

## **FACILITIES OPERATIONS**

# **REPAIR & RENOVATION SERVICES**

## **ANNUAL REPORT**

*Carpentry Maintenance Shop  
Carpentry Projects Shop  
Construction Services Shop  
General Shop  
Lock Shop  
Paint & Sign Shop  
Roof/Waterproof Shop  
FCAP Group  
Projects Group  
Commissioning and Warranty Services*

**FY 2015-2016**

# **Repair and Renovation Annual Report 2015 -2016**

## **Program Summary:**

The Repair and Renovations unit has a mission and responsibility for general maintenance, repairs, alterations, and small renovations of facilities architectural systems, and building envelope. This is achieved through building condition assessments, warranty project management, and minor renovation project management, completed in a team environment with the combined effort of the very talented and hardworking R&R staff. Although it is a team effort, each shop has distinguished itself and advanced the program for the shop and for the unit overall. During this fiscal year the unit responded to 1,372 work requests for the Projects Group, and over 11,129 work requests for the Trade shops. The unit operates under a vision of commitment to quality, value, timeliness, and safety, supporting each other and our customer with respect, integrity, and accountability, striving to serve the customer's needs in maintenance and renovation services to sustainably meet the university's changing needs. These values are evident in the work we do every day and this annual report.

We value our staff and work to recognize their accomplishments regularly in shop meetings, on our digital and physical bulletin boards around the office, and on our departmental website. We proved our continuous recognition to responsibility to the campus this year by having a 100% turnout for adverse weather. We recognize our constant place in the community this year by participating in meal packaging, Habitat for Humanity building projects, and having 98% of our staff participate in the Combined Campaign program. We make an effort to support our staff with individualized training and OSHA 10 hour training for the entire R&R staff with support from EH&S.

## **Shop Accomplishments include:**

- Major roof repairs were accomplished by the Projects Group on Partners I, Weaver Labs, Turfgrass Building, Dearstyne Avian and Carmichael Complex totaling over \$224,963. Repairs were removing damaged and wet insulation, replacing rotten nailers and sealing various penetrations.
- Projects Group add Fall Protection to several roofs making for a safer working environments for everyone who accesses the roof. These buildings include Centennial Campus Utilities Plant and Weed Control Unit. Total spent \$69,256.
- Projects Group manages all documents that are maintained in AiM (Computer Work Management Program) that are in reference to the work order for Repair & Renovation. Examples of documents would be specification, quotes from vendors and submission of invoices for final payment. All documents are screened and available quick reference.
- New dentistry suites were constructed for Student Health in the Student Health Center and Research II under the management of Steve Eisenberg, PM.
- Renovations to all 3rd floor restrooms in Nelson Hall was completed under the management of Bill Moog.

- Lock shop's campus-wide re-keying project is moving forward with the completion of DH Hill, Schaub, Ricks Hall, Research II, and Pullen Hall.
- Lock shop's online key request has been very successful, as we continue to move forward with transitioning over to Simple K.
- Developing assessment reports for the top 30 roofs and waterproofing projects. Four roofing reports completed and four in progress.
- The UAI team has completed the assessment of all the underground utilities at CBC and Centennial campuses. Currently assessing the Main campus underground utilities.
- The UAI team created Google Fusion Visualization for the top roofing, waterproofing, paving and street lights inventory.
- Roofing & Waterproofing shop assisted in revising the above and below grade estimates through visual inspections to generate reports and customize estimates based on the actual condition.
- Roofing & Waterproofing shop made multiple large repairs to failing roofing material and the Park Alumni Center.
- Improvements were made to the stair tread and building trim of DH Hill and Hunt Libraries.
- Paint shop continues to improve campus by power-washing buildings such as Toxicology, Daniels, and Holladay Halls, as well as patching and painting building common areas across campus.
- Several improvements made inside and outside of Holladay Hall, including repairing brick and stone walk mortar joints, and painting the Chancellor's office.
- Carpentry Maintenance is consistently at The Point moving items in preparation of events and functions.

### **Unit level accomplishments**

- Created interactive map of street repair data including information such as: date of repairs, total and unit costs, etc. Used as a planning tool for upcoming repairs.
- Created a similarly informative map of roofs on campus with data showing roof ages, prioritized replacement, etc. Serves as planning and budgeting tool, as well as work implementation tool.
- Created an interactive map of waterproofing needs on campus. Used as a planning tool for records and upcoming repairs.
- Developed and implemented a set of minor renovation construction details; documenting the means and methods for typical installations of plumbing, electrical fixtures and structural connections. The staff has been trained to follow the standards and have aligned the warehouse to stock standard materials to reduce variation and potential installation problems.
- Prepared the process for the SRM Department Self-Performance Small Work Pilot Program for the minor renovation work, as well as developed the supporting web presence for this project on the departmental website.
- Revised book rates for typical work to support uniform project cost established on our share drive.

## **A. Changes in Scope of Activity**

### **Facility Condition Assessment Program (FCAP), Warranty, Design Review, Core Maintenance**

#### **FCAP**

- New assessment schedule- start with 12 new buildings that have no current DM values. When completed start with 22 buildings (2008 assessments) that need updated DM values.
- Provided the 2014-2015 annual FCAP report in September 2015
- Three assessments completed-Grinnell, BTECH and SAS Hall. EB III in progress.
- Provided numerous PowerPoint presentations to upper management on various topics.
- Developing assessment reports for the top 30 roofs and waterproofing projects. Four roofing reports completed and four in progress.
- Completed the 2015 Buildings and Properties Committee presentation.
- Assist the University with the assessment of real estate property.
- Presenting at the 2016 NCAPPA conference on May 18<sup>th</sup>. The FCAP team will present the benefits of data visualization utilizing Google Fusion.

#### **Utility Asset Inventory (UAI):**

- Team is currently composed of 8 NCSU engineering interns
- The team has assessed the condition, size and length of all the underground utilities by obtaining the latitude and longitude data for all underground utilities by dividing each utility into various geometrical shapes and plotting them in the AutoCAD Civil 3D drawings.
- Additional data such as installation dates, capacity of the utility, etc. is collected using AERES drawings, installation photos and field observations.
- The team has completed the assessment of all the underground utilities at CBC and Centennial campuses. Currently assessing the Main campus underground utilities.
- Created Google Fusion Visualization for the top roofing, waterproofing, paving and street lights inventory.

#### **Warranty Shop**

- Warranty WO's monitored daily, "Active" and "Tracking" logs are printed weekly.
- Over 313 Warranty Work Orders have been closed since 2012, with work completed by the general contractor at no additional cost to the university at recently completed projects.
- Currently managing 18 warranty issues varying in size and scope.
- Warranty expiration 90-day alerts issued periodically and copied to L: Warranty.
- O&M manuals received and distributed periodically, distribution list updated.
- Vendor training sessions coordinated by the FCAP team; assist with receiving, storage, and disposition of materials attic stock
- O&M manuals for recent closeouts are now issued by OUA for pickup by the Warranty Shop for distribution to appropriate Zone Shops
- Holding meetings with BM&O, CPM and other involved parties to discuss current warranty issues and process improvement

### **Design Review**

- Forwarding design review notices to Facilities.
- A New Building Checklist Summary is also provided to directors each month. This report provides an updated progress report of the percentage of completion for the transition from project completion to hand over of facilities.
- Attending Reynolds logistics meetings as the R&R portal
- Participation in building walk-throughs are also attended as needed

### **Roof Maintenance**

- Generating reports for the Top 30 roofing needs. Completed four reports for fiscal year end and lapsed salary projects.
- Four additional reports are in progress.
- Revised the roof replacement estimates through visual inspections along with the roofing and waterproofing shop to generate reports and customize estimates based on the actual condition.

### **Waterproofing Database**

- Generating reports for the Top 15 waterproofing needs.
- Completed two reports for the fiscal year end.
- Revised the above and below grade estimates through visual inspections along with the roofing and waterproofing shop to generate reports and customize estimates based on the actual condition.

### **Assisting Other Groups**

- Gardner Hall roof replacement project- Worked with DCS, BM&O General Shop and Roofing/Waterproofing shop to prep Gardner Hall roof. This was done to achieve lower cost of roof replacement in order to also complete Gardner Hall addition's roof.
- Close out Documents Focus Group R&R representative. Discussing the close document requirements for each division as well as how many copies and who gets what information related to projects from CPM, DCS and R&R.
- CCD –Hired REI to generate equipment inventory reports for CCD. Participated as a liaison between CCD, BM&O and REI.

### **Core Maintenance**

- Created the Core Maintenance program to identify and address building system deficiencies in the core spaces of each floor in state-appropriated campus buildings.
- Developed a proposed sequence of buildings
- The inspections are limited to interior finishes of core spaces or common areas namely corridors/hallways, restrooms, lounges, breakrooms, stairwells and elevators, as well as, the exterior envelope (roofs, window leaks, failing mortar etc.)
- We have two buildings Mann and Tompkins Hall completed the interior repairs and minor exterior repairs with the final inspection at Tompkins. Major exterior projects are executed as separate projects. Completed inspections and reports on Page Hall and Daniel Hall.
- Looking to work with BM&O in assisting our Core Maintenance team by assisting with many mechanical issues that need immediate attention to complete all the needs in the building.

### **Sustainability @ R&R**

- A pilot unusable stationery project at R&R in collaboration with the University Sustainability office coordinator Liz Bowen. The recycling project involves collection of these items to be sent to Terracycle. The project has extended to the Facilities Division, College of Design Green Initiative group and Poole College of Management.
- Ingrain sustainability into Core Maintenance by documenting sustainability items for buildings.
- Represent R&R as a part of the Sustainability Council's "Planning, Operations and Campus Design Working Group" for the university's 2017-2022 Sustainability Strategic Plan.

### **Construction Services**

- The Construction shop had over 215 projects this past year. The largest project worked on was Research 3, 1<sup>st</sup> floor office area where we demolished each area in sections to allow work to continue. The construction shop reconstructed each office area by installing 14 new HVAC systems with ductwork, new ceilings, led lights fixtures and all necessary data and power requirements.
- The Construction shop now has 15 permanent worker and 5 UTS workers.

### **Large-scale projects**

- JORDAN HALL - 4113, 4115 - lab renovation
- CALDWELL - change lights G106, G108, G109, and G110 to LED.
- MRC - room 325 - chilled water and exhaust duct.
- NELSON - 3300, 4221 renovations.
- ADMIN II - room 207 - convert conference room to office space.
- COLLEGE OF TEXTILES - graduate school POD 3 renovation.
- POULTON - 2ND FLOOR - springboard renovation
- POE HALL LIBRARY - conference room and library work room upgrade.
- STUDENT HEALTH - room 2222A - divide existing office to create counseling office.
- POE HALL - 602J, 602B - remove walls, install cabinets and lighting.
- MRC - room 325 - add compressed air, nitrogen lines
- DANIELS HALL - room 201 – renovation.
- TOMPKINS - room 202 - divide into two separate rooms and add a new HVAC unit.
- BURLINGTON LABS - B203A - mass flow meter, LP airline, drain line and tank.
- MANN HALL - rooms 424, 425 – renovation.
- JOYNER VISITOR CENTER - rotunda renovation.
- KILGORE - rooms 68, 70 – renovation and added new HVAC unit.
- PARTNERS II - rooms 3700, 3900 – new HVAC and lab renovation.
- RESEARCH III - tenant equipment on the roof.
- DH HILL LIBRARY - 3rd floor renovation and the installation of 2 new HVAC units.
- POULTON - front stairwell refinish project.
- PARTNERS II - install new building security upgrades.
- WILLIAMS - room 2114 - replace ceiling.
- AVENT FERRY TECHNOLOGY CENTER - rooms 109, 111 general construction.
- MRC - hallway renovation outside room 246.
- DH HILL LIBRARY - build sound booths.
- FRIDAY INSTITUTE - 2nd floor renovation.

- CBC FACILITIES SERVICE CENTER - project up fit.
- RESEARCH II -rooms 101,102,201,202,301 install vent hoods with base cabinets,
- BUTLER HALL - building renovations.
- AVENT FERRY C - Magnolia Cottage - office space renovations.
- EB III - rooms 4225A, 4211 - lab renovations.
- EB III - 2402 – renovations
- BROUGHTON HALL - rooms 1331, 1331A - room renovations.
- BROUGHTON HALL - 3RD & 4TH floor up fit

### **Small-scale projects**

- HARRIS HALL - modify existing power in room 1015A,
- SCHAUB - room 126 - relocate emergency shower.
- POE 225E - place an automatic damper with wall mounted thermostat,
- EBIII - laser curtain, interlocks and laser use sign in room 3404.
- PARTNERS I - suite 1100 - duplex power outlets and white board.
- POE REAR ENTRANCE - electrical assessment to C panel,
- WILLIAMS - rooms 2234 AND 2229 - remove counter, replace carpet.
- COLLEGE OF TEXTILES - DOOR 2401 - ADA installation
- HARRIS HALL - re-route electrical conduit.
- SULLIVAN II - room 113 - computer room shelving.
- DS WEAVER - room 122 - new carpet.
- RESEARCH BUILDING I - room 324 - install sink.
- POE - rooms 628, 718 - noise reduction the 718 labs & 628 offices,
- EB III - HB101 - add laser curtain, wiring and signage.
- HOLLADAY HALL - room B7 - install 50 inch TV.
- COLLEGE OF TEXTILES - G108 - remove humidifier and sink.
- POULTON - 2ND FLOOR - springboard renovation,
- DAVID CLARK LABS ADDITION - room 185 - install benchtop autoclave.
- POULTON- LAS 3RD FLOOR - relocate security system cabling
- POE HALL - room 104 - install cabinets.
- EB II - rooms 1022, 1024 - remove wall between rooms.
- POE HALL - 602J, 602B - remove walls, install cabinets and lighting.
- COLISEUM DECK - install conduit for new island.
- POE HALL - room 106 - new carpet, tile and paint.
- RESEARCH IV - room 1401 - remove wall, new carpet and paint.
- POULTON - LAS tombstone power supply repair.
- POLK HALL - rooms 118,119 - touch screen monitor installations.
- SCOTT HALL – room 328 - CONVERT 120V, 60 HZ TO 208 - 230 V.
- WILLIAMS - room 2126 - new carpet, track lighting and switch.
- EB III - room 1401 - 208V service.
- MRC - room 214 - sink installation.
- DH HILL ATRIUM - loading dock install two twist lock (250V/20A) receptacles.
- TALLEY STUDENT CENTER - replace exterior glass door.

- PAGE HALL - room 233 - wood floors.
- ADMIN III - room 222 - installation of monitor.
- EBII - room 2025 - sink installation.
- TERRY CENTER - decommission sterilizer.
- RESEARCH BUILDING II - room 101 - air line.
- ADMIN II - room 131 - install 50 in. LCD flat screen TV.
- DH HILL LIBRARY - install E-boards, electrical and AV boxes.
- CVM MAIN BUILDING - room C242 - relocate monitor.
- PARK SHOPS - 2nd floor break room - install sink.
- MRC - room 246 - carpet replaced, chair rail removed, whiteboards removed..
- DANIELS - room 118 - add wall.
- SCHAUB HALL - G11 - install dedicated circuits.
- GARDNER - room 2517 - remove wall case (two cabinets).
- COX HALL - rooms 114, 115, 106 - disconnect and reconnect modular desk units at Broughton.
- COLLEGE OF TEXTILES - room 1102 - steam hook up and vent.
- ADMIN I - room 1117 - power strips, lighting.
- STUDENT HEALTH - room 2301 - electronic blinds.
- RESEARCH BUILDING II – room 2 203, 300 - new furniture base feeds.
- EB I - corridor emergency showers and eyewash stations,
- COLLEGE OF TEXTILES - room 3241 - eyewash, sink.
- DANIELS HALL - room 320 - remove wall in lobby of suite.
- COLLEGE OF TEXTILES - room 1121 - automatic screen power.
- SCHAUB HALL - room 25 - water line valve and check valve.
- JORDAN HALL – room 6119 - data port.
- WILLIAMS -room 3240A - upgrade electrical wiring, outlets.
- PAGE HALL - rooms 226, 233 - wall modification projects.
- HEADHOUSE II - GREENHOUSE SECTION F-101 - electrical outlets, timers, light supports.
- FRIDAY INSTITUTE - lobby - tile floor.
- THOMPSON HALL - room 311 - conduit for closed loop camera system.
- NELSON HALL - room 4103 - ceiling mounted projector.
- RESEARCH IV - SUITE 1800 - emergency lights. .
- RESEARCH IV - suite 1200 - side lite window.
- HARRIS HALL - room 1011 - data

## **Trades Shops**

### **Carpentry Projects Shop**

- Harrelson mold issue room G-108 called in CRC. Sam Curtis PM.
- Nelson demo 3<sup>rd</sup> floor men's and ladies rooms Bill Moog PM
- McKimmon repair nosing around stage for Ryan Lawrence.
- McKimmon remove and relocate chair rail in conference room Bill Moog PM.
- Bagwell install bathroom partitions for General shop.
- MRC install electric static floor tile Jack King from Storr.



- Phytotron install louvers in green house doors.
- Housekeeping modify box truck for water extracting team.
- Admin II install chair rail on 1<sup>st</sup> and 2<sup>nd</sup> floors.
- B-tech remove and replace drywall ceiling due to water leak.
- Auto Shop fabricate 3 new key racks.
- Partners I rebuild laminate cabinets due to flood.
- Student Health construct new metal walls/drywall, and install doors and frames Steve Eisenberg PM.
- COT repair outside drywall soffit due to flood. Flood Team Responded.
- Kilgore demo lab cabinets and dispose of.
- Tally Student Center install misc. items white boards, artwork etc. for TJ Willis.
- CVM install 980sq' of VCT tile and cove base in the OIT room.
- Harrelson remove carpet, clean chairs, wipe down all hard surfaces due to mold. CRC & Storr brought in to fix the problem. Sam Curtis, PM.
- Sullivan I construct new uniform closet
- MRC room 320 shaft flood into lab, drywall and VCT repair. Flood Team Responded.
- EB III flood men's room, malfunctioning urinal. Flooded 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> floors. Flood Team Responded.
- Broughton, shops moved back to Sullivan I.
- Council building boarded up and secured.
- Transportation, constructed (25) 2"x 4" sign holders.
- Weisiger Brown installed 8 new Terex benches.
- Poe 500 installed chair rail. Jeff Luz PM
- Yarbrough Steam Plant constructed work stations for shop.
- Summer jobs list was worked on – replaced ceiling tile in Winston & Kilgore; organized and restocked sustainability trailer; performed annual maintenance on all flood equipment
- Admin III and Tops buildings - key boxes installed, as per Christian Davis.
- Tracy Dixon 160 blocks of wood from sustainability trailer.
- Gardner cover shower handles with pipe insulation, safety issue.
- EB III flood room 4413 Autoclave with broken fitting. Flooded 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> floors.
- Dearstyne mold on walls and ceiling due to high humidity 96%. Belfor was brought in to remove and wipe clean all surfaces and contents.
- CBC Install approx 1000sq' of VCT in OIT room, ground floor including cove base.
- Holiday Hall reconfigure desk and file cabinet, Charles Brown PM.
- Poe 500 install carpet tile, cove base and new threshold, Jeff Luz PM
- CVM Install new surgery table. As per Ken Satterwhite.
- COT Flood two locations areas around 1217 and 1209 suite due to roof drain and floor drain outside.
- EB I mold was found in lab 1016, CRC abated the mold carp/project shop re-installed insulation, drywall and lab cabinets.
- Broughton frame, drywall, install new grid and ceiling tile and install K.D frames and doors. For two rooms on the 3<sup>rd</sup> floor, Annette Snead PM

- Page Hall demo aluminum storefront and create a bulkhead overhead. Annette Snead PM
- CVM Fire caulk a wall approx. 60' long and re-install ceiling tiles. Bill Moog PM
- Swine building off of Reedy Creek Rd. Installed classroom desks and chairs.
- Bob Erickson, Athletics, drywall at the rifle range, buffer installed over rifle range targets, oak cabinet was made and installed over copier.
- Magnolia Cottage installed all wood trim, Steve Eisenberg PM
- DH Hill flood assisted housekeeping with fans and dehumidifiers. VCT tile and brick
- Research II flood on 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> floors. Fume hood internal pipe broke. Removed carpet tiles, cove base, ceiling tiles, moved furniture and put everything back after dry.
- Lock shop renovation, modified work stations, repair VCT, move furniture and install new case work. Construct new work counters and hang new overhead cabinets

### **Carpentry Maintenance Shop**

- Research Annex B, Built a new deck and ramp, attached to the building.
- Carmichael Gym, Changed all racquetball courts ceiling tile.
- Brooks Hall, Replaced all the broken glass on entire third floor library.
- DH Hill, Replaced all stair treads that were creating tripping hazards.
- Mann Hall, Core Maintenance entire building.
- Tompkins Hall, Core Maintenance entire building.
- MRC, Replaced fourth floor VCT tile, and ceiling tile.
- Replaced glass at several bus shelters all over campus.
- Provide access into walls campus wide (installation of access panels).
- Repair and Replace doors throughout campus.
- The Point (Chancellor's Residence), consistently moving items in preparation of events and functions.
- Provide moving services for offices and furniture campus wide.
- Partners II, Replaced multiple ceiling tile throughout whole building.
- Spring Hill House, Replaced damaged soffit and trim on exterior of building.
- Hunt Library, Re-attached trim pieces on building using aerial lift.

### **General/Fabrication Shop**

- Lee Hall – repair spalled concrete
- Lee Hall – fabricate and install new railing to match existing handrail
- Equine Training facility – replace ceramic tile in dormitory, bathroom and hallway
- Holladay Hall – cut out and point all mortar joints in brick and stone walk at East entrance
- CVM Equine – modify stainless steel cryogenic inserts for liquid nitrogen tank
- Butler Communications – demo block walls, door frame and window frame
- Gardner Hall – remove roof top equipment
- CVM Research – Fabricate sump pump screens for roof top AHU
- Motor pool entrance – add drains and pour back concrete sidewalk and curb
- Hillsborough Gateway – add railing to match existing
- Housing- various shower pan and tile repairs
- Campus- various curb and sidewalk replacements

- CVM Blue Ridge entrance- pour drainage swale
- Admin 2 – pour new sidewalk
- Mann Hall – cut in new doorway on fourth floor
- Mann Hall – masonry repairs for Core Maintenance
- Pullen Hall – install benches, tables and chairs on new patio
- Reynolds Parking Deck – gate island installation
- Reynolds Parking Deck – install flashing to keep bats from roosting
- Nelson Hall – install stainless steel corner guards for Core Maintenance
- CVM Canine Facility – install chain link fence for dog pens
- Admin 2 – install railing in stairwell
- Peele Hall – install new ceramic tile in bathroom 212
- Poe Hall – install new tile backsplash in kitchen 510
- Research 2 – stainless steel ductwork for new fume hoods
- Simple K- install chit vaults on various buildings
- Oval Dining Hall – fabricate and install grease filter racks
- Western Manor – brick in A/C openings in various buildings
- ES King Village bldgs. A,J,H,I –pour back concrete floors in kitchen areas
- Owen, Tucker and Bragaw – install solar umbrellas
- Campus – install way finding signs
- Wolf Ridge – install concrete pad, tables, benches and chairs

### **Lock Shop**

- Our campus wide re keying project has been moving forward with the completion of DH Hill, Schaub, Ricks Hall, Research II, and Pullen Hall.
- We are currently working on Brooks, Kamphoefner, with expected completion date of May 2016.
- Biltmore is in the beginning stages, with an anticipated completion date of mid-September, and Phytotron being next up with projected completion date of mid-November.
- The lock shop has completed both, phase one and phase two establishing key rooms at Broughton and MRC to help shorten drive time back and forth for keys and inventory. Maintaining geographic specific inventory for main campus and Centennial at these locations.
- The installation of Chit vaults has been moving forward with ten more completed locations, bringing the number of police boxes, to one hundred installed around campus.
- Our online key request has been very successful, as we continue to move forward with transitioning over to Simple K.
- We have been in the process of working with Simple K to integrate our Keystone program into Simple k to eliminate redundancy.
- Our rekeying of appropriated roof doors has been completed.
- We are near completion of rekeying high voltage rooms.
- Initiated and completed new billing process for all keys cut now billed thru AiM.
- Streamlined shop stock and eliminated unused items and identified by manufacture rather than a stock number, for ease of charging materials.
- Assisted Projects Group with numerous projects.

### **Paint/Sign Shop**

- Patched & painted common areas D.H.Hill, Mann Hall, Polk Hall, Weed Control, Williams Hall, Joyner Visitor Center, Head House 3&4, Poe Hall and Turner House
- Polk Hall reglaze windows east side & six rooms on south side
- Clean graffiti off various places on campus and Centennial Campus
- Poe Hall painted suites on 3<sup>rd</sup> Floor, 4<sup>th</sup> Floor, 6<sup>th</sup> Floor And 7<sup>th</sup> Floor
- Poe Hall classrooms on 2<sup>nd</sup> floor
- Painted first floor Research III
- Patched & painted Nelson 2<sup>nd</sup>& 3<sup>rd</sup> floor restrooms renovation
- Painted Student Health Med clinics 3,4,5
- Painted core projects, Mann Hall, Tompkins Hall
- Painted Clark Dinning
- Power washed front of Toxicology, .Holladay Hall and Daniels Hall
- Painted after flood repairs in COT,MRC,EB III, Research II, Research IV
- Painted Admin II 207,153,154,145,158,220, Staiway,2<sup>nd</sup> floor Hall
- Painted Peele Hall rooms 211,215,217,206,317 and 208
- Painted Poe Hall Library,628,718,602,317K,402N,746C,204D,707,Suite 612
- Painted Page Hall suite 1,rooms 7,7B,8,9
- Painted Holladay Hall Suite A and Chancellors office
- Assisted with numerous projects for the Projects Group.

### **Roofing/Waterproofing Shop**

- Partners 1- Adhered a 35ft x10ft piece of rubber over Grifols lab and stopped eight to ten leaks that were leaking for over a year
- Partners 2- Cut out all vertical joints around entire building filled all with backer rod and sealed with new caulking.
- Gardner Hall- Removed all useless penetrations on roof, capped all curbs and old penetrations before roofing contractor started the job. Saving thousands of dollars.
- CVM Research- Coated all concrete pavers on top of the roof with a rubberized coating. Stopped ongoing leaking issues
- Park Alumni-Multiple large repairs made to failing roofing material.
- Brooks Hall- Repaired over 10 leaking windows that have been an ongoing problem
- Toxicology- Installed new membrane around heat stacks an vents that have been an ongoing issue
- Friday Institute- Made multiple large repairs due to failing roofing material.
- Performed campus wide roof inspections and PM's
- Assisted the warranty shop on numerous projects

## Projects Group

### Projects Group

- Management of the AiM database for monitoring all work orders assigned, close and billing upon completion for Repair & Renovation Services.
- Manage all documents that are maintained in AiM (Computer Work Management Program) that are in reference to the work order for Repair & Renovation. Examples of documents would be specification, quotes from vendors and submission of invoices for final payment. All documents are screened and available quick reference.
- Repairs and patching of asphalt on Morrill Drive, Oval Drive and Main Campus Drive. Milled and repaved over 792 sys of asphalt on Dan Allen (North), Founders Drive patching and curb repair.
- Recycled 792 sys of asphalt for reuse.
- Major roof repairs were accomplished on Partners I, Weaver Labs, Turfgrass Building, Dearstyn Avian and Carmichael Complex totaling over \$224,963. Repairs were removing damaged and wet insulation, replacing rotten nailers and sealing various penetrations.
- Roof coating was applied to Research III, increasing the life of the existing roof. Additional repairs were made to the roof membrane to correct deficiencies.
- Glass repairs on several buildings, most noticeable would be Jordan Hall, with 14 pieces of glass replaced, with a price of over \$13,000. Jordan Hall has recurring problems with the structure settling and failure of IG glass seals. Other buildings with broken glass or failed seals include Leazar Hall, Student Health, Partners I and others that had either broken glass or fail seals. Hunt Library gaming room had a broken glass door replaced, totaling over \$13,000 alone.
- Thompson Theater requested replacement of mirrors in their dance studio, installation totaled over \$14,000.
- Door view kits were popular request for installation around campus. This sometimes affected the door and keeping the fire rating, over 10 buildings requested view kits for installation.
- Water fountains with water bottle fillers are increasing in demand for campus needs and inquiries are also increasing on their potential use. Installations in Caldwell Hall, Facilities Motor Pool, Admin III, Biltmore Hall, Poe Hall and Carmichael Gym are some of the bottle fillers that have been added around campus.
- Fall Protection was added to several roofs making for a safer working environments for everyone who accesses the roof. These buildings include Centennial Campus Utilities Plant and Weed Control Unit. Total spent \$69,256.
- Moving items from one location to another and sometimes within the same space were requested multiple times from our unit. Doug Lynn our move coordinator, assigns our in-house resources to assist. Moves took place in Patterson Hall, Primrose, Biltmore, Page, Textiles, Nelson and CVM. Doug also uses outside expertise when needed for larger and heavier moves.
- Asbestos abatement was accomplished in various manholes, and steam pipes were rewrapped. Addition abatement was accomplished on many small scale projects, usually a few pieces of floor tile/mastic and occasionally some identified insulation. All notification and

documentation is kept in AiM. Share documents and verification with EHS and UAO is maintained on all abatement projects.

- Installation of over 4,725 sf vinyl composite flooring in NCSU Swine Lab, Partners II, Research III and others.
- Tasked for request for carpet on 77 projects.  
Installed over 5,000 sq. yards of carpeting in CVM, Poe Hall, Caldwell Hall, Patterson Hall, Student Health, Research II, Research III, Hillsborough, Broughton Hall and others.
- Recycled over 4725 sq. yards of carpeting.
- Lab renovations completed: Dabney Hall has had several large lab renovations for Chemistry. Research II and Partners II are also major lab renovations. Included in renovations are new casework, new energy efficient lighting, new ceilings, bench tops, sinks, electrical, fixtures, replacement fume hoods and flooring.
- Renovations to modify office space and common areas in various locations, Caldwell Hall, Poe Hall, Tompkins Hall, David Clark Labs, Nelson Hall, Daniels Hall, Daniels Hall, CVM, Research I, Research II, Research III, Partners I, Partners II, , Student Health, Mann Hall, Hillsborough Building, Admin II, Admin III, Kilgore Hall and College of Textiles along with others. Renovations included items like electrical, painting, moving walls, doors, locks, HVAC modifications, address life safety, ceilings, light and, flooring.
- LED Lighting – Caldwell Hall, ground floor replaced lighting with new LED lighting and installed replaced ceiling grid and ceiling tiles in classrooms and hallways. In addition, several areas in Poe Hall have received LED lighting upgrades.
- Exterior painting was accomplished on Winston and Turner House.
- Participated in NCAPP Jeff Luz and Steven Eisenberg provided training on our method of Small Project Renovations, in particular, working with State Construction Office. This is shared information that others can take and build upon.
- Further developed a direct working relationship with the University Architects Office and State Construction Office for requirements for construction completion.
- Revised book rates for typical work to support uniform project cost established on our share drive.

**B. Volume of Activities**

There were a total of **12,501** work requests completed by Repair & Renovations for this fiscal year.

<u>R&amp;R Work Requests</u>	<u>15-16</u>
Admin	22
Carpentry Maintenance Shop	1,555
Carpentry Projects Shop	1,085
Construction Services	688
FCAP	32
General Shop	879
Lock Shop	3,854
Paint Shop	794
R & R Projects	1,372
Roofing/Waterproofing Shop	1,191
Sign Shop	968
Warranty	<u>61</u>
<b>Total</b>	<b>12,501</b>

**C. Special Achievements of Significance**

- Represent R&R as a part of the Sustainability Council’s “Planning, Operations and Campus Design Working Group” for the university's 2017-2022 Sustainability Strategic Plan.
- Water fountains with water bottle fillers are increasing in demand for campus needs and inquiries are also increasing on their potential use. Installations in Caldwell Hall, Facilities Motor Pool, Admin III, Biltmore Hall, Poe Hall and Carmichael Gym are some of the bottle fillers that have been added around campus.
- A pilot unusable stationery project at R&R in collaboration with the University Sustainability office coordinator Liz Bowen. The recycling project involves collection of these items to be sent to Terracycle. The project has extended to the Facilities Division, College of Design Green Initiative group and Poole College of Management.
- Recycled over 4725 sq. yards of carpeting.
- David Hatch presented at the fall and spring sessions of the APPA Institute.

**D. Special Program Reviews, Studies or Plan**

- Participated in NCAPP Jeff Luz and Steven Eisenberg provided training on our method of Small Project Renovations, in particular, working with State Construction Office. This is shared information that others can take and build upon.
- Further developed a direct working relationship with the University Architects Office and State Construction Office for requirements for construction completion.

- Revised book rates for typical work to support uniform project cost established on our share drive.
- Presenting at the 2016 NCAPPA conference on May 18th. The FCAP team will present the benefits of data visualization utilizing Google Fusion.

## **I. Compact Plan: Major Initiatives**

- 2017 SRAPPA Conference – Phase 1
- Construction Standards Training
- APPA Training at NC State
- R&R Projects & Construction Shop Business Model
- Space Planning for R&R Shops
- Database Refresh for R&R Building Elements
- Focused spring cleaning & summer work programs
- Roof Access Safety Program Phase II
- Implement FCAP 2.0
- Assist with the implementation of web based Admin on call resources
- Review and improve flood coverage for weekends
- Standardizing workflow to support objective measures for the CASE award

## **II. Diversity**

- Project SAFE NC State Ally training & safe place.

## **III. Staff**

### **A. Major New Appointments**

#### New Hires

- Scott Koempel, Carpenter II, Carpentry Projects Shop
- Ranjani Rajagopalan, UTS Temp to Core Maintenance Inspector, FCAP Program
- Brian Donohoe, Locksmith II, Lock Shop
- Anthony Strossi, Plumbing Technician, Construction Shop
- Kaleb Langley, HVAC Technician, Construction Shop
- Ahmed Almaghribi, UTS Temp to Painter, Paint Shop
- Brandon Blakley, Project Manager, Projects Group
- Kirk Fisher, Project Manager, Projects Group
- Larry Faulkner, UTS Temp to Carpenter, Construction Shop
- Derrick Reddish, UTS Temp to Carpenter, Carpentry Shop

#### Promotions

- Jeff Johnson, Advanced Mechanical Team Leader
- Jeff Luz, Project Manager to Senior Project Manager/Renovation Reviewer
- Annette Snead, Project Manager to Senior Project Manager
- James Valentine, Maintenance Mechanic to Mechanical HVAC Renovation Technician
- Mark Krucke, Maintenance Mechanic to Mechanical Electrical Renovation Technician
- Alex Brininger, Maintenance Mechanic to Roof/Waterproof Shop Supervisor



## **B. Kudos, Professional Activities and Recognition**

**Code for Contractors Part 1&2** – Mike Ellison

**APPA Institute** – Rich Hassard, David Hatch, Kevin Ingalls

**HR Academy** – Chris Stufano, Jeff Luz, Alex Brininger

**Highlands Ability Battery** – Micah Jasper, Kelsey Hassard, Roxane Waller, Joe Riley, Wayne Lynch, Steven Eisenberg, Sonja White, Jack Walder, Joe Hill, John O'Connor,

**APPA 2015** – David Hatch

**SRAPPA 2015** – David Hatch, Rich Hassard, Kevin Ingalls, Cathy Blanchard

**Electrified Hardware/Simple K** – Brian Donohoe, Pat Ferguson, Maynard Pilley

**Eplex Lock Class** – Jeff Thomas, Tara Williams, Graham Drewes

**School Lockdown/Best Electronics** – Jack Walder

**Compass** - Ranjani Rajagopalan

**Pathways** – Jeff Johnson

**AutoCad Level 1** – Brandon Blakley, Kirk Fisher

**Painting & Decorating Expo 2016** – Bud Brannock

**Chlorinated PolyVinyl Chloride Training** – Andy Miller, Jimmy Burns, Mike Gill, Kaleb Langley, Anthony Strossi, Mike Hodges, Tom Perniciaro, Larry Faulkner, Randal Deadmond, Tim Campbell,

**Pro-Press Training** - Mike Ellison, Andy Miller, Jimmy Burns, Mike Gill, Kaleb Langley, Anthony Strossi, Mike Hodges, Tom Perniciaro, Larry Faulkner, Randal Deadmond, Tim Campbell, Don Iannucci

**Fume Hood Operations & Safety training** – Wayne Lynch, Jeff Johnson, Mike Hodges, Anthony Strossi, Kaleb Langley

**On Call Flood Response** - CB Banks, James Beasley, Lacie Hack, Freddy Hernandez, John Jefferds, Dan Kittrell, James Valentine

**Electrical Code** – Jimmy Burns

**Performance Leadership** – Joe Riley, Steven Eisenberg

**2016 Emerging Issues Forum** – David Hatch

**2016 NCAPPA Conference** – 17 R&R Employees

**2016 State Construction Conference** – David Hatch, Johnny Cline

**Asset Works Conference** – Roxane Waller

**Pride of Wolfpack** – Wayne Lynch, Annette Snead, Bud Brannock

**CASE Award** (Colby Award for Shop Excellence) – Lock Shop, General Shop

**ATTA Jobs** – We received 64 ATTA Jobs from customers during the past year. ATTA Jobs may be viewed at our web site: [rnr.ofa.ncsu.edu](http://rnr.ofa.ncsu.edu)

## **V. Recommendations and Concerns for the Future**

- The deferred maintenance backlog has continued to increase at an exponential rate. The increased cost in deferred maintenance likely exceeds the debt service that would be required to address the problem.
- The deferred maintenance is impacting the reliability of the buildings. This year valuable research in entomology was lost due to failure of a heating system over 50 years old.
- The deferred maintenance that is that considered critical will increase for 48% to 75% in the next three years.