ARTICLE V PERFORMANCE & DESIGN STANDARDS

SECTION 501. GENERAL REGULATIONS.

- A. <u>Deviations from Article V Standards & Guidelines.</u> Deviations from the performance and design standards of Article V shall be considered as exceptions within the meaning of N.J.S.A. 40:55D-51; provided however, that any deviation from Article V that is within the enumerated categories of §401.B shall be considered as variances pursuant to N.J.S.A. 40:55D-60a and -70.
- B. <u>Relationship of Article VA to the Residential Site Improvement Standards (R.S.I.S.)</u>. This article shall apply to all development and applications for development within the Township of Cherry Hill to the extent that such standards are not pre-empted by the *Residential Site Improvement Standards (N.J.A.C. 5:21 et. seq.*).
- C. <u>Construal of Provisions.</u> In this Article, the word "shall" is understood to be mandatory unless granted an exception by the Zoning or Planning Board pursuant to N.J.S.A. 40:55D-51. The word "should" means the standard is encouraged, but not mandatory.

SECTION 502. PERFORMANCE STANDARDS: ALL USES.

- A. <u>Air Quality.</u> Any application for a proposed development that will generate substantial vehicular traffic or space heating emissions, including development involving one hundred (100) or more new dwelling units or more than three hundred (300) new parking spaces, shall include, in addition to the submission requirements of Article VIII, the following information relative to the impact of the proposed development on air quality:
 - A summary of ambient air quality in the vicinity of the facility, expressed in terms of levels of sulfur dioxide, particulate, and carbon monoxide concentrations, compared with all applicable ambient air quality standards. This data may be obtained from on-site monitoring or, upon approval of the New Jersey Department of Environmental Protection, Division of Environmental Quality, from the nearest New Jersey State monitoring site.
 - 2. An analysis of the use of all existing and proposed access roads, including:
 - a. Average Annual Daily Traffic (AADT), in vehicles per hour, for peak hours, for peak eight-hour periods, and for an average day.
 - b. Traffic capacity, in vehicles per hour, calculated pursuant to the procedures set out in the Highway Capacity Manual (HCM), 2010, or superseding issue.
 - 3. An estimate of traffic volumes to be generated by the proposed development, in vehicles per hour, for peak hours, and peak eight-hour periods at the time of completion of construction and ten (10) years after completion.
 - 4. A description of parking facilities including:
 - a. Locations,
 - b. Number of parking spaces,
 - c. Number of parking levels,
 - d. Whether the parking area is to be open or covered.
 - 5. An analysis of emissions from space heating, including:
 - a. Type and amount of fuel used and pollution emission factors used to calculate emissions.
 - b. The emission rates of sulfur dioxide, particulates, carbon monoxide, hydrocarbons, and oxides of nitrogen in tons per day averaged over the five-month heating season.
 - 6. An analysis of motor vehicle emissions to be generated by the proposed development and, where appropriate, by growth induced by the proposed development based on the Annual Average Daily Traffic (A.A.D.T.) and space heating emissions expressed as tons per day of carbon monoxide, hydrocarbons, nitrogen oxide, sulfur dioxide, and particulates. The latest data available from the

United States Environmental Protection Agency's Publication AP-42, Compilation of Air Pollution Emission Factors, is to be used in order calculate emissions if a more definitive source is not available.

- 7. An analysis of the effect of carbon monoxide emissions on air quality, including anticipated carbon monoxide concentrations compared with ambient air quality standards and with concentrations in the absence of the proposed development at places of maximum concentrations and at critical locations. These locations include monitoring sites and sensitive receptors such as hospitals, schools, nursing homes, residences, and playgrounds. This analysis should be prepared pursuant to the procedures established in the United States Environmental Protection Agency publication, Guidelines for Air Quality, Maintenance, Planning and Analysis, Volume 9: Evaluating Indirect Sources, Publication No. EPA-450/4-750-001 OAQPS No. 1.2-028, or equivalent procedure.
- 8. An analysis of the availability of public transportation; including an analysis of the accessibility, including distance, safety, and convenience of route, by automobile and by other modes of transportation of the following facilities:
 - a. Medical, including professional offices and hospitals,
 - b. Recreational,
 - c. Educational,
 - d. Commercial, including retail and services,
 - e. Places of employment (with 300 or more new parking spaces).
- A description of measures taken in planning the proposed development that are intended to reduce Vehicle Miles Traveled (V.M.T.), including but not limited to those measures described in the United States Environmental Protection Agency publication, Guidelines for Air Quality Maintenance, Planning and Analysis, Volume 3: Control Strategies (Chapter II, Section E) Publication No. EPA-450/4-74-003 (OAPQS No. 1.2-002) and in Section 108 (f)(i)(A) of the Clean Air Act Amendment of 1977, 42 U.S.C. Subsection 7410.
- 10. A description of measures taken in planning the proposed development that are intended to reduce emissions from the completed development in accordance with the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. Applicable standards for dust control are available in the New Jersey Department of Agriculture publication, Standards for Soil Erosion and Sediment Control in New Jersey.
- Information evidencing compliance with the provisions of the New Jersey Administrative Code, Title 7, Chapter 27 (New Jersey Air Pollution Control Regulations), and 45 F.R. 52676 through 52748 (8-7-80) (Environmental Protection Agency Regulations for Prevention of Significant Deterioration).
- B. Emissions. The following restrictions on emissions shall be met:
 - No smoke shall be emitted from any chimney or other designated source that is a visible gray greater than No. 1 on the Ringelmann Smoke Chart, as published by the U.S. Bureau of Mines. Smoke of a shade not darker than No. 2 on the Ringelmann Chart may be emitted for not more than four minutes in any thirty (30) minute time period. These provisions, applicable to visible gray smoke, also shall apply to visible smoke of a different color, but with an equivalent apparent opacity.
 - 2. No emission of dust, dirt, fly ash, fumes, vapors, and gases shall be made that can cause any damage to health, animals, vegetation, or other forms of property or that can cause any noticeable soiling at any point. No emission of liquid or solid particles from any chimney, or other permitted outlet, shall exceed 0.3 grains per cubic foot of the covering gas at any point. For measurement of the amount of particles in gases resulting from combustion, standard correction shall be applied to a stack temperature of five hundred degrees (500° F) Fahrenheit and fifty (50%) percent excess air.
 - 3. Applications for development involving more than one hundred (100) parking spaces shall ensure that all state ambient air quality standards in N.J.A.C. 7:27 et seq. for carbon monoxide shall not

be exceeded at places of maximum concentration and at sensitive receptors.

- C. <u>Drainage</u>. No stormwater and/or natural drainage that originates on the property or water generated by the use (e.g. air conditioners, swimming pools, etc.) shall be diverted across property lines, unless transported in an approved or existing drainage system.
- D. <u>Electronic Equipment</u>. Electronic equipment, including all devices for transferring and receiving electronic signals, shall be shielded so that there is no interference with any radio or televisions reception beyond the operator's property or dwelling unit as a result of the operation of such equipment. All electric systems or electronic devices shall be subject to the provisions of *Public Law 90-602 90th* Congress, *HR 10790* (dated October 18, 1968) entitled, "An Act for the Protection of Public Health and Safety from the Dangers of Electronic Product Radiation" and the BOCA Basic Building Code, as adopted by the State of New Jersey.
- E. <u>Glare</u>. No use shall produce an illuminating light, reflection, or glare beyond the property lot lines of the light source, which cause a nuisance or pose a danger to the public. Exterior lighting shall be shielded, buffered, and directed so that glare, direct light, or reflection will not become a nuisance to adjoining properties, adjoining units, districts, or streets.
- F. <u>Heat.</u> No use shall produce heat perceptible beyond the property lot lines of the heat source. Furthermore, no use shall be permitted that could cause the temperature to change in any body of water, except any sewerage treatment plant that has received approval by the New Jersey Department of Environmental Protection (NJDEP).
- G. <u>Noise</u>. Noise levels shall be designated and operated in accordance with local regulations and those rules established by the State of New Jersey, including the New Jersey Department of Environmental Protection, as they may be adopted and amended.
- H. <u>Odor.</u> Odors shall not be discernable at the lot line or beyond. Any process that may involve the creation or emission of any odors shall be provided with a secondary safeguard system, so that control will be maintained if the primary safeguard system should fail.
- I. <u>Storage & Waste Disposal.</u>
 - 1. In non-residential zones, no article or material shall be kept, stored, or displayed outside the confines of a building, except where permitted elsewhere in this Ordinance, unless the same is so screened by a masonry wall, special buffer planting, berm arrangement, or combination thereof, as approved by the Planning Board, Zoning Board or designated authority, so that it is not visible from any adjacent property or public street. Any outdoor storage of flammable material that is permitted and properly screened, shall be at least twenty (20') feet from any property line or the minimum required accessory building setback, whichever is greater.
 - 2. In all zones, where enclosures are required for the storage of waste and/or recyclables, the enclosure shall comply with §511.M 'Refuse/Recyclable Storage Areas'.
 - 3. No materials or wastes shall be deposited upon a lot in such a form or manner that natural forces (such as precipitation, evaporation, or wind) can transfer them off the lot, directly or indirectly, or where they can contaminate or render undesirable an underground aquifer or destroy aquatic life. All materials or wastes that may create a pollutant or a hazard shall be enclosed in appropriate containers to eliminate such possibility. No flammable, combustible, or explosive substance shall be stored on a property, except under conditions approved by the Fire Official or Fire Subcode Official in accordance with the New Jersey Uniform Fire Code.
 - 4. All development plans shall provide for a designated and sufficient area for the storage of recyclable materials as follows:
 - a. Each application for residential development of fifty (50) or more single-family housing units or twenty-five (25) or more multi-residential housing units must include provisions for the collection, disposition, and recycling of recyclable materials. A single-family unit or a unit within a multi-residential dwelling should provide at least twelve (12) square feet of floor area for a four (4) week accumulation of such materials. This area may be within a hidden laundry room, basement,

or garage.

- b. Each application for a non-residential use that utilizes one thousand (1,000) square feet or more of land shall include provisions for the collection, disposition, and recycling of recyclable materials. Each application shall quantify the amount of recyclable material it will generate as part of its weekly generation, including newspapers, leaves, white high-grade paper, glass bottles and jars, aluminum, corrugated cardboard, and tin and bimetal cans. The application shall provide a storage area to contain a week's accumulation of recyclable material.
- c. The storage area of recyclable materials shall be designed for truck access to pick-up materials. The area must be suitably screened from view if located outside a building.
- J. <u>Toxic & Radioactive Substances.</u> There shall be no toxic or radioactive substances associated with any use in the Township.
- K. <u>Ventilation</u>. No use shall obstruct the natural ventilation of adjacent uses nor contaminate the air with excessive heat or odor. Further, no air conditioners or exhaust fans shall be permitted to discharge exhausted air unless set back from all property lines at least ten (10') feet or equipped with baffles to deflect the discharged air away from the adjacent use. Air conditioners, vents, and similar systems infrastructure that is located on rooftops shall be screened from view.
- L. <u>Vibration</u>. There shall be no vibration which is discernible to the human -senses or which is at low or high frequencies capable of causing discomfort -or damage to life or property. --
- M. <u>Visibility</u>. On the corner lot or any point of entry on a public road, nothing shall be erected, placed, planted, or allowed to grow in such a manner that obstructs the vision above the height of three (3') feet and below eight (8') feet, measured from the intersection of the right-of-way lines thirty (30') feet along the lot lines.



N. <u>Exterior Displays</u>. Business establishments shall not display goods for sale purposes or coin-operated vending machines of any type beyond three

(3') feet of the structure in which such business activity is carried on except for a temporary period not to exceed thirty (30) days in any one year, with proper approvals. Any such display shall not be greater than fifty (50%) percent of the primary building frontage occupied by such business displaying merchandise.

SECTION 503. BLOCK/LOTS & MONUMENTATION.

- A. <u>Blocks.</u> Block length and width or acreage within bounding roads shall be such as to accommodate the size of lot required in the area by the Zoning Ordinance and to provide for convenient access, circulation control and safety of street traffic.
- B. Lots.
 - 1. Lot dimensions and areas shall not be less than those listed in the requirements of Article IV.
 - 2. In so far as is practical, side lot lines shall be at right angles to straight streets and radial to curved streets.
 - 3. Each lot shall abut a street. Prior to the issuance of a permit for the erection of any building or structure, said street shall meet the minimum standards as enumerated in §512 of the Zoning Ordinance. Where extra width has been, or will be, dedicated for widening of existing streets, yard requirements shall be measured from the dedicated right-of-way or easement.
 - 4. Where there is a question as to the suitability of a lot or lots for their intended use due to factors such as soil conditions, rock formations, flood conditions, or similar circumstances; the Planning or Zoning Board professionals, or the Administrative Officer may, after adequate investigation, withhold approval of such lots or require remedial action before approval.
 - 5. No single-family residential dwelling shall be permitted to front on the controlled access highways of Interstate 295 and the New Jersey Turnpike and the state roadways of Route 38 and 70.

C. Monuments.

- 1. Concrete monuments and property corner markers shall be placed in accordance with the New Jersey Map Filing Law.
- A permanent benchmark shall be provided on all subdivision plans, referenced to N.A.D. or N.G.V.D. datum. The permanent benchmark is to be provided on a fixed monument or other structure approved by the Planning or Zoning Board Engineer, and in no case shall be set on a structure that may be adjusted (i.e., manhole and inlet frames, curbs, and similar).
- D. Easements & Restricted Covenants.
 - 1. All easements, deed restrictions, or other encumbrances on the property shall be shown or listed on the survey and subdivision plans, referencing a recent title search.
 - 2. All easements shall be recorded by deed or declaration, regardless of being depicted on a property map.
 - 3. When directed by the Administrative Officer, or Planning or Zoning Board, a point-of-sale disclosure that meets the condition of the Administrative Officer or applicable Board shall be presented to the buyer prior to the execution of the agreement of sale.
 - 4. Land use restrictions shall be required, as applicable, when a proposed development includes one or more of the restrictions contained herein.
 - a. <u>Drainage Easements</u>. Within required drainage easements, no regrading or the installation of structures, fences, trees and shrubs shall be allowed unless otherwise permitted.
 - b. <u>Conservation Easements.</u> Conservation easements for wetlands, wetlands transition buffer, flood plain or flood plain buffer shall remain in their natural, undisturbed state within which no regrading or clearing shall be permitted, excepting the removal of minor underbrush or dead trees that are hazardous to people or buildings.
 - c. <u>Clear Sight Easements.</u> Areas designated as clear sight triangles shall remain free of visual obstructions in accordance with §502.M with the exception of street and traffic control signs, traffic control boxes, fire hydrants, lighting poles and emergency service infrastructure.
 - d. <u>Utility Easements.</u> Easements for public and local utilities shall conform to any requirements of the appropriate utility company or authority.
 - e. <u>Cross-Access Easements.</u> Cross-access easements shall permit pedestrians and motorists to travel between adjacent lots without the necessity for traveling on the public right-of-way, provided that vehicular cross access is intended for convenience in traveling between lots and not as a substitute for utilizing public streets during routine travel.
 - f. <u>Other Land Use Restrictions</u>. Restrictions or easements of other governmental agencies with jurisdiction of the application for development shall conform to any requirements of the applicable Board.
 - 5. Land use restrictions shall be recorded with the Camden County Recording Officer as deeds of easements or shall be placed on final plats for such recording, as appropriate.

SECTION 504. BUILDING & SITE DESIGN GUIDELINES.

- A. Building placement and design shall be fitted to the natural contours of the site.
- B. Buildings, particularly those on wooded or steeply sloped land, shall be carefully sited to take advantage of aesthetic features and views, refrain from infringing on critical areas, and retain woodland and specimen trees. Steeply sloped being land in excess of fifteen percent (15%) slope, or grade, of land.
- C. Where a site encompasses both level and sloped areas, parking should be located on the level portion

of the site and buildings on the sloped portion.

- D. Building orientation should, within the limits of practicability and feasibility, be oriented along an east west axis, with maximum deviations of 30° from true east.
- E. Buildings should be compatible with neighboring areas through attention paid in the architectural design process to scale, size, style, placement of doors and windows, its form, color, and exterior materials. Incompatible styles, where proposed, should be physically separated from other buildings or screened through a combination of landscaping or fencing. Buildings shall be located in such a manner as to reduce adverse impacts from shadows, changing climatic conditions, noise, and glare on outdoor living spaces and shall ensure safety and privacy.
- F. The primary entrance to a building should be accessed directly from a public street with secondary access oriented towards parking lots.
- G. All rooftop mechanical and electrical equipment, including elevator penthouses, shall be screened from view at ground level by a parapet wall, within the roof structure itself, or properly screened.

SECTION 505. DRIVEWAYS, RESIDENTIAL.

- A. <u>Material.</u> Driveways in residential developments are encouraged to be constructed of materials that will permit surface water to pass through the surface, resulting in minimal run-off to abutting streets, sidewalks, swales, and ditches. The following types of material for residential driveways are permitted:
 - 1. <u>Crushed Stone</u>. A gravel driveway shall consist of a minimum six (6") inches layer of compacted crushed stone with appropriate filter fabric underneath with sufficient edging to prevent spillover.
 - 2. <u>Pavers.</u> Specially designed concrete paver blocks with gaps that are filled with stone/sand to allow water to infiltrate into the soil. (Note that the paver units do not need to be permeable, only the gaps between the paver units).
 - 3. <u>Concrete Pavement.</u> A two-inch (2") FABC Mix I-5 surface course on a six (6") inch quarry blend stone base, or four-inch (4") thick NJDOT Class B concrete course with No. 9 reinforcement wire or equivalent on a stabilized subbase, or six (6") inch thick NJDOT Class B concrete on a stabilized subbase.
 - 4. <u>Porous Pavement.</u> Asphalt Pavement/Popcorn mix is produced with a high percentage of air voids (15-20%) that allows water to pass rapidly through the pavement.
 - 5. <u>Geo-Cellular</u> (GeoWeb). Perforated slats fused together to form a honeycomb like pattern. Typically used for roadways built on weak soil, but a thinner version can be used for driveways and walkways.
 - 6. <u>Concrete Grid Modular Units.</u> These are concrete modular units with varying grid patterns. The gaps in the grid pattern allow for infiltration. The openings in the grid patterns can be filled with a sand/soil mixture and then seeded or filled with stone.
 - 7. <u>Asphalt</u>. Hot mix asphalt with a minimum of two-inch (2") thick FABC Mix I-5 surface course on a four-inch (4") dense graded aggregate (DGA) subbase.
- B. <u>Aprons.</u> All driveway aprons and adjacent sidewalk areas shall be poured concrete, per the standards of §505.4.
- C. Location. The location of residential driveways shall conform to the following requirements:
 - 1. Only one driveway shall be permitted per single-family dwelling.
 - 2. Driveways shall not be located in any easements.
 - 3. Driveways shall be a minimum of three (3') feet from any side and rear property line.
 - 4. On corner lots, driveways shall be installed on the street having the lowest classification and be no closer than thirty (30') feet to the intersection of the right-of-way lines.

- D. Driveways shall be of sufficient length and width to accommodate the parking requirements of the New Jersey Residential Site Improvement Standards (R.S.I.S.).
- E. Driveways shall not occupy more than forty (40%) percent of the area within the front yard.
- F. Shared driveways between two lots are permitted, provided applicable cross easements are provided. Shared driveways shall be exempt from the three (3') feet setback requirement of §505.C.3.

SECTION 506. FENCES, HEDGES & WALLS.

- A. Location & Height Requirements.
 - 1. <u>Single-Family Residential Zones.</u> Any fence, hedge, or wall enclosing a single-family residential zoned property shall conform to the following, per yard definitions in Article II, §202:
 - a. They shall not exceed six (6') feet in height from grade level in the rear and side yards.
 - b. They shall not exceed three (3') feet in height from grade level in the front yard, which shall be considered the following that is <u>furthest</u> from the street right-of-way:
 - i. the front-most façade of the existing house; or
 - ii. a minimum of twenty-five (25') feet.
 - c. Corner Lots. Per §401.H.1, residential corner lots shall be considered to have a primary front yard and a secondary front yard, one side yard, and one rear yard. Both front yards shall adhere to the requirements of §506.A.1.b.
 - d. Exceptions. The following exceptions shall apply to requirements of §506.A.1:
 - i. Posts. The posts of fences in the front yard may be a height of three and a half (3 1/2") feet or less.
 - ii. Recreational Uses. Enclosures of permitted recreational uses, except pools, may have a fence a maximum of twelve (12') feet in height if the fence is within the building setback requirements.
 - e. Swimming Pools. Private residential swimming pools must be enclosed with a fence that is a minimum height of four (4') feet with self-locking gates that open out or located at the top of the pool, in accordance with the Uniform Construction Code (UCC) and §410.G.
 - 2. <u>Multi-Residential & Non-Residential Zones.</u> Any fence, hedge, or wall enclosing a multi-residential and non-residential-zoned property shall conform to the following, per yard definitions in Article II, §202:
 - a. Fences shall not exceed eight (8') feet in height from grade level in the rear and side yards.
 - b. Fences shall not exceed six (6') feet in height from grade level in the front yard.
- B. <u>Reverse Frontage</u>. On properties where reverse frontage situation is identified and/or mandated by subdivision or site plan approval, fences along this frontage shall adhere to the following:
 - 1. A maximum height of six (6') feet in permitted.
 - 2. The setback of such fence from the roadway shall be one of the following, whichever is furthest away from the right-of-way:
 - a. An approved shade tree or landscape easement line closest to the structure, or
 - b. The rear property line of the adjacent lot, or
 - c. A minimum of ten (10') feet from the street curb.
 - 3. A landscape buffer, per §508.F, is provided between the fence line and street curb.
 - 4. A gate shall be provided along such fence to provide access for maintenance of the landscape buffer by the property owner.
 - 5. Said fence shall adhere to all other requirements in §506.

- C. Finished Side. The finished side of all fencing shall face outward.
- D. <u>Clear Sight Distance</u>. In no case shall a fence, hedge, or wall be permitted, unless the Zoning Officer determines that such fence, hedge, or wall does not impair necessary visibility for safe traffic movement, in accordance with §502.M.
- E. <u>Installation within Property Lines; Encroachment.</u> All fences, hedges, walls and/or shrubbery shall be installed up to the property lines. No fence or wall shall be installed so as to disturb underground utilities, impede the natural flow of water in any stream, swale, ditch, or other waterway, or encroach upon a public right-of-way or recorded easement, unless, in the discretion of the Zoning Officer, such encroachment will not defeat or interfere with the purpose of the easement and an appropriate release and waiver is presented as part of the application. The applicant shall be required, as part of the application to:
 - 1. Secure the signed consent of the neighboring property owner that the encroachment into the easement is not objected to.
 - 2. Sign a release acknowledging that if the fence, hedge, wall, etc. does defeat or interfere with the easement, that the applicant agrees to remove it, and
 - 3. Hold the Township free and harmless from liability.
 - 4. Allow a <u>minimum</u> of three (3") inches above grade to allow the natural flow of surface water onto adjoining or adjacent property and/or easement. Additional clearance may be required contingent on the drainage and swale conditions of the specific site, as determined by the Township Engineer.
- F. <u>Retaining Walls.</u> These restrictions shall not apply to the installation of a wall for the purpose of retaining earth.
- G. <u>Prohibited Types.</u> No fence or wall shall be erected of barbed wire, topped with metal spikes, broken bottles and glass, nor constructed of any material or in any manner that may be dangerous to persons or animals.
- H. <u>Maintenance</u>. All fences, hedges, walls and/or shrubbery shall be maintained in a safe, sound and upright condition, in accordance with the Township Property Maintenance Code.

SECTION 507. GRADING.

- A. <u>Intent</u>. The intent of this ordinance is to ensure property in the Township is graded in a proper manner and stormwater is managed in compliance with §516.
- B. <u>Application</u>. In accordance with *Township* Code Chapter 13.1 (Ordinance 80-49, 80-50), a Grading Permit is required for all new home grading and earthwork operations on residential lots that result in a land disturbance of five hundred (500) square feet or more.
- C. <u>Requirements</u>. Detailed grading plans, as required by the Cherry Hill Standard Checklist for Grading *Plan Review* (revised in 2010 or more recent).

SECTION 508. LANDSCAPING & BUFFERING.

- A. <u>Intent.</u> Landscaping shall be provided, conforming to the specifications established herein, in order to preserve the natural character of the Township and enhance the aesthetics of development for the benefit of present and future residents. Plantings and landscaping provide multiple benefits including flood control, groundwater recharge, soil nutrients, air purifiers, assist with energy efficiency, noise abatement, increase property value, reduce traffic speeds, provide habitats, and improve the health, welfare, and quality of life in the Township.
- B. <u>Applicability.</u> Landscaping and buffering shall be required for the following:
 - 1. All land areas not covered with buildings, parking, or other impervious surfaces shall be landscaped with suitable materials. Landscaping shall consist of trees, shrubs, ground cover, perennials, and

annuals singly or in common as well as other inanimate materials such as water, sculpture, art, walls, fences and paving materials.

- 2. A landscape design shall be provided as part of site plan and subdivision submissions with the exception of minor subdivision plans, in accordance with Article VIII. All applications for major and minor site plan and major subdivision plan approval shall comply with the minimum standards as set forth in this section. The applicable Board may require additional landscaping to create an appropriate landscaping scheme for the site given the nature of the site and the proposed development.
- C. Landscape Design Guidelines.
 - 1. Landscaping shall be conceived holistically and be designed to achieve a thorough integration of the various elements of site design, including building and parking placement, the natural features of the site and the preservation of pleasing or aesthetic views. Landscaping shall be used to accent and complement the form and type of building proposed.
 - 2. Landscaping provided as part of any development plan should provide for a variety and mixture of plantings that blends in with the existing landscape character avoiding linear and repetitive installations of trees and shrubs with an emphasis on native plant species.
 - 3. Plant's susceptibility to disease, their colors, textures, shapes, blossoms, and foliage characteristics shall be considered in the overall design of a landscape plan.
 - 4. Landscaping shall be located to provide effective climatic control. The east and west walls of a building should be the most heavily vegetated to shade for summer sun and the north to northwest area for winter prevailing winds. The southerly facing side of a building should be shaded from summer sun but open for solar gain during the winter.
 - 5. Local soil conditions and water availability shall be considered in the choice of landscaping.
 - 6. In the design process, the eventual maturity of the plant shall be considered for its effect on circulation patterns, solar access, site lighting, drainage, emergency access and relationship to buildings and the streetscape.
- D. <u>Preservation</u>. Existing vegetation on-site should be preserved during the design, planning, and construction of any development.
 - 1. Protection of Existing Trees. The following procedures shall be observed in order to protect retained plantings and trees:
 - a. Prior to any grubbing or clearing, all trees to be retained within twenty-five (25') feet of proposed improvements should be protected from equipment damage by enclosing the drip line of the trees with sections of snow fence. Groups of trees may be protected by fencing the drip lines of the entire tree mass to be retained.
 - b. Heavy equipment is not permitted within the drip line of trees to be protected. Feeder roots should not be cut within the drip line.
 - c. Neither impervious cover, nor concrete washouts, storage of equipment, materials debris or fill shall be permitted within the drip line of any existing tree to be retained.
 - d. If excavation is necessary in areas where trees are to be retained, trenches should be no closer to the trunk than half the distance from the drip line. The trench should be backfilled a soon as possible, avoiding compaction.
 - e. During construction cleanup, all debris must be hauled away. Fences and barriers around trees should be the last thing to be removed from the site.

- f. All soil erosion and vegetation protection shall conform with the standards of the Camden County Soil Conservation.
- 2. Removal. The removal of trees having a diameter breast height (D.B.H.) of eight (8") inches or greater in diameter as measured four (4') feet above ground is not permitted outside of fifteen (15') feet of improvements, which includes any such buildings or structures, driveway, sidewalks, septic facilities and similar accessory facilities. The protection of the greatest number of trees within the fifteen (15') foot disturbance area is encouraged.
- 3. Replacement Trees. Replacement tree(s), conforming to §508.H.1, for every tree outside the fifteen (15') foot disturbance area per §508.D.2, shall be required elsewhere on the subject site for each tree removed.
- 4. Prohibited Removal. Trees are not permitted to be removed in the following areas:
 - a. Stream Buffer
 - b. Residential Buffer
 - c. Wetlands or wetlands buffer, subject to NJDEP approval.
 - d. Steep Slopes, as defined in Article II, §202
- E. <u>Street Trees.</u> Street trees are generally defined as trees located on land along streets, located in the right-of-way, or similar public way. Street trees provide a variety of benefits including enhanced economic value, reduced traffic speeds and pedestrian safety, energy savings, and aesthetic benefits. The planting of street trees shall conform to the following:
 - 1. <u>Location</u>. Street trees shall be installed on all adjacent streets, in accordance with an approved landscape plan. Trees shall be spaced evenly along the street in the planting strip, which is between the curb and sidewalk. The appropriate group of tree shall be utilized, contingent on the width of the planting strip, in accordance with below.
 - 2. <u>Species.</u> Street trees species shall be contingent upon the size of the planting strip, outlined in Tables 5.1, 5.2 and 5.3 below, except for those existing, preserved, or transplanted. Alternate



selections

may be approved at the discretion of the Board.

- a. Street tree size shall be at least ten (10') feet in height, balled and burlapped, when planted, and have a minimum caliper of two-and-one-half $(2^{1}/2^{"})$ inches.
- b. To prevent the total loss of sections of trees by disease or insect infestation, a variety of trees shall be used in each street tree planting. This does not preclude the use of a singular species of tree to create a strong design statement. In general, no more than five (5) trees in a row or cluster should be of the same species.
- c. When overhead wires are present, only Group C species trees shall be utilized.

TABLE 5.1. GROUP A (Large)

over 4' wide planting strip		
Ash, Autumn Purple	Fraxinus americana Autumn Purple	
Ash, Greenspire Upright American	Fraxinus americana Greenspire	
Ash, Newport	Fraxinus pennsylvanica Newport	
Ash, Patmore	Fraxinus pennsylvanica Patmore	
Ash, Rosehill	Fraxinus americana Rosehill	
Ash, Summit	Fraxinus pennsylvanica Summit	
Coffeetree, Kentucky	Gymnocladus dioicus	
Cucumber Tree	Magnolia acuminata	
Elm, Delaware American	Ulmus americana Delaware	
Elm, Groenveldt	Ulmus hollandica Groenveldt	
Ginkgo, Magyar Upright	Ginkgo biloba Magyar	
Ginkgo, Princeton Sentry	Ginkgo biloba Princeton Sentry	
Hackberry	Celtis occidentalis	
Honeylocust, Continental	Gleditsia tricanthos inermis Continental	
Honeylocust, Shademaster Thornless	Gleditsia tricanthos inerrnis Shademaster	
Honeylocust, Skyline	Gleditsia tricanthos inermis Skyline	
Katsura Tree	Cercidiphyllum japonicum	
Linden, Crimean	Tilia euchlora	
Linden, Greenspire Littleleaf	Tilia cordata Greenspire	
Linden, Green Mountain Silver	Tilia tomentosa Green Mountain	
Linden, Redmond	Tilia americana Redmond	
Locust, Sunburst	Gleditsia tricanthos inermis Sunburst	
Maple, Planetree	Acer pseudoplatanus	
Maple, Red	Acer rubrum	
Maple, Armstrong Red	Acer rubrum col. Armstrong	
Maple, Bowhall Red	Acer rubrum col. Bowhall	
Maple, October Glory Red	Acer rubrum October Glory	
Maple, Red Sunset Red	Acer rubruni Red Sunset	
Maple, Sugar	Acer saccharum	
Maple Bonfire Sugar	Acer saccbarum Bonfire	
Maple, Columnare Sugar	Acer saccharum columnare	
Maple, Green Mountain Sugar	Acer saccbarum Green Mountain	
Maple, Goldspire Sugar	Acer saccharum columnare Goldspire	
Maple, Sentry Sugar	Acer saccharum Monumentale	
Oak, Northern Red	Quercus borealis	
Oak, Pyramidal English	Quercus robur fastigiata	
Oak, Sawtooth	Quercus acutissima	
Oak, Scarlet	Quercus coccinea	
Oak, Shingle	Quercus inbricaria	
Oak, White	Quercus alba	
Oak, Willow	Quercus phellos	
Plane Tree, Bloodgood London	Platanus acerifolia Bloodgood	
Rubber Tree, Hardy	Eucomrnia ulinoides	
Scholartree, Princeton Upright	Sophora japonica Princeton Upright	
Scholartree, Regent	Sophora japonica Regent	
Sourgum or Black Tupelo	Nyssa sylvat lea	
Sweetgum	Liquidambar styraciflua	
Tuliptree	Liriodendron tuilpifera	

Zelkova, Green Vase	Zelkova serrata Green Vase
Zelkova, Village Green	Zelkova serrata Village Green

TABLE 5.2. GROUP B (Medium)		
	21/2' (30") to 4' wide planting strip	
Ash, Columnar Oakleaf Mountain	Sorbus thuringiaca fastigiata	
Ash, Korean Mountain	Sorbus alnifolia	
Birch, Asian White	Betula platyphylla japonica	
Birch, Cutleaf Weeping White	Betula alba laciniata	
Birch, Pyramidal European	Betula alba fastigiata	
Birch, River	Betula nigra	
Chokecherry, Amur	Prunus maackii	
Cherry, Autumn flowering	Prunus subhirtella Autumnalis	
Cherry, Columar Sargent	Prunus sargenti columnaris	
Cherry, Kwanzan	Prunus serrulata Kwanzan	
Cherry, Yoshino	Prunus yedoensis	
Corktree, Amur	Phellodendron amurense	
Holly, American	flex opaca	
Hophornbeam, American	Ostrya virginiana	
Hornbeam, Pyramidal European	Carpinus betulus fastigiata	
Pear, Bradford Callery	Pyrus calleryana Bradford	
Pear, Capitol	Pyrus cafleryana Capitol	
Pear, Redspire	Pyrus calleryana Redspire	
Pear, Whitehouse	Pyrus calleryana Whitehouse	
Turkish Filbert	Corylus colurna	
Yellowwood	Cladrastis kentukea	

TABLE 5.3. GROUP C (Small)		
less than 30" wide planting strip		
Cherry, Accolade Flowering	Prunus accolade	
Cherry, Amanogawa	Prunus serrulata Amanogawa	
Cherry, Cornelian	Cornus mas	
Crab, Tea	Malus theifera (hupehensis)	
Crabapple, Columnar Siberia	Malus baccata columnaris	
Crabapple, Van Eseltine	Malus Van Eseltine	
Golden Rain Tree	Koelreuteria paniculata	
Hawthorn, Crimson Cloud	Crataegus oxyacantha Superba	
Hawthorn, Lavalle	Crataegus Lavallei	
Hawthorn, Washington	Crataegus cordata Tree Form	
Hawthorn, Winter King	Crataegus viridis Winter King	
Ivory Silk Tree Lilac	Syringa amurensis japonica Ivory Silk	
Japanese Tree Lilac	Syringa amurensis japonica	
Maple, Amur	Acer ginnala Flame	
Maple, Hedge	Acer campestre	
Maple, Japanese	Acer palmatum	
Plum, Newport Purpleleaf	Prunus cerasifera Newport	
Redbud, American	Cercis canadensis	
Shadblow, Cumulus	Amelanchier x grandiflora Cumulus	

Shadblow, Pink	Amelanchier x grandiflora Robin Hill Pink
Silverbell, Carolina	Halesia carolina
Sourwood	Oxydendrum arboreum

3. <u>Spacing.</u> When trees are planted at predetermined intervals along streets, spacing shall depend on tree size. Large trees should be spaced forty (40') feet on center. Medium and small trees should be spaced at thirty (30') feet on center (o.c.). Distance between trees shall be measured from the tree trunk caliper, being six (6") inches from the ground. Trees may be planted closer together in order to ensure a clear sight triangle, in conformance with §502.M.

Size Group	Planting Distance
Group A (Large)	40' o.c.
Group B (Medium)	30' o.c.
Group C (Small)	30' o.c.

- 4. Street tree installation on county roadways require Camden County Planning Board approval. Street tree installation on state roadways require New Jersey Department of Transportation (NJDOT) approval.
- F. <u>Buffer.</u> In order to promote a desirable visual environment and maintain the development character, and quality of the Township, a natural or planted buffer shall be installed in conformance with the following:
 - Location. Buffers shall be required along any property line of non-residential development where said property line is contiguous to, or across the street from, land that is either zoned for residential use or upon which is located a residential use. A buffer shall also be installed along property lines between any parking lot or driveway servicing multi-residential, townhouse, or similar units and single-family.
 - 2. No structure, stormwater management facility, activity, storage of materials or parking of vehicles shall be permitted within a buffer area.
 - 3. Width. The buffer area shall be a minimum of twenty-five (25') feet in width.
 - 4. Density. The density of plantings of the buffer shall be planted to provide an effective screen throughout the year. The following minimum number of required plantings shall be required:

a.	Group A (Large) Shade Trees:	3 trees/100 lineal feet
b.	Group B & C (Medium) Shade Trees:	3 trees/100 lineal feet
с.	Evergreens Trees:	15 trees/100 lineal feet
d.	Shrubs:	25 shrubs/100 lineal feet

- 5. Buffer strip landscaping species and minimum size requirements shall conform to §508.F.
- 6. Existing vegetation may substitute for all or part of the required buffer plantings and may be accepted in lieu of new plantings at the discretion of the Board.
- 7. Design.
 - a. Buffer areas shall be planted and maintain a solid and continuous landscaping screen with <u>a</u> <u>variety of</u> evergreen and deciduous trees, shrubbery, grass, ground cover, berms, natural features, as well as fencing.
 - b. Within the buffer area a screen shall be provided which consists of both high level and low level plant material, of sufficient mass to initially provide an effective year round visual screen to a height of not less than six (6') feet at the time of installation.
 - c. This screen shall be planted in a free form fashion to avoid the appearance of a straight line or "wall" of plant material.
- 8. Fence. A board-on-board, vinyl, or similar ornamental fence in conformance with §506 shall be

installed along the property line, in addition to the vegetative buffer.

- 9. Reverse Frontage. Buffers may be installed in required yard areas except for reverse frontage buffers where they shall be in addition to the required yard area.
- 10. Buffers shall be continuous except for access drives as approved by the Board.
- 11. In accordance with the Township Property Maintenance Ordinance, the entire buffer strip area shall be attractively maintained and kept clean of all debris and rubbish.
- G. <u>Off-Street Parking & Loading Areas.</u> The objectives of the landscape architectural treatment of all parking areas shall be to provide for safe and convenient movement of vehicles, to limit pedestrian/vehicular conflicts, to provide for screening from public right-of-way and buildings, to reduce the overall visual impact of parking lots, and to provide shade, mitigate solar radiation and reduce heat island effects. All non-residential parking lots and residential parking lots in excess of five (5) spaces shall conform to the following requirements:
 - 1. Each off-street parking area shall have interior islands with a minimum area equivalent to one parking space per every ten (10) spaces.
 - 2. The following minimum number of required plantings shall be required, per parking space area:
 - a. Shade Trees (Group A, B & C): 1 tree/parking space area
 - b. Shrubs: 3 shrubs/parking space area
 - c. Groundcover: Groundcover shall be utilized in place of mulch for a minimum of forty (40%) percent of the parking island area, when at full growth.
 - 3. Landscaping island planting species and minimum size requirements shall conform to §508.H.
 - 4. Landscaping shall be installed at grade with the top of curb or lower, to prevent overmulching around the base of a tree.
 - 5. For planting islands that are <u>perpendicular</u> to spaces, islands should be a minimum of ten (10') feet wide, to allow for overhang of parked cars and sufficient soil volume for proper shade tree growth. If parking is only on one side of the island, a ten (10') foot width is still required.
 - 6. One perpendicular median landscaped island shall be provided for every three parking bays.
 - 7. For planting islands that are <u>parallel</u> to spaces, islands should be a minimum of nine (9') feet wide, to allow doors to open and provide sufficient soil volume for shade trees planted in the island.
 - 8. Where the parking lot design will result in pedestrians cutting perpendicularly through landscape islands, sidewalks shall be installed at regular intervals through its short axis.
 - 9. When sidewalks are incorporated, the median island is to be twelve (12') feet in width.
 - 10. No more than twenty (20) parking spaces shall be placed in one row of parking without an intervening landscape island.
 - 11. All islands are to be protected with concrete or Belgium block curbing.
 - 12. The curb radius for all parking islands shall not exceed fifteen (15') feet.
 - 13. Loading & Parking Screen.
 - a. All off-street loading and parking areas shall be sufficiently screened to obscure the view of the loading vehicles and platforms, shield headlights and lighting, and other effects from any public street or adjacent uses throughout the year.
 - b. Visual screening is required to buffer all trash enclosures, above-ground utilities, propane tanks and other similar structures, as identified by the applicable Board or Zoning Officer.
 - c. All off-street loading and parking shall be screened by a combination of trees, shrubs, evergreens, hedges, berms, fences, walls or extension of buildings, in accordance with §508.G.
 - 14. Landscape Berms. Where utilized, berms shall be a minimum of three (3") feet high above grade, with slopes not to exceed thirty-three (33%) percent (3:1) and planted with ground cover and shrubs.
 - 15. Parking lot lighting should be located within landscape islands, in accordance with §509.

- H. <u>Site Development.</u> A diverse mixture of various shrubs, groundcover, ornamental trees, and shade and evergreen trees shall be planted within a site. These quantities are exclusive of plants that are required for stormwater plantings pursuant to §516.G, buffers pursuant to §508.F, street trees pursuant to §508.E, off-street parking islands pursuant to §508.G, and replacement trees pursuant to §508.D.3. The following plantings shall be required as part of site plan and/or major subdivision development:
 - 1. <u>Shade Trees.</u>
 - a. Requirement. A minimum of one (1) shade tree shall be planted for every 2,000 square feet of open space.
 - b. Permitted Species. Permitted shade tree species are outlined in §508.E.2. Alternate selections may be approved at the discretion of the Board.



- c. Size. Shade trees, except for those existing, preserved, or transplanted, shall be at least ten (10') feet in height, balled and burlapped, when planted, and have a minimum caliper of two-and-one-half $(2^{1/2})$ inches.
- d. Location. Shade trees should be specifically planted within ten (10') feet of parking lot perimeter, along the southern exposure of structures to utilize passive solar design and radiation, and along storefronts.

2. Evergreen Trees.

a. Requirement. A minimum of one (1) evergreen tree shall be planted for every 4,000 square feet of open space.

b. Permitted Species. Permitted evergreen species include American Holly (Ilex opaca), Colorado Spruce (Picea pungens), Douglas Fir (Pseudotsuga taxifolia), Eastern Red Cedar (Juniperus virginiana), Japanese Black Pine (Pinus thunbergi), Nellie R. Stevens Holly (Ilex x 'Nellie R. Stevens'), Norway Spruce (Picea abies), Siberian Spruce (Picea omorika), Weeping Alaskan Cedar (Chamaecyparis nootkatensis 'pendula') and White Fir (Abies concolor),. Alternate selections may be approved at the discretion of the Board.



- c. Size. Evergreen trees, except for those existing, preserved, or transplanted, shall be a minimum of six (6') feet in height.
- d. Location. Evergreen trees should be planted along the northern exposure of structures to shield from winter northerly winds, around trash facilities and large ground-mounted infrastructure, as well as individually for accent and in groups to add structure and mass to the landscape.

3. <u>Shrubs.</u>

- a. Requirement. A minimum of thirty (30%) percent of the open space shall be planted with shrubs.
- b. Permitted Species. Permitted shrub species include Alleghany Serviceberry (Amelanchier laevis), Brilliant Chokeberry (Aronia arbutifolia brilliantissima), Cherry Laurel (Prunus laurocerasus 'Otto Luyken'), Summersweet (Clethra alnifolia & varieties), Coast Leucothoe (Leucothoe axillaris), Common Lilac (syringa vulgaris), Crape Myrtle (Lagerstroemia indica), Dogwood (cornus varieties), Flowering Quince (Chaenomeles japonica), Fragrant Abelia (Abelia grandiflora), Gold Mop Japanese Falsecypress (Chamaecyparis pisifera 'Filifera Aurea'), Highbush Blueberry (vaccinium corymbosum), Inkberry (Ilex glabra), Japanese Andromeda (Pieris japonica), Japanese Barberry (Berberis thunbergii), Mountain Laurel (kalmia latifolia), Northern Bayberry (Myrica pensylvanica), Privet (ligustrum varieties), Red Chokeberry (arbnia

arbutifolia), Rhododendron (Rhododendron PJM), Rose (rosa arieties), Rosebay Rhododendron (rhododendron maximum), Sumac (rhus varieties), Winterberry Holly (llex verticillata), Witchhazel (Hamamelis varieties), and Viburnum (viburnum varieties). Alternate selections may be approved at the discretion of the Board.

- c. Size. Shrubs shall be a minimum of two and a half $(2\frac{1}{2})$ feet in height.
- d. Location. In conjunction with other plantings, shrubs should be planted particularly along parking lot perimeters to shield headlights, and in areas to screen utilities and trash facilities.
- 4. Groundcover.



- a. Requirement. A minimum of ten (10%) percent of the open space shall be planted with groundcover plantings.
- b. Permitted Species. Permitted groundcover species include Andorra Juniper (Juniperus horizontalis plurnosa), English Ivy (Hedera helix), Flowering Quince (Chaenomeles japonica), Grapes sp. (Vitis sp.), Lowbush Blueberry (Vaccinium angustifolium), Myrtle (Vinca minor), Pachysandra (Pachysandra terminalis), Shore Juniper (Juniperus conferta), St. Johnswort (Hypericum calycinum), Summersweet (Clethra alnifolia), Sweetbox (Sarcococca hookeriana var. humilis), and Yellow Root (Xanthorhiza simplicissima). Alternate selections may be approved at the discretion of the Board.
- c. Size. Groundcover plantings shall vary in size.
- d. Location. Groundcover plantings should be planted in place of large areas of mulch, planting beds, and to break up vast lawn areas, as well as on berms, steep slopes, and swales.
- I. <u>General Provisions.</u> The following general provisions shall apply to the design and installation of landscapes:

- 1. All plantings are to be of nursery stock and installed in accordance with the minimum quality standards, as defined by the American Association of Nurserymen's current edition of American Standard for Nursery Stock.
- 2. Exotic and invasive species shall not be permitted. Native species are encouraged.
- 3. All plants shall be tolerant of specific site conditions.
- 4. All trees shall be substantially uniform in size and shape, and have straight trunks.
- 5. Trees shall be pruned annually. The use of tree wrap shall be prohibited.
- 6. Dead or dying trees shall be replaced by the developer during the next suitable planting season.
- 7. Plantings within sight triangles shall not exceed a height of three (3') feet and the crown of trees shall not be lower than seven (7') feet, in accordance with §502.M.
- 8. In residential developments, additional plantings or landscaping elements shall be required throughout the subdivision where necessary for climate control, privacy, or for aesthetic reasons in accordance with a typical planting plan approved by the Board.
- Fall Planting Hazard. Certain trees have been identified as having a high degree of transplantation failure if planted during the Fall season. These should be noted on landscape plans as Spring planting season only.
- 10. Slope Plantings. Landscaping shall be planted on all steep slopes with groundcover appropriate for the purpose and soil conditions, water availability, and environment sufficient to prevent erosion.
- 11. Irrigation. Where landscaping is provided in conjunction with non-residential development, underground irrigation or cistern system shall be provided. The use of rain barrels is encouraged for residential development, as well as slow release watering bags (commonly known as "treegators") for all development.
- 12. Removal of Debris. All stumps and other tree parts, litter, brush, weeds, excess or scrap building materials, or other debris shall be removed from the site and disposed of in accordance with New Jersey Department of Environmental Protection regulations. No tree stumps, portions of tree trunks or limbs shall be buried anywhere in the development. All dead or dying trees, standing or fallen, shall be removed from the site and composted. If trees and limbs are reduced to chips, they may, subject to approval of the Municipal Engineer, be used as mulch in landscaped areas, provided they have been properly composted.
- 13. Topsoil. All topsoil, whether imported or from on-site, shall comply with the following requirements:
 - a. Topsoil moved during the course of construction shall be redistributed on all regraded surfaces so as to provide at least six (6") inches of even cover to all disturbed areas of the development and shall be stabilized by seeding or planting.
 - b. Topsoil disturbed in the course of development shall not be removed from the site and shall be stored for redistribution.
 - c. Topsoil shall be loamy sand, sandy loam, clay loam, loam, silt loam, or other soil approved by the Board or Municipal Engineer. It shall be natural, fertile soil capable of sustaining vigorous plant growth and shall be of a uniform quality, free from subsoil, slag, cinders, stones 1" inch or larger in any dimension, lumps of soil, sticks, roots, trash, or other extraneous, undesirable materials. Topsoil shall also be free of viable plants or plant parts of Bermuda grass, quackgrass, johnson grass, nut sedge, poison ivy, Canada thistle, or similar material.

- d. When topsoil, stockpiled on site, is to be reused, soil debris to include roots, sods, stones, clay lumps, and other extraneous materials harmful to plant growth shall be removed prior to reuse.
- e. Topsoil shall meet the following requirements:
 - i. ph range 5.5 to 6.5.
 - ii. Organic matter four (4%) percent minimum.
 - iii. Soluble salts no higher than five hundred (500) parts per million.
 - iv. Sieve Analysis shall conform to Table 5.4.
- f. Materials stripped from the following sources shall not be considered suitable for use as topsoil:
 - i. Soils having less than 5.0 ph value.
 - ii. Chemically contaminated soils.
 - iii. Areas from which the original surface has been stripped and/or <u>#200 10-20%</u> covered over such as borrow pits, open mines, demolition sites, dumps, and sanitary landfills.
 - iv. Wet excavation.
- 14. <u>Guarantee</u>. All planting material shall be guaranteed for a two (2) year period after acceptance by the Township and/or the release of performance bonds. A note on the landscape plan shall require that "All plant material not surviving for a period of two (2) years shall be replaced with the same or equivalent size species".
- J. Landscape Plan.
 - 1. A landscape plan shall be provided concurrent with the submission of all site plans and subdivision plans, with the exception of minor subdivision plans, per Article VIII.
 - The plan shall be prepared, signed, and sealed by a Licensed Landscape Architect, Professional Engineer, Professional Planner, or other qualified professional certified by the State of New Jersey. A Licensed Landscape Architect is preferred.
 - 3. In addition to the requirements of Article VIII, the landscaping plan shall show:
 - a. Wood Areas. Location of groups of existing trees or other vegetation not to be disturbed;
 - b. Tree Protection.
 - i. the size, species and general health condition of existing trees having a diameter breast height (D.B.H.) of eight (8") inches or greater, identifying which ones are proposed for removal or damaged in such a way as to require removal; and
 - ii. general outline of any and all proposed buildings or structures, driveway, sidewalks, septic facilities and similar accessory facilities indicating clearing limits; and
 - iii. existing topography within twenty feet of the proposed disturbed area including proposed grading, if any; and
 - iv. a chart summarizing the number of proposed trees meeting the criteria of §508.H.b.i and replacement trees, per §508.D.3; and
 - v. written justification for the removal of any and all specimen trees.
 - c. Planting Legend to include key, botanical name, common name, quantity, initial and mature height and proposed caliper or size;
 - d. Proposed Plantings. Location of proposed plantings;
 - e. Formulas & Calculation. Formula and calculation of planting density, including the number of required and proposed plantings of the following:
 - i. Replacement trees, per §508.D.3.
 - ii. Distance between street trees identification of applicable tree group, per §508.E.3;
 - iii. Density of buffer plantings, number of plantings per 100 lineal feet, per §508.F.4;

TABLE 5.4 SIEVE ANALYSIS		
Sieve Size	Percent Passing	
1"	100%	
1⁄2"	97%	
#10	60-80%	
#40	40-60%	
#60	40-60%	
#100	10-30%	
#200	10-20%	

- iv. Off-street parking plantings, in accordance with §508.G.2;
- v. Stormwater plantings, per each landscaping zone, in accordance with §516.G.
- f. Sight Triangles, per §502.M.
- g. Details. Planting details and notes, including but not limited to those outlined in §508.1.

SECTION 509. LIGHTING.

- A. Intent. The purpose of this Ordinance is to provide regulations for outdoor lighting that will:
 - 1. Provide sufficient lighting shall be provided on each site and along roadways for safety, utility, security, productivity, enjoyment and commerce.
 - 2. Be designed to avoid the creation of hazards to motorists and pedestrians or nuisance to adjoining property owners or residents.
 - 3. Minimize adverse offsite impacts including light trespass, obtrusive light and curtail light pollution.
 - 4. Conserve energy and resources to the greatest extent possible.
- B. Applicability.
 - 1. All outdoor lighting, including, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party, shall comply with the requirements of this Ordinance.
 - 2. When twenty-five (25%) percent or more of existing outdoor light fixtures are being replaced or modified, all lighting shall be updated to comply with the requirements of this Ordinance.
 - 3. When twenty-five (25%) percent or less, including none, of light fixtures are proposed for replacement or modification in conjunction with a minor site plan approval or other Board action, all fixtures should be retrofitted to minimum standards, including but not limited to changing the wattage of fixtures, adjusting the angle of fixtures to prevent glare, painting infrastructure, adding shields, and similar improvements to conform to this Ordinance.
 - 4. Exceptions. The following shall be exempt from the requirements of this Ordinance:
 - a. Lighting for public monuments and statues.
 - b. Lighting that is only used under emergency conditions.
 - c. Lighting required by federal, state or provincial laws or regulations.
 - d. Lighting for a private single-family home, provided they conform to the general requirements of §509.C.
- C. <u>General Requirements.</u> The following shall apply to all outdoor lighting fixtures in the Township:
 - 1. All outdoor lighting shall be installed in conformance with the provisions of this Ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code. Lighting shall be designed to minimize energy and maintenance requirements and shall comply with the U.S. Energy Policy Act of 1992 as it may be amended or superseded.
 - 2. No lighting shall be directed towards traffic, shining directly or reflect into windows or onto streets and driveways in such a manner as to interfere with driver vision; or creating glare as a visual obstruction.
 - 3. Lighting shall not be directed towards the sky, known as uplighting, to prevent interference with commercial aviation routes and reduce light pollution.



- 4. Flood lights, searchlights, flashing, rotating, and moving lights are strictly prohibited. The use of standard shoe box and wal-pack fixtures is discouraged.
- 5. At no time shall the light source be visible from adjacent properties. A maximum of 0.25 footcandles at a height of five (5') feet above the property line and/or right-of-way line, excluding points of ingress and egress for vehicles shall be permitted.
- 6. Pole-mounted light fixtures shall be installed at a height no greater than twenty (20') feet from ground level with said pole foundation installed to a depth of five (5') feet below grade.
- 7. When concrete pedestals more than six (6") inches above grade are used to support pole-mounted light fixtures, the concrete shall have either a rubbed or brushed finish.
- 8. Full cutoff flat lenses, which has a light distribution where there is zero candela at or above 90° degrees vertical from nadir and where the candela value does not exceed ten (10%) percent of the maximum intensity at or above a vertical angle of 80° degrees, shall be utilized on all sites.
- 9. <u>Shields.</u> Light shields shall be installed on all non-conforming lights adjacent to a residential property or zone, around the perimeter of the property, and along any street right-of-way to control glare.
- 10. <u>Security Lighting.</u> For all non-residential parcels or zones, the following requirement shall apply:
 - a. Lighting systems shall be designed so that they can be reduced or turned off when they are not necessary.
 - b. Controls shall be provided on all new lighting systems that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system, such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system
 - c. All site lighting shall be illuminated for safety and security reasons one hour after close of business or before 10pm, whichever occurs earlier, until sunrise at no more than forty (40%) percent of the standard lighting. Motion activated lighting systems and 24-hour operations shall be exempt from this requirement.
- 11. <u>Recreational Facilities.</u> Lighting for outdoor athletic fields, courts or tracks shall require Planning Board approval, which shall consider the minimum standards of glare, uplight, light trespass, fixture angles, illumination levels, time of illumination, length of use, shield installation, surrounding land uses, as well as other requirements of this Ordinance.
- D. <u>Street Lighting</u>. All public and private streets shall be sufficiently illuminated to ensure traffic and pedestrian safety under all weather conditions.
 - 1. Design Criteria. The design of street lighting shall take into consideration:

- a. The brightness of the abutting uses in comparison to pavement brightness as seen by both motorists and pedestrians;
- b. The ability to discern objects on the street or its edge in comparison to abutting uses; its brightness contrast;
- c. The time available to the motorist and pedestrian to view such objects;
- d. The amount of direct glare from the luminaire or lamp and reflected glare from the pavement.
- 2. Location. Pole-mounted street light standards shall be located at the following places:
 - a. Local Streets. On local neighborhood streets, the following shall apply:
 - i. Seventy (70) watt luminaries shall be provided in the following locations:
 - (a) along one side of the street at three hundred (300') foot intervals on straight road segments, staggered on both sides of the roadway; and
 - (b) at curves with an inside radius of less than three hundred (300') feet, unless the standard is within three hundred (300') feet of another; and
 - (c) at the end of each cul-de-sac.
 - ii. One hundred (100) watt luminaries shall be provided at each street intersection.
 - b. Collector Streets. On collector streets, the following shall apply:
 - i. One hundred (100) watt luminaries shall be provided in the following locations:
 - (a) along one side of the street at three hundred (300') foot intervals on straight road segments, staggered on both sides of the roadway; and
 - (b) at curves with an inside radius of less than three hundred (300') feet, unless the standard is within three hundred (300') feet of another; and
 - (c) at the end of each cul-de-sac.
 - ii. One hundred and fifty (150) watt luminaries shall be provided at each street intersection.
 - c. In residential subdivisions, the poles shall be placed, to the greatest extent possible, in line with shared property boundaries, per R.S.I.S.
- 3. Process.
 - a. Street lighting shall be installed at no cost to the municipality by a developer in locations approved by the applicable Board or Township Engineer.
 - b. For residential subdivisions, street lighting shall be installed, prior to the issuance of any Certificate of Occupancy, along all roadways necessary to ensure at least one route of illuminated access for any occupied structure and in conformance with R.S.I.S.
 - c. Operating expenses for residential subdivision lighting shall be assumed by the Township when fifty (50%) percent of the section is occupied.
- E. <u>Off-Street Parking Lighting.</u> All non-residential parking lots and residential parking lots in excess of five (5) spaces shall conform to the following requirements:
 - 1. Sufficient illumination shall be provided for all off-street parking, loading, entrances and exits, and pedestrian areas so as to enable the safe movement of persons, vehicles, and provide for security.
 - 2. The illumination of parking areas shall adhere to the following standards, outlined in Table 5.5:

TABLE 5.5. MAINTAINED ILLUMINATION FOR PARKING LOTS

	Parking Area	ADA, Walkways & Driveways
Horizontal Illumination		
Minimum	0.2 fc	0.5 fc
Average	1.0 fc	2.5 fc
Uniformity Ratios		
Average to Minimum	5:01	5:01
Maximum to Minimum	20:01	15:01
Minimum Vertical Illumination	0.1 fc	0.25 fc

- 3. Minimum horizontal illumination shall be no lower that 0.2 footcandles.
- 4. Average horizontal illumination shall not exceed 2.5 footcandles.
- 5. Minimum vertical illumination shall be measured at five (5') feet above parking surface at the point of lowest horizontal illuminance, excluding facing outward along boundaries.
- 6. All light fixtures shall be uniform throughout a site. Lighting levels, lamp color, and fixture type shall be consistent throughout the subject parcel, which shall complement building architecture and landscaping.
- F. Lighting Plan.
 - 1. A lighting plan shall be provided concurrent with the submission of all site plans and subdivision plans, with the exception of minor subdivision plans, per Article VIII.
 - 2. The plan shall be prepared, signed, and sealed by a Certified Landscape Architect, Professional Engineer, Professional Planner or other qualified professional.
 - 3. In addition to the requirements of Article VIII, the lighting plan shall show:
 - a. All existing lights, including building-mounted and canopy fixtures, within one hundred (100') feet of the site in question, including location of all poles and luminaries.
 - b. Computer generated photometric grid showing footcandle readings every five (5') feet, including building-mounted and canopy fixtures. The plan should note whether the lines are initial or maintained.
 - c. Identify the maintained horizontal illuminance shown as footcandles, including the following required and proposed levels, per area:
 - i. Maximum
 - ii. Minimum
 - iii. Average, during operating and non-operating hours.
 - iv. Average to minimum uniformity ratio.
 - d. Description of outdoor light fixtures component specifications, including pole-mounted, buildingmounted, canopy lights and all exterior fixtures, including:
 - i. Lamp type
 - ii. Wattage
 - iii. Isolux diagrams for each fixture
 - iv. Reflectors
 - v. Optics
 - vi. Angle of cutoff
 - vii. Shields
 - viii. Manufacturers catalog cuts.
 - ix. The number of each luminary type.
 - x. Pole height and mounting height of the luminaries and detail of the pole.
 - xi. Pole base, foundation design, and foundation detail, in accordance with the Uniform Construction Code (UCC).

- e. Show light levels along the property lines.
- f. All proposed and existing freestanding and wall-mounted lights should be indicated.
- g. Identify fixtures with existing shields and fixtures proposed for shield installation
- h. The hours of operation of the proposed use, and general notations per §509.C.
- i. Landscape plan to determine the correct location of canopy trees.
- 4. A night light function test shall be conducted by the Zoning or Planning Board Engineer to ensure lighting levels conform to approved plans, which shall be required prior to the issuance of any Certificate of Occupancy.

SECTION 510. OFF-STREET LOADING.

- A. <u>Intent.</u> To avoid interference with public use of roads and parking areas, adequate off-street loading, unloading, or standing spaces shall be provided on the same lot for any non-residential use for which it can be anticipated or for which customarily receives or distributes deliveries, materials, or merchandise. Each off-street loading, unloading, or standing space shall be of sufficient size and configuration to accommodate the largest type of delivery vehicle anticipated for the proposed use.
- B. <u>Requirement.</u>
 - 1. For buildings up to twenty thousand (20,000) square feet of gross floor area, one off-street loading space shall be provided. For each additional twenty thousand (20,000) square feet of gross floor area, or fraction thereof, one additional loading space shall be provided.
 - 2. Where the need can be demonstrated for fewer off-street loading spaces are appropriate, a design waiver may be requested of the applicable Board having jurisdiction. A site plan may be required to designate an area for the accommodation of a future loading space at such time as it may become necessary.
- C. <u>Dimensions.</u> Off-street loading spaces shall have a vertical clearance of fifteen (15') feet, a minimum width of twelve (12') feet, and a length of sixty (60') feet except said length dimension may be reduced to forty (40') feet where a site is to be serviced by vans or trucks with less than four (4) axles.
- D. Location.
 - Required off-street loading areas shall be located on the same lot or premises as the use served, except in the following cases if deed-restricted and within two hundred (200') feet of the principal lot:
 - a. When the requirements for off-street loading cannot be met because of existing conditions, the location and adequacy of off-site loading spaces to service the use shall be specified on the site plan for approval by the respective Board.
 - b. A cooperative arrangement between non-residential uses on different lots or premises has been approved by the respective Board.
 - 2. Off-street loading spaces shall abut the building being served.
 - 3. No off-street loading and maneuvering areas shall be located in any front yard.
 - 4. Loading doors shall be a minimum of fifty (50') feet from a contiguous property is zoned for residential use or contains a residential use thereon.
 - 5. No loading door for delivery or allowing the entry of vehicles shall be permitted to face a public street or right-of-way.
 - 6. Off-street loading and maneuvering areas shall not utilize any part of a public street or right-ofway.
 - 7. Off-street parking areas shall not be used for loading and unloading purposes, except during hours when normal business operations are suspended. In turn, off-street loading areas shall not be utilized for off-street parking, except during hours when normal business operations are suspended.

- 8. Loading areas shall conform to the parking setbacks and location requirements of §511.F.2
- E. <u>Materials.</u> All of off-street loading areas and access drives that are utilized for heavy loading areas shall be subject to the following material standards:
 - Areas subject to heavy loadings from trucks or other heavy vehicles shall be constructed of a two (2") inch Hot Mix Asphalt (HMA) 9.5M64 Surface Course, five (5") inches Hot Mix Asphalt (HMA) 19M64 Base Course, and six (6") inches of dense graded aggregate.
 - 2. Loading areas for trucks shall be constructed of either the truck pavement standard of 4000 p.s.i. at 28 day strength mentioned above, or of a six-inch (6") thick pad of Class B, Portland cement concrete reinforced with No. 5 bars at twelve (12") inches on center each way.
 - 3. Soils information is to be provided to determine if there are any unusual subgrade conditions that would warrant another than standard design.
- F. Design Standards.
 - 1. Lighting. Loading area illumination shall be provided so as to not cause, through either intensity or glare, an offensive or hazardous condition for adjoining tenants/residents or for vehicular traffic. Lighting shall conform to the requirements of §509.
 - 2. Landscaping. Off-street loading areas shall be properly buffered and landscaped in conformance with §508.
 - 3. Curbing. All off-street loading areas and access drives shall be curbed in accordance with the standards found in §511.F.K.
 - 4. Delineation. Pavement markings designating loading areas with laddered white material, to standards outlined in §511.F.J.
 - 5. Loading areas are not to be used for the storage of refuse, recyclable material, or inventory.
 - 6. 'No Idling' signs, as recommended by NJDEP (<u>www.stopthesoot.org</u>), shall be wall-mounted and maintained in prominent locations at reasonable intervals to be readily visible to vehicles subject to the idling restrictions within all loading areas.

SECTION 511. OFF-STREET PARKING.

- A. <u>Intent.</u> The intent of off-street parking ordinance is to encourage the appropriate location of off-street parking, provide the needed levels of service, avoid undue congestion on the streets, protect the capacity of the street system, move traffic, avoid unnecessary conflicts between vehicles and pedestrians, preserve and enhance the designated pedestrian activity areas and facilitate access from streets to off-street parking lots in an efficient and beneficial manner.
- B. <u>Requirement</u>. No building or structure shall be either erected, or any major reconstruction or change in use made to an existing building or structure unless, in conjunction therewith, off-street parking spaces are provided as set forth below:
 - 1. For residential developments, off-street parking shall be provided as required in the New Jersey Residential Site Improvement Standards N.J.A.C. 5:21-1 et. seq.
 - 2. For non-residential developments, the parking standards established in Table 5.6 shall apply.

TABLE 5.6. OFF-STREET PARKING REQUIREMENTS	
Land Use	Minimum Number of Parking Spaces Required

Amusement Center (driving ranges, batting cages, miniature golf, indoor recreation sports, arcade, etc.)	One for every two hundred (200) square feet of indoor area + one for every tee, cage, hole, etc.)
Athletic Fields	Twenty (20) for every diamond or athletic field.
Automobile & Truck Sales	One for each four hundred (400) square feet of showroom, sales, shop or garage area + one space per employee on the maximum work shift + one space for every two thousand (2,000) square feet of outdoor vehicle inventory.
Automobile Service & Repair	Three (3) per service bay + one space per employee on the maximum work shift.
Auto Rental	One for each four hundred (400) square feet of GFA.
Banks or Other Financial Institutions	One for each three hundred (300) square feet of GFA.
Banquet/ Dance Hall	One for every three (3) persons of the legal occupancy of the facility + employees
Bowling Alley	Four (4) per alley.
Car Wash	Ten (10) per washing lane + five (5) dedicated for employees. For self-wash or self-service, the requirement for employee parking shall be eliminated.
Club, Lodge, or Fraternal Organization	One for every three (3) persons of the legal occupancy of the facility.
Coffee Shop	One space for every three hundred (300) square feet of GFA.
Community Center, Library, Museum, or Art Gallery	One for each four hundred (400) square feet of GFA, exclusive of storage space.
Convalescent Home, Nursing Home, or Rest Home	One for each three (3) beds + one for each two (2) employees.
Convenience Store	One for each two hundred (200) square feet of GFA.
Daycare Center/ Pre-School	One per six (6) children + one per employee on the maximum work shift, with adequate area for maneuvering, stacking, and drop-off/pick-up.
Dry Cleaning (not in shopping center)	One for each two hundred (200) square feet of GFA.
Funeral Home	One (1) for every fifty (50) square feet in slumber rooms, parlors, and funeral service rooms.
Furniture Store	One for every one thousand (1,000) square feet of GFA
Gas Station (excluding service and/or repair)	One for every two (2) fuel pumps + one space per employee on the maximum work shift.
Golf Course & Club	Five (5) per each golf hole + one per employee on the maximum work shift.
Grocery Store	Four (4) per one thousand (1,000) square feet of GFA.
Health Club / Gym	One for each two hundred (200) square feet of GFA + one per employee on the maximum work shift.
Home Improvement Retail Store	One for each two hundred and fifty (250) square feet of GFA.
Hospital, (General, Mental, or Sanitarium)	One for each three (3) beds + one for each five (5) outpatients + one per employee on the maximum work shift.
Hotel or Motel	One per guest room + one for every (2) employees. Any banquet hall, restaurant, and/or bar shall be counted separately.
Industrial, Manufacturing, Research,	One per employee on the maximum work shift. If reasonable employment
Testing Laboratory, or Similar Use	data is not available, one per every tive hundred (500) square teet of GFA.
	on the maximum work shift.
Laundromat	One for every three (3) machines.
Medical / Dental Office or Clinic (outpatient facility)	Two (2) for each doctor, plus one (1) for each two hundred (200) square feet of gross floor area.
Nightclub/ Bar/ Tavern	One (1) for every three (3) persons of the legal occupancy of the facility
Nursery/ Greenhouse	One for every four hundred (400) square feet of GFA.

Office, General/ Professional	One (1) for every two hundred and fifty (250) square feet of GLA.
Off-site Service Business	One (1) per employee, plus one (1) per business vehicle, plus two (2), but not less than five (5).
Personal Service Establishment	One (1) for each two hundred and fifty (250) square feet of gross floor area, plus one (1) for each vehicle used in connection with the business.
Public & Private Utilities (electrical substation, gas regulator, water works station, and similar facilities)	One (1) for each vehicle stored on the premises, plus one (1) for each employee on the shift which has the greatest number of employees.
Retail, General (when unspecified)	One for each two hundred and fifty (250) square feet of GFA.
Religious Use (House of Worship, Church, Synagogue, Temple, etc.)	One (1) for every three (3) seats, plus one (1) per church worship official or employee (twenty inches of bench shall be considered one seat). If the number of seats is unknown, one (1) for every fifty (50) square feet of floor area.
Restaurant	One (1) for every three (3) seats, plus one (1) for every two (2) employees total. If no seating is provided, one (1) for every fifty (50) square feet of floor area with a minimum of ten (10) spaces.
Restaurant, Fast Food or Drive Through	One per one hundred (100) square feet of GFA.
Shopping Center	Four (4) per one thousand (1,000) square feet of GFA.
Studio (art, music, or dance for the purpose of giving instruction)	One for every one hundred (100) square feet of floor area used for instruction
Schools (including academies, junior high schools, elementary schools, technical and art schools, and similar institutions)	One (1) for each four (4) seats in the main auditorium, plus one (1) for each administrator, teacher, and any other employees.
Self-Service Storage Facility	One (1) for every ten thousand (10,000) square feet of floor area devoted to storage, plus one (1) for every on-site employee, but not less than five (5).
Storage, General (as an accessory use)	One per five thousand (5,000) square feet of GFA.
Swim Clubs	One per one hundred (100) square feet of pool surface area + one per employee on the maximum work shift.
Theater, Auditorium, or Stadium	One (1) for every three (3) seats or one (1) for every fifty (50) square feet of floor area if fixed seats will not be used.
Veterinary or Animal Hospital	One for every four hundred (400) square feet of GFA.
Warehouse & Wholesale	One per five thousand $(5,000)$ square feet of GFA + one per vehicle used in connection with the business.
Universities/Colleges	Two (2) for each three (3) students + one per administrator, teacher, and any other employee.

Source: APA Parking Calculations, 2006; Parking Generation 4th Edition, Institute of Transportation Engineers, 2010

- 3. Where fractional numbers result, the required number shall be construed to be the nearest whole number.
- 4. Where a permitted use of land includes more than one category of parking generation, the parking requirement shall be the sum of the individual uses calculated separately.
- 5. The maximum number of parking spaces shall not exceed that of one hundred and thirty (130%) percent of the required parking of the subject use.
- 6. Alternative off-street parking generator standards may be accepted by the Board if an applicant demonstrates that other standards better reflect local conditions.
- 7. When it can be demonstrated that two or more parking generators have complementary parking demand peaks, the Planning or Zoning Board may permit up to a fifty (50%) percent reduction in the required total number of parking spaces, in accordance with §511.C.
- C. <u>Shared Parking Facilities</u>. Shared parking spaces utilized by more than one user, which allows parking facilities to be used more efficiently, is encouraged. Shared parking may be applied when land uses

have different parking demand patterns and are able to use the same parking spaces/areas that vary by time of day, day of week, and/or season of the year.

- 1. <u>Intent.</u> The intent of shared parking facilities is to encourage the development of shared parking facilities and access in appropriate areas.
- 2. <u>Application</u>. Factors evaluated to establish shared parking arrangements should include operating hours, seasonal/daily peaks in parking demand, the site's orientation, location of access driveways, transit service, accessibility to other nearby parking areas, pedestrian connections, distance to parking area, availability of parking spaces, cooperation of adjacent owners. The feasibility of shared parking arrangements shall be considered for the following:
 - a. A major site plan is proposed for new development or significant redevelopment, or
 - b. The number of parking spaces requested is more than ten (10%) percent higher, or
 - c. Two or more land uses are utilizing the same parking spaces.
- 3. <u>Parking Calculation</u>. The minimum number of parking spaces for a mixed use development or where shared parking strategies are proposed shall be determined by §511.B.2. or a study prepared by the applicant following the procedures of the Urban Land Institute Shared Parking Report, ITE Shared Parking Guidelines, or other approved procedures. Where an applicant can demonstrate that fewer parking spaces would be necessary, a lower number may be allowed, provided that the applicant shows on the approved site plan how the required additional spaces could be added if necessary without violating the impervious surface coverage requirements of this Ordinance.
 - a. Step 1. Determine the number of parking spaces that should be provided for each land use separately, in accordance with §511.B.2.
 - b. Step 2. Based on the hourly variation in parking demand, determine the peak parking demand for the combined demand of all the uses in the development. Standardized data such as from the Urban Land Institute Shared Parking Report, ITE Shared Parking Guidelines, or other approved standards should be used to estimate hourly variations. If standard rates are not available or limited, the applicant may collect data at similar sites to establish local parking demand rates. This analysis may be needed for both weekdays and weekends, depending on the type of uses involved, and may need to consider seasonal peak periods.
 - c. Step 3. Compare the calculations of the two steps above, and the lesser of the two peak parking demands shall be used as the minimum number of parking spaces that need to be provided.
- 4. <u>Shared Parking Agreement.</u> If a privately owned parking facility is to serve two or more separate properties, a legal agreement between property owners guaranteeing access to, use of, and management of designated spaces is highly recommended.
- 5. Lot & Yard Requirements. When individual lots utilize a common parking lot and/or access to a public street via easements or similar means, minimum lot and yard requirements shall comprehensively apply to those collective lots that utilize the common parking and access.
- D. <u>Parking Structures</u>. All off-street parking structures shall comply with the following general requirements:
 - 1. Lot & Yard Requirements. The parking structure must adhere to the building setbacks of the respective zone that the structure is located within.
 - 2. <u>Parking</u>. All off-street parking requirements of Article V shall apply.
 - 3. Façade. In addition to the building design guidelines of §504, the following shall apply:
 - a. The facade facing any public or private road, shall have an architectural design treatment that is compatible to the principal structure with the exception of glazing or facade openings.
 - b. The appearance of structured parking entrances shall be minimized so that they do not dominate the street frontage of a building. Possible techniques include recessing the entry; extending

portions of the structure over the entry; using screening and landscaping to soften the appearance of the entry; using the smallest curb cut and driveway possible; and subordinating the parking entrance (compared to the pedestrian entrance) in terms of size, prominence, location and design emphasis.

- c. Entrance drives to structured parking (including underground parking) shall be located and designed to minimize interference with pedestrian movement. Pedestrian walks shall be continued across driveways.
- 4. Landscaping. In addition to the landscaping requirements of §508, the following are required:
 - a. Perimeter landscaping strips around the structure.
 - b. In landscape planters, planter boxes, climbing vines, or another acceptable landscaping treatment on the exterior of the building.
- E. <u>Drive-Through Lanes.</u> Drive through businesses require special design considerations due to the high volume of traffic flow. The following requirements are designed to minimize the conflicts between on-site traffic with off-site traffic and pedestrians:
 - 1. Lanes.
 - a. Separate lanes shall be provided that are distinctively marked (by striping and/or curbing) for queuing or stacking from the general circulation lanes necessary to enter or exit the site.
 - b. A bypass lane shall be provided for all drive-through operations with a minimum width of fourteen (14') feet.
 - c. All drive-through lanes shall have a minimum width of ten (10') feet and shall be striped or marked.
 - 2. <u>Queuing Requirements.</u> Each drive through business shall provide sufficient queuing or stacking to prevent traffic hazards to the general public. The following queuing spaces shall be provided, which includes the space at the window or station:
 - a. Bank. For bank or similar financial establishment, sufficient space for a minimum of four (4) spaces for each drive-through window or station.
 - b. Restaurant. For fast food or drive-thru restaurants, sufficient space for a minimum of four (4) spaces for each drive-through window or station.
 - c. Car Wash. For car washes, sufficient space for a minimum of twelve (12) spaces.
 - d. For all other uses, alternative queuing standards shall be accepted if demonstrated that these standards better reflect local conditions or another use.
 - 3. <u>Intersection Proximity</u>. To prevent congestion near intersections, drive through businesses shall not have entrances or exits within fifty (50') feet of a street intersection.
 - 4. <u>Pedestrian Safety</u>. Pedestrian routes between the entrances to the principal structure and any parking area or sidewalk which require the crossing of drive-through lanes shall either be avoided or shall be clearly identified to pedestrians and motorists by pavements markings or signage.
- F. Parking Stall Dimensions.
 - 1. All stall widths shall be measured at perpendicular angles from the parking stall stripes. The parking space sizes shown in Table 5.7 shall apply to all parking areas:

TABLE 5.7. PARKING STALL DIMENSIONS

Type of Parking Space	Size
Residential spaces	9' x 18'
Non-Residential uses utilizing shopping carts	10' x 18'
All other Non-Residential uses	9' x 18'
ADA Van Accessible spaces	See §511.F.5
additional ADA other spaces	See §511.F.5
Parallel spaces	9' x 22'
60° Angled spaces	9' x 21'
45° Angled spaces	9' x 20'
Bus spaces	10' x 40'
Tractor-Trailer Truck spaces	12' x 60'
Compact Vehicle spaces	8' x 16'

- 2. <u>Reduced Length.</u> Perimeter or island parking may be reduced two (2') feet where the sidewalk, walkway or landscaped area remains four (4') foot wide after the overhang, provided the number does not exceed twenty (20%) percent of the total number of required spaces.
- 3. <u>Compact Car Parking</u>. Uses with over twenty (20) parking spaces shall be permitted to utilize compact spaces, provided the number does not exceed twenty (20%) percent of the total number of required spaces. Compact car stalls shall be clearly marked with standard traffic signs.
- 4. <u>Stacked Parking.</u> The utilization of stacked parking shall require Planning and/or Zoning Board approval.
- 5. <u>ADA Parking.</u> Provision of parking facilities for handicapped persons shall be in accordance with the requirements of the Barrier-Free Subcode of the New Jersey Uniform Construction Code N.J.A.C. 5:23-7.13 and 5:23-7.14 and the Americans With Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.
- G. <u>Aisle Width.</u> Access to off-street parking shall include driveways and aisles such that each vehicle shall be able to proceed to and from each parking stall without necessitating the movement of another vehicle.
 - 1. Aisles adjacent to parking spaces within off-street parking areas shall have the minimum dimensions outlined in Table 5.8, not to exceed twenty-six (26') feet in width:

TABLE 5.8. AISLE WIDTH			
	AISLE		
Angle	One-Way	Two-Way	
90°	22'	24'	
60°	18'	22'	
45°	16'	20'	
Parallel	12'	18'	

- 2. Aisles not adjacent to parking spaces within and providing access to off-street parking areas shall have the following minimum dimensions:
 - a. One-way aisles must be a minimum of fifteen (15') feet wide.
 - b. Two-way aisles must be a minimum of twenty-two (22') feet wide.

- 3. Where the angle of parking is different on both sides of the aisle, the larger aisle width shall prevail.
- H. Location of Parking Spaces.
 - 1. <u>Off-Site Parking.</u> Required off-street parking shall be located on the same lot or premises as the use served, regardless of the number of spaces required by this Ordinance, except in the following cases if deed-restricted and within two hundred (200') feet of the principal lot:
 - a. When it is determined during site plan review that the requirements for on-site or off-street parking cannot be met because of existing conditions, the location and adequacy of off-site parking spaces to service the use shall be specified on the site plan for approval by the Planning or Zoning Board.
 - b. A cooperative arrangement between non-residential uses on different lots or premises has been approved by the Planning or Zoning Board.
 - 2. <u>Parking Setbacks.</u> Drive aisles, except for the entrance/exit openings, shall be considered part of the parking area. All off-street parking areas shall have a minimum parking setback requirement from the mutual property line, which shall conform to the following:
 - a. Residential. A minimum of twenty-five (25') feet is required between off-street parking areas and adjacent parcels zoned for residential use or a parcel upon which a residential use is located.
 - b. Right-of-Way. A minimum of twenty (20') feet is required between off-street parking areas and an existing or proposed right-of-way.
 - c. Non-Residential. A minimum of five (5') feet is required between off-street parking areas and adjacent parcels, except where an easement or shared parking area exists in conformance with §511.H.I or §511.C.
 - 3. No parking shall be permitted in any required buffer area.
 - 4. No parking of vehicles shall be permitted in designated fire lanes, streets, non-residential driveways, landscaped areas, aisles, sidewalks, or turning areas.
 - 5. Parking areas are encouraged in the side and/or rear yards, as opposed to the front yard.
- I. <u>Material.</u> The following material may be utilized for off-street parking areas:
 - 1. Asphalt & Concrete. Any asphalt or concrete surface shall meet the standards of New Jersey Department of Transportation standard specifications for Road and Bridge Design.
 - 2. Porous Pavement. Asphalt Pavement/Popcorn mix is produced with a high percentage of air voids (15-20%) that allows water to pass rapidly through the pavement.
 - 3. Permeable Pavers. Specially designed concrete paver blocks with gaps that are filled with stone/sand to allow water to infiltrate into the soil. (Note that the paver units do not need to be permeable, only the gaps between the paver units).
 - 4. Loading. When loading areas are to be used in conjunction with parking, the following shall be required:
 - a. Parking areas to be used exclusively for automobile traffic, except for infrequent small truck

deliveries, shall be constructed of two (2") inch Hot Mix Asphalt (HMA) 9.5M64 Surface Course, four (4") inches Hot Mix Asphalt (HMA) 19M64 Base Course, and 6" of dense graded aggregate.

- b. Parking areas subject to heavy loadings from trucks or other heavy vehicles shall be constructed of a two (2") inch Hot Mix Asphalt (HMA) 9.5M64 Surface Course, five (5") inches Hot Mix Asphalt (HMA) 19M64 Base Course, and 6" of dense graded aggregate.
- c. Loading areas for trucks shall be constructed of either the truck pavement standard mentioned above, or of a 6" inch thick pad of Class B, Portland Cement concrete reinforced with No. 5 bars at 12" on center each way.
- 5. Alternate pavement designs may be approved by the Planning or Zoning Board Engineer.
- 6. Soils information, design report, and/or a maintenance manual shall be provided to determine if there are any unusual subgrade conditions when utilizing porous pavement, pavers or other pervious design.
- J. Delineation.
 - 1. Parking space paving markings shall consist of four-inch (4") wide stripe of white thermoplastic paint, thermoplastic material or long-life epoxy resin, which meet New Jersey Department of Transportation requirements.
 - 2. Thermoplastic and laddered or paved crosswalks, a minimum of six (6') feet in width and stop bar, as well as stop sign shall be placed across all curb cuts, in accordance with Manual on Uniform Traffic Control Devices (MUTCD).
 - 3. All parking areas shall include barrier lines, lane lines, directional arrows, and stop lines.
 - 4. Alternate colors may be used for handicap and other specialty spaces.
 - 5. All other traffic control striping, markings, and signage shall conform to the latest edition of the Manual on Uniform Traffic Control Devices, published by the Federal Highway Administration.
- K. Curbing.
 - 1. Concrete or Belgium block curbing is required around the perimeter of all parking and traffic circulation areas, and landscape islands within the parking lots to control traffic, drainage, and to protect the edge of pavement.
 - 2. A four-inch (4") curb reveal may be used where the intent is for vehicles to overhang the curbline. Otherwise, curbing shall meet the requirements of §513 of this Article.
- L. Driveways, Non-Residential.
 - 1. All entrance and exit drives are to be designed to allow for the turning movements of the AASHTO WB-50 design vehicle, without encroaching on opposing lanes of traffic in the public streets. A reduced design standard may be allowed when it can be demonstrated that said type vehicles will not access the site at a specific driveway.
 - 2. Number. The number of driveways per site, shall be determined by the following:
 - a. For lots having seventy-five (75) or fewer parking spaces, not more than one (1) two-way access drive or two (2) one-way access drives on any one street shall be permitted.
 - b. Properties having a frontage of less than one hundred and fifty (150') feet shall have no more than one two-way driveway or two one-way drives on any one street.
 - c. Properties having less than one thousand (1,000') feet frontage shall have no more than two (2) two-way driveways on any one street or four one-way drives on any one street.
 - d. Any frontage greater than one thousand (1,000') feet may have more than two (2) drives on

one street; however, the number, location, size, and design shall be subject to approval of the Planning or Zoning Board.

- 3. Width. Two-way entrance/exit drives shall be a width of twenty-four (24') feet, not to exceed thirty (30') feet in width for existing driveways. One-way drives shall have a minimum width of eighteen (18') feet and a maximum width of twenty-two (22') feet.
- 4. No driveway shall be located less than ten (10') feet from the side property line or within thirty (30') feet of an existing drive, whichever is greater.
- 5. Driveways shall be no closer than thirty (30') feet of any residential zone, at the property line(s).
- 6. Driveway Lengths. The minimum length of an entrance driveway to be kept clear of parking maneuvers shall be required as shown in Table 5.9:

TABLE 5.9. DRIVEWAY LENGTH			
# of Spaces	Distance		
15 or less	10'		
16 to 50	20'		
51 to 100	30'		
101 to 299	40'		
300 or more	60'		

- 7. Driveway radii shall not exceed twenty-five (25') feet.
- 8. No parking stalls that require the use of the entrance and exit drives, as access aisles shall be permitted. In turn, no parking stalls shall be permitted along entrance and exit driveways.
- M. <u>Refuse & Recyclable Storage Areas.</u> Areas adjacent to or within off-street parking areas designated for refuse/recyclable storage and pickup areas shall be provided for all uses, which conform to the following requirements:
 - 1. A six-inch (6") thick concrete pad should be provided for the floor of the enclosure, extending beyond the front of the enclosure to allow for easier maneuvering of the dumpster(s).
 - 2. An enclosure shall be provided to properly screen and enclose such areas to prevent the unsightly display and the scattering of debris, and conform to the following:
 - a. The enclosure(s) shall be of such size to house all dumpsters, other refuse containers, and stored recyclable material.
 - b. The exterior shall be masonry or similar solid material that is compatible with the principal structure(s) on the site; and
 - c. The height shall not be less than five (5') feet, nor more than eight (8') feet in height.



d. The wall of an adjacent building may serve as one side, provided there are no window openings, the wall is of non-combustible construction, no combustible roof eave overhang and all fire code standards are met. Otherwise, trash receptacles must be a minimum of five (5') feet from any wall.

- 3. An opaque, sturdy material gate that can be fastened closed shall be provided. The access gate or fence shall be exempt from the provisions of any ordinance of this municipality regulating the height of fences.
- 4. The enclosure access shall be located as to prevent the visual display of refuse from any adjacent parking area and public street or right-of-way.
- 5. Refuse and recyclable storage areas shall not be permitted in any residential buffers and shall conform to the parking setbacks of §511.H.2.
- 6. Complementary landscaping, such as vines, shrubbery, and evergreens shall be provided around the masonry enclosure, §508.
- N. Bicycle Parking Facilities.
 - 1. <u>Applicability</u>. Bicycle parking facilities shall be provided for any new building, addition or enlargement of an existing building, or for any change in the occupancy of any new building that results in the need for additional auto parking facilities.
 - <u>Requirement.</u> The required number of bicycle storage spaces shall be provided as follows:
 a. Non-Residential Uses: One bicycle storage space for every forty (40) vehicular parking spaces or less.
 - b. Multi-Residential Uses: One bicycle storage space for every twenty (20) dwelling units.
 - c. Single-family dwellings shall be exempt from this requirement.
 - 3. Location. The location of bicycle parking spaces shall be provided as follows:
 - a. Well-lit for safety purposes; and
 - b. Paved and drained to be reasonably free of mud, dust, and standing water; and
 - c. Not impede pedestrian or automobile traffic flow; and
 - d. Placed as to not cause damage to plant material from bicycle traffic; and
 - e. located on private property and not within the public right-of-way; and
 - f. located within fifty (50') feet of a building main entrance.
 - 4. <u>Design</u>. Bicycle parking infrastructure shall be designed as follows:
 - a. Allow bicycle frame and both wheels to be securely locked to the parking structure.
 - b. Permanent construction shall be affixed to the pavement, such as heavy gauge tubular steel with angle bars, inverted-U or ribbon racks.
 - c. Bicycle parking facilities shall provide the following minimum dimensions:
 - i. two (2') feet in width,
 - ii. six (6') feet in length, with additional back-out or maneuvering space of at least five (5') feet.
 - iii. overhead vertical clearance of seven (7') feet.
- O. <u>Bus Stop</u>. If the development abuts an existing or proposed bus route, bus stop easements may be required in suitable locations as determined by NJ Transit and the Township provided that safe and accessible conditions are met.
- P. <u>Reserve Parking</u>. Where the total number of off-street parking spaces required may not be immediately required for a particular use, a staged development plan may be permitted that requires a portion of the parking area, but not more than twenty-five (25%) percent of the required spaces,

subject to the following regulations:

- 1. The site plan shall clearly indicate both the portion of the parking area to be initially paved and the total parking area to eventually be paved and the total parking needed to provide the number of spaces required.
- 2. The portion of the parking area not to be paved initially shall be landscaped, in accordance with §508.
- 3. All site requirements, including parking calculation, drainage impacts, zoning requirements, utility infrastructure, and similar must be based on the assumption that all reserve parking will be constructed.
- 4. Any change of use on a site for which the Board of Jurisdiction may have approved a partial paving of off-street parking areas to a use, which requires more parking spaces than are provided on the site shall require submission of a new site plan.
- 5. Any such reserved parking must be constructed upon request of the Director of Community Development or Zoning Officer. A formal agreement between the Township and the developer must be executed to ensure that such parking will be constructed upon the direction of the Director of Community Development or Zoning Officer.
- Q. <u>Miscellaneous Provisions.</u>
 - The locations of fire lanes, to ensure the efficient and effective use of fire apparatus, shall be subject to the review and approval of the Fire Marshal. Fire lanes shall be a minimum of eighteen (18') feet in width unless contiguous to an access aisle.
 - 2. No area shall be used for parking if it is not large enough to provide for at least three (3) contiguous stalls, unless approval otherwise is obtained from the body, agency, or official having jurisdiction of the plan.
 - 3. When the parking area is designed for angle parking, the stalls on both sides shall be inclined so as to permit a driver approaching from either end of the aisle to have access to the stalls on one side.

SECTION 512. STREET DESIGN.

- A. The arrangement of new streets shall be such as to provide for the appropriate extension of existing streets shown on the Official Map or Circulation Element of the Master Plan.
- B. Each residential street shall be classified and designed in accordance with the standards set forth in the New Jersey Residential Site Improvement Standards (R.S.I.S.) N.J.A.C. 5:21-4 et. seq. Unless specified otherwise below, streets providing service to non-residential developments shall also comply with N.J.A.C. 5:21-4 et. seq.
- C. <u>General Requirements.</u>
 - 1. Residential and residential sub-collector streets shall be so designed as to discourage through traffic.
 - 2. Grid and modified grid street patterns that create civic plazas or parks as the focal points of streets should be utilized instead of curvilinear patterns. Dead ends and cul-de-sacs are discouraged.
 - 3. If a dead-end is of temporary nature, a turnaround shall be provided and provisions made for future extension of the street and reversion of the excess right-of-way to the adjoining properties.
 - 4. No street shall have a name that will duplicate or so nearly duplicate as to be confused with the names of existing streets. The continuation of an existing street shall have the same name. All street names shall be checked against the Township master file of street names.
- D. Non-Residential streets shall be designed in accordance with the Table 5.10:

TABLE 5.10. NON-RESIDENTIAL STREET REQUIREMENTS						
Zone	Right-of-Way (feet)	Cartway (feet)	Sidewalk Required	Curb Required	Parking Permitted	
Industrial Restricted (IR)	60'	30'	Yes	Yes	No	
Office (O1, O2 & O3)	50'	26'	Yes	Yes	No	
Business (B1, B2, B3 & B4)	50'	28'	Yes	Yes	No	
Institutional (IN)	50'	30'	Yes	Yes	Yes	

E. Subdivisions.

- 1. The Board may require that a subdivision abutting a major collector or arterial street shall be provided with a marginal service road or reverse frontage with a twenty-five (25') foot buffer strip for planting or some other means of separation of through and local traffic.
- 2. Buffer areas contiguous to collector or arterial roadways separating subdivisions from said roadways shall not be dedicated to the Township except as may be provided for by the governing body.
- 3. Subdivisions that adjoin or include existing streets that do not conform to width as shown on the Official Map or the right-of-way or cartway widths required herein shall have additional width dedicated along either one (1) or both sides of said road. If the subdivision is along one (1) side only, one-half $(\frac{1}{2})$ of the required extra width shall be dedicated.
- 4. Grades on all non-residential streets shall not exceed ten percent (10%) unless a unique natural state shall exist. On the basis of such a situation, the Planning or Zoning Board Engineer shall review the particular deviation and report his findings and recommendations to the Board. No street shall have a minimum grade of less than one-half (.005%) percent.

F. <u>Pavement Thickness.</u>

1. For non-residential roads, the pavement thickness design shall, as a minimum, conform to the Table 5.11:

TABLE 5.11. PAVEMENT THICKNESS					
Classification	HMA 9.5M64 Surface Course	HMA 19M64 Base Course	Dense Graded Aggregate		
Industrial	2"	5"	6"		
Major Arterial	2"	5"	6"		
Collector Street	2"	5"	6"		
Local Street	2"	4"	6"		
Minor Streets	2"	4"	6"		

- 2. At the option of the applicant, the pavement thickness may be determined by the certified results of soil testing and analysis conducted by the applicant to determine the bearing strength of the subgrade soil together with the projected use of the street or highway with an adequate margin to cover all contingencies and extraordinary condition. Where such tests are conducted, the pavement design shall be reviewed and approved by the Board Engineer. The calculations should assume a twenty-year (20) life for the pavement and account for construction traffic during the period when no surface course has been provided.
- 3. The design shall be field verified prior to construction with a proof roll and CBR testing. CBR value must be above 10 at 95% standard proctor.

G. Sight Triangle.
Dedicated sight triangles shall be provided at all street intersections. The apex shall be set a minimum of twenty (20') feet behind the curb or edge of pavement of the uncontrolled street. The length shall be based on NJDOT Figure 6-B (dated November 18, 1994) standards as shown in Table 5.12:

TABLE 5.12.	SIGHT TRIANGLE
Design Speed	Length
30 mph	380 feet
35 mph	480 feet
40 mph	580 feet
45 mph	700 feet
50 mph	840 feet
55 mph	1,000 feet

- 2. Vertical curves and sight distances shall be based on an estimated design speed of the roadway where it is likely the speeds will frequently exceed the posted limit.
- 3. Stabilized shoulders are required on roadways with less than a twenty-four (24') foot cartway.

SECTION 513. SIDEWALK & PEDESTRIAN WAYS.

- A. <u>Where Required</u>. Except where otherwise required by the New Jersey Residential Site Improvement Standards (R.S.I.S.) in *N.J.A.C.* 5:21-4, concrete sidewalks and curbs shall be installed on both sides of all streets.
- B. Sidewalk Standards.
 - 1. All sidewalks shall be a minimum of four (4') feet wide and four (4") inches thick, except at driveway crossings where they shall be six (6") inches thick.
 - 2. Where sidewalks would be less than twenty-four (24") inches from the face of the curb, they should be installed adjacent to the curb and widened to six (6') feet.
 - 3. Sidewalks shall be set as far back from the roadway as practical, flush with the interior right-ofway line.
 - 4. Wider sidewalks may be required near pedestrian generators, at the discretion of the Planning or Zoning Board, and along principal and minor arterials.
 - 5. Pedestrian pathways shall be established from any parking lot to the street sidewalk system in the front and side(s) of a building (if applicable).
 - 6. Curbing shall conform to the R.S.I.S. requirements in residential uses. Otherwise, curbing shall also be installed whenever the separation from the edge of roadway to sidewalk is less than six (6') feet.
 - 7. Where pedestrian ways are located through residential blocks (*N.J.A.C.* 5:21-4.5[d]), a dedicated right-of-way shall be provided to either the Township or homeowners association. The width of the right-of-way shall be a minimum of ten (10') feet, not to exceed twenty (20') feet.

SECTION 514. UTILITIES & INFRASTRUCTURE.

A. <u>Water Supply.</u>

- 1. All water distribution systems shall be designed and installed in accordance with the regulation of the New Jersey Department of Environmental Protection (NJDEP) and, for residential development, the New Jersey Residential Site Improvement Standards (RSIS) as set forth under N.J.A.C. 5:21-5. The system is to be designed to ensure the provision of adequate pressure and volume of water necessary to provide for the maximum daily demand plus fire suppression.
- 2. Hydrant locations are to comply with R.S.I.S. standards and with the requirement of the local Fire

Code Official. Valves are to be located so that no more than one hydrant is affected by shutting off any one section and that no more than three (3) valves are necessary to shut off any one section.

- 3. Documentation that service can be provided shall be obtained from the appropriate water company and submitted to the local approving agency.
- 4. If private wells are proposed, Camden County Health Department approval will be required.
- B. Sanitary Sewer System.
 - 1. Sanitary sewer systems shall be designed and installed in accordance with NJDEP regulations, the Camden County Municipal Utility Authority (CCMUA) standards and regulations, and the New Jersey Residential Site Improvement Standards (R.S.I.S.) as set forth under 5:21-6, and by reference, the regulations contained therein.
 - 2. Any development within a two hundred (200') feet of any public sanitary sewer located in a street or right-of-way, adjacent to or over lands shall be connected with the public sewer system.
 - 3. Documentation that treatment can be provided shall be obtained from the CCMUA and submitted to the local approving agency.
- C. Individual Subsurface Disposal Systems.
 - 1. Individual subsurface disposal systems shall comply with the requirements set forth under N.J.A.C. 7:9A-3.2 and 3.16. Camden County Department of Health approval will be necessary.
 - 2. For development on lots of less than forty thousand (40,000) square feet utilizing such systems, the following criteria shall be shown and/or demonstrated:
 - 3. The location of the system and its discharge point, and size of the parcel on which the system is located, will ensure that groundwater exiting from the parcel or entering a surface body of water will not exceed two (2) parts per million nitrate/nitrogen;
 - 4. The percolation rate is no greater than thirty (30) minutes per inch;
 - 5. The depth to seasonal high water table is at least five (5') feet; and
 - 6. The location of all wells within five hundred (500') feet of the site shall be shown.
- D. <u>Underground Wiring.</u>
 - 1. All electric, telephone, television, and other communication service facilities, both main and service lines, shall be installed below grade as set forth under subsection 5:21-4.12 of the New Jersey Residential Site Improvement Standards, the specifications of which are extended to non-residential development.
 - 2. The Board having jurisdiction may require the removal of all existing on-site overhead utilities, including (but not limited to) electric and/or telephone distribution supply lines.
- E. Storm Sewer.
 - 1. On non-residential developed sites, RCP, DIP, and HDPE stormsewer is permitted for in-line stormsewer runs within the property lines of the site. The applicant shall ensure the HDPE is installed per manufacturer's specifications.
 - 2. On residential development sites, stormsewer shall conform to R.S.I.S. specifications.
 - 3. In Township Right-of-Ways and Easements, Reinforced Concrete Pipe (RCP) and Ductile Iron Pipe (DIP) shall be used.
 - 4. RCP, DIP, HDPE and PVC pipe is permitted for roofdrain leaders and connections.
 - 5. The minimum pipe diameter for in-line stormsewer runs shall be fifteen (15") inches.
 - 6. The minimum pipe diameter of roofdrain leaders and connections shall be four (4") inches. The design calculations for roofdrain systems shall be included within the stormwater calculations.
 - 7. Cleanouts shall be provided at each downspout connection to an underground roofdrain system. An overflow device shall be provided at each downspout connection to provide relief in the event

of a clog. Cleanouts shall be provided at each change in line or grade and every four hundred (400') feet at a minimum for roofdrain leaders and connections.

- 8. If the stormsewer has less than eight (8') feet of cover, the pipe shall be no closer than ten (10') feet (in a lateral direction) to existing or proposed trees. Stormsewer shall be shown on the landscaping plan.
- 9. Perforated Pipe may be considered for infiltration. The following information shall be submitted for review:
 - a. Perforated pipe shall be connected to an approved drainage structure or have an approved outflow point.
 - b. The end of the system shall be equipped with a cleanout. A concrete collar shall be provided for any cleanouts under vehicle loading.
 - c. Soil borings shall be provided, which show Seasonal High Water Table levels.
 - d. Design calculations shall be provided.
 - e. Design Details shall be provided.
- 10. Underdrains may be considered for dewatering of the subgrade of roadways. The following information shall be submitted for review:
 - a. Underdrains shall be connected to an approved drainage structure or approved outflow point.
 - b. The end of the system shall be equipped with a cleanout. A concrete collar shall be provided for any cleanouts under vehicle loading.
 - c. Soil borings shall be provided, which show Seasonal High Water Table levels.
 - d. Design calculations shall be provided.
 - e. Design Details shall be provided.
- 11. Manholes shall have a thirty (30") inch clear opening at the cover. Campbell Foundry pattern number 1012B or approved equal shall be used.
- 12. Scour holes shall not be used near residential developments.

SECTION 515. ENVIRONMENTAL CONSTRAINTS.

- A. All applications for development and uses of land in wetlands shall be subject to and permitted only in compliance with the provisions of the New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and the regulations adopted thereunder (N.J.A.C. 7:7A-1 et seq.) Any provisions in this Ordinance referring to wetlands regulations shall be construed to mean the provisions of the New Jersey Freshwater Wetlands Protection Act and the regulations adopted pursuant thereto.
- B. All applications for development shall show the limits of wetlands, wetland buffer area, stream encroachment limits, stream buffer area, flood plain (per 2007 or more recent FEMA FIRM) and other environmental constraints. In the case of subdivisions, this shall be included on the Plan of Lots, recorded in the deeds, and a point-of-sale disclosure provided to all prospective buyers of individual lots.

SECTION 516. STORMWATER MANAGEMENT.

A. Scope & Purpose.

 Policy Statement. Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including green infrastructure Best Management Practices (GI BMPs) and nonstructural stormwater management strategies.. GI BMPs and low impact development (LID) should be utilized to meet the goal of maintaining natural hydrology to reduce stormwater runoff volume, reduce erosion, encourage infiltration and groundwater recharge, and reduce pollution. GI BMPs and LID should be developed based upon physical site conditions and the origin, nature and the anticipated quantity, or amount, of potential pollutants. Structural and GI BMPs should be integrated with nonstructural stormwater management strategies and LID along with proper maintenance plans. Nonstructural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. Source control plans should be developed based upon physical site conditions and the origin, nature, and the anticipated quantity or amount of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

- 2. <u>Purpose</u>. The purpose of this Ordinance is to establish minimum stormwater management requirements and controls for development, including "major development," as defined in §202.
- 3. <u>Applicability</u>. This Ordinance shall be applicable to the following:
 - a. All major and minor site plans and subdivisions that require review, specifically the following:
 i. Non-Residential 'major developments', as defined in §202; and
 - ii. Residential 'major developments', which are not pre-empted by the Residential Site Improvement Standards (R.S.I.S.) per N.J.A.C. 5:21.
 - b. All 'major developments' undertaken by the Township of Cherry Hill.
 - c. 'Minor developments', as defined in §202, shall adhere to §516.D, §516.E.15, §516.E.16 and §516.E.18, under the following condition:
 - i. Any subdivision or minor or major site plan approval, bulk (c) variances for open space, pursuant to N.J.S.A. 40:55D-70c.
- 4. <u>Compatibility.</u> Planning and/or Zoning Board development approvals issued for subdivisions and site plans, pursuant to this Ordinance, are to be considered an integral part of any land use development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this Ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This Ordinance is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this Ordinance imposes restrictions different from those imposed by any other Ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.
- B. <u>Definitions.</u> For the purpose of this ordinance, the terms, phrases, words and their derivations shall have the meanings stated in §201 & §202 unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory. In addition to the word usage in §201 and definitions provided in §202, the following definitions shall apply to this ordinance and should be the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.
 - 1. MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the Township of Cherry Hill or other public body, and is designed and used for collecting and conveying stormwater.
 - 2. STORM DRAIN INLET: an opening in a storm drain used to collect stormwater runoff and includes, but is not limited to, a grate inlet, curb-opening inlet, slotted inlet, and combination inlet.

- 3. TIME of CONCENTRATION: the time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of interest within a watershed.
- C. Design & Performance Standards.
 - 1. Stormwater management measures for major development shall be designed to provide erosion control, groundwater recharge, stormwater runoff quantity control, and stormwater runoff quality treatment as follows:
 - a. The minimum standards for erosion control are those established under the Soil and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules at N.J.A.C. 2:90.
 - b. The minimum standards for groundwater recharge, stormwater quality, and stormwater runoff quantity shall be met by incorporating green infrastructure.
 - 2. The standards in this ordinance apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under the Cooper River Regional Stormwater Management Plan & amendments (2004, amended 2006) and similar regional plans, adopted in accordance with NJDEP rules.
- D. <u>Storm Drain Inlet Retrofit.</u> The purpose of retrofitting existing storm drain inlets is to prevent the discharge of solids and floatables (such as plastic bottles, cans, food wrappers and other litter) to the municipal separate storm sewer system(s) operated by the Township so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply. To achieve this purpose, the following shall apply:
 - 1. <u>Applicability.</u> The repaving, repairing (excluding the repair of individual potholes), resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen), reconstructing or altering of any surface that is in direct contact with an existing storm drain inlet on private property.
 - 2. Exceptions. The following shall be exempt from storm drain inlet retrofit:
 - a. Residential lot with one single-family dwelling; or
 - b. any site that meets the design standards in §516.E.16.c., below, to control passage of solid and floatable materials; or
 - c. any site that is retrofitted or replaced to meet the design standards in §516.E.16.c., below, prior to the completion of the project.
 - 3. <u>Design Standard.</u> Storm drain inlets identified in §516.D.1, above, shall comply with §516.E.16.c.

- 4. <u>Enforcement.</u> The compliance of retrofitting existing storm drain inlets, §516.D, shall be enforced by the Zoning Officer in accordance with Article XI.
- E. <u>Major Development Requirements.</u>
 - 1. <u>Maintenance Plan.</u> Development shall incorporate a Maintenance Plan for the stormwater management measures incorporated into the design of a major development, in accordance with §516.J.
 - <u>Habitat Protection</u>. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species, as documented in the New Jersey Department of Environmental Protection (NJDEP) Landscape Project or Natural Heritage Database, established under N.J.S.A. 13:1B-15.147 through 15.150, particularly helonias bullata (swamp pink) and/or clemmys muhlnebergi (bog turtle).
 - 3. <u>Exemptions.</u> The following linear development projects are exempt from the groundwater recharge, stormwater runoff quality, and stormwater runoff quality requirements of §516.E.17. & §516.E.18:
 - a. The construction of an underground utility line, provided that the disturbed areas are revegetated upon completion;
 - b. The construction of an above-ground utility line, provided that the existing conditions are maintained to the maximum extent practicable; and
 - c. The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of fourteen (14') feet, provided that the access is made of permeable material.
 - 4. <u>Waiver.</u> A waiver from strict compliance from the green infrastructure groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of §516.E.15, §516.E.17 & §516.E.18 may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the applicant requesting the waiver can demonstrate the following conditions are met:
 - a. The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;
 - b. The applicant demonstrates through an alternatives' analysis that through the use of stormwater management measures, the option selected complies with the requirements of §516.E.15, §516.E.17 & §516.E.18 to the maximum extent practicable;
 - c. The applicant demonstrates that in order to meet the requirements of §516.E.15, §516.E.17 & §516.E.18, existing structures currently in use, such as homes and buildings, would need to be condemned; and
 - d. The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under §516.E.4.c. above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of §516.E.15, §516.E.17 & §516.E.18 that were not achievable on-site.
 - 5. Tables 5.15A through C below summarize the ability of stormwater best management practices (BMP) identified and described in the New Jersey Stormwater Best Management Practices (NJ BMP) Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified in §516.E.15, §516.E.17, and §516.E.18. When designed in accordance with the most current version of the NJ BMP Manual, the stormwater management measures found at N.J.A.C. 7:8-5.2 (f) Tables 5-1, 5-2 and 5-3 and listed below in Tables 5.15A, 5.15B, and 5.15C are presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. Upon amendments of the

New Jersey Stormwater BMP to reflect additions or deletions of BMPs meeting these standards, or changes in the presumed performance of BMPs designed in accordance with the New Jersey Stormwater BMP Manual, the Department shall publish in the New Jersey Registers a notice of administrative change revising the applicable table. The most current version of the BMP Manual can be found on the Department's website at: https://njstormwater.org/bmp_manual2.htm

6. Where the BMP tables in the NJ Stormwater Management Rule are different due to updates or amendments with the tables in this ordinance the BMP Tables in the Stormwater Management rule at N.J.A.C. 7:8-5.2(f) shall take precedence.

Table 5.13A						
<u>Green Infras</u>	<u>Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff</u> Quality, and/or Stormwater Runoff Quantity					
Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	mwater f Quality Stormwater Removal Runoff Groundwater Rate Quantity Recharge ercent)		Minimum Separation from Seasonal High Water Table (feet)		
Cistern	0	Yes	No			
Dry Well ^(a)	0	No	Yes	2		
Grass Swale	50 or less	No	No	2 ^(e) 1 ^(f)		
Green Roof	0	Yes	No			
Manufactured Treatment Device ^{(a) (g)}	50 or 80	No No		Dependent upon the device		
Pervious Paving System ^(a)	80	Yes	Yes ^(b) No ^(c)	2 ^(b) 1 ^(c)		
Small-Scale Bioretention Basin ^(a)	80 or 90	Yes	Yes ^(b) No ^(c)	2 ^(b) 1 ^(c)		
Small-Scale Infiltration Basin ^(a)	80	Yes	Yes	2		

Small-Scale Sand Filter	80	Yes	Yes	2
Vegetative Filter Strip	60-80	No	No	

(Notes corresponding to annotations (a) through (g) are found under Table 5.15C)

		Table 5.13B				
Green Infrastructure BMPs for Stormwater Runoff Quantity (or for Groundwater Recharge and/or Stormwater Runoff Quality with a Waiver or Variance from N.J.A.C. 7:8-5.3)						
Best Management Practice	Minimum Separation from Seasonal High Water Table (feet)					
Bioretention System	80 or 90	Yes	Yes ^(b) No ^(c)	2 ^(b) 1 ^(c)		
Infiltration Basin	80	Yes	Yes	2		
Sand Filter ^(b)	80	Yes	Yes	2		
Standard Constructed Wetland	90	Yes	No	N/A		
Wet Pond ^(d)	50-90	Yes	No	N/A		

(Notes corresponding to annotations (b) through (d) are found under Table 5.15C)

		Table 5.13C		
BMPs for Grour	ndwater Recharge only with a Waive	, Stormwater Ru Runoff Quantity r or Variance fro	noff Quality, and m N.J.A.C. 7:8-5.3	/or Stormwater
Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)	
Blue Roof	0	Yes	No	N/A

Extended Detention Basin	40-60	Yes	No	1
Manufactured Treatment Device ^(h)	50 or 80	No	No	Dependent upon the device
Sand Filter ^(c)	80	Yes	No	1
Subsurface Gravel Wetland	90	No	No	1
Wet Pond	50-90	Yes	No	N/A

Notes to Tables 5.15A, 5.15B, and 5.15C:

- (a) subject to the applicable contributory drainage area limitation specified at §516.E.15.b;
- (b) designed to infiltrate into the subsoil;
- (c) designed with underdrains;
- (d) designed to maintain at least a 10-foot wide area of native vegetation along at least 50
 percent of the shoreline and to include a stormwater runoff retention component designed
 to capture stormwater runoff for beneficial reuse, such as irrigation;
- (e) designed with a slope of less than two percent;
- (f) designed with a slope of equal to or greater than two percent;
- (g) manufactured treatment devices that meet the definition of green infrastructure at §202;
- (h) manufactured treatment devices that do not meet the definition of green infrastructure at §202.
- 7. An alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate may be used if the design engineer demonstrates the capability of the proposed alternative stormwater management measure and/or the validity of the alternative rate or method to the municipality. A copy of any approved alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate shall be provided to the Department in accordance with §516.K.2. Alternative stormwater management measures may be used to satisfy the requirements at §516.E.15 only if the measures meet the definition of green infrastructure at $\S 202$. Alternative stormwater management measures that function in a similar manner to a BMP listed at §516.E.15.b are subject to the contributory drainage area limitation specified at §516.E.15.b for that similarly functioning BMP. Alternative stormwater management measures approved in accordance with this subsection that do not function in a similar manner to any BMP listed at §516.E.15.b shall have a contributory drainage area less than or equal to 2.5 acres, except for alternative stormwater management measures that function similarly to cisterns, grass swales, green roofs, standard constructed wetlands, vegetative filter strips, and wet ponds, which are not subject to a contributory drainage area limitation. Alternative measures that function similarly to standard constructed wetlands or wet ponds shall not be used for compliance with the stormwater runoff quality standard unless a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with §516.E.4 is granted from §516.E.15.

- 8. Whenever the stormwater management design includes one or more BMPs that will infiltrate stormwater into subsoil, the design engineer shall assess the hydraulic impact on the groundwater table and design the site, so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high water table, so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems or other subsurface structures within the zone of influence of the groundwater mound, or interference with the proper functioning of the stormwater management measure itself.
- 9. Design standards for stormwater management measures are as follows:
 - a. Stormwater management measures shall be designed to take into account the existing site conditions, including, but not limited to, environmentally critical areas; wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability, and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone);
 - b. Stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure, as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third the width of the diameter of the orifice or one-third the width of the weir, with a minimum spacing between bars of one inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of §516.H.1;
 - c. Stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement;
 - d. Stormwater management BMPs shall be designed to meet the minimum safety standards for stormwater management BMPs at §516.H; and
 - e. The size of the orifice at the intake to the outlet from the stormwater management BMP shall be a minimum of two and one-half inches in diameter.
- 10. Manufactured treatment devices may be used to meet the requirements of this subchapter, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department. Manufactured treatment devices that do not meet the definition of green infrastructure at §202 may be used only under the circumstances described at §516.E.15.d.
- 11. Any application for a new agricultural development that meets the definition of major development at §202 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at §516.E.15, §516.E.17, and §516.E.18 and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this subsection, "agricultural development" means land uses normally associated with the production of food, fiber, and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.
- 12. If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at §516.E.17 and §516.E.18 shall be met in each drainage area, unless the runoff from the drainage areas converge onsite and no adverse environmental impact would occur as a result of compliance with any one or more of the individual standards being determined utilizing a weighted average of the results achieved for that individual standard

across the affected drainage areas.

13. Any stormwater management measure authorized under the municipal stormwater management plan or ordinance shall be reflected in a deed notice recorded in the Camden County Clerk's office. A form of deed notice shall be submitted to the municipality for approval prior to filing.

The deed notice shall contain a description of the stormwater management measure(s) used to meet the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at §516.E.15, §516.E.17, and §516.E.18 and shall identify the location of the stormwater management measure(s) in NAD 1983 State Plane New Jersey FIPS 2900 US Feet or Latitude and Longitude in decimal degrees. The deed notice shall also reference the maintenance plan required to be recorded upon the deed pursuant to §516.J.1.c.iii. Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the municipality. Proof that the required information has been recorded on the deed shall be in the form of either a copy of the complete recorded document or a receipt from the clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the municipality is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the municipality within 180 calendar days of the authorization granted by the municipality.

- 14. A stormwater management measure approved under the municipal stormwater management plan or ordinance may be altered or replaced with the approval of the municipality, if the municipality determines that the proposed alteration or replacement meets the design and performance standards pursuant to §516.E of this ordinance and provides the same level of stormwater management as the previously approved stormwater management measure that is being altered or replaced. If an alteration or replacement is approved, a revised deed notice shall be submitted to the municipality for approval and subsequently recorded with the Camden County Clerk's office and shall contain a description and location of the stormwater management measure, as well as reference to the maintenance plan, in accordance with §516.E.13 above. Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the municipality in accordance with §516.E.13 above.
- 15. Green Infrastructure Standards.
 - a. This subsection specifies the types of green infrastructure BMPs that may be used to satisfy the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.
 - b. To satisfy the groundwater recharge and stormwater runoff quality standards at §516.E.17.a.ii and §516.E.18, the design engineer shall utilize green infrastructure BMPs identified in Table 5.15A at §516.E.6 and/or an alternative stormwater management measure approved in accordance with §516.E.7. The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

Table 5.14			
Maximum Contribu	tory Drainage Areas		
Best Management Maximum Contributory			
Practice	Drainage Area		
Dry Well	1 acre		
Manufactured Treatment Device	2.5 acres		

Pervious Pavement Systems	Area of additional inflow cannot exceed three times the area occupied by the BMP
Small-scale Bioretention Systems	2.5 acres
Small-scale Infiltration Basin	2.5 acres
Small-scale Sand Filter	2.5 acres

- c. To satisfy the stormwater runoff quantity standards at §516.E.17.a.iii, the design engineer shall utilize BMPs from Table 5.13A or from Table 5.13B and/or an alternative stormwater management measure approved in accordance with §516.E.7.
- d. If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with §516.E.4 is granted from the requirements of this subsection, then BMPs from Table 5.13A, 5.13B, or 5.13C, and/or an alternative stormwater management measure approved in accordance with §516.E.7 may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at §516.E.17 & §516.E.18.
- e. For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this subsection shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right-of-way or easement held or controlled by the government agency or utility; the entity shall not be required to obtain additional property or property rights to fully satisfy the requirements of this subsection. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this subsection, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at §516.E.17 and §516.E.18, unless the project is granted a waiver from strict compliance in accordance with §516.E.4.
- 16. Nonstructural Strategies.
 - a. To the maximum extent practicable, the standards in §516.E.6 & §516.E.7 shall be met by incorporating nonstructural stormwater management strategies set forth at §516.E.5 into the design. The nonstructural measures incorporated into the design of the project shall be identified by the applicant. If it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management measures identified in §516.E.5.b. into the design of a particular project, the strategy considered shall be identified and a basis provided for the contention.
 - b. Nonstructural stormwater management strategies incorporated into site design shall:
 - i. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
 - ii. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
 - iii. Maximize the protection of natural drainage features and vegetation;
 - iv. Minimize the decrease in the "time of concentration" from pre-construction to post construction.

- v. Minimize land disturbance including clearing and grading;
- vi. Minimize soil compaction;
- vii. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;
- viii. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;
- ix. Provide other source controls to prevent or minimize the use or exposure of pollutants at the site, in order to prevent or minimize the release of those pollutants into stormwater runoff. Such source controls include, but are not limited to:
 - (a) Site design features that help to prevent the following
 - (1) accumulation of trash and debris in drainage systems, including features that satisfy §516.E.5.
 - (2) discharge of trash and debris from drainage systems;
 - (3) harmful accumulations of pollutants at industrial or commercial developments; and/or spill containment thereof.
 - (b) When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion & Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.
- c. Site design features identified under §516.E.6 and/or §516.E.16.b.ix or alternative designs in accordance with §516.E.7, to prevent discharge of trash and debris from drainage systems shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard, see §516.E.16.c.iii below.
 - i. Grate. Design engineers shall use one of the following grates whenever a grate is utilized in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:
 - (a) The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning & Design Guidelines; or
 - (b) A different grate, if each individual clear space in that grate has an area of no more than seven (7) square inches, or is no greater than 0.5" inches across the smallest dimension.

Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater basin floors used to collect stormwater from the surface into a storm drain or surface water body.

- ii. Curb-Opening Inlet. For curb-opening inlets, including curb-opening inlets in combination inlets, the clear space in that curb opening (or each individual clear space, if the curb opening has two or more clear spaces) shall have an area of no more than seven (7.0) square inches, or be no greater than two (2") inches across the smallest dimension.
- iii. Exemptions. This standard does not apply to the following:

- (a) Where each individual clear space in the curb opening in existing curb-opening inlet does not have an area of more than nine (9.0) square inches;
- (b) Where the Township Engineer, or review Board Engineer if associated with a Board approval, agrees that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;
- (c) Where flows from the water quality design storm, as specified in N.J.A.C. 7:8, are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:
 - (1) A rectangular space four and five-eighths (4 5/8") inches long and one and one-half (1 $\frac{1}{2}$ ") inches wide (this option does not apply for outfall netting facilities); or
 - (2) A bar screen having a bar spacing of 0.5" inches.

Note that these exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

- (d) Where flows are conveyed through a trash rack that has parallel bars with one-inch (1") spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8; or
- (e) Where the NJDEP determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.
- iv. Any land area used as a nonstructural stormwater management measure to meet the performance standards for erosion control, groundwater recharge, and runoff quantity (§515.E.17), as well as stormwater runoff quality (§516.E.18), shall be subject to the following:
 - (a) a conservation deed restriction is filed with the Camden County Clerk's office; or
 - (b) dedicated to the Township or County; or
 - (c) subject to an approved equivalent restriction that the stormwater management measure approved by the Township, Planning Board, or Zoning Board is maintained in perpetuity.
- v. Guidance for nonstructural stormwater management strategies is available in the NJ BMP Manual. The BMP Manual may be obtained from the NJDEP or found on the NJDEP website at <u>www.njstormwater.org</u>.
- 17. Erosion Control, Groundwater Recharge & Runoff Quantity Standards.
 - a. This subsection contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development.
 - i. The minimum design and performance standards for erosion control are those established under the Soil Erosion & Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules.
 - ii. The minimum design and performance standards for groundwater recharge are as follows:

 (a) Recharge. The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at §516.F, demonstrate through hydrologic and hydraulic analysis either:

- (1) The site and its stormwater management measures maintain 100% percent of the average annual pre-construction groundwater recharge volume for the site; or
- (2) The increase of stormwater runoff volume from pre-construction to post-construction for the two-year storm is infiltrated.
- (b) Recharge Exceptions. This groundwater recharge requirement does <u>not</u> apply to projects within the "urban redevelopment area," or to the following projects:
 - (1) High Pollutant Loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with NJDEP approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and
 - (2) Industrial Exposure. "Source material" means any material(s) or machinery, located at an industrial facility, which is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.
- iii. The minimum design and performance standards to control stormwater runoff quantity impacts of major development are included in this subsection.
 - (a) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at §516.F, complete one of the following:

(1) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two, 10-, and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

(2) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the two, 10-, and 100-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area;

(3) Design stormwater management measures so that the post-construction peak runoff rates for the two, 10-, and 100 year storm events are 50%, 75% and 80% percent, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed; or

(4) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with (1), (2) and (3) above is required unless the design engineer demonstrates through

hydrologic and hydraulic analysis that the increased volume, change in timing, or increased rate of the stormwater runoff, or any combination of the three will not result in additional flood damage below the point of discharge of the major development. No analysis is required if the stormwater is discharged directly into any ocean, bay, inlet, or the reach of any watercourse between its confluence with an ocean, bay, or inlet and downstream of the first water control structure.

- (b) The stormwater runoff quantity standards shall be applied at the site's boundary to each abutting lot, roadway, watercourse, or receiving storm sewer system. This does not relieve the applicant of accommodating offsite runoff in onsite stormwater management facilities.
- 18. Stormwater Runoff Quality Standards.
 - a. This subsection contains the minimum design and performance standards to control stormwater runoff quality impacts of major development. Stormwater runoff quality standards are applicable when the major development results in an increase of one-quarter acre or of regulated motor vehicle surface.
 - b. Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm as follows:
 - i. Eighty (80%) percent TSS removal of the anticipated load, expressed as an annual average shall be achieved for the stormwater runoff from the net increase of motor vehicle surface. The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollution Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement.
 - ii. For redevelopment of existing impervious surfaces with regulated motor vehicle surface, the minimum required TSS removal rate is the greater of the TSS removal rate of the existing stormwater treatment system or 50% TSS removal rate.
 - c. The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Every major development, including any that discharge into a combined sewer system, shall comply with 2 above, unless the major development is itself subject to a NJPDES permit with a numeric effluent limitation for TSS or the NJPDES permit to which the major development is subject exempts the development from a numeric effluent limitation for TSS.
 - d. The water quality design storm is 1.25" inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 5.15. The calculation of the volume of runoff may take into account the implementation of stormwater management measures.
 - e. If more than one BMP in series is necessary to achieve the required 80 percent TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

R = A + B - (AXB)/100

Where

R = total TSS percent load removal from application of both BMPs, and

A = the TSS percent removal rate applicable to the first BMP (see Tables 5.13A-C)

B = the TSS percent removal rate applicable to the second BMP (see Tables 5.13A-C)

Time	Cumulative Rainfall	Time	Cumulative Rainfall	Time	Cumulative Rainfall
(Minutes)	(Inches)	(Minutes)	(Inches)	(Minutes)	(Inches)
1	0.00166	41	0.1728	81	1.0906
2	0.00332	42	0.1796	82	1.0972
3	0.00498	43	0.1864	83	1.1038
4	0.00664	44	0.1932	84	1.1104
5	0.00830	45	0.2000	85	1.1170
6	0.00996	46	0.2117	86	1.1236
7	0.01162	47	0.2233	87	1.1302
8	0.01328	48	0.2350	88	1.1368
9	0.01494	49	0.2466	89	1.1434
10	0.01660	50	0.2583	90	1.1500
11	0.01828	51	0.2783	91	1.1550
12	0.01996	52	0.2983	92	1.1600
13	0.02164	53	0.3183	93	1.1650
14	0.02332	54	0.3383	94	1.1700
15	0.02500	55	0.3583	95	1.1750
16	0.03000	56	0.4116	96	1.1800
17	0.03500	57	0.4650	97	1.1850
18	0.04000	58	0.5183	98	1.1900
19	0.04500	59	0.5717	99	1.1950
20	0.05000	60	0.6250	100	1.2000
21	0.05500	61	0.6783	101	1.2050
22	0.06000	62	0.7317	102	1.2100
23	0.06500	63	0.7850	103	1.2150
24	0.07000	64	0.8384	104	1.2200
25	0.07500	65	0.8917	105	1.2250
26	0.08000	66	0.9117	106	1.2267
27	0.08500	67	0.9317	107	1.2284
28	0.09000	68	0.9517	108	1.2300
29	0.09500	69	0.9717	109	1.2317
30	0.10000	70	0.9917	110	1.2334
31	0.10660	71	1.0034	111	1.2351
32	0.11320	72	1.0150	112	1.2367
33	0.11980	73	1.0267	113	1.2384
34	0.12640	74	1.0383	114	1.2400
35	0.13300	75	1.0500	115	1.2417
36	0.13960	76	1.0568	116	1.2434
37	0.14620	77	1.0636	117	1.2450
38	0.15280	78	1.0704	118	1.2467
39	0.15940	79	1.0772	119	1.2483
40	0.16600	80	1.0840	120	1.2500

f. Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in

stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include green infrastructure BMPs that optimize nutrient removal while still achieving the performance standards in §516.E.617.a.ii, §516.E.617.a.iii, and §516.E.718.

- g. In accordance with the definition of FW1 at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.
- h. The Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-4.1(c)1 establish 300-foot riparian zones along Category One waters, as designated in the Surface Water Quality Standards at N.J.A.C. 7:9B, and certain upstream tributaries to Category One waters. A person shall not undertake a major development that is located within or discharges into a 300-foot riparian zone without prior authorization from the Department under N.J.A.C. 7:13.
- i. Pursuant to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.2(j)3.i, runoff from the water quality design storm that is discharged within a 300-foot riparian zone shall be treated in accordance with this subsection to reduce the post-construction load of total suspended solids by 95 percent of the anticipated load from the developed site, expressed as an annual average.
- j. This stormwater runoff quality standards do not apply to the construction of one individual single-family dwelling, provided that it is not part of a larger development or subdivision that has received preliminary or final site plan approval prior to December 3, 2018, and that the motor vehicle surfaces are made of permeable material(s) such as gravel, dirt, and/or shells.
- F. Calculation of Stormwater Runoff & Groundwater Recharge.
 - <u>Stormwater Runoff.</u> Stormwater runoff shall be calculated in accordance with Chapter 5 of the NJ BMP Manual (https://www.njstormwater.org/bmp_manual2.htm) and the following:
 - a. The design engineer shall calculate runoff using one of the following methods:
 - The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS i. Runoff Equation & Dimensionless Unit Hydrograph, as described in Chapters 7, 9, 10, 15, and 16 Part 630, Hydrology National Engineering Handbook, incorporated herein by reference as amended and supplemented. This methodology is additionally described in the NRCS Technical Release 55 – Urban Hydrology for Small Watersheds incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the Natural Resources Conservation Service website at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf or at United States Department of Agriculture Natural Resources Conservation Service, 220 Davison Avenue, Somerset, New Jersey 08873; or
 - ii. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)3. The location, address, and telephone number for each Soil Conservation District is available from the State Soil Conservation Committee, PO Box 330, Trenton, New Jersey 08625. The document is also available at:

http://www.nj.gov/agriculture/divisions/anr/pdf/2014NJSoilErosionControlStandardsComplete.pdf

iii. The New Jersey Department of Agriculture State Soil Conservation Committee Technical

Bulletin 2018-4 effective September 2018 available at:

<u>https://www.camdenscd.org/files/theme/ SESC/NJDA NRCS-Delmarva-Policy-2018.pdf#</u>.

- b. For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology at §516.F.1.a.i and the Rational & Modified Rational Methods at §516.F.1.a.ii A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover have existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition treatment (if the land use type is cultivation).
- c. In computing pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, which may reduce pre-construction stormwater runoff rates and volumes.
- d. In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 – Urban Hydrology for Small Watersheds and other methods may be employed.
- e. If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at *N.J.A.C.* 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.
- 2. <u>Groundwater Recharge.</u> Groundwater recharge may be calculated in accordance with the following:

The New Jersey Geological Survey Report GSR-32: A Method for Evaluating Ground-Water Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the NJ BMP Manual available here: https://www.njstormwater.org/bmp_manual2.htm; at the New Jersey Geological Survey website at https://www.nj.gov/dep/njgs/pricelst/gsreport/gsr32.pdf or at New Jersey Geological and Water Survey, 29 Arctic Parkway, P.O. Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

- G. Township Standards.
 - 1. Variances.
 - a. A variance from providing sufficient stormwater management basins may be requested of the Planning or Zoning Board, in accordance with N.J.S.A. 40:55D-70c. A variance may be granted if a finding that the deficiency will be mitigated by the construction of a stormwater project within the same subdrainage area (HUC-14). The mitigation project must provide the additional groundwater recharge benefits or protection from water quality (TSS removal) or quantity (rate of flow reduction) to compensate for the deficit from the design and performance standards

resulting from the proposed project. The proposed project must meet the design and performance standards set forth in this stormwater ordinance.

b. If a suitable site cannot be located in the same sub-drainage area as the proposed development, as in §516.H.1.a, the mitigation project may provide mitigation that is not equivalent to the impacts for which the exemption is sought, but that addresses the same issue.

For example, if an exemption is given because the peak rate if reduction of 50 percent for the two year storm cannot be met, the selected project may address reducing the orifice size at an existing stormwater management basin.

As another example, if an exemption is given because the removal of 80 percent of the Total Suspended Solids cannot be met, the selected project may provide a natural vegetated buffer around a lake edge to discourage the geese population and address water quality impacts due to fecal impairment.

- c. Construction of real mitigation projects to offset the deficit from the design and performance standards resulting from the proposed project through §516.G.1.a or .b is recommended. However, the Cherry Hill Planning or Zoning Board may permit a developer to provide full funding or partial funding to the Township for a project listed in the Cherry Hill Stormwater Management Plan. Partial funding or full funding must equal or exceed the value of providing the stormwater design on the development site. The value of full funding will include the value to implement the project, including costs to purchase property, easements and long term property maintenance.
- d. In order to justify a variance, an applicant must demonstrate that the variance for the development cannot be met due to unusual circumstances on the existing property. Variances are <u>not</u> recommended for greenfields, i.e. properties that are currently open space or have not been previously developed.
- e. In order to justify a variance, a preliminary stormwater management design and cost analysis of the stormwater system that would be required to meet the recharge, water quality (TSS removal) and water quantity (peak rate of reduction) stormwater management requirements of this Ordinance. This analysis will be utilized to determine and select the mitigation project to be constructed by the applicant.
- f. The developer must ensure the long term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP BMP Manual.
- 2. <u>Mitigation Projects.</u> Exemptions or design waiver(s) are to be granted only upon the condition that the applicant provides one or more of the following mitigation projects of equal value within the same sub-watershed as delineated by the HUC 14. The selection of the mitigation project(s) are to be under the review and approval of the Planning or Zoning Board Engineer, as applicable. The mitigation projects proposed within the Township of Cherry Hill are listed in the Cherry Hill Stormwater Management Plan and the list of mitigation projects will be updated and maintained by the Director of Public Works and the person responsible for the NJDEP NJPDES Municipal Separate Storm Sewer (MS4) Permit. The Mitigation Projects fall into the following basic categories:
 - a. <u>Stormwater Outfall Retrofit</u>. Provide retrofit measures at existing stormwater outfalls within the same HUC14 under the guidance of the Board Engineer and Municipal Engineer:
 - i. Outlet structure modifications (for example, repair of outfall condition though installation of drop manhole, upgraded outfall structure, rip-rap apron, or scour hole).

- ii. Installation of in-line or end-of-pipe BMP as approved by the NJDEP to treat stormwater draining into an existing outfall. The approved treatment devices can be found on <u>www.njstormwater.org</u>
- b. <u>River, Stream or Lake Bank Stabilization</u>. Stabilization projects to reduce the total suspended solids:
 - i. Stabilization of eroded river, creek or lake banks where public or private property or structures are threatened.
 - ii. Stabilization of eroded river, creek or lake banks to reduce sediment deposition and improve water quality.
- c. <u>Stormwater Basin Retrofit</u>. Stormwater Basin retrofit projects to provide water quality and recharge measures within the same HUC14. The retrofit of existing basins may be accomplished through one or more of the following applications:
 - i. Outlet Structure Modifications.
 - ii. Regrading, Design and Landscaping, in accordance with §516.G.6.
 - iii. Elimination of Low Flow Channels.
 - iv. Installation of in-line or end-of-pipe BMP, as approved by the NJDEP, to treat stormwater draining into an existing outfall. The approved treatment devices can be found on <u>www.njstormwater.org</u>.
- d. <u>Stormwater Outfall Restoration</u>. Mitigation of Existing Stormwater Outfalls within the same HUC14 shall be under the guidance of the Cherry Hill Township Engineer and/or Public Works Department. The retrofit of existing outfalls may be accomplished through a variety and/or combination of options to meet the mitigation costs required. Review of each existing outfall condition should be reviewed with the Township before selecting one or more of the following options:
 - i. Replacement of failed outfall structure with outlet protection.
 - ii. Replacement with installation of drop manhole to set outfall structure at invert of stream channel with outlet protection.
 - iii. Installation of in-line or end-of-pipe BMP as approved by the NJDEP to pretreat stormwater before the outfall structure.
 - iv. Disconnect outfall from receiving waterway to eliminate erosion condition. Permitted only with detailed hydrologic analysis and stability analysis of the receiving area.
- e. <u>Lake & Pond Management</u>. The improvement of lake and ponds shall be mitigated by providing the following:
 - i. A comprehensive management plan and maintenance schedule for a publicly held lakes or ponds within Cherry Hill Township.
 - ii. A lake edge stabilization project through the use of native plants and erosion control.
 - iii. A geese management plan through the vegetation of lake edge to reduce the fecal impairment of the lake or pond.
- <u>Underground Detention/Infiltration/Retention Basins</u>. Underground facilities are <u>not</u> recommended as a design solution for residential development. The Township of Cherry Hill will <u>not</u> accept maintenance responsibility for underground stormwater facilities or stormwater outflow control structures located within stormwater inlets within the public right-of-way.

- a. If underground detention/infiltration/retention is proposed, filters and other means of discouraging debris from entering the underground system is required prior to entry of stormwater to the underground system.
 - i. Some ideas include a combination of the following: Flexstorm, Gratemaster, or Stormsack inlet filters, or Trash Guard Plus (or equal); downspout filter(s) placed prior to entering downspout or prior to entering subsurface storage; and gutter guards.
- 4. <u>Setbacks.</u> Detention and/or infiltration basins shall not be permitted in any of the following locations:
 - a. front yard setbacks, per the zone of which the subject basin is located within, and
 - b. side <u>yard setbacks</u>, per the zone of which the subject basin is located within, and
 - c. residential buffers, and
 - d. sight triangle areas, per §502.M, and
 - e. within ten (10') feet of any property line.
- 5. <u>Soils.</u> Soil analysis requirements for stormwater measures shall conform to NJ BMP Manual, Chapter 12. Soil explorations (soil profile pits and soil borings) shall:
 - a. Be of the number, type, and depth(s) as outlined in the NJ BMP Manual.
 - b. Soil permeability tests shall be conducted on the most hydraulically restrictive horizon or as outlined in the NJ BMP manual:



- c. Fractured Bedrock. Stormwater infiltration BMPs relying on fractured bedrock for exfiltration shall be installed as outlined in the NJ BMP Manual.
- d. Soil Tests. A minimum of one (1) permeability test shall be performed at each soil profile pit and soil boring location. Permeability rates can be determined as described as outlined in the NJ BMP Manual.
- e. A soil log shall be prepared for each soil profile pit and soil boring. The soil boring log shall, be in accordance with the NJ BMP Manual and, at a minimum, provide the following:
 - i. elevation of the existing ground surface and elevations of permeability test locations;

- ii. the depth and thickness of each soil horizon and the depth to the substratum;
- iii. the dominant matrix or background and mottle colors using the *Munsell* system of classification for hue, value and chroma;
- iv. the appropriate textural class as shown on the USDA textural triangle; the volume percentage of coarse fragments larger than two (2) millimeters in diameter; the abundance, size, and contrast of mottles;
- v. the soil moisture condition, using standard USDA classification terminology;
- vi. the presence of any soil horizon, substratum or other feature that exhibits an in-place permeability rate less than one (1") inch per hour; the depth and occurrence of soil restrictions including, but not limited to, abrupt textural boundaries likely to restrict the movement of water, fragipans, dense materials, bedrock, and ortstein;
- vii. the depth to the seasonally high ground water level, either perched or regional;
- viii. the static (stabilized) water level, presence of soil mottles or other redoximorphic features; and
- ix. any observed seepage or saturation.
- 6. Landscaping & Design.
 - a. <u>Intent.</u> Detention and retention basins should appear as natural as possible, in addition to functionality, to be a community asset in addition to infrastructure. Essentially, during dry weather these basins will appear as shallow depressions in which native plants grow, while during periods of heavy rain the basins will appear as natural ponds. Detention basins are not intended as long-term seasonal water features; basins will be filled with water only during peak storm flows, after which time water levels will diminish.



- b. <u>Requirements.</u> To achieve this goal, the following shall govern the design of basins in all nonresidential developments and residential developments, unless superseded by the RSIS Subchapter 7:
 - i. Basins shall be not be constructed of concrete or other human-made materials, except at spillways, inlets, and other such control structures.
 - ii. The shape of the basin shall be irregular and asymmetrical in nature, maximizing the preservation of existing tree stands and vegetation.
 - iii. The sides of basins shall be gently-sloping with a maximum slope ratio shall not exceed 4:1. A design waiver may be requested from the Planning or Zoning Board, provided additional stabilization methods are applied, such as turf reinforcement mats, erosion control blankets, and application of seed mixes with quick germination rates.
 - iv. Mowing shall be prohibited in the Zone 1 of the basin and limited to a maximum of twice per year in Zone 2 and 3.
 - v. Only native species of landscaping shall be utilized, as listed in the NJ BMP Manual.
 - vi. The application of fertilizer shall be restricted, utilizing Integrated Pest Management (IPM) strategies to maintain basin plantings.
 - vii. The use of fountains, falls, benches, educational signage, patios, walkways, overlooks and similar are encouraged around the periphery, to make the site as park-like as possible.
 - viii. Landscaping should be a minimum of five (5') feet from basin infrastructure, including but not limited to a dam's toe of slope, perforated pipes, riser structure, low flow orfice, inlets, and similar.
- c. Landscaping Zones. Stormwater basins, whether they function as retention or detention basins, all have a zone of influence generally based on the occurrence of storms, i.e. a series of concentric bands or planting zones, where various physical and environmental components such as soil type, water depth, water fluctuations, velocity, and slope, collectively and/or individually influence the kinds of plants which will tolerate such conditions and thrive. Each planting zone or band requires its own plant type to properly perform its mutually critical role. Plants have differing tolerances to inundation; the four zones described in this section will dictate which plants will survive where (every facility does not necessarily exhibit all of these zones). These zones are shown as follows in Table 5.16:

TABLE 5.16. LANDSCAPING ZONES							
Zone	Stormwater Level	Hydrologic Conditions	Deciduous Trees	Evergreen Trees	Shrubs	Groundcover	Seed
1	2-Year Storm	regularly inundated	min. 1/10,000sf	not required	10% cover	25% cover	15 lbs/acre
2	10-Year Storm	periodically inundated	min. 1/6,000sf	not required	20% cover	50% cover	20 lbs/acre
3	100-Year Storm	infrequently inundated	min. 1/5,000sf	min. 1/10,000sf	30% cover	40% cover	20 lbs/acre
	Basin Periphery	seldom or never					
4	(within 20')	inundated	min. 1/3,000sf	min. 1/4,000sf	30% cover	30% cover	60 lbs/acre

- i. <u>Zone 1 (2-Year Storm</u>). Zone One generally encompasses up to the two (2) year flood recurrence interval, which is a flood of extreme magnitude that has a fifty (50%) percent chance of happening in any year. This area commonly extends vertically about one (1') foot from the basin bottom. As this zone is regularly inundated, this area is the most difficult to establish since plants must be able to withstand inundation of water during storms, when wind might blow water into the area, or the occasional drought during the summer. To stabilize the soil in this zone, Zone 1 must have a vigorous cover. Types of landscaping, as required in Table 5.6, are as follows:
 - (a) Deciduous trees shall be a minimum caliper (diameter) of two (2") inches, six (6") inches from the ground. Acceptable species include river birch (betula nigra), green ash

(fraxinus pennsylvanica), white ash (fraxinus americana), red maple (acer rubrum), willow oak (quercus phellos), swamp white oak (quercus bicolor), sweetgum (liquidambar styraciflua), black gum (nyssa sylvatica), and American sycamore (platanus occidentalis).

- (b) Evergreen trees are not required in this zone.
- (c) Shrubs shall be a minimum of twenty-four (24") inches in height. Acceptable species include pussy willow (salix discolor), swamp rose (rosa palustris), buttonbush (cephalanthus occidentalis), highbush blueberry (vaccinium spp.), arrowood (viburnum dentatum), spicebush (lindera Benzoin), sweetbells (leucothoe racemosa), sweet pepperbush (clethra alnifolia), winterberry (ilex verticillata), inkberry holly (ilex glabra), sweet bay magnolia (magnolia virginiana), red osier/silky dogwood (cornus stolonifera/amomum), grey dogwood (cornus racemosa), black willow (salix nigra), and serviceberry (amelanchier spp.).
- (d) Acceptable groundcover planting species include cardinal flower (lobelia cardinalis), blue flag iris (iris versicolor), sweet flag (acorus calamus), Marsh marigold (caltha palustris), swamp milkweed (asclepsis incarnata), redtop (agrostis spp.), switchgrass (panicum virgatum), Canada bluejoint (calamagrostis canadensis), many bulrushes (scirpus spp.), and spike rushes (eleocharis spp.).
- (e) A natural seed mix of natural prairie, meadow or wildflower shall be utilized at 80 lbs/acre. Mixtures should include 20% Annual Ryegrass, 20% Fowl Bluegrass, 20% Foxsedge, 7% Ticklegrass, 5% Soft Rush, 5% Lurid Sedge, 5% Showy Tickseed Sunflower, 3% Green Bulrush, 3% Joe-Pye Weed, 3% Blue Vervain, 2% Nodding-Bur Marigold, 2% Rough Leaved Goldenrod, 2% Boneset, 1% Marsh Blazing Star, 1% Sensitive Fern, 1% Purple Stem Aster. Turf grass seed mixes, comprised primarily of Kentucky Bluegrass, Tall Fescue or Perennial rye is not permitted.
- ii. <u>Zone 2 (10 Year Storm</u>). Zone Two is the area below the ten (10) year flood recurrence interval, which is a flood of extreme magnitude that has a ten (10%) percent chance of happening in any year. This zone generally extends from 1' to 4' feet above the basin floor. Plants in this zone are subject to periodic inundation after storms and may experience saturated or partly saturated soil. Types of landscaping, as required in Table 5.6, are as follows:
 - (a) Deciduous trees shall be a minimum caliper (diameter) of two (2") inches, six (6") inches from the ground. Acceptable species include green ash (fraxinus pennsylvanica), river birch (betula nigra), sweetgum (liquidambar styraciflua), American hornbeam (carpinus caroliniana), persimmon (diospyros virginiana), and red maple (acer rubrum).
 - (b) Evergreen trees are not required in this zone.
 - (c) Shrubs shall be a minimum of twenty-four (24") inches in height. Acceptable species include hollies (ilex spp.), steeplebush (spirea tomentosa), serviceberry (amelanchier arborea), nannyberry (viburnurn lentago), sweet pepperbush (clethra alnifolia), bayberry (morella pensylvanica), elderberry (sambucus canadensis), sweetbay magnolia (magnolia virginiana), hawthorn (crategus), and shrub dogwoods (cornus spp.).
 - (d) Acceptable groundcover planting species include asters (aster spp.), goldenrods (solidago spp.), beebalm (monarda didyma), bergamont (monarda fistulosa), lobelias (lobelia spp.), coneflower (rudbeckia spp.), violets (viola spp.), lilies (lilium spp.), primrose (oenothera spp.), milkwort (polygala spp.), and flatsedge (cyperus spp.).

(e) A natural seed mix of natural prairie, meadow or wildflower shall be utilized at 20 lbs/acre. Mixtures should include 25% Annual Ryegrass, 15% Little Bluestem, 10% Fowl Bluegrass, 10% Partridge Pea, 10% Ticklegrass, 10% Sideoats Grama, 5% Blunt Broom Sedge, 4% Showy Tick Trefoil, 3% Black Eyed Susan, 3% Ox-Eye Sunflower, 2% Broom Sedge, 1% Zig-Zag Aster, 1% Marsh Blazing Star, 1% Butterfly Milkweed. Turf grass seed mixes, comprised primarily of Kentucky Bluegrass, Tall Fescue or Perennial rye is not permitted.



Source: Claytor and Schueler 1997.

- iii. <u>Zone 3 (100 Year Storm</u>). Zone Three is the area below the one hundred (100) year flood recurrence interval, which is a flood of extreme magnitude that has a one (1%) percent chance of happening in any year. This zone is infrequently inundated by floodwaters that quickly recede in a day or less. It's important to stabilize the steep slopes characteristic of this zone and establish low maintenance natural vegetation. Types of landscaping, as required in Table 5.6, are as follows:
 - (a) Deciduous trees shall be a minimum of minimum caliper (diameter) of two (2") inches, six (6") inches from the ground. Acceptable species include American hornbeam (carpinus caroliniana), cherries (prunus spp.), willow oak (quercus phellos), hickories (carya spp.), and witch-hazel (hamamelis virginiana).
 - (b) Evergreen trees shall be a minimum of six (6') feet in height. Acceptable species include White Fir (abies concolor), Eastern Red Cedar (juniperus virginiana), Norway Spruce (picea abies), Colorado Spruce (picea pungens), Japanese Black Pine (pinus thunbergi), and Douglas Fir (pseudotsuga taxifolia).
 - (c) Shrubs shall be a minimum of twenty-four (24") inches in height. Acceptable species include phlox (phlox spp.), solomon's seal (polygonatum biflorum), many fescues (festuca spp.), many viburnums (viburnum spp.), and Virginia rose (rosa virginiana).

- (d) Acceptable groundcover planting species include Trumpetcreeper (campsis radicans), Wintercreeper Euonymus (euonymus fortunei vegetus), English Ivy (hedera helix), Shore Juniper (jurtiperus conferta), Andorra Juniper (juniperus horizontalis plurnosa), Packasandra (pacysandra terminalis), Virginia Creeper (parthenocissus qitiuquefolia), Grapes sp. (vitis sp.), and Myrtle (vinca minor).
- (e) A natural seed mix of natural prairie, meadow or wildflower shall be utilized at 80 lbs/acre. Acceptable species include phlox (phlox spp.) and many fescues (festuca spp.). Turf grass seed mixes, comprised primarily of Kentucky Bluegrass, Tall Fescue or Perennial rye is not permitted.
- iv. <u>Zone 4 (Basin Periphery</u>). Zone Four encompasses the area approximately twenty (20') feet above the one hundred (100) year flood recurrence interval, or top of the basin. The placement of plants in this zone is important since it is the most visible area and screen undesirable views, serve as a buffer, and provide shade to allow a greater variety of plant materials. Types of landscaping, as required in Table 5.6, are as follows:
 - (a) Deciduous trees shall be a minimum of minimum caliper (diameter) of two (2") inches, six
 (6") inches from the ground. Acceptable species include Basswood (tilia americana),
 Flowering Dogwood (cornus florida), Redbud (cercis canadensis), Sassafras (sassafras albidum), American Beech (fagus grandifolia), White Ash (fraxinus americana), Scarlet Oak (quercus coccinea), White Oak (quercus alba), and Black Oak (quercus velutina).
 - (b) Evergreen trees shall be a minimum of six (6') feet in height. Acceptable species include White Fir (abies concolor), Eastern Red Cedar (juniperus virginiana), Norway Spruce (picea abies), Colorado Spruce (picea pungens), Japanese Black Pine (pinus thunbergi), and Douglas Fir (pseudotsuga taxifolia).
 - (c) Shrubs shall be a minimum of twenty-four (24") inches in height. Acceptable species include Bayberry (myrica pennsylvanica), Blackhaw (viburnum prunifolium), Fragrant Sumac (rhus aromatica), Highbush Blueberry (vaccinium corymbosum), Inkberry (ilex glabra), Potentilla (potentilla fruticosa), Red Cedar (juniperus virginiana), and Serviceberry (amelanchier canadensis).
 - (d) Fine fescues (festuca spp.) and groundcover plantings are acceptable in this zone.
- d. <u>Process.</u> Basin landscaping shall be shown on a landscaping plan or separate basin landscaping plan, as part of any site or subdivision plan application, per Article VIII.
- H. <u>Safety Standards.</u> This section sets forth requirements to protect public safety through the proper design and operation of stormwater management BMPs, which shall apply to any new or modified stormwater management BMP.

The provisions of this section are not intended to preempt more stringent municipal or county safety requirements for new or existing stormwater management BMPs. Municipal and county stormwater management plans and ordinances may, pursuant to their authority, require existing stormwater management BMPs to be retrofitted to meet one or more of the safety standards in §516.H.1 for trash racks, overflow grates, and escape provisions at outlet structures.

- 1. <u>Requirements.</u>
 - a. <u>Trash Rack.</u> A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management BMP to ensure proper functioning of the BMP outlets, in accordance with the following:
 - i. The trash rack shall have parallel bars, with no greater than six (6") inch spacing between

the bars;

- ii. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure;
- iii. The average velocity of flow through a clean trash rack is not to exceed 2.5' feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack; and
- iv. The trash rack shall be constructed of rigid, durable, and corrosion resistant material, and designed to withstand a perpendicular live loading of 300 lbs./square foot.
- b. <u>Overflow Grate</u>. An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:
 - i. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.
 - ii. The overflow grate spacing shall be no less than two inches across the smallest dimension.
 - iii. The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs./sf.
 - iv. Overflow grates shall be installed a minimum of 3 inches above the maximum design storm so as not to impede flow for routings and allow for construction tolerances. If the grate location cannot be raised 3 inches above the maximum design water elevation or is being used as an emergency spillway, no grate should be specified, and a trash rack should be proposed instead.

c. <u>Escape Provisions.</u>

Stormwater management BMPs shall include escape provisions as follows:

- i. If a stormwater management BMP has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions include the installation of permanent ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management BMPs. With the prior approval of the Township pursuant to §516.H.1, a free-standing outlet structure may be exempted from this requirement;
- ii. Safety ledges shall be constructed on the slopes of all new stormwater management BMPs having a permanent pool of water deeper than two and one-half (2.5') feet. Safety ledges shall be comprised of two steps. Each step shall be four to six (4-6') feet in width. One step shall be located approximately two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See below for an illustration of safety ledges in a stormwater management BMP; and
- iii. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontal to one vertical (3:1).

Elevation View – Basin Safety Ledge Configuration



Depicted is an elevational view.

- 2. <u>Variance or Exemptions from Safety Standard</u>. A variance or exemption from the safety standards for stormwater management BMPs may be granted only upon a written finding by the Township Planning or Zoning Board, that the variance or exemption will not constitute a threat to public safety.
- I. <u>Site Development Stormwater Plan.</u>
 - 1. <u>Requirement.</u>
 - a. Whenever an applicant seeks municipal approval of a development subject to this Ordinance, the applicant shall submit all of the required components of the Checklist for the Site Development Stormwater Plan at §516.1.2 as part of the complete Board application for subdivision or site plan approval.
 - b. The applicant shall demonstrate that the project meets the standards set forth in this Ordinance.
 - c. The applicant shall submit 3 double-sided paper copies and one electronic copy in portable

document format (PDF) or comparable format of the Stormwater Plan and any additional materials listed in the checklist, in accordance with §516.1.2 of this Ordinance.

- 2. <u>Approval.</u> All stormwater management facilities and infrastructure shall be reviewed as a part of the subdivision or site plan review process by the applicable municipal Board or official from which Township approval is sought. That Township board or official (as appropriate) shall consult the Township's review engineer to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this Ordinance.
- 3. Location. All stormwater management facilities and infrastructure in association with a major residential site plan shall be constructed on a separate lot specifically reserved for such purpose, unless otherwise approved by the Planning Board or Zoning Board of Adjustment, whichever the case may be. Where the area designated for stormwater management facilities are part of a residential major site plan, the areas devoted to these stormwater management purposes shall not be counted as part of the required open space.
- 4. <u>Checklist Requirements Submission of Site Development Stormwater Plan.</u> The following information shall be required:
 - a. <u>Topographic Base Map.</u> The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200' feet beyond the limits of the proposed development, at a scale of 1"=200' or greater, showing 2-foot contour intervals. The map as appropriate may indicate the following: existing surface water drainage, shorelines, steep slopes, soils, erodible soils, perennial or intermittent streams that drain into or upstream of the Category One waters, wetlands and flood plains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing man-made structures, roads, bearing and distances of property lines, and significant natural and manmade features not otherwise shown.
 - b. <u>Environmental Site Analysis.</u> A written and graphic description of the natural and man-made features of the site and its surroundings shall be submitted. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.
 - c. <u>Project Description & Site Plan(s)</u>. A map (or maps) at the scale of the topographical base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations will occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high ground water elevations. A written description of the site plan and justification for proposed changes in natural conditions shall also be provided.
 - d. <u>Land Use Planning & Source Control Plan.</u> This plan shall provide a demonstration of how the goals and standards of §516.C, §516.E and §516.F are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.
 - e. <u>Stormwater Management Facilities Map.</u> The following information, illustrated on a map of the same scale as the topographic base map, shall be included:
 - i. Total area to be disturbed, paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon,

and details of the proposed plan to control and dispose of stormwater.

- ii. Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.
- f. Calculations.
 - i. Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in §516.E of this Ordinance.
 - ii. When the proposed stormwater management control measures (e.g. basins) depend on the hydrologic properties of soils or require certain separation from the seasonal high water table, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure. See Chapter 12 of the NJ BMP Manual for additional information: https://www.njstormwater.org/bmp_manual2.htm.
- g. <u>Maintenance & Repair Plan</u>. The design and planning of the stormwater management facility shall meet the maintenance requirements of §516.K.
- h. <u>Waiver from Submission Requirements.</u> The applicable Township official or Board reviewing an application under this Ordinance may, in consultation with the Township's review engineer, waive submission, upon written request of the applicant, of any of the requirements in §516.D, when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.
- J. <u>Maintenance & Repair</u>. Projects subject to review in §516.A.3 shall comply with the below requirements: 1. <u>General Maintenance</u>.
 - a. The design engineer shall prepare a Maintenance Plan for the stormwater management measures incorporated into the design of a major development.
 - b. The Maintenance Plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). The plan shall contain information on BMP location, design, ownership, maintenance tasks and frequencies, and other details as specified in Chapter 8 of the NJ BMP Manual, as well as the tasks specific to the type of BMP, as described in the applicable chapter containing design specifics.
 - c. Responsibility.
 - i. If the Maintenance Plan identifies a person other than the property owner (for example, a developer, a public agency or homeowners' association) as having the responsibility for maintenance, the Plan shall include documentation of such person's or entity's agreement to assume this responsibility or of the owner's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.
 - ii. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project. The individual property owner may be assigned incidental tasks, such as weeding of a green infrastructure BMP, provided the individual agrees to assume these tasks; however, the individual cannot be

legally responsible for all of the maintenance required.

- iii. If the party responsible for maintenance identified under §516.K.1.c is not a public agency, the maintenance plan and any future revisions based on §516.K.b and c. shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.
- iv. The requirements of §516.J.1.c.i and ii. do not apply to stormwater management facilities that are dedicated to and accepted by the Township or another governmental agency, subject to all applicable municipal stormwater general permit conditions, as issued by the Department.
- v. The Responsible Party for Maintenance identified under §516.J.c.i shall perform all of the following requirements:
 - (a) Maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders, shall be maintained by the responsible party.
 - (b) Evaluate the effectiveness of the Maintenance Plan shall be evaluated at least once per year by the responsible party and adjust the plan and deed as needed; and
 - (c) Retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the Maintenance Plan and documentation required by §516.J.c.v & §516.J.c.vi(a).
- vi. Repair.
 - (a) Preventative and corrective maintenance shall be performed to maintain the functional parameters (storage volume, infiltration rates, inflow/outflow capacity, etc.) of the stormwater management measure, including, but not limited to, repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of non-vegetated linings.
 - (b) In the event that the stormwater management facility becomes a danger to public safety or public health in the opinion of the Township, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to affect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or County may immediately proceed to do so and shall bill the cost thereof to the responsible person. Nonpayment of such bill may result in a lien on the property.
- 2. <u>Maintenance/Performance Bonds</u>.
 - a. Responsibility for operation and maintenance of any stormwater management facilities, including periodic removal and disposal of accumulated particulate material and debris, shall remain with the owner or owners of the property, with permanent arrangements in place so that it shall pass to any successive owner, unless assumed by a government agency. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate, for each project, the property owner, governmental agency or other legally established entity to be permanently responsible for maintenance.

- b. The applicant shall enter into an Stormwater Maintenance Agreement with the Township to ensure the continued operation and maintenance of the stormwater facility. This agreement shall be reviewed and approved by the applicable Board Engineer and Township Solicitor. This Agreement may include, but may not necessarily be limited to, personal guaranties, deed restrictions, covenant and bonds. In cases where property is subdivided and sold separately, a Homeowners Association (HOA) or similar permanent entity should be established as the responsible entity, absent an agreement by a governmental agency to assume responsibility. In addition, the applicant shall:
 - i. Describe in detail the mechanisms for maintenance, including:
 - (a) The types and quantities of equipment necessary for maintenance.
 - (b) The maintenance schedule in terms of maintenance activities required on annual basis.
 - (c) The methodology of maintaining all detention/ infiltration facilities on the site.
 - (d) The entity responsible for the maintenance activity.
 - (e) The life expectancy of the stormwater facility.
 - ii. Itemize costs associated with each of the items described in §516.K.2.b.i, in addition to manpower, capital costs for equipment and foreseeable costs associated with repair of a system which fails.
 - iii. Obtain approval from the applicable Board for all arrangements and values, per §516.H.
- c. Developer Contribution. An exemption or design waiver(s) may be requested for the requirements outlined §516.K.2.b relating to the formation of a responsible entity for the long-term care and maintenance of stormwater management facilities by the Planning Board or Zoning Board, upon the Board's determination that both the area to be developed and the Township on whole would be better served by an agreed upon cash bequest to the designated stormwater management maintenance fund as established below:
 - i. The Township of Cherry Hill shall establish a separate fund to receive contributions from developers where the Planning Board or Zoning Board has determined that the formation of a responsible entity, for the long-term care and maintenance of stormwater management facilities, is not warranted or practical. These funds shall be utilized for the long-term care and maintenance of stormwater management facilities in such locations as deemed most beneficial to the residents of the Township by Township Council. The contribution shall be placed in the budget by way of a dedication by rider. The Township Council and the Mayor shall be provided with financial reports by the Township Controller, as to the status of said account.
 - ii. Calculation. The amount of money to be contributed shall be calculated as follows:
 - (a) \$50,000 for the first acre, or part thereof, of basin area, as calculated by the Planning or Zoning Board Engineer.
 - (b) \$25,000 for each additional acre, or part thereof, of basin area in excess of one acre, as calculated by the Planning or Zoning Board Engineer.
 - i. The amount of the developer's contribution for long-term basin maintenance shall be established by resolution of the Township Council, and updated as necessary.
 - ii. Payment of the contribution required pursuant hereto shall be made prior to the signing of the final plans and/or deeds.
- b. In the event that any type of stormwater management facility becomes a threat to public safety or public health or is in need of maintenance, the Township shall so notify, in writing, the owner

of the facility. From the notice, the owner shall have fourteen (14) days to perform such maintenance and repair on the facility in a manner that is approved by the Township Engineer. If the owner fails to perform such maintenance and repair on the facility within the required time period, the Township may immediately proceed to do so and shall bill the cost of such repairs to the owner of the facility.

- 3. Nothing in this section shall preclude the Township in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.
- K. <u>Sources For Technical Guidance.</u>
 - Technical guidance for stormwater management measures can be found in the documents listed below, which are available from the Department's website at: http://www.nj.gov/dep/stormwater/bmp manual2.htm.
 - a. Guidelines for stormwater management measures are contained in the NJ BMP Manual, as amended and supplemented. Information is provided on stormwater management measures such as, but not limited to, those listed in Tables 5.13A, 5.13B, and 5.13C.
 - b. Additional maintenance guidance is available on the Department's website at: https://www.njstormwater.org/maintenance_guidance.htm.
 - Submissions required for review by the Department should be mailed to: The Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420
 - 3. Additional technical guidance for stormwater management measures can be obtained from the following:
 - a. The "Standards for Soil Erosion & Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained here: https://www.nj.gov/agriculture/divisions/anr/nrc/njerosion.html;
 - b. Camden County Soil Conservation District, per N.J.A.C. 2:90-1.3(a)4, (<u>www.camdenscd.org</u>);
 - c. The Rutgers Cooperative Extension Service, (732) 932-9306 and Water Resources Program: Rain Garden Information Center (<u>http://water.rutgers.edu/main.htm</u>);
 - Part 630 Hydrology National Engineering Handbook, United States Department of Agriculture (U.S.D.A.), Natural Resources Conservation Service (N.R.C.S.), (210-vi, NEH, September 1997) 1-1 available here:

https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/manage/hydrology/?c id=STELPRDB1043063; ; and; and

- e. New Jersey Residential Site Improvements Standards (N.J.A.C. Title 5 Chapter 21), latest edition, available here: <u>https://www.nj.gov/dca/divisions/codes/offices/rsis.html</u>.
- L. Construction Requirements. The construction requirements outlined in the NJ BMP Manual for each stormwater management BMP shall be incorporated and supplemented as follows:
 - 1. Where "engineer" is stated in §516.L, it is meant to be the design engineer, licensed engineer working on behalf of the applicant/owner/contractor, or his/her/their designated representative(s) as appropriate.
 - 2. The extents and depth of soil replacement areas, if required, are subject to the direction and approval of the engineer based upon site conditions encountered during excavation.

- 3. It is expected that, to the maximum extent practicable, the engineer will be providing guidance to the contractor for the entire duration of the stormwater BMP construction. The engineer will be onsite or available for the construction of the stormwater management BMP from excavation through to seeding and slope stabilization.
- 4. Where proprietary systems are installed, a representative from the manufacturer shall be available during the installation of the system.
 - a. For example, an ACF representative should be available for the placement of geotextile, initial installation of Stormtech chambers, stone placement around chambers, and geotextile wrapping of bed to ensure it was performed properly.
- 5. The engineer shall be onsite to inspect and certify, at a minimum, the following, as applicable: extents and depth of soil replacement areas, placement of geotextile, inspection and approval of K-4 soil replacement material, basin bottom elevation, K-5 sand material, and in-place depths of both soil replacement material and K-5 sand.
- 6. It is the contractor's responsibility to coordinate the anticipated schedule with the engineer in advance of any activities the engineer must certify prior to continuing construction activities.
- 7. The engineer shall provide a certification stating that, while they were onsite on (dates) and (times), all construction was performed in accordance with the design plans. This certification shall be in addition to the post-construction requirements in §516.M.
- M. Post-Construction Requirements.
 - 1. An as-built survey shall be prepared by a licensed land surveyor.
 - 2. Post-construction permeability testing in accordance with the NJ BMP Manual shall be performed for all applicable stormwater management BMPs.
 - 3. As-built routings shall be prepared by a licensed engineer for each as-built stormwater BMP.
 - 4. A statement should be prepared by a licensed engineer that the as-built permeability and/or asbuilt routings comply with the design and state regulations. Otherwise:
 - a. If the as-built routings exceed the allowable and/or permeability testing shows a longer drain time than allowed in the BMP Manual, corrective action must be outlined and submitted to the Township or review board Engineer, as applicable.
 - b. All corrections or remedial actions deemed by the Township to be necessary due to the failure to comply with the standards established by the design, this ordinance, and/or any reasons of public health or safety shall be completed by the applicant. The applicant shall pay all costs associated with such reviews and site visits.
- N. Penalties. Any person(s) who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure, or land in violation of this ordinance shall be subject to the penalties outlined in Article XI, Section 1106.
- O. Severability. See Article XII, Section 1202.

SECTION 517. SIGNS.

A. Intent.

 In addition to §103 of this Ordinance, the purpose of this Article is to promote the public health, safety and general welfare through reasonable, consistent and non-discriminatory sign standards. The sign regulations in this Article are not intended to censor speech or to regulate viewpoints, but

instead are intended to regulate the secondary effects of speech, and especially insofar as those secondary effects may adversely affect aesthetics and traffic and pedestrian safety. In order to preserve and enhance the Township as a desirable community in which to live and do business, a pleasing, visually attractive environment is of foremost importance. The regulation of signs within the Township is a highly contributive means by which to achieve this desired end. These sign regulations have been prepared with the intent of enhancing the visual environment of the Township and promoting its continued well-being, and are intended to:

- b. Promote the free flow of traffic and protect pedestrians, bicyclists and motorists from injury and property damage caused by, or which may be fully or partially attributable to cluttered, distracting, or illegible signs.
- c. Promote the use of signs that are aesthetically pleasing and of appropriate scale to the building(s) they relate to.
- d. Promote the use of signs that are integrated with the surrounding buildings and landscape.
- e. Promote the use of signs that are compatible with the Township's historic character.
- f. Provide functional flexibility, encourage variety, and create an incentive to relate signage to basic principles of good design.
- g. Lessen the visual clutter that may otherwise be caused by the proliferation, improper placement, illumination, animation, excessive height, and excessive size (area) of signs which compete for the attention of pedestrian and vehicular traffic.
- h. Allow signs that are compatible with their surroundings and aid orientation, while precluding the placement of signs that contribute to sign clutter or that conceal or obstruct adjacent land uses or signs.
- i. Encourage and allow signs that are appropriate to the zoning district in which they are located and consistent with the category of use and function to which they pertain.
- j. Categorize signs based upon the function that they serve and tailor the regulation of signs based upon their function.
- k. Preclude signs from conflicting with the principal permitted use of the site and adjoining sites.
- I. Preserve, conserve, protect, and enhance the aesthetic quality and scenic beauty of all districts of the Township.
- m. Protect property values by precluding to the maximum extent possible sign-types that create a nuisance to the occupancy or use of other properties as a result of their size, height, illumination, brightness, or movement.
- n. Protect property values by ensuring that sign-types, as well as the number of signs, are in harmony with buildings, neighborhoods, and conforming signs in the area.
- o. Preserve and enhance the residential and historic character of the Township.
- 2. In all zones within the Township of Cherry Hill, signs may be erected, altered, maintained, used, removed or moved only when compliance with the provisions of this Article, any and all other ordinances, and regulations of the Township of Cherry Hill relating to the erection, installation, alteration, maintenance, use, removal or moving of signs and similar devices.
- B. <u>Definitions.</u> All word uses of §201 and definitions in §202 of the Cherry Hill Zoning Ordinance shall apply.
- C. <u>General Regulations.</u> The following general regulations shall be applicable to all zones, except as specifically limited:
 - 1. <u>Number of Signs.</u> There shall be no more than four (4) signs per business establishment, with the exception of:
 - a. Official Governmental Agency signs, including traffic control, emergency, historical markers, and signs posted by government agencies.
 - b. Signs prohibiting or controlling trespass, hunting, and/or fishing and warning signs. Trespassing signs that indicate the private nature of a road, driveway, or premises; and signs prohibiting or otherwise controlling the fishing or hunting upon a particular premise.
 - c. Nameplate and address in residential zone, as permitted in §517.F.2.
 - d. Prospective sale or rental signs.
 - e. Functional signs.
 - 2. <u>Freestanding Sign Location</u>. A proposed freestanding sign shall conform to the following location:
 - a. A property line with a frontage of less than fifty (50') feet shall not be permitted a freestanding sign, and
 - b. There shall be a minimum distance of fifteen (15') feet between any side property line, and
 - c. There shall be a minimum distance of fifty (50') feet between the nearest portion of any freestanding sign and another freestanding sign.
 - d. In no case shall a sign, other than an official sign or functional sign be erected within the official right-of-way of any street, unless specifically authorized by Ordinance or regulations of Cherry Hill Township, Camden County or State of New Jersey. All signs other than those permitted within the street right-of-way shall be:
 - i. Erected either with the bottom of the sign at least eight (8') feet above the level at which the driveway meets the street, or



- ii. Set back from the property line for a distance of not less than ten (10') feet, or
- iii. At least fifty (50') feet from the side of any street or driveway.
- 3. Size Limits.

- a. All freestanding signs shall not exceed seventeen (17') feet in height or exceed seventeen (17') feet above grade level.
- b. Functional signs shall not exceed three (3) square feet in area per sign.
- c. Awning Signs and Canopy Signs are permitted as a façade sign. No more than thirty-three (33%) percent of an awning or canopy may be utilized as a sign.

4. Computation of Sizes.

a. The size of any sign shall be computed by multiplying its greatest height by its greatest length, exclusive of supporting structures, unless such supporting structure is illuminated or is in the form of a symbol or contains identification copy, but for the purpose of making such determination, the applicant may block off portions of the sign into not more than three (3) rectangles in order to exclude large areas of open space caused by the particular design or shape of the sign.



b. Two-sided signs caring the same message on both sides shall be measured by using the surface area of

one (1) side of the sign only. When there is a different message on each side of the sign, each side will be considered as separate sign.

- 5. Sign Base.
 - a. Monument. Signs utilizing a monument base or style sign when not required, shall be allowed an additional ten (10) square feet than what is permitted in size. All monument signs shall be a maximum of ten (10') feet in height, with the bottom of any text being three (3') feet above grade or higher.
 - b. Pole Design. All freestanding signs utilizing a pole base shall be skirted to enclose the supporting pole or pylon of the sign from the bottom of the sign to the ground. The skirting shall not be included in the sign size calculation unless it displays a message. In substitution of the skirting, a masonry or similar decorative base may be utilized.
 - c. Landscaping. The base of the freestanding sign shall be surrounded with a combination of shrubs, ground cover, flowers or other plant material, a minimum size of the area of copy.
- D. <u>Prohibited Signs.</u> The following signs are prohibited in all zones:
 - 1. All signs shall be permanently fixed to the ground or attached to a building or structure in a manner conforming to the *Building Officials & Code Administrators* (B.O.C.A.) code and other applicable State and Township statutes and ordinances.
 - 2. All permanent signs shall be constructed of materials only as permitted by the New Jersey Uniform Construction Code (N.J.A.C. 5:23-1 et. seq.) and of such type and strength that it will withstand the effects of outdoor elements without unreasonable degradation. Such signs shall not topple, sited, rip, break, or cause any safety hazard.
 - 3. All signs erected, constructed or maintained as to:
 - a. Obstruct any fire escape, window, door or opening used as a means of egress or ingress, andb. Interfere with any opening required for legal ventilation.
 - 4. All flashing, blinking, twinkling, animated, moving or projected sign of any type, or a sign, which presents an illusion of movement. Static time and temperature displays are permitted.

- 5. All inflatable signs or tethered balloons, except decorative small balloons no larger than twenty-four (24") inches in diameter.
- 6. All signs whose form, character, or shape may confuse or dangerously distract the attention of the operator of a motor vehicle.
- 7. All advertisements that use a series of two or more signs or units, placed in a line parallel to the highway, or in a similar fashion, all carrying a single advertising message part of which is contained on each sign.
- 8. All signs that in any way simulate official, functional, directional or warning signs erected or maintained by the State of New Jersey, County or Municipality thereof, any railroad, public utility or similar agency concerned with the protection of public health or safety.
- 9. All signs attached to or painted on trees, fences, utility poles, rocks, curbs, walks, lamps, hydrants, benches, bridges, telephone booths, traffic signs, other utility structure, within any street right of way or placed upon any property owned by the Township of Cherry Hill. This requirement does not apply to "no trespassing" signs, "no fishing, and/or hunting" signs, governmental, directional, functional or warning signs erected and maintained by the State, County, or municipality; or warning signs such as "Beware of Dog" or an existing danger.
- 10. All political signs that are temporarily or permanently affixed to a fire hydrant, telephone booth, utility pole, telephone pole, traffic sign or other public utility structure or posted, painted or otherwise affixed to trees, rocks, or other natural features within a street right-of-way, or in any other manner placed within any street right-of-way or placed on any property owned by the Township of Cherry Hill.
- 11. Election Signs. On any property, one election sign for each candidate and each issue may be displayed as a window sign, an attached sign or as a ground sign not exceeding three square feet in size (sign area). In addition, election signs displayed as ground signs shall not exceed three feet in height and the top of the sign shall not be more than six (6') feet from the grade level. An election sign shall be removed within seven (7) calendar days following the election to which it pertains; an election sign not so removed shall be treated as a free expression sign. An election sign is in addition to any other sign permitted under this Article.
- 12. Any temporary sign or temporary device utilized to express a noncommercial message that is reactive to a local happening or that expresses a view on a controversial issue, and that is displayed on public property that is a traditional public forum such as a public sidewalk or a public park is permitted, provided that the temporary display does not block, or otherwise interfere with, pedestrian or vehicular traffic.
- 13. Signs bearing text of a laudatory nature including services or product names normally furnished by any such proprietor. It is the purpose of this article to limit the use of signs to identification or directional purposes only. Identification signs allow the principal name of the establishment or proprietor and a brief description of the principal goods or service offered.
- 14. Any sign which, applying contemporary community standards has a dominant theme or purpose and appeal to prurient interest.
- 15. No sign shall be erected containing information on it which states or implies that a property may be used for any purpose not permitted under the provisions of the Township Zoning Ordinance in the zone in which the property to which the sign relates in located.
- 16. In order that no sign be injurious to public interest or endanger the interests of public safety or morals, all unlicensed signs shall be removed upon receipt of a written notice of violation served by

the Zoning Officer or his representative to the landowner or leasor or leasee of the sign. Such violation shall be discontinued immediately upon receipt of such notice.

- 17. Free Expression Signs. On any property, one free expression sign may be displayed as a window sign, an attached sign or as a ground sign not exceeding three square feet in size (sign area). In addition, free expression signs displayed as ground signs shall not exceed three feet in height and the top of the sign shall not be more than six (6') feet from the grade level. A free expression sign is in addition to any other sign permitted under this Article.
- 18. Substitution of Non-Commercial Speech for Commercial Speech. Notwithstanding anything contained in this Article or these Ordinances to the contrary, any sign erected pursuant to the provisions of this Article or these Ordinances with a commercial message, may, at the option of the owner, contain a noncommercial message unrelated to the business located on the premises where the sign is erected. The noncommercial message may occupy the entire sign face or any portion thereof. The sign face may be changed from a commercial to a noncommercial message, or from one noncommercial message to another, as frequently as desired by the owner of the sign, provided that the sign is not a prohibited sign or sign type and provided that the size, height, setback and other dimensional criteria contained in this Article and these Ordinances have been satisfied.
- 19. No sign, except such directional devices as may be required by the Federal Aeronautical Authorities, shall be placed upon any structure that extends above the roof of the building.
- 20. Mobile and Vehicular signs.
- 21. Off-Site signs and Billboards are prohibited in all zones.
- 22. Multiple occupancy and/or tenant signs, except as expressly permitted.
- 23. Changeable Copy. Changeable copy signs shall not be permitted unless the sign relates to a movie theatre, religious institution, public school or a gasoline filling station as provided by §517.G.3.a and for each business that has a Class C Plenary Retail Consumption License, which may have, as part of their façade or freestanding sign, a changeable copy portion subject to the following restrictions:
 - a. No more than one (1) sign of this type, per business is permitted, and
 - b. The changeable copy portion of the sign shall not exceed one-third (1/3) of the total sign area or twenty-four (24) square feet, whichever is less, and
 - c. The copy of such signs shall be limited to three (3) lines indicating entertainment, or special and limited commercial or professional events.
- 24. Exceptions. Exceptions to §517.D shall include only the following:
 - a. Each dwelling and business establishment shall display their street number in a prominent location so it is visible from the street at all times. The height of the number shall be such that it is legible to an individual at the front curb line.
 - b. Banners, spinners, flags, and pennants shall be permitted for a two (2) week period during the opening of a new retail business or a change of ownership upon application to the Zoning Officer.
- E. <u>Illumination</u>. Illuminated signs shall conform to the following provisions:
 - Illumination may be provided by downward-lit exterior fixtures or internally-lit incandescent bulbs, fluorescent tubes, metal halide or mercury-vapor lamps. Regardless of the type of illumination employed, all illuminated signs shall be properly shielded and so located as to prevent glare or blinding effects upon motor vehicle traffic and so as not to cause a nuisance to residents of the area.

- 2. Signs capable of illumination shall be turned off between the hours of 10:00 p.m. and 7:00 a.m. the following morning, unless the business or uses identified are open to the public later than 10:00 p.m. or earlier than 7:00 a.m., in which event any such establishment may keep a sign illuminated during business hours, only.
- F. <u>Residential Zones.</u> Within the Residential Agricultural (RA), Residential Agricultural Planned Community (RAPC), Residential R1, R2, R3, Multi-Residential (R7 & R10), High-Rise Residential (R20), and Institutional (IN) zones, only the following signs shall be permitted:
 - 1. No more than one (1) permanent sign per use shall be permitted in the zones listed in §517.F, unless otherwise specified herein.
 - 2. Nameplate & Address. A name plate not exceeding one (1) square foot in area and an address not exceeding two (2) square feet in area, both situated within the property lines.
 - 3. Sale & Rental. No more than one (1) non-illuminated temporary sign indicating the prospective or completed sale or rental of the premises upon which it is located, which conform to the following:
 - a. For a residential use, these signs shall not exceed six (6) square feet in area and four (4') feet in height.
 - b. For a non-residential use, these signs shall not exceed thirty-two (32) square feet in area and six (6') feet in height.
 - c. Such sign shall be removed within seven (7) days after consummation of a lease or sales transaction.
 - 4. Subdivision. Permanent identification signs for major subdivisions shall conform to the following:
 - a. Size shall not exceed thirty-two (32) square feet in area and shall be limited to one (1) sign per street frontage; or
 - b. One (1) sign for every three hundred (300') feet of street frontage, with a maximum of two (2) signs.
 - c. Review of these signs shall be made before final subdivision approval is granted.
 - 5. Multi-Residential. Permanent project identification signs for multi-residential or high-rise residential developments shall be limited to one (1) sign per street frontage, not to exceed thirty-two (32) square feet in area.
 - 6. Development. A sign indicating site or development of premises by a builder, construction, or developer shall conform to the following:
 - a. Size shall not exceed twelve (12) square feet in area and shall be limited to one (1) sign per street frontage; or
 - b. One (1) sign for every three hundred (300') feet of street frontage with a maximum of two (2) signs.
 - c. The sign shall not be erected until application is made to the Planning or Zoning Board for site plan or subdivision approval.
 - d. The sign shall be removed once the project is completed.
 - 7. Institutional.
 - a. Identification signs for churches, hospitals, schools, playgrounds, parks, and public utility facilities shall conform to the following:
 - (a) Size shall not exceed twenty-four (24) square feet in area and shall be limited to one (1) sign per street frontage; and
 - (b) A changeable copy portion of such sign not exceeding sixteen (16) square feet in area is permitted.
 - (c) A maximum of six (6') feet in height is permitted.

- b. Clubs, lodges and social organizations shall be permitted one (1) non-illuminated façade or freestanding sign not to exceed six (6) square feet in area.
- 8. Signs identifying the sale of products grown on the premises shall be permitted one (1) façade or freestanding sign not to exceed nine (9) square feet in area.
- 9. Signs prohibiting or otherwise controlling trespassing, fishing, and/or hunting shall be limited to one (1) sign for each fifty (50') feet of street frontage. Each sign shall not exceed one (1) square foot in area.
- 10. Agricultural/Horticultural (A-HC) Overlay Zone. Within the Agricultural/Horticultural (A-HC) overlay zone, only the following signs shall be permitted:
 - a. Freestanding Sign. One (1) freestanding sign is permitted as provided below:
 - i. Maximum forty (40) square feet; of which sixteen (16) square feet may include a change of copy sign for a Farm Market only.
 - ii. Maximum height of seventeen (17') feet to the top of the sign from ground level located outside the traffic line of site.
 - iii. Minimum clearance from ground to bottom of sign is eight (8') feet for signs more than three (3') feet in height.
 - iv. Signs three (3') feet or less in height shall be ground-mounted only.
 - v. The freestanding sign shall be located in accordance with all requirements, restrictions and conditions of §517.C.
 - b. Façade Sign. One (1) Facade Sign is permitted as provided below:
 - i. Each commercial establishment may have one (1) sign located or attached to the principal facade of said establishment on each street frontage.
 - ii. Such sign shall not exceed an area equal to either fifteen percent (15%) of the principal facade area, including window and door or forty (40) square feet, whichever is smaller.
- G. <u>Business Zones.</u> Within the Neighborhood Business (B1), Highway Business (B2), Shopping Center Business (B3), and Regional Business (B4) zones, only the following signs shall be permitted:
 - 1. Signs permitted in Residential zones, per §517.F.
 - 2. In Neighborhood Business (B1) zone:
 - a. Each business establishment shall be permitted one (1) sign located on or attached to the principal façade of said establishment on each street frontage.
 - b. Signs shall not project more than two (2') feet beyond the building line.
 - c. Sign size shall not exceed whichever is the smaller of the following:
 - i. an area equal to or less than fifteen (15%) percent of the principal façade area (including window and door area) on which, or in front of which, they are displayed, or
 - ii. a maximum of forty (40) square feet.
 - 3. In Highway Business (B2), Shopping Center Business (B3), and Regional Business (B4) zones, only the following signs shall be permitted:
 - a. Retail & Service uses.
 - i. Each business establishment on the ground floor of a structure may have one (1) façade sign located or attached to the principal façade of said establishment on each street frontage.
 - ii. Each façade sign size shall not exceed whichever is the smaller of the following:

- (a) an area equal to or less than fifteen (15%) percent of the principal façade area (including window and door area) on which, they are displayed, or
- (b) a maximum of one hundred and fifty (150) square feet.
- b. Office use.
 - i. Each office structure shall have one (1) façade sign, identifying the name of the office park, located on or attached to the principal façade of said structure on each street frontage.
 - ii. Any individual business within an office structure may not have its own façade sign.
 - iii. Façade sign size shall not exceed whichever is the smaller of the following:
 - (a) an area equal to or less than five (5%) percent of the principal façade area (including window and door area) on which, they are displayed, or
 - (b) a maximum of fifty (50) square feet.
- c. Freestanding Sign.
 - i. Each business with an approved individual site plan with at least fifty (50') feet of indigenous street frontage may have one (1) freestanding sign on each street frontage. Such signs shall not be larger than one-half (1/2) square foot of sign per lineal front foot of the building with a maximum of one hundred fifty (150) square feet of area shall be placed within the property lines of the premises to which they relate.
 - ii. In the case of a group of business uses sharing a common parking area, one (1) freestanding sign shall be permitted for the purpose of identifying the entire site as a shopping center or other commercial or professional use. Such sign shall not be larger than one-half (1/2) square foot of sign per lineal foot of building with a maximum of one hundred fifty (150) square feet and must be erected within the property lines of the use to which it relates.
- d. Menu Sign. Drive-thru restaurants are permitted one (1) menu sign, which may include the name and logo of the restaurant to which the drive-through is attached, which shall conform to the following:
 - i. shall not be visible from any roadway, and
 - ii. shall be no larger than five (5') feet by seven (7') feet in area, and
 - iii. shall not exceed eight (8') feet in height.
- H. <u>Office Zones.</u> Within the Limited Office (O1), General Office (O2), and Restricted Office (O3) zones, only the following signs shall be permitted:
 - 1. Signs permitted in Residential zones, per §517.F.
 - 2. Façade Signs.
 - a. Each office building shall be permitted one (1) identification sign located on or attached to the principal façade of said building on each street frontage.
 - b. Such a sign shall not exceed two (2') feet beyond the building line.
 - c. Sign size shall not exceed whichever is the smaller of the following:
 - ii. An area equal to or less than five (5%) percent of the principal façade area (including window and door area) on which, or in front of which, they are displayed, or
 - iii. A maximum of fifty (50) square feet.
 - 3. Freestanding Signs.
 - a. Each office building shall be permitted one (1) freestanding sign.
 - b. Each sign shall not to exceed twenty (20) square feet in area.

- c. If the office building is part of an office park, it shall not be permitted a freestanding sign. However, the office park shall be permitted a freestanding sign not to exceed twenty (20) square feet in area.
- 4. Directory Signs. In the Limited Office (O1) and General Office (O2) zones, where multipleoccupancy of an office building or office complex is involved, the freestanding sign permitted under §517.H.3.c above may contain a directory listing the professional offices for the purpose of identifying office location. The sign shall conform to the following:
 - a. The top twenty-five (25%) percent of the sign, as a minimum, shall be used for the identifying street number and the name of the office building or complex.
 - b. In those cases where the street number is not the identification of the building or complex or an integral part of the name, the street number shall be added at the top of the sign in numerals seven (7") inches in height.
 - c. The area of the added numerals shall not be considered within the twenty (20) square feet size limitation.
 - d. The sign is permitted to contain a map or floor plan diagram, as the case may be, indicating the location of the buildings or offices listed on the directory.
- I. <u>Industrial Zones.</u> Within the Industrial Restricted (IR) zone, only the following signs shall be permitted:
 - 1. Signs permitted in Residential zones, per §517.F.
 - 2. Façade Signs. One (1) façade sign shall be permitted per building, not exceed five percent (5%) of the principal facade or one hundred and fifty (150) square feet, whichever is smaller.
 - 3. Freestanding Signs. One (1) freestanding sign, not to exceed sixty (60) square feet in size, shall be permitted for the following:
 - a. Where there are five (5) or more industrial establishments in an industrial park, one (1) freestanding sign shall be permitted on the principal street frontage for the purpose of identifying the industrial park.
 - b. One (1) freestanding sign may be permitted for each building of at least 20,000 square feet and on a lot of at least two (2) acres, subject to the following restrictions and conditions:
 - i. Such sign shall not exceed ten (10') feet in height.
 - ii. It shall not be mounted in the air on posts or poles.
 - iii. All freestanding signs within an industrial park shall be consistent in design, color and material. No more than two (2) colors shall be permitted on any one (1) freestanding sign.
 - iv. A freestanding sign shall list only the name and address of the single tenant when the sign is for a single tenant building. For a multiple tenant building, a freestanding sign shall list no more than four (4) tenants and the top twenty-five (25%) percent of the sign, at a minimum, shall be used for identifying the street number, building or complex.
- J. <u>Sign Permit.</u> Every sign used and maintained shall be required to have a valid sign permit, unless exempted, in accordance with the following requirements:
 - 1. <u>Application Requirements.</u> Complete applications for sign permits shall include the following items to the Zoning Officer for review:
 - a. Form. Completed required application forms, supplied by the Administrative Officer.
 - b. Fees. Appropriate required fees, in accordance with §901.
 - c. Consent. Signed application by the owner of the sign and the property owner on whose premises the sign is to be installed, or an original letter from the authorizing applicant to submit a sign

permit application for subject property.

- d. Existing. A digital or color photo, no smaller than three by five (3" x 5") inches or larger than eight by ten (8" x 10") inches shall be submitted for each existing sign on the premises
- e. Proposed. Sketch of the proposed sign, drawn to scale, the wording or message, where the sign will be attached to a building, and a plot plan showing the location of the proposed sign with dimensions to the nearest building and lot lines.
- f. Taxes. No applications shall be granted unless the taxes on the real estate in question are paid in full as of the date of the application and a Zoning Permit has been obtained for the business establishment of the proposed sign.
- Procedure. Completed applications shall be submitted to the Zoning Officer for review for compliance with this Ordinance and all other laws and ordinances of the Township of Cherry Hill. An application for a Sign Permit shall be granted or denied by the Zoning Officer within ten (10) days of the date of filing a complete application. If any application is granted or approved, a signed permit shall be issued by the Zoning Officer, which will then be forwarded to the Construction Official for building permits.
- 3. <u>Change of Copy</u>. Any alteration or change of copy will require a new permit. Any change in the size or shape of a sign, the size of the message, or structural alteration shall require a new sign permit and, if required, a building permit.
- 4. Exceptions. The following shall not require an application, permit, or fee:
 - a. Nameplate and address in residential zones.
 - b. Prospective sale or rental signs.
 - c. Official governmental signs, including historical markers and traffic control signage.
 - d. Signs advertising the sale of products grown on the premises.
 - e. Signs prohibiting or controlling trespass, hunting, and/or fishing and warning signs.
- K. <u>Temporary Sign Permits.</u>
 - 1. General Regulations.
 - a. In all zones within the Township of Cherry Hill, temporary signs may permitted for a period not to exceed twenty (20) days, only to promote a charitable, educational, civic, cultural or religious special event, upon application to the Township Clerk for a Temporary sign permit. All other temporary signs are expressly prohibited. All approved signs must be removed with twentyfour (24) hours after the event.
 - b. The size, material, and number of signs permitted shall conform with requirements of permanent signs for the zone in which such temporary sign(s) may be located, except that:
 - Temporary signs in Institutional zones, or Residential zones where the lots are two (2) or more acres, shall be no greater in size than thirty-two (32) square feet in area and eight (8') feet in height.
 - ii. Temporary signs in Residential zones where the lots are less than two (2) acres shall be no greater than sixteen (16) square feet in area and six (6') feet in height.
 - iii. Rooftop signs temporarily permitted for the purposes stated above, installed in B1, B2, B3, B4, O1, O2 and R20 zones may be permitted, as long as safety and general aesthetics as they relate to nearby properties are not adversely affected.
 - iv. Only one (1) temporary sign per property shall be permitted.
 - v. In no event shall more than two (2) temporary signs in different locations be issued for any one special event. This provision does not apply to campaign signs.

- 2. Application.
 - a. All applications for a permit to allow a temporary sign shall be filed with the Township Clerk at least thirty (30) days prior to the date the sign will be erected or installed for approval by Township Council.
 - b. Temporary functional signs for special events shall not require an additional permit but shall require an approved application for the special event.
 - c. All applications shall state the location of sign(s) as well as a description of the sign(s), including the wording, color(s) and materials.
 - d. All applications shall be reviewed by the Zoning Officer to ensure that the health, safety and general aesthetics as they effect nearby properties are not adversely affected.
 - e. No applications shall be granted unless the taxes on the real estate in question are paid in full as of the date of the application.
 - f. All temporary signs for charitable, educational, civic, cultural or religious events shall require a temporary sign permit and shall be charged application fees, in accordance with §901.
- L. Sign Permit Invalidation.
 - 1. Cause of Invalidation. Any of the following shall cause a sign permit to be invalidated:
 - a. An invalidation of a Certificate of Occupancy for the use to which the sign relates.
 - b. An alteration in the structure of a sign support.
 - c. Vacation of the premises by the user to which the sign relates.
 - d. Abandonment pursuant to §517.N.
 - e. Failure to correct a condition given in written notice by the Zoning Officer, pursuant to §517.N.
- M. Non-Conforming Signs. See §401.C.
- N. <u>Obsolete or Abandoned Signs.</u> Any sign now or hereafter existing which no longer advertises a bona fide business conducted, a product sold or is not used for a permitted use hereunder shall be taken down and removed by the permittee, owner, agent or person having the beneficial use of the building or structure or land upon which such sign may be found within ten (10) days after written notification from the Construction Official or Zoning Officer. The failure to keep a non-conforming sign painted or in good repair for a period of six (6) months shall constitute abandonment, and such sign may not be reused and must be removed. Said sign shall be repainted or repaired as necessary within ten (10) days after written notification from the Construction from the Construction from the Construction from the Construction form the construction form the repainted or repaired as necessary within ten (10) days after written notification from the Construction official or Zoning Officer.
- O. <u>Violations & Penalties.</u> The owner, and/or tenants of the premises and the owner and/ or erector of the sign shall be held responsible for any violation and the cost of removal of any sign in violation thereof.
 - 1. Any sign erected or maintained in conflict with §517.D or §517.K shall be removed within twentyfour (24) hours of the written notice of violation from the Township.
 - 2. Any political candidate who directly or indirectly by his/her agent, representative or campaign official, permits a violation of §517.D for seventy-two (72) hours after notification to said political candidate, his/her agent, representative or campaign official to remove the same shall be subject to a fine not exceeding one hundred fifty dollars (\$150.00) per day, shall be charged with all costs of removal, and could be held responsible for court costs. The installation, posting and placement of each individual sign shall constitute a separate offense.
 - 3. Any person who directly or indirectly by his/her agent or representative violates any of the paragraphs below, shall be subject to a fine and/or imprisonment in accordance with §1106 and

shall be charged with all costs of removal. The installation, posting and placing of each individual sign shall constitute a separate offense:

- a. Permits a violation of 'Prohibited Signs', §517.D; or
- b. Permits a violation of 'Temporary Signs' §517.K; or
- c. Failure to remove a sign in violation of §517.D or §517.K , within twenty-four (24) hours and upon written notice by the Township; or
- d. Failure to remove a sign in violation of 'Obsolete or Abandoned Signs' §517.N, within ten (10) days and upon written notice by the Township.

SECTION 518. EVSE AND MAKE-READY PARKING SPACES.

- A. <u>Purpose</u>. The purpose of this section is to promote and encourage the use of electric vehicles by requiring the safe and efficient installation of Electric Vehicle Supply/Service Equipment (EVSE) and Make-Ready parking spaces through zoning and municipal parking regulations, as well as other standards. EVSE and Make-Ready parking spaces will support the State's transition to an electric transportation sector, reducing automobile air pollution, greenhouse gas emissions, and storm water runoff contaminants. The goals are to:
 - 1. Provide adequate and convenient EVSE and Make-Ready parking spaces to serve the needs of the traveling public.
 - 2. Provide opportunities for residents to have safe and efficient personal EVSE located at or near their place of residence.
 - 3. Provide the opportunity for non-residential uses to supply EVSE to their customers and employees.
 - 4. Create standard criteria to encourage and promote safe, efficient, and cost-effective electric vehicle charging opportunities in all zones and settings for convenience of service to those that use electric vehicles.
- B. (Reserved).
- C. <u>Approvals and Permits.</u>
 - 1. An application for development submitted solely for the installation of EVSE or Make-Ready parking spaces shall be considered a permitted accessory use and permitted accessory structure in all zoning or use districts and shall not require a variance pursuant to N.J.S.A. 40:55D-70.
 - 2. EVSE and Make-Ready parking spaces installed pursuant to §518.D below in development applications that are subject to site plan approval are considered a permitted accessory use as described in §518.C.1 above.
 - 3. All EVSE and Make-Ready parking spaces shall be subject to applicable local and/or Department of Community Affairs permit and inspection requirements.
 - 4. The Administrative Official, Zoning Officer, and/or their designee shall enforce all signage and installation requirements described in this ordinance. Failure to meet the requirements in this ordinance shall be subject to the same enforcement and penalty provisions as other violations of Cherry Hill Township Zoning Ordinance.
 - 5. An application for development for the installation of EVSE or Make-Ready spaces at an existing gasoline service station, an existing retail establishment, or any other existing building shall not be subject to site plan or other land use board review, shall not require variance relief pursuant to N.J.S.A. 40:55D-1, et seq., or any other law, rule, or regulation, and shall be approved through the issuance of a zoning permit by the Administrative Official, Zoning Officer, or his/her designee, provided the application meets the following requirements:
 - a. The proposed installation does not violate bulk requirements applicable to the property or the conditions of the original final approval of the site plan or subsequent approvals for the existing

gasoline service station, retail establishment, or other existing building;

- b. All other conditions of prior approvals for the gasoline service station, the existing retail establishment, or any other existing building continue to be met; and
- c. The proposed installation complies with the construction codes adopted in or promulgated pursuant to the "State Uniform Construction Code Act," P.L.1975, c.217 (C.52:27D-119 et seq.), any safety standards concerning the installation, and any State rule or regulation concerning electric vehicle charging stations.
- 6. An application pursuant to §518.C.5 above shall be deemed complete if:
 - a. The application, including the permit fee and all necessary documentation, is determined to be complete,
 - b. A notice of incompleteness is not provided within 20 days after the filing of the application, or
 - c. A one-time written correction notice is not issued by the Administrative Official, Zoning Officer, and/or their designee within 20 days after filing of the application detailing all deficiencies in the application and identifying any additional information explicitly necessary to complete a review of the permit application.
- 7. EVSE and Make-Ready parking spaces installed at a gasoline service station, an existing retail establishment, or any other existing building shall be subject to applicable local and/or Department of Community Affairs inspection requirements.
- 8. A permitting application solely for the installation of EVSE permitted as an accessory use shall not be subject to review based on parking requirements.
- D. <u>Requirements for New Installation of EVSE and Make-Ready Parking Spaces.</u>
 - 1. As a condition of preliminary site plan approval, for each application involving a multiple dwelling with five (5) or more units of dwelling space, which shall include a multiple dwelling that is held under a condominium or cooperative form of ownership, a mutual housing corporation, or a mixed-use development, the developer or owner, as applicable, shall:
 - a. Prepare as Make-Ready parking spaces at least fifteen percent (15%) of the required offstreet parking spaces, and install EVSE in at least one-third (1/3) of the fifteen percent (15%) of Make-Ready parking spaces;
 - b. Within three (3) years following the date of the issuance of the certificate of occupancy, install EVSE in an additional one-third (1/3) of the original fifteen percent (15%) of Make-Ready parking spaces; and
 - c. Within six (6) years following the date of the issuance of the certificate of occupancy, install EVSE in the final one-third (1/3) of the original fifteen percent (15%) of Make-Ready parking spaces.
 - d. Throughout the installation of EVSE in the Make-Ready parking spaces, at least five percent (5%) of the electric vehicle supply equipment shall be accessible for people with disabilities.
 - e. Nothing in this subsection shall be construed to restrict the ability to install electric vehicle supply equipment or Make-Ready parking spaces at a faster or more expansive rate than as required above.
 - 2. As a condition of preliminary site plan approval, each application involving a parking lot or garage not covered in §518.D.1 above shall:
 - a. Install at least one (1) Make-Ready parking space if there will be 50 or fewer off-street parking spaces.
 - b. Install at least two (2) Make-Ready parking spaces if there will be 51 to 75 off-street parking spaces.
 - c. Install at least three (3) Make-Ready parking spaces if there will be 76 to 100 off-street parking spaces.
 - d. Install at least four (4) Make-Ready parking spaces, at least one (1) of which shall be accessible

for people with disabilities, if there will be 101 to 150 off-street parking spaces.

- e. Install at least four percent (4%) of the total parking spaces as Make-Ready parking spaces, at least five percent (5%) of which shall be accessible for people with disabilities, if there will be more than 150 off-street parking spaces.
- f. In lieu of installing Make-Ready parking spaces, a parking lot or garage may install EVSE to satisfy the requirements of this subsection.
- g. Nothing in this subsection shall be construed to restrict the ability to install EVSE or Make-Ready parking spaces at a faster or more expansive rate than as required above.
- h. Notwithstanding the provisions of this Section, a retailer that provides 25 or fewer off-street parking spaces or the developer or owner of a single-family home shall not be required to provide or install any electric vehicle supply equipment or Make-Ready parking spaces.

E. Minimum Parking Requirements.

- 1. All parking spaces with EVSE and Make-Ready equipment shall be included in the calculation of minimum required parking spaces, pursuant to §511 of the Cherry Hill Township Zoning Ordinance.
- 2. A parking space prepared with EVSE or Make-Ready equipment shall count as at least two (2) parking spaces for the purpose of complying with a minimum parking space requirement. This shall result in a reduction of no more than ten percent (10%) of the total required parking.
- 3. All parking space calculations for EVSE and Make-Ready equipment shall be rounded up to the next full parking space.
- 4. Additional installation of EVSE and Make-Ready parking spaces above what is required in §518.D may be encouraged, but shall not be required in development projects.
- F. <u>Reasonable Standards for All New EVSE and Make-Ready Parking Spaces.</u>
 - Location and layout of EVSE and Make-Ready parking spaces is expected to vary based on the design and use of the primary parking area. It is expected flexibility will be required to provide the most convenient and functional service to users. Standards and criteria should be considered guidelines and flexibility should be allowed when alternatives can better achieve objectives for provision of this service. The adequacy of the proposed location will be at the discretion of the Administrative Officer, Zoning officer, and/or their designee, however EVSE and Make-Ready parking spaces shall generally be prohibited from Landscape Buffers, per §508.F, Sight Triangles, per §502.M., and Parking Setbacks, per §511.H.2.

2. Installation.

- a. Installation of EVSE and Make-Ready parking spaces shall meet the electrical subcode of the Uniform Construction Code, N.J.A.C. 5:23-3.16.
- b. Each EVSE or Make-Ready parking space that is not accessible for people with disabilities shall be not less than 9 feet wide or 18 feet in length. Exceptions may be made for existing parking spaces or parking spaces that were part of an application that received prior site plan approval.
- c. To the extent practical, the location of accessible parking spaces for people with disabilities with EVSE and Make Ready equipment shall comply with the general accessibility requirements of the Uniform Construction Code, N.J.A.C. 5:23, and other applicable accessibility standards.
- d. Each EVSE or Make-Ready parking space that is accessible for people with disabilities shall comply with the sizing of accessible parking space requirements in the Uniform Construction Code, N.J.A.C. 5:23, and other applicable accessibility standards.
- 3. EVSE Parking.
 - a. Public Parking. If the subject property is in compliance with the most current Cherry Hill Township Zoning Ordinance minimum parking requirements, publicly-accessible EVSE spaces may be reserved for the parking and charging of electric vehicles only, including a requirement that

electric vehicles be connected to the EVSE when parked. If the subject property is not in compliance with the most current Cherry Hill Township Zoning Ordinance's minimum parking requirements or obtained a variance to permit less onsite parking than otherwise required, then no parking restriction may be placed on publicly-accessible EVSE spaces. The property owner or designee shall monitor compliance with any restrictions applicable to publicly-accessible EVSE spaces.

- b. Electric vehicles may be parked in any parking space designated for parking, subject to the restrictions that would apply to any other vehicle that would park in that space.
- c. Private Parking. The use of EVSE shall be monitored by the property owner or designee.
- 4. Safety.
 - a. Each publicly-accessible EVSE shall be located at a parking space that is designated for electric vehicles only and identified by green painted pavement, curb markings, a green painted charging pictograph symbol, and/or appropriate signage pursuant to §518.F.5 below.
 - b. Publicly-accessible EVSE shall have adequate site lighting, in compliance with §509, and adequate landscaping to shield transformers, switchgears, cabinets, and other similar equipment from view. The adequacy of the proposed landscaping will be at the discretion of the Administrative Officer, Zoning officer, and/or their designee, however the general requirements of §508 shall be met with regard to size and planting requirements, as well as all general provisions of §508.1.
 - c. Adequate EVSE protection such as concrete-filled steel bollards shall be used for publiclyaccessible EVSE. Non-mountable curbing may be used in lieu of bollards if the EVSE is setback a minimum of 24 inches from the face of the curb. Any stand-alone EVSE bollards should be 3 to 4-feet high with concrete footings placed to protect the EVSE from accidental impact and to prevent damage from equipment used for snow removal.
 - d. EVSE outlets and connector devices shall be no less than 36 inches and no higher than 48 inches from the ground or pavement surface where mounted, and shall contain a cord management system as described in §518.F.4.e below. Equipment mounted on pedestals, lighting posts, bollards, or other devices shall be designated and located as to not impede pedestrian travel, create trip hazards on sidewalks, or impede snow removal.
 - e. Each EVSE shall incorporate a cord management system or method to minimize the potential for cable entanglement, user injury, or connector damage. Cords shall be retractable or have a place to hang the connector and cord a safe and sufficient distance above the ground or pavement surface. Any cords connecting the charger to a vehicle shall be configured so that they do not cross a driveway, sidewalk, or passenger unloading area.
 - f. Where EVSE is provided within a pedestrian circulation area, such as a sidewalk or other accessible route to a building entrance, the EVSE shall be located so as not to interfere with accessibility requirements of the Uniform Construction Code, N.J.A.C. 5:23, and other applicable accessibility standards.
 - g. Publicly-accessible EVSE spaces shall be maintained in all respects, including the functioning of the equipment. A 24-hour on-call contact shall be provided on the equipment for reporting problems with the equipment or access to it. To allow for maintenance and notification, Cherry Hill Township shall require the owners/designee of publicly-accessible EVSE spaces to provide information on the EVSE's geographic location, date of installation, equipment type and model, and owner contact information.
- 5. Signs.
 - a. Publicly-accessible EVSE spaces shall have posted regulatory signs, as identified in this section, and if applicable, shall state whether actively charging electric vehicles are only permitted to park in such spaces. For purposes of this section, "charging" means that an electric vehicle is parked at an EVSE and is connected to the EVSE. If time limits or vehicle removal provisions are

to be enforced, regulatory signs including parking restrictions shall be installed immediately adjacent to, and visible from the EVSE. For private EVSE, installation of signs and sign text is at the discretion of the owner, however the size and location of the sign is still subject to review and permitting.

- b. Regulatory signs shall comply with visibility, legibility, size, shape, color, and reflectivity requirements contained within the Federal Manual on Uniform Traffic Control Devices as published by the Federal Highway Administration.
- c. Wayfinding or directional signs, if necessary, shall be permitted at appropriate decision points to effectively guide motorists to the EVSE parking space(s). Wayfinding or directional signage shall be placed in a manner that shall not interfere with any parking space, drive lane, or exit and shall comply with §518.F.5.b above and §517.C.3.b.
- d. In addition to the signage described above, the following information shall be available on the EVSE or posted at or adjacent to all publicly-accessible EVSE spaces:
 - i. Hour of operations and/or time limits if time limits or tow-away provisions are to be enforced by the municipality or owner/designee;
 - ii. Usage fees and parking fees, if applicable; and
 - iii. Contact information (telephone number) for reporting when the equipment is not operating or other problems.
- e. All signs not specifically related to EVSE shall comply with §517 of the Cherry Hill Township Zoning Ordinance.
- f. Unless otherwise required by State or Federal Law, the regulatory, wayfinding, and directional signs noted in this section shall not exceed three (3) square feet in sign text area.
- 6. Usage Fees.
 - a. For publicly-accessible municipal EVSE: In addition to any parking fees that may apply, usage fees to connect electric vehicles to EVSE parking spaces shall be in accordance with applicable State and Federal regulations and posted at or adjacent to the EVSE parking space.
 - b. The usage fee for publicly-accessible municipal EVSE, if any, shall be set by resolution adopted by the governing body, which may be amended upon the passage of a resolution.
 - c. Private EVSE: Nothing in this ordinance shall be deemed to preclude a private owner/designee of an EVSE from collecting a fee for the use of the EVSE, in accordance with applicable State and Federal regulations. Fees shall be available on the EVSE or posted at or adjacent to the EVSE parking space.