

## **PART II. TECHNICAL PROPOSAL ABSTRACT**

**Applicant Name:** Piedmont Virginia Community College

**Project Title:** Construction Academy

**Industry Focus:** Construction

**Partnership Members:** PVCC, Associated General Contractors of Virginia, 5 employers, Piedmont Workforce Network, Charlottesville-Albemarle Technical Education Center, Central Virginia Small Business Development Center, Charlottesville Department of Social Services, International Rescue Committee, Charlottesville Redevelopment and Housing Authority

**Proposed Training and Capacity-Building Activities:** PVCC will expand the Construction Academy into a comprehensive training facility, offering a career ladder/lattice extending from construction occupation awareness activities through entrepreneurial and business management courses. The Academy is directed by the Construction Academy Coordinator, who has graduate degrees in education and over 20 years experience in the construction industry. The Academy ties directly into regional economic development strategies and utilizes WIA resources. The Academy will sponsor an annual Construction Rodeo competition and recruitment event, offer free pre-apprenticeship training, and build capacity by locating and equipping a first-rate facility and designing and launching the following new programs: nationally recognized certification testing for specialty trades, construction team leader certificate program, a for-credit supervisor certificate program, entrepreneurial certificate program, and green build certificate program. Also as part of capacity building, a Construction Student Liaison will work individually with students to facilitate the early resolution of issues impeding success, connect students to industry, and provide consistent, career-specific, and personalized guidance. The training and capacity-building activities will result in 255 new helpers entering the workforce and 565 incumbent workers obtaining training to advance their careers.

**Funding Level Requested:** \$1,479,497

**Additional Leveraged Resources:** \$227,160

### **Project Description**

**Statement of Need:** Within the PVCC service region, the demand for workers in all construction occupations is expected to grow by 40% (20% new jobs and 20% replacement jobs) during the period from 2005 to 2015 (CC Benefits, Inc.). On June 13, 2006, a construction industry forum was held at PVCC to solicit input from industry leaders and representatives and to identify labor shortages and training needs. They identified their top challenges as lack of skilled craftsmen and lack of qualified field superintendents, among others. The participants discussed ways in which PVCC could partner with them to improve the industry. Providing a certificate program and providing business and management courses relevant to construction were ranked highest. The pre-apprenticeship certificate program targets low-wage workers, unemployed adults, out-of-school youth, ex-offenders reentering the community, and refugees and immigrants – populations that tend to be the most difficult to serve and experience the highest barriers to success, including low skill and literacy levels, limited or erratic work histories, status as felons, and limited English proficiency. These students need more guidance, advice, and support. The Charlottesville area lacks the needed infrastructure to provide the training that construction employers are demanding. PVCC is the most logical organization to bring all the pieces together, fill in the gaps, and create a state-of-the-art construction education academy.

**Key Partners:** Partners include PVCC, Associated General Contractors of Virginia, employers, the Workforce Investment System, public schools (CATEC), Central Virginia Small Business Development Center, and community organizations such as the International Rescue Committee, the Charlottesville Department of Social Services, and Charlottesville Redevelopment and Housing Authority. PVCC will lead the partnership, under the co-direction of the Academy Coordinator and Deans of Divisions at PVCC. Representatives from partner organizations will form an Advisory Committee and meet formally each quarter.

### **Training and Capacity Building Plan**

#### **Goal 1 – Training: Expand the pilot pre-apprenticeship certificate program from two trades to six, increasing the number of students from 40 to 120 per year**

The 16-week pre-apprenticeship certificate program consists of (1) general and introductory courses; and (2) specialty courses which include classroom instruction and hands-on workshops for the following trades: carpentry, electrician, plumber, HVAC, masonry, and welding. In year 1 of the grant, the program will expand from two trades to three and then to four in year 2. In year 3, the final two trades will be added and six cycles will be offered. During year 1, the Academy Coordinator will investigate national skills certification testing programs to find the option that best meets local employers' needs. During year 2, the Coordinator will integrate the new skills testing into the pre-apprenticeship program. Pre-apprenticeship training will be free of charge to students during the term of the grant.

#### **Goal 2 – Capacity Building: New Facilities, New Programs, and New Services for Students**

In year 1, the Academy Coordinator will locate and begin to equip a new facility. Equipment for each new trade will be obtained in the year the trade is added. By year 3, the facility will be fully equipped in each of the six specialty trades. The Construction Student Liaison (SL) will ensure that PVCC meets enrollment and completion goals. The SL will help students navigate assessment testing, prerequisites, curricular requirements, registration, and institutional policies and procedures and will coordinate services with any involved case managers from community organizations. The Academy Coordinator will implement a one-year team leader certificate program in the second half of year 1 based on curriculum purchased from Associated General Contractors of America leadership seminar series. A for-credit supervisor certificate program will be launched in the second half of year 2, also based on AGC curricula. In year 3, the Coordinator will not only implement a green build certificate program, but will also investigate whether PVCC can become a provider of training to instructors and also sponsor a local Emerging Green Builder coalition under the auspices of the U.S. Green Building Council. By the start of year 4, the Coordinator, working with the Small Business Development Center, will coordinate current offerings and add new topics to create a non-credit certificate program for students who are interested in self-employment or starting their own companies. A Construction Rodeo rounds out the capacity-building activities.

**Outcomes:** Pre-apprenticeship certificate: 260 enrollees, 221 completers, 255 placed in employment; 290 students attend team leader training; 105 attend supervisory training; 30 attend green build training; 140 attend entrepreneurial courses; and 300 attend the Rodeo.

## TABLE OF CONTENTS

Part I: Cost Proposal	
Standard Form 424: Application for Federal Assistance .....	1
Standard Form 424A: Budget Information Form .....	2
Budget Narrative .....	4
Part II: Technical Proposal	
Abstract .....	1
Table of Contents .....	3
Timeline .....	5
Proposal Narrative .....	7
A. Introduction .....	7
B. Statement of Need .....	7
Projected Growth in Construction Industry .....	7
Needs of Construction Industry .....	8
Needs of Student Participant Population .....	9
Need for Growth in Construction Training Capacity .....	10
C. Linkages to Key Partners .....	11
Piedmont Virginia Community College .....	11
Construction Industry Associations .....	12
Employers .....	12
Workforce Investment System – Piedmont Workforce Network .....	12
K-12 Public Education .....	13
Central Virginia Small Business Development Center .....	13
Community Organizations .....	13
D. The Plan for Training and Capacity Building Activities .....	14
Introduction .....	14
Goal 1 – Training: Pre-Apprenticeship Certificate Program .....	15
Goal 2 – Capacity Building: New Facilities, New Programs, and New Services for Students .....	16
E. Sustainability .....	20
F. Replication .....	21
G. Outcomes, Benefits, and Impact .....	21
H. Program Management and Organization Capacity .....	25
I. Integration with Regional Economic Strategies .....	25
J. Integration with Workforce Investment Act Resources .....	26
Appendix	
A. Table 1: Projected Growth in Job Openings 2004-2014	
B. Resume, Byron Sorg, Construction Academy Coordinator	
C. Construction Student Liaison Position Description	
D. Letters of Commitment	
Associated General Contractors of Virginia	
RE Lee & Son, Inc.	
Martin Horn, Inc.	
CrafTec, Inc.	
City of Charlottesville Department of Public Works	
County of Albemarle Division of General Services	
Piedmont Workforce Network	
CATEC	
Central Virginia Tech Prep Consortium	

Central Virginia Small Business Development Center  
Charlottesville Redevelopment and Housing Authority  
City of Charlottesville, Department of Social Services  
International Rescue Committee, Charlottesville Office

E. Letters of Support

Thomas Jefferson Partnership for Economic Development  
Southern Development  
National Association of Women in Construction

**TIMELINE**

Upon notification of the grant award, and before the start date of the grant period, PVCC will:

- Begin hiring process for Student Liaison and instructors
- Set up financial, administrative, and participant outcome tracking systems
- Determine, with partners, the order for roll-out of pre-apprenticeship trades specialties
- Create outreach and recruitment materials for programs implemented in Year 1
- Send letters to community services partners describing the programs and inviting them to refer clients

Each quarter of the grant period, PVCC will:

- Host an Advisory Committee meeting
- Collect data and update the outcome database
- Submit required financial and narrative progress reports
- Design and implement changes based on information gathered for quarterly reports

On an ongoing basis, PVCC will:

- Visit community partners in person, explain program to staff, meet directly with potential participants
- Include Construction Academy program information at all PVCC recruiting events
- Place ads in appropriate media outlets for upcoming programs

<b>Task</b>	<b>Year 1 1<sup>st</sup> Half</b>	<b>Year 1 2<sup>nd</sup> Half</b>	<b>Year 2 1<sup>st</sup> Half</b>	<b>Year 2 2<sup>nd</sup> Half</b>	<b>Year 3 1<sup>st</sup> Half</b>	<b>Year 3 2<sup>nd</sup> Half</b>
Purchase curriculum from HBI for next trade(s)	X	X		X		
Hire curriculum consultant(s)	X	X		X		
Hire instructor(s)	X	X		X		
Investigate national skills certification testing programs	X	X				
Choose testing program		X	X			
Integrate nat'l skills certification into pre-apprenticeship curriculum			X	X		
Facility located, leased, begin equipping		X	X	X		
Facility fully equipped					X	
Hire Student Liaison	X					
Student Liaison and Academy Coordinator educate PVCC Student Services Counselors	X	X	X	X		
Student Liaison and PVCC Outreach & Recruitment Advisor implement best practices for recruiting women, minorities, targeted populations	X	X	X	X		

<b>Task</b>	<b>Year 1 1<sup>st</sup> Half</b>	<b>Year 1 2<sup>nd</sup> Half</b>	<b>Year 2 1<sup>st</sup> Half</b>	<b>Year 2 2<sup>nd</sup> Half</b>	<b>Year 3 1<sup>st</sup> Half</b>	<b>Year 3 2<sup>nd</sup> Half</b>
Hire curriculum consultant for team leader certificate program	X					
Hire instructor(s) and offer first seminar in team leader series		X				
Obtain approval from VCCS for construction supervisor certificate program			X			
Hire and train instructors for construction supervisor certificate program			X			
Offer first course in construction supervisor certificate program				X		
Hire curriculum consultant for green build certificate program			X			
Hire and train instructors for green build certification program				X		
Offer first course in green build certificate program					X	
Offer current entrepreneurial courses, add more each year	X	X	X	X	X	X
Academy Coordinator and Small Business Development Center design entrepreneurial certificate program			X	X		
Transition from current offerings to entrepr'l certificate program					X	
Form committee and plan 1 <sup>st</sup> Annual Construction Rodeo	X	X				
Hold Construction Rodeo			X		X	

## PROPOSAL NARRATIVE

### A. INTRODUCTION

Piedmont Virginia Community College (PVCC) seeks to expand the pre-apprenticeship training program and build capacity to address a critical shortage of construction professionals. The Construction Academy will provide a career ladder from helper, to apprentice, to team leader, supervisor, and entrepreneur. Credentials awarded will include certificates of completion from the Home Builders Institute, certification of skills from nationally recognized skills tests, Virginia Registered Apprenticeship certificates and journeyman's cards, certificates and associate's degrees, articulation to a bachelor's degree, and contractor licenses issued by the Virginia Board for Contractors. The Academy will expand opportunities for those with widely disparate academic and craft skills to advance in one of the region's largest employment sectors.

### B. STATEMENT OF NEED

**Projected Growth in Construction Industry:** Specialty trade contractors are the third largest private employers in the Piedmont Workforce Network LWIA Region VI (U.S. Census, Local Employment Dynamics). Only food services and professional services employ more private workers. Separate statistics from the Virginia Employment Commission which include government workers also show that the construction industry overall ranks third, behind government and retail trade. In the region served by PVCC, housing units increased almost 10% between 2000 and 2004 (U.S. Census). In 2003, Charlottesville MSA ranked 32<sup>nd</sup> in the country (out of 365 MSAs) for residential construction jobs as a share of all jobs at 3.4% (NAHB). In addition to the housing demand, the University of Virginia in Charlottesville has proposed a major building campaign (in excess of \$850 million) for additional residential, research, medical, performing arts, sports, parking, and classroom construction. Martha Jefferson Hospital plans to spend \$200 million on construction in Charlottesville in the next four to six years, not including a new hospital campus in Albemarle County to be completed by 2012 at a cost yet to be determined. Within the PVCC service region, the demand for workers in all construction occupations is

expected to grow by 40% (20% new jobs and 20% replacement jobs) during the period from 2005 to 2015 (CC Benefits, Inc.). Table 1 in the Appendix details the projected growth in job openings in each occupation of the construction industry between 2004 and 2014.

**Needs of Construction Industry:** On June 13, 2006, a construction industry forum was held at PVCC to solicit input from industry leaders and representatives and to identify labor shortages and training needs. Six representatives from five regional construction companies attended, as well as two representatives from the Associated General Contractors of Virginia, a statewide trade association serving the commercial construction industry. Forum participants were asked a series of questions to identify ways in which PVCC could best serve the construction industry.

- List the top three challenges over the next three years. Lack of qualified English speaking workers, lack of skilled craftsmen, lack of qualified field superintendents.
- List the top occupations in construction facing the most severe shortages: Carpenters.
- List three areas of improvement to make current employees more effective in their jobs. Problem-solving skills, management skills, and skill in creating and managing schedules.
- List the top three concerns about regional employment climate. Communication skills and cultural differences, legal and immigration issues, and promotability and career path issues.
- What is the top emerging challenge in 5 years? Recruitment and retention in this region of low unemployment.

Discussion revealed further shortages at the management levels of estimator, superintendent, and project manager, indicating that there is opportunity for advancement within the construction industry. All participants felt that promoting the most skilled tradesperson did not necessarily produce a good supervisor or manager. Frequently, the tradesperson lacked the skills to be an effective manager, and the promotion resulted in the loss of a highly skilled craftsman.

Finally, participants discussed ways in which PVCC could partner with them to improve the industry. Providing a certificate program and providing business and management courses relevant to construction were ranked highest. Tied for third was their desire for PVCC to provide qualified applicants, including reaching out to untapped labor pools; convincing parents that the construction industry is a viable and lucrative career for their children; and facilitating internships

and job shadowing opportunities. PVCC could help lessen the risk of hiring nontraditional workers by allowing participants to demonstrate their commitment to the industry during training, thereby assuring employers a more consistent, dedicated applicant pool.

**Needs of Student Participant Population:** The low unemployment rate in the Charlottesville area (2.2%, May 2006) limits the available pool of trainees. The Academy's entry-level training program, the pre-apprenticeship certificate program, targets low-wage workers, unemployed adults, out-of-school youth, ex-offenders reentering the community, and refugees and immigrants. Veterans will be given priority as required by the Jobs for Veterans Act. The targeted populations are the most difficult to serve and experience the highest barriers to success, including low skill and literacy levels, limited or erratic work histories, status as felons, and limited English proficiency. These students need more guidance, advice, and support than a traditional college student. While many are involved with local service agencies which provide wrap-around assistance, they also need intensive support on campus; agency case workers need a single point of contact. If these needs are addressed, PVCC has been assured by the service agencies, and independent statistics support the assurance, that there are enough students to fill the openings in the planned expansion of the pre-apprenticeship program. The Census Bureau's Small Area Income and Poverty Estimates program (2002) indicates that 16.4% of residents in the City of Charlottesville live in poverty. Virginia releases over 11,000 individuals from prisons and jails each year. Of the prisoners released in 2002, 52% had not completed high school and only 9% had attended college. While 8% of those released had been working in construction, 14% had no history of employment. Between 50 and 250 people are released each year to each county served by PVCC (Prisoner Reentry in Virginia, Urban Institute, 2004). The local office of the International Rescue Committee resettles 150 refugees annually in the area. The 2000 Census found that 8% of Virginia's population is foreign born. A Joint Legislative Audit and Review Commission Report in November 2003 reported that immigrants account for 44% of the state's labor force growth over the last decade. Many of

these immigrants are in low wage jobs; 19% of all workers in the hospitality/food industry are immigrants. The report recommended that state agencies find innovative ways to acclimate immigrants into the state's economy.

**Need for Growth in Construction Training Capacity:** The Charlottesville area lacks the needed infrastructure to provide the training that construction employers are demanding. Employers and workers rely on partially connected construction training programs, with several gaps. Two of nine high schools have a technical education program: Charlottesville Albemarle Technical Education Center (CATEC) and Greene County. PVCC recently initiated a pilot pre-apprenticeship certificate program for residents who did not take trades courses in high school and have little or no experience. The pilot will target two trades and is housed temporarily at CATEC, pending funding for a new facility. CATEC also offers apprenticeship classes to incumbent workers. Work experience and apprenticeship courses can be applied to the Technical Studies Associate's in Applied Science degree at PVCC. The PVCC Division of Workforce Services offers other construction-related education, such as classes to prepare workers for the state contractor licensing exams. Because of our already strong ties to both high schools and industry, and our excellent reputation for providing the residents of Central Virginia with well-designed, affordable educational programs, PVCC is the most logical organization to bring all the pieces together, fill in the gaps, and create a state-of-the-art construction education academy.

### **C. LINKAGES TO KEY PARTNERS**

As demonstrated by the attached letters, all partners are committed to the success of the Academy and will provide curriculum consultants, wrap-around services for participants, Construction Rodeo committee members and competitors, funding for employee or client training, and hiring of graduates. Many partners met on July 20 for the DOL-sponsored CBJTG webcast. During the brainstorming session that followed, the partners identified several additional needs, both for the industry and for the clients served by the community services agencies, and offered

solutions which are included in the plan below. PVCC will lead the partnership, under the co-direction of the Academy Coordinator and the Deans of the Divisions of Workforce Services and Business and Technologies. Representatives from partner organizations will form an Advisory Committee and meet formally each quarter. The agenda will focus on project progress, status updates on leveraged resources, new developments, challenges encountered and strategies to overcome them, resolution of previous challenges, and impact of the programs on all partners.

**Piedmont Virginia Community College:** Piedmont Virginia Community College serves the City of Charlottesville and six surrounding rural counties in Central Virginia. Its mission is to prepare students (1) for successful transfer to a four-year institution; or (2) for high-demand careers that support the region's economy. In 2005-2006, PVCC served 2,326 full-time equivalent students in credit courses, 254 students in Career Studies Certificates, and 2,816 students in the Workforce Services division, 186 of them in construction-related courses. More than 40% of students in the area who enroll in college choose PVCC. **Role:** Training provider. **Leveraged resources:** Effort of Deans and the director of research responsible for oversight of the evaluation, classroom facilities, costs associated with meetings of Advisory Committee.

**Construction Industry Associations:** Associated General Contractors of Virginia represents 700 members, including 50 firms in the Charlottesville area. AGC provides quality and safety training, legislative advocacy, liaisons at state and federal agencies, and marketing, networking, and communication services. **Role:** Connect the Academy to industry, recruit knowledgeable curriculum consultants, take the lead in implementing the Construction Rodeo, and make sure their members throughout Virginia are aware of the availability of qualified graduates. The Blue Ridge Home Builders Association brings together builders, remodelers, developers, suppliers, trades, and professional services. With over 280 members with an interest in the residential construction industry, BRHBA is vibrant, active, local organization. **Role:** Leadership and coordination of industry partners; market and promote the program.

**Employers:** R.E. Lee operates throughout Virginia with a primary focus on the construction of retail, commercial, hotel, and medical facilities. The COO co-chaired PVCC's most recent capital campaign. Martin Horn is a commercial general contractor and member of the U.S. Green Building Council. CraTEc, the City of Charlottesville, and County of Albemarle are facing shortages of tradesworkers. **Role:** Curriculum consultants, site visits, internships, Construction Rodeo, hiring graduates. **Leveraged Resources:** Martin Horn: sponsor six annual scholarships, donate materials and tools. City Department of Public Works: host at least one intern in HVAC or electricity each year. County General Services Division: two paid internships.

**Workforce Investment System – Piedmont Workforce Network:** PVCC is a member of the Piedmont Workforce Network, which operates the Workforce Investment Act Virginia Workforce Area 6 program, including the One-Stop Career Center. The Dean of Workforce Services at PVCC, Valerie Palamountain, sits on the One-Stop Committee. This direct link will ensure efficient collaboration. Between July 1, 2005 and June 30, 2006, 321 individuals were enrolled in Workforce Investment Act Adult and Dislocated Worker programs. The Network's offices are co-located on the same floor with the Office of Veterans Affairs. **Role:** Identify and assess candidates for training, connect to area employers, track earnings and retention in employment, and assist PVCC in ensuring that veterans receive priority for enrollment. **Leveraged Resources:** Funding for tuition through WIA programs, case management resources.

**K-12 Public Education:** PVCC is the administrator of the Central Virginia Tech Prep Consortium. The Director of Tech Prep is a PVCC employee with strong ties to CATEC, giving PVCC direct access to high school students to market training for high-demand careers. The Consortium funds a part-time career coach housed at CATEC to aid high school students in planning their futures. CATEC also hosts the region's apprenticeship programs. Their facility includes the following workshops: (1) carpentry, including interior trim, floor, wall and roof framing, and advanced carpentry; (2) HVAC, including motors and controls, oil heat, hydraulic systems, bearing and lubricants, and boilers and gas systems; (3) electricity, including electric

service and lighting, HVAC wiring, and industrial electricity; (4) masonry; and (5) plumbing.

Before the new Academy facility is fully equipped, the workshop components of programs will be housed at CATEC. **Role:** Career coaching for high school students. **Leveraged resources:** Workshops.

**Central Virginia Small Business Development Center:** The SBDC provides consulting services to current and prospective small business owners free of charge. **Role:** Provide guest speakers, one-on-one consulting, resource library.

**Community Organizations – Offender Aid and Restoration (OAR), International Rescue Committee (IRC), Charlottesville Department of Social Services (CDSS), Charlottesville Redevelopment and Housing Authority (CHRA):** **Role:** All agencies will refer adult clients who are required to obtain employment. They will also refer their clients who are employed, but who earn below-poverty wages. CDSS foster care case managers working with teenagers transitioning from foster care to independent living (up to age 21) will refer at-risk and out-of-school youth who are returning to the community from residential treatment programs and juvenile detention facilities. CHRA will provide a curriculum consultant and hire graduates. **Leveraged Resources:** Wrap-around services, including transportation, job retention, and workplace support services. CHRA will provide scholarships to public housing residents.

#### **D. THE PLAN FOR TRAINING AND CAPACITY BUILDING ACTIVITIES**

**Introduction:** PVCC will expand the Construction Academy into a comprehensive training facility, offering a career ladder/lattice structure extending from construction occupation awareness activities through entrepreneurial and business management courses. The expansion includes a shift in focus from residential construction to residential, commercial, and industrial construction. Specifically, the Academy will sponsor an annual Construction Rodeo competition and recruitment event, offer free pre-apprenticeship training, and build capacity by locating and equipping a first-rate facility and releasing the Academy Coordinator from teaching to design and launch the following new programs: nationally recognized certification testing for

specialty trades, construction team leader certificate program, a for-credit supervisor certificate program, entrepreneurial certificate program, and green build certificate program. These new programs bridge current gaps in the regional career ladder for adults who did not take construction trades courses in high school and for incumbent employees who want to advance. Also as part of capacity building, a Construction Student Liaison will work individually with students to facilitate the early resolution of issues impeding success, connect students to industry, and provide consistent, career-specific, and personalized guidance. While other capacity-building activities will increase the number of students, the efforts of the Student Liaison will increase the number of completers, directly impacting the availability of qualified workers for local employers. The training and capacity-building activities detailed below will result in 255 new helpers entering the workforce and 565 incumbent workers obtaining training to advance their careers.

**Goal 1 – Training: Expand the pilot pre-apprenticeship certificate program from two trades to six, increasing the number of students from 40 to 120 per year.**

The pre-apprenticeship certificate program has a dual purpose: to prepare students for employment as “helpers” and for the apprenticeship program at CATEC. The program is modeled on the National Association of Home Builders – Home Builders Institute (HBI) curriculum. It consists of (1) general courses (currently 80 hours), such as Principles for Construction, First Aid, OSHA Safety, Job Readiness, and Printreading; and (2) specialty courses with hands-on workshops for the following trades: carpentry, electrician, plumber, HVAC, masonry, and welding. Students complete the series in 16 weeks, attending nights and weekends, or “stop out” at predefined points and pick up the program later. Students receive a certificate of completion for each course from HBI. Students will be encouraged and assisted by the Student Liaison to obtain employment in construction soon after beginning the program.

A federal earmark funded the launch of the program this year. A Construction Academy Coordinator was hired and cycles are scheduled in Fall 2006 and Spring 2007. In year 1 of the

grant, the program will expand from two trades to three and then to four in year 2. In year 3, the final two trades will be added and six cycles will be offered. The Coordinator and the curriculum consultants will refine the program, possibly reducing the number of classroom hours if feasible.

During year 1, the Coordinator will investigate national skills certification testing programs, such as the National Center for Construction Education and Research (NCCER), the National Occupational Competency Testing Institute (NOCTI), and the Construction Specifications Institute, to find the option that best meets local employers' needs. During year 2, the Coordinator will integrate the new skills testing into the pre-apprenticeship program. Depending on the test chosen, this could involve transitioning to a new curriculum, becoming a master trainer, and completing a process for PVCC to become an accredited sponsor of the new curriculum. By the middle of year 3, certification testing will be fully implemented.

Pre-apprenticeship training will be free of charge to students during the term of the grant. Candidates for the training go through the standard PVCC intake and assessment process to determine (1) appropriateness for the program; (2) need for ESOL or GED courses and referral to adult education; (3) need for developmental education coursework; and (4) which student success services would benefit them (tutoring, counseling, Math and English labs, etc.). Students receive incentives worth up to \$400. For example, upon completion of the OSHA safety course, students receive a hard hat, goggles, and gloves, which are required for the specialty courses. They also accumulate trade-specific tools at other milestones throughout the program.

## **Goal 2 – Capacity Building: New Facilities, New Programs, and New Services for Students**

**Facility:** Securing a dedicated training facility is an essential component of the full-scale Academy. The Academy currently uses the classrooms, workshops, and equipment at Charlottesville Albemarle Technical Education Center (CATEC), with additional supplies funded by the federal earmark. This situation is not ideal, because feedback from industry indicates that

CATEC equipment is outdated and inadequate for post-secondary students. Scheduling additional cycles in more trade specialties is problematic at the shared facility. In year 1, the Academy Coordinator will locate and begin to equip a new facility. Equipment for each new trade will be obtained in the year the trade is added to the pre-apprenticeship curriculum. By year 3, the facility will be fully equipped in each of the six specialty trades.

**Construction Student Liaison:** The Construction Student Liaison (SL) will ensure that PVCC meets enrollment and completion goals. The SL will be hired early in year 1. Modeled after the Engineering Student Liaison (recently funded by the National Science Foundation), the SL will work with all Academy students and potential students. However, the population of students targeted for the pre-apprenticeship program experience the most barriers to success and it is expected that the SL will work primarily with those students. The SL will be available during daytime and evening hours as well as Saturdays to help students navigate assessment testing, prerequisites, curricular requirements, registration, and institutional policies and procedures. The SL will connect the students to academic support services such as tutoring and/or the writing and math center, refer the student to the Advisement and Counseling Center for crisis or general counseling, coordinate services with any involved case managers from community agencies, and connect students to industry. The SL will also educate other PVCC counselors to provide tailored services to program participants. The SL will work with the PVCC Outreach and Recruitment Advisor to implement best practices for recruiting women, minorities, and the targeted populations. Finally, the SL will gather data to document program outcomes. With the Coordinator focused on facilities and launching new programs, the SL's focus on the students will ensure that, once enrolled, they receive the services they need for success.

**Construction Team Leader Certificate Program:** A one-year construction team leader certificate program will be implemented in the second half of year 1 (Summer/Fall 2007). The program will be designed for people who supervise 5-6 team members in the field. The curricula will be based on the Associated General Contractors of America (AGC) Supervisory Leadership

Series of seminars, with the addition of workplace skills requested by local employers. The Coordinator will work with a curriculum consultant to adapt the AGC curriculum to local needs. Each seminar is 2-3 hours; there are currently eight available. AGC intends to develop 18. The Coordinator and the curriculum consultant will designate seminars as either required or elective. As more titles are added, they will revise the requirements. Current titles include Contractors and Subcontractors Working Together, Ethical Practices in Construction Supervision, Total Performance Evaluation, and Building Positive Relationships Between Construction Supervisors and Customers. Other topics covered are presentation skills, handling complaints, managing a diverse workforce, human resource issues, and eliminating sexual harassment. AGC provides a Leaders Guide for each session and Workshop Handbooks are available for purchase by students. The series will be offered annually for up to 20 students per seminar.

**Construction Supervisor Certificate Program:** A two-year construction supervisor certificate program will be implemented by the second half of year 2 (Fall 2008). The new for-credit certificate program will be housed in the PVCC Division of Business and Technologies. The curricula for the certificate will be based on the AGC's Supervisory Training Program and will include an on-the-job internship. Thomas Nelson Community College is currently working on a similar initiative, also based on AGC's materials. The Academy Coordinator and the Dean of the Division will work together with TNCC to complete the design of the program, obtain approval of each course from the Virginia Community College System, and implement the program. The credits earned can be applied by students toward an Associate in Applied Science in Technical Studies degree which, in turn, articulates to a bachelor's degree in construction management at Old Dominion University. The AGC program consists of 10 flexible modules that can each be taught in 16-25 hours. The modules include Contract Documents and Construction Law, Planning and Scheduling, Managing the Project: The Role of the Supervisor, Understanding and Managing Project Costs, General and Specialty Contractor Dynamics, Accident Prevention and Loss Control, and other modules covering leadership, motivation, communication, problem

solving, and productivity improvement. With the collaboration of the local chapter of AGC, the national organization will provide a training facilitator to co-teach with local instructors during the first course. AGC also provides marketing materials, an instructor resource guide, PowerPoint presentations for each module, and instructor workshops for new instructors who did not get the benefit of the co-teacher/facilitator. The series of certificate courses will be offered over a two-year period for up to 20 students per course.

**Green Build Certificate Program:** During year 2, the Coordinator will work with local members of the U.S. Green Building Council to design a green build certificate program. USGBC has designed modules covering introductory material and specific information needed to prepare for the LEED (Leadership in Energy and Environmental Design) accreditation exam. During preliminary discussions, it was discovered that the USGBC is searching for educational institutions to provide train-the-trainer sessions for educators all over the country to learn how to deliver the workshops. USGBC also sponsors local Emerging Green Builder coalitions for students and young professionals. In year 3, the Coordinator will not only implement a green build certificate program, but will also investigate whether PVCC can become a provider of training to instructors and also sponsor a local Emerging Green Builder coalition.

**Entrepreneurship Certificate Program:** PVCC currently offers several courses for students who are interested in self-employment or starting their own companies. By the start of year 3, the Academy Coordinator, working with the Small Business Development Center, will coordinate the current offerings and add new topics to create a non-credit certificate program. The Student Liaison will also work with the local Small Business Development Center to connect students directly to one-on-one services provided by that organization, including assistance with business plans, problems related to financing, marketing, production, and organization, and feasibility studies. Examples of current courses are Basic Contractor Business Licensing; Advanced Contractor Licensing; Construction Document Technology; and QuickBooks for Contractors. An average of 19 students participate in each construction course.

**Construction Rodeo:** A committee will be formed in year 1 to plan and implement a Construction Rodeo. The Rodeo will be an annual fun event for professionals, as well as a career awareness and recruiting event for middle and high school students. The AGC of Virginia plans to start a Rodeo and will take the lead role with PVCC assisting in planning the student activities and creating information packets for parents and students. Professionals in the skilled trades will compete in fast-paced competitions for prizes. Stations will allow prospective students to try out various trades, such as building a brick wall or wiring a light switch. The Rodeo might be expanded in future years to include student competitions. The committee members will find a location, recruit their colleagues as judges and competitors, schedule people at stations to teach students, secure sponsors, solicit donations for prizes and awards, and market the event.

#### **E. SUSTAINABILITY**

The pre-apprenticeship training will be sustained through fees charged for each module after grant funding ends; the entire sequence is not expected to cost more than \$3,000. The non-credit programs developed using grant funding will be fully operational before the grant ends and fees charged to students and employers will continue to cover all costs. The for-credit construction supervisor certificate program will be sustained by a combination of tuition and state funding. State aid in Virginia is distributed to community colleges based on the average enrollment in credit courses over the previous three years. The financial benefits will continue to grow as enrollment increases. The salary of the Coordinator will be funded by the Workforce Services budget. The Student Liaison will either be integrated into the Office of Advisement and Counseling or funded by Workforce Services. The Construction Rodeo will be sustained through sponsorships by local industry.

#### **F. REPLICATION**

The Student Liaison model for working with high-risk populations can be easily replicated. Between the external evaluation included in this grant and the evaluation for the Engineering

Student Liaison, PVCC will have strong data to document the successes and lessons learned for this approach. If implemented in year 3, the green build instructor training program will train instructors from all over the country to teach USGBC courses. Workforce Services has a history of bringing people together to learn new methods to take back to their communities, most recently hosting 10 South Africans as part of the Viticulture and Oenology program. PVCC will continue the work of Thomas Nelson Community College to help ensure that the construction supervisor certificate program is appropriate for other regions of Virginia. The Virginia Community College System (VCCS) regularly shares curricula, in both credit and non-credit programs. Through the VCCS, PVCC is a member of the League for Innovation Alliance, an international community college network sharing best practices. Valerie Palamountain recently spoke to members of that organization about PVCC's Viticulture and Oenology program. Proposals for presentations will also be submitted to the Virginia Community Colleges Association Annual Conference and the VCCS New Horizons Conference. PVCC would be honored to participate in any webcast sponsored by Workforce3One.

#### **G. OUTCOMES, BENEFITS, AND IMPACT**

Program implementation and participant outcomes will be tracked and reported quarterly by the Construction Academy Coordinator. PVCC will contract for a formative and summative evaluation of the Academy by a qualified program evaluator. Hiring of an evaluator will be coordinated by PVCC's Office of Institutional Research, Planning, and Institutional Effectiveness (IRPIE) in collaboration with the Academy Coordinator. IRPIE is directed by Dr. Tara Atkins-Brady, who is a member of the Association for Institutional Research and the American Evaluation Association and has experience in educational program evaluation.

The evaluator will work with the Academy Coordinator and IRPIE Director to develop an evaluation plan, including all data collection methods and instruments (e.g., databases, surveys, interview and/or focus group protocols, etc.), a timeline, and required reports. The evaluator will collect and analyze program-related data, including student information, feedback from program

participants, completers, partners, and employers, and wage records to track the outcomes outlined below as well as the number and type of credentials awarded to trainees.

In addition to the summative (outcomes) evaluation described above, formative evaluation is essential to successful implementation of a multi-year program. The evaluator will report regularly on findings, such as program successes and challenges, and any positive or negative unintended outcomes, to assist the Coordinator in making decisions to refine the Academy, its components, partnerships, and activities over the course of the grant period.

**Goal 1: Pre-Apprenticeship Certificate Program**

PERFORMANCE MEASURE	EXPECTED LEVEL OF PERFORMANCE
Measure 1: Enrollment rate: The number of students admitted.	260 students enroll: 60 in year 1; 80 in year 2; 120 in year 3
Measure 2: Program completers: The number of students who complete the program divided by the total number of students enrolled.	85% 221 students will complete the program: 51 in year 1; 68 in year 2; 102 in year 3
Measure 3: Placement: Of those participants who were not in post-secondary education or employed in construction at the time of enrollment, the number of participants who are employed in construction or enrolled in advanced training in the first quarter after exit, divided by the number of participants who exit during the quarter.	98% 255 students will be placed in employment: 59 in year 1; 78 in year 2; 118 in year 3 Includes: Program completers and students who “stop out”; employed at least 20 hours per week
Measure 4: Retention rate: Of those placed in employment, the number of participants who are still employed in the construction industry three months after placement divided by the total number of participants placed in employment.	90% 90% of participants will still be employed in the construction industry three months after placement
Measure 5: Earnings increase: Of those placed in employment, the hourly wage after participation minus the hourly wage prior to participation.	95% of participants will show an increase in hourly wages; completers will be compared to non-completers
Measure 6: Satisfaction of participants: Of those participants who respond to a survey, how many were satisfied overall with the program divided by the number of participants who responded.	90% of participants who respond to the survey will indicate that they are satisfied overall with the program
Measure 7: Satisfaction of employers: Of those employers who hire participants and respond to a survey, how many were satisfied with the skills of the workers they hired divided by the number of employers who responded. Open-ended questions will help determine whether there were skills needed that were not covered in the training and whether employers would recommend that other employers hire participants.	90% of employers who respond to the survey will indicate that they are satisfied with the skills of the participants

**Goal 2 – Capacity Building: New Facilities, New Programs, and New Services for Students.**

PERFORMANCE MEASURE	EXPECTED LEVEL OF PERFORMANCE
Measure 1: Facility is found and equipped in time to support each new program	<ul style="list-style-type: none"> <li>• Facility is leased and renovated, if necessary, by the end of year 1.</li> <li>• Equipment for four trades is in place by the end of year 2.</li> <li>• Equipment for the 5<sup>th</sup> and 6<sup>th</sup> trades is in place by the date each cycle begins in year 3.</li> </ul> <p><b>Impact:</b> Six cycles of pre-apprenticeship training occur each year instead of two; 120 students enrolled instead of 40.</p>
Measure 2: Student Liaison is hired and effective.	<ul style="list-style-type: none"> <li>• SL is on the job by the end of the second quarter of year 1.</li> <li>• Annual enrollment and completion rates meet measures listed in Goal 1.</li> <li>• Survey respondents indicate that they are satisfied with the assistance provided by the SL.</li> </ul> <p><b>Impact:</b> 255 new helpers will enter the regional workforce.</p>
Measure 3: Team leader certificate program is implemented by the second half of year 1; 4-5 seminars are offered each semester; enrollment increases each semester	<ul style="list-style-type: none"> <li>• Core and elective seminars are identified by the middle of the 2<sup>nd</sup> quarter of year 1.</li> <li>• Instructor(s) are hired and trained by the start of the first seminar.</li> </ul> <p><b>Impact 1:</b> 290 students (headcount) attend team leader training during the grant period.</p> <p><b>Impact 2:</b> 20 (unduplicated) participants achieve certification during the grant period and 10 more intend to become certified.</p>
Measure 4: Construction supervisor certificate program is implemented by the second half of year 2; 3 modules are offered each semester; enrollment increases each semester	<ul style="list-style-type: none"> <li>• Curriculum is designed and approved by the VCCS by the first half of year 2.</li> <li>• Instructor(s) are hired and trained to AGC standards by the time the first course begins.</li> </ul> <p><b>Impact 1:</b> 105 students (headcount) attend supervisory training during the grant period.</p> <p><b>Impact 2:</b> 15 (unduplicated) students intend to become certified.</p>
Measure 5: Green build certificate program is implemented by the start of year 3.	<ul style="list-style-type: none"> <li>• Curriculum is designed by the second half of year 2.</li> </ul>

PERFORMANCE MEASURE	EXPECTED LEVEL OF PERFORMANCE
	<ul style="list-style-type: none"> <li>• Instructor(s) are hired and trained to deliver the course material by the time the first course begins.</li> <li><b>Impact 1:</b> 30 students (headcount) attend green build training during the grant period.</li> <li>• <b>Impact 2:</b> 15 (unduplicated) students intend to become certified.</li> </ul>
<p>Measure 6: Entrepreneurship certificate program is implemented by the start of year 3.</p> <p>Current enrollment in existing courses averages 185 per year. Measure for this goal includes only additional headcount expected from the capacity-building activity of designing and offering new courses to create a certificate program.</p>	<ul style="list-style-type: none"> <li>• Core and elective courses are identified by the middle of year 2.</li> <li><b>Impact 1:</b> 140 students (headcount) attend entrepreneurial training during the grant period.</li> <li><b>Impact 2:</b> 10 students intend to become certified.</li> <li><b>Impact 3:</b> 8 students work with Small Business Development Center.</li> <li><b>Impact 4:</b> 6 students start their own business or become self-employed in the construction industry.</li> </ul>
<p>Measure 7: Construction Rodeo takes place 1<sup>st</sup> half of year 2 (Spring 2008) and every spring thereafter.</p>	<ul style="list-style-type: none"> <li>• At least 300 prospective students and parents attend during the grant period.</li> <li><b>Impact:</b> Pre-apprenticeship program continues to fill to capacity each cycle (120 students per year).</li> </ul>

**H. PROGRAM MANAGEMENT AND ORGANIZATION CAPACITY**

Byron Sorg, the Construction Academy Coordinator, will devote 100% effort to direct all activities of the Academy. Mr. Sorg has graduate degrees in curriculum, instruction, and learning disabilities; he was formerly a Class C General Contractor in Virginia and has over 20 years experience in the education and construction industries. Valerie Palamountain, Dean of Workforce Services, will devote 5% effort to supervise Mr. Sorg and collaborate with Bob Miller, Dean of the Division of Business and Technologies, to ensure that the credit and non-credit programs form a seamless ladder for students. Bob Miller will devote 5% effort to implement the for-credit supervisory certificate program. While PVCC does not currently have the facilities necessary to achieve the goals of the Academy, as an organization PVCC is capable of implementing the full-scale Academy when funded. Ms. Palamountain and Mr. Miller recently

launched a new associate degree for utility lineworkers in collaboration with the VA, MD and DE Association of Electric Cooperatives.

## **I. INTEGRATION WITH REGIONAL ECONOMIC STRATEGIES**

Two organizations in Central Virginia work collaboratively to drive economic development strategies: the Thomas Jefferson Planning District Commission (TJPDC) and the Thomas Jefferson Partnership for Economic Development (TJPED). TJPDC, a public body which provides technical and program services to local government, published a Regional Economic Development Plan in February 2002, defining three goals of economic development: (1) create wealth, (2) increase the ability of local governments to provide services, and (3) provide career-ladder jobs to make living in this region more affordable (2002 Plan, Vision). Strategies include supporting the development of a seamless, customer-driven workforce development system through the Workforce Investment Board, tailoring education and training to workplace needs, preparing workers for upward mobility, providing needed support systems for workers, and ensuring universal access to training. The plan lists PVCC as a strength for the region (Plan, p. 13). The plan recognizes that a scarcity of labor presents a challenge to the region.

TJPED is a non-profit corporation composed of representatives from private sector investors, public jurisdictions, and educational institutions. The mission of the Partnership is to bring together business, government, and education to effectively promote career ladder job creation and business investment in the region. PVCC is a member of TJPED. The Partnership's program focuses on three major components: (1) business assistance; (2) business recruitment; and (3) economic development infrastructure. The Partnership has a representative on the Workforce Investment Board and maintains close ties to Ms. Palamountain as part of the business assistance component of their mission. The Partnership conducted an assessment in 2005 and concluded that greater emphasis was needed on workforce training.

The proposed expansion of the Academy directly responds to the challenges and strategies in the regional economic development plan. The Academy will provide a career ladder system for construction workers, tailor training to workplace needs, prepare workers for upward mobility, provide some support services for construction workers in training, and is accessible to everyone. Further, the recruitment strategy responds to the challenge of finding participants in a region of low unemployment by reaching out to non-traditional labor pools.

**J. INTEGRATION WITH WORKFORCE INVESTMENT ACT RESOURCES**

Please see the attached letter from the Piedmont Workforce Network. While it is difficult to predict the number of PWN clients and expected laid-off Badger Fire Protection employees who might participate in Academy programs, PVCC estimates at least 20 WIA clients per year. Further, PWN will assist with tracking participants after they enter the workforce.

## Appendix

**Table 1. Projected Growth in Job Openings 2004-2014**

<b>Occupation</b>	<b>National % Increase</b>	<b>Virginia % Increase</b>	<b>WIA VI – Charlottesville % Increase</b>	<b>Job Openings Per Year (State)</b>	<b>National/Statewide/C'ville Median Income</b>
First-line supervisors/managers of construction trades and extraction workers	11%	14%	18.7%	660	51,000/48,500/41,700
Carpenters	14%	16%	20.1%	870	35,200/32,500/32,400
Helpers – Carpenters	15%	12%	18.7%	270	21,700/22,000/23,000
Brickmasons, blockmasons	12%	20%	27.5%	140	41,900/40,000/41,300
Helpers – Brickmasons, blockmasons, stonemasons	15%	3%	10.4%	160	24,800/24,300/24,800
Electricians	12%	25%	32%	840	42,200/39,700/33,000
Helpers – Electricians	4%	19%	27.9%	220	23,600/24,200/23,000
Pipelayers, plumbers, pipefitters, and steamfitters	16%	23%	30.5%	610	41,900/36,100/35,400
Helpers – Pipelayers, plumbers, pipefitters, and steamfitters	17%	12%	19.1%	170	22,700/22,300/22,400
Heating, air conditioning, and refrigeration mechanics and installers	19%	33%	43%	345	36,700/35,100/32,700
Construction laborers	6%	15%	13.3%	610	25,300/22,500/22,500

Source: DOL Career One Stop Web portal; Virginia Employment Commission