



# Department of Human Resources & Civil Service

## Continuous Recruitment Exam Announcement

Please Post Conspicuously

Maggie Brooks  
County Executive

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Director

## WTA-0617-06 Water Treatment Operator – Type A Plant

- Application Fee: **\$15.00**
- Examination Date: **June 17, 2006**
- Closing Date for Filing: **May 10, 2006** - Applications must be filed in our office or postmarked by this date
- Salary: **\$17.28 - \$23.98 hourly (Monroe County Water Authority)**
- Current Opening: **The results of this examination may be used to fill one (1) position in the Monroe County Water Authority.**
- Employment Opportunities: **The results of this exam may be used to fill vacancies, which may occur during the life of the eligible list.**

### Minimum Qualifications:

Graduation from high school or possession of an equivalency diploma plus completion of an appropriate course of instruction approved by the Public Health Council, and one (1) year paid full-time or its part-time equivalent experience\* in the operation of a water treatment plant with facilities for filtration with pre-treatment or any similar process.

### Special Requirements:

Type A Plant whose designated capacity exceeds 2.5 million gallons per day:

Possession of a Grade II-A Treatment Plant Operator license issued by the New York State Health Department under the provisions of the New York State Sanitary Code at the time of appointment.

If you are appointed, you will be required to have a valid license to operate a motor vehicle in New York State or otherwise demonstrate your capacity to meet the transportation needs of the job.

\* part-time equivalent experience is as follows:

- 0-9 hours per week = no credit
- 10-19 hours per week = 1/4 (one-quarter) of full-time work
- 20-29 hours per week = 1/2 (one-half) of full-time work
- 30 hours or more per week = full-time work

Work experience must be paid full-time, or its part-time equivalent. Employment dates, average number of hours worked per week, and job duties must be included.

### Residency Requirement:

Applicants must be residents of Monroe County for at least four (4) months at the time of examination. Candidates who live outside of Monroe County, but within the Monroe County Water Authority whose civil service is administered by Monroe County, may apply to take the examination, but will only be eligible for appointment to positions in the Monroe County Water Authority.

### Fees:

A \$15.00 **non-refundable** Application Fee for each examination for which you apply is to be paid with your application, unless the fee is waived for that examination.

Make check or money order payable to: Monroe County Director of Finance

Write your SOCIAL SECURITY NUMBER AND EXAM NUMBER(S) ON YOUR CHECK OR MONEY ORDER.

Be sure to compare your qualifications carefully with the requirements listed and file only for those examinations for which you clearly qualify and intend to take. We cannot prescreen applications submitted without the fee. No refunds will be made if your application is disapproved or you fail to appear for the test. There is a \$15.00 charge for returned checks. We do not accept cash.

**Exception to Fee Requirement:**

An exception to the application fee will be made only for persons receiving Supplemental Security Income (SSI) payments or public assistance, or certified as Workforce Investment Act (WIA) eligible through a state or local social service agency, and for those who are unemployed and primarily responsible for the support of a household. Employees of Monroe County who are represented by the Federation of Social Workers, Local 381, are eligible for this waiver for all exams if they are in salary group 52 and below; employees in a salary group above 52 are eligible for the fee waiver, if the examination is for a title in their career field. Employees of Monroe County who are represented by C.S.E.A., Local 828, are eligible for this waiver, if they are in salary group 10 or below. The fee is waived for all Monroe County employees taking promotional exams. Individuals wishing to claim this waiver of fee must complete an application fee waiver request located on the last page of the application. Such claims are subject to later verification and, if not supported by appropriate documentation are grounds for barring appointment.

**Description of Duties:**

This position is responsible for the efficient operation and maintenance of a Type A Water Treatment Plant containing facilities for filtration with pre-treatment or a chemical softening process. The position requires working rotating shifts including weekends and holidays. The employee reports directly to and works under the general supervision of a Production Engineer or other higher-level staff member. Work requires regular inspection of various areas within the treatment plant and offsite locations including remote facilities, booster pumping stations, tanks and reservoirs. Employees are required to climb ladders or stairs and enter confined or restricted spaces including subgrade facilities and maneuver or work in tight quarters around machinery. Supervision is not a responsibility of this position. Possession of a Grade II-A Water Treatment Plant Operator's license is required at the time of appointment.

**Scope of Examination:**

A multiple-choice written test will cover knowledge, skills and /or abilities in such areas as:

1. Mechanical Aptitude

These questions test your ability to identify and understand how basic mechanical instruments such as motors and gears work.

2. Safety Practices

These questions test your knowledge of basic safety practices.

3. Tools and Reading of Scales and Gauges

These questions test your ability to recognize or identify basic tools and their common uses and to make accurate readings of various types of dials, scales and gauges.

4. Elementary Chemistry and General Science

These questions test your knowledge of basic processes and concepts in chemistry and general science.

5. Understanding and Interpreting Written Material

These questions test how well you comprehend written material.

6. Basic Mathematics

These questions test your ability to use addition, subtraction, multiplication and division to solve basic arithmetic problems that might be encountered in water and wastewater treatment plant operations. Questions may also involve the use of fractions, decimals, averages, and percents.

**Calculators and Reference Materials:**

Most civil service written tests do not require the use of a calculator or slide rule. However, the use of calculators is **RECOMMENDED** for this exam. Candidates have the option of bringing a hand-held, quiet, battery or solar-powered arithmetic calculator or a slide rule to the test room. Candidates will not be permitted to use calculators containing spell check, dictionary, language translator, address or telephone book, personal digital assistants, or typewriter keyboard features, or any similar devices. You may not bring books or other reference materials.

A **“Guide to Taking the Written Test for the Water & Wastewater Treatment Plant Operator/Trainee Series”** is attached. It is also available in the Monroe County Civil Service Office in Room 210, County Office Building, 39 West Main Street, Rochester, NY 14614. The guide is also available on the Monroe County Web Site listed at the bottom of this page. This guide contains sample test questions similar to the questions that will be used in this written test. If you would like one mailed to your home address, please send a self-addressed stamped envelope to the above address.

This written examination is being prepared and rated in accordance with Section 23(2) of the Civil Service Law. The provisions of the New York State Civil Service Law, Rules and Regulations dealing with the preparation and rating of examinations, as well as establishment and certification of eligible lists for positions in the classified service will apply to this examination.

----- **BASIC CIVIL SERVICE INFORMATION** -----

**Applications:**

If you are applying for more than one exam, a separate application is required for each exam. Applications may be obtained at the address or web-site indicated at the bottom of the first page of this announcement.

**Candidates must record the Exam Number and Title on the Application.**

**Note:**

Submission of a resume does not relieve you of the responsibility for completing all sections of the official application. The resume is a supplement to the application, and not a substitute for it. To receive credit for a job, basic employment information such as address, name and title of supervisor, average number of hours in the workweek, final salary, reason for leaving, specific job duties, your job title, etc. must be shown.

**Certifications and Appointments:**

The eligible list resulting from this examination will be established in accordance with the final earned numerical rating of passing candidates regardless of residence. A municipality or district may exercise its right under Section 23 of the Civil Service Law to request an initial certification of eligibles who have been residents of that municipality or district for at least one (1) month on the date of certification and who are also legal residents of the appointing jurisdiction at the time of appointment, in accordance with their numerical rating. After the names of residents have been exhausted the Commission must then certify in regular rank order the names of non-residents on the list.

**Background Investigation:**

Applicants may be required to undergo a State and national criminal history background investigation, which will include a fingerprint check, to determine suitability for appointment. Failure to meet the standards for the background investigation may result in disqualification.

**Special Requirement for Appointment in School Districts and BOCES:**

Per Chapter 180 of the Laws of 2000, and by Regulations of the Commissioner of Education, to be employed in a position designated by a school district or BOCES involving direct contact with students, a clearance for employment from the State Education Department is required.

**Veteran's Credits:**

Veterans entitled to and wishing to claim additional points must file in the Monroe County Department of Human Resources an Application for Veteran's Credits (VC-1) form, and a copy of their military discharge papers (DD-214). Disabled veterans must also file two (2) copies of an Authorization for Veteran's Disability Record (VC-4) with the Veteran's Administration. These forms are available at the Monroe County Department of Human Resources and must be filed within thirty (30) days of the examination date. No credit may be added after the eligible list has been established.

Candidates currently on active duty may apply within thirty (30) days of the examination. Upon discharge, candidates must submit a copy of their military discharge papers (DD-214). Any extra points will be applied upon our receipt of the discharge papers.

**Active Military Members:**

Special testing arrangements may be available to applicants who are active military members. For further information contact the Monroe County Department of Human Resources before submitting an application.

**Children of Firefighters and Police Officers Killed in the Line of Duty:**

In conformance with section 85-a of the Civil Service Law, children of firefighters and police officers killed in the line of duty shall be

entitled to receive an additional ten points in a competitive examination for original appointment in the same municipality in which his or her parent has served. If you are qualified to participate in this examination and are a child of a firefighter or police officer killed in the line of duty in this municipality, please inform this office of this matter when you submit your application for examination. A candidate claiming such credit must provide the necessary documentation to verify additional credit eligibility within thirty (30) days of the examination date. No credit may be added after the eligible list has been established.

**Special Arrangements for Examination:**

If you need an alternate test date because you are a Religious Observer [for religious reasons, cannot be tested on date of examination(s)] or if you have a disability that requires special accommodations for you to participate in an examination, you must notify us at the address or telephone numbers listed on the front page of this announcement by the application deadline. Indicate your request on the front of your application for each exam, and under separate cover submit a statement outlining the reason for your request, the exam number(s) and title(s), and attach supporting documentation.

**Multiple Exam Takers:**

Persons also applying for examinations offered by the City of Rochester and/or New York State Civil Service Commission held on the same date must complete a crossfiler form, available from the Monroe County Department of Human Resources, which will provide for special arrangements. Arrangements must be made to take **ALL** examinations at **ONE** test site. Unless this form is filed with the Monroe County Department of Human Resources three (3) weeks prior to the exam date, we cannot ensure that such arrangements will be made. **If you are taking multiple exams on the same date with Monroe County Civil Service Commission only, you do not have to file a crossfiler form.**

Candidates taking more than one (1) exam in different exam series will be allowed the specified length of time for each exam, up to a maximum of eight (8) hours. Example: If you are taking one (1) exam which allows six (6) hours and another exam in a different series which allows four (4) hours, you must complete both tests in eight (8) hours, but you can spend no more time on each exam than the time allotted for that exam.

**Admission to Examination:**

All applications will be reviewed after the "Closing Date for Filing" listed on the front page of this announcement. If there is a problem with your application, you will be notified in writing and given an opportunity to submit additional information to support your application. If there are no problems with your application, you will be sent an admission notice approximately one week before the exam date. If you have not received your admission notice to appear for the examination **three days** before the date of the exam, call the Monroe County Department of Human Resources at (585) 753-1700.

**Issue Date:** April 14, 2006

***Guide***  
***To Taking The Written Test For***  
**WATER & WASTEWATER TREATMENT**  
**PLANT OPERATOR/TRAINEE SERIES**



**New York State Department of Civil Service**  
**Albany, New York**  
**1999**

## INTRODUCTION

The New York State Department of Civil Service has developed this Guide to familiarize you with the Water and Wastewater Treatment Plant Operator/Trainee Series written test. It provides a general description of the subject areas to be tested and the different types of questions you will likely see on the test. The Examination Announcement will specify the exact subject areas to be included on the test you will be taking.

The Water and Wastewater Treatment Plant Operator/Trainee Series written test has an overall time allowance of 3 hours. The test is divided into six separate subject areas and the questions are designed to evaluate knowledge and abilities in the following areas:

1. **MECHANICAL APTITUDE:** These questions test your ability to identify and understand how basic mechanical instruments such as motors and gears work.
2. **SAFETY PRACTICES:** These questions test your knowledge of basic safety practices.
3. **TOOLS AND READING OF SCALES AND GAUGES:** These questions test your ability to recognize or identify basic tools and their common uses and to make accurate readings of various types of dials, scales and gauges.
4. **ELEMENTARY CHEMISTRY AND GENERAL SCIENCE:** These questions test your knowledge of basic processes and concepts in chemistry and general science.
5. **UNDERSTANDING AND INTERPRETING WRITTEN MATERIAL:** These questions test how well you comprehend written material.
6. **BASIC MATHEMATICS:** These questions test your ability to use addition, subtraction, multiplication and division to solve basic arithmetic problems that might be encountered in water and wastewater treatment plant operations. Questions may also involve the use of fractions, decimals, averages, and percents.

These are the only subject areas that will be included on the written test.

The remainder of this guide explains how you are tested in each of these subject areas. A **TEST TASK** is provided for each subject. This is an explanation of how a question is presented and how to correctly answer it. Be sure to read each one carefully.

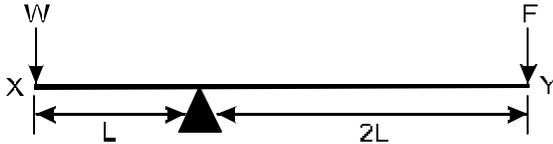
You will also be given at least one **SAMPLE QUESTION** for each subject area. It will be of the type that you will see on the actual test. The **SOLUTION** and correct answer are provided after each question. You should study the question and its solution until you understand how it works.

## SUBJECT AREA 1

**MECHANICAL APTITUDE:** These questions test your ability to identify and understand how basic mechanical instruments such as motors and gears work.

**TEST TASK:** You will be given questions accompanied by diagrams of mechanical devices. You will be required to demonstrate an understanding of how the devices work.

**SAMPLE QUESTION:**



In the balance, or scale, system shown above, how much force (F) must be applied at point Y to balance the weight (W) at point X?

- A.  $F = \frac{1}{2} W$
- B.  $F = W$
- C.  $F = 2 W$
- D.  $F = 3 W$

*Answer is A.*

**SOLUTION:** To solve this question you must be able to recognize the point at which force (F) is applied is twice as far from the fulcrum (balance point) as weight (W) and therefore force (F) needs to be only  $\frac{1}{2}$  as much as weight (W) to keep the system in balance. Therefore the correct answer is A.

## SUBJECT AREA 2

**SAFETY PRACTICES:** These questions test your knowledge of basic safety practices.

**TEST TASK:** You will be required to demonstrate your knowledge of basic safety practices.

**SAMPLE QUESTION:**

Of the following information concerning an accident which resulted in an injury, the most valuable information for use in taking preventive measures is the

- A. time of the accident
- B. cause of the accident
- C. medical cost
- D. nature of the injury

*Answer is B.*

**SOLUTION:** To answer this question you must be able to recognize that to prevent future accidents from occurring it is necessary to know how and why such accidents have occurred in the past. This knowledge of the cause of past accidents will help to get to the root of the problem and prevent similar type accidents in the future. Choices A, C and D do not get to the root of the problem. Therefore, the correct answer is B.

## SUBJECT AREA 3

**TOOLS AND READING OF SCALES AND GAUGES:** These questions test your ability to recognize or identify basic tools and their common uses and to make accurate readings of various types of dials, scales and gauges.

**TEST TASK:** You will be given questions about basic tools and you will be asked to identify them or identify what they are used for. You will also be given questions that will test your ability to make accurate readings of dials, scales, and gauges.

### **SAMPLE QUESTIONS:**

#### **Question 1**

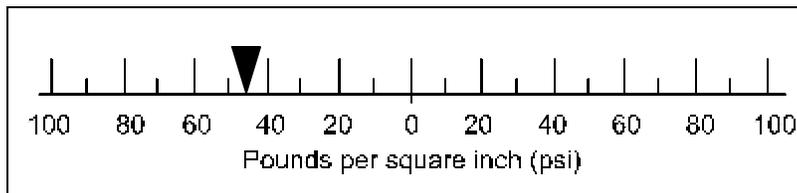
Which one of the following types of saw is best used for cutting metal?

- A. rip saw
- B. cross-cut saw
- C. hacksaw
- D. coping saw

*Answer is C.*

**SOLUTION:** *To answer this question you must know enough about basic tools to know that a hacksaw is specifically used for cutting metal, and choices A, B and D are all wood-cutting saws. Therefore the correct answer is C.*

#### **Question 2**



Which one of the following is most nearly the reading on the above pressure gauge?

- A. 50 psi
- B. 45 psi
- C. -45 psi
- D. -50 psi

*Answer is C.*

**SOLUTION:** *To solve this question you must (1) recognize that by convention the numbers to the right of -0- on the pounds per square inch (psi) scale are positive (+) and the numbers to the left of -0- on the scale are negative (-), then (2) determine that the hash mark between -40 and -60 is -50, then (3) determine that the reading indicated by the arrow is half way between -40 and -50. Therefore the correct answer is C.*

## SUBJECT AREA 4

**ELEMENTARY CHEMISTRY AND GENERAL SCIENCE:** These questions test your knowledge of basic processes and concepts in chemistry and general science.

**TEST TASK:** In this subject area you will be required to display knowledge of basic facts and principles of elementary chemistry and general science.

**SAMPLE QUESTIONS:**

**Question 1**

The element chlorine, used to disinfect water, has which one of the following chemical symbols?

- A. Ch
- B. Cl
- C. Co
- D. Cr

*Answer is B.*

**SOLUTION:** *To answer this question you must have enough general chemistry knowledge to know that the chemical symbol for chlorine is Cl. Ch is not a chemical symbol, Co is the chemical symbol for cobalt, and Cr is the chemical symbol for chromium. Therefore the correct answer is B.*

**Question 2**

Under standard conditions, one cubic centimeter (cc) of water has a mass of which one of the following?

- A. one ounce
- B. one slug
- C. one gram
- D. one pound

*Answer is C.*

**SOLUTION:** *To solve this question you must know that one cubic centimeter of water has a mass of one gram. This is a standard principle of general science. Therefore the correct answer is C.*

## SUBJECT AREA 5

**UNDERSTANDING AND INTERPRETING WRITTEN MATERIAL:** These questions test how well you comprehend written material.

**TEST TASK:** You will be provided with brief reading selections, followed by a set of alternative statements relating to each selection. You must indicate the most appropriate statement relating to the selection on the basis of whether it: 1) accurately paraphrases portions of the selection; or 2) adequately summarizes the selection; or 3) presents an inference that can reasonably be drawn from the selection.

### **SAMPLE QUESTION:**

"The major cause of injuries is slips and falls. Tools, parts and other things should not be left lying around. Grease droppings, oils, sludge, and especially polymers should be cleaned up as soon as possible. Warning signs, railings and covers can protect against low piping, open tanks and open manholes or hatches. The simple knowledge of proper lifting techniques, such as bending the knees and lifting with muscles of the legs, can save many strained or injured backs."

**QUESTION:** According to the above paragraph, which one of the following is the primary cause of injury?

- A. improper lifting techniques
- B. grease or polymer burns
- C. slips and falls
- D. low piping

*Answer is C.*

**SOLUTION:** *To answer this question, evaluate all the choices.*

*Choice A lists improper lifting techniques as the primary cause of injury. The paragraph states only that the simple knowledge of lifting techniques, bending the knees and lifting with muscles of the legs can save many strained or injured backs. Therefore this choice is incorrect.*

*Choice B lists grease or polymer burns as the primary cause of injury. The paragraph states only that grease droppings, oils, sludge and especially polymers should be cleaned up as soon as possible. Therefore this choice is incorrect.*

*Choice C lists slips and falls as the primary cause of injury. The paragraph states: "The major cause of injuries is slips and falls". This choice is correct.*

*Choice D lists low piping as the primary cause of injury. The paragraph states only that warning signs, railings and covers can protect against low piping, open tanks and open manholes or hatches. Therefore this choice is incorrect.*

## SUBJECT AREA 6

**BASIC MATHEMATICS:** These questions test your ability to use addition, subtraction, multiplication and division to solve basic arithmetic problems that might be encountered in water and wastewater treatment plant operations. Questions may also involve the use of fractions, decimals, averages, and percents.

**TEST TASK:** You will be required to use addition, subtraction, multiplication and division to solve basic mathematical problems typical of those found on the job in this title.

### **SAMPLE QUESTION:**

If 200 yards of cable costs \$360.00, what will thirty feet of the same cable cost?

- A. \$15.00
- B. \$18.00
- C. \$45.00
- D. \$54.00

*Answer is B.*

### **SOLUTION:**

*To solve this question you must divide \$360.00 by 200 yards to find that the cable costs \$1.80 per yard.*

*Since there are 3 feet per yard, the cable therefore costs  $\frac{\$1.80}{3}$  or \$.60 per foot. So thirty feet of cable costs: 30 feet X \$.60 per foot, or \$18.00. Therefore the correct answer is B.*

## CONCLUSION

You and your feelings about tests have a great deal to do with how you perform on a test. Some people get so tense and nervous that they don't do as well as they could. They forget things they know or make simple mistakes. The following suggestions should help you overcome these problems.

- ? Study and review this Guide to become familiar with the test contents.
- ? Give yourself plenty of time to do what you need to do before the test starts. Arrive at the test room a little ahead of the starting time.
- ? Try to relax just before the test starts.
- ? Listen carefully to the instructions the Monitors give you. Carefully read all instructions on the Candidate Directions you are given at the test as well as information on the covers of the test booklets.
- ? Try to keep calm, cool and collected throughout the test.
- ? Keep track of time.