APPENDIX A

WORK PROCESS SCHEDULE
IRONWORKER
O*NET-SOC CODE: 47-2221.00 RAPIDS CODE: 0669
(EXISTING TITLE: STRUCTURAL STEEL WORKER)

This work process schedule is attached to and a part of the Apprenticeship Standards for the above identified occupation. This sequence of Related Classroom Instruction is competency based and will be offered as traditional classroom training or independent study, which may include electronic media.

1. TERM OF APPRENTICESHIP

The term of the occupation shall be three (3) years with an OJL attainment of 6000 hours supplemented by the required hours of related technical instruction.

2. RATIO OF APPRENTICES TO JOURNEYWORKERS

A numeric ratio of apprentices to journeyworkers consistent with proper supervision, training, safety, and continuity of employment throughout the apprenticeship, the ratio of apprentices to journeyworkers will be one (1) apprentice to one (1) journeyworker. The ratio language must be specific and clearly described as to its application on the job site, workforce, department or plant.

3. APPRENTICE WAGE SCHEDULE AND FRINGE BENEFITS

Apprentices shall be paid a progressively increasing schedule of wages and fringe benefits based on a percentage of the current journeyworker wage rate.

Term: 6000 Hours

1st 1000 hours = 50 percent of journeyworker's rate and fringe benefit payments
2nd 1000 hours = 60 percent of journeyworker's rate and fringe benefit payments
3rd 1000 hours = 70 percent of journeyworker's rate and fringe benefit payments
4th 1000 hours = 75 percent of journeyworker's rate and fringe benefit payments
5th 1000 hours = 85 percent of journeyworker's rate and fringe benefit payments
6th 1000 hours = 90 percent of journeyworker's rate and fringe benefit payments

4. SCHEDULE OF WORK EXPERIENCE (See attached Work Process Schedule)

Apprenticeship Committees may add to the work processes prior to submitting these Standards to the appropriate Registration Agency for approval.

5. SCHEDULE OF RELATED INSTRUCTION (See attached Related Classroom Instruction Outline)

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

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IRONWORKER 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. Tools — 175
   a. Name and proper use
   b. Care
   c. Safety

2. Materials — 250
   a. Identification
   b. Shapes

3. Equipment- reinforcing, structural — 400
   a. Light equipment-blocks, ropes, etc.
   b. Heavy equipment-derricks, etc.

4. Erecting-job, erecting equipment — 2000
   a. Layout
   b. Drilling
   c. Welding-acetylene and electric
      1. Cutting
      2. Burning
   d. Riveting
      1. Selection of proper size and types of rivets
      2. Heating rivets
      3. Use and care of tools

5. Dismantling, rigging equipment, scaffolding, floats — 100

6. Ornamental, reinforcing, structural — 375
   a. Sorting materials
   b. Distributing

7. Placing, spacing, tying — 500

8. Hoisting — 400
   a. Hook on
   b. Learn signals
   c. Learn safety factors

9. Fitting-up, plumbing-up — 500
   a. Use of cables and turnbuckles
   b. Use of instruments
   c. Use of hydraulic jacks

10. Fabricating a. Layout b. Fit-up	900
11. Reading job plans and specifications	400
TOTAL HOURS	**6000**

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RELATED INSTRUCTION OUTLINE
IRONWORKER
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(EXISTING TITLE: STRUCTURAL STEEL WORKER)

IRONWORKER (ERECTOR) RELATED CLASSROOM INSTRUCTION

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates only.

Modules	Hours
Level 1	
Introduction to the Trade	5
Trade Safety	12.5
Tools of the Trade	10
Intro to Construction Math	10
Fastening	5
Rigging Equipment	10
Rigging Practices	15
Oxyfuel Cutting	17.5
Bar Joist and Girders	5
Plumbing, Aligning and Guying	5
Structural Ironworking I	7.5
Mobile Construction Cranes	10
Intro to Arc Welding	22.5
Trade Drawings I	12.5
Level 2	
Basic Safety	12.5
Trade Math	25
Basic Rigging	15
Basic Principles of Cranes	15
Structural Ironworking II	30
Trade Drawings II	10
Intermediate Rigging	10
Metal Decking	10
Survey Equipment – Use and Care	10
Steel Joist and Girders	15
Applied Trade Math	5
Level 3	
Crane Safety (Level 1)	15
Forklifts	17.5
Communication	10
Position Arc Welding	20
Advanced Rigging	20
Structural Ironworking III	10
Pre-cast Tilt-up Erection	12.5
Grating and Checkered Plate	5
Air Carbon Arc Cutting and Gouging	12.5
Field Fabrication	15
Stud Welding	10
TOTAL HOURS	**442.5**

*DOL apprenticeship program standards recommend 144 hours related instruction per level and/or year.