FREDERICK COUNTY PLANNING COMMISSION
October 13, 2010

TITLE: **Frederick County Land Development Design Manual: Landscaping & Lighting Chapters**

REQUEST: **Informational Item**

Development Review Planning staff will be presenting an overview of and leading a discussion on the first two chapters of the proposed Land Development Design Manual, on Landscaping and Lighting, in workshop format. Public input is encouraged.

PROJECT INFORMATION:

The Frederick County Land Development Design Manual is a technical manual for site development plans that is intended to be used to interpret performance standards and provide guidance when specific standards have not been established in the Code. These guidelines and best practices are intended to supplement the Zoning Ordinance language and provide further direction to an applicant when designing or redesigning a site.

STAFF: Tolson DeSa, Principal Planner

RECOMMENDATION: Discussion and Feedback

Enclosures:

Exhibit #1-Frederick County Land Development Manual: Landscaping & Lighting Chapters

Purpose and Intent
The Frederick County Land Development Design Manual (LDDM) is a technical manual for site development plans that is intended to be used to interpret performance standards and provide guidance when specific standards have not been established in the Frederick County Code. These guidelines and best practices are intended to supplement the Zoning Ordinance language and provide further direction to an applicant when designing or redesigning a site.

The LDDM incorporates existing policies and practices of the Division of Permitting and Development Review (DPDR) development review process. The LDDM cites the standards and current procedures and considerations as to how various zoning ordinance requirements might be applied. Throughout the LDDM, the zoning regulations defining what must be accomplished will be stated, along with a description of how to accomplish and implement them, and where they should be applied.

Land Development Design Manual categories will include, but not necessarily be limited to: Landscaping, Architecture, Lighting, Signage, Open Space, Pedestrian/Vehicular Circulation, Parking, Site Access, Amenities, Dedications/Reservations, Road and Driveway Sections, Storm Water Management, Sediment/Erosion Control, Materials, and Traditional & Neo-traditional Development.

This document will be a valuable tool for meeting the needs of applicants, including their planners and engineers, during the initial design stages. The LDDM will also aid the Staff in evaluating those designs from a common base line which should result in fewer reviews and a more efficient and timely review process.

Finally, the LDDM is designed to assure context sensitive designs rather than just applying "cookie cutter" standards, resulting in a better quality built environment and, ultimately, a better quality of life for those who inhabit or occupy the land uses.

Please note that for most chapters the LDDM presents information in the following format:
1. Each chapter begins with an Introduction Section and Application Section
2. The zoning text is shown in *italics;* and
3. Staff interpretations are provided under the zoning text within a text box.
4. "Additional Development Review Guidelines" are added after the end of the section in **bold print**.

Landscaping Guidelines
The beginning of the Landscaping Chapter highlights the requirements for a landscape plan submission and provides guidance on the preparation of a proper landscape plan as well as describes the installation and final inspection process.

The remaining sections of the Landscape Guidelines correspond with the code sections contained within Zoning Ordinance Section 1-19-6.400. As previously stated, the guidelines are intended to provide the end user with the zoning ordinance language, staff interpretations, illustrations and additional development review guidelines all in one document.

The sections in the Landscaping Chapter include detailed guidelines and procedures for design and placement of street trees. These standards and guidelines ensure that the street trees will not interfere with installation of sidewalks or utilities but provide a safe and aesthetically pleasing streetscape. This chapter also provides buffer, screening and berming guidelines between compatible and non-compatible land uses. Parking lot landscaping standards are also discussed this section.

Lighting Guidelines
The Lighting Chapter establishes a standard plan preparation and submission process. The standardized submission process will help ensure a higher quality of lighting plans submitted which should reduce the plan review time. The Lighting Chapter contains details on maximum lighting pole heights for various uses, foot-candle limits for all lighting as well as site plan standards for lighting profiles.

The two chapters presented are in early draft form. Supporting illustrations will be added and the text will be fine tuned pursuant to Planning Commission, Staff and public comments.

Action
Staff requests Planning Commission comments, along with comments from the development community and their professional representatives. After assessing and incorporating these comments, staff will develop a final draft to be included as chapters in the LDDM.

Photo #1

Photo #2

Photo #3

Photo #4

Frederick County Land Development Design Manual

Guidelines for Development Policies and Practices within Frederick County, Maryland

October 2010

Page intentionally left blank

Table of Contents

Introduction

The Frederick County Land Development Manual is a technical manual for site development plans that is intended to be used to interpret performance standards and provide guidance when standards have not been established. These guidelines and best practices are intended to supplement the Zoning Ordinance language and provide further direction to an applicant when designing or redesigning a site. Further, the Division of Permitting and Development Review (DPDR) Staff ("Staff") shall use the standards and guidelines contained herein when reviewing site development plans.

Please note that for most chapters this Manual presents information in the following format:

1) Each Chapter begins with an Introduction Section and Application Section
2) The zoning text is shown in *italics;* and
3) Staff interpretations are provided under the code section within a text box.
4) "Additional Development Review Guidelines" are added after the end of the section in **bold print.**
5) Throughout this document any references to "should" will be interpreted as "shall" unless justified otherwise by Staff or the Applicant's Engineer.

The Frederick County Zoning Ordinance may be found online at the following link:

(*subject to change when finalized*)

http://www.amlegal.com/library/md/frederickco.shtml

Purpose and Intent

This Land Development Manual incorporates existing policies and practices involved with DPDR's development review processes, from site plan to improvement plan. The Manual cites the standards and present procedures and considerations for how those standards might be applied. The regulations and laws defining what must be accomplished will be stated, along with a description of how to accomplish and implement them, and where they should be applied. Categories include: Landscaping, Architecture, Lighting, Signage, Open Space, Pedestrian/Vehicular Circulation, Parking, Site Access, Amenities, Dedications/Reservations, Road and Driveway Sections, Storm Water Management, Sediment/Erosion Control, Materials, and Traditional & Neo-traditional Development.

This document will be a valuable tool for meeting the needs of applicant's planners and engineers in the establishment of initial designs and aiding the Staff in evaluating those designs from a common base line which should result in fewer reviews, and a more efficient and timely review process. Finally, this Manual is designed to assure context sensitive designs rather than just applying "cookie cutter" standards, resulting in a better quality built environment and, ultimately, a better quality of life for those who would inhabit the land uses.

Chapter 1

Landscaping Guidelines

Introduction

Standards: Landscaping shall be provided in accordance with the requirements of the Frederick County Zoning Ordinance § 1-19-6.400.

Landscape Plan Submissions: A design to fulfill landscaping requirements shall be presented in a landscape plan which includes sufficient information for the County to determine whether the proposed landscape improvements are in conformance with the requirements of this 1-19-6.400 and the Manual.

Preparation of Landscape Plans: Ideally, all landscape plans should be prepared and sealed by a registered landscape architect or other qualified professional as defined in this chapter of the Land Development Manual. This plan preparation standard will provide Staff with a greater confidence in the final product as well as expedite review times and may help minimize plans comments and plan alterations.

Landscape Installation: All landscaping shown on the approved site development plan shall be completed in accordance with the approved landscape plan prior to release of the final certificate of occupancy (COO) . Prior to release of the COO, the site will be inspected by site compliance officials in order to ensure that the approved landscaping approved was constructed.

Landscape Plan Objectives:

Existing natural vegetation and landscape plantings are an important community asset. The requirements and guidelines for landscaping and screening are intended to:

- Enhance the physical appearance of development throughout the County
- Buffer between incompatible land uses
- Screen undesirable views to or from a site
- Improve the environmental performance of new development
- Reduce stormwater run-off, air pollution, glare, and noise.
- Promote energy conservation
- Prevent damage to and unnecessary removal of vegetation
- Conserve and improve the integrity of property and neighborhoods

Division 4. Landscaping

§1-19-6.400 Landscaping

Application:

In accordance with the site plan review process provided in § 1-19-3.300 through § 1-19-3.300.3 or as otherwise provided within this chapter the Planning Commission may require landscaping, screening, and buffering along the property line and around and within the parking areas. Landscaping, screening, and buffering shall be provided in conformance with the following minimum standards:

The Applicant must demonstrate the manner in which the application meets landscaping, buffering or screening requirements within this chapter, a landscaping, buffering, and screening plan shall be approved as part of the site plan review and approval process (§ 1-19-3.300.3).

Complete information concerning the Application is contained with Section § 1-19-6.400(H)

Street Trees: § 1-19-6.400(A)

The following minimum standards apply:

(A) Street trees. Street trees shall be provided along the property line adjacent to the paved surface of an existing or proposed public right of way in a planting area no less than 7 feet wide, and planted with shrubs or trees in accordance with the following minimum standards:

(1) One tree at least 6 feet in height at the time of planting shall be provided per 35 feet of roadway frontage.

(2) An alternate on-site location for trees may be approved by the Planning Commission or Planning Commission authorized representative when a specific finding is made that the alternate location is required due to:

(a) Physical site constraints; or

(b) The irregular and non-linear nature of landscaping in the GI zoning district or, the RC, A, R1, or VC zoning districts outside of community growth areas; or

(c) Approval of an alternate planting design by the Planning Commission.

Guidelines: Street Tree Size/Layout

Trees 6' feet or greater in height shall be at least 1.5" caliper inches in size in order to meet this height requirement when specified on site development plans. Generally, land development inside the Growth Limit Boundaries shall have formal, linear street tree planting designs (trees planted 35' on center) where there is a need to enhance the urban or built nature of the landscape. Generally, applicants for land developments outside of the Growth Limit Boundaries shall use the one tree per 35' requirement to create informal groupings of trees to enhance a rural or low-density suburban quality, except where the special attention of a formalized tree planting scheme is needed to call out entrances to subdivisions or developments, or to enhance special or historic types of uses or developments.

Additional Development Review Guidelines:

Street Trees

As an integral part of a successful 'streetscape' design, shade trees provide a visual connection along the roadway as well as between the building frontages, front yard setbacks, sidewalks, curbs and other street amenities.

When building types and neighborhood styles change, shade trees located along public road rights-of-way can provide a unifying effect. Street trees also help modify their immediate environment by providing cooling shade, screening sun glare, reducing the reflective heat from paved surfaces and increasing the rates of stormwater filtration.

- **Generally, trees should be planted a nominal distance of 5 feet from face of curb on a closed section road and 15 feet from roadway edge along open sections, in order to achieve the intent of a street tree streetscape.**
- **In areas, such as existing villages or areas with a more dense development pattern, trees may be located along the streetscape in a manner consistent with the existing built streetscape.**
- **In urbanized areas where wider sidewalks are desirable, or space is limited, tree-planting pits may be used.**
- **Trees shall be located so as not to interfere with the installation and maintenance of sidewalks and utilities. Trees should be planted such that their trunks are a minimum distance of 2.5 feet from curbs and sidewalks, 12 feet from overhead utilities, and 6 feet from underground utilities.**
- **Tree species should be selected based on appropriate growth rates and mature heights for use beneath and adjacent to overhead utility lines.**
- **When adequate soil base is available selected tree species shall comply with the Native and Invasive/Exotic List. (See Appendix A)**
- **Trees should be a minimum of 1.5 inches in caliper measured 4 feet from the base of the tree when planted.**
- **"Roadway frontage" shall be measured from property line to property line and shall not exempt driveway or pavement cuts for entrances.**
- **Additionally, the following guidelines from the 2008 DPDR <u>Guidelines for Traffic Control Devices, Street Lights and Street Trees For New Developments or Street Tree Plantings</u> should be used:**
    - **Street Trees should provide the minimum clearances from signs and street lights. In order to assure adequate visibility of signs and vehicles, and to prevent the blocking of streetlights, street trees should not be placed in such a manner as to block traffic control device visibility and driver sight distance.**
    - **Further restrictions on street trees may be applied on a case-by-case basis as necessary, especially in the vicinity of curves and when placed in medians, when intersection sight distance may be affected.**
    - **Care should be taken to avoid placing street trees directly under overhead utility lines, especially high voltage electric lines.**
    - **Intersection sight distance shall be maintained at all intersections where landscaping may inhibit the view of an oncoming vehicles. Shrubs shall not grow above 2 feet and tree branches shall not grow below 6 feet.**

Land Use Buffering and Screening: §1-19-6.400(B)

The intent of the regulations and guidelines in this section is to encourage proper design of a site in order to protect adjacent existing uses and to protect proposed uses within a site. Certain types of uses must be buffered from other types in order to ensure a desirable living environment.

Land Use Buffering & Screening: To achieve buffering and screening between land uses the following shall be provided along common property lines:

(1) Where industrial, mineral mining, or solid waste uses are located adjacent to residential zoning districts: a mixture of plantings including predominantly evergreen shrubs or trees spaced at intervals which are expected to achieve a mixture of height at maturity between 6 feet and 15 feet and to provide complete buffering and screening from the residential zoning district, as determined by the Planning Commission.

Guidelines: Land Use Buffering

Views to the non-residential land from residentially-zoned land shall be at least 85% occluded at the 6' level and 60% occluded at the 15' level during winter months, and at least 99% occluded at both the 6' and 15' levels during the summer months within a typical five-year growth period.

**** Supporting graphic to be inserted****

(2) Where commercial or institutional uses are located adjacent to residential zoning districts: a mixture of plantings including predominantly evergreen shrubs or trees spaced at intervals which are expected to achieve a mixture of height at maturity between 6 feet and 15 feet and to provide effective buffering, as determined by the Planning Commission.

Guidelines: Screening Residential uses from Commercial/Institutional Uses

Views to:

Commercial land from residentially-zoned land shall be at least 75% occluded at the 6' level and 50% occluded at the 15' level during winter months, and at least 95% occluded at both the 6' and 15' levels during the summer months within a typical five-year growth period.

Institutional land from residentially-zoned land shall be at least 50% occluded at the 6' level and 25% occluded at the 15' level during winter months, and at least 85% occluded at both the 6' and 15' levels during the summer months within a typical five-year growth period.

**** Supporting graphic to be inserted****

(3) All other uses: buffering and screening for all other land uses shall be determined by the Planning Commission.

Guidelines: Screening/Buffering from all other land uses

Due to the sensitive nature of residential uses in the Agricultural and Resource Conservation zones, the most stringent criteria (as expressed in 1-19-6.400.B.1 above shall be the most suitable occlusion criteria to screen all non-residential uses for the Agriculture and Resource Conservation zones.

The most non-compatible land uses have a high level of required opacity, and like land uses have a low level of required opacity. For example, General Industrial, Limited Industrial and Mineral Mining zones only shade trees and minimal evergreen screening at the 6' foot level shall be needed when screening lot-to-lot.

Industrial, Mineral Mining or Solid Waste adjacent Residential	*"complete buffering and screening"*
Commercial or Industrial adjacent Residential	*"effective buffering"*
All other uses	*"as determined by Planning Commission"*

Opacity Percentiles based on Land Use Similarity

Like Land Uses			Moderately Similar					Substantially Dissimilar		
			Single Family Detached			Commercial & Institutional		Residential		
Res.	Comm.	Indust.	Town-house	Multi-Family	VC	VC, Planned & Floating Zones	GI, MM, Waste	ORI, Planned	Comm.	GI, MM, Waste
0 - 10%	10-20%	15-25%	20-30%	30-40%	40-50%	50--85%	85-90%	85-90%	90-95%	95-100%

Opacity Percentiles for Rural and Scenic Values in Agriculture and RC Zones

Benign Land Uses		Moderately Non-Benign					Substantially Dissimilar		
Single Family Detached	Institutional & Educational	VC	Town-house	Multi-Family	Planned Employment	Highway Services	ORI	LI & Comm.	GI, MM, & Waste
10-20%	20-30%	30-55%	55-65%	65-80%	80--85%	85-90%	85-90%	90-95%	95-100%

**** Supporting graphic to be inserted****

Additional Development Review Guidelines:

- **The landscape buffer should not be less than 25 feet in width. The landscaped buffer should be established along all property lines and external street boundaries of the tract proposed for subdivision or land development, unless otherwise specified in the zoning ordinance.**
- **When sensitive land uses (e.g. residential) are adjacent to noise generators (e.g. freeways) a combination of berming (where prudent) and dense plantings should be provided to mitigate or visually obstruct the generator.**
- **Where zoning regulations allow building or parking setbacks less than 25 feet, the landscape buffer may be reduced to equal the width of the minimum building setback. The landscape buffer should not contain buildings, parking, utilities, or other accessory uses.**
- **The landscape buffer may be included within the front, side, or rear yard setback.**
- **The landscape buffer shall be a contiguous pervious landscape buffer consisting of canopy trees, small understory trees, and shrubs, with grass or groundcover. No paving shall be permitted within the buffer areas except for driveway crossing and/or walkways.**
- **Parking should not be placed within the landscape buffer.**
- **Certain tormwater basin types are permitted in the landscape buffer provided that the visual screening requirements of the buffer are met.**
- **New plantings should not be placed in future master plan rights of way.**
- **<u>Alternate Buffer Yard Plan</u>: In the event of unusual topography or elevation of a development site, soil, or other sub-surface condition on the site, or the presence of existing vegetation, the buffer yard requirements may be altered as long as the existing features of the development site comply with the sprit and intent of this Article.**

Parking Area Buffering and Screening: §1-19-6.400(C)

Parking areas shall be screened from roadways in accordance with the following minimum standards:

(1) Where parking areas are adjacent to residential uses or zoning districts, or roadways with at least a collector status as designated on the County Comprehensive Plan: plantings of predominantly evergreen shrubs or trees spaced at intervals which may be expected to form effective buffering and screening at least 30 inches high at the time of planting.

Guidelines: Parking Area Screening

Species selected for planting and on-site maintenance specification shall achieve waist-height (4') screening within three-years. This subsection (C) (1) means that views to parking areas from residentially-zoned land or collectors or higher shall be at least 80% occluded at the 4' level and 15% occluded at the 15' level during winter months, and at least 95% occluded at the 4' level and 35% occluded at the 15' level during the summer months within a typical three-year growth period.

(2) All other parking areas: plantings of predominantly evergreen shrubs or trees spaced at intervals which may be expected to form effective buffering at least 30 inches high at the time of planting.

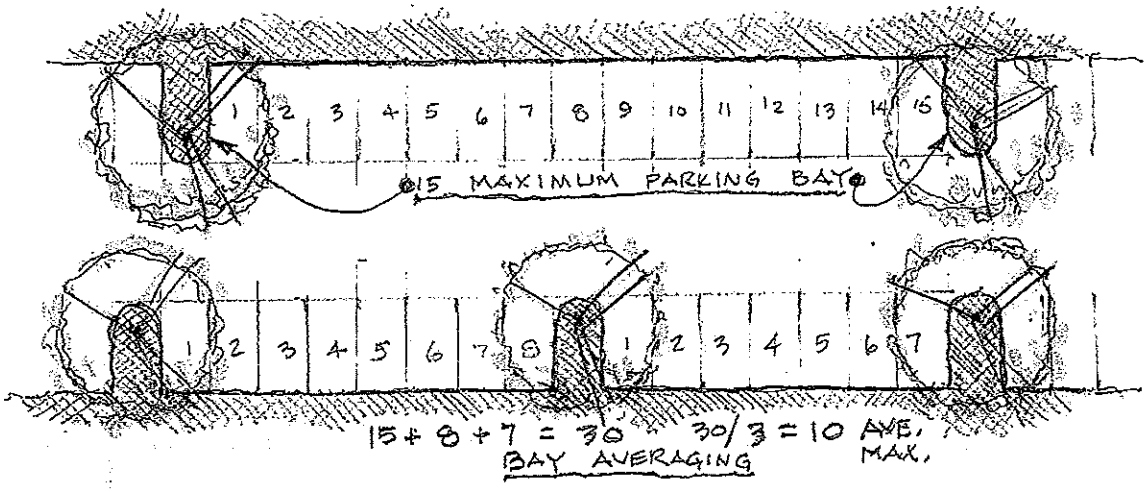
Guidelines: Parking Area Screening from all other uses

Views to parking from compatible land uses shall be at least 20% occluded at the 4' level and 15% occluded at the 15' level during winter months, and at least 50% occluded at the 4' level and 35% occluded at the 15' level during the summer months within a typical three-year growth period.

Parking Area Landscaping: §1-19-6.400(D)

Within required parking areas landscaping shall be provided in accordance with the following minimum standards:

(1) Parking areas shall be separated into bays with an average of no more than 10 parking spaces. Each parking bay shall contain no more than 15 continuous parking spaces. Between or at the end of each bay of parking spaces there shall be a planting area of at least 5 feet in width.



Guidelines: Parking Area Landscaping

Each longitudinal run of a back-to-back row of parking spaces shall have a minimum 5' planting strip along the longitudinal run, but there is flexibility to transfer this 5' strip to the end of each bay, that is, at the end of the longitudinal run, as long as a majority of the longitudinal runs have parallel planting strips along them. Also, while a 5' strip is the minimum, a total of 150 sq. ft. is needed to accommodate a shade tree at early maturity. Therefore, there may be a need to provide a wider planting strip.

Each planting area shall contain 1 tree at least 6 feet in height at the time of planting and groundcover containing at least two shrubs for every 100 square feet of landscape area.

(2) Planting area trees shall be predominantly deciduous and provide at least 20% canopy cover at maturity.

Guidelines: Parking Area Landscaping

20% of a parking lot area (including landscape islands and planting strips as part of a "parking lot area") shall have achieved 20% canopy cover at early maturity. All over-story, deciduous shade tree species and large evergreen species selected shall assume to reach 30' diameter canopy coverage at early maturity, (or 707 sq. ft.) For the purposes of calculating 20% canopy coverage. All over-story shade trees and large evergreen trees shall have a soil-base of at least 150 sq. ft./tree to count as an over-story shade tree. [A typical 9' x 18 parking cut-out for a landscape island with rounded terminus has 151.5 sq. ft. (not counting the curb).]

Ornamental and understory trees (such as dogwood, redbud, etc.) shall not be included in the over-story, deciduous shade tree category. Ornamental species shall assume only a 15' diameter canopy coverage at early maturity (or 177 sq. ft.) and shall have a soil-base of at least 75 sq. ft./tree.

**** Supporting graphic to be inserted****

Landscaping, Screening, or Buffering: § 1-19-6.400(E)

1. *Shall be maintained in a living condition*
2. *Shall emphasize native species, where soil base permits, as listed in the Frederick County Forest Resource Ordinance, as amended.*
3. *Shall not include species identified as invasive/exotic species as listed in the Frederick County Forest Resource Ordinance, as amended.*
4. *Opaque fencing, walls, and berms shall be maintained.*
5. *Existing vegetation may be used to meet the requirements in this section.*
6. *Opaque fencing, walls, or berms may be used in addition to trees and shrubs to meet the minimum buffering and screening standards in lieu of trees and shrubs, subject to approval of the planning commission.*

Guidelines: Maintenance of Required Landscaping

1. Diseased, infested, dying, dead or damaged landscaping shall be replaced.
2. Landscape buffers that, over a period of time, lose their screening ability shall be replanted or supplemented with additional plantings in order to meet the requirements of this ordinance.
3. Maintenance includes actions necessary to keep landscaping materials healthy, neat and orderly in appearance and free of litter and debris. Mulch and ground cover shall be organic. Tire mulch and impervious materials shall not be used in landscaping areas.
4. Whenever shrubs are required for screening and buffer yards, they should be maintained such that they retain their foliage to within 6 inches of the ground on a year-round basis. Further, such shrubs shall not be pruned to be less than the required mature height.
5. No plant material may be allowed to encroach on road rights-of-way so that sight distance or signage is impeded.

Additional Development Review Guidelines:

- **The owner, occupant, tenant, and respective agent of each, if any, shall be jointly and severally responsible for the perpetual maintenance and protection of buffer yards, trees, berms, and landscaping planting required by this ordinance.**

Existing Vegetation: § 1-19-6.400(F)

Existing vegetation may be used to meet the requirements in this section.

Guidelines: Existing Tree Preservation

Existing trees to be preserved in or adjacent to the right-of-way may be approved and may be granted up to 100% credit towards meeting this requirement.

Preserved street trees may be counted towards subsections A, B, and C and also towards reforestation or afforestation requirements of the forest conservation program.

Opaque Fencing, Walls, Or Berms: § 1-19-6.400(G)

Opaque fencing , walls or berms may be used in addition to trees and shrubs to meet the minimum buffering and screening standards subject to approval of the planning commission. Opaque fencing, walls, or berms shall be constructed of materials reflective of neighborhood characteristics as approved by the planning commission. Chain link fencing with vinyl privacy slats shall be utilized only within industrial zoning districts where specifically approved by the planning commission.

Guidelines: Berms

Berms may be permitted as part of a successful buffer program providing that they:

1. Have a minimum height of 2 feet, a minimum crown width of 8 feet, and a side slope with a width to height ratio of no greater that 3 to 1(3:1) if 4 feet or less in height. Berms should not exceed 6 feet in height and, if greater than 4 feet in height, should have a minimum crown width of 8 feet, and a side slope with a width to height ratio of no greater than 4 to 1(4:1). Exceptions can be made to the maximum or minimum height of berms when, topographical changes dictate such exception.
2. Berms should be designed and constructed with an undulating appearance which mimics as much as is practicable a natural topographical feature of the site.
3. Berms should be substantially planted and covered with live vegetation. Berms should not consist entirely of turf grass, ground cover, mulch or similar material. If a berm is greater than 2 feet in height trees should be arranged so that they are planted within 2 vertical feet of the natural grade, unless irrigation is provided, or unless drought tolerant species are selected.
4. All berms must be fully installed, planted and stabilized prior to issuance of final certificate of occupancy.
5. Berms should be free of structures, including fences as part of the landscaping requirements for a development site.
6. Berms should be held and maintained by a legally constituted homeowners association if located in a residential development and should not be used as part of any outdoor living space by adjacent property owners within the development.
7. Berms should not be used for the display of vehicles or other merchandise.

**** Supporting graphic to be inserted****

Additional Development Review Guidelines:

- **Berms shall not placed along public streets as a means of meeting the buffering requirement of this section, except when unusual conditions require separation of un-like land uses.**
- **Berms are not permitted where installation will destroy or damage required tree protection areas.**
- **Berms are encouraged when topographically feasible to minimize noise impacts along freeways, expressways and major arterials.**

Staff Guidelines: Opaque Screen Standards

"Opaque Screen" shall exclude all visual contact with the screened structure or use. An Opaque Screen may be composed of one or a combination of the following:

- A wall
- Wood fence
- Planted vegetation
- Existing vegetation

All Opaque Screens should be constructed to meet or exceed the following performance standards:

1. Intermittent planting or deciduous and evergreen trees shall obtain a height at maturity of no less than 35 feet and have no unobstructed openings between tree canopies upon maturity.
2. At installation, shrub plantings shall have a minimum height of 3 feet with an expected height at maturity at least 12 feet, and no obstructed openings wider than four feet.
3. At least 50 percent of the required trees and at least 75 percent of the required shrubs shall be evergreen species.
4. A structural screening material such as a wall or wood fence must be augmented with vegetation. Exceptions may include the screening of dumpsters in rear yard parking lots.
5. Man-made berms are not permitted along public streets as a means of meeting the screening standards of this section. Natural changes in topography will, however, be taken into account when evaluating sight lines.

Application: § 1-19-6.400(H)

(1) A form acceptable to the Division of Permitting and Development Review.

(2) The type and location of all proposed landscaping, buffering, and screening including:

(a) species identification

(b) the height and width of proposed trees or shrubs at planting and maturity

(c) identification of existing trees or shrubs to remain including height and width

(3) Where proposed, fences, walls, or berms including:

(a) height and width

(b) type of material

(c) cross-section and elevation details

(4) The total number and percentage mixture of existing and proposed native species.

(5) The application shall demonstrate the manner in which on-site recycling and refuse management shall be accommodated including:

(a) location of refuse/recycling containers

(b) dimensions of refuse/recycling location

(c) proposed access for loading and unloading

(d) type of material proposed as screening

Chapter 2

Lighting Guidelines

Division 5. Lighting

Lighting §1-19-6.500(A)

Application:

In accordance with the site plan review process provided in §1-19-3.300 through §1-19-3.300.4 or as otherwise provided within this chapter the Planning Commission may require site lighting around and within the development site. Lighting shall be provided in conformance with the following minimum standards:

The Applicant must demonstrate the manner in which the application meets the lighting requirements within this chapter, a lighting plan shall be approved as part of the site plan review and approval process.

Complete information concerning the Application is contained with Section § 1-19-6.500(A)

Standards: Lighting shall be provided in accordance with the requirements of the Frederick County Zoning Ordinance Section § 1-19-6.500.

The guidelines shown within the text boxes are intended to supplement the Zoning Ordinance language shown in italics and provide further direction to a applicant when designing a proposed site plan. Each Zoning Ordinance Section also contains additional development guidelines that are common practice of DPDR and should be included within a site plan application.

The Additional Development Guidelines are shown in bold and located below the Staff Guidelines text box.

Pole & Building Mounted Lighting §1-19-6.500(B)

Pole and building mounted lighting shall not exceed a maximum height of:

1. *14 feet in pedestrian oriented developments including pedestrian components in planned unit development (PUD), mixed use development (MXD), office research/industrial (ORI), and planned industrial/commercial development*
2. *18 feet for commercial uses*
3. *24 feet for industrial uses*
4. *Lighting height shall be measured from the ground to the point of illumination*

Lighting Levels §1-19-6.500(C)

For the purpose of reduction in energy consumption, light trespass, and glare, proposed lighting shall utilize the lowest lighting levels feasible. Evaluation factors include: light distribution and overlap, number and height of fixtures.

Lighting Foot-Candle Limits §1-19-6.500(D)

Lighting shall not exceed .50 foot-candles as measured from the property line.

Lighting Foot-Candle Limits §1-19-6.500(E)

Lighting that is exempt from these requirements includes temporary lighting and lighting provided for emergency or safety purposes as required by: the building code, electrical code, or otherwise within the county code.

Application: §1-19-6.500(F)

Where required within this chapter, a lighting plan shall be approved as part of the site plan review and approval process (1-19-3.300.3).

The lighting plan shall include the following elements:

1. *A form acceptable to the division of permitting and development review*
2. *The type and location of all proposed lighting including:*
   (a) Lighting standards and specifications
   (b) Photometric data, such as that furnished by the manufacturer, showing the angle of cut off of light emissions, upward and lateral glare shield details, and foot-candle light values for the entire site
   (c) Building and pole mounting heights
   (d) Hours of operation

Guidelines: Lighting Profile

1. A dimensioned profile of all types of lighting standards shall be provided.

2. Generally, a Photometric Plan must be submitted to fulfill the photometric data requirement, except for very simple plans with few light fixtures. In such a case a "manufacturers cut sheet" may be substituted for a full photometric plan.

Modification: §1-19-6.500(G)

The planning commission may modify the lighting standards within this section based on characteristics of the proposed use, photometric studies, nationally recognized standards, or other documentation as approved by the planning commission.

Additional Development Review Guidelines:

- **Street Lighting: In non-rural residential neighborhoods, street lighting should be provided to maximize pedestrian safety. This lighting should be at a pedestrian scale, mounted between 8' to 20'.**

- **At intersections with collector or higher functioning roadways, one or two high mounted (up to 30') corner lights should be provided at every intersection involving public streets with more than residential 5 lots and commercial/institutional driveways to maximize safety for pedestrians and vehicles, and to help define highway entrances at night.**

- **In no cases is the County responsible for maintenance or operation costs.**

**** Supporting graphic to be inserted****