



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

Appendix A

WORK PROCESS SCHEDULES AND RELATED INSTRUCTION OUTLINE

Johnson Controls Fire Protection

Sprinkler Fitter

O*NET-SOC CODE: _____ RAPIDS CODE: _____

**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 8,000 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 \$16.18 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 \$32.36.

1-Year Term Example:

1st 6 months = 50% or \$16.18 2nd 6 months = 55% or \$17.80

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 8,000 hours of OJL, supplemented by a minimum of 144 hours of related instruction per year of apprenticeship.

Apprenticeship Competencies – Technical

1. Plan reading and interpretation	750
a. Reading shop drawings	
b. Symbols and abbreviations	
c. Familiarization with NFPA's #13, 14, 20 and 24	
2. Care of tools, materials, and equipment	800
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	
3. Preparation of tools, material and equipment	650
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	
4. Pipe cutting, threading, reaming and welding	1250
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 and welder	
5. Installation of underground piping and accessories	650
a. Installation of cast iron pipe and fittings	
b. Installation of plastic pipe and fittings	
c. Installation of valves, post indicators and hydrants	
d. Rodding and thrust block installation	
e. Valve pit installation	
f. Flushing and testing of underground piping	
6. Wet pipe systems	1550

<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. Branch line installation for concealed piping with drop nipples e. Hanger types and installation f. Trimming of valves including Siamese connection installation g. Set up and testing of system 	
7. Dry pipe systems	500
<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 	
8. Standpipe systems	500
<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 	
9. Special hazard installation	350
<ul style="list-style-type: none"> a. Installation of deluge systems b. Installation of pre-action systems c. Installation of halon systems d. Installation of cardox systems e. Installation of fire extinguishers 	
10. Installation of fire pumps and accessories	350
<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 	
11. Maintenance and Repairs	600
<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 	
12. Unallocated Hours	50
<p>Vendor equipment training, operation of company vehicle, Basic computer training.</p>	
TOTAL HOURS	8000

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 144 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.

First Year

Basic Safety	15
Introduction to Construction Math	15
Introduction to Hand Tools	10
Introduction to Power Tools	5
Introduction to Blueprints	7.5
Basic Rigging	20
Introduction to the Trade	6
Hangers, Supports, Restraints, and Guides	12
Threaded Steel Pipe	15
Flanged, Grooved, and Plain End Fittings	15
Plastic Pipe	9
Copper Tube Systems	9
Underground Pipe	12

Second Year

Introduction to Sprinklers	9
Standard Sprinklers	21
Special Sprinklers and Nozzles	24
General Purpose Valves	15
Wet Fire Sprinkler Systems	36
Dry-Pipe Systems	45

Third Year

General Trade Math	33
Construction and Plans	33
Water Supplies	15
Standpipes	24
Preaction/Deluge Systems	39

Fourth Year

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Fire Pumps	36
Special Extinguishing Systems	42
System Design	36
Inspection and Maintenance	15
Foremanship	15
TOTAL HOURS*	588.5

SECTION 27 - OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS

Johnson Controls Fire Protection 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: _____

Sherry Kinnibrugh, Manager, Apprenticeship & Training
Type Name & Title