Safety Awareness Manual

Winchester Virginia

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CHAPTER I
GENERAL SAFETY

Section 1 - SAFETY COMMITTEE

A. **PURPOSE** - The Safety Committee will serve as an advisory committee to the City Manager. The committee shall meet once a month to review departmental efforts to comply with the requirements of the City's Safety and Health programs.

B. **COMPOSITION -** The Safety Committee shall be comprised of 10 voting members made up of employee representatives of the five City teams:

1. OFFICERS:
   a. CHAIRPERSON – Elected
   b. VICE CHAIRPERSON – Elected
   c. SECRETARY – Risk Manager

2. VOTING MEMBERS:
   a. **Public Safety** – Police, Juvenile Detention Center, and Fire & Rescue
   b. **Public Services –** Public Utilities, Public Works
   c. **Human Services** – Parks & Recreation, Social Services
   d. **Planning and Development** – Inspections
   e. **Administration** – City Hall, Risk Manager

3. The Safety Committee will serve as an advisory committee to the City Manager.

C. **ASSIGNMENT OF RESPONSIBILITIES:** To ensure efficiency in the conduct of the Safety Committee of the City of Winchester, the following duties and responsibilities are assigned to the various committee members.

1. CITY MANAGER: The City Manager, through the Human Resources Director, the Risk Manager and the Safety Committee, has the overall responsibility to assure that a safe and healthful work place is provided for the employees of the City of Winchester. Specifically, the City Manager shall:

   a. Support the implementation of the City's comprehensive safety and health policies and guidelines.
   b. Provide departmental managers with the means for ensuring compliance with all local, State and Federal safety and health regulations.

2. CHAIRPERSON (elected for one year term): Provide leadership and direction for the committee.

3. VICE CHAIRPERSON (elected for one year term): Assist the chairperson whenever and as necessary. Take the chair and direct Safety Committee meeting in the absence of the chairperson.

4. SECRETARY – Risk Manager Duties and Responsibilities: The Risk Manager is responsible for the day to day administration of the City of Winchester Safety and Health Program. Specifically, the Risk Manager shall:

   a. Assist all departments and agencies in the management of the Safety and Health Program.
   b. Perform administration duties, i.e. schedule meetings and inspections, prepare agenda and minutes, and report safety and health trends and data, for Safety Committee.
   d. Forward information and recommendations of the Safety Committee to the City Manager, Director of Administration and Department Heads for consideration.
   e. Review all accident and illness reports submitted by the supervisors and determine ways of preventing recurrence.
   f. Make recommendations to correct or eliminate unsafe acts or conditions.

5. SAFETY COMMITTEE MEMBERS – Duties and Responsibilities
   a. Review all on-the-job injuries and illnesses submitted to the Risk Manager as a workers' compensation claim and determine ways of preventing recurrence.
   b. Make recommendations to correct or eliminate unsafe acts or conditions.
   c. Determine means of complying with statutory standards and requirements.
   d. Make decisions, test programs in certain departments and develop City-wide policies and methods of enforcement for City Manager's consideration.
   e. Evaluate safety suggestions and ideas.
   f. Discuss all safety related problems and be a safety role model.
   h. Attend all Safety Committee meetings and make positive contributions.
   i. Membership may be terminated if a member misses three (3) meetings in a calendar year.

D. IMPLEMENTING THE SAFETY PROGRAM

1. DEPARTMENT HEAD: The department head is responsible for the conduct of the Safety and Health Program in all areas which he/she oversees. Specifically, the department manager shall:

   a. Provide the necessary incentive, motivation and accident controls that foster a safe and healthful working environment.
   b. Maintain all departmental safety and health records as needed or required.
   c. Evaluate supervisor's efforts to comply and implement the safety and health program
   d. Assess annual trends and data to provide a safe work environment and enact changes when and where needed on a daily basis.
   e. Charge the department supervisor(s), as needed, to aid in the administration of the safety and health activities within the department.
   f. Evaluate supervisor's efforts to comply and implement the safety and health program

2. SUPERVISOR: The first-line supervisor is **essential** to the overall safety and health program and shall be actively involved in its implementation. Specifically, the supervisor shall:

   a. Conduct all accident investigations and make a report to the Risk Manager, Safety Committee and the Department Head detailing the following, including but not limited to: completion of City's safety investigative report, investigative pictures, circumstances of the accident, determination if the accident was preventable, report operational or procedural changes or other corrective actions, and outline how to protect or eliminate unsafe acts or conditions in order to prevent recurrence.
   b. Provide training in accident prevention and hazard recognition.
   c. Ensure that new employees receive a safety orientation session regarding their job, the workplace and the City's safety program. Employees will not be allowed on the job without all required safety items (i.e. safety shoes, hard hat, goggles, safety vests, gloves, ear protection, etc.) where applicable.
   d. Enforce all established safety regulations and procedures and firmly support and convey all safety policies to all employees.
   e. Take immediate action to ensure correction of all identified unsafe acts or conditions.
   f. Communicate all additional safety needs to the department manager and the Safety Officer.
   g. Demonstrate, by example, a commitment to support a safe working environment at all times.

3. EMPLOYEES: Employees share with the City the responsibility for safety. Each employee is responsible for his or her own safety, the safety of fellow workers and the general public.

   a. Employees are required to obey safety regulations, policies and procedures as a condition of employment.
   b. Each employee shall carefully study the general safety regulations and those applicable to his/her specific duties. These regulations should not be in any way construed as a comprehensive listing of possible violations and unsafe acts. They are to be considered as guidelines only.
   c. If an employee is called upon to perform work which he/she considers hazardous and not properly protected, he/she shall bring the matter to the attention of his supervisor and head of department before starting the work. If questions arise, interpretation rests finally with the Safety Officer.
   d. Employees shall call 911 in all life-threatening situations or other extreme emergencies and shall render CPR or first-aid, as may be necessary, until medical help arrives.
   e. These regulations represent minimum requirements and are only intended to cover average conditions. Employees shall use good judgment in dealing with conditions not covered in these regulations.

E. CITY MANAGEMENT, RISK MANAGER, SAFETY COMMITTEE MEMBERS AND SUPERVISOR'S RESPONSIBILITIES FOR THE ENFORCEMENT OF SAFETY REGULATIONS AND DISCIPLINE

If City Management, Risk Manager or Safety Committee Member observes a safety violation, he/she shall immediately report the violation to the employee's supervisor. The supervisor is then expected to take the appropriate action to correct the current safety violation and prevent such a violation from being repeated in the future.

When a violation or hazard requires immediate correction, such as working in a public right-of-way without the use of necessary traffic control devices and the supervisor is not available, the Risk Manager or Safety Committee Member shall ask the employee(s) to correct the situation immediately or the operation may be requested to cease until the appropriate remedy is affected. The supervisor shall be notified of the incident as soon as possible by the Risk Manager or Safety Committee Member.

If the violation or hazard cannot be corrected immediately and the safety or health of personnel is threatened, for instance, entering a confined space without an entry permit and/or the required equipment for continuous ventilation, the Risk Manager or Safety Committee Member shall evaluate the situation and shall order the operation to cease until the appropriate remedy is implemented. The Risk Manager or Safety Committee Member shall contact the supervisor and/or Department Head immediately.

If, at the request of the Risk Manager or Safety Committee Member, a supervisor or employee fails to take appropriate action to remedy any unsafe condition, behavior or act, the Risk Manager shall report the matter in writing to the Department Head, Director of Administration and the City Manager.

Section 2. GENERAL REGULATIONS

A. **SUPERSEDING LANGUAGE**: The Commonwealth of Virginia and the City of Winchester strictly uphold and abide by the standards written within the Occupational Safety and Health Administration's 29 CFR 1910 General Industry and 29 CFR 1926 Construction regulations and any conflict found within this manual shall not supersede the OSHA/VOSH standards and regulations.

B. **WARNING SIGNS:** Warning signs shall be heeded. Persons seen in a dangerous situation shall be warned without being startled. Employees not required to be near potentially dangerous places shall keep away from them.

C. **REPORTING HAZARDOUS CONDITIONS**

1. When an employee observes a hazardous condition that may cause injury or property damage or interfere with services, regardless of the department in which the condition exists, he/she shall report it promptly to his supervisor or department head or Risk Manager.
2. An employee who receives a report of any hazardous emergency condition shall obtain the name of the informant, the exact location and the nature of the trouble. He/she shall immediately refer this information to his supervisor, department head and the Risk Manager.

D. **TAKING CHANCES:** Before commencing any work that may be hazardous, care shall be taken to establish a safe procedure. Where more than one employee is engaged in the same job, all employees

concerned shall understand the procedures to be followed. **Under no circumstances shall safety be considered secondary to convenience, time or cost.**

E. GUARDS

1. No safety guards shall be removed from any machine or piece of equipment, except to perform required maintenance.
2. Safety guards removed to perform maintenance operations shall be replaced immediately and the machine shall not be operated while the safety guards are removed.

F. PERSONAL RADIOS, CD PLAYERS, CELL PHONES OR SIMILAR ELECTRONIC DEVICES

1. Personal portable radios, CD players, DVD players are not permitted in all operations or areas. These include, but are not limited to:

    a. Aisles ways and storage facilities
    b. Chemical storage areas
    c. Designated hazardous areas, e.g. facility equipment rooms and confined spaces
    d. Any area or operation where hearing protection is required
    e. When working around or near, and operating power equipment, machinery, apparatus, and vehicles

2. Employees are prohibited from using cellular telephones while operating a motor vehicle, equipment, apparatus, machinery, equipment, or while riding in the back of any open-aired apparatus, i.e. refuse truck, pick-up truck. Employees are instructed to safely park vehicles before operating cellular telephones. Department heads may request the City Manager to authorize the use of cellular phones while operating motor vehicles upon a written determination explaining the necessity for the exception.

G. NO SMOKING/EATING/DRINKING AREAS

1. Employees must be informed about areas where they work that have been designated with one of these restrictions. Management is to ensure that signs are readily visible and that all who enter the area comply with the restrictions.
2. Smoking or open flames, i.e. candles, shall not be permitted in any City building, or in areas where dangerous gases might be present, i.e. storage sheds, chemical storage areas, acetylene storage or similar areas. The absence of "No Smoking" signs shall not excuse smoking in City buildings or dangerous places.
3. The consumption of all food and drink where chemicals are used or where machinery is in operation is prohibited.

H. MISCELLANEOUS

1. Employees shall avoid horseplay, clowning around, daring games and mischief which could cause injury.
2. No employee shall report for duty bare footed. Pool employees shall wear footwear that covers the heel, i.e. sandals and water shoes, but no flip flops. Sandals and open-toed shoes are prohibited in shop areas. Where City uniforms are not provided, shirts must cover the entire back and chest, and must be worn at all times. Adhere to the City dress code and if unclear, contact your supervisor for clarification.
3. Cigarette butts must be properly discarded and never flipped into the waste paper basket.
4. Employees shall wear personal protective equipment, i.e. face shield, safety shoes, safety glasses, gloves, traffic vests, hard hats, hearing protection, and respirators whenever appropriate and required.
6. Flammable liquids must be stored in approved safety cabinets or containers at all times.
7. Unsafe or malfunctioning machinery must be reported to your supervisor immediately. Machines under repair must be tagged **"DO NOT OPERATE"** until repairs are completed.
8. The access to fire door and extinguishers shall be kept clear and free from obstruction at all times.
9. The use of compressed air to clean any part of your clothing or body is prohibited.
10. All work areas shall be kept clean, orderly and in a sanitary condition.
11. Take all standard safety precautions to prevent injury to yourself or fellow employees.
12. Comply with all special or departmental safety regulations.
13. Employees must not wear rings, bracelets, wristwatches, chains, or other jewelry while operating or servicing machines or equipment with exposed moving parts.
14. Long hair, ties, scarves, sleeves, loose-fitting clothing, etc., must be secured when working with moving machinery.
15. Gloves, bandages, and finger cots shall not be worn while operating most machines as they may be caught or snagged by moving machine parts. Employees shall ask their supervisor when in doubt.

I. **QUALIFICATIONS FOR DUTY:** Any supervisor or crew leader having reasonable grounds to suspect that an employee under his jurisdiction is either mentally or physically unfit for the work assigned shall prohibit such employee from working until satisfactory medical or other evidence indicating his fitness is secured.

Section 3. FUNDAMENTALS OF ACCIDENT PREVENTION

A. DEFINITIONS

1. Incident - An incident is an undesirable occurrence that could, but usually does not, result in a loss.
2. Accident - An accident is an unplanned, unforeseen and undesirable occurrence which interrupts a normal activity and which results in an injury, loss of life, damage to material, equipment, property, or any combination.
3. Preventable Accident - An accident that occurred as a result of an act or failure to act on the part of an employee or management or both.
4. Unpreventable Accident - An accident where the employee or management or both could not have prevented the injury or damages to vehicle, equipment or property.

5. Unsafe Act - Any act on the part of a person which increased his or her chances of having an accident.
6. Unsafe Condition - A condition within the working environment which increases the worker's chances of having an accident, or which may cause impairment of health.
7. Hazard - Any arrangement, equipment, material, object, condition, method or procedure capable of causing bodily harm or impairment of health or both.
8. Near Miss – A narrowly avoided incident or accident.

B. BASIC ACTIVITIES: Successful accident prevention requires a minimum of four (4) fundamental activities:

1. Study of all working areas to detect and eliminate or control physical hazards which contribute to accidents.
2. Continuous review of all operating methods and practices.
3. Education, instruction, training and discipline to minimize human factors which contribute to accidents.
4. Thorough investigations of accidents to determine contributing circumstances.

C. MOST ACCIDENTS ARE PREVENTABLE

1. Many persons, either through ignorance or misunderstanding, unfortunately believe that accidents are the inevitable results of unchangeable circumstances, fate or a matter of luck.
2. It must be emphasized that accidents do not happen without cause, and the identification, isolation and control of these "causes" are the underlying principles of all accident prevention techniques.
3. No person in a supervisory position can be effective in his job of accident prevention unless he/she fully believes that accidents can be prevented and constantly strives to do so.

D. TYPICAL UNSAFE ACTS: The majority of unsafe acts of persons may be assigned to one or more of the following classifications:

1. Failure to follow instructions or a proper job procedure.
2. Cleaning, oiling, adjusting or repairing equipment that is moving, electrically energized or pressurized.
3. Failure to use available personal protective equipment such as gloves, goggles, hard hats.
4. Failure to wear safe personal attire.
5. Failure to secure, warn or label.
6. Improper use of equipment.
7. Improper use of hands or body parts.
8. Making safety devices inoperative.
9. Operating or working at unsafe speeds.
10. Taking unsafe position or posture.
11. Unsafe placing, mixing, combining.
12. Using tools or equipment known to be unsafe.
13. Clowning around or horseplay.

14. Disorganization.

E. **REASONS FOR UNSAFE ACTS:** Unsafe acts are brought about usually by one of the following:

1. Lack of knowledge, skill, coordination or planning.
2. Improper attitude.
3. Physical or mental incapability.
4. Carelessness.

F. **UNSAFE CONDITIONS**: Most unsafe or hazardous conditions can be grouped into one of the following classifications:

1. Defective, inferior or unsuitable tools, machinery, equipment or materials.
2. Hazards of surroundings. (Poor housekeeping)
3. Hazardous methods or procedures.
4. Placement hazards. (Person not mentally or physically compatible with job requirements.)
5. Inadequate guarding of machinery, equipment, work areas, etc.

G. **CONTROL OF ACCIDENT CAUSES:** There are four main methods utilized in the control of accident causes. They are 1.) engineering; 2.) education and training; 3.) enforcement; 4.) enthusiasm. These four (4) methods, sometimes referred to as the four E's of safety, are as outlined below.

1. **Engineering**. Environmental causes of accidents, or unsafe conditions, can be eliminated through the application of engineering principles. When an operation is mechanically and physically safe, it is unnecessary to be as concerned about the uncertain behavior (unsafe acts) of people. Machines are less apt to fail than men. It may be necessary to make mechanical revisions or modifications to eliminate existing unsafe conditions and, in some cases, to prevent unsafe acts.

   Design of machine guards, automobile brakes, traffic signals, pressure relief valves and hand rails are varied examples of safety engineering at work.

   OSHA now prefers engineering practices to take precedence over the wearing of personal equipment. For example, OSHA recommends the use of mechanical ventilation over the assignment of respirators to deal with harmful vapors.

2. **Education and Training**. Just as safety engineering is the most effective way of preventing environmental accident causes (unsafe conditions), safety education is the most effective tool in the prevention of human causes (unsafe acts). Through adequate instruction, personnel gain useful knowledge and develop safe attitudes.

   Safety consciousness developed in personnel through education will be supplemented and broadened by specific additional instructions in safe working habits, practices and skills.

Training is a particularly important accident prevention control; it gives each individual a personal safety tool by developing in him or her habits of safe practice and operation.

3. **Enforcement**. Usually accidents can be prevented through adequate safety engineering and education. However, there are some people who are a hazard to themselves and others because of their failure to comply with accepted safety standards. It is these persons for whom the strict enforcement of safety practices is necessary, backed by prompt corrective action.

   No organized accident prevention effort can be successful without effective enforcement because accidents are frequently the direct result of violations of safety principles. This is particularly true of vehicle accidents, many of which are caused by unsafe acts which constitute traffic law violations.

   Department heads and supervisors are responsible for enforcing safety standards and regulations. Failure to do so would, in some cases, be condoning conduct that leads to preventable accidents.

4. **Enthusiasm**. Can be effective to a good degree in prevention of accidents.

   When we say one is enthusiastic about preventing accidents to himself or his co-workers, we mean that he/she does all within his endeavor as a human being to prevent the creation of an unsafe condition; corrects or reports an unsafe act or a hazard; uses the right tool for the job; uses the personal protective equipment provided for his job and works safely unsupervised.

   An enthusiastic motorist would give up his right of way to an irate driver who insists on grabbing it. Enthusiasm about safety or accident prevention could be an inborn attitude and perhaps has ancestral origin. It is something that comes out of one's free will and no coercion whatsoever.

   Wiping an oil slick off the floor, disposing of an unattended smoldering cigarette butt, removing an obstruction from the walkway, keeping dangerous objects away from the reach of children, anticipating problems and taking measures to avert them are all characteristics of a safety enthusiast. If we all are sufficiently enthusiastic about safety and accident prevention, we will undoubtedly be living in a safer world.

   To be completely effective, accident prevention controls cannot be applied "hit or miss." All engineering, education, training, supervision and enforcement measures will be directed toward the solution of specific problems based on collection of facts relating to unsafe acts or unsafe conditions.

H. **ELIMINATION OF UNSAFE CONDITIONS**: One of the most effective means of preventing accidents is the elimination of unsafe conditions. To preach safety while permitting unsafe conditions to exist is bound to create an obstacle to cooperation required from employees. The supervisor must take the initiative in these matters without need for instructions from higher authority. If the elimination is beyond the supervisor's scope of authority, he/she must bring the matter to the attention of his immediate supervisor or the department head.

Following are some of the procedures that should be carried out to eliminate unsafe conditions:

1. Remove all obstacles and impediments to the safe movement of personnel, vehicles or machines.
2. Repair damaged floors, stairs, broken steps, broken glass, cracked walls and ceilings.
3. Replace worn or damaged tools.
4. Provide proper equipment for the hoisting and movement of heavy objects.
5. Install guards for moving parts of machinery, fans, etc.
6. Provide protective equipment such as goggles and hard hats.
7. Insist on good housekeeping practices - remove debris, waste material and obsolete or useless equipment.
8. Replace worn electrical wiring and fixtures.
9. Post warning signs of hazards in certain areas.

The important part of eliminating unsafe conditions is doing so before an accident occurs - the principle goal of the supervisor should be to search out hazardous conditions and eliminate them before they cause work interruption or bring injury. Too often an unsafe condition is allowed to exist simply because it has not caused an accident - yet! The job must be made as safe as possible.

I. CONTROL OF WORK HABITS

1. Regardless of the degree of safety built into a job, unsafe actions on the part of human beings will always be a cause of injuries. Teaching employees good work habits means showing them how to do their tasks with less risk to themselves, less spoilage of materials and less damage to equipment. Much of this instruction can be boiled down to a few simple principles or job regulations. By concentrating on these, by showing the "why" as well as the "how" and by constant supervising to correct promptly, safe work can obtain acceptance by employees.
2. Whenever possible, actual demonstrations of right and wrong ways of doing tasks should be conducted, always accompanied by the basis for preferring one work habit to another. Fully important as the initial instruction is the watchful eye on subsequent performance. When the right way has been presented and agreed to by the individual worker, it is essential that failure to comply should be noted.
3. It may be desirable to insist that a certain step be repeated or a job be redone, simply to emphasize the seriousness with which safe practice is taken by the department. **Disregard of safety regulations will be met with appropriate disciplinary action, including discharge if necessary. No matter how skillful an employee may be in performing his duties, if he/she does not perform them safely, he/she is not considered to be a competent employee.**

J. SAFETY ORIENTATION OF NEW EMPLOYEES

1. To form good safety attitudes, the new employee must be impressed by everyone's concern with the prevention of accidents at the time he/she starts to work. He/she must be told that unsafe workers will not be tolerated and that he/she will be required to obey safety regulations and instructions,

wear protective equipment whenever required and attend safety meetings in order to continue as an employee of the City.

2. It will never be taken for granted that previous experience and apparent qualifications means that "somewhere along the way" the new employee has learned to do the job the safe way. For example, a driver's license plus many years of driving experience does not automatically exempt a newly hired vehicle operator from being thoroughly instructed in safe driving practices -- he/she must be made aware of what is expected of him/her in his capacity of operating a City vehicle; and he/she must be checked to assure that he/she understands.
3. The supervisor will review safety regulations and procedures with the new employee pointing out the possible hazards involved in doing the job. The new employee should be assigned to work with a safety-minded employee during the first few weeks. The new employee should be checked at frequent intervals, asked about any problems that may have arisen, and reminded of safe practices. Any tendency to overlook safety procedures should bring a prompt and vigorous warning.

K. **SAFETY AWARENESS**: The City considers safety awareness training as one of the most effective and efficient methods of maintaining a safety conscious work force and, therefore, shall provide training at the time of hiring and periodically throughout employment.

Each department, as it relates to there duties, is responsible for scheduling specialized training, i.e. driving and operating heavy equipment, hazardous communications for chlorine, office safety, etc.

1. Safety Awareness Training: All new employees shall be required to attend Safety Awareness training. This training shall review the established safety regulations and procedures, fire prevention and protection, written hazardous communications program, required personal protective equipment, emergency evacuation procedures, accident prevention and prompt reporting.
2. Departmental Safety Instruction: All employees shall be trained on a continual basis through the supervisor's job instruction and when a new process or equipment is introduced.
3. Safety Meetings
   a. Supervisors shall conduct regular departmental safety meetings. Time shall be set aside at safety meetings to allow for employee discussion and recommendations. The Risk Manager may attend these meetings as often as possible.
   b. All other departments shall hold their safety meetings at least annually, or as necessary with your departmental safety coordinator documenting the safety meeting minutes. Forward a copy to the Risk Manager.

Section 4. WORKERS' COMPENSATION INJURY AND ILLNESS REPORTING

The following is an outline of the mandatory procedures for reporting all injuries and illnesses. All departments must comply with these requirements.

One of the best methods to prevent the recurrence of accidents is to conduct an accident investigation immediately after the accident has occurred. This requires that all accidents, regardless of triviality, be reported immediately so that the investigation can be made promptly. **Supervisors are required to investigate all**

injuries and illnesses to minimize the recurrence of accidents, implement corrective actions(s) and re-train employees, as necessary.

Accurate and timely record keeping is not only desirable but also a legal requirement. It is also an excellent management tool for the prevention of future losses.

A. REPORTING EMPLOYEE INJURIES AND ILLNESS

1. Injuries and illnesses, no matter how minor, shall be reported to the supervisor immediately. The injured employee shall narrate to his supervisor the details of how the accident occurred.
2. If the injured is too disabled to provide information about the accident, his immediate supervisor shall interview witnesses, if any, and gather the needed information during his investigation which must begin immediately.
3. The supervisor and/or employee shall then call **Nurse Triage – 877-234-0898**. The call shall not be delayed pending the return to work of the disabled employee.

B. NURSE TRIAGE – SUPERVISOR AND EMPLOYEE ON-THE-JOB REPORTING & PROCEDURES

1. Immediately after an on-the-job injury or illnesses, the injured employee or co-worker shall notify his supervisor and call **Nurse Triage – 877-234-0898**. Do not delay calling if a supervisor cannot be reached. Later, the supervisor shall investigate the accident. The Panel of Physician form must be signed and completed for every minor or major injury or illness and delivered or faxed to the Risk Manager within 24 hours.
2. If immediate (within 24 hours from date of injury) medical attention is necessary, the employee has the right to seek medical attention from a physician of their choice off of the Panel of Physicians. Whenever possible, just prior to the employee's leaving for treatment, the supervisor or crew leader should call the selected doctor's office and notify them of the employee's arrival.
3. If an employee requires medical attention 24 hours after the injury or illness occurrence, the supervisor or employee shall notify the Risk Manager or Virginia Municipal League, 800-963-6800, prior to seeking medical attention.
4. VML policy states that any employee who reports the workers' compensation within 24 hours and seeks medical attention from a paneled physician within 24 hours, the initial physician visit will be covered regardless of whether the claim is later found to be compensable or not.
5. If an employee has any lost time as a result of a job-related injury or illness, his supervisor shall immediately notify the Administration department and the Risk Manager.

C. ACCIDENT INVESTIGATION PROCEDURE

Accident investigation is the best method for preventing recurrence of accidents. An accident investigation shall be performed by the first line supervisors of any employee injured while working or responsible for the damage of personal or City property.

After the supervisor's investigation of an accident is entered on the Supervisors Accident Investigation Form, the Safety Committee or Risk Manager may find it necessary to conduct further investigation. All

on-the-job injuries or illnesses that result in medical attention shall be followed up by the Safety Committee and reviewed with the supervisor and employee.

However, the Safety Committee and Risk Manager shall investigate all serious accidents. Each department's Safety Committee member is encouraged to discuss the accidents occurring in his/her department and the corrective action taken at the next Safety Committee meeting.

D. **KEYS TO ACCIDENT INVESTIGATION:** The most important aspect of accident investigation to remember is that the object of the investigation is not to find fault or place blame, but rather to determine the best method to prevent recurrence of the accident. Three major questions must always be answered in every accident investigation:

1. What acts, or failures to act, contributed to the incident?
   What actions did the employee, supervisor or management take, or fail to take? Did the existing policy fail to outline the procedures for this operation: Was the employee adequately trained? Were the regulations enforced? All actions should be considered, not just the immediate actions of the employee. If an employee failed to follow accepted procedure, what acts allowed the employee to deviate from this procedure? Was this a preventable accident? Did the employee commit an unsafe act?
2. What work place conditions contributed to the incident?
   Were the conditions dangerous? Had all practical safeguards been applied? Was there a lack of maintenance or good housekeeping? Was the area designed to allow for safe work?
3. What actions have or will be taken to prevent recurrence?
   This, the most important question to answer, should not simply be answered by saying, "The employee was told not to do it again." This will not prevent a recurrence of the injury! What training must be provided? What change in policy must be implemented? How can procedures be changed? Think, not of this single incident, but rather of all future incidents of a similar nature. How can management prevent a repeat of this accident?

The Safety Committee shall make a finding as to whether the accident was preventable. The Safety Committee shall determine if the supervisor or department head has taken the corrective action to prevent recurrence.

E. **CITY-APPROVED PANEL OF PHYSICIANS:** Under the Virginia Workers' Compensation Act, the employer must provide the employee at the time of injury with a panel of at least three (3) doctors from which the employee may select a treating physician.

Any employee requiring immediate medical attention due to an on-the-job injury or illness may choose a City-approved treating physician from the Panel of Physician. In life-threatening situations or cases that arise after normal hours of the primary physicians, medical treatment should be sought at the Winchester Medical Center emergency room.

If the employee selects his/her own physician for treatment rather than choosing from the panel, the employee must pay any expenses incurred. These expenses may not be reimbursed.

F. **FOLLOW-UP TREATMENT:** Once a primary physician has been selected from the panel of physicians, the employee may not change primary physicians without the approval of the Virginia Workers' Compensation Commission.

G. **WORKERS' COMPENSATION PRESCRIPTIONS:** Any employee who needs to obtain medication as a result of a compensable on-the-job injury or illness shall notify their supervisor that medication has been prescribed. The supervisor shall instruct the employee to take the prescription and the VML prescription card to any pharmacy where it can be filled in a timely manner. The employee shall not pay anything for a valid workers' compensation prescription.

H. **WORKERS' COMPENSATION WAGE BENEFITS:** A compensable, on-the-job lost time injury or illness, as defined by Workers' Compensation Act, is entitled to wage benefits provided by the act as follows:

No compensation shall be allowed for the first seven (7) calendar days of incapacity resulting from an injury or illness; but if incapacity extends beyond that period, compensation shall commence with the eight day of disability. If, however, such incapacity shall continue for a period of more than twenty-one (21) days, then compensation shall be allowed from the first day of such incapacity (VA Code 1950, section 65.1-62).

City employees out of work due to a compensable on-the-job injury or illness will be allowed to use leave of absence without pay or sick or annual leave for the first seven days of lost time. If lost time extends beyond twenty-one (21) days, the employee will be compensated for the first seven days.

The employee shall keep all workers' compensation checks received from VML Insurance Programs as payment for lost wages during their disability. Workers' compensation checks are 66 2/3 of your average gross wages over the previous year at the City.

I. **RETURN-TO-WORK POLICY FOR ON-THE-JOB INJURIES AND ILLNESSES:** An effective worker's compensation program includes many parts, all of which are important. This policy addresses City of Winchester's deliberate, organized effort to return injured employees to productive employment as early as possible, compatible with physical restrictions and good medical practices.

A strong return to work effort yields several benefits including:

- Acceleration of the injured employee's recovery;
- Maintenance of an experienced workforce;
- Reductions in claims costs; and
- Improved employee relations.

Our first responsibility is the prevention of occupational injury and illness. Despite our best efforts, injuries and illnesses do sometimes occur. It then becomes our responsibility to mitigate the impact of

the injury or illness on both the employee and the locality. The City of Winchester is committed to providing transitional work on a temporary basis. "Temporary" shall mean an arrangement established with no thought of continuance beyond twelve (12) months but with the idea of being changed soon or not lasting or not permanent.

By transitional work, we mean:

- Appropriate work to allow the resolution of the injury and to prevent re-injury;
- Modification of the job according to the medical limitations;
- Setting a positive atmosphere and letting employees ease back into a routine by adjusting work expectations, encouraging employees to adhere to therapy schedules, and explaining the need for transitional work to the employee's co-workers to reduce peer resentment;
- A meaningful job; and
- Work assignments that are temporary.

Procedure:

1. City of Winchester shall receive a medical report or physical capacity form which identifies specific employee restrictions. Both supervisor and Risk Manager should receive a copy.
2. City of Winchester shall review these physical restrictions and implement a temporary transitional assignment.
3. For employees who are released to light/modified work, a supervisor will make contact notifying the employee of the availability of temporary transitional work and this conversation will be followed up with a written notification.
4. The employer and employee will meet to discuss the temporary transitional work assignment and complete a temporary transitional work form in accordance with the treating physician's restrictions.
5. The employer will re-evaluate all temporary work assignments every sixty (60) days to determine continued availability of temporary transitional assignments.

Section 5. INSPECTIONS

A. **GENERAL:** An effective self-inspection is required of all departments to help identify and eliminate or control hazardous situations in the work place or procedures which generate hazardous conditions.

Inspections shall be conducted annually by department supervisors. Follow-up inspections, periodic audits and/or walk-through inspections may be performed as scheduled or unscheduled inspections by the Safety Committee and/or the Risk Manager. A copy of the written report on all annual department inspections shall be sent to the Risk Manager.

Inspection forms shall be reviewed by the department head, initialed and forwarded to the Risk Manager. In addition, deficiencies noted may be discussed at the staff and departmental safety committee meetings.

The following outlines the City's departmental self-inspection procedure. This procedure is designed to aid in the reduction of work-related injuries and illnesses by establishing a uniform procedure for departmental self-inspection to identify and eliminate occupational safety and health hazards.

1. Each department head and supervisor are tasked with conducting an annual safety and health inspection.
2. In performing this inspection, the departments shall use the City of Winchester Safety and Health Inspection form with a copy reported to the Risk Manager after conducting the inspection.
3. Any deficiencies noted during the inspection must be corrected by the department or reported to maintenance for correction. If a deficiency cannot be corrected, for whatever reason, it should be reported to the Risk Manager.
4. The Risk Manager shall monitor departmental compliance with the self-inspection program and report findings to the Safety Committee.

Section 6. OFFICE SAFETY

A. **GENERAL** The following must be borne in mind while working in the office:

1. Employees shall walk cautiously up and down stairs; the handrail shall be used whenever possible.
2. Caution shall be exercised when walking around blind corners.
3. Chairs, wastebaskets, electric cords and other articles shall not be left in aisles or where they constitute a tripping hazard.
4. Desk drawers and writing boards, cabinet doors, files shall not be left standing open. Only one drawer of a large multiple drawer file cabinet should be opened at one time.
5. Approved types of ladders, step stools or other safe supports shall be used to reach material on high shelves or at other elevation out of arms reach.
6. All old and defective cords and plugs on electrical equipment shall be repaired promptly. Notify your supervisor when repairs are needed.
7. Employees shall not lift or carry heavy office equipment or supplies that are beyond their capacity to move safely and without danger of injury. Hand trucks, moving carts and tables shall be used and assistance from other employees obtained as necessary.
8. Portable stands for typewriters or other office machines shall be designed with sufficient size and stability to prevent tipping or breakage. Wheels and casters shall be kept properly lubricated and replaced when worn.
9. Material shall be stored on shelves in a manner to prevent falling; heavy objects shall be placed on lower shelves.
10. Employees shall not use ventilation fans unless they are guarded or securely placed at least seven feet above the floor.
11. Electrical outlets in office spaces are usually of sufficient number and proper location for the convenient use of office machines. If an electrical cord is required, notify your supervisor or department head.
12. Electrical extension cords shall be of sufficient wire size to supply the equipment used. They shall be three (3) conductor grounding type and not less than No. 16 size AWG with well-designed plug and outlet. One cord shall supply one office machine, and shall be used on a temporary basis only.
13. All permanent wiring such as wall switches, convenience outlets, etc. shall be kept in good repair. Notify your supervisor immediately when such outlets are broken or worn.

14. Broken light bulbs, fluorescent tubes, glass, metal scraps and other sharp objects shall be given special handling and preferably be placed in special containers provided for such materials.
15. Electrical extension cords shall not be used continuously or as a substitute for permanent wiring.
16. Open flames, i.e. lit candles, are not permitted.
17. Desk chairs with four legs provide better stability than desk chairs with casters or wheels. When using desk chairs with casters or wheels use extra caution to ensure the chair is stable, well balanced and not going to roll out from underneath you when sitting down.
18. The use of a heater may be necessary for some office or work stations. Employee must maintain the heaters at least three (3) feet away from any combustible materials, i.e. desk, clothes, and never leave the heater 'on' when unattended.

Section 7. HOUSEKEEPING

A. **GENERAL:** Good housekeeping is having a place for everything and having everything in its place. Housekeeping neglect can lead to accidents, fires and health hazards. Each department shall establish a regular program of housekeeping inspections. Minimum standards are as follows:

1. **Stairwells** must not be used for storage.
2. **Aisles and passageways** must be unobstructed at all times, especially those designed for emergency egress.
3. **Floors** must be free of potential slipping or tripping hazards, such as loose carpets, holes or depressions, telephone and electrical cords, raised electrical outlet boxes, liquid spills and foreign objects.
4. **Orderly and uniform arrangement** of desks, cabinets, benches, containers, equipment and stored material is highly desirable.
5. **Cabinets -** Cabinet tops above eye level must be free of stored material.
6. **Raised Floor -** Area under raised floor sections must be free of dirt, trash, stored material and tripping hazards.
7. **Equipment Rooms** (mechanical, electrical, telephone) must not be used for storage. Guards and covers must be in place. No accumulation of trash is allowed. Free access must be maintained around electrical panel boards.
8. **Trash Disposal -** Frequent, orderly and safe disposal of trash is required. Discarded smoking material such as cigarette butts, ashes, matches, etc., should be disposed of separately from combustible waste in non-combustible containers.
9. **Work Locations -** Vehicles and both the inside and outside of buildings shall be kept clean and orderly at all times.
10. **Combustible Materials** such as oil-soaked rags, waste and shavings shall be kept in approved metal containers with metal lids. Containers shall be emptied daily.
11. **Both clean rags and used rags** shall be kept in metal or metal-lined bins having metal covers.
12. **All solvents** shall be kept in approved, properly labeled containers. Gasoline, benzene, lacquer thinner and other solvents of this class shall be handled and dispensed only in U.L. approved, properly labeled (yellow letters) red safety cans.
13. **Paper and other combustible materials** shall not be allowed to accumulate, and weeds or other rank vegetation shall not be permitted to grow in or around buildings, oil tanks or other structures.
14. **Storage areas** must be designated "No Smoking."
15. **Shelving** must be firmly secured to walls or otherwise made stable. Store heavy items knee to chest high for safe lifting. Storage above 6 feet (2m.) high must be arranged or secured to prevent falling. Provide

safety ladders wherever storage height exceeds 6 feet (2m). Parts, unattended drawers, etc., must not project into aisles.

CHAPTER II
EMPLOYEE PROTECTION

Section 1 - EMPLOYEE PERSONAL PROTECTION

A. **GENERAL:** All employees are exposed to potential hazards in the workplace. Office and clerical personnel may be injured by falls, cuts and other types of injuries. Utility and shop personnel are subject to strains, sprains, back injuries and other injuries related to materials handling.

The City offers a variety of safety devices and protective equipment for the employees' personal protection. Employees are responsible for using appropriate safety devices and personal protective equipment required for their job.

Under no circumstance shall a supervisor assign an employee to work without the protective equipment furnished to him to assure his personal safety.

An employee who reports for work without his required protective equipment shall be sent home. Any employee who refuses to comply or who simply would not use protective equipment is invariably violating the City's policy and shall be subject to disciplinary action.

Any questions regarding the use of personal protective equipment shall be directed to your supervisor, department head or to the Risk Manager. The following safety items are furnished to employees:

1. Face Shields, safety glasses
2. Goggles (chemical splash and impact)
3. Ear Protection (ear muff, ear plugs and ear cup kits)
4. Safety Shoes
5. Gloves
6. Hard Hats (with suspension)
7. Harnesses and Ropes
8. Respirators
9. Flares
10. Safety Signs
11. Traffic Vests
12. Cones
13. Barricades
14. Flags
15. Flash Lights (with live batteries)
16. First Aid Kits and Supplies (use of kits requires First Aid training)

B. **PROTECTIVE CLOTHING AND EQUIPMENT**: Supervisory personnel are responsible for making sure that all necessary personal protective clothing, cautionary devices, signs, barricades and other safety

items are available and in use at all times. Employees working in shops and in the field must wear suitable clothing at all times. Such protective clothing and/or equipment shall be used by employees when there is reasonable probability that injury or illness can be prevented by such protection.

Items such as safety-toed boots, coveralls, etc., may have to be specially ordered by the immediate supervisor of an employee. Remember that improperly fitted equipment can create a safety hazard.

The Police Department and Fire and Rescue Service have established policies or special requirements which may exceed those outlined in this section. In such situations the established policy and/or special requirements will prevail over those policies described in this section.

B. UNIFORMS

1. Uniforms and protective clothing shall be provided to each employee whose position precludes wearing personal clothing for reasons of prospective damage to normal personal work attire or safety concerns. Department Heads, in coordination with the Risk Manager and Director of Administration, shall determine which position classifications and/or employees shall be provided City uniforms and protective clothing.
2. Uniforms and protective clothing shall identify the person as an employee of the City. All uniforms are recommended to have an identifying patch or insignia of the City of Winchester.
3. Employees shall be responsible for cleanliness and maintenance of their own uniforms and protective equipment.
4. Uniforms and protective clothing will be replaced when the employee's supervisor determines the uniforms and/or protective clothing to be non-serviceable or damaged.

C. TRAFFIC SAFETY VESTS: Bright colored clothing, i.e. orange or yellow vest, shirt or coat, shall be worn by all personnel who are exposed to hazards of vehicular traffic while performing work on any roadway. Traffic vests or protective clothing for night use shall be reflectorized. All traffic safety vests shall meet OSHA standards as implied in ANSI/ISEA 107-2004 and have labels indicating ANSI/ISEA compliance, or as amended.

D. LIFE JACKETS, LIFE LINES AND SIMILAR EQUIPMENT

1. When working where there is a danger of drowning, employees shall wear an approved personal flotation device or be protected by a safety belt, safety rope or by a safety net.
2. While working on limited exit areas where there is a likelihood of fire, escaping gas, toxic fumes or deficiency of oxygen (as inside tanks, tunnels or rooms), an employee shall wear an approved belt or harness with life line attached. Employees shall not enter such a confined area unless a second man is stationed outside the exit and is able to render assistance.

E. FOOT PROTECTION: Employees working around construction, machinery, maintenance jobs, warehouses, shops, lab or plant areas shall wear suitable shoes in good condition. Shoes with hard soles shall be used for field and shop work. Canvas top shoes, “sneakers”, moccasins, sandals and/or other

shoes that do not afford good foot protection for the prescribed work are prohibited. Shoes with heals over one inch are also prohibited.

Steel foot guards are required whenever pneumatic impact tools are used for breaking concrete, tamping, etc.

1. Safety shoe and/or rubber boots shall be provided to each City employee whose position requires such protective footwear.
2. Department heads shall include the cost of furnishing protective footwear in their annual budget.
   a. Employees are responsible for obtaining safety shoes classed according to ANSI Z41.1 1991 Standards or otherwise approved by department heads.
   b. The amount allotted to each employee shall be announced at the beginning of each fiscal year and will be uniform throughout each department.
3. Department Head approval is required prior to any employee purchasing new safety shoes from City designated retailers; Wilkins Shoe Center and Workingman's Store. Each employee has an allowance to spend on safety shoes and anything over that fixed allowance shall be paid at the expense of the employee. **No employee shall be issued a check in advance for the purchase of safety shoes.**
4. Safety shoes are furnished to full-time employees only. All part-time and seasonal help must provide their own safety shoes prior to their job assignment.
5. Department heads and supervisors shall ensure that shoes worn by employees meet the safety requirements of their jobs.
6. Safety shoes shall be worn in the performance of the following jobs and any others where there is reasonable probability that injury can be prevented by such protective footwear:
   a. Working in machine shops
   b. Working in automotive maintenance shops
   c. Mowing grass
   d. Working in a warehouse/storage/parts facility
   e. Electric, meter, water and sewer departments
   f. Work in street and drainage
   g. Moving furniture, equipment and appliances
   h. Buildings and grounds maintenance - plumbing, masonry, carpentry, etc.
   i. Building and construction inspections
   j. Road construction projects - removing asphalt, concrete, etc.
7. Any questions regarding the acceptability of shoes or a request to provide safe shoes to an employee whose position classification does not require them or a request to waive the safety shoe requirement shall be resolved by the Department Head in consultation with the Risk Manager and Director of Administration.

F. **EYE PROTECTION:** Employees must wear appropriate eye protection (e.g. safety goggles, safety glasses, or face shields) according to ANSI Z87.1-1989 Standard as prescribed by OSHA (Regulation 29, CFR Part 1910.133).

1. Eye protection shall be worn in the performance of the following jobs and any others where there is reasonable probability that injury can be prevented by such protective eye wear:
    a. Drilling or chipping stone, asphalt, brick, concrete, paint, pipe coatings, wood or metal and the breaking of frozen ground.
    b. Power grinding, buffing or wire brushing
    c. Flame welding, cutting or burning. (Approved colored lenses shall be used.)
    d. Hand drilling or sawing of overhead objects.
    e. Use of power tools such as drills, jack hammers, saws and sanders, etc.
    f. Handling of acids, caustics, chlorines, ammonia or other similar liquids or gases, except when approved complete head coverings are worn.
    g. Pouring of hot lead, hot compounds or the use of other hot or injurious substances.
    h. Use of brush chippers, chain saws, mowers, weed eaters, trimmers
    i. Flying particles caused by others if employee is within the range of such particles.
    j. Use of any type of welders.
    k. Any other danger of injury to the eyes or at the direction of the supervisor.
    l. Contact lenses shall not be worn while working with the acetylene flame (welding, soldering, etc.) or when working on energized electrical conductors.
2. Regular safety eyeglasses shall be provided by the City to each employee whose position requires protective eyeglasses to be worn on a continual basis, and must comply with ANSI standards.
3. Prescription safety glasses or goggles shall be provided by the City and see the Comprehensive Employee Management System (CEMS) manual for further details regarding the City's policy for payment. Employees shall be responsible for tints and other options not specified on their prescriptions.
4. Safety glasses shall be replaced if broken or scratched to the extent visibility is hindered or when prescription needs to be changed.
5. Protective eye equipment, e.g. goggles, glasses, etc., shall be provided for employees whenever they have to operate dangerous equipment or be exposed to hazardous situations.
6. Any questions regarding the application of this requirement shall be resolved by Department Head in consultation with the Risk Manager and the Director of Administration.

G. **HEAD PROTECTION:** City employees are required to wear hard hats in all construction areas, near machinery or equipment, maintenance jobs, warehousing, field work sites, plants and climbing work areas, as well as any area posted "Hard Hat Area." Posting of areas shall be at the discretion of the Department Head, or designated supervisor in cooperation with the Risk Manager.

1. Hard hats shall be provided to each City employee whose position requires protective headgear.
2. The City shall, at the time of their appointment to a position which requires protective headgear, provide one hard hat to each employee.
3. All hard hats worn by each City employee shall be classed according to ANSI Z.89.1-1986 Standard as prescribed by OSHA (Regulation 29, CFR Part 1910.135). Hard hat suspension systems are not to be removed but should be properly fitted as recommended by the manufacturer.
4. Approved head shields or hoods shall be worn when welding.

H. **HAND PROTECTION**: Due to the diversity of the City's operations which could result in hand injuries, supervisors should recognize the hazards common to their work and prescribe the appropriate type of gloves. Common hazards to the hand are cuts, contusions, abrasions, chemical spills, heat, cold and vibration (commonly caused by use of pneumatic hand tools).

1. Protective gloves shall be provided to each City employee whose position requires protective gloves.
2. The City shall provide a new pair of safety gloves to each employee on an as-needed basis. If applicable, all protective gloves worn by employees must comply with OSHA Regulation 29, CFR 1910.138, or as amended.
3. Protective gloves shall be replaced as they become unserviceable. An employee's supervisor will determine when the gloves need to be replaced.
4. Any question regarding the application of this requirement shall be resolved by the Department Head in conjunction with the Risk Manager.

Section 2. CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) PROCEDURE

A. **PURPOSE:** This procedure outlines lockout/tagout requirements according to OSHA's "Control of Hazardous Energy (lockout/tagout)" standard (29 CFR 1910.147) for identifying hazardous energy sources, safe shutdown and startup, isolation and dissipation of hazardous energy.

Lockout/tagout covers all employees tasked with repairing and performing maintenance of all machines and equipment in which unexpected start-up or release of stored energy could cause injury to employees. This policy will insure that machinery or equipment are isolated from all potentially hazardous energy and locked/tagged out before employees perform any servicing or maintenance activities where the unexpected energization, start-up, or release of stored energy could cause injury. This policy and the OSHA standard applies to electricians, maintenance technicians and others that perform electrical work.

For the purpose of this policy, "energy source" is defined as, "any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or any other type of energy."

B. **OBJECTIVES**

1. All applicable employees shall follow OSHA standard, 29 CFR 1910.147, found at www.osha.gov
2. Establish minimum requirements for the safe lockout/tagout of energy isolating devices.
3. Ensure that all employees are protected from potentially hazardous energy when performing service or maintenance activities.

The potential for serious injury or fatalities exist for all employees working with or around powered equipment, including all mobile equipment. The proper use of lockout/tagout procedures eliminates the risk of accidental contact with direct or stored energy when operating or maintaining this equipment. Although each employee is primarily responsible for their own safety, in all instances where conditions are

not covered by this policy, or the job is not completely understood, the employee shall obtain specific instructions from his or her supervisor before proceeding with the work.

C. RESPONSIBILITY

Department Heads have the responsibility to:

1. Implement this lockout/tagout policy by:

    a. Directing all supervisors to identify activities where lockout/tagout are required, and to identify employees this may effect.
    b. Informing all affected employees of the impeding utilization of the lockout/tagout procedure and making it known to all employees:
        1. Which equipment is involved?
        2. Why perform lockout/tagout?
        3. What are all the hazards involved?
        4. Who is affected?

2. Enforce compliance with this policy. All appropriate employees, presently employed and new employees, must be trained and appraised of the purpose, use and importance of complying with this lockout/tagout policy.

Supervisors have the responsibility to:

1. Identify those areas or equipment where lockout/tagout can be used. Make a thorough survey to locate and identify all equipment or other sources of energy that might accidentally or inadvertently start-up and cause injury to personnel. Find switches, locks or other safety devices for each specific equipment. Where more than one machine or energy source may be involved, a complete investigation shall be required.
2. Train all personnel in the location of the areas listed with the appropriate use of the lockout/tagout equipment.
3. Provide necessary equipment such as padlocks, tags to properly perform lockout/tagout.
4. Enforce compliance with this policy.

Employees have the responsibility to:

1. Understand their assigned tasks relating to lockout/tagout.
2. Comply with the directives of this policy.
3. Advise supervisors as to the need for lockout/tagout equipment.
4. Maintain lockout/tagout devices and padlocks in good working condition.
5. Refrain from starting, energizing, or using a machine or equipment which has been observed to be locked or tagged out.

D. APPLICATION

1. Residual energy should not be overlooked. Locking out a switch or turning off the power does not guarantee safety. Trapped air, gas, or chemicals, coiled springs, blocked or raised loads, and elevated machine parts must be bled, released or blocked.

2. The person who applies the lock must be the only one who removes it. No lockout/tagout device may be removed or cut by a person other than the one who originally installed the device, unless removal is authorized by the appropriate supervisor. The appropriate supervisor shall be the immediate supervisor of the employee who placed the lock and performed, or is performing, the designated work.
3. Before equipment is restarted, a thorough safety check must be performed and the scene surveyed to make sure that all employees are at a safe distance. Reinstallation of all safeguards must be verified to ensure that no tools or obstructions have been left inside the equipment. All switches, valves, and controls shall be double-checked to ensure that they are in the "off" position. In addition, all necessary personal protective equipment must be worn (hard hat, goggles, etc.).
4. To insure continuity of lockout/tagout protection during shift or personnel changes, an authorized employee shall oversee the removal of all outgoing employee's lockout or tagout devices and the application of all oncoming employee's lockout or tagout devices.
5. Under this policy, when a device can be locked out, it must be locked out. The only exception to this is if it can be demonstrated that tagout provides the same degree of employee protection as lockout. In that case, tagout may be used.
6. Under this policy one may use both lockout and tagout when performing repairs on equipment. The tag should describe why the equipment is locked out, how long it will be locked out, and who locked it out. If there is any doubt, contact your supervisor. If tagout is used, it must be noted that there are limitations to tagouts. They do not provide a physical restraint, and are only warning devices. Unless their meaning is clearly understood, tags may provoke a false sense of security.
7. Employees shall not remove, bypass or ignore tags without proper authorization. Failure to comply with this will result in disciplinary action. Tags must be legible and readily understood. Both tags and their means of attachment must withstand hostile environmental conditions and be securely attached.

E. LOCKOUT SEQUENCE

1. Notify all affected employees that servicing or maintenance is required on a machine or piece of equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
2. Authorized employees shall refer to the equipment manuals to identify the type and magnitude of energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.
3. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open switch, close valve, etc.).
4. Operate any switches, valves, or other energy isolation devices so that the equipment is effectively isolated from any energy source. All stored energy from springs, rotating flywheels, elevated machinery member, hydraulic systems, air, gas, steam or water pressure, or any other energy source must be dissipated or restrained by repositioning, blocking, bleeding or otherwise to prevent the release of the energy.
5. Using the appropriate locks and tags, lock the equipment and attach a clearly labeled tag completed in detail.

6. After ensuring that no personnel are exposed, test all switches and operating controls to confirm that the equipment cannot be either accidentally or deliberately operated. Test for the absence of energy sources. Make sure equipment, instruments, or meters, used to test for the absence of energy, are working properly by testing them on a known source. After testing, make sure all controls are in the "neutral" or "off" position before continuing.

F. RESTORATION:

1. After all servicing operations are complete, verify that no one is exposed to the start-up of equipment. Check to see that all tools have been removed, and the guards have been reinstalled.
2. Notify all affected employees of the ending of the lockout, and the impending start-up of the affected equipment.
3. Remove locks and tags.
4. Start-up equipment, if necessary.
5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

Procedure for more than one employee:
In addition to the preceding steps, if more than one individual is working on the same equipment, <u>all are required to lockout equipment</u>. Each shall place his or her own personal lockout device on the energy isolating device or devices. When an energy isolating device cannot accept multiple locks or tags, a multiple lockout device shall be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in the lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his or her own lock to secure the box or cabinet. As each person no longer needs to maintain his or her lockout protection, that person will remove his or her lock from the box or cabinet.

Procedure for Outside Personnel (Contractors, etc.):
The City's representative and the outside Contractor must inform each other of their respective lockout/tagout procedures. Each must ensure that his/her personnel understand and comply with all restrictions and/or prohibitions of the other employer's energy control program.

G. ELECTRICAL HAZARD PREVENTION

Hazard prevention is a key part of each employee's duties around electric power lines. Hazards include possible contact with bare, uninsulated or energized electrical components, and grounding fault. Pre-job safety planning is the key to preventing accidents in the work place.

Points to Remember:
1. Understand the work in progress. <u>Preplan for safety</u>!
2. Do not touch any equipment operating near power lines or exposed to high or low voltage.
3. Use caution when carrying any long pieces of pipe, steel, survey equipment, or wood in the vicinity of overhead or energized lines.
4. Maintain 10 foot distance from lines.
5. Consider requesting that lines be de-energized.

6. "Faulted circuits" may automatically be re-energized several seconds later. Victims may be restocked and rescuers endangered.
7. Understand what lockout/tagout includes when it applies to your work.
8. Power line contact kills or seriously injures hundreds of construction equipment operating personnel each year. Many of these victims were aiding the operation at the time of contact.
9. Look for applications and use the "danger zone" (marker tape, fences, and barriers) concept.
10. If a vehicle or piece of equipment you operate does make contact with an energized electrical line or component, your safest course of action will usually be to remain on the equipment until it is de-energized. If you must dismount, it is critical that you not touch the vehicle and the ground at the same time.
11. An equipment grounding program to check for grounding faults and equipment damage, is important, on a regular basis, with electrical extensions and equipment.

H. DEFINITIONS APPLICABLE TO THIS PROCEDURE

Affected Employee
An employee whose job requires he/she to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout or whose job requires he/she to work in an area in which such servicing or maintenance is being performed.

Authorized Employee
A person who locks or implements a tagout system procedure on machines or equipment to perform the servicing or maintenance on that machine or equipment. An authorized employee and an affected employee may be the same when the affected employee's duties also include performing maintenance or servicing on a machine or equipment which must be under lockout/tagout.

Capable of Being Locked Out
An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter is energy control capability.

Energized
Connected to an energy source or containing residual or stored energy.

Energy Isolating
A mechanical device that physically prevents the transmission or release of energy. Push buttons, selector switches and other control circuit type of devices are not energy isolating devices.

Energy Source
Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other type of energy.

Hazardous Energy

The unexpected release of energy or "stored" energy upon machines or equipment which could cause injury to employees.

Lockout
The placement of a lockout device on an energy isolating device in accordance with an established procedure ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device
A device that utilizes a positive means such as a lock, key or combination to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.

Tagout
Placement of a tagout device on an energy isolating device in accordance with an established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until a tagout device is removed.

Tagout Device
A prominent warning device such as a tag and a means of attachment which can be securely fastened to an energy isolating device in accordance with an established procedure to indicate that the energy isolation device and the equipment being controlled may not be operated until a tagout device is removed.

Requirements for Lockout/Tagout Devices
All lockout/tagout devices in use in the City must be standard, uniform, and durable. Tags and means of attachment must be able to endure substantial pressure of at least 40 pounds, identifiable and have a place for employee's name and reason for lockout/tagout.

Servicing and/or Maintenance
Work place activity such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintenance and/or servicing machines or equipment.

Section 3. SHOP SAFETY PROCEDURE

A. GENERAL TOOLS

1. Hand Tools (non-powered)

All tools must be maintained in good working condition. Employees may obtain replacement tools from their supervisors. Tools should be used only for their intended purpose. Employees must:

a. Take good care of tools. Many injuries result from the use of defective or unsafe tools or improper use of tools.
b. Keep cutting edges sharp. A sharp tool makes the work easier, faster and safer than a dull one.

c. Hammers with metal handles, screwdrivers or knives with metal continuing through the handle and metallic measuring tapes shall not be used on or near energized electrical circuits or equipment.
d. Tools shall not be thrown from place to place or from person to person; tools that must be raised or lowered from one elevation to another shall be placed in tool buckets or firmly attached to hand lines.
e. Tools shall never be placed unsecured on elevated places.
f. Chisels, drills, punches, ground rods and pipes shall be held with suitable holders or tongs (not with the hands) while being struck by another employee.
g. Shims shall not be used to make a wrench fit.
h. Wooden handles that are loose, cracked or splintered shall be replaced. The handle shall not be taped or lashed with wire.
i. All cutting tools such as saws, wood chisels, draw-knives or axes shall be kept in suitable guards or in special compartments.
j. Tools shall not be left lying around where they may cause a person to trip or stumble.
k. When working on or above open grating, a canvas or other suitable covering shall be used to cover the grating to prevent tools or parts from dropping to a lower level where others are present, or the danger area shall be barricaded or guarded.
l. The insulation on hand tools shall not be depended upon to protect users from shock.
m. Inspect tools regularly to note damage such as mushroomed striking heads, loose or cracked handles and bent or sprung jaws. Such tools must be returned to the supervisor.
n. If necessary, carry tools in a holster or sheath to protect the cutting edges and pointed ends to avoid injury to themselves or others.
o. Use the right tool for the job. Using a wrench instead of a hammer, a screw driver instead of a chisel, a file or screw driver instead of a pinch bar results in damaged tools and injuries.

2. Portable Electric Tools

a. Employees must never use portable electric tools unless certain that they are in good condition. If in doubt, equipment must be inspected and tested by a qualified maintenance person.
b. Defects and minor shocks on any piece of equipment must be reported to the supervisor.
c. Portable electric tools such as drills saws and grinders shall be effectively grounded when connected to a power source.
d. All powered tools shall be examined prior to use to insure general serviceability and the presence of all applicable safety devices. The electric cord and electric components shall be given a thorough examination.
e. Powered tools shall be used only within their capability and shall be operated in accordance with the instructions of the manufacturer.
f. All tools shall be kept in good repair and shall be disconnected from the power source while repairs are being made.
g. Electrical tools shall not be used where there is a hazard of flammable vapors, gases or dusts.

h. In wet locations, employee must wear rubber boots and gloves or stand on a good insulating mat or platform.
i. Only low-voltage equipment should be used in wet locations.
j. No unauthorized use or repair of any equipment will be condoned.
k. Electric cords should be protected from damage by oil and not left in aisles where they may be run over by trucks or cause a tripping hazard.

3. Power Tools

Under no circumstances shall the ground prong be removed from any tool or equipment power plug. Electrical tools with worn or frayed insulation or a damaged plug connector should be replaced or repaired immediately.

Equipment failures account for only a small number of all accidents. Most accidents are the result of human errors which could have been prevented with a few basic safety precautions in the workplace.

The following guidelines are recommended for the City's shop personnel:

a. Only authorized personnel should be permitted to operate power machinery.
b. All machinery must be inspected prior to operation.

Employees must:

a. Read operating instructions carefully. Know the controls and be able to stop motor or disengage clutch quickly in an emergency.
b. Learn the capacity and limitations of the equipment.
c. Plan each job thoroughly. Anticipate hazards. Plan emergency action.
d. Wear safety goggles when necessary.
e. Stand clear when starting motor. Have firm footing and keep hands and feet clear. Be sure all parts move freely before attempting to start.
f. Disengage clutch before starting especially on self-propelled units.
g. Shut off power, wait for machine to stop, lock out starting switch (disconnect electrical plug or spark plug wire) before making adjustments or clearing jammed objects.
h. Power saws and woodworking machinery shall be equipped with guards that automatically and completely enclose the cutting edges and shall be provided with anti-kickback and splitter devices.
i. Replace guards immediately when removed to adjust, clean or grease unit. Keep guards adjusted and in good working condition.
j. Never leave operating equipment unattended.
k. Operate engine at the slowest speed needed for effective operation.
l. Inspect equipment periodically for loose connections, broken or badly worn parts. Make sure cutting knives or blades are tight, sharp and in good condition.
m. Never refuel a running or hot engine. Refuel outdoors. Never smoke when refueling.

4. Power Lawn Mowers, Edgers, Etc.

a. Employees shall insure that all applicable guards are in place prior to using power lawn mowers.
b. All power lawn mowers shall be equipped with adequate guards which shall remain in place while mower is in use.
c. Prior to making adjustments, inspections or repairs, the employee shall turn off the mower and permit it to come to a complete stop.
d. When operating a power mower, the operator shall:

    (1) Remove any rocks, pieces of wire or other foreign objects from the area to be mowed.
    (2) Avoid placing the body in front of the discharge opening.
    (3) When mowing a slope or incline, mow across the face of the slope.
    (4) Wear proper protective equipment to include as a minimum safety glasses or safety goggles. (Safety footwear should be worn.)

e. Keep in step with machine for constant control.
f. Do not lift a running mower.
g. Shut off power when going from one level to another.
h. On slopes, be sure of your footing, balance and control of the unit.
i. Never pull a mower toward you.
j. With riding units, use extreme caution to avoid overturning on steep slopes and when making turns; do not permit others to ride with you.
k. Watch out for low-hanging branches.
l. Mow only when there is sufficient daylight.
m. Keep children and pets away from mechanized equipment.

5. Pneumatic Tools

a. Compressed air and compressed air tools shall be used with caution.
b. Pneumatic tools shall never be pointed at another person.
c. Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.
d. Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.
e. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.
f. Compressed air shall not be used to blow dust or dirt from clothing or skin.
g. The manufacturer's safe operating pressure for hoses, pipes, valves, filters and other fittings shall not be exceeded.
h. The use of hoses for hoisting or lowering tools shall not be permitted.

i. All hoses exceeding 1/2-inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

j. Before making adjustments or changing air tools, unless equipped with quick-change connectors, the air shall be shut off at the air supply valve ahead of the hose. The hose shall be bled at the tool before breaking the connection.

k. Eye protection, foot protection and other protective devices shall be worn when their use could reduce the possibility of injury.

l. Pneumatic tools shall be operated only by competent persons who have been trained in their use.

m. The use of metal-reinforced hose shall be avoided near energized equipment. When this type of hose must be used, proper clearances shall be maintained.

Section 4. LADDERS, SUPPORTS AND SCAFFOLDS

A. LADDERS -- GENERAL

1. Compliance shall follow OSHA 29 CFR 1910.25 (Portable wood ladders), 1910.26 (Portable metal ladders), 1910.27 (Fixed ladders), 1910.28 (Safety requirements of scaffolding).
2. Wooden ladders shall not be painted so as to obscure a defect in the wood; only a clear, non-conductive finish shall be used.
3. All ladders shall be inspected frequently and regularly. Ladders with weakened, broken or missing steps, broken side rails or other defects shall be tagged and removed from service.
4. Ladders and scaffolds shall be sufficiently strong for their intended use.
5. Portable metal ladders shall not be used in the vicinity of energized electrical circuits.
6. Ladders shall not be placed in front of doors opening toward the ladder unless the door is open, locked or guarded.
7. When ascending or descending ladders, employees shall have both hands free and shall face the ladder.
8. Only one employee shall work from a ladder at one time (except for hook-type ladders). If two employees are required, a second ladder shall be used.
9. Only City-owned ladders shall be used by employees.
10. Ladders shall not be used as scaffold platforms.
11. Boxes, chairs, desks, cabinets, countertops or furniture shall not be used as ladders.

B. STRAIGHT LADDERS

1. Portable straight ladders shall not be used without non-skid bases.
2. Straight ladders shall not be climbed beyond the third step from the top.
3. When working from a portable ladder, the ladder must be securely placed, held, tied or otherwise made secure to prevent slipping or falling.
4. When dismounting from a ladder at an elevated position (as at a roof), the employee shall insure that the ladder side rails extend at least 3 feet above the dismount position, or that grab bars are present.

5. Employees shall belt off to a ladder whenever both hands must be used for the job or there exists a possibility of the employee falling from an elevated position.
6. Ladders shall not be spliced together to form a longer ladder.
7. A ladder shall not be placed against an unsafe support.

C. STEP LADDERS

1. The top step shall not be used except for platform ladders.
2. Step ladder legs shall be fully spread and the spreading bars locked in place.
3. Step ladders shall not be used as straight ladders.
4. When an employee is working on a step ladder over 10 feet high (except a platform ladder), the ladder shall be held by another person.

D. SUPPORTS AND SCAFFOLDS

1. Compliance shall follow OSHA 29 CFR 1910.28
2. No employee, or any material or equipment, shall be supported or permitted to be supported on any portion of a tree, pole structure, scaffold, ladder, walkway or other elevated structure, crane or derrick, etc., without it first being determined that such support is adequately strong and properly secured in place.
3. Employees shall check all scaffolding prior to use to insure it is of sufficient strength and rigidity to safely support the weight of persons and material to which it will be subjected.
4. Employees shall not use a scaffold from 4 to 10 feet in height having a minimum horizontal dimension of less than 45 inches unless proper guardrails are present to provide employee protection.
5. Employees shall not use a scaffold over 10 feet in height unless there is present a standard guardrail, with midrail and toeboard, to provide adequate employee protection.
6. Scaffold planks shall extend over their end supports by not less than 6 inches (unless cleated) nor more than 12 inches.
7. Scaffolds shall not be moved without first removing all loose tools, materials and equipment resting on the scaffold deck.
8. All scaffolds shall rest on a suitable footing and shall stand level. Movable scaffolds shall have the casters or wheels locked to prevent movement.

Section 5. MATERIAL HANDLING

A. MATERIAL HANDLING & LIFTING

While handling materials, employees must:

1. Know the safe way to lift. Remember these points:
   a. Get a secure footing, feet about shoulder width apart.
   b. Bend at the knees and get a firm hold.
   c. Keep back straight and as nearly upright as possible.
   d. Lift gradually by straightening the legs, keeping the back straight.

e. Avoid twisting the body or awkward positions.
f. Use the same procedure in reverse when lowering a load.

2. Always ask for assistance in handling heavy loads of ungainly shape or size. When two or more are lifting or carrying a load, be sure all act together to prevent throwing the load on one.
3. When two or more persons carry a heavy object that is to be lowered or dropped, there shall be a prearranged signal for releasing the load.
4. Wear personal protective equipment, such as safety shoes, goggles, gloves and aprons as needed.
5. Remove all exposed nails, screws, staples, and bolts from lumber, crates, or metal and wooden objects before handling.
6. Keep hands away from pinch points, such as between walls and objects being handled, to prevent crushed fingers and hands.
7. Use the proper equipment for moving or lifting the load, such as hooks, ropes, slings, levers or mechanical devices.
8. When cutting wire or metal straps, stand clear of flying ends. Warn others of danger. Wear goggles and gloves.
9. Make sure the path rough which material must be moved is free of traffic, tripping hazards and other dangers.
10. When piling materials for storage, make sure the base is firm and level. Cross tier and keep piles level and not stacked too high. Keep aisles to exits and fire equipment clear.
11. Beware of open flames or hot surfaces when handling flammable materials.
12. Employees should be encouraged to use mechanical lifting equipment whenever possible and to get help in lifting bulky objects.

Section 6 COMPRESSED GASES AND WELDING

A. COMPRESSED GASES

1. Compliance shall follow OSHA 29 CFR 1910.101 (Compressed gas general requirements), 1910.102 (Acetylene), 1910.103 (Hydrogen), and 1910.104 (Nitrous oxide), 1910.
2. Care shall be exercised in handling all compressed gas cylinders. They shall not be dropped, jarred or exposed to temperature extremes.
3. Cylinders shall have the valve cap or valve protection device in place at all times, except when in actual use.
4. Cylinders shall not be rolled and shall not be lifted by the valve or valve cap; a suitable cradle or other device shall be used.
5. Cylinders shall have their contents properly identified.
6. Compressed gas cylinders, whether full or empty, shall be stored in an upright position and chained or otherwise secured so they cannot fall or be upset.
7. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease) a minimum distance of 20 feet or by a 5 foot high non-combustible barrier.
8. Cylinders shall not be placed where they might become part of an electric circuit or within five feet of an electrical outlet.

9. Hydrogen and fuel gas cylinders shall not be stored inside any operating building. Separate storage buildings or sheltered storage areas shall be used.
10. Employees shall never force connections which do not fit nor shall they tamper with the safety relief devices of cylinder valves.
11. Before the regulator is removed from a cylinder, the valve shall be closed and all pressure released from the regulator.
12. A leaking cylinder shall not be used. Such cylinders shall be taken outdoors away from sources of ignition. The supervisor shall be notified.
13. **A flame shall never be used to detect gas leaks.**
14. The recessed top of cylinders shall not be used as a place for tools.
15. No attempt shall be made to mix gases in a cylinder or to transfer gas from one cylinder to another.
16. A sign **"Danger--No Smoking, Matches or Open Lights"** or equivalent wording shall be conspicuously posted in rooms or at entrances to areas where fuel gas is used or stored.
17. **Hydrogen**. Special precautions shall be taken when using hydrogen to avoid the possibility of fire and explosion. **"Danger--No Smoking"** signs shall be posted where hydrogen is used or stored.
18. **Oxygen**. Oil, grease or similar materials shall not be allowed to come in contact with any valve, fitting, regulator or gauge of oxygen cylinders.
19. **Acetylene**. Acetylene cylinders shall be properly secured and always used, transported or stored in a vertical position. Cylinders shall be protected from sparks, flames and contact with energized electrical equipment.
20. **Chlorine**. Chlorine containers shall be stored and properly secured in a cool place and protected against moisture. Every precaution shall be taken to prevent accidental discharge of the gas, and protective equipment shall be readily available for use in an emergency. Chlorine cylinders never shall be used or stored near flammable materials. Should a chlorine leak develop, the cylinder shall be placed so that only "gas" escapes. (An ammonia swab may be used to detect leaks.) Water should not be sprayed or poured on chlorine leaks.
21. Should a leak develop, self-contained breathing apparatus shall be used before entering the area to determine the extent of or repair the leak.

C. GAS WELDING AND CUTTING

1. Compliance shall follow OSHA 29 CFR 1910.251 (Welding, Cutting and Brazing), 1910.252 (General requirements), 1910.253 (Oxygen-fuel gas welding and cutting), 1910.254 (Arc welding and cutting), and 1910.255 (Resistance welding).
2. Welding and cutting shall be performed only by experienced and properly instructed persons.
3. When welding or cutting in elevated positions, precautions shall be taken to prevent sparks or hot metal from falling onto people or flammable material below.
4. Suitable fire extinguishing equipment shall be immediately available at all locations where welding and cutting equipment is used.
5. Matches shall not be carried by welders or their helper when engaged in welding or cutting operations.
6. Matches shall not be used to light a torch; a torch shall not be lighted on hot work. A friction lighter or stationary pilot light shall be used.

7. A fire watch shall be maintained wherever welding or cutting is performed in locations where combustible materials present a fire hazard. A fire check shall be made of the area one half hour after completion of welding.
8. Where combustible materials such as paper clippings or wood shavings are present, the floor shall be swept clean for a radius of 35 feet before welding. Combustible floors shall be kept wet or protected by fire-resistant shields. Where floors have been wet down, personnel operating arc-welding or cutting equipment shall be protected from possible shock. Do not cut material laying on a concrete floor as concrete may explode when heated.
9. Approved back flow check valves shall be used on gas welding rigs in both gas and oxygen lines.
10. Welding hose shall not be repaired with tape.
11. Machinery, tanks, equipment, shafts or pipes that could contain explosive or highly flammable materials shall be thoroughly cleaned and decontaminated prior to the application of heat.
12. In dusty or gaseous spaces where there is a possibility of an explosion, welding or cutting equipment shall not be used until the space is adequately ventilated.
13. Adequate ventilation or approved respiratory equipment shall be used while welding in confined spaces or while brazing, cutting or welding zinc, brass, bronze, beryllium, cadmium, mercury, or stainless steel, galvanized or lead coated material.

D. ELECTRIC WELDING

1. Electric welding equipment shall be operated only by authorized persons who are experienced and properly instructed.
2. The electric welding machine shall be properly grounded prior to use.
3. Suitable fire extinguishing equipment shall be readily available in the work area.
4. Rules and instructions supplied by the manufacturer or affixed to the machine shall be followed.
5. To protect his eyes, face and body during electrical welding and cutting, the operator shall wear an approved helmet, proper protective gloves and clothing. Helpers or attendants shall wear proper eye protection. Other employees shall not observe electric welding operations unless they use approved eye protection.
6. Proper eye protection shall be worn to guard against flying particles when the helmet is raised.
7. Welding screens shall be used whenever other persons could be exposed to the arc of the welding operation. Welders shall not strike an arc with an electrode, whenever there are persons nearby who might be affected by the arc.
8. When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects.
9. When the welder must leave his work or stop work for any appreciable length of time or when the welding machine is to be moved, the power supply switch to the equipment shall be opened.

Section 7. HEALTH AND ENVIRONMENTAL CONTROL

This section deals with general health areas and depicts some of the control methods which the employee must use for his protection. The general principles outlined in this section are applicable to all work

activities. However, specific control measures applicable to a specific work activity are covered in the section dealing with that work activity.

Work processes and work locations can present health hazards to the employee. Because most of these health hazards do not pose an immediate danger, they are frequently not given the attention which is necessary.

In order for the employee to be fully protected, he/she must become as knowledgeable as possible of the potential health hazards. Thorough understanding of the principles of this section is essential.

Identifying labels and applicable precautionary measures are normally found with all chemicals and hazardous materials. These instructions should be read and understood by the employees concerned. Applicable safety and health precautions must be taken.

A. NOISE

Exposure to excessive noise can cause a gradual decay in hearing ability. Advancements are being made in the reduction of noise; but during the interim period, the employee shall wear proper ear protection when exposed to excessive noise.

1. In accordance with 29 CFR 1910.95, a continuing, effective hearing conservation program shall be administered whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 decibels measured on the A scale (slow response), or equivalently, a dose of fifty percent.
2. All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements.
3. Proper ear protection may consist of any of the following: ear muffs, ear plugs, "Swedish Wool," molded ear protectors or wax-type ear plugs. Plain cotton is not acceptable. Ear protective devices shall be worn properly to provide the required protection and kept clean to reduce the possibility of ear infection.
4. Employees are encouraged to wear hearing protection whenever possible and shall contact your supervisor if your employment meets any of these requirements.

B. LIGHTING

Where natural illumination is not sufficient, artificial lighting shall be used. Temporary lighting (except battery powered) shall be protected with approved guards.

C. AIR QUALITY

Indoor air quality varies from building to building. Air inside public, residential and commercial buildings contain a wide variety of pollutants that can build up and possible affect the health of people. Indoor air problems have the potential to affect the health of many people and significantly reduce productivity. Some buildings may be inadequately ventilated, i.e. mechanical ventilation systems may not be designed or operated to provide adequate amounts of outdoor air.

1. Exhaust Ventilation

Exhaust systems, when provided at the work location, shall be used.

Exhaust systems shall be routinely checked and inspected to ensure proper flow of air. When an exhaust system does not provide adequate protection or until a permanent solution is found, i.e. proper sized exhaust system can be installed, other protective means such as an approved respirator, shall be used in addition to (or in lieu of) the exhaust system. Only employees meeting all respiratory protection program standards shall be allowed to work within these conditions.

2. Respirator / Respiratory Protection Program:
In accordance with 29 CFR 1910.134, in the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, mists, fumes, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. Affected departments are required to adhere to 29 CFR 1910.134, as amended, and the Respiratory Protection Program in the Comprehensive Employee Management System (CEMS), as amended.

3. Types of respirators include the following:
   a. Air purifying respirator: (1) Single Use; (2) Reusable
   b. Powered air purifying respirator
   c. Continuous flow respirator
   d. Pressure demand respirator
   e. Supplied air respirator
   f. Oxygen breathing apparatus
   g. Self-contained breathing apparatus (SCBA)
   h. Hose mask with blower

4. <u>Only employees</u> trained, medically evaluated, and fit tested in respirator use and maintenance shall use this personal protective equipment. Employees should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. Medical evaluation and fit testing must be performed, as instructed in 29 CFR 1910.134.
5. <u>Selection of Respirators</u>: Proper selection of respirators shall be made according to the guidelines of American National Standard Practices for Respiratory Protection Z88.2-1969.
6. <u>Use of Respirators:</u> The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protection program. Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies.
7. <u>Maintenance and Care of Respirators</u>: a program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include: inspection for defects, cleaning and disinfecting, repair, and storage of equipment. All respirators shall be routinely inspected before and after each use, and routinely inspected monthly. Records shall be kept of inspection dates and findings for respirators maintained for emergency use.
8. Persons using air line respirators or similar respirator devices in an enclosed area shall be equipped with a safety harness and life line or other equivalent means of rescue. At least one person with

suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

9. Contact lenses shall not be worn when using a respirator. If corrective lenses are required, then fit testing must be performed by a qualified individual to provide good vision, comfort, and a gas-tight-seal.

CHAPTER III
OPERATIONAL SAFETY

Section 1. WORK ZONE SAFETY

All City employees engaged in any repair or maintenance work on public right-of-way shall comply with the last editions of the *Manual on Uniform Traffic Control Device Standards* (MUTCD) and the *Virginia Work Area Protection Manual* (VWAPM).

A. OPERATING PROCEDURES

1. Employee shall wear City-furnished work uniforms, reflective traffic vests, hardhats, safety footwear and safety glasses and/or goggles. Protective equipment shall also be worn by all persons visiting City jobsites.
2. No work shall be performed in any public right-of-way without authorization and use of traffic control devices.
3. Public right-of-way repair/maintenance requires pre-planning, permits, coordination with affected agencies, safeguards for workers/general public and inspection/patrol of site.
4. Routine maintenance in arterial streets shall be scheduled to minimize traffic interference.
5. Temporary traffic lanes shall be a minimum of ten feet wide; will be positioned two (2) feet from the curb or road edge; and be at least five (5) feet from open excavations whenever possible.
6. Construction equipment not engaged in work and other City vehicles shall not be parked where they restrict or obstruct the traffic flow.

B. EQUIPMENT

1. Only those signs, standards, barricades, flags and cones which conform to state or local codes shall be used.
2. All state and local traffic codes shall be followed; and directional arrow boards shall be used where required.
3. During night operations or in periods of reduced visibility, special precautions shall be taken. Adequate warning equipment, which may include flashing lights, flares or area illumination, shall be used.
4. Warning devices and equipment shall be removed as soon as the hazard is eliminated.
5. Warning devices and equipment not in use shall be stored in a proper manner or shall be removed from the work area.

C. FLAGMEN AND TRAFFIC CONTROL EMPLOYEES

1. Employees and Contractors shall ensure all Flaggers maintain a valid VDOT Flagging Certification and possess the certification card during any flagging operation at all times.
2. Employees or other appropriate traffic controls shall be used whenever there is any doubt that effective protection can be provided by signs, signals and barricades.

3. Employees shall wear an OSHA approved (ANSI 107-1999/2004) warning vest or other garment. Warning garments worn at night shall be of a reflectorized material.
4. Employees using hand signaling equipment shall insure signals provide sufficient warning to protect themselves and the work site.

    a. Signal flags shall be orange and at least 24 inches square.
    b. Sign paddles (Stop and Slow) shall be on a 6-foot staff.
    c. In periods of darkness or reduced visibility, amber or more visible lights shall be used.

5. Employees shall place themselves in a protected position to reduce possibility of injury from traffic.
6. Employees shall insure they can fully observe the operation and shall guide vehicular traffic in such a manner as to minimize the possibility of accidents or injury.
7. When employees are used at both ends of a job site, reliable communications or prearranged signals shall be used to insure proper traffic flow.
8. Employees shall face traffic when giving signals.
9. Employees shall give positive, direct signals which leave no doubt as to their meaning.

Section 2. TREE TRIMMING

A. GENERAL

1. When tree trimming, tree felling, brush loading or brush disposal operations are under way on street, highway or any other area accessible to the public, "Men Working" signs, cones, red flags or flares, barricades and other warning devices (or combinations thereof) shall be used to protect vehicular and pedestrian traffic.
2. No employees are authorized to climb trees for the purpose of tree trimming.
3. Employees may only use a bucket truck for tree trimming operations on an emergency basis and shall adhere to all bucket truck guidelines, including the use of safety harnesses.
4. Employees shall not attempt to clear limbs or brush while tree trimming operations are performed above.
5. Employees shall obtain assistance or use power equipment if available when lifting logs or other heavy loads.
6. When loading brush on a truck, employees shall not stand on or straddle the loaded brush.
7. Brush shall be hauled away promptly or otherwise disposed of to avoid presenting "an attractive nuisance" to children and to prevent injury to persons or damage to passing vehicles.
8. When hauling brush, care shall be taken that it doesn't extend over the sides of the truck and the load properly secured.
9. When it is necessary to work in the vicinity of poison ivy, poison oak or poison sumac, employees shall keep sleeves rolled down and wear gloves. Supervisors are encouraged to annually educate employees on what these plants look like and how to clean up, i.e. personal hygiene and clothes, after handling these plants.

B. WORKING NEAR ENERGIZED CONDUCTORS

1. Wires in proximity to tree trimming shall be considered energized unless proven to be dead and are grounded.
2. Parts of trees in contact with or likely to contact conductors energized above 300 volts shall be cut with insulated tools or employee shall wear rubber gloves when making cut. Limbs being removed from contact with wires are to be handled with the same precautions as the wires themselves. Care shall be taken to prevent limb being removed from coming in contact with employee's body.
3. Employees shall never pass between or contact wires energized.
4. Employees shall not remove tree limbs or branches from above energized conductors while other employees are working in trees below the conductors in the same span.
5. Broken or fallen wires shall not be handled except by persons experienced in such work.
6. When working near wires, the employee shall have his climbing rope so secured that in the event he slips or a limb breaks, he will swing free and clear of the wires.
7. Tree limbs shall not be dropped on conductors.
8. Ropes shall not be thrown over conductors or cross arms for the purpose of using the conductor or cross arm as a support or hitch.
9. Dry ropes shall be used in trees through which energized conductors pass.
10. If electric powered tools are used in trees, the supply cord shall be kept a minimum of 6 feet from energized conductors. Rubber gloves shall be worn when using such equipment in proximity to energized conductors or when cutting limbs that may contact such conductors.
11. When using aerial basket equipment, employee shall take care not to bring himself or the equipment in contact with energized lines.

C. TREE FELLING

1. Trees to be felled shall be inspected for dead limbs which may break, or broken limbs lodged in the tree, either of which may fall into the working area as the job progresses.
2. No one shall be allowed to work in a tree located near a tree that is being felled if there is any danger of its being struck by any part of the falling tree.
3. All persons not engaged in the felling operation shall be kept clear of guide ropes and other rigging.
4. Clear warning shall be given to all employees in area when trees are to be felled or heavy tree members are to be dropped.
5. Once the felling of a tree has been started, it shall be completed before leaving the job.
6. When trees or heavy tree members are felled, all exposed walks, roadways and lawns shall be protected if necessary with a cribbing of branches to avoid property damage.
7. All tools not in use shall be secured and sheathed in a safe location.
8. Axes shall not be used in trees or carried on the shoulder.
9. Tools shall not be thrown into or dropped from a tree; they shall be raised or lowered by a suitable rope line.
10. Tools shall not be laid on a tree limb, or tree crotch, or hooked on a wire or rope.
11. Ladders shall be removed from the base of the tree when not in use.

D. POWERED TRIMMING EQUIPMENT

1. Employees operating powered trimming equipment shall wear suitable eye protection.

2. When starting a chain saw, it shall be placed on or against a solid support.
3. The operator shall grip the chain saw with both hands during the entire cutting operation.
4. Saw bumper shall be against tree or limb before starting a cut.
5. Chain saw operators shall, when necessary, clear the immediate area around their work to make certain that brush will not interfere with either the chain saw or operator.
6. All chain saws shall be equipped with "dead-man" controls (control cannot lock in "on" position).
7. The chain saw engine or motor shall be stopped:

    a. When working on any part of the chain or cutting bar.
    b. While the saw is being moved from one location to another.
    c. While unit is unattended.

8. Gasoline driven chain saw engine shall be stopped when being refueled. If gas is spilled on chain saw during refueling, it shall be wiped off before engine is started.
9. Employees shall not approach chain saw operator within the reach of the saw while the saw is in operation.
10. Employee shall never hand a pneumatic pruner or saw to another employee unless it is disconnected from air hose.
11. Powered tools shall not be left unattended if connected to power source.
12. Powered tools shall not be adjusted or repaired while connected to power source.

E. CHIPPERS AND STUMP GRINDERS

1. Chippers or stump grinders shall never be parked directly under tree being trimmed.
2. Employees shall not permit spectators to stand near machine while feeding brush into chipper or working the stump grinder.
3. Full cover goggles or face shield shall be worn by employee when feeding brush into chipper or working the stump grinder.
4. Employee shall never place hands or other part of body into brush hopper of the chipper or near blades of the stump grinder while they are in operation.
5. Tools or other metallic objects shall not be used to push brush into chipper. Sweepings which may contain foreign objects such as stones and nails, shall be loaded on truck and not fed into the chipper and cleared from the stump grinder.
6. Ignition key shall be removed when chipper or stump grinder is left unattended.
7. Only wrist-length, non-gauntlet gloves shall be used by employees feeding a chipper or working the stump grinder.
8. Operators shall not wear loose garments while operating around a chipper.

F. RIGHT-OF-WAY CLEARING AND MAINTENANCE

1. Where two or more men are cutting brush, they shall be separated by at least 10 feet.
2. Under no circumstances shall anyone, except the operator ride on a bulldozer or any other heavy equipment used in land clearing.
3. Equipment operators shall wear seat belts.

4. Employees shall not anchor equipment to railroad tracks, fences or structures belonging to others.
5. When emerging from right-of-way prior to road travel, employees shall test brakes.

G. USE OF HERBICIDES AND OTHER CHEMICALS

1. Only city employees certified as a Registered Technician and/or Commercial Applicator may distribute herbicide/pesticide/fungicide on city property.
2. Before using any herbicide or other chemical, employees shall read the label carefully and follow the directions and precautions listed. MSDS shall be available before the use of chemicals and used in event of an emergency. MSDS has critical health and safety information for the applicator and he/she must call the manufacturer to obtain a copy of the MSDS if one is not present.
3. Employees shall avoid skin contact or breathing mist of spray material whenever possible.
4. When working with toxic materials, proper respirator protection shall be used and all affected employees shall adhere to the Respiratory Protection Program.
5. Spray equipment shall be cleansed daily when using oil solutions.
6. Spraying shall not be done when wind exceeds 15 mph unless specifically authorized by supervisor.
7. Brush shall not be sprayed at a distance greater than 15 feet from power spray nozzle.
8. All hazardous communications standards shall be followed, including storage, labeling, disposal,
9. Oil and other liquids spilled on power spray equipment shall be removed as soon as possible to prevent falls from slippery surfaces.
10. Hose connections on hydraulic sprayers shall be checked before use to prevent blowing.
11. Employees shall not smoke on or around mist spray equipment when oil solutions are being mixed or used.
12. Herbicides and other chemicals shall never be left where they would create a menace to persons or property.
13. Empty containers shall be disposed of in a safe manner and authorized applicator(s) shall poke a hole into any empty container to prevent future use. They shall never be thrown into ponds, lakes or streams.
14. Spray wastes shall be disposed of in a safe manner and in accordance to all local, state and federal laws, and manufacturer's disposal requirements.
15. Authorized applicators shall maintain all spray records, including but not limited to what you are putting down, weather conditions, date, and where applied.

Section 3. CONFINED SPACE ENTRY PROGRAM

This section applies to all departments whose employees may be required to enter and work in confined spaces and to ensure City wide compliance pursuant to Virginia Occupational Safety and Health (VOSH) 1910.146 regarding safe entry into Permit and Non-Permit Confined Spaces.

Failure to comply with VOSH guidelines or City written policy and procedures, whichever is more protective of employee safety and health, shall be considered an acute safety violation subject to disciplinary action.

VOSH's confined space regulation mandates employers to minimize hazards related to confined space entry, develop data, establish documentation, and provide training to ensure responsible individuals are knowledgeable in all confined space safety requirements.

This program shall be the minimum standards for all City confined spaces which require entry by employees and each applicable department shall maintain a more specific confined space program meeting their specific operational hazards, sites, personnel and administration needs.

In locations where frequent entries into permit or non-permit confined spaces are common, i.e., treatment plants, lift station, tanks, vaults, etc., the supervisor or crew leader, shall identify and categorize all confined spaces and ensure that signs are posted on all affected spaces advising employees which type of confined space they are about to enter. The supervisor or crew leader shall be responsible for the calibration of portable meters, batteries, and proper use of said equipment.

A. DEFINITIONS

1. **Confined Space** – means a space that:
   a. Is large enough and configured so that an employee can bodily enter and perform assigned work; and
   b. Has limited or restricted means for entry or exit (for example tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
   c. Is not designed for continuous employee occupancy.

2. **Acceptable Entry Conditions** means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.
3. **Hazardous Atmosphere** means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
   a. Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
   b. Airborne combustible dust at a concentration that meets or exceeds its LFL;
   c. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
   d. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published is Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of 29 CFR 1910;
   e. Any other atmospheric condition that is immediately dangerous to life or health.

4. **Entry Permit** – means the written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in paragraph (f) of 1910.146.
5. **Hot Work Permit** - means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

6. **Authorized Entrant** - means an employee who is authorized by the employer to enter a permit space.
7. **Attendant** - means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.
8. **Entry Supervisor**: means the person (such as the foreman, employer, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.
9. **Emergency**: means any occurrence (including any failure or hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.
10. **Entry** means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.
11. **Non-permit confined space**: means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.
12. **Permit-required confined space (permit space)**: means a confined space that has one or more of the following characteristics:
    a. Contains or has a potential to contain a hazardous atmosphere;
    b. Contains a material that has the potential for engulfing and entrant;
    c. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller crosssection; or
    d. Contains any other recognized serious safety or health hazard.

13. **Rescue service** means the personnel designated to rescue employees from permit spaces.
14. **Retrieval system** means the equipment (including a retrieval line, chest or full body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue or persons from permit spaces.
15. **Testing** means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.
16. **Oxygen deficient atmosphere** means an atmosphere containing less than 19.5 percent oxygen by volume
17. **Oxygen enriched atmosphere** means an atmosphere containing more than 23.5 percent oxygen by volume.
18. **Engulfment** means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.
19. **Immediately dangerous to life or health (IDLH**) means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

B. NON-PERMIT REQUIRED CONFINED SPACE

1. Safe entry into a Non-Permit confined space by City personnel may be accomplished by one of two means:

   a. Testing for oxygen, combustible gas and hydrogen sulfide prior to entry, or
   b. Utilizing a blower prior to and during occupancy to ventilate the confined space while work is performed. Entering a non-permit confined space without first testing for safe levels of oxygen or other related toxic substances or not continuously ventilating the confined space is considered an acute safety violation.

2. The following measures shall be taken by personnel when entering a non- permit confined space.

   a. The atmosphere shall first be tested for oxygen deficiency and combustible gas and toxic gas.
   b. If the oxygen, combustible gas or toxic gas test indicates the atmosphere is unsafe, the atmosphere shall be mechanically ventilated with a blower until the concentrations are reduced to a safe level. Ventilation shall continue during occupancy.
   c. Personnel shall use a ladder when entering or exiting a confined space exceeding four (4) feet in depth. If a ladder is removed from an occupied confined space, it shall be kept within the immediate worksite. Portable ladders used to access confined spaces shall extend minimum of thirty-six (36) inches above the opening. Climbing into or out of manholes or vaults by stepping on cables or hangers is forbidden.
   d. **If occupancy is expected to be more than five (5) minutes, the confined space shall be treated as a permit required space**.
   e. Entry is not allowed if work involves activities over or near water or sewage where the danger of drowning or engulfment exists. In this case a full entry permit is required.
   f. Entry is not allowed if an open flame is used. This type of work would require both an entry permit and a hot work Permit.

C. PERMIT REQUIRED CONFINED SPACE

1. This category of confined space presents numerous hazards and by definition is significantly more hazardous than non-permit space. First, the confined space must meet the federal definition. This includes the following:

   a. Its size and shape must allow a person to enter;
   b. The entrance / exit is limited / restricted in size; and
   c. The space is not designed for continuous occupancy.

2. For a confined space to be classified as a permit required space, it must have <u>one</u> of the following hazards:

   a. Potential atmospheric hazard
   b. Engulfment hazard
   c. Entrapment, capture hazard
   d. Mechanical, Physical, Hydraulic, Electrical, Chemical or any other type of hazard.

3. Examples of permit required spaces include:

   a. Sewer manhole with an engulfment hazard (24 inch main or larger).
   b. Storm drain manholes with an engulfment hazard (24 inch main or larger).
   c. Electrical vaults with live exposed circuitry.
   d. Wastewater wet well area beyond the platform i.e. bar screen area, where water flow or drowning hazard exists.
   e. Chemical storage tanks
   f. Tanks on Trucks or Trailers
   g. Incinerators or furnaces
   h. Wood chip silos and storage bins

4. Under these designations, the following procedures are required.

   a. Identification of all hazards present in the space must be completed. Atmospheric hazards, through the use of atmospheric meters; engulfment hazards determined by the site of the main and proximity to work; electrical hazard associated with live exposed circuitry; chemical hazards if present or being introduced to the space; and any other hazard that may be present.
   b. Entry criteria and procedures for safe entry must be understood by all entrants, attendants and the supervisor or crew leader. They include:
      1.) Isolating hazards from the work area.
      2.) Purging, flushing, mechanically ventilating or any other approved method to eliminate or control hazards.
      3.) Providing barriers and warning signs to protect and prevent intrusion.
      4.) Ensuring conditions are acceptable for entry and occupancy. This includes a clean atmosphere, the elimination or control of any engulfment or entrapment hazard, lockout/tagout of exposed electrical circuits, etc...

   c. Provide, maintain and train employees on all equipment. This includes:
      1.) Goggles, Self Contained Breathing Apparatus, Gloves, Lighting Equipment, Boots, Traffic Barriers, Warning Signs, Hard hats, Hot Work Equipment (if necessary), Face shields, Rescue Retrieval Equipment, Coveralls, Atmosphere Testing Equipment, Respirators

d. Confined space conditions must be evaluated prior to entry to ensure a safe work environment. This includes testing the atmosphere for oxygen content, flammable vapor and toxic vapor content. Testing must also be conducted throughout occupancy to ensure a safe atmosphere. Employees are not permitted to enter a confined space if the atmosphere is contaminated by a toxic, flammable or oxygen deficiency unless a Self Contained Breathing Apparatus is used

e. Prior to entering a space, forced air ventilation must be established and it must eliminate or control any atmospheric hazard. Ventilation should be directed in a manner which allows the immediate area of occupancy to receive the highest concentration of fresh air. Ventilation must continue unabated throughout the occupancy and until all employees have exited the space. Forced air supplied to the space shall originate from a clean source and may at no time increase the hazards in the space.

f. When an entrance cover to a manhole is removed, the opening shall be promptly guarded by a railing, barricade, or other temporary barrier that will prevent an accidental fall through the opening, and will protect each employee working in the confined space from objects falling into the space.

g. Any worker entering a manhole on an active flow shall wear a safety harness and be attached by hook and cable to a personnel retrieval tripod and shall remain attached to the device through his/her stay in the confined space. The tripod shall be attended at all times by a co-worker whose sole duty shall be to observe the person working in the confined space and retrieve said worker if necessary. The worker performing this function must be physically capable of operating the safety retrieval device unassisted, if necessary.

h. An attendant must be stationed outside the permit confined space to monitor work conditions inside the space, to prevent unauthorized personnel entry, and to prevent physical and chemical hazards from entering the space.

i. Persons who have active roles in the permit space program must be designated, and trained in their responsibilities. They include entrants, attendants and supervisors.

j. Attendants must be versed in summoning emergency / rescue services for rescuing entrants. Also, they must be trained in retrieval procedures and CPR / First-aid.

k. A system must be in place to issue, and cancel entry permits in an organized fashion

l. If more than one group of employees enters a confined space, coordination between the groups must occur to prevent problems caused by the operations of either group.

m. If there is reason to believe that procedures are not effective, the program must be reviewed to correct deficiencies.

n. The permit space program must be reviewed annually to assess the effectiveness and make changes in areas found to be deficient.

D. RECLASSIFICATION OF A CONFINED SPACE

If a confined space has been classified as a permit confined space, and because of the elimination of hazards meets the criteria of a non-permit confined space, it may be re-classified. Also, if there are changes in a non-permit confined space increasing the hazards, the space shall be reevaluated and if necessary, reclassified as a permit confined space.

In order to reclassify from permit to non-permit confined space the following procedures are required:

1. If a permit confined space poses no actual or potential atmospheric hazard and if all other hazards are eliminated without entry, the space may be reclassified as a non-permit confined space for as long as the hazards are eliminated.
2. Records of all data gathered must be maintained and certified as accurate by the supervisor via signature. This data must be made available to all employees required to enter the confined space.

To reclassify a confined space from a non-permit to a permit space, the following procedures are required:

1. If hazards occur or develop in a non-permit space, all employees must exit immediately.
2. Prior to reentry, the space must be reevaluated to determine if it is to be made a permit space or return to a non-permit status.

Department heads, supervisors, and crew leaders are authorized to make determinations on confined space status and changes in categories. Assistance of the Risk Manager shall be sought when necessary.

E. ATMOSPHERIC TESTING

1. Atmospheric testing is the only reliable indicator to determine air quality of a confined space. Most atmospheric problems are unseen and humanly undetectable.
2. Atmospheric testing must be conducted for the three areas of concern. They include:
   a. Oxygen levels (low or high)
   b. Combustible gases / vapors
   c. Toxic gases / vapors (Hydrogen Sulfide)
   d. Air that is less than 19.5% oxygen or more than 23.5% is hazardous and will sound the alarm.
   e. Combustibles above 10% of the lower explosive limit (LEL) are dangerous and will sound the alarm.
   f. Toxins (Hydrogen Sulfide) above 10 ppm are potentially dangerous and will sound the alarm.

3. Procedures for conducting atmospheric testing should include the following:
   a. The confined space must, if possible, be tested prior to disturbing the space and prior to initiating mechanical ventilation. This method provides information to determine if an immediate hazard is present or unusual condition has developed in the space.
   b. The top, middle, bottom, sides and any other reachable area must be tested prior to entering.
   c. Once a clear, clean atmosphere has been established, entrance is allowed. Testing of the atmosphere must continue throughout the occupancy to ensure a safe work environment.
   d. Testing should be conducted in the general work area and if necessary, the area where contaminants may enter.
   e. If the atmospheric meter alarm sounds, evacuate the confined space immediately.

f. Prior to re-entry, the space must be cleared of all contaminants and re-tested.

F. VENTILATION

1. Mechanical ventilation is one of the most important aspects for ensuring a safe confined space. The most frequently occurring hazard in confined spaces are atmosphere problems. Thus the most effective means of eliminating or controlling that hazard is mechanical ventilation.
2. Prior to authorizing entry, documentation of the following measures must be completed:
   a. Acceptable entry conditions must be established and met. This includes the elimination or control of all hazards.
   b. The space must be properly isolated from hazards.
   c. The space must be properly flushed and ventilated.
   d. The space must be properly guarded with barriers to protect entrants.
   e. Conditions in the space must be verified as safe to enter and work in.

3. The supervisor or crew leader must sign the permit prior to any entry into the confined space. This can only be done after verification of a safe work environment.
4. The permit must be available for inspection by entrants at all times to ensure pre-entry precautions and procedures have been undertaken.
5. The duration of the permit may not exceed the duration of the work involved**. No permit shall be valid for more than twelve (12) hours under any circumstances.**
6. The supervisor or crew leader shall terminate entry and cancel the permit when:
   a. Work is completed
   b. A condition not allowed makes the space dangerous or uninhabitable.

7. If a crew ends a shift and a second crew intends to continue to work in the permit space, the first supervisor will close out their permit and the second crew and supervisor must initiate a new permit for entry.
8. All canceled permits shall be maintained in a file for at least one year for review. This file should be maintained by the section or division issuing the permit.

G. TRAINING

1. Annual training shall be provided by the applicable department(s), in conjunction with Administration and Risk Management, for all employees who are involved in confined space entry.
2. Additional training shall be provided by the Supervisor whenever an employee is hired to a job requiring confined space entry; or is transferred, re-assigned or promoted to a job requiring confined space entry. Refresher training shall be conducted to ensure knowledge and procedures are consistent with requirements.
3. Supervisors shall maintain records of successful completion of training. Certification shall include the trainees name, Identification number, signature of trainer, and the date of training.

H. RESPONSIBILITIES AND DUTIES OF ENTRANTS, ATTENDANTS & SUPERVISORS

1. **Entrant Responsibilities**

Through training, education and previous experience, entrants must have knowledge of the following:

a. Know the hazards that could be encountered during occupancy.
b. Know the signs and symptoms of over-exposure.
c. Properly use the equipment to work safely. This includes:

   1.) Testing and monitoring equipment
   2.) Ventilation equipment
   3.) Communication equipment
   4.) Personal protection equipment
   5.) Lighting equipment
   6.) Barriers, shields, guards, signs
   7.) Ladders
   8.) Rescue and retrieval equipment

d. Must communicate with the attendant to ensure proper monitoring.
e. Must recognize and alert the attendant whenever there are signs and symptoms of exposure to a dangerous situation or a prohibited condition arises.
f. Must exit from the space whenever:
   1.) Ordered to evacuate by the attendant, supervisor or another entrant.
   2.) Recognized signs or symptoms of exposure to a dangerous situation occurs.
   3.) Detection of a prohibited condition occurs.
   4.) An evacuation call or alarm is activated.

2. **Attendant Responsibilities**

Through training, education and previous experience, confined space attendants are required to have knowledge of the following:

a. Maintain valid CPR / First-aid certification
b. Know the hazards that could be encountered during occupancy of a confined space.
c. Know the signs or symptoms of over-exposure.
d. Be aware of any change of behavior in entrants related to hazard exposure.
e. Maintain a count of all entrants, their location, and condition through visual and / or audio methods.
f. Remain outside the confined space throughout occupancy or until relieved.
g. Communicate with all entrants to monitor conditions and alert entrants concerning hazards, evacuation or changing conditions.
h. Continue monitoring activities outside of space to ensure safe conditions and order evacuation whenever:

1.) A dangerous or unauthorized condition is detected;
2.) An entrant's behavior changes as a result of hazard exposure; or
3.) Conditions outside the space become hazardous and endangers the entrants

i. If an unauthorized person approaches the confined space and entrants are in the space, the following steps must be taken:
   1.) Warn unauthorized persons to stay clear, and of the hazards present
   2.) Advise unauthorized persons who have entered the confined space to exit immediately.
   3.) Inform entrants and supervisors of any breach in security by unauthorized persons.

j. Call emergency services (9-1-1) as soon as it is determined that entrants need assistance.

k. Perform non-entry rescues. Attendants are not permitted to enter a confined space to perform rescue operations. All rescue / retrieval operations conducted by certified personnel must be done from outside the confined space. Entry into a confined space for rescue purposes will be conducted by City emergency personnel.

l. Attendant(s) may not perform duties that distract or interferes with confined space operations.

3. **Responsibilities of Supervisors or Crew Leaders**

Ultimately, on site responsibility for a safe confined space environment rests with the supervisor. Supervisors or Crew Leaders are required to complete and sign the confined space permit and thus, are responsible for implementing the safety procedures and policies detailed in this document.

In addition, the supervisor or crew leader must:

a. Be knowledgeable in the following areas:
   1.) the hazards that could be encountered during entry.
   2.) the signs and symptoms for over-exposure.
   3.) calibration and proper working of atmospheric testers.

b. Verify and ensure all tests required by the permit have been completed; all appropriate information and entries have been made on the permit form.

c. Terminate the permit when the work is completed, or if a dangerous condition arises within the space.

d. Verify the existence of emergency services and the location of communication facilities for summoning these services.

e. Request unauthorized individuals who enter or attempt to enter the permit space to leave immediately. Notify management and the safety office if a problem occurs.

f. Verify all equipment that is necessary for safe entry is in place and working properly.

g. Determine if and when entrant / attendant responsibilities change.

I. CONTRACTOR ENTRY INTO CONFINED SPACES

1. The City is required to take a number of steps in order to ensure contractor compliance with State and Federal confined space standards. Information sharing is required in order to ensure compliance by contractors. They include:
   a. Must inform the contractor of the confined space(s) and that entry is allowed only through compliance with OSHA 29 CFR 1910.146.
   b. Must inform the contractor of all known hazards within the confined space(s) to be entered.
   c. Must coordinate entry operations with the contractor if there is to be simultaneous entry or work around the confined space.

2. This notification should be done in writing. Notification may be conducted either in the initial contract or at a pre-construction meeting where it may be discussed in detail.

J. RESCUE AND RETRIEVAL PROCEDURES

In the event of a confined space emergency, call 911 immediately for assistance.

1. The City is required to respond and provide rescue / retrieval services at permit confined spaces.
2. Without rescue and retrieval training, City employees are not qualified and shall be prohibited from entering confined spaces during an emergency.
3. The City is responsible for providing a significant degree of non-entry rescue and retrieval services at all permit spaces. When retrieval equipment is used it must meet specific criteria, this includes the following:
   a. Each entrant must use a full body harness or wristlets if a harness is impractical.
   b. Each entrant must be attached via the harness or wristlets to a retrieval line.
   c. The other end of the retrieval line must be attached to a mechanical device (tripod / hoist system) or fixed point outside the permit space to allow retrieval immediately after a problem is detected. A mechanical device must be available and in place if the permit confined space is vertical and greater than five (5) feet deep.
   d. All rescue/retrieval equipment will be inspected before and after each use.
   e. If a chemical used at the site requires a Material Safety Data Sheet, that Material Safety Data Sheet must be kept on site and made available to any medical facility or personnel treating injuries as a result of the usage of that chemical.

K. DOCUMENTATION

Documentation of all activities related to confined spaces must be maintained for one year by the department responsible for the entry. This includes entry data, entry permits, hot work permits, and any other information generated concerning the spaces. This information may be reviewed periodically by the Risk Manager.

L. CONFINED SPACE ENTRY PERMIT

1. If a confined space is determined to be a permit space, an entry permit and if necessary, a hot work permit must be completed. The following are specific instructions on how to properly complete an Entry Permit .

a. Permit No.: This space is available for the department or section to implement a numbering system. It may be numerical or by job order number.
b. Date of Issue, Time issued and Time Expired - Exact date the permit is issued for and the duration of the planned entry. This must not exceed twelve (12) hours under any circumstances.
c. Work Site Location - Brief description of the facility or part of the City where confined space is located.
d. Description of Work Activity - Brief narration of the nature of work to be carried out in the space.
e. Name(s) of personnel entering the space - Full names of all personnel designated to enter and work in the confined space.
f. Attendant: - Name of employee stationed outside the confined space.
g. Name of supervisor or crew leader in charge of the entry
h. Atmospheric Hazard Evaluation - Entries of all atmospheric tests conducted prior to entry and during occupancy of the confined space.
i. Equipment Furnished - List of all equipment used to ensure safe operation including personal protective equipment.
j. Authorized Signature - Signature of supervisor or crew leader indicating all safety procedures and equipment are in place.

M. HOT WORK PERMIT

Hot work is defined as any open flame process. This includes welding, cutting, soldering, and sweating pipe. The following are specific instructions on how to properly complete the hot work permit.

1. If any type of hot work is to be done in a confined space, a hot work permit must be issued in addition to the entry permit. The hot work permit must state:
   a. the exact location of hot work to be completed
   b. date and exact time of work
   c. name of authorized hot worker (welder, cutter, etc...).
   d. name of entrants
   e. name of fire watcher
   f. name of authorized attendant.

2. A Hot work Checklist: must be completed before hotwork is begun. If any question is answered no, that issue must be addressed or rectified. Once the checklist has been completed and all questions addressed, the hotworker must sign the form.
3. A portable dry chemical fire extinguisher shall be placed within the immediate reach of the fire watcher before the commencement of hotwork.

CITY OF WINCHESTER
Confined Space Entry Permit

Department: _____Permit Number _____Date: _____

WORK SITE LOCATION: _____
DESCRIPTION OF WORK ACTIVITY:_____
TIME ISSUED: _____AM/PM TIME EXPIRED: _____AM/PM (Not to exceed 12 hrs)

NAME(S) OF PERSONNEL ENTERING CONFINED SPACE:
(1)_____ (2) _____

(3)_____ (4) _____

SUPERVISOR /CREW LEADER _____PHONE: _____

ATTENDANT(S)_____

ATMOSPHERIC HAZARD EVALUATION:
INSTRUMENT:_____SERIAL NO. _____
DATE OF LAST CALIBRATION:

HAZARD	ACCEPTABLE		TEST		RETESTS
	MIN.	**MAX.**	**TIME/READING**	**TIME/READING**	**TIME/READING**
OXYGEN	20%	23%			
COMBUST-IIBLES	0%	10% LEL			
H_2S	0%	10% PPM			
TOXIC ATMOSPHERE					

EQUIPMENT FURNISHED:
(1)_____
(2)_____
(3)_____
(4)_____
(5)_____

I hereby certify that the following actions have been taken and issue this entry permit as required:
(1) Tests entered above were conducted.
(2) Personnel have been trained and given pre-entry briefing.
(3) Necessary tools and protective equipment furnished.
(4) Electrical circuits were locked out.
(5) Needed personnel assistance provided.
(6) Communication equipment in good working order.
(7) Continuous ventilation into confined space assured.

Signature of Supervisor or Crew Leader

_____Date_____

CONFINED SPACE HOT WORK PERMIT

(Distribute after completion of work to: Department Head)

Location:_____

Date/Time_____

Name of Authorized Hotworker _____

Entrant:_____

Firewatcher_____

Attendant:_____

HOTWORK CHECKLIST (Answer All Questions)	YES	NO	DOES NOT APPLY
1. Has hotwork equipment been inspected for			
problems, defects?			
2. Have all combustibles / flammables been moved			
at least 35 feet from hotwork?			
3. Have all combustibles and flammables been			
moved from confined space?			
4. If not have these materials been properly shielded,			
covered or spaced?			
5. Are lagging clothes available and in place to			
protect machinery, equipment and other			
workers from sparks and spatter?			
6. If floors are wet, are workers protected from			
shock (arc welding only)?			
7. Are combustible floors, walls, and ceilings			
properly protected from hotwork?			
8. Prior to performing hotwork on a metal wall			
have all combustibles been removed from the			
opposite side?			
9. Have all ducts or other openings within 35 feet			
of the hotwork been covered, shielded or			
properly guarded?			
10. Are fire extinguishers available for use, properly			
charged, and in working order?			
11. Is there a firewatch available and in place to			
respond to a fire and notify the hotworker			
or the attendant?			
12. Have the compressed gas cylinders been placed			
and secured OUTSIDE the confined space?			

Hot Worker Signature: _____

Date:_____

Section 4. TRENCHING, EXCAVATING, AND DIGGING

A. GOVERNING REGULATIONS:

Excavating is recognized as one of the most hazardous construction operations and all City of Winchester departments and agencies shall adhere to OSHA Standards 29 CFR 1926.650, .651, and .652 regarding all aspects of excavating, including soil mechanics, determination of soil types, test equipment, shoring types, shielding types, sloping and benching, and additional health and safety considerations for our employees. These standards may be accessed by going to www.osha.gov

B. UNDERGROUND UTILITY DAMAGE PREVENTION ACT (MISS UTILITY):

BEFORE YOU DIG, CALL MISS UTILITY (1-800-552-7001)! Before beginning any excavation, the crew leader or supervisor shall give a 48-hour notice to Miss Utility stating the exact location of the excavation to be dug. No digging shall begin until Miss Utility arrives and identifies the location of underground structures. The City of Winchester shall adhere to all provisions of the Underground Utility Damage Prevention Act outlined within the Code of Virginia, Title 56, Chapter 10.3, as amended.

1. Code of Virginia outlines Exemptions for routine maintenance under §56.265.15:1 and more specifically, excavating entirely within the right-of-way of an existing public road, street or highway while performing street or roadway maintenance operations such as:

   a. Milling or patch type paving,
   b. Street, curb, gutter or sidewalk patching, and
   c. Shoulder grading.

   Any such excavation shall be done within the limits of the original excavation and shall not exceed twelve (12) inches in depth. All other excavation activity must have Ms. Utility locate prior to the commencement of digging.

C. GENRAL PROCEDURES:

1. When steel plates are used to cover an excavation, they must be secured to the road surface with four (4) pins through the holes in the steel plate with at least a one-foot bearing surface. The edges of the plates are to be edged with cold patch. Additionally, a warning sign must be erected at the roadside, diagonally facing the oncoming traffic. The sign should be placed 200 feet from the plates.
2. Diversion ditches, dikes or other suitable means shall be used to prevent surface water from entering any excavation and to provide drainage of the area adjacent to the excavation.
3. Excavated material (spoils) shall be stored and retained at least two (2) feet from the edge of the excavation and at a distance to prevent excessive loading on the face of the excavation.
4. Access to and exit from the trench require the following conditions (ingress and egress):
   a. Trenches 4 ft or more in depth should be provided with a fixed means of egress.
   b. Spacing between ladders or other means of egress must be such that a worker will not have to travel more than 25 ft laterally to the nearest means of egress.
   c. Ladders must be secured and extend a minimum of 36 in (0.9 m) above the landing.

d. Metal ladders should be used with caution, particularly when electric utilities are present.

5. All excavations shall be guarded by adequate guardrails, fences, barricades or covers in addition to appropriate warning signs and lights, whenever left unattended. Particular attention must be paid to guarding at night.
6. Daily inspections of excavations shall be made by a competent person. If evidence of possible cave-ins or slides is apparent, all work in the excavation shall cease until the necessary precautions have been taken to safeguard the employees.
7. Personal Protective Equipment (PPE) required during excavation activities are: suitable gloves, seasonal clothing, hard hat, and safety glasses. PPE that may be required are traffic vest and respirator. The crew leader or supervisor should be aware for the need of atmospheric testing based on the depth and location of the excavation activities. Consult the Hazardous Atmospheres and Confined Space sections of the OSHA standard and this manual.

D. **BRACING REQUIREMENTS:**

Excavations over four (4) feet in depth must be properly braced, shielded or shored prior to any employee entering the excavation. Directing, authorizing or working in an unprotected excavation is considered a serious safety violation.

E. **SHORING AND SLOPING**

The sides of all excavations shall be guarded by use of a shoring system, sloping of the ground or some equivalent means. Shoring is the provision of a support system for trench faces used to prevent movement of soil, underground utilities, roadways, and foundations. Shoring or shielding is used when the location or depth of the cut makes sloping back to the maximum allowable slope impractical. Shoring systems consist of posts, walls, struts, and sheeting. All excavations shall be sloped or shored in accordance with OSHA regulations (29 CFR 1926.650), as required.

F. **SHORING TYPES**:

1. **Hydraulic Shoring**. The trend today is toward the use of hydraulic shoring, a prefabricated strut and/or wale system manufactured of aluminum or steel. Hydraulic shoring provides a critical safety advantage over timber shoring because workers do not have to enter the trench to install or remove hydraulic shoring. Other advantages of most hydraulic systems are that they:
   - Are light enough to be installed by one worker;
   - Are gauge-regulated to ensure even distribution of pressure along the trench line;
   - Can have their trench faces "preloaded" to use the soil's natural cohesion to prevent movement; and
   - Can be adapted easily to various trench depths and widths.

   All shoring should be installed from the top down and removed from the bottom up. Hydraulic shoring should be checked at least once per shift for leaking hoses and/or cylinders, broken connections, cracked nipples, bent bases, and any other damaged or defective parts.

2. **Pneumatic Shoring** works in a manner similar to hydraulic shoring. The primary difference is that pneumatic shoring uses air pressure in place of hydraulic pressure. A disadvantage to the use of pneumatic shoring is that an air compressor must be on site.

a. **Screw Jacks**. Screw jack systems differ from hydraulic and pneumatic systems in that the struts of a screw jack system must be adjusted manually. This creates a hazard because the worker is required to be in the trench in order to adjust the strut. In addition, uniform "preloading" cannot be achieved with screw jacks, and their weight creates handling difficulties.

b. **Single-Cylinder Hydraulic Shores**. Shores of this type are generally used in a water system, as an assist to timber shoring systems, and in shallow trenches where face stability is required.

c. **Underpinning**. This process involves stabilizing adjacent structures, foundations, and other intrusions that may have an impact on the excavation. As the term indicates, underpinning is a procedure in which the foundation is physically reinforced. Underpinning should be conducted only under the direction and with the approval of a registered professional engineer.

G. **SHIELDING TYPES**

1. **Trench Boxes** are different from shoring because, instead of shoring up or otherwise supporting the trench face, they are intended primarily to protect workers from cave-ins and similar incidents. The excavated area between the outside of the trench box and the face of the trench should be as small as possible. The space between the trench boxes and the excavation side are backfilled to prevent lateral movement of the box. Shields may not be subjected to loads exceeding those which the system was designed to withstand.

2. **Combined Use**. Trench boxes are generally used in open areas, but they also may be used in combination with sloping and benching. The box should extend at least 18 in (0.45 m) above the surrounding area if there is sloping toward excavation. This can be accomplished by providing a benched area adjacent to the box. Earth excavation to a depth of 2 ft (0.61 m) below the shield is permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench and there are no indications while the trench is open of possible loss of soil from behind or below the bottom of the support system. Conditions of this type require observation on the effects of bulging, heaving, and boiling as well as surcharging, vibration, adjacent structures, etc., on excavating below the bottom of a shield. Careful visual inspection of the conditions mentioned above is the primary and most prudent approach to hazard identification and control.

H. **SLOPING AND BENCHING**.

1. **Sloping**. Maximum allowable slopes for excavations less than 20 ft (6.09 m) based on soil type and angle to the horizontal are as follows:

TABLE V:2-1. ALLOWABLE SLOPES.

Soil type	Height/Depth ratio	Slope angle
Stable Rock	Vertical	90°
Type A	¾:1	53°
Type B	1:1	45°
Type C	1½:1	34°
Type A (short-term)	½:1	63°
(For a maximum excavation depth of 12 ft)		

2. **Benching.** There are two basic types of benching, simple and multiple. The type of soil determines the horizontal to vertical ratio of the benched side.

   As a general rule, the bottom vertical height of the trench must not exceed 4 ft (1.2 m) for the first bench. Subsequent benches may be up to a maximum of 5 ft (1.5 m) vertical in Type A soil and 4 ft (1.2 m) in Type B soil to a total trench depth of 20 ft (6.0 m). All subsequent benches must be below the maximum allowable slope for that soil type. For Type B soil the trench excavation is permitted in cohesive soil only.

I. SOIL MECHANICS

A number of stresses and deformations can occur in an open cut or trench. For example, increases or decreases in moisture content can adversely affect the stability of a trench or excavation. The following explanations point out some of the more frequently identified causes of trench failures:

1. **Tension Cracks:** Tension cracks usually form at a horizontal distance of 0.5 to 0.75 times the depth of the trench, measured from the top of the vertical face of the trench.
2. **Sliding:** or sluffing may occur as a result of tension cracks
3. **Toppling**: In addition to sliding, tension cracks can cause toppling. Toppling occurs when the trench's vertical face shears along the tension crack line and topples into the excavation.
4. **Subsidence and Bulging**: an unsupported excavation can create an unbalanced stress in the soil, which, in turn causes subsidence at the surface and bulging of the vertical face of the trench. If uncorrected, this condition can cause face failure and entrapment of workers in the trench.
5. **Heaving and Squeezing**: Bottom heaving or squeezing is caused by the downward pressure created by the weight of adjoining soil. This pressure causes a bulge in the bottom of the cut. Heaving and squeezing can occur even when shoring and shielding has been properly installed.
6. **Boiling:** is evidenced by an upward water flow into the bottom of the cut. A high water table is one of the causes of boiling. Boiling produces a "quick" condition in the bottom of the cut, and can occur even when shoring or trench boxes are used.

CHAPTER IV - FIRE PREVENTION AND PROTECTION

Section 1. FIRE PREVENTION AND PROTECTION

All City facilities are protected from fire by the use of sprinklers, extinguishers and alarms as appropriate for the facility. But people and procedures are the key to eliminating potential fire hazards. Detailed below are requirements for fire prevention and protection.

A. FIRE PREVENTION

The department head is responsible for minimizing the possibility of fire by ensuring that:

1. Smoking is not permitted in any City facility or vehicle.
2. Candles are not allowed to be lit in City buildings and no scented liquids or oils are permitted to be placed on light bulbs or electric hot plates.
3. All flammable and combustible liquids be store in enclosed cabinets, preferably flammable safety cabinets.
4. Combustible materials shall not be accumulated or stored in staircases, mechanical, electrical or telephone equipment rooms, or adjacent to the exterior of any structure. Remove combustible trash, i.e. oily shop rags, etc., from the premises frequently. Trash awaiting removal should be kept in covered metal containers.
5. Limit the use of electric hot plates, microwaves, toasters and coffeepots to a cafeteria, vending-machine area, or other specially confined area that is free of combustibles or chemicals. All electrical equipment must be grounded and never overload a circuit.
6. Portable heating units may be used to supplement required heating systems as long as they are three (3) feet away from any combustible materials, i.e. wooden desks, etc.
7. Only licensed contractors or qualified City personnel may use the following on City property:
   a. Welding equipment
   b. Open-flame equipment
   c. Portable grinding equipment
   d. Flammable paints, solvents, varnishes or adhesives

   This equipment and significant amounts of these materials can be permitted only after the department head is satisfied that all reasonable precautions have been taken to prevent fire, that a fire watch shall be maintained and that an appropriate fire extinguisher is nearby.

B. FIRE PROTECTION

All changes or repairs to facility fire protection, fire detection equipment and fire alarm systems/equipment shall be managed by the Facility Maintenance Director or Facility Manager or Department Head, and notified to the City Fire Marshall, in accordance with the manufacturer's recommendations.

Floors and fire walls shall be maintained in a fire-safe condition by filling holes and open spaces around pipes and conduits with material equivalent to that used for the floor or wall; this is particularly important

in telephone and electrical equipment rooms or closets. Ventilation ducts that penetrate fire walls should be equipped with fire dampers, or equivalent.

Required fire exit doors shall not be propped open, and all exit and emergency lights shall be in working condition, otherwise report these violations to the Fire Marshall.

C. AUTOMATIC SPRINKLER SYSTEMS

1. Most City facilities are fully sprinklered. If a sprinkler is to go off in any part of a building, the building fire alarm will be activated.
2. All employees must follow the emergency procedures if the sprinkler system is activated.
3. When the sprinkler system is shut down for maintenance or repairs the Winchester Emergency Communications Center must be notified prior to any notice to proceed by calling 540-662-4131 and the Winchester Fire Department at 540-662-2298. During this shutdown period a fire watch must be activated throughout the building.
4. Where sprinklers are installed, management shall ensure that they are always in good operational condition. When control valves must be closed for system repairs or alterations, every effort shall be made to complete the work and reopen the valves as soon as possible, regardless of time of day or day of the week.
5. A vertical clearance of 18 inches (0.5m) must be maintained between ceiling sprinkler heads and storage or other materials. Where storage height exceeds 12 feet (4m), a 36-inch (1m) clearance is required. Sprinkler heads must never be painted and wherever possible, sprinkler cages should be used to protect the head.

D. PORTABLE FIRE EXTINGUISHERS

1. Use only water or multi-purpose type extinguishers for general-purpose protection of buildings with an equivalent sized extinguisher of at least one 2 1/2-gallon (9.5L) pressurized water extinguisher for every floor, or 3,000 square feet (280 sq. meters) of area.
2. If dry chemical extinguishers are used in place of water for general coverage, such extinguishers shall have a Class A rating at least equivalent to a 2 1/2-gallon water extinguisher. The location of the dry chemical extinguishers should be carefully evaluated so that the potential for damage by the powder does not exceed the potential fire damage. Care should be exercised not to use these extinguishers in computer rooms, and other areas, where dissemination of powder may damage equipment. When in doubt, consult with the Winchester Fire and Rescue department for proper sizing, placement and type of fire extinguisher.
3. Classes of Fire and Extinguishing Agents
   a. Class "A" fires involve ordinary combustibles such as wood, paper and textiles. Extinguishing agents include water and multi-purpose dry chemical.
   b. Class "B" fires involve flammable liquids, such as gasoline, oil, paint and grease. Extinguishing agents include CO_2 and dry chemical.
   c. Class "C" fires involve electrical equipment. Extinguishing agents include CO_2 and dry chemical.
4. Fire extinguishers rated "ABC" are multi-purpose and may be used on any type of fire.
5. Placement of a Fire Extinguisher

a. Fire extinguishers shall be located along normal paths of travel with one located near each exit from a major area. They shall be no more than 75 feet (23m) from any point of use. (50 feet [15m] from point of use for carbon dioxide or dry chemical.)

b. Do not obstruct extinguishers in any way. Mount on brackets or install in a cabinet with the extinguisher top no more than five feet above the floor.

c. Each extinguisher shall be clearly visible from a distance and/or its location marked to facilitate recognition. In addition, fire extinguishers shall be clearly labeled by an approved testing agency and listed as to their intended use and/or as to the type of fire(s) that they should be used on.

6. Inspection: Fire extinguishers shall be checked regularly by Supervisors to ensure that they are in the designated places, have not been actuated or tampered with and have not suffered any obvious physical damage or corrosion. Each one shall be thoroughly inspected every twelve (12) months and recharged or repaired to ensure it is in good operating condition. Each extinguisher shall have a durable tag securely attached on which is recorded the date of this annual inspection and the initials or signature of the person who performed this service.

7. Trained: All supervisors and other persons who have responsibility for fire response shall be trained in the use of fire extinguishers by the local fire department or other qualified instructor. Employees assigned to respond to fires should understand that their own personal safety is of utmost importance and they should not take any action that will place them in jeopardy.

Section 2. FIRE EMERGENCY PLAN

A. PURPOSE

The primary purpose of the City's Fire Emergency Plan is to provide a course of action to follow should a fire or other emergency occur within any City building or facility.

B. APPLICABILITY

The Fire Emergency Plan shall apply equally to all City personnel, volunteers, visitors and the general public.

C. OBJECTIVE

The objective of this plan is to provide safety instructions to the employees and the general public within the facility during a fire emergency.

D. FIRE DRILLS

The drills shall be held bi-annually or as deemed necessary. It should be emphasized to the employees that exit routes and fire doors must remain unobstructed. Such essential knowledge and habits to conform to emergency procedures shall be instilled in personnel during fire drills.

E. FIRE ALARM SYSTEM

The City's Fire Alarm system consists of manual pull stations, heat and smoke detectors, annunciator, alarm and sprinklers system.

1. Manual Pull Station
   a. Most facilities are equipped with Manual Fire Alarm Pull stations that will automatically sound the Fire Alarm when activated and notify the Fire dispatcher.
   b. The Manual Pull Stations are located on all floors near emergency exits. All personnel shall be aware of their locations.

2. Audible Alarm Signal - City facilities are equipped with an audible fire alarm system. When activated, the alarm will sound a continuous loud buzzing until it has been reset by the Fire Department.
3. Heat and Smoke Detectors - Heat and Smoke Detectors are located in the mechanical and electrical rooms and will sound the building alarm when activated.
4. Fire Zone Panel
   a. A fire alarm annunciator is located on the ground floor of all buildings equipped with fire alarm systems. A light on the annunciator panel will indicate the area where the alarm was activated.
   b. It is the responsibility of building maintenance to notify Fire Dispatcher and the Fire department if the alarm system is turned off or disconnected for any reason.

F. EMERGENCY PROCEDURES

1. Should a fire be discovered in a building area, the individual shall **activate the nearest pull station**.
2. The individual discovering the fire shall immediately **call 911, or direct another individual to call and report the fire.**
3. All persons shall **immediately evacuate the building** when the fire alarm sounds.
4. Primary exit routes have been marked for rapid and orderly evacuation. **Only those exits declared safe shall be used for evacuation** purposes, unless an emergency situation warrants other action. Every employee must know the nearest evacuation route from the workplace.
5. **Elevators shall not be used during emergencies.** It is essential when exiting from the building during an emergency to **always use the stairways**.
6. All employees and public shall **proceed to the outside** of the building **away from the access routes of the fire apparatus and the fire hydrants** and await further instructions, and ensure that they are at a safe distance from the structure to prevent injury from flying debris.
7. **Employees shall not return to the building** until an all clear signal is given.
8. The Fire and Rescue Duty Officer will give an all clear signal when it is determined that the **danger no longer exists** within the building.
9. **All fire incidents must be investigated and reported to the Fire Marshall even if they are extinguished by non-emergency persons.**

CHAPTER V
DRIVERS, VEHICLES AND EQUIPMENT

Only employees specifically authorized and who possess a valid driver's license shall operate City-owned motor vehicles or personal vehicles on City business. The safe operation of cars, trucks and other special motorized equipment is the responsibility of the employee to whom the vehicle or equipment is assigned or owned.

A. Driver Eligibility Requirements:

All applicants or employees in positions that require the use of a city vehicle or their personal vehicle in the course of official City business must have their DMV record checked prior to the final position offer or prior to their annual evaluation. An employee is eligible to drive a city vehicle or personal vehicle upon satisfactory review of their Motor Vehicle Record (MVR) based on the following eligibility requirements:

1. The following are the City's accepted driver requirements. Anyone not meeting these requirements may prevent their employment, continued employment, or promotion to a position which includes driving responsibilities:
    1. A valid driver's license with an accrued point balance between positive 5 points to negative 5 points;
    2. No license revocations or suspensions within the past three (3) years related to operating a motor vehicle;
    3. No record of convictions of a felony related to the operation of a motor vehicle within the past three (3) years;
    4. No more than two (2) at-fault accidents involving a motor vehicle in the past three (3) years;
    5. No six (6) point violations in the past three (3) years;
    6. No DWI/DUI conviction within the last three (3) years;
    7. No combination of violations, convictions or accidents that creates a pattern which indicates that the driver is a high risk driver due to an ongoing history of unsafe driving habits;
    8. An overall pattern of safe vehicle operation and driving habits.

2. All employees must immediately inform their supervisor of any change in their driving record, including:
    1. All license suspensions, restrictions, and revocations;
    2. Any moving violations received while operating a vehicle;
    3. Any legal charges or convictions received while operating a vehicle.
    4. Employees who fail to report such offenses listed above may be subject to disciplinary action up to and including termination.

3. The City of Winchester will utilize the Virginia Division of Motor Vehicle MVR system to obtain employee's driving records that reside in Virginia on an annual basis, for-cause basis or periodic review basis. Employees residing in Maryland, West Virginia or Pennsylvania shall

obtain a copy of their driving record at their own expense and provide a copy prior to their annual Evaluation or upon request from their Department Head or Director of Administration. No performance increases may be given until the DMV record is reviewed and an acceptable driving record is noted.

4. Newly hired employees that drive a City vehicle or personal vehicle for City business must satisfactorily complete a City-sponsored driving course as scheduled by the Risk Manager and the Administration department, within 180 days of hire. Fire and Rescue and Police may participate in CEVO and EVOC driver training to complete this requirement.
5. If an employee finds it necessary to improve their DMV point total to meet the City's driver requirements, the employee shall be responsible for scheduling and paying for all associated expenses for attending a certified DMV defensive driving course(s). Courses will need to be taken during approved annual leave, or time away from work.
6. Incorporated fully are the City's Accident Review Board By-Laws governing peer review of all City vehicular and equipment accidents and the City's Safety Manual governing vehicular operations and employee responsibility while driving.

B. <u>Vehicle Safety – General</u>

Drivers shall know and obey all State and local vehicle laws applicable to the operation of their vehicle. Only persons approved by the Department Head may operate a City vehicle and **drivers will be responsible for the following:**

1. Possessing the appropriate license for the vehicle being operated.
2. Inspecting equipment at the <u>beginning of each shift</u> to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use: service brakes, including trailer brake connections; parking system (hand brake); emergency stopping system (brakes); tires; horn; antifreeze; battery fluid; steering mechanism; coupling devices; seat belts; operating controls; and safety devices. All defects shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.
3. Inspecting equipment at the <u>end of each workday</u> and report needed repairs prior to the next use.
4. Checking air pressure, gas and oil levels. Fuel equipment at the end of each workday.
5. Driving the posted speed limits, driving safe a speed during inclement weather or road conditions, and maintaining proper distance between the City vehicle and others on the roadway.
6. Never taking drugs, alcohol or strong medication prior to driving. Note: drugs, illness, or extreme fatigue may affect your ability to judge distances, speed and driving conditions, and slow your reaction time.
7. Do not operate a cell phone or texting device while driving or operating City equipment, including employees on the back of refuse trucks or similar situations, unless it is authorized by your Department Head or complies with the *Comprehensive Employee Management System* book.
8. Maintaining the cleanliness of the equipment at all times.
9. Observe all child seatbelt laws.
10. Switch headlights on any time windshield wipers are in use.

11. Secure all items, tools and materials to prevent shifting of objects during transport.
12. No smoking in City vehicles.
13. Parking in designated spots with parking brake firmly engaged. If parking on a hill, ensure front wheels are turned toward the curb or chock at least one rear wheel.
14. No riding in truck beds or open trucks unless prior approval from supervisor and while moving forward, speed shall never exceed 15 MPH. If personnel are authorized to ride, then at NO time may they stand, or be allowed to ride while backing.
15. All passengers, and drivers **operating or riding in a City vehicle or any other vehicle equipped with safety belts are required to use seat belts.** Exceptions to this rule includes:
    a. Emergency rescue personnel, who by the nature of their work may be unable to comply with this rule, i.e. offering care and assistance to injured people while enroute to a hospital.
    b. Law enforcement officer transporting persons in custody or traveling in circumstances which render the wearing of such belt system impractical.

16. Under all conditions, be courteous and never argue nor provoke an argument with anyone. Remember, many citizens' impressions of the entire City governmental organization are based on your conduct and actions on the job.

C. <u>Backing Procedure for Vehicle Operators:</u>

1. Whenever possible, the vehicle shall be positioned to avoid the necessity of backing later.
2. When backing a vehicle:
    a. A reverse signal (audible back-up alarm) shall be used in a vehicle that is equipped with such a device.
    b. Watch both sides but do not depend entirely on mirrors.
    c. If you are alone in a difficult backing situation, enlist the help of another person on the ground as a guide when such help is available.
    d. Back slowly.

3. No persons shall be in bed portions or on the rear of any vehicle at any time it is backing. All persons, except those in the cab portion, shall be at a safe distance away, out of the traffic lane. The driver shall be responsible for knowing the location of all personnel before moving.
4. A spotter shall be used. The main purposes of a spotter are to:
    a. Guide the vehicle back safely
    b. Make sure that the path of travel is clear
    c. Make sure no vehicles will pass behind a backing vehicle
    d. Ensure that the backing vehicle follows a line of travel that will keep him clear of obstructions; AND make sure all personnel and pedestrians are kept clear of the path of the vehicle
    e. If there are more than one (1) spotter available, then all those available will assist with backing by being places strategically around the vehicle.

5. A spotter shall be used with any vehicle that has obscured rear vision, such as with dump trucks, or in any instance when traffic or the surrounding area warrants the use.

6. If spotter is unavailable, driver shall get out and check path of travel prior to backing.

D. **Inspection of Equipment:**

1. No employee is expected to drive an unsafe motor vehicle. Before operating a car or truck, the driver shall determine that the vehicle is in a safe-operating condition. The operator shall use a **Vehicle Safety Inspection** form to check for any defects. If no defects are found, the operator shall initial next to the date of inspection. If defects are found, the operator shall mark appropriate areas with "X" , add any comments and return with vehicle to Maintenance Garage. A new form shall then be placed in the glove compartment for future use.
2. Upon arrival at the Maintenance Garage, with **the defective vehicle Vehicle Safety Inspection form,** the operator or his/her Supervisor may be required to complete the City's **Vehicle/Equipment Service Request** form to initiate repair work on the defective vehicle.

   Any unsafe equipment or conditions which may affect the safe operation of a vehicle shall be repaired before the vehicle is permitted to be taken out on the road.

3. The operator shall inspect the brakes, lights, turn signals, horn etc. are working properly before the vehicle is used.
4. The driver shall inspect windshield wipers, heater and defroster to see that they are in good operating condition and that windows and windshield give sufficient visibility for safe operation of the vehicle.
5. Tires shall be kept properly inflated and in good condition at all times.

E. **Cars and Trucks Operation:**

1. The driver of a vehicle shall be courteous toward other operators and pedestrians. Vehicles shall be operated in a safe manner and the right of way will be yielded to pedestrians and other vehicles when failure to do so might endanger life or property.
2. Communication is essential to defensive driving; therefore, the operator of a motor vehicle shall clearly signal his intention of turning, passing or stopping.
3. Drivers shall reduce speed and approach intersections with caution. Yield right of way as necessary to prevent an accident.
4. Avoid locking wheels when applying brakes. Such practice may cause skidding and excessive wear on tires. Reduce speed and proceed with caution when roadway is wet or covered with ice or snow.
5. Drivers shall exercise added caution when driving through residential and school zones, overtaking children on bicycles or roller skates or skate boards, etc. and when passing playgrounds.
6. No motor vehicle shall be operated in any garage or an enclosed area with inadequate ventilation, except to drive in and out, and then as briefly as practical. The motor shall not be warmed up or test operated inside a garage unless the exhaust gas is carried directly to outside atmosphere or doors and windows are open so that adequate ventilation exists.
7. The driver must be satisfied that all employees are safely in the car or truck with safety belts fastened before starting out. Employees must ride on seats or area provided with all parts of the body inside of the car or truck. Employee shall not attempt to get on or off a moving vehicle.
8. All ignition systems shall be turned off and no smoking permitted while refueling equipment.

9. All licensed City vehicles shall be equipped with a safety kit comprised of an Emergency First Aid Kit, a 2-1/2 lb. ABC dry-chemical fire extinguisher and road flares. It shall be the responsibility of each department head to ensure that the vehicles have this equipment and that all employees are trained in the location and use of these items.
10. Vehicle drivers are personally responsible for City vehicles or equipment operated by them. Employees may be charged and/or disciplined for damages resulting from misuse, abuse, negligence, unauthorized use or permitting unauthorized persons to operate City vehicles or equipment.
11. Drivers are responsible for the proper loading, securing and distributing the load within their vehicles.

F. **Parking:**

1. When vehicles must be parked on the roadway, they shall be parked on the right hand side facing in the direction of traffic flow, whenever possible.
2. When parking on a roadway, vehicles shall park off the traveled road surface whenever possible. When vehicles must park closer than 10 feet to the traveled road surface, appropriate warning devices shall be used.
3. Trucks stopped on any public roadway shall be protected by proper warning lights, reflectors or red flags in accordance with state or local requirements.
4. Vehicles shall not be parked on bridges or over culverts except when necessary for work.
5. When it is necessary to park on an incline, the driver shall make sure the vehicle is left in a safe position. The engine shall be turned off, the vehicle placed in the lowest gear, or "park" position, and the parking brake set. The front wheels shall be cut into the curb or if a curb is not present, the rear wheels shall be chocked. **NOTE: Any vehicle designated as a Commercial vehicle, requiring a CDL for its usage, shall be chocked at all times when parked.**
6. Extreme caution shall be exercised when backing a vehicle to avoid injury to persons and to prevent property damage. If another employee is present, he shall be stationed at the rear of the vehicle to assist the driver in backing the vehicle safely.

G. **Stopping on Highway:**

1. Stopping on the highway shall be avoided.
2. When it is absolutely necessary to stop on the highway, extreme caution shall be used. Warning signals and lights shall be used.
   a. Rotating beacon shall be used, if vehicle is so equipped.
   b. Tail lights/emergency flashers shall be used.
   c. Flares or reflectors shall be placed to give adequate advance warning.
   d. If work is in progress, traffic control devices (together with flagmen, where necessary) shall be used.

H. **Hauling Odd Sized Items, i.e. Pipes or Ladders:**

1. Pipes, ladders, etc. shall be loaded parallel with the truck length. Such material shall not extend beyond the normal sides of the vehicle.
2. Materials shall be securely fastened to prevent a hazard due to shifting.

3. Material which extends more than 4 feet beyond the front or back of the truck or trailer shall have warning devices attached. During the day, red flags shall be used; at night and during periods of poor visibility, red lights shall be used.
4. When hauling long pipes and the vehicle must enter congested areas or heavy traffic conditions, escort vehicles displaying suitable warning signs should be used.

I. **Defensive Driving Techniques:**

All City drivers are urged to cultivate the following driving habits in order to prevent accidents, despite the incorrect actions of others, or the presence of adverse conditions:

1. **Aim High in Steering** - Learn to steer by occasional glances well ahead at the center of your intended driving path. Avoid fixed stare visual habits.
2. **Get the Big Picture** - The driving environment should be observed in total through use of central vision. Scan the entire scene. Observe other vehicles in relation to your path.
3. **Keep Eyes Moving** - Shift eyes frequently. Check rear and side view mirrors and the entire traffic environment.
4. **Leave Yourself an Out** - Avoid tailgating. Stay a sufficient distance behind while following another vehicle. Select a different lane if you foresee trouble and indicate your desire to make a lane change. Be aware of escape route to right or left.

   Adjust speed on hills, curves, darkness, inclement weather and poor visibility conditions.

   Never allow yourself to be "trapped in" in the event of errors on the part of other drivers.

5. **Make Sure Others See You** - If someone is reversing in your path - HONK! Watch out for cues of wrong moves and errors by other drivers. Communicate by honking, flashing headlights, using turn signals and brake lights.

J. **Vehicle Accidents**

By definition, a vehicle accident is any incident in which a vehicle or equipment comes in contact with another vehicle, person or object, and which may result in death, personal injury or property damage. This definition applies regardless of who is hurt, what property is damaged and to what extent, where the accident occurs or who is responsible.

In the event of an accident, the employee driving the vehicle shall:

1. Call the Police immediately at **(540) 662-4131, or 9-1-1** to report the accident and its location.
2. Notify his/her supervisor by telephone or radio immediately.

At the scene of the accident, the supervisor shall fill out the Vehicle Report Form, which shall be submitted to the Risk Manager for investigation and subsequent reporting to the insurance company, VML insurance Programs.

The driver shall note position of vehicle after the collision in reference to edge of road, sidewalk line, center of intersection, etc. Additional reports shall be made by the Police.

Any City employee involved in an accident shall not, under any circumstances, argue about the accident with anyone involved. The employee shall:

1. Not admit fault or promise settlement.
2. Not sign anything unless issued a traffic violation notice by a law enforcement officer.
3. Be courteous but not discuss the accident facts with anyone except appropriate City representatives and authorized law enforcement personnel to the extent necessary for reporting purposes.
4. Not ride in a vehicle being towed by a wrecker.

Any injuries sustained by an employee as a driver or a passenger in a City vehicle involved in an accident must be reported to the Supervisor immediately. The supervisor shall then complete the **Vehicle Report form and deliver it to the Risk Manager <u>within 24 business hours</u>.**

The Accident Review Board reviews City vehicle accidents. The Board investigates all evidence presented and makes a ruling as to whether the accident was avoidable or unavoidable. The Board may recommend disciplinary action.

Non-employees and other unauthorized persons shall **<u>not</u>** be permitted to drive, operate or ride in or on a City-owned vehicle.

Required Post-Accident Drug Testing - The City will perform drug and alcohol tests on any City employee who is the driver of a City-owned vehicle involved in an accident or the driver of a personal vehicle involved in an accident while on City business. Post accident drug testing shall be performed if one of the following circumstances occurs:

1. If the City driver is charged by Police;
2. A fatality occurs;
3. Any person receives immediate medical attention away from the scene of the accident;
4. Any vehicle or equipment must be towed; or
5. A transit vehicle is involved and must be removed from revenue service.

K. **<u>Industrial Trucks – Forklifts:</u>**

1. Industrial trucks (forklifts) shall be operated only by authorized employees, qualified and trained in their use.
2. Brakes and controls shall be tested prior to use. Equipment with faulty brakes or mechanical or electrical defects shall not be operated. Needed repair work shall be reported immediately.
3. Equipment shall always be operated at a safe speed for existing conditions. Clearances in all directions shall always be checked, particularly overhead clearances.
4. When picking up a load, forks shall be set squarely and as far as possible under the load. Loads shall not be raised or lowered while traveling. Loaded or empty, forks shall be carried as low as possible but high enough to clear uneven surfaces.
5. The operator shall always face in the direction of travel. On inclines, all types of loaded lift trucks shall be driven with the load on the up-grade side of the driver, whether ascending or descending.
6. Sudden stops which might spill the load shall be avoided.

7. Before moving the equipment, the operator shall make sure that no person or objects are in the path of the vehicle. Clearances in all directions shall always be checked, particularly overhead clearances.
8. Industrial trucks shall not be fueled with the engine running.
9. Equipment with internal combustion engines shall not be operated in enclosed areas for prolonged periods of time so as not to exceed allowable levels of carbon monoxide. Keep areas well ventilated when necessary to work inside storerooms.
10. No one shall be allowed to ride the trucks, fork lift or other equipment other than the operator, except when seats are provided for this purpose.
11. Operator shall always sound horn at corners, crossroads and when vision is obstructed.
12. When leaving truck, apply brakes, lower forks, switch off engine and remove key.

L. **Earth Moving Equipment:**

A variety of motorized, mechanical equipment such as a hole digger, back hoe, trencher, earth boring machine, tamper, front-end loader, and dump truck are classified as earth moving equipment.

1. Employees shall be properly instructed and fully familiar with the operating characteristics, the operating controls and the functions of each control before using any earth moving equipment. The manufacturer's operating manual shall be adhered to by all employees in order to safely operate the equipment and to ensure the longevity of the equipment.
2. Instructions shall be given with the engine off or at idle.
3. All equipment shall be kept in good repair and operating condition. No employee shall work with equipment which is unsafe to use, and it shall be so tagged until the necessary repair has been done.
4. A routine service inspection shall be done each day before commencing work. Additional information and instruction will be found in the equipment operator's manual.
5. All adjustments, repairs, cleaning, lubrication and refueling shall be done with the engine turned off. No equipment shall be operated from any position other than the operator's position. Caution shall be used when operating such equipment near buildings, structures or congested areas. No machine shall be abused with overload, excessive speed or other misuse.
6. Employees shall not take any unsafe position near equipment in operation. No persons shall be permitted under loads handled by power shovels, derricks, hoists, etc.
7. Safety belts shall be provided and used on all equipment as required by federal and state regulations.

M. **CRANES, DERRICKS, HOISTING EQUIPMENT**

1. Only authorized persons shall be permitted in the cab or on the equipment. Only those designated persons who are trained and qualified shall operate the hoisting equipment.
2. No person shall be permitted to ride the hook, sling or load of any hoisting equipment.
3. Load limits as specified by the manufacturer shall not be exceeded under any circumstances.
4. Operating and maintenance procedures as specified by the manufacturer shall be followed.
5. The following are the minimum checks which shall be made daily prior to use:
   a. All control mechanisms for maladjustment interfering with proper operation.
   b. All safety devices for malfunction.

c. Deterioration or leakage in air or hydraulic systems.
d. Hooks, slings and load attachment devices.
e. Fire extinguisher available (5 BC or larger).

6. For the first lift of each day, the load shall be test-lifted and the brakes checked (load lifted several inches and then tested.)
7. With every load, the slings and bindings shall be checked and shall be readjusted as necessary to insure safety and stability.
8. All slings and other fittings shall be of sufficient strength, proper type and safe for their intended use.
9. Signals to the equipment operator shall be given by one person designated to perform this task. The operator shall, however, obey a "Stop" signal given by anyone.
10. When mobile hoists, cranes or similar lifting devices are used near energized lines or equipment, the lifting device shall be:
    a. Properly grounded, or
    b. Insulated, or
    c. Isolated, or
    d. Considered as energized.

11. No employee shall be under a suspended load or inside the angle of a winch line. No employee shall stand or work near a cable, chain or rope under tension unless the nature of his work requires it.
12. Winch lines, ropes or wire cables shall not be guided by hand when standing within reach of the drum or sheave.
13. Wire-rope loops shall be made by proper splicing or mechanical clamping of the tail section. Wire rope clips shall not be used to form eyes in wire rope bridles or slings. Knots shall not be used in wire ropes for any purpose.
14. When U-bolt wire rope clips are used to form eyes in winch lines, the number used and the spacing provided shall be in accordance with illustration. The U-bolt shall be applied so that the U section is in contact with the dead end of the rope.
15. Operators shall not leave their position at the controls of cranes, hoists, derricks or other lifting devices while the load is suspended.
16. Operators of cranes, derricks, hoists and other hoisting equipment shall exercise extreme caution when in close proximity to energized lines or equipment.

    a. When performing power transmission or distribution construction, refer to electrical section for applicable clearance requirements.
    b. When work does not involve power transmission or distribution construction and maintenance, minimum clearance distances shall be:

Up to 50 KV	10 feet
Over 50 KV	10 feet plus 0.4 in. for each 1 KV over 50 KV

c. Trucks on which derricks or booms are erected above traveling height shall not be moved except under the immediate direction of a designated employee who shall give his undivided attention to the movement.

d. Cranes, derricks, and hoists shall not be used in excessive wind, or 20+ mph.

N. **AERIAL LIFTS**

1. Only authorized persons who are properly trained and qualified shall use or operate this equipment.
2. The operating and maintenance instruction manuals issued by the manufacturer shall be followed.
3. Load limits of the boom and basket shall not be exceeded. Shock loading (sudden stops or starts) of the equipment shall be avoided.
4. Aerial lifts shall not be "field modified" unless such modification is certified by the manufacturer. The insulated portion shall not be altered in any manner that might reduce its insulating value.
5. Prior to use, the equipment shall be given a warm up period. The hydraulic system and the lift controls shall be checked and tested daily before use to determine such features are in safe working condition. Malfunctions or unsafe operational conditions shall be reported. Equipment which is not in proper operational condition shall not be used.
6. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
7. The truck shall not be moved unless the boom is lowered, the basket cradles and secured and the outriggers retracted.
8. Employees shall not ride in the bucket while the truck is traveling. (Exceptions: Employees may ride in the basket for short moves at the work location if the basket is returned to the cradled position for each move and the employees face the direction of travel.)
9. When employees are in the bucket of an aerial lift, the emergency brake of the vehicle shall be set. Wheel chocks or outriggers shall be used to provide added protection. When the vehicle is on an incline, wheel chocks shall be used regardless of whether or not outriggers are used. The truck should sit approximately level when viewed from the rear.
10. When outriggers are used, they shall be set on pads or a solid surface.
11. Employees shall not belt to an adjacent pole or structure. When working from an aerial lift, a body belt or harness shall be worn and a lanyard attached to the boom.
12. Safety rules governing the use of hot-line tools, rubber goods, personal protective equipment and general safe practices shall also apply to work done from aerial baskets. (Exception: Different rules apply when performing "live-line bare-hand" work.)
13. When a boom must be maneuvered over a street or highway, necessary precautions shall be taken to avoid accidents with traffic and pedestrians.
14. The operator shall always face in the direction in which the basket is moving and he shall see that the path of the boom or basket is clear when it is being moved.
15. Employees shall not stand or sit on top or edge of the basket or on ladders placed in the basket. Employees' feet shall be on the floor of the basket the entire time he is in it.
16. Climbers shall not be worn by employees while in the basket.
17. When two men are in the basket or baskets, one of them shall be designated to operate the controls. One employee shall give all signals, which shall be thoroughly understood by all persons concerned.

18. When two linemen are working from the basket, extreme care shall be taken to avoid one man contacting poles, crossarms or other grounded or live equipment while the second lineman is working on equipment at a different potential.
19. In no case shall more than one energized conductor or phase be worked at one time.
20. Clearances. The aerial lift, together with the men in the basket and all tools and equipment shall maintain proper clearances from unprotected energized conductors. (Exception: Direct contact may be made when performing "live-line bare-hand" work.)
21. When using pneumatic or hydraulic tools in a bucket, the operator shall be sure that hoses or lines do not become entangled in the operational controls.
22. Unless the vehicle is equipped with lower boom and pedestal insulation rated for the voltage being worked, aerial basket vehicles working adjacent to energized primary shall be properly grounded or barricaded and treated as energized.
23. Aerial lifts and buckets shall be used in excessive wind, or 20+ mph.

CHAPTER VI
Hazardous Communication

A. Governing Regulations:

The hazards of chemicals are recognized as one of the most dangerous causes of workplace injuries and illnesses resulting in all City of Winchester departments and agencies to adhere to OSHA Standards 29 CFR 1910.1200. These standards may be accessed by going to www.osha.gov

B. Applicability:

This program applies to City of Winchester Departments which use or store potentially hazardous chemicals in the workplace.

C. Purpose:

1. **General**

   The purpose of the Hazard Communication Program is to inform employees of workplace chemical hazards and the City of Winchester' Hazard Communication Program including the labeling system and use of MSDSs (Material Safety Data Sheets).

2. **Applicable Standards**

   The Hazard Communication Standard is available to any employee through his or her supervisor or department head, or the safety manager's office.

D. Roles and Responsibility:

1. **Employees who handle chemicals must:**
   a. Participate in hazard communications training
   b. Label secondary containers correctly
   c. Handle, store and dispose of chemicals appropriately;
   d. Wear appropriate protective equipment when handling hazardous chemicals.

2. **Department Head and Supervisors must:**
   a. Develop a site specific hazard communications program;
   b. Make sure procedures are developed to obtain the necessary MSDSs and make them available during all work shifts.
   c. Transmit new information to affected employees;
   d. Ensure that the MSDS book matches the Chemical Inventory List;
   e. Coordinate employee hazard communications training;
   f. Review incoming MSDSs for new or significant health and safety information;
   g. Maintain master set of MSDSs and ensure the Risk Manager is provided a copy, as well;
   h. Maintain a master list of chemicals that are approved for use at the City of Winchester.
   i. Identify hazard communications training packages and resources;

3. **Risk Manager and Safety Committee:**
   a. Coordinate the development and updating of the Hazard Communication policy;
   b. Audit the City of Winchester Hazard Communication programs and make recommendations for improvement.

E. <u>Program Elements</u>:

1. Chemical Inventory List:

City supervisors or foremen/crew chief from each work area shall be designated to prepare a chemical inventory list of all chemicals used by personnel working in that area.

The hazard communication program shall cover all chemicals in all physical forms - liquids, solids , gases, vapors, fumes , and mists - whether they are "contained" or not. The hazardous nature of the chemical and the potential for exposure are the factors which determine whether a chemical is covered. If it is not hazardous, it is not covered. If there is no potential for exposure (e.g. the chemical is inextricably bound and cannot be released), the rule does not cover the chemical.

Also, food, drugs, and cosmetics brought into the workplace for employee consumption are exempt, likewise, rubbing alcohol in the first -aid box kit would not be covered.

Products that are usually hazardous on a chemical inventory list, but are not limited to, and which should be on chemical inventory lists are:

Acids	Foaming resins	Pesticides
Adhesives	Fuels	Process chemicals
Aerosols	Fungicides	Shellacs
Battery fluids	Herbicides	Solvents
Catalysts	Industrial oils	Surfactants
Caustics	Insecticides	Varnishes
Cleaning agents	Janitorial supplies	Water treatments
Degreasing agents	Lacquers	Wood preservatives
Detergents	Office copier chemicals	
Flammables	Paints	

2. Container Labeling

a. Original Container Label:

All *original containers* of chemicals that contain any hazardous chemical components must retain the original label and information provided by the manufacturer or distributor.

Supervisors or foremen shall verify that all containers received for use are clearly labeled as to:

1.) Identity of the hazardous chemical;
2.) Appropriate hazard warning (CAUTION, WARNING, or DANGER written on the label to indicate a chemical as hazardous);
3.) Name and address of the manufacturer.

b. Secondary Container Labeling:

All *secondary or other containers* must be labeled with at least the product name and any associated hazards such as flammable, combustible, toxic, corrosive, and any special precautions such as “Do Not Store Near Heat” or “Do Not Mix With Water”.

The secondary container label recommended for City of Winchester operations is shown on the next page.

The label shown at the end of this section is an appropriate secondary container label for use at the City of Winchester. This type of label must be affixed when material is transferred from its original container to a secondary container such as a paint can, spray bottle, oil can, etc.

The label is completed by entering the following information:

1.) Chemical Name: Enter the name of the chemical and the CAS (chemical abstract number) if the chemical contains only one ingredient. Note: The use of the CAS is optional.

2.) Hazard Ratings: Enter the Health, Flammability, and Reactivity hazard numbers. They are normally found on the MSDS. These hazard ratings are a number from 0-4. The explanation of the hazard rating is shown in the bottom left hand corner of the label. A more detailed explanation of the ratings for each of the types of hazards is explained on the next pages.

3.) Personal Protective Equipment: Check the appropriate boxes for the type of protective equipment that must be used when using these chemicals. The correct items to check for protective equipment will also be shown on the sample label on the MSDS cover sheet.

SAMPLE:

CHEMICAL NAME - CAS _____

☐	HEALTH
☐	FLAMMABILITY
☐	REACTIVITY

Hazard Rating	**Personal Protection Required**
4-SEVERE	Safety Glasses Dust Filter Mask Boots
3-SERIOUS	Chemical Goggles Protective Clothing Gloves
2-MODERATE	Face Shield Apron
1-SLIGHT	Respirator
0-MINIMAL	

c. HAZARD RATING Explanations

1.) <u>“Health” Hazard Rating Definitions</u>

0	Minimal Hazard	No significant risk to health
1	Slight Hazard	Irritation or minor reversible injury possible
2	Moderate Hazard	Temporary or minor injury may occur
3	Serious Hazard	Major injury likely unless prompt action is taken and medical treatment is given
4	Severe Hazard	Life threatening major or permanent damage may result from single or repeated exposures

2.) "Flammability" Hazard Rating Definitions

0	Minimal Hazard	Materials which are normally stable and will not burn unless heated
1	Slight Hazard	Materials that must be preheated before ignition will occur. Flammable liquids in this category will have flash points (the lowest temperature at which ignition will occur) at or above 200 degree F (NFPA Class IIIB)
2	Moderate Hazard	Material which must be moderately heated before ignition will occur, including flammable liquids with flash points at or above 100 degree F and below 200 degrees F. (NFPA Class II & Class IIIA)
3	Serious Hazard	Materials capable of ignition under almost all normal temperature conditions, including flammable liquids with flash points between 73 degrees F and boiling points above 100 degrees F, as well as liquids with flash points between 73 degrees F and 100 degrees F (NFPA Classes IB and IC)
4	Severe Hazard	Very flammable gases or very volatile flammable liquids with flash points below 73 degrees F and boiling points below 100 degrees F (NFPA Class IA)

3.) "Reactivity" Hazard Rating Definitions:

0	Minimal Hazard	Materials which are normally stable, even under fire conditions, and which will not react with water.
1	Slight Hazard	Materials which are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently.
2	Moderate Hazard	Materials which in themselves are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water.
3	Serious Hazard	Materials which are capable of detonate or explosive reaction, but require a strong initiating source, or must be heated under confinement before ignition, or materials which react explosively with water.
4	Severe Hazard	These materials are readily capable of detonation or explosive decomposition at normal temperature and pressures.

PERSONAL PROTECTION REQUIRED Explanations:

Safety Glasses: Safety glasses must be worn any time there is the potential for materials entering or striking the eye.

Chemical Goggles:	If MSDS or container states “eye hazard” or “skin contact hazard” is present, face shields must be worn.
Face Shields:	If MSDS or container states “eye hazard” or “skin contact hazard” is present, face shields must be worn.
Respirator:	Contact your supervisor or the safety manager for assistance in selecting the proper respirator.
Disposable Dust Masks:	should only be used when only nuisance dusts are present. Potentially toxic dust and chemicals may require a more protective respirator.
Protective Clothing:	Other protective equipment, such as protective disposable coveralls, are recommended when the chemical or toxic dust may cause injury to the skin or contaminate your clothing.
Apron:	Aprons are used to keep corrosive or toxic chemicals from splashing and contaminating your skin or clothing.
Boots:	If a chemical or toxic chemical has spilled and may contaminate your shoes or boots, use approved rubber, neoprene boots.
Gloves:	used routinely to prevent contact of chemicals or other toxic materials with your hands and forearms. The gloves used must be compatible with the chemical being handled or they will penetrate the glove and expose you to the toxic chemical. See your supervisor for assistance to selecting the proper glove.
(Other):	Other special equipment may be required when handling hazardous materials in special situations such as around high voltage, in confined spaces, etc.

3. Material Safety Data Sheets (MSDS)

Material Safety Data Sheets (MSDS) provide pertinent information about hazardous substances, such as chemical composition, effects of exposure (via handling, storing, using or transporting), protective measures, and emergency procedures. An MSDS must be provided free of charge by the manufacturer or distributor of any hazardous substance. These sheets must be acquired and maintained in an area that allows free access 24 hours a day by anyone potentially exposed to any hazardous substance in the work place.

F. Contractors

Managers of contractors on City of Winchester property must:

1. Provide contractors working on-site at the City of Winchester with copies of MSDS (or make them available at a central location) for any hazardous chemicals to which the contractors may be exposed while working;
2. Provide information regarding precautionary measures that need to be taken to protect the contractor’s and City of Winchester’ employees during normal operating conditions or in the foreseeable emergencies;
3. Provide an explanation of the labeling system that is used at the City of Winchester worksite;
4. Request from contractors, MSDS of hazardous chemicals they plan to use on City of Winchester property; and,
5. Share this information with any other contractors working in the same vicinity on City of Winchester property.
6. Management of the MSDS received from contractors on-site will include:
7. Establishing a central MSDS book or file with appropriate indexes.
8. The City of Winchester contract administrator should audit compliance with the hazard communications program.

9. The general contractor can be designated as the coordinator of the hazard communications program to insure MSDS are on hand, that hazardous chemicals are properly labeled, and that employees are properly trained.

G. EDUCATION AND TRAINING

Prior to starting work, and prior to introducing a new (high use) chemical into any City of Winchester department, each employee in that workgroup will be given information and training on the new chemical hazard. Employees (permanent or temporary) must attend a training discussion that covers:

1. Operations where the potential for exposure to hazardous substances exist
2. Physical and health risks of the hazardous chemical;
3. Symptoms of overexposure;
4. How to determine the presence or release of hazardous chemicals in the work area, and awareness of substances being used by others;
5. How to reduce or prevent exposure to hazardous chemicals through the use of control procedures, work practices, personal protective equipment, and emergency response;
6. Steps the City of Winchester has taken to reduce or prevent exposure to hazardous chemicals;
7. Procedures to follow if employees are overexposed to hazardous chemicals;
8. How to read labels and MSDS to obtain hazard information;
9. How to label secondary containers;
10. The importance of returning unused substances to original containers to limit the number of containers of hazardous chemicals;
11. Proper methods for disposal of hazardous chemicals;
12. Location of MSDS files, and the City’s written hazard communication program.