

CAREER GUIDE FOR CONSTRUCTION AND BUILDING INSPECTORS

Standard Occupational Code: SOC Code: 47-4011.00

Pay Band(s): 2, 3, and 4 ([Salary Structure](#))

Standard Occupational Description: Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

Construction and Building Inspector positions in the Commonwealth are assigned to the following Roles in the [Engineering Technology Career Group](#):

[Engineering Technician I](#)

[Engineering Technician II](#)

[Engineering Technician III](#)

While Construction and Building Inspectors within the Commonwealth are all located within the Engineering Technology Career Group, individuals may want to pursue other opportunities within the Commonwealth depending upon individual training, education, knowledge, skills, abilities, and interests.

Other Career Group(s) that may be of interest are:

[General Administration](#)

[Transportation Operations](#)

SKILLS, KNOWLEDGE, ABILITIES AND TASKS

(Technical and Functional Expertise)

Skills

Note: *The technical and functional skills listed below are based on general occupational qualifications for **Construction and Building Inspectors** commonly recognized by most employers. Typically, you will not be required to have all of the skills listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.*

1. Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
2. Considering the relative costs and benefits of potential actions to choose the most appropriate one.
3. Communicating effectively in writing as appropriate for the needs of the audience.
4. Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
5. Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
6. Talking to others to convey information effectively.
7. Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
8. Understanding written sentences and paragraphs in work related documents.
9. Using mathematics to solve problems.

10. Determining how money will be spent to get the work done, and accounting for these expenditures.
11. Using scientific rules and methods to solve problems.
12. Understanding the implications of new information for both current and future problem-solving and decision-making.
13. Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
14. Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
15. Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
16. Persuading others to change their minds or behavior.
17. Managing one's own time and the time of others.
18. Analyzing needs and product requirements to create a design.
19. Determining causes of operating errors and deciding what to do about it.
20. Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

Knowledge

Note: *The technical and functional knowledge statements listed below are based on general occupational qualifications for **Construction and Building Inspectors** commonly recognized by most employers. Typically, you will not be required to have all of the knowledge listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.*

The Knowledge of:

1. Materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
2. Relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
3. Arithmetic, algebra, geometry, calculus, statistics, and their applications.
4. Design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
5. Machines and tools, including their designs, uses, repair, and maintenance.
6. The prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.
7. Structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
8. Laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.
9. The practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
10. Business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
11. Economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.
12. Administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

13. Raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
14. Principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

Abilities

Note: *The technical and functional abilities listed below are based on general occupational qualifications for **Construction and Building Inspectors** commonly recognized by most employers. Typically, you will not be required to have all of the abilities listed to be a successful performer. Recruitment and selection standards for an individual state job must be based on the specific knowledge, skills, and abilities for that job as indicated in the job announcement and job description in the Employee Work Profile.*

The Ability to:

1. Tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
2. Communicate information and ideas in writing and in speaking so others will understand.
3. Read and understand information and ideas presented in writing.
4. Apply general rules to specific problems to produce answers that make sense.
5. See details at close range (within a few feet of the observer).
6. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
7. Speak clearly so others can understand you.
8. Listen to and understand information and ideas presented through spoken words and sentences.
9. Choose the right mathematical methods or formulas to solve a problem.
10. Add, subtract, multiply, or divide quickly and correctly.
11. See details at a distance.
12. Know your location in relation to the environment or to know where other objects are in relation to you.
13. Identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.
14. Imagine how something will look after it is moved around or when its parts are moved or rearranged.
15. Match or detect differences between colors, including shades of color and brightness.
16. Come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).
17. Keep or regain your body balance or stay upright when in an unstable position.
18. Arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
19. Come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
20. Quickly make sense of, combine, and organize information into meaningful patterns.

Tasks

Note: *The following is a list of sample tasks typically performed by **Construction and Building Inspectors**. Employees in this occupation will not necessarily perform all of the tasks listed.*

1. Inspects bridges, dams, highways, building, wiring, plumbing, electrical circuits, sewer, heating system, and foundation for conformance to specifications and codes.
2. Reviews and interprets plans, blueprints, specifications, and construction methods to ensure compliance to legal requirements.

3. Measures dimensions and verifies level, alignment, and elevation of structures and fixtures to ensure compliance to building plans and codes.
4. Approves and signs plans that meet required specifications.
5. Records and notifies owners, violators, and authorities of violations of construction specifications and building codes.
6. Issues violation notices, stop-work orders, and permits for construction and occupancy.
7. Confers with owners, violators, and authorities to explain regulations and recommend alterations in construction or specifications.
8. Reviews complaints, obtains evidence, and testifies in court that construction does not conform to code.
9. Maintains daily logs, inventory, and inspection and construction records and prepares reports.
10. Evaluates premises for cleanliness, including garbage disposal and lack of vermin infestation.
11. Computes estimates of work completed and approves payment for contractors.

INTERESTED?

Like people, occupations have traits or characteristics. These characteristics give important clues about the nature of the work and work environment, and give you an opportunity to match your own personal interests to a specific occupation. When you choose a job in an occupation that matches your own interests you have taken an important step in planning a successful and rewarding career.

Construction and Building Inspector work is called a **Conventional** occupation since it frequently involves following set procedures and routines. This occupation can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.

It is also a **Realistic** occupation because it frequently involves work activities that include practical, hands-on problems and solutions. Finally, it's an Investigative occupation since it frequently involves working with ideas, and requires an extensive amount of thinking. This occupation can involve searching for facts and figuring out problems mentally.

LICENSURE, REGISTRATION, OR CERTIFICATION REQUIREMENTS

Generally this is not required for Construction and Building Inspector positions in state government. However, to improve career advancement opportunities, you should consider the advantages of certification and include this step in your self-development plan.

For information on becoming a certified building inspector, contact the following organizations:

The Association of Construction Inspectors, 1224 North Nokomis NE, Alexandria, MN 56308 or on the web at <http://www.iami.org/aci>

The International Code Conference, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041 or on the web at <http://www.iccsafe.org>

EDUCATIONAL, TRAINING, AND LEARNING OPPORTUNITIES

According to the Department of Labor:

Construction and building inspectors typically should have a thorough knowledge of construction materials and practices in either a general area, such as structural or heavy construction, or a specialized area, such as electrical or plumbing systems, reinforced concrete, or structural steel. Applicants for construction or building inspection jobs need several years of experience as a construction manager, supervisor, or craftworker. Many inspectors previously worked as carpenters, electricians, plumbers, or pipefitters.

Most employers prefer applicants who have formal training as well as experience. Most employers require at least a high school diploma or equivalent, even for workers with considerable experience. More often, employers look for persons who have studied engineering or architecture, or who have a degree from a community or junior college, with courses in building inspection, home inspection, construction technology, drafting, and mathematics. Many community colleges offer certificate or associate degree programs in building inspection technology. Courses in blueprint reading, algebra, geometry, and English also are useful.

Most States and cities require some type of certification for employment; even if not required, certification can enhance an inspector's opportunities for employment and advancement to more responsible positions. To become certified, inspectors with substantial experience and education must pass stringent examinations on code requirements, construction techniques, and materials. The ICC offers voluntary certification, as do other professional membership associations. In most cases, there are no education or experience prerequisites, and certification consists of passing an examination in a designated field. Many categories of certification are awarded for inspectors and plan examiners in a variety of disciplines, including the Certified Building Official (CBO) designation.

Other ways of gaining training and/or experience are listed below.

1. Graduate from an engineering curriculum accredited by the Accreditation Board for Engineering and Technology.
2. US Military Service
3. On-the-job Training
4. One of the Commonwealth's technical high schools. (Check with your local school district for technical high school information.)
5. Virginia Community College System
6. Skilled trades organizations that you may wish to join.

The Construction and Building Inspector occupation is an apprenticeable specialty. To learn about specific apprenticeship opportunities, please consult the US Department Of Labor, 400 North 8th Street, Federal Building - Suite 404, Richmond, Virginia 23219-23240, (804) 771-2488. For general information about apprenticeships, training, and partnerships with business, visit the [Office of Apprenticeship Training, Employer and Labor Services \(OATELS\)](#) website.

COMMONWEALTH COMPETENCIES

Competencies are a set of identified behaviors, knowledge, skills, and abilities that directly and positively impact the success of employees and the organization. Competencies can be

observed and measured. When consistently demonstrated, competencies make employees particularly effective in their work. Competencies help lay out a road map to career success. You can use the Commonwealth Competencies to help improve your individual performance by adopting behaviors that make high performing employees successful in their jobs. In this way, you can use the Commonwealth Competencies for your further professional development.

The Commonwealth Competencies are:

1. Technical and Functional Expertise
2. Achieve Results
3. Serve the Customer
4. Teamwork
5. Understanding the Business
6. Interpersonal and Communication Skills
7. Leadership and Personal Effectiveness

The above competencies may be applied to employees throughout the Commonwealth of Virginia. They can be rank-ordered by agencies and hiring managers to represent the needs of a specific job. The rank ordering will change depending upon the occupation, an organization's priorities, the actual job requirements, and the supervisor's preferences.

Career success is both about what you do (applying your technical knowledge, skills, and ability) and how you do it (the consistent behaviors you demonstrate and choose to use) while interacting and communicating with others. Hopefully, by studying the Commonwealth competencies, identifying your developmental opportunities, and working to refine your own competence, you can take charge of your career!

For additional information about the **Commonwealth Competencies** go to:

http://jobs.state.va.us/cc_planningctr.htm. For the competencies, we first list the competencies and then define each. Finally, we list competency indicators; to describe what successful performance looks like.

COMMONWEALTH CAREER PATH

Career opportunities in the Commonwealth are not limited to moving “up” to the next highest role and pay band, changing positions, or to becoming a supervisor. That’s because most roles describe a broad group of occupationally related positions that perform a range of work that requires increased knowledge and skills. For that reason, Commonwealth roles describe the career paths within the same or higher-level role for the same or different Career Group. The broad salary range and the Commonwealth’s pay practices provide flexibility in recognizing career development and advancement. ([Salary Structure](#))

Many employers, including the Commonwealth, expect trades professionals to gain knowledge, skills, and abilities in more than one area. Multi-skilled workers can add value to the organization and often find that a variety of work assignments can be rewarding.

Sample Career Path

PAY BAND	PRACTITIONER ROLES	MANAGEMENT ROLES
2	Engineering Technician I	
3	Engineering Technician II	
4	Engineering Technician III	
5	Engineering Technician IV	

Engineering Technician I

The Engineering Technician I role provides career tracks for engineering technicians who perform or provide assistance to others who perform engineering activities. Duties range from trainee to entry level and are of limited scope and require knowledge of principles/techniques in a specific/narrow area of technical assignment and/or acquired through a formal training program.

Engineering Technician II

The Engineering Technician II role provides career tracks for engineering technicians performing at the journey level who apply technical skills in support of specialized tasks, phases and/or segments of a specialty-engineering project or assignment. Duties include drafting and sketching of engineering plans or maps; conducting on-site bridge/structure and project construction inspections; performing materials sampling and testing; calculating geometrics; or other specialty activities to ensure accurate program execution and compliance with Department, State and Federal regulations and standards.

Engineering Technician III

The Engineering Technician III role provides career tracks for engineering technicians performing responsibilities ranging from advanced level to supervisory in support of a broad range of engineering specialty activities. Duties involve interpreting engineering guidelines; coordinating varied activities; performing engineering drafting and design work, traffic engineering improvements, materials acceptance evaluations, bridge/structure inspections and construction inspections for moderate to major scale projects; providing technical assistance to others; and performing detailed reviews of engineering related projects. This role also provides career tracks for photogrammetrists who perform entry level to advanced level responsibilities.

Engineering Technician IV

The Engineering Technician IV role provides career tracks for engineering technicians who perform as experts and/or supervisors of technical specialty engineering support and/or coordination of research, planning, design, construction and/or rehabilitation of comprehensive engineering projects and activities. Duties range from ensuring that projects, programs and procedures are effectively and efficiently administered to providing practical technical expertise in making decisions in the review, analysis, coordination and delivery of a specialty engineering function.

ADDITIONAL OCCUPATIONAL INFORMATION CAN BE FOUND AT:

The Association of Construction Inspectors

<http://www.iami.org/aci>

The International Code Conference

<http://www.iccsafe.org>

O*NET (Occupational Information Network)

http://online.onetcenter.org/cgi-bin/gen_search_page?1

Virginia Employment Commission

<http://www.alex.vec.state.va.us/>

Department of Professional & Occupation Regulation

http://www.state.va.us/dpor/conNEW_req.pdf

Career One Stop

<http://www.careeronestop.org/>

Virginia Career Resource Network

<http://www.vacrn.net/>