Crime Prevention Through Environmental Design

Albemarle County Police Guide to Creating a Safer Community

Nortonsville

Carrsbrook

Crozet

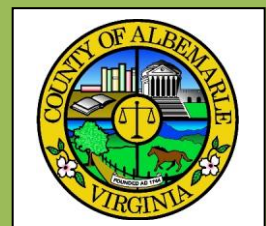Charlottesville

Keswick

Batesville

Covesville

Scottsville

"CPTED is not the total answer to community problems, but it does provide the community with the means to eliminate or reduce environmental obstacles to social, cultural or managerial control"

--Timothy D. Crowe
Criminologist &
CPTED Practitioner

"The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life."

National Crime Prevention Institute

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I.   Introduction

We live with crime every day, and this social problem affects thousands of people's lives each year. Serious crimes that are committed in the community generate a considerable amount of fear within the populace. Crimes like larceny, robbery, burglary, rape and homicide are a serious threat to people's safety, and it radically changes the perception of safety within any community. Most discussions on the subject of crime traditionally focus on arrest and incarceration, and much less on prevention. These measures can only be taken after the crime has been committed and does not focus on how to deter or eliminate the opportunity for the crime to occur. Traditionally, most people think of crime prevention in terms of target hardening or "fortification" (the castle mentality). This technique involves the use of locking devices, camera systems, security guards, and other technology to block access or entry into an area. There are other options.

Enter a new approach to crime prevention – Crime Prevention through Environmental Design – or CPTED. Much more far- reaching than dead-bolts on doors or locks on windows, CPTED principles are applied easily and inexpensively during building or remodeling projects, and have been implemented in communities across the nation. Designers and architects have always integrated resistance to natural threats – fire, earthquakes, floods, harsh weather – into their works. They must now consider the threat of criminal activity, which is now recognized as a man- made hazard which can be resisted by quality design.

What is the secret of CPTED? It is the use of design to eliminate or reduce criminal behavior while at the same time encourages people to "keep an eye out" (more eyes on the street) for each other. These are just a few of the ingredients that go into creating an effective CPTED environment… that is, a safer, more livable community.

This manual presents a wide selection of CPTED techniques and strategies as well as some traditional crime prevention methods. However, this manual cannot replace the onsite, professional CPTED survey conducted by a certified CPTED practitioner. A professional evaluation of the site and the surrounding area is needed to properly survey a particular design.

"The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life." CPTED, as defined by the National Crime Prevention Institute

II. Four Principles of CPTED

Each of the following CPTED strategies offer guidelines which, a property owner, builder, remodeler, or existing built environment manager, can apply to reduce the fear and incidence of crime and improve the quality of life.

1.) Natural Surveillance
A design concept directed primarily at keeping intruders easily observable. Surveillance or the placing of legitimate "Eyes on the Street" increases the perceived risk to offenders. This can be accomplished by promoting features that maximize the visibility of people, parking areas and building entrances: doors and windows that look out onto streets and parking areas; pedestrian-friendly sidewalks and streets; front porches and appropriate nighttime lighting.

The open design of the stairs and guardrail allows the parking to be under constant surveillance by anyone leaving or looking out of their apartment

2.) Territorial Reinforcement
Physical design can create or extend a sphere of influence. Users are then encouraged to develop a sense of territorial control while potential offenders, perceiving this control, are discouraged.

This concept promotes features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement design, celebrated gateways, and "CPTED" fences.

3.) Natural Access Control
A design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating in offenders a perception of risk. This can be accomplished by designing streets, sidewalks, building entrances and neighborhood gateways to clearly indicate public routes and discouraging access to private areas with structural elements.

4.) Maintenance
Proper maintenance allows for the continued use of a space for its intended purpose. Deterioration and blight indicate less concern and control by the intended users of a site and indicate a greater tolerance of disorder. Proper maintenance prevents reduced visibility and lighting by removing overgrown vegetation, while also serving as an additional expression of territoriality and ownership. Inappropriate maintenance, such as, poor tree pruning, overgrown shrubs, graffiti can prevent the CPTED elements from achieving desired effects.

III. Three "Three D" Approach

CPTED involves the design of the physical space in the context of the normal and expected use of that space by the users as well as the predictable behavior of people around the space. CPTED emphasizes the connection between the functional objectives of space utilization and behavior management. Conceptually, the four CPTED principles are applied through the 3-D approach. i.e. **Designation, Definition and Design.** The 3-D approach is a simple space assessment guide that helps the user in determining the appropriateness of how a space is designed and used. The 3-D concept is based on the three functions or dimensions of human space:

- ➢ All human space has some designated purpose.
- ➢ All human space has social, cultural, legal or physical definitions that prescribe desired and acceptable behaviors.
- ➢ All human space is designed to support and control the desired behaviors.

By using the "Three D's" as a guide, space may be evaluated by asking the following questions"

1.) Designation
- What is the designated purpose of this space?
- For what purpose was it originally intended?
- How well does the space support its current use or its intended use?
- Is there a Conflict?

2.) Definition
- How is space defined?
- Is it clear who owns it?
- Where are its borders?
- Are there social or cultural definitions that affect how space is used
- Are legal or administrative rules clearly set out and reinforced in policy?
- Are there signs?
- Is there conflict or confusion between purpose and definition?

For example, in a given space, certain behavior or activities may be socially or culturally discouraged while others may be clearly prohibited by display of written instructions or rules. On the other hand, what is not acceptable in a certain space may be acceptable in others.

3.) Design
- How well does the physical design support the intended function?
- How well does the physical design support the desired or accepted behaviors?
- Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?
- Is there confusion or conflict in the manner in which design is intended to control behavior?

IV. CPTED Techniques for the Built Environment

1.) Multi-Family Communities- Single and Multiple Buildings

Multi-family communities pose the same problems as single-family structures although these problems can be compounded by the number of dwellings and residents. Public areas, shared hallways, elevators, laundry rooms, and parking areas present opportunities for crime or for crime prevention.

Multi-family communities do not necessarily mean multiple problems. There is a certain amount of truth to the old saying, "There's safety in numbers." Management may need to create opportunities for neighbors to get to know one another. With neighbors who take responsibilities for each other there is no reason why a multi-family dwelling cannot be a safe place to live.

CPTED Guidelines

Natural Access Control
- Keep balcony railings and patio enclosures less than 42 inches high and avoid using opaque materials.
- Define entrances to the site and each parking lot with landscaping, architectural design, or symbolic gateways.
- Block off dead-end spaces with fences or gates
- Discourage loitering by non-residents; enforce occupancy provisions of leases.
- Use devices which automatically lock upon closing on common building entrances.
- Provide good illumination in hallways.
- Allow no more than four apartments to share the same entrance; individual entrances are recommended.
- Centrally locate stairwells where many users can watch them.
- Limit access to buildings to only one or two points.

Natural Surveillance
- Design buildings so that exterior doors are visible from the street or by neighbors.
- Use good lighting at all doors that open to the outside.
- Install windows on all four facades of buildings to allow good surveillance.
- Assign parking spaces to residents. Locate the spaces next to the resident's unit, but not marked with their unit number. This makes unauthorized parking easier to identify and less likely to happen.

- Designate visitor parking
- Make parking areas visible from windows and doors.
- Adequately illuminate parking areas (3 ft candles) and pedestrian walkways   (1 ft candle).
- Position recreation areas (pools, playgrounds, clubhouses) to be visible from many of the units' windows and doors.
- Screen or conceal dumpsters, but avoid creating blind spots and hiding places.
- Build stairwells in locations that are clearly visible from windows and doors.
- Restrict all landscaping to the 3' – 6' rule to provide clear visibility in vulnerable areas.
- Site buildings so that the windows and doors of one unit are visible from another (not directly opposite).
- Construct stairwells to be open and well lighted; not enclosed behind solid walls.
- Place playgrounds where they are clearly visible from units, but not next to parking lots or streets.

Territorial Reinforcement
- Define property lines with landscaping or decorative fencing.
- Use low shrubbery and fences to allow visibility from the street.
- Accentuate building entrances with architectural elements, lighting and/or landscaping
- Clearly identify all buildings and residential units using street numbers that are a minimum of six inches tall, and well lighted at night.
- Where possible, locate individually locking mailboxes next to the appropriate units.

Maintenance
- Maintain all common areas to very high standards, including entrances, greenway and recreational areas, and right of ways.
- Prune trees and shrubs back from windows, doors, entrance ways, and walkways.
- Use and maintain exterior lighting.
- Strictly enforce rules regarding junk vehicles.

2.) Single Family Homes

Properly selected, installed and maintained landscaping allows for unobstructed views of otherwise vulnerable doors and windows

Residential areas are the heart of any community. Our homes are the center of our lives, where we should fell most safe. And, while we may have multiple choices when it comes to walking through a certain part of town or using public transportation, we have few choices when it comes to the streets where we live.

The guiding principle here is "know thy neighbor." Streets and homes should be designed to encourage interaction between neighbors: good examples include front porches and property lines that are defined simply by low shrubbery instead of high fences.

CPTED Guidelines

Natural Access Control
- Use walkways and landscaping to direct visitors to the proper entrance and away from private areas.

Natural Surveillance
- Fully illuminate all doorways that open to the outside.
- Place the front door to be at least partially visible from the street.
- Install windows on all sides of houses to provide full visibility of the property.
- Provide appropriate illumination to sidewalks and all areas of the yard.
- Place the driveway to be visible from either the front or back door and at least one window.
- Properly select and install landscaping so that it allows unobstructed views of vulnerable doors and windows from the street and other properties.

Territorial Reinforcement
- Use front porches or stoops to create a transitional area between the street and the home.
- Define property lines and private areas with plantings, pavement treatments, or fences.
- Make the street address clearly visible from the street and alley with numbers a minimum of six inches high and distinctly or easily to read.

Maintenance
- Keep trees and shrubs trimmed back from windows, doors, and walkways.
- Use exterior lighting at night, and keep it all in working order.

- Keep litter and trash picked up and the yard neat at all times.
- The house and garage should be kept in good repair.

Target Hardening Techniques
- Interior doors that connect a garage to a building should have a deadbolt lock.
- Deadbolts should be installed on all exterior doors with a minimum one-inch throw.
- All strike plates should be installed with three-inch screws.
- Door locks should be located a minimum of 40 inches from adjacent windows or security glazing film should be installed.
- New houses should have jalousie or awning-style windows.
- All windows should be installed with locks and equipped with a window pinning system.
- Sliding glass doors should have one permanent door on the outside: the inside moving door should have a three point locking system or pinned an equipped with a Charlie bar.

3.) Neighborhoods

A good example of proper neighborhood design is pictured above. The design uses clearly defined transition from public, to semi-public, to private space. The front porches are elevated to increase natural surveillance, and to promote interaction between neighbors. The well maintained landscaping provides unobstructed views, and puts more eyes on the street.

Often the safety measures taken in subdivision communities, such as high fences and video monitored gates can have a negative instead of positive effect on residents. The presence of security devices implies a need for them. CPTED guidelines, when applied to subdivisions, can create a safer environment without the use of more common, conspicuous and intimidating methods.

For instance, streets designed with gateway treatments, roundabouts, speed bumps, and other "traffic calming" devices establish territories and discourage speeding and cut through traffic. And by keeping public areas observable, you are telling potential offenders that they should think twice before committing a crime.

Criminals prefer low-risk situations, and public visibility increases the chances a perpetrator will be caught. These measures are simple, inexpensive to implement, and will have a much more positive effect on residents than gates and bars.

CPTED Guidelines

Natural Access Control

- Limit access without completely disconnecting the subdivision from adjacent neighborhoods.
- Streets should be designed to discourage cut-through and high speed traffic.
- Install paving treatments, plantings, and architectural design features such as a columned gateway to guide visitors to desired entrances and away from private areas.
- Walkways should be located in such a way as to direct pedestrian traffic and should be installed in a location safe for pedestrians. Walkways should always be kept unobscured.

Natural Surveillance

- Install landscape material that will not create blind spots or hiding places
- Locate open green spaces and recreational areas so that they are visible from nearby homes and streets.
- Use pedestrian scale lighting with metal halide illumination on all walkways so potential threats can be recognized at night.

Territorial Reinforcement

- Lots, streets, and houses should be designed to encourage interaction between neighbors.

- Entrances should be accentuated with different paving materials, changes in street elevation, architectural and landscape design.
- Residences should be clearly identified with street address numbers that are a minimum of six-inches high and well lighted at night.
- Property lines should be clearly defined with CPTED post and pillar fencing, gates, and plantings to direct pedestrian traffic.

Maintenance
- Maintain all common areas to very high standards, including entrances, greenways, recreational areas, and right-of-ways.
- Enforce deed restrictions and covenants in addition to all applicable city codes.

4.) Commercial Drive-Throughs

The commercial drive-through is potentially the perfect place for criminal activity. They are often used at odd hours, are hidden from view, and those using them will almost certainly be carrying cash.

The rule of thumb in the design of a drive-through can be reduced to one word: visibility.

CPTED Guidelines

Natural Surveillance
- Locate ATM's in front of banks facing the main road or as a drive-through in the drive-in teller lanes.
- Put the ordering station for a restaurant within sight of the interior and the street.
- Lighting should be especially good both at the ordering window and the ATM queuing lane and ATM machine. Lighting is important when vehicles approach so they can observe any potential trouble.
- Avoid fencing, landscaping, and walls whose design might provide

hiding opportunities for those preying on patrons.

5.) Commercial Storefronts

For a healthy neighborhood to remain healthy, its local businesses must flourish; and for businesses to do well, they must be safe places to frequent.

With the increase in separating commercial areas from residential ones, and the decline which often accompanies this separation, it is essential that CPTED guidelines be followed when building or remodeling a commercial property. Safety is often cited as an important consideration in choosing one business over another. Ideas such as keeping customers and employees in view of each other can accomplish much in the way of making customers feel safe and secure.

CPTED Guidelines

Natural Access Control
- Locate check-out counters to the front of the store, clearly visible from the outside. Position the counters near the main entrance so employees can watch any activities, and greet all customers when they enter the store.
- Clearly mark public paths. Make private areas harder for non-employees to access.
- Use signs to direct patrons to parking and entrances.
- Prevent easy access to the roof or fire escape from the ground.
- Provide rear access to shops if rear parking is offered.

Natural Surveillance
- Install rear windows to face rear parking area for increased visibility.
- Allow window advertisements to cover no more than 15% of the window.
- Use interior shelving and displays no higher than five feet, even less in front of windows.
- Position shelving at an angle that increases the visibility down the isle ways for the clerk.
- Fully illuminate the exterior of the building and grounds at night.
- Design the loading area to avoid creating hiding places for people and merchandise.
- Maintain clear visibility from the store to the street, sidewalk, parking areas, and passing vehicles.
- Design water retention areas to be visible from the building or street- they should be visual amenities, neither hedged nor fenced, which could allow undesirable activities to be hidden.
- Place all entrances under visual surveillance (monitor electronically if necessary).

Territorial Reinforcement

- Mark property boundaries, where possible, with hedges, low fences, or gates.
- Mark private areas distinguishable from public areas.
- All shops should be identified by wall signs for those parking in rear lots.
- Awnings should be installed over rear doors and windows.
- Position parking areas to be clearly visible from the building or street with neatly marked spaces.

Maintenance

- Keep buildings and walkways clean and repaired.
- Maintain parking areas to a high standard without pot-holes or trash
- Remove faded posters, broken signs, and other displays that are beyond their useful lives.
- Remove any graffiti immediately
- Create a lighting replacement schedule and replace bulbs before they burn out.
- Keep landscaping in good condition. When planting follow the 2' – 6' rule.

Management

- Set operating hours to coincide with those of neighboring businesses.
- Fully illuminate interior spaces.
- Provide security escorts for employees and customers if requested.
- Avoid shifts and scheduling where only one employee is present.
- Offset bank deposit times if done during or after business hours.

6.) Industrial

In most industrial design, the most important issue is the safety of those who will be working or travelling to these areas. Unfortunately, safety is often given little consideration. After work hours, industrial areas are, for the most part, badly illuminated, seldom under any type of surveillance, and often deserted, which in itself can be problem enough. Add to this isolation the industrial danger areas---loading docks, service entrances, blind alleys and expansive parking areas---and you have the potential for an extremely unsafe environment.

CPTED Guidelines

Natural Access Control
- Avoid dead end driveways and street designs to increase surveillance opportunities from passing traffic and patrols.
- Use easily securable site entrances. Install entrance controls to employee parking areas (CPTED fencing, gate, or attendant).
- Parking should be assigned by shifts and planned to favor late night workers with close-in spaces.
- Restrict direct pedestrian and vehicular access to railroad tracks.
- Storage yards should be designed for vehicular or visual access by patrol cars.
- Any access to roofs via dumpsters, loading docks, poles, stacked items, etc. should be restricted. Secure all ladders used at the sight in a locked storage facility.
- Minimize building entrances and monitor them with mechanical security systems (Monitored cameras, key card or key fob access).
- Employee entrances should be close to the employee parking area and work stations.
- Night time parking should be kept separate from service areas.
- Monitor or restrict access between different service areas and buildings.
- Provide access to the front and the back of the site to local police so that the grounds can be patrolled.
- Use separate docks for shipping and receiving.

Natural Surveillance
- Illuminate and define all entrances so they are visible to the public and patrol vehicles.
- All parking areas should be visible to patrol vehicles, pedestrians, parking attendants and/or building personnel.

- Parking attendants should be positioned for maximum visibility of the property.
- The reception area should be positioned to allow a direct view of the parking areas, especially the visitors parking.
- Use walls only where necessary and, if used, make them only high enough to prevent circumvention.
- Avoid creating hiding areas in alleyways, storage areas, or loading/unloading docks.

Territorial Reinforcement
- Create a well-defined celebrated entrance or gateway using landscape plantings, CPTED fences, gates, etc.
- Deliveries should only occur during daylight hours if possible.
- Vehicle entrances should be designed with different paving materials and marked with clear concise signage.
- Visitor parking should be separate from employee parking areas. Visitor parking should also be separate from shipping and receiving areas.

Target Hardening
- Delivery bays should always be secured with locks.
- Entry and exit areas should utilize a mechanically controlled access system if possible.
- Monitored security cameras should be used in all remote parking areas, and all areas travelled by employees and visitors.

Management
- Operating hours should coincide with other neighboring businesses.

7.) Shopping Malls

Shopping Malls often provide much of the public space in suburban communities and as such can be a mixed blessing. On one hand, they perform the important function of town center, serving as a gathering place for the community. On the other hand, a mall can serve as an attraction for criminal activity.

While shopping malls continually grow in size and popularity, it also becomes a haven for abnormal users and the site of a growing number of parking lot crimes. It is now more important than ever the shopping mall designers and remodelers implement CPTED principles.

CPTED Guidelines

Natural Access Control

- Entrance signs should be concise and clearly marked
- All sidewalks and public areas should be clearly marked using special paving materials/and or landscape planting materials.
- Loading zones should operate under designated delivery hours,

and be kept separate from public parking areas.
- If a parking garage is provided on premises it should allow no rooftop access to any adjacent buildings.

Natural Surveillance

- Restrooms should be located in areas visible from main pedestrian walkways and away from outside exits.
- Restrooms should never be located in remote areas or at the end of service corridors.
- Parking areas should be properly lighted with at least three foot candles of illumination.
- All loading areas should be designed to eliminate dead end alleys and blind spots.
- All levels of any parking structure should be well lighted with at least three foot candles utilizing metal halide illumination, and be visible from the street or ground floor.

Territorial Reinforcement

- The property perimeter should be defined by hostile vegetation (Roses, Barberry and other thorny shrubbery), or CPTED approved fencing to limit access from unapproved entry areas.
- Signage inside and outside of the facility should clearly identify the interior businesses and their locations.

Management

- Close-in parking should be made available for nighttime employees.
- Nighttime security escorts to personal vehicles should be made available to employees and shoppers if requested.
- Businesses should work with local Crime Prevention Specialists to develop programs that promote business and shopper safety.

8.) Office Buildings

As structures grow in size and pedestrian and vehicular traffic increases, safety becomes an extremely important issue.

It is, however, important to avoid the adverse images which come with fortress hardware. Subtle, but recognizable security measures preserve the sense that security is present, but not a problem.

CPTED Guidelines

Natural Access Control

- Clearly define public entrances with architectural elements, lighting, landscaping, paving, and/or signage.
- Reduce the number of public access points to those which are watched by guards, receptionists, nearby tenants, or passing traffic.

Natural Surveillance

- Position restrooms to be observable from nearby offices or reception areas.
- Properly illuminate all exterior doors, common areas, and hallways.
- Keep dumpsters visible and avoid creating blind spots or hiding places, or place them in secured, locked corrals or garages.
- Design windows and exterior doors so that they are visible from the street or by neighboring buildings.
- Windows should be installed on all four facades of the structure.
- Parking spaces should be assigned to all employees and visitors.
- Parking areas should be visible from windows; side parking areas should be visible from the street.
- All parking areas and entrances should be observable by as many people as possible.
- Parking areas should be lighted by at least three foot candles and sidewalks by at least one foot candle of illumination.
- All landscape planting materials should follow the CPTED 2' – 6' rule. Shrubs no higher than two feet and trees pruned up no less than six feet.
- Do not allow shrubbery, signage or advertisement to obstruct views from windows.
- Design interior windows and doors to provide visibility into hallways.

- All employee entrances and exits should be well lighted with metal halide illumination.

Territorial Reinforcement
- The perimeters should be defined by landscaping or CPTED approved fencing.
- Fences should be designed to maintain visibility from the street.
- All exterior private areas should be distinguishable from public areas.
- All public area, semi-public area and private area should be clearly defined.
- Security and/or reception areas should be positioned to allow observation of all entrances and exits.
- Secure access should be maintained at non-public entrances used by employees.

Maintenance
- All exterior areas should be kept neat and clean.
- Keep all landscaping and plant bedding areas well managed.
- Develop and implement a lighting maintenance schedule.

9.) Parking Garages

Parking garages are a necessary component in the commercial and urban landscape. Garages that are well designed and that adhere to CPTED principles can be a safe area.

CPTED guidelines can do much in the way of improving parking structure safety without tremendous cost. With the simple addition of high intensity lighting, for example, a garage can quickly become a much safer area.

CPTED Guidelines

Natural Access Control
- Use attendants or cameras and sound monitors. Indicate their presence with signs
- Position all pedestrian entrances next to vehicle entrances.
- Construct stairwells as to be visible, without solid walls.
- Place elevators close to the main entrance with the entire interior in view when the doors are open.
- Do not install permanent stop buttons in elevators.
- Limit access to no more than two designated, monitored entrances.

Natural Surveillance
- Monitor all elevators with cameras and microphones, or use see-through material for the car walls.
- Replace solid barrier walls with stretched cable railings for maximum visibility.
- Fully illuminate all parking areas and driving lanes. Metal halide lamps provide the best color rendition or color corrected high pressure sodium lights.

Maintenance
- Keep all surfaces clean and light colored to reflect light (paint white if necessary, particularly if underground).
- Carefully maintain all lighting equipment.

Management
- Allow no unmonitored access to adjacent buildings without direct visual contact.
- Differentiate between public and private parking spaces.
- Set hours of use to reflect those of local businesses, with secure closing during non-use hours.

10.) Institutions

Churches, libraries, schools, and other institutions present their own unique challenges to crime prevention. While safety at these locations is often a high concern within a community, few desire the installation of oppressive high-security devices and programs. The varied hours and variety of patrons and activities make good design all the more important.

CPTED Guidelines

Natural Access Control
- The main entrance should be a celebrated entrance using landscaping or architectural details.
- Require that all visitors pass a "checkpoint" attended by those in authority. Every visitor should be greeted when they enter the facility.
- Limit the number of entrances and exits. Both to the building and to the parking lots.
- Keep bus stops, employee parking, and visitor parking separate from each other and from busy streets.

Natural Surveillance
- Avoid constructing large blank walls which limit surveillance opportunities and can serve as targets for graffiti. Use walls with windows, architectural details or foliage instead.
- Do not cover the entrance windows with posters and announcements which obstruct natural surveillance.

Territorial Reinforcement
- Highly visible, architecturally appropriate signage should be included in the design.
- Clearly mark the boundaries around the property. Parking lot surfaces should be kept in good condition. Parking spaces should be clearly marked so they convey a neat and orderly image.

Maintenance
- Graffiti should be removed immediately. Preferably within 24 hours.
- Landscape material should be chosen so it matures in the available space.

Management
- Train all employees and volunteers so they are familiar with the security system to avoid false alarms.
- All employees and volunteers should pass a background check before duties are assigned, especially if they will be working with/or around children.

12.) Public Parks and Open Spaces

Public parks and open spaces provide a broad range of benefits to our society and the community at large. They mitigate air and water pollution, combat suburban sprawl, provide opportunities for recreation, foster cohesive neighborhoods, attract business, and help to stabilize property values. However, parks can also feel isolated, unkempt and unsafe. By employing CPTED principals in the design and maintenance of public spaces, the community can continue to enjoy and support its green space.

CPTED Guidelines

Natural Access Control
- Walkways should be direct, follow natural pathways and avoid blind corners.
- Illuminate walkways and access points to open spaces.
- Use landscaping and celebrated entrances to guide people to the destinations in the park. Guide users to open areas, but avoid guiding users to isolated or frequently traveled areas.

Natural Surveillance
- Select the types and location of planting materials carefully to maintain visibility and surveillance and minimize the ability for intruders to hide.
- Follow the CPTED landscaping 2' – 6' rule. In some areas trees should be trimmed up to ten feet from the ground, especially mature hardwoods and large evergreen varieties.
- Users should be able to view entrances, exits, pathways and the immediately surrounding area.
- Lighting sources should not produce shadows close to pathways, entries, or exits.
- Lighting should be designed to overlap so users eyes avoid having to adjust when moving in and out of the lighting source.
- Bathrooms should be located in a centralized area to maximize surveillance and discourage intruders.

Territorial Reinforcement
- All signage should be clearly visible, easy to read and simple to understand.

Maintenance
- The need for maintenance can be reduced by encouraging pride and a sense of ownership within the community.
- A lighting maintenance should be created and followed to avoid unreported or unnoticed light source burn out.
- Landscaping should be well maintained to maximize surveillance and remove hiding spots.

V. Target Hardening Tips and Techniques

Traditional security measures, such as, good locks, lighting, and alarms, are important tools used in the prevention of crime. These traditional methods work in harmony with CPTED concepts and recommendations. However, using security measures designed around the use of security gates, razor wire fences and barred windows can create the impression of high crime and danger. Legitimate businesses are deterred from locating in an area perceived as a dangerous location, and it keeps their presence from making the area safer. The use of such intimidating security measures also gives the criminal the impression that crime is expected in the area or at least anticipated.

Regardless of how well designed a structure is, it should still be locked when unattended. The Police Departments Crime Prevention Specialist can recommend appropriate security devices to help secure your property, often at a much lower cost that the so-called high-security measures. If fortification is deemed necessary CPTED techniques can be used to help soften the appearance to the surrounding

neighborhood. One example would be to paint security bars white, and install them on the inside of the window, or chose to use a high security window glazing material instead of bars.

Lighting is always an important element to any security design, whether a single family residence, multi-family environment or an industrial area adequate illumination is a necessity. Adequate lighting makes people feel more comfortable moving through their surroundings. Lighting should always provide a clear path for movement and highlight entryways without creating harsh effects or shadowy hiding places.

Residential
- Install deadbolt locks on all interior doors that connect a garage an interior living area.
- Deadbolt locks should be installed on all exterior doors leading in an out of the residence or multi-family community.
- All deadbolts should have at least a one inch throw, and all strike plates should be installed with three inch screws.

- Locate door locks a minimum of 40 inches from adjacent windows whenever possible or install other security measures to prevent reach through lock access.
- Use two locking devices on all windows, or pin the windows for additional security.
- Install glass sliding doors with the fixed door on the outside, and equip the interior sliding door panel with a three point locking system or use a Charlie bar in the sliding door channel.
- All exterior doors should be equipped with a 180-degree peephole viewer.
- Periodically change the code to your garage door opener and combination on the keypad locking system and alarm panel.
- Never leave your garage door opener in your vehicle if it is parked outside of the garage.
- Secure all ladders and climbing equipment when not in use.

Institutions
- Minimize entrances and exits, position workstations within view of the entrance.
- Lock up expensive musical instruments, sound equipment, audio/visual equipment and computers when not in use. These items are commonly targeted in burglaries.
- Light all exterior grounds, particularly if nighttime activities are scheduled.
- Install magnetic sensors in library materials if theft is a problem.
- Use security cameras to monitor low visibility areas. Note: If cameras are installed, they must be monitored.

WARNING
CCTV CAMERAS ARE IN OPERATION ON THESE PREMISES

- Use baffle style restroom entrances – no doors, with motion sensor lighting.
- In extreme or special situations metal detectors or trained dogs may be employed.

Commercial Storefronts
- Use cash drop safes during high traffic hours
- Avoid having a single employee make bank deposits, and vary the time the deposits are taken to the bank.

- Install and monitor video cameras, but hide VCR's (supply a decoy).
- Provide employees with burglary, robbery and safety training.
- Securely lock all rear entrances.
- Use high security doors and frames.
- Install 180-degree door viewers on all back entrances.
- Install high intensity lighting outside of rear entrances to maximize visibility.

Shopping Malls
- Install monitored CCTV systems to cover all areas of the shopping area and parking lots.
- Properly light the parking lots and entrances with at least 3 foot candles of illumination, and the sidewalks with at least one foot candle of illumination.
- Provide security escorts for shoppers and employees during the nighttime hours.
- Security patrols should display flashing amber lights at all times.

Office Buildings
- Security Personnel should vary their patrol patterns, schedules and routes.

- Take measures to avoid unmonitored exits from being propped open.

Industries
- Change locks frequently and limit the number of keys available.
- Create a key management system and use key lock boxes. Designate one employee for each shift to be responsible for maintaining the key management plan.
- Do not leave open padlocks hanging in gates or out building hasps. Thieves can have keys made or replace the lock with their own similar padlock.

Parking Garages
- Provide emergency phones with lights that flash upon activation on all parking levels.
- Use bright colors and large numbers to identify levels to reduce user disorientation and confusion.
- Use flashing amber lights to identify security patrols.

VI.) Conclusion

Crime Prevention Through Environmental Design guidelines can go a long way in making a community safer. Criminal activity is on the decline in CPTED cities and counties, but these principles alone cannot make, and more importantly, keep a community safe.

CPTED can eliminate problem areas; the badly lit parking lot, the blind alley ways and darkened corners. It is not possible to make any building or community crime proof, but CPTED can go a long way to make users, shoppers, neighborhoods and businesses less susceptible to criminal activity. Hopefully, along with the feelings of safety and security that CPTED brings, will come a feeling of responsibility for our neighbor. That is the greatest crime prevention technique of all.

"CPTED is not the total answer to community problems, but it does provide the community with the means to eliminate or reduce environmental obstacles to social, cultural or managerial control."

                      Timothy D. Crowe
                      Criminologist and CPTED Practitioner

Albemarle County Police Department Crime Prevention Unit…………………………… 2012

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COUNTY OF ALBEMARLE
POLICE DEPARTMENT

Safe Community Initiative

Working Together as Partners to Prevent Crime in Your Community

CPTED Site Survey

Date:

Property Name:
Property Address:
Phone Number:
Property Manager:
Email:
Management Company:
Officer:

The following suggestions are made for the purpose of reducing the likelihood of criminal activity. While no guarantee can be stated or implied, the concepts of CPTED have proven themselves internationally. The Albemarle County Police Department offers the inspection as a public service, with the understanding that there is no way to predict or prevent all crime risks. The purpose of this inspection is to reduce formability of crime, by making a good faith effort to provide a safe environment. Some line items may not apply to your property.

Below is a list of crime prevention deficiencies on and around the property and recommendations to help deter further criminal activity.

Vacant Units:

1. Secure all vacant units. All doors and windows should be locked
2. Create and maintain a Vacant Unit Inspection Log, to document when inspections are conducted and any corrective action is taken.
3. Vacant units should be monitored daily to ensure they are secured.

Are there unsecured, vacant units?	Yes ☐ No ☐
Vacant Units observed unsecured by unit #:	
a.	
b.	
c.	
d.	

Graffiti:

1. Immediately report graffiti and/or tagging that occurs on your property to the Albemarle County Police Department by calling the Emergency Communications Center at 434-977-9041 and have an officer respond. After completing the police report, immediately paint over or remove the graffiti.

Was graffiti observed on the Property?	Yes ☐ No ☐
Remove graffiti from the following locations:	
a.	
b.	
c.	
d.	

Numbering:

1. Ensure all buildings have numbering on the front; building ends, and rear if necessary. All numbering should be illuminated and visible at night and.

Listed below are the specific building numbers and/or units that are not properly numbered or illuminated:
a.
b.
c.
d.

Face Plates or Electrical Boxes:

1. Repair and/or replace any faceplates or electrical boxes, which are damaged. Secure all boxes to the walls.

Are there any missing or damaged faceplates or electrical boxes? Yes ☐ No ☐	
Description and Location:	

Lighting:

Installation and use of lighting on the property to avoid dark passageways and exterior areas, including without limitation;

a. Illuminate the common areas and walkways so there are no dark areas.
b. Ensure the mailrooms/areas; laundry rooms and any covered parking are well-illuminated fluorescent or high intensity (Metal Halide or Color Rendering High Pressure Sodium) lighting.
c. All parking areas should have metal halide fixtures with break-resistant, polycarbonate lenses (Lighting should provide at least 3 ft candles of illumination).

Is the property poorly illuminated? Yes ☐ No ☐
If yes, provided below are the details as to where improvement is needed:

Additional Lighting Needed:

Provided below is the specific information, such as, buildings, unit numbers, and other areas (examples: playground, pool area, and signs). Stipulated below is where the lights need to be placed and also included are the types of lighting recommended. (Example metal halide light on the Northwest corner of building 10).

1.
2.
3.
4.
5.
6.

7.

Replace burnt out or broken lights at specific building, unit, and other areas:

1.
2.
3.
4.
5.
6.
7.

Additional Lighting Needed in Parking Lot:

Location and Type of Lighting (Example: Metal halide lighting, with break-resistant polycarbonate lens, high pressure and low pressure sodium with break-resistant polycarbonate lens).

1.
2.
3.
4.
5.
6.
7.

Light Fixtures:

Develop and implement a lighting fixture identification system, identifying each fixture by a specific number, which enables anyone to easily report a malfunctioning fixture. Document any problems in the light inspection log. Install, repair and/or replace all broken and missing **Light Fixtures** immediately.

Are there broken fixtures or fixtures in need of repair on site?	Yes ☐ No ☐
Replace:	
Replace:	
Replace:	
Replace:	
Replace:	
Replace:	
Replace:	
Repair:	
Repair:	
Repair:	
Repair:	
Repair:	
Repair:	

Site Map/Directory:

Install a site map or directory of the property at all entrances. Ensure the site maps or directories are properly illuminated at night.

Does the property have a site map or directory at all entrances?	Yes ☐ No ☐

Landscaping:
1. Trim tree canopies so that the lights can illuminate properly.
2. Tree limbs should be cut at least seven feet from the ground.
3. Trim all bushes and shrubs to the maximum of three feet high.
4. Shrubs near windows should be cut to lower than the window height. Make sure the bushes and shrubs do not cover any windows or doorways or otherwise impede surveillance or provide concealment or entrapment.
5. Ensure that all the doorway entrances are clear of landscaping and do not create a concealment or entrapment zone.

Is the landscaping overgrown on the property?	Yes ☐ No ☐		
The trimming of the landscaping should include:			
Perimeter Trees	Yes ☐ No ☐	Building# or Location:	

Perimeter Bushes	Yes ☐ No ☐	Building# or Location:
Common Area Trees	Yes ☐ No ☐	Building# or Location:
Common Area Bushes	Yes ☐ No ☐	Building# or Location:
Around Windows	Yes ☐ No ☐	Building# or Location:
Around Stairwells	Yes ☐ No ☐	Building# or Location:
Walking Paths	Yes ☐ No ☐	Building# or Location:
Perimeter Lights	Yes ☐ No ☐	Buildings# or Location:
Building Lights	Yes ☐ No ☐	Buildings# or Location:
Other	Yes ☐ No ☐	Location:

Fencing:

1. Immediately replace links, boards, and wrought iron fences as they are discovered missing.
2. Replace rotted boards
3. Replace patio and deck fencing/railing that is in disrepair and/or rotted.

Does the property have fencing in disrepair?	Yes ☐ No ☐
Described below are the areas that need repair or replacement links/boards:	

Access Gates:

1. Repair all access gates (including without limitation the vehicle entrance/exit gates and pedestrian walkthrough gates) so they are fully operational.
2. Access gates should be repaired immediately upon becoming aware that they are broken or inoperable.
3.

Are there drive through gates on the property?	Yes ☐ No ☐
Are the drive through gates fully operational?	Yes ☐ No ☐
Which access gates need repair:	
Are there pedestrian walkthrough gates?	Yes ☐ No ☐
Are the pedestrian gates fully operational?	Yes ☐ No ☐
Which pedestrian gates need repair:	

Inoperable Vehicles:

Remove all inoperable vehicles from the property after sufficient notice is given to the owner.

Are there inoperable vehicles on the property?	Yes ☐ No ☐
Locations:	

Laundry Facilities:

Well lit facility	Yes ☐	No ☐	**Comments:**
Self Closing /Locking Door	Yes ☐	No ☐	**Comments:**
Window in Door/Wall	Yes ☐	No ☐	**Comments:**
Money Collected Daily	Yes ☐	No ☐	**Comments:**
Cleanliness of Facility	Yes ☐	No ☐	**Comments:**

Interior Security and Target Hardening:

Exterior Door (Solid?)	Yes ☐	No ☐	**Comments:**
Deadbolt (1" throw)	Yes ☐	No ☐	**Comments:**
Door Viewer	Yes ☐	No ☐	**Comments:**
Strike Plate (3" Screws?)	Yes ☐	No ☐	**Comments:**
Pinned Hinges	Yes ☐	No ☐	**Comments:**
Sliding Doors (Security Bar)	Yes ☐	No ☐	**Comments:**
Sliding Windows (Locks Works)	Yes ☐	No ☐	**Comments:**

Closed Circuit and Video Surveillance:

For a detailed list of suggestions and recommendations; see the Mechanical Surveillance section attached to this document.

Yes ☐ No ☐	**Comments:**

Miscellaneous:

Mail Room:
Cash Handling Policies:
Trash Receptacles:
Employee Screening Procedures:
Parking Procedures:

Natural Access Control

Properly located entrances, exits, fencing, landscaping and lighting can direct both foot and motor vehicle traffic in ways that discourage crime.

Natural Surveillance

Generally, criminals do not want to be seen. Placing physical features, activities and people in ways that maximize the ability to see what is going on discourages crime. Landscaping and lighting are two methods used to provide natural surveillance. Other two types of surveillance (**Organized Surveillance**, Neighborhood Watch, Security Patrols; **Mechanical Surveillance,** CCTV)

Territorial Reinforcement:

Using design features to create a sense of ownership. Landscaping and architectural design are two ways often used to create ownership of an area or property. The delineation of private, semi-private and public space is used to re-enforce or create ownership of a space.

Maintenance