Physical Education Building  ahealth@mun.ca  Tel: 709-864-6796  
Memorial University of Newfoundland  Fax: 709-864-3979  
St. John’s, NL  A1C 5S7

FIREFIGHTER APPLICANT PHYSICAL FITNESS EVALUATION
MEDICAL CLEARANCE FOR TESTING

Applicant: ________________________________________________________________

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 Allied Health Services, who are CEP and/or NLCK and have obtained First Aid, CPR and AED, within the Faculty of Human Kinetics and Recreation at Memorial University of Newfoundland, and are **not medically supervised.** The test procedures are described briefly below:

**Aerobic Endurance**
Maximum oxygen uptake (VO2max) 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.

The treadmill test will be completed on day one, followed by the job-related performance tests on a separate day.

**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.
High Volume Hose Pull Test
Applicants pull a bundle of hose weighing approximately 56 kg (123 lb) a distance of 15 m (50’) over asphalt using a rope. This task is repeated 3 times. During this test, the applicant is stationary and must pull the hose bundle towards them using 16 mm (5/8”) rope. This test assesses upper body strength, power, and endurance.

Forcible Entry Simulation Test
Using a 4.09 kg (9 lb) “dead blow” sledge hammer, the applicant strikes a target object as rapidly as possible to complete a simulated entry task. This test assesses muscle strength and power, 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 10th 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
In the first part of the test, the applicant lifts and carries small (18 kg or 40 lb) and large (36 kg or 80 lb) vehicle extrication tools (the “Jaws of Life”) a distance of 30 m (100’). During second part of the test, the applicant will lift and hold the 18 kg tool in three specific positions that simulate the work required to remove a vehicle door. The tools will then be returned to the starting location. This test is designed to evaluate the strength required to lift, carry and work with heavy tools in rescue situations.

Please answer the following questions to complete this form:

Resting Heart Rate: _________bpm
Resting Blood Pressure: _________mm Hg

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: ________________________________