

COUNTY OF HENRICO
VIRGINIA

INTER-OFFICE MEMORANDUM

TO:	Department of Community Revitalization	SUBJECT:	Proposed Request for Resolution of Revitalization area: Brook Villas
FROM:	Police Division	DATE:	February 22, 2019

The Henrico Police Division supports and implements Crime Prevention Through Environmental Design (CPTED), which is the theory that the proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime and an improvement in the quality of life.

The following CPTED characteristics should be in place at this site.

- **Natural Surveillance:** Provide natural surveillance throughout the site, especially to parking areas, buildings, building entrances, walkways, etc. Natural surveillance is the placement of physical features, activities and people in such a way as to maximize visibility.
- **Natural Access Control:** Provide natural access control throughout the site. Natural access control is the physical guidance of people coming and going from a space by the judicious placement of entrances, exits, fencing, landscaping and lighting. The goal is to guide people where you want them to go and how you want them to get there.
- **Territorial reinforcement:** Territorial reinforcement is the use of physical attributes that express ownership, such as fences, pavement treatments, art, signage and landscaping. The goal is to promote ownership and pride in where you live and work.
- **Maintenance:** Allows for the continued use of space for its intended purpose. It also serves as an additional expression of ownership.

If properly developed and managed, the proposed development could be a valuable asset to the Brook Road corridor. However, because the budget submitted does not allocate funds for security features, the Police Division recommends the following CPTED (Crime Prevention Through Environmental Design) best practices be considered. Fencing, lighting and maintenance of the property could greatly enhance the feeling of safety for the residents.

1. Decorative perimeter fencing should be considered along property lines or at the limits of clearing. Fencing encapsulating the undeveloped (eastern) portion of the site could provide necessary territorial reinforcement. Fencing should only allow access to the site through vehicular or pedestrian entrances.
2. Lighting is one of the most economical and effective forms of crime prevention available. Lighting standards are noted below but should be a minimum of 1.0 foot-candles throughout the parking areas, walkways, building entrance and building edge.

Landscaping Best Practices:

1. Show light pole locations on the landscape plan in an attempt to avoid conflicts.
2. The location of the light poles in relation to the trees needs to be considered, especially in parking lots and areas along the building's edge. The two should not be located in the same area, as illumination will be reduced as the tree matures.
3. All shrubs and trees should be trimmed to allow for maximum visibility to and from the site and from within the site. Shrubs should have a natural growth habit of no more than 2 ½ to 3 feet, or

should be maintained at this height, especially when located along an entrance, walkway or in a parking area.

4. Trees located around the buildings, walkways and parking areas should have a natural growth habit that is a tree-form, non-pyramidal shaped tree. If this cannot be done, the canopy of the trees should be maintained at least 4 feet from the ground as the tree matures.

Lighting Best Practices:

1. The minimum maintained light level should be no lower than 1.0 foot-candles throughout the parking areas, walkways, building entrance and building edge.
2. The lamps throughout the site should be the same. The emphasis is to have the same color of light (white or orange/yellow) throughout. This will provide good color rendition, help with visibility and reduce contrasts. Metal Halide (white light) is preferred. Color rendition refers to how objects of various colors appear under a particular lamp.
3. All light fixtures need to be full cut-off. See Photo's A and B for examples of full cut-off wall packs and pole lights.
4. Should post top fixtures be used, these fixtures also need to be full cut-off so that the light will be directed down to the ground, versus horizontally and up in the air. If decorative fixtures are installed, they should have the lamp in the top casing of the fixture so that the light will be directed towards the ground (See Photo C). This will also avoid glare because you don't actually see the lamp. Glare is defined as horizontal light that hinders vision.



Photo A. Shielded wall pack.

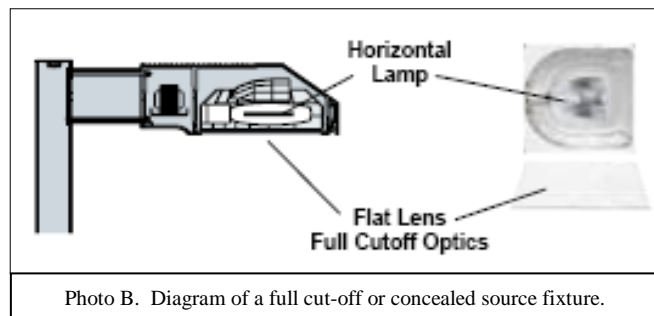


Photo B. Diagram of a full cut-off or concealed source fixture.



Photo C. The white globe visible to the eye in this post top fixture is decorative; the lamp is in the top of the fixture.

5. Lighting is one of the most economical and effective forms of crime prevention available. For lighting to be effective it must be uniformly distributed so that dark areas and areas of sharp contrast are not created. The Illuminating Engineer Society of North America defines uniformity as "the evenness of the distribution of light on the surface(s)"...which "aids security perception, while reducing the necessity for eye adjustment..." IESNA G-1-03, 5.4.
6. In creating uniform lighting, consider:
 - a) type of fixture
 - b) the height of poles
 - c) the direction of the light
 - d) spacing of fixtures
7. Routine maintenance of the lights is recommended.
 - a) A schedule should be established to review lights to determine if any need replacing.
 - b) Globes should be cleaned periodically to ensure full illumination from the light.
 - c) A program should be established to relamp the complex, also known as *group relamping*. This method reduces cost by minimizing site visits for the purpose of relamping, and it ensures that the lamps being replaced are consistent with all surrounding lamps.
 - d) A program should be established for the trimming and maintenance of tree canopies and other plant materials at or around the light poles so that illumination is not reduced.

Building Security Best Practices:

1. Doors should be solid core construction and a minimum of 1 3/4 inches thick.
2. A solid core door should contain a security peephole for the users of the residence.
3. Strike plates must be solidly anchored through the doorframe, into the framing studs, using screws three inches or longer in length. Otherwise, a swift kick could break the doorframe.
4. Door hinges should be located on the inside of the door, as well as on any accessory structures. If this cannot be done, non-removable hinge pins or piano hinge/continuous hinge should be used.
5. The corridors/breezeways should be designed to allow natural light to enter and lighting will be needed 24-hours a day within these spaces. (See Photo D) Several design features need to be in place:
 - a) The siding should be lighter in color to reflect any light that is present.
 - b) Open up the stairs to allow light to pass through. Building code allows for this. The stairs should not have risers allowing light and views through the staircase. The example in Photo D, below shows how stair risers block light.



Photo D. Example of breezeway stairs where the stair risers are solid and don't allow light through into the breezeway. Also, an example of a solution to often unused space under stairs where people may hide.



6. The numbering for each building and the units within the building must be clearly displayed on the exterior of each side of the corridor/breezeway.
7. Ground floor windows could use locking sashes and safety glazing making penetration of the glass much harder. An example of safety glazing could be identified by clicking on the following link:
https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Safety-Security-Window-Films-Safety-Series-for-Residential/?N=5002385+3292716680&rt=rud

While our requirements for the endorsement of the plan does not guarantee a crime-free environment, it is our experience that the application of the concepts of Crime Prevention Through Environmental Design (CPTED) will reduce the opportunity for crime to occur and will enhance the quality of life. Should you have any questions or comments, please contact me at (804) 501-5370 or mof@henrico.us.

Billy Moffett
CPTED Planner