



## FIREFIGHTER APPLICANT PHYSICAL FITNESS EVALUATION

### MEDICAL CLEARANCE FOR TESTING

Applicant name: \_\_\_\_\_

This program is designed to **evaluate the physical work capacities of healthy, physically active individuals**. Each test requires a maximal effort. All of the tests are completed while wearing firefighting personal protective equipment (PPE) that weighs approximately 22 kg (50 lb). This ensemble includes: helmet, flash-hood, gloves, pants, boots, jacket and self-contained breathing apparatus (SCBA). The applicant is not required to breathe from the SCBA, but must carry it. For safety during the treadmill test, running shoes are substituted for firefighting boots. The tests are administered by the Faculty of Physical Education and Recreation at the University of Alberta, and are **not medically supervised**. The test procedures are described briefly below:

#### **Aerobic Endurance**

Maximum oxygen uptake ( $VO_{2max}$ ) will be measured during a progressive, incremental exercise test to exhaustion on a treadmill. During the test, expired gases are monitored with an automated metabolic measurement system to calculate the rate of oxygen consumption. Heart rate is monitored continuously with a telemetry system. Depending on fitness level and motivation, this test normally requires the individual to walk on the treadmill for between 10 – 20 minutes. Regardless of the fitness level of the individual, the test normally involves a maximal effort and is terminated when the person is too fatigued to continue exercise. Combined with the exercise stress, the weight and heat retention properties of the PPE result in a significant level of fatigue.

After completing the treadmill test, the applicant will rest for 60 minutes before moving on to the job-related performance tests.

#### **JOB-RELATED PERFORMANCE TESTS**

Prior to completing the job-related tests, the applicant will complete a “walk-through” session where they are allowed to practice each of the tasks. This takes approximately 30 minutes and serves to familiarize the applicant with testing procedures and provides a suitable warm-up for the demanding tests that follow. Each test is followed by a rest period of 3 minutes for recovery and hydration. Applicants are not permitted to leave the testing area or remove the PPE during the rest periods.

#### **Charged Hose Advance Test**

Applicants drag a charged (full of water) 38 mm (1.5 inch) hose a distance of 45 m (125'). Three 15 m (50') lengths of hose are "flaked" behind the starting line. The nozzle is held over the shoulder and applicant advances to the finish line as quickly as possible. This test assesses lower body strength and anaerobic power.

#### **Rope Pull Test**

Applicants pull a weighted sled over a smooth floor a distance of 15 m (50') over a smooth concrete floor using a rope. This task is repeated 3 times. During this test, the applicant is stationary and must

pull the sled towards them using 16 mm (5/8") rope. This test assesses upper body strength, power, and endurance.

**Forcible Entry Simulation Test**

Using a 3.6 kg (8 lb) "dead blow" sledge hammer, the applicant moves a weighted truck tire (102 kg or 200 lb) a distance of 30.5 cm (12") as rapidly as possible. This test assesses muscle strength, power and endurance, particularly in the upper body.

**Victim Drag Test**

The applicant drags a mannequin weighing 68.2 kg (150 lb) a total distance of 30 m (100'). The test starts with the mannequin lying "face-up" on the floor and the applicant standing. The applicant lifts the mannequin and walks backwards for 15 m, turns around a traffic cone and returns to the start line as quickly as possible. This test assesses strength, power, and agility.

**Ladder Climb Test**

The applicant climbs a 7.3 m (24') ladder to the 10<sup>th</sup> rung and returns to the floor as quickly as possible. This task will be repeated five times. This test assesses muscle strength, endurance, and anaerobic capacity.

**Equipment Carry/Vehicle Extrication Test**

The applicant carries small (18 kg or 40 lb) and large (36 kg or 80 lb) vehicle extrication tools (the "Jaws of Life") a total distance of 30 m (100'). In addition, the applicant will lift and hold the 18 kg tool in specific positions that simulate the work required to remove a vehicle door. The tools will then be returned to the starting point. This test is designed to evaluate the strength required to lift, carry and use heavy tools in rescue situations.

Is this individual taking any medication that could affect normal physiological responses to exercise?  
No \_\_\_\_\_ Yes \_\_\_\_\_ If yes, please explain.

Is there any medical reason that this individual should not undertake very strenuous exercise? No  
\_\_\_\_\_ Yes \_\_\_ If yes, please explain.

**I certify that this applicant has been given a medical examination and is medically fit to undertake the Physical Fitness Evaluation described above.**

**Physician's name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Clinic Stamp:**

**Telephone:** \_\_\_\_\_

**Signature:** \_\_\_\_\_