoy this tree that is a symbol of the beauty and majesty of pines. This tree has shared a long history with man--it has been used an enjoyed by man for as long as we have been present in its range. ■

Physical Plant Employee Promotions

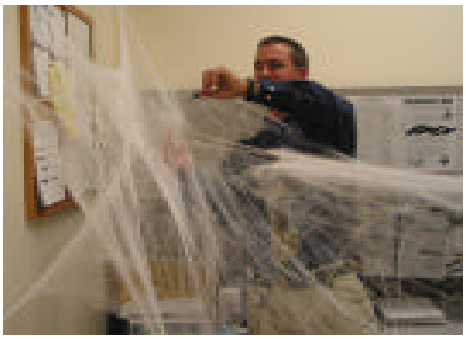
Frank Bonanno
Interim Supervisor, Area Two

Willie Dodge
Supervisor, Area One

John Fitzgerald
Operations Manager, Utilities Division

Carl Hein
Instrumentation, Electrical, and Controls Manager, Utilities Division

Dwight Kawulok
Interim Manager, Area Three



The PPD accounting staff decided that Jeff Kormanik left his office unattended much too long. Jeff returned from annual leave to find other tenants had moved in. Rather than to call the "bug man" for pest management, Jeff managed to crawl through the cobwebs and removed the little critters himself.

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