



NEVADA LABOR COMMISSIONER
NEVADA STATE APPRENTICESHIP COUNCIL
2023 Non-Joint Standards of Apprenticeship

Appendix A

WORK PROCESS SCHEDULES AND RELATED INSTRUCTION OUTLINE

Pye-Barker Fire & Safety LLC

FIRE SPRINKLER TECHNICIAN

O*NET-SOC CODE: 47-2152.00 RAPIDS CODE: 0414

APPROVED BY
THE NEVADA LABOR COMMISSIONER AND THE NEVADA STATE APPRENTICESHIP COUNCIL

Toni Giddens, Nevada State Apprenticeship Director

REGISTRATION DATE: _____

RAPIDS PROGRAM ID NUMBER: _____

DEVELOPED IN COOPERATION WITH THE
THE NEVADA LABOR COMMISSIONER, THE NEVADA STATE APPRENTICESHIP COUNCIL AND
THE U.S. DEPARTMENT OF LABOR

Appendix A

WORK PROCESS SCHEDULE

This schedule is attached to and a part of these Standards for the above identified occupation.

1. TYPE OF OCCUPATION

☒ Time-based ☐ Competency-based ☐ Hybrid

2. TERM OF APPRENTICESHIP

The term of the occupation shall be defined by the attainment of all competencies of the position. 1) If the program uses a time-based approach, requires the completion of not less than 2,000 hours of [work experience,] on-the-job learning, consistent with training requirements as established by practice in the trade; (2) If the program uses a competency-based approach, specify the skills that must be demonstrated by an apprentice and address how on-the-job learning will be integrated into the program; or (3) If the program uses a hybrid approach, specify the skills that must be acquired and the minimum number of hours of on-the-job learning that must be completed by an apprentice.

This would be expected to occur within approximately 10,000 hours (must be at least 2,000 hours) of OJL, supplemented by the minimum of 144 hours of related instruction per year of the apprenticeship.

3. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey worker/fully trained worker ratio is: 1: 1 apprentice(s) to journey worker/fully trained worker(s).

4. APPRENTICE WAGE SCHEDULE

An apprentice minimum starting wage will be at least \$21.50 per hour. Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey worker/fully trained worker wage. A journey worker/fully trained worker minimum wage will be at least \$50.00.

4-Year Term Example:

1 st	6 months = \$21.50
2 nd	6 months = \$24.00
3 rd	6 months = \$26.00
4 th	6 months = \$28.00
5 th	6 months = \$29.50
6 th	6 months = \$32.00
7 th	6 months = \$34.00

8 th	6 months = \$36.00
9 th	6 months = \$38.00
10 th	6 Months = \$40.00
Completion = \$50.00	

Periodic review and evaluation of the apprentice's on-the-job learning and related technical instruction will be conducted in alignment with the wage schedule established.

5. WORK PROCESS SCHEDULE (See attached Work Process Schedule)

The sponsor may modify the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

6. RELATED INSTRUCTION OUTLINE (See attached Related Instruction Outline)

The sponsor may modify the related instruction to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

Appendix A

WORK PROCESS SCHEDULE

The term of the occupation shall be defined by the attainment of all competencies, both technical and behavioral, of the position, which would be expected and approximated to occur within 10000 hours of OJL, supplemented by a minimum of 144 hours of related instruction per year of apprenticeship.

Apprenticeship Competencies – Technical

SPRINKLER FITTER (PIPEFITTER) WORK PROCESS SCHEDULE	HOURS
This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.	
1. Plan reading and interpretation <ul style="list-style-type: none"> a. Reading shop drawings b. Symbols and abbreviations c. Familiarization with NFPA's #13, 14, 20 and 24 	750
2. Care of tools, materials, and equipment <ul style="list-style-type: none"> a. Identifying materials, grades and types of pipe, fittings, valves, hose and equipment, and sprinkler heads b. Use and operation of trade tools c. Maintaining and servicing of tools and equipment 	800
3. Preparation of tools, material and equipment <ul style="list-style-type: none"> a. Selection of pipe, fittings, hangers and devices for rough and distribution and finish work b. Loading of required materials and equipment c. Unloading of materials and equipment at job site using safety precautions and care in not damaging materials for equipment d. Set up and use of rigging, scaffolding and mechanical lifts and platforms 	650
4. Pipe cutting, threading, reaming, and torching <ul style="list-style-type: none"> a. Use of hand cutters b. Use of dies and reamer c. Set up and operation of power threading machine d. Operation of power drills e. Operation of torch 	1250
5. Installation of underground piping and accessories <ul style="list-style-type: none"> a. Installation of cast iron pipe and fittings b. Installation of plastic pipe and fittings c. Installation of valves, post indicators and hydrants 	650

<ul style="list-style-type: none"> d. Rodding and thrust block installation e. Valve pit installation f. Flushing and testing of underground piping 	
<ul style="list-style-type: none"> 6. Wet pipe systems <ul style="list-style-type: none"> a. Distribution of system b. Installation of feed main and cross main, grooved, screwed and welded b. Branch line installation on exposed systems c. Branch line installation for concealed piping with drop nipples d. Hanger types and installation e. Trimming of valves including Siamese connection installation f. g. Set up and testing of system 	1600
<ul style="list-style-type: none"> 7. Dry pipe systems <ul style="list-style-type: none"> a. Distribution of system b. Installation of feed main and cross main, grooved, screwed and welded c. Branch line installation on exposed systems d. Hanger types and installation e. Trimming of valves including Siamese connection installation f. Set up and testing of system 	500
<ul style="list-style-type: none"> 8. Standpipe systems <ul style="list-style-type: none"> a. Distribution of system b. Pipe installation c. Installation of hose, hose VA's, nozzles and accessories d. Testing procedures 	500
<ul style="list-style-type: none"> 9. Special hazard installation <ul style="list-style-type: none"> a. Installation of deluge systems b. Installation of pre-action systems c. Installation of clean agent systems d. Installation of CO2 systems e. Installation of fire extinguishers f. Installation of nitrogen generators 	350
<ul style="list-style-type: none"> 10. Installation of fire pumps and accessories <ul style="list-style-type: none"> a. Setting of fire pumps and jockey pumps b. Alignment of fire pump and driver c. Trimming of fire pump, jockey pump and controllers d. Start up and testing of fire pumps and equipment 	350
<ul style="list-style-type: none"> 11. Maintenance and Repairs <ul style="list-style-type: none"> a. Fabrication and installation of pipe on job site b. Care in cutting and patching of walls and ceilings c. Repair and replacement of system components d. Restoring system to service e. Notifying owner, fire department, insurance company of impairment to system 	600

2023 Non-Joint Standards of Apprenticeship

<p>12. Foreman Leadership Training</p> <ul style="list-style-type: none"> a. I am their Leader b. Understanding People c. Communication Skills d. Coaching and Training to Win e. Working with Owners, General Contractors, and Inspectors f. Avoiding Stress and Handling Crisis g. Scope of Work h. Pre-Planning and Planning i. Schedules j. RFI, PR, ASI, CD, and Change Order Management k. Daily Planning l. Authority, Responsibility, and Management m. Material Ordering and Preventing Job Delays n. Goal Setting and Tracking o. Working and Coordinating with Other Subcontractors p. Production, Productivity, and Measuring Productivity q. Get the Right Tool for the Job r. Performance Review and Evaluation s. Safety, Accidents, and Reporting t. Daily Logs, Weekly Reports and Job Logs u. As-Built Plans, Operations and Maintenance Manuals and Other Reports v. Time Sheets, Expenses, and Responsibility w. Test Certificates and Other Test Reports x. Foreman's Fire Report and Other Authorizations 	2000
Total	10000

The above on-the-job-learning (OJL) work process competencies are intended as a guide. It need not be followed in any sequence, and it is understood that some adjustments may be necessary in the hours allotted for different work experience. In all cases, the apprentice is to receive sufficient experience to make them fully competent and use good workmanship in all work processes, which are a part of the industry. In addition, the apprentice shall be fully instructed in safety and OSHA requirements.

Apprenticeship Competencies – Behavioral

In addition to mastering all the essential technical competencies, an apprentice must consistently demonstrate at an acceptable level the following behavioral competencies, to complete the apprenticeship.

Item #	Behavioral Competencies
1.	Participation in team discussions/meetings
2.	Focus in team discussions/meetings
3.	Focus during independent work
4.	Openness to new ideas and change
5.	Ability to deal with ambiguity by exploring, asking questions, etc.
6.	Knows when to ask for help
7.	Able to demonstrate effective group presentation skills
8.	Able to demonstrate effective one-on-one communication skills
9.	Maintains an acceptable attendance record
10.	Reports to work on time
11.	Completes assigned tasks on time
12.	Uses appropriate language
13.	Demonstrates respect for patients, co-workers, and supervisors
14.	Demonstrates trust, honesty, and integrity
15.	Requests and performs work assignments without prompting
16.	Appropriately cares for personal dress, grooming and hygiene
17.	Maintains a positive attitude
18.	Cooperates with and assists co-workers
19.	Follows instructions/directions
20.	Able to work under supervision
21.	Able to accept constructive feedback and criticism
22.	Able to follow safety rules
23.	Able to take care of equipment and workplace
24.	Able to keep work area neat and clean
25.	Able to meet supervisor's work standards
26.	Able to not let personal life interfere with work
27.	Adheres to work policies/rules/regulations

RELATED INSTRUCTION OUTLINE

The related instruction has been developed in cooperation with employer-partners as part of the apprenticeship. The following is a set of courses to be delivered by subject matter experts.

Related Technical Instruction (RTI) - This instruction shall include, but not be limited to, at least 741.5 hours per year for each year of the apprenticeship. The related theoretical education listed below is tightly integrated with real work product. The curriculum is defined as a variety of classes, around which the exams and projects are based. By defining the RTI this way, all competencies required of the students are met, through project work.

Related Instruction Guidelines:

- The course listings outline the related instruction that supplements the on-the-job learning. It is through the combination of both the on-the-job learning and the related instruction that the apprentice can reach the skilled level of the occupation.
- Each apprentice's attendance and progress in related education must be tracked and appropriate records maintained.
- Time devoted to the job-related education shall not be considered as part of the on-the-job learning.
- Failure on the part of the apprentice to fulfill their obligation as to the related education and/or attendance, or their failure to maintain passing grades therein, shall constitute adequate cause for cancellation of their Apprenticeship Agreement.

Hours Instruction Provided: ☐During Work Hours ☐During Non-Work Hours ☒Both

Apprentices **will** be paid for hours spent attending related instruction classes.

Instruction Method: ☒Classroom ☒Correspondence/Shop ☒Web-Based Learning

All related instruction will be administered through virtual live training through American Fire Sprinkler Association's VIP program. All apprentices will have the opportunity to have hands-on training in branch training labs and/or branch warehouse/shops as well. Apprentices will be able to work on related instruction learned components in those settings prior to performing the components at the jobsite during the On-the-Job (OJT) time.



RTI Provider Name: **American Fire Sprinkler Association**
 Contact Name: **Victoria Valentine**
 Contact Phone: **240-813-4373**
 Contact Email: **valentine@firesprinkler.org**
 Contact Address: **1410 East Renner Road, Richardson, TX 75082**

RELATED TECHNICAL INSTRUCTION SPRINKLER FITTER (PIPEFITTER) O*NET-SOC CODE: 47-2152.01 RAPIDS CODE: 0414	
Sprinkler Fitting Training Series G, Level 1 - 15 Modules	Hours
Module 00101-15 Basic Safety	12.5 hours
Module 00102-15 Introduction to Construction Math	10 hours
Module 00103-15 Introduction to Hand Tools	10 hours
Module 00104-15 Introduction to Power Tools	10 hours
Module 00105-15 Introduction to Construction Drawings	10 hours
Module 00106-15 Basic Rigging	7.5 hours
Module 00107-15 Basic Communication Skills	7.5 hours
Module 00108-15 Employability Skills	7.5 hours
Module 00109-15 Introduction to Material Handling	5 hours
Module 18101-13 Orientation to Trade	5 hours
Module 18102-13 Introduction to Components & Systems	7.5 hours
Module 18103-13 Steel Pipe	22.5 hours
Module 18104-13 CPVC Pipe and Fitting	10 hours
Module 18105-13 Copper Tube Systems	10 hours
Module 18106-13 Underground Pipe	17.5 hours
Total	152.5 hours
Sprinkler Fitting Training Series G, Level 2 - 7 Modules	Hours
Module 18201-13 Hangers, Supports, Restraints, and Guides	15 hours
Module 18202-13 General Purpose Valves	15 hours
Module 18203-13 General Trade Math	20 hours
Module 18204-13 Shop Drawings	32.5 hours
Module 18205-13 Standard Spray Fire Sprinklers	20 hours
Module 18206-13 Wet Pipe Fire Sprinkler Systems	25 hours
Module 18207-13 Dry Pipe Systems	25 hours
Total	152.5 hours
Sprinkler Fitting Training Series G, Level 3 - 5 Modules	Hours

2023 Non-Joint Standards of Apprenticeship

Module 18301-13 Deluge/Preaction Systems	40 hours
Module 18302-13 Standpipes	25 hours
Module 18303-13 Water Supplies	15 hours
Module 18304-13 Fire Pumps	40 hours
Module 18305-13 Application-Specific Sprinklers and Nozzles	27.5 hours
Total	147.5
Sprinkler Fitting Training Series G, Level 4 - 5 Modules	Hours
Module 18401-13 System Layout	45 hours
Module 18402-13 Inspection, Testing, and Maintenance	17.5 hours
Module 18403-13 Special Extinguishing Systems	42.5 hours
Module 18404-13 Introductory Skills for the Foreman	20 hours
Module 18405-13 Procedures and Documentation	20 hours
Total	145 hours
Sprinkler Fitting Training Foremanship Leadership Training - 4 Modules	Hours
Chapter 1 Starting the Climb	36 hours
Chapter 2 Scope of Work/Pre-Planning/Schedules	36 hours
Chapter 3 Controlling Job Cost and Productivity	36 hours
Chapter 4 The Job is Not Done Until the Paperwork is Done	36 hours
Total	144 Hours

RELATED TECHNICAL INSTRUCTION FIRE SPRINKLER FITTER O*NET-SOC CODE: 47-2152.01 RAPIDS CODE: 0414 Sprinkler Fitting Apprenticeship Training Program for Fire Sprinkler Fitters (Published jointly by American Fire Sprinkler Association and the National Center for Construction Education and Research.)	
Sprinkler Fitting	Hours
Series G, Level 1 - 15 Modules	152.5 hours
Series G, Level 2 - 7 Modules	152.5 hours
Series G, Level 3 - 5 Modules	147.5 hours
Series G, Level 4 - 4 Modules	145 hours
Foremanship Leadership Training – 4 Chapters	144 hours
Total	741.5 hours

SECTION 27 - OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS

Pye-Barker Fire & Safety LLC hereby adopts these standards of apprenticeship.

Sponsor(s) designate the appropriate person(s) to sign the standards on their behalf.

Signature of Sponsor (*designee*)

Date: _____

Jeffrey B McCurley / Director, Apprenticeship and Skilled Labor Training

Type Name & Title