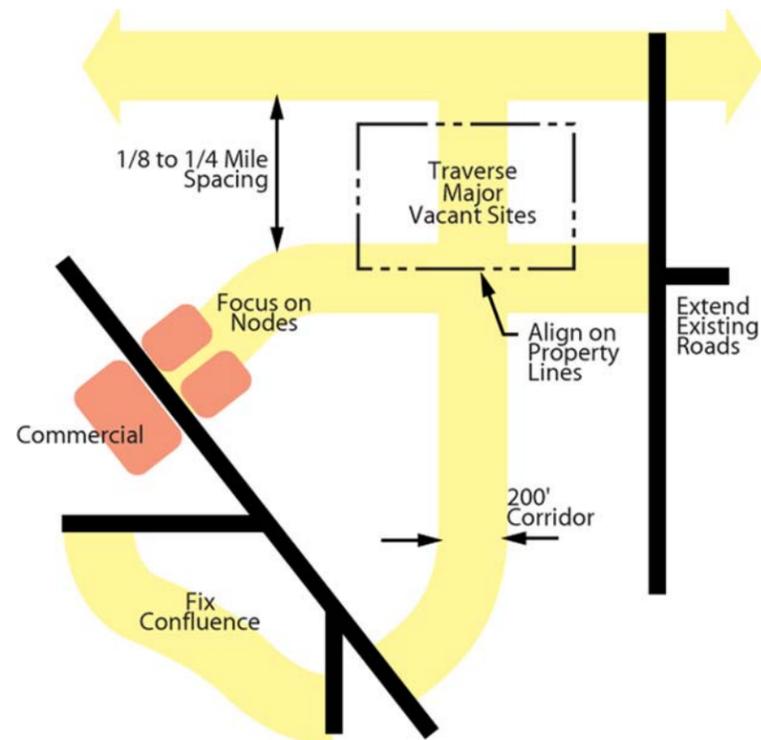


Map Additional Street Network



Mapping Guidelines

Using their existing authority to create an official map (pursuant to NJS40:55D-32), map the initial corridor (1,000 feet in width) for a system of collector streets throughout those areas of the town containing or anticipating growth. As an expedient first step, the system of collector streets can be mapped as part of the Township's Master Plan circulation element. This system of mapped streets serves the following functions:

- **Traffic Function** - The mapped streets are "collectors," serving as the framework that joins the most local of residential streets ("local" streets) with the major streets serving longer distance travel ("arterial" streets) such as US 40. A well-connected system of collector roads is critical to the function of the entire street system. For much of routine travel to community destinations (e.g., school, grocery shopping), a well-connected collector system can accommodate the entire trip. A full collector system offers parallel reliever routes to existing arterial system. Further, they provide a means for routing traffic to preferred junctions (for example, signalized intersections) on the arterial system. A full collector network postpones or, more frequently, eliminates entirely the need for widening of the arterial system.

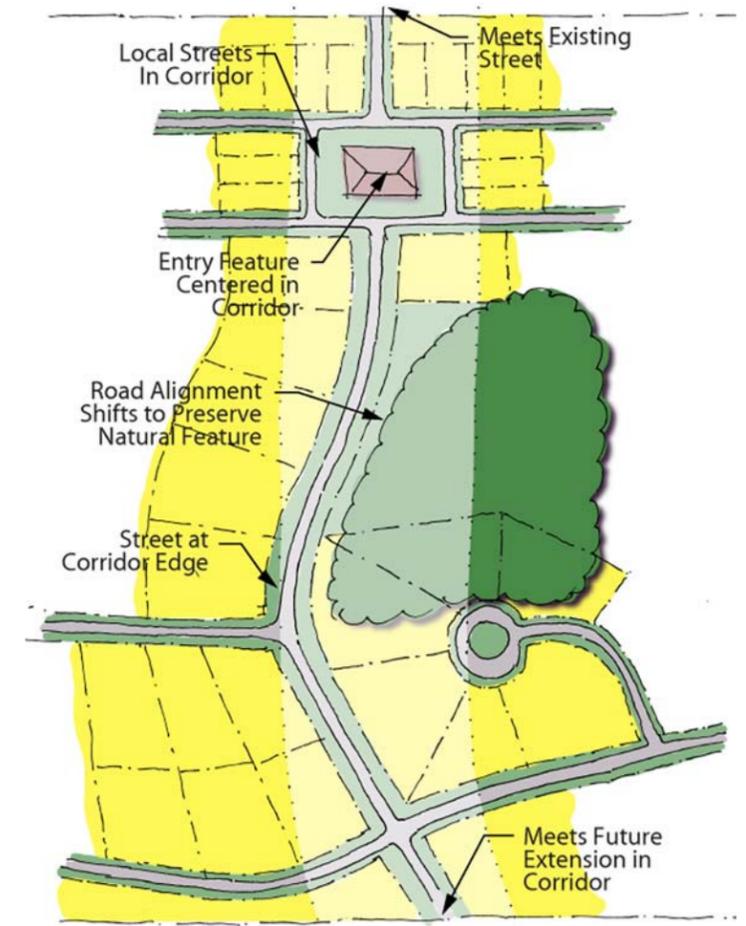
- **Property Fronting Function** - Collector streets are small, low speed and harmonious with the environment. They are therefore fully suitable for residential frontage. At selected locations, such as crossroads and hamlets, collector streets can also serve as the armature for retail development and can feature on-street parking.

- **Internal Subdivision Connectivity** - A full web of collector streets provides the framework for individual subdivisions to connect in multiple directions, thereby avoiding reliance on single-entry subdivisions, a disastrous pattern for traffic flow.

Challenges and Remedies

The official map, as envisioned in New Jersey planning law, calls for precise location of street right-of-ways, with little deviation permitted without strong cause. However, designation of a large mileage of collector streets necessarily calls for an approximate early location, to be refined later, with deviations in route freely considered as property development plans unfold. A remedy to this need for precision would be for the town to designate, on their official map, a corridor at an accuracy adequate to identify traversed or adjacent properties, and to thereby permit the proper notification of property owners and their inclusion in the route alignment process. More precise designation of the roadway alignment, fully in compliance with NJS40:55D-32, can then occur at any number of future "benchmark" points; for example, as development activity increases in an area, as utilities are extended, as the subdivision process is initiated, and so forth.

New Jersey planning law confers large advantages to a town producing a map with a full network of connecting streets. Property owners have a clear indication, far in advance of property development, of the intention of the town, and are able to shape their plans to both conform to this intention and to benefit from it. The town's ability to steer growth toward "smart growth" objectives during all stages of the planning process (subdivision approval as well as site plan approval) is greatly enhanced with an adopted map giving a full web of collector streets. Traffic from new growth can be dispersed to numerous routes, arterial widening can be eliminated, the quality of life for existing residents improved, and property values increased.



How Mapping Shapes Growth

New Street Framework in the Racetrack District

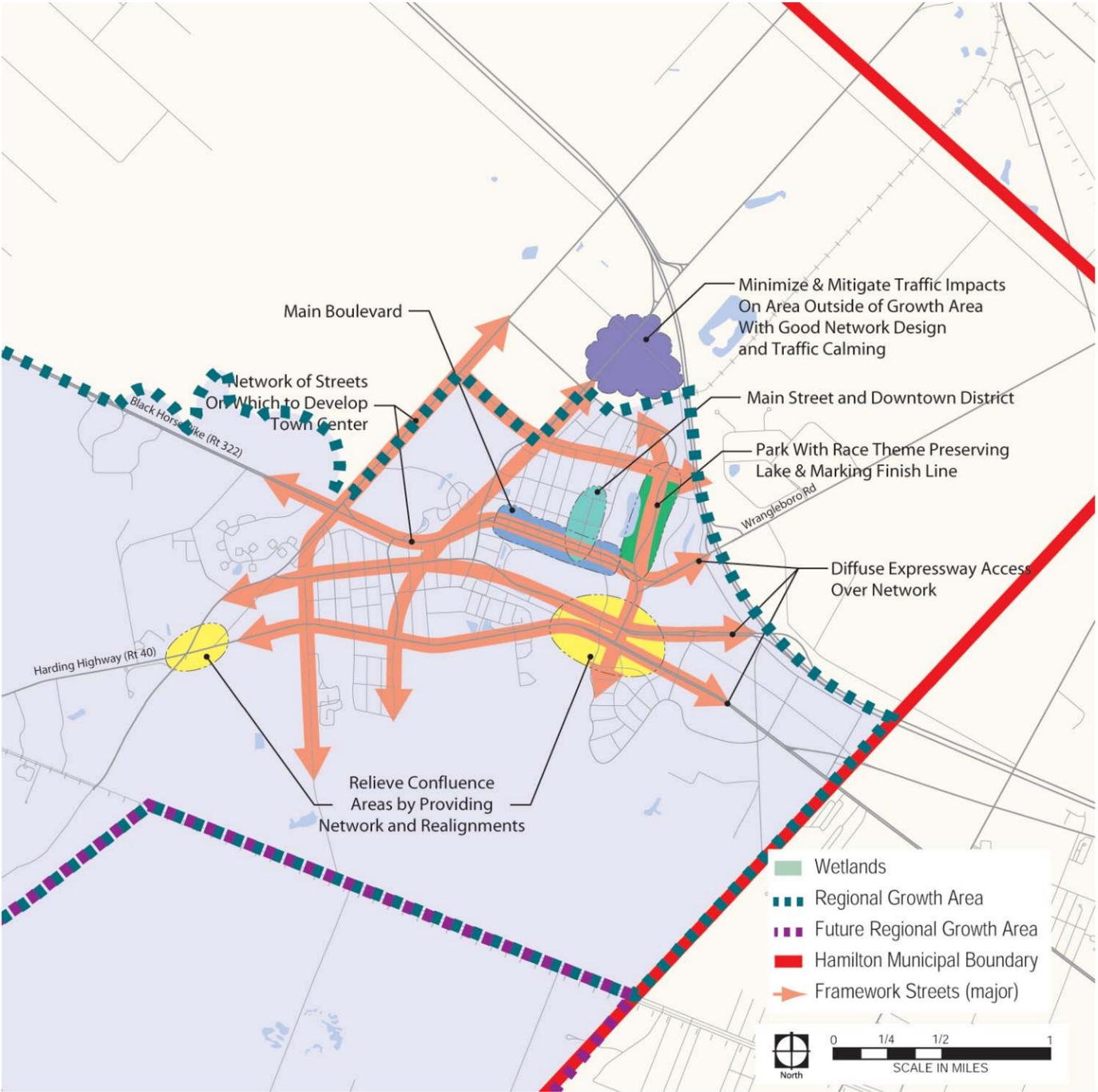
A major part of a strategic plan for the racetrack district is the reorganization of the road system in the district, through the realignment of the existing major arterials and the addition of new framework streets.

A major principle of the street reorganization is the unraveling of the "confluence" areas, in which traffic from major arterial highways is combined for short segments onto a single route, creating major problems of congestion and access. In approaching this solution, the Black Horse Pike (Route 322) is given a direct connection to Wrangleboro Road, and therefore to the Atlantic City Expressway to/from the north. Continuing traffic on Route 322 will use three new network links to make a short north-south movement: an extension of Cologne Avenue, an extension of Leipzig Avenue and a new north-south connector through the heart of the rebuilt racetrack district.

Route 40 becomes the continuous route through the area, no longer joining Route 322 in the problematical "confluence" area. Connection to Route 322 is through the three new or extended north-south arterials noted above (i.e., Cologne Avenue, Leipzig Avenue and the new north-south main street through the race-track area). Connection to all three of the Atlantic City Expressway interchanges is gained through these north-south connections.

The Atlantic City Expressway ramps to/from the south are connected directly to a new east-west major collector street, which, in parallel with Route 40 and Route 322 (relocated) forms a third east-west connection across the area.

The network of local streets needed to form the appropriate sized blocks are also shown. This network of local streets connects, at numerous points, to the framework streets as discussed above.



Revise Street Design Guidelines

Revise the existing street design guidelines, as contained within the subdivision ordinance. The actions decrease the size of street, and provide for street types with swale drainage.

Challenges and Solutions

There may be concern, from public officials, that the swale and drainage street, with its lack of "discipline" will be degraded by frequent parking in the swale, leading to erosion of the swale as well as an unsightly appearance. This concern is addressed through site plan regulations that permit convenient off-street parking (circle drives, hammer-head turnarounds) in addition to driveways, a driveway design that permits easy turnaround, and a detailing that permits occasional segments of designated parking on paved or otherwise treated segments of pavement.

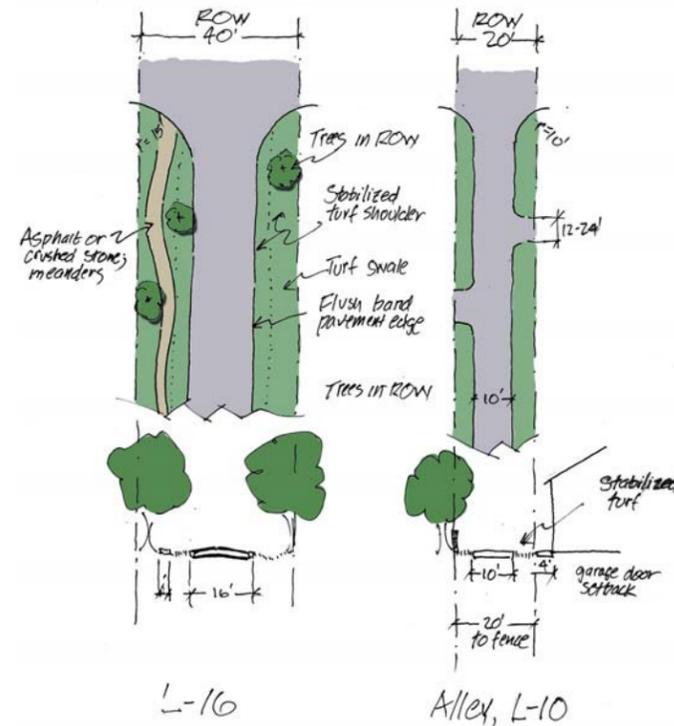
The pavement width of 24 feet for a minor residential street allows for parking on either side of the street, and a single lane of traffic in the center of the street. Typically, the parking will require 7 feet on either side, leaving a 10-foot travel lane in the center of the street. As carefully explained in the AASHTO Greenbook, "opposing conflicting traffic will yield and pause on the parking lane area" until the driving lane is clear of opposing traffic. This "yield" operation, with only a single moving lane for traffic in both directions, is appropriate for all single family residential development in which off-street parking (driveway, garage, alley or combination thereof) is provided.

With a 24-foot pavement and a 50-foot right-of-way, a five-foot sidewalk can be provided on both sides of the street. With sidewalks located at the edge of the right-of-way line, the 50-foot right-of-way allows for an 8-foot planting strip between curb and sidewalk, a width adequate for proper planting of major street trees.

New roads and other infrastructure (e.g., parking, sidewalks, and sewers) within strictly residential developments (as opposed to mixed use developments) must adhere to the residential site improvement standards (RSIS) developed by New Jersey's Department of Community Affairs (NJ DCA). Smaller streets and related design considerations as shown opposite may not always be permitted under NJ DCA's regulations. Because this concept provides several advantages (e.g., slower vehicular speeds, less impervious surface, more aesthetically pleasing) while still safely accommodating traffic needs, the Township should pursue long-term, comprehensive strategies to enable its application. Options for

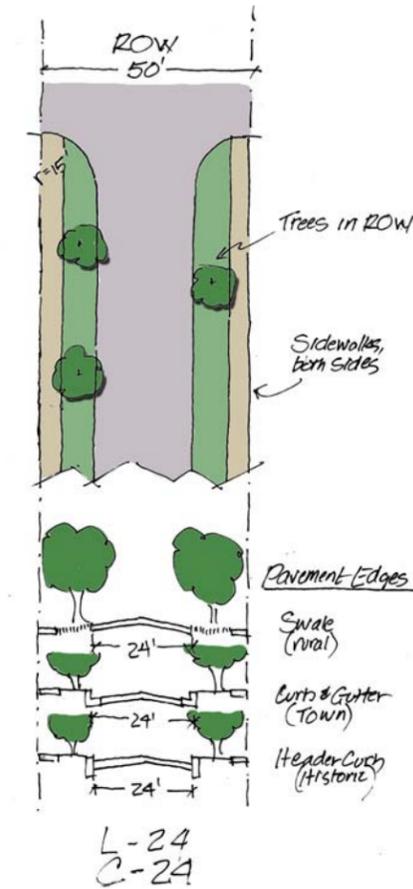
the Township and the Pinelands Commission to consider include:

1. Explore creation of a generic approval process by the Pinelands Commission. NJ DCA's RSIS are not allowed to modify or otherwise affect regulations adopted by the Pinelands Commission. The Commission could therefore adopt requirements that would apply to all regional growth areas in the Pinelands.
2. Work with NJ DCA's Office of Smart Growth to craft new requirements that would be implemented under the State Development and Redevelopment Plan.
3. Apply to NJ DCA's RSIS program for Special Area Standards. The RSIS provide a procedure whereby a municipality can work with NJ DCA to develop supplementary or alternative standards for areas such as those addressed by this community action plan.



Local Street, Swale Drainage

Adopt this design as the basic residential street for residential densities of four units to the acre or less, where on-street parking is not likely to be regularly needed.



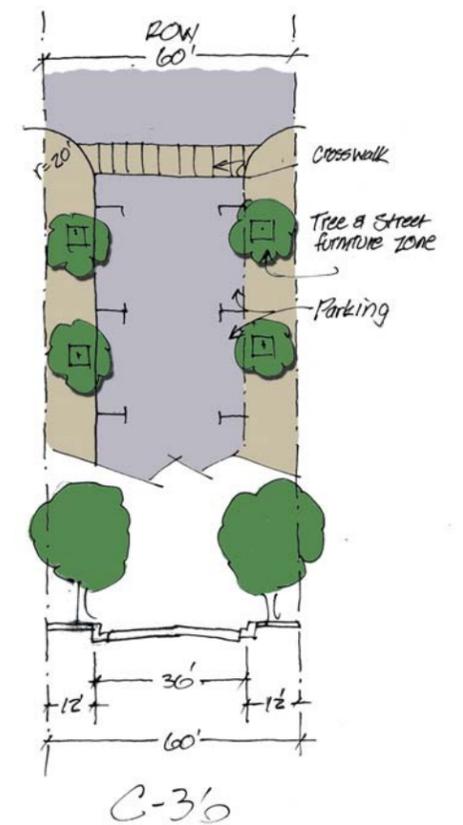
Twenty-Four Foot, Swale Drainage

This design is appropriate for residential densities greater than 4-5 units per acre, where the need for regular (i.e., daily) on-street parking becomes apparent.

Twenty-Four Foot Local Street, Curb and Gutter Drainage

Same use as the twenty-four foot open drainage street (previous), but where curb is desired, either for storm water management, for a more assured containment of parking within the street, or for appearance considerations.

This street type (open swale version in particular) is the primary street type for the mapped road network (see Map Additional Street Network Action).



The Thirty-Six Foot Collector Street, Curb and Gutter

This is the basic street type for town and village commercial centers, where full-time on-street parking on both sides of the street is anticipated. The design permits a marked lane for each direction of traffic, as well as marked lanes for parking.

Revise Stormwater Regulations

Comprehensive Stormwater Management - Problems, Options, and Regulations

The Pinelands Comprehensive Management Plan has served to protect many thousands of acres from the impacts of development through re-direction of new development into growth areas. But the good news of conservation also has been accompanied by the bad news of a variety of environmental impacts occurring as the result of this growth area development. Although both the Pinelands Commission itself and the New Jersey Department of Environmental Protection (NJDEP) have enacted regulatory programs (discussed below) to help minimize these adverse effects of development, growth area municipalities such as Winslow Township have both suffered from problems associated with unsightly and unsuccessful stormwater management systems and other elements of growth infrastructure such as massive wastewater management collection and treatment systems that drain critical aquifers and discharge polluted effluents.

Advances in technologies and development of an evolving array of Best Management Practices or BMPs are dramatically improving stormwater management, as part of "smart growth" planning. The "D" words of Development and Density no longer need to be equated with Disaster in terms of stormwater and other infrastructure. Smart growth means smarter stormwater management techniques which maintain hydrologic balance and minimize pollutant loadings. Smart growth means smarter wastewater management which recycles wastewater effluents, utilizing nutrients such as phosphorus and nitrogen in the process. Smart growth means conservation-oriented water supply which can be sustained and balanced over the long term. In short, with the application of new techniques in all of these areas, more land development can occur with significantly less impact.

Curiously, although innovations in technology have revolutionized so much of the world in the last 30 to 40 years, the building industry has lagged in its approach to land development infrastructure. Stormwater and wastewater practices in so many New Jersey municipalities in 2003 remain remarkably similar to practices 40 or more years ago. A major impetus for change has certainly been the emergence of requirements as set forth by the Pinelands Commission, and more recently by NJDEP (see discussion below), in response to the new NPDES Phase II program requirements pursuant to the federal Clean Water Act. Though these programs are not without their bureaucratic flaws, both NJDEP and the Pinelands Commission have been leaders in stormwater management nationwide and deserve credit for innovation.

Reasons for the Problem

Special regulations and management notwithstanding, many stormwater management systems have become problem-prone eyesores, even with the extra scrutiny imposed by the municipalities themselves as well as the State and Pinelands Commission. A common complaint registered against so many stormwater



management systems is an aesthetic one: they quickly deteriorate and become ugly blemishes on the landscape. To some extent, the problem can be related to the fact that stormwater management typically takes the form of some sort of highly centralized basin squeezed into whatever site area is leftover after the building program has been fully planned out and accommodated on the site. As such, locations of the conventional stormwater basins are often less than ideal and something of an afterthought, emerging in visually prominent positions such as major entrances or open space. Rarely are the stormwater systems carefully integrated into overall site design, reflective of optimal locations from either a functional or aesthetic perspective. Rarely is stormwater management even taken into consideration up front in the site design process.

As a consequence, many stormwater management systems do not work as intended. Managers now recognize that stormwater management means not only control of peak rates of runoff, but also control of total runoff volumes, with control of groundwater (and aquifer) recharge as well. In so many cases, we've seriously imbalanced the water cycle and significantly increased runoff and downstream flooding through peak rate-focused detention basin systems. The corollary losses in infiltration and recharge then translate into depleted wells, streams, wetlands, and other critical water features when the rain stops.

Closely linked to the water quantity management issues is water quality, best served by preventive approaches as well as mitigative practices which are optimized through soil- and vegetation-based infiltration practices. So often these comprehensive objectives of groundwater recharge and water quality are not being achieved, either by design or by accident. Systems malfunction, which in turn creates eyesores such as clogged outlets, reduced infiltration, eutrophic standing water that quickly degenerates into potential mosquito breeding pools. Because of their unsavory character which has emerged over time, added security measures are typ-



Excessive land disturbance



Ineffective stormwater management

ically taken to prevent or at least minimize human interaction and contact with stormwater basins. Unsightly chain-linked fences are installed around basin perimeters, making them even more foreboding. Stormwater grows even uglier.

Maintenance requirements, whether imposed by homeowners, homeowners associations, or the municipalities themselves, mount. Even under the best of conditions, the natural tendency is to cut maintenance short. As various malfunctions increase, maintenance requirements increase rapidly, and problems (and their costs) snowball.



Constructed wetlands maintain water quality and can be aesthetically pleasing.

Comprehensive Stormwater Management Options

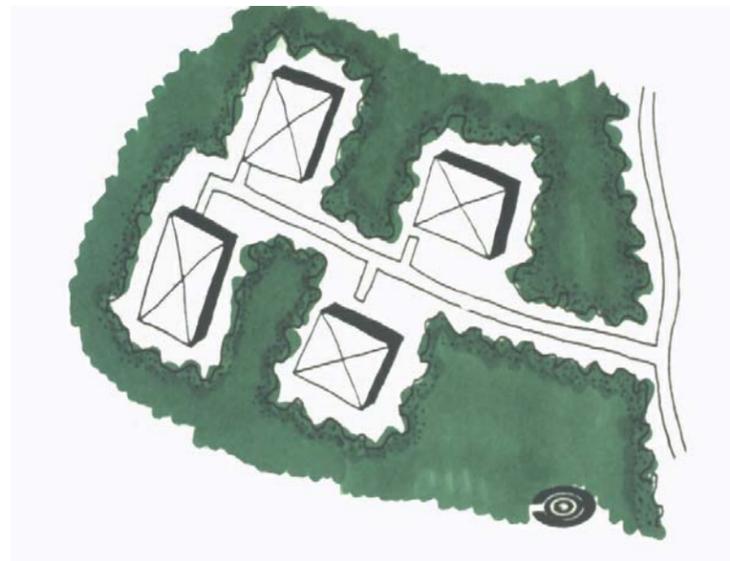
Option Set 1: Preventive Nonstructural Conservation Design and Low Impact Development

Through optimal blends of preventive nonstructural site design approaches and mitigative structural practices, higher density development can be accommodated with substantially reduced stormwater and other impacts, provided that basic water quantity and quality principles are respected. The rapidly emerging Smart Growth sub-fields of Conservation Design and Low Impact Development (concepts sometimes used interchangeably) are showing us that through applying a number of conservation-oriented low impact site design approaches, significant stormwater generation can be prevented.

First, minimize total site disturbance; maximize preservation of undisturbed site soils and site vegetation, even as the building program (such as number of dwelling units or commercial square footage or other building activity) is held constant. Typically, minimizing disturbance can be achieved through any number of clustering techniques and, more broadly, through Neo-Traditional (or New Urbanist) site development. These approaches to site design usually entail considerably reduced setbacks which allow for reduction in lot size and total amount of land area "consumed" by any particular building program, though not a reduction in the building program itself. Municipal ordinances should define Minimum Disturbance/Minimum Maintenance provisions compatible with the physical characteristics of the municipality together with the type of development being accommodated. When maximized, Minimum Disturbance/Minimum Maintenance also translates into a **reduction in the artificially maintained landscape with application of fertilizers and pesticides**, significantly reducing nonpoint source water quality loadings year after year. Areas of undisturbed vegetation can then be used as part of the active stormwater management plan itself. A model tree removal ordinance (Appendix A) has been provided by the Pinelands Commission to address this issue.

Stormwater generation can be reduced by **minimizing the creation of impervious cover**, as well as site disturbance. Consider vertical development, compatible with new-traditional multi-story town themes, featuring retail shops and office and apartment units located in upper floors, where feasible, in contrast to one-floor big boxes. The same building programs can be accommodated with less impervious cover, less stormwater generated. Downsize and "skinny" the street system, where appropriate, avoiding oversized subdivision road system with 30-foot wide streets on small residential cul-de-sacs (e.g., the "green" street systems as advocated by the Center for Watershed Protection). Use vegetated circles that reduce impervious area and incorporate vegetated stormwater management treatment at the same time, as well as downsized turnarounds. Use shared parking with the correct blend of uses; consider use of maximum parking ratios, not minimums. Structured parking, though costly, means less disturbance, less impervious areas, less stormwater generation.

Another nonstructural method of **preventative stormwater management is to protect areas that provide water quality benefits, including vegetated areas near waterbodies** that are particularly susceptible to erosion and sediment loss. Finally, engineers should design to minimize the decrease in pre-construction time of concentration. Reduction in the time of concentration will result in stormwater leaving the site faster and in greater quantity resulting in higher peak flows in the receiving waterbody. Any decrease in the time of concentration must therefore be minimized to control the negative impacts downstream.



Preserve existing site vegetation...

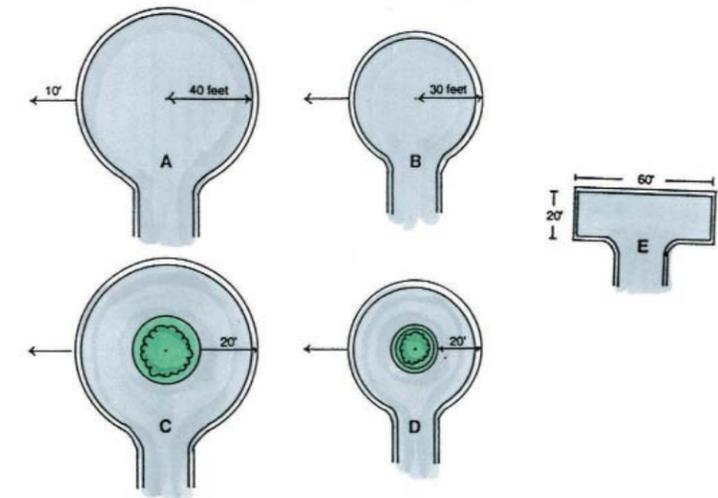


...through minimum disturbance/maximum maintenance...



...at both residential and commercial sites...

Five Turnaround Options at the end of a Residential Street



Reduce paved and other impervious surfaces...



...with an array of low impact development techniques.



For aesthetic and functional stormwater management.

Comprehensive Stormwater Management Options

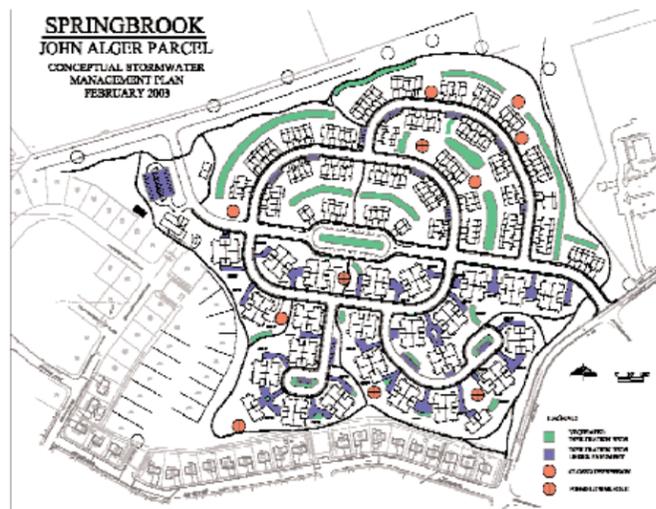
Option Set 2: Mitigative and Structural

Stormwater cannot be totally avoided; some disturbance, some impervious surface is going to result as development occurs, even if preventive approaches are embraced thoroughly. The More with Less philosophy also translates into a broad array of innovative practices which mitigate both stormwater quantity and quality impacts through reliance on structured soil- and vegetation-based systems.

To make this work, the first critical step is a thorough **site analysis** which identifies areas of site stormwater management opportunity and areas of site constraint. Site soils and vegetation play an important role in this analysis and indicate where opportunities for infiltration, the optimal management approach for both water quantity and quality, can occur. All else being equal, this **infiltration** should be integrated into the overall site plan in a way that is as **decentralized and distributed** as possible, occurring as close to the source or point of generation as possible.

In lower density residential subdivisions, stormwater may be directed into landscaped recharge gardens (also called rain gardens); these vegetated recharge gardens can be integrated into higher density applications and provide attractive landscape features which accomplish stormwater objectives as well. Stormwater can be directed along vegetated swales - vegetated open channel conveyance systems - avoiding curbs and gutters, and diverted into level spreading berms on contour, carefully threaded through wooded areas.

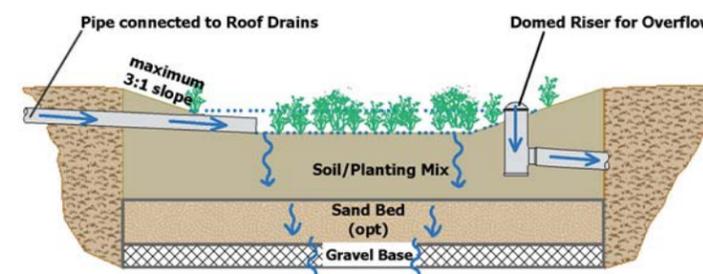
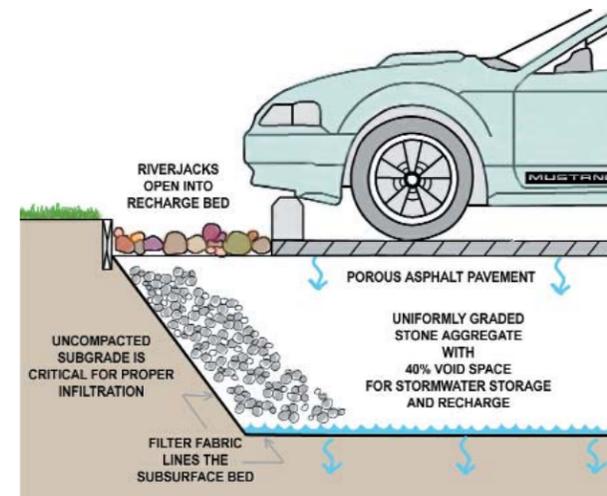
In higher intensity commercial areas, stormwater management may take the form of infiltration chambers located beneath porous-paved parking lots; parking areas not only accommodate their own stormwater but also can receive runoff from building roof areas and other paved surfaces. Where more centralized management cannot be avoided, subtle and shallow basins planted with appropriate wildflower mix can be integrated into infiltration-conducive areas in the site. If natural conditions prohibit infiltration, wet ponds, properly designed and engineered and enhanced with wetland vegetation (i.e., constructed wetlands), offer water quality treatment; these wet pond features can add significant aesthetic value to the overall development, though must be large enough to sustain a successful aquatic community.



Use both soil and vegetative-based “structures,” such as these recharge or rain gardens



Use vegetated swales and filter strips for quantity and quality control.



Geotextile fabric must line the bed to prevent groundwater contamination. Sand bed and/or gravel base are optional features that depend on existing soil conditions.

Porous pavement over recharge beds optimize site use with excellent environmental performance.

Comprehensive Stormwater Management

New Jersey Regulatory Issues

Poor stormwater management has increased pollution in surface waters and groundwater and made droughts and flooding more severe. This has been recognized as a significant problem at the state level. Accordingly, NJDEP has proposed new regulations - that NJ townships can adopt at minimum - designed to better protect water quality and quantity. These Stormwater Management Rules (N.J.A.C. 7:8 available online at http://www.state.nj.us/dep/watershedmgmt/DOCS/BMP_DOCS/stormwater_management_plan.pdf) recommend and require both structural (preventative) and nonstructural (mitigative) stormwater management strategies as discussed in Option Set 1 and Option Set 2, above. **The guiding principles for comprehensive stormwater management outlined and discussed above are reflected in the new state regulations.**

The new rules aim to improve performance objectives and methods of mitigating the negative impacts of post-construction stormwater runoff with the intent to require implementation of better site design techniques that prevent disturbances through use of nonstructural stormwater strategies or Low Impact Development. In addition, the new regulations include design and performance standards developed for groundwater recharge and stormwater runoff quantity (volume) control. For example, N.J.A.C. 7:5.4(a)2 provides two options for satisfying the recharge performance standard. First, maintain 100% of the average annual pre-construction groundwater recharge volume for the site. Second, infiltrate the net increase of the 2-year stormwater runoff volume from pre-construction to post-construction. (Note: not all of DEP's proposed requirements are more stringent than the Pineland's CMP; in such instances, the CMP's requirements will still need to be met.)

Pursuant to the New Jersey Stormwater Management Act N.J.S.A 40:55d - 93 to 99, every municipality in the State is required to prepare a stormwater management plan and a stormwater management ordinance to implement that plan. Details and general requirements for Stormwater Management Planning are provided in Subchapters 2, 3, and 4 of the new state regulations N.J.A.C. 7:8. Regional Stormwater Management Plans on a watershed or drainage area basis are acceptable, provided that the municipalities in the study area adopt the plan and ordinance.

Current stormwater regulations for Hamilton Township focus on stormwater rate control and on stormwater volume control, like most New Jersey municipalities. The new State regulations are refocusing stormwater engineering on volume control and water quality. When the stormwater volume is mitigated, i.e. infiltrated and/or retained, stormwater management facilities can be designed that mitigate peak rates of runoff for even the larger storms. By designing facilities for runoff volume control, we stormwater runoff rates are subsequently managed. The State's Residential Site Improvement Standards will be modeled to reflect the New Jersey Stormwater Management Rule.

Other techniques that the Township may want to consider to improve stormwater management include:

- Adding a provision to the Township's ordinance to require measures to minimize soil compaction during construction that can contribute to basin failure, including:
 - Cordon off the area where the basin is to be sited to prevent heavy equipment from compacting the underlying soils.
 - Excavate the basin with light earthmoving equipment, preferably with tracks or over-sized tires located outside of the basin bottom.
 - Deeply till the floor of the basin with a rotary tiller or disc harrow and smooth over with a leveling drag or equivalent grading equipment.
 - Cordon off the finished basin to prevent heavy equipment from compacting soils for the remainder of the construction period.
- Strengthen maintenance requirements by adopting the procedures for infiltration basins described in the New Jersey Stormwater BMP Manual; i.e.:
 - All infiltration basin components expected to receive and/or trap debris and sediment must be inspected for clogging and excessive debris and sediment accumulation at least four times annually as well as after every storm exceeding one inch of rainfall. Such components may include bottoms, riprap or gabion aprons, and inflow points.
 - Sediment removal should take place when the basin is thoroughly dry. Disposal of debris and trash should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.
 - Mowing and/or trimming of vegetation must be performed on a regular schedule based on specific site conditions. Grass should be mowed at least once a month during the growing season. Vegetated areas must also be inspected at least annually for erosion and scour. The structure must be inspected for unwanted tree growth at least once a year.
 - When establishing or restoring vegetation, biweekly inspections of vegetation health should be performed during the first growing season or until the vegetation is established.
 - Once established, inspections of vegetation health, density and diversity should be performed at least twice annually during both the growing and non-growing season. If vegetation has greater than 50 percent damage, the area should be reestablished in accordance with the original specifications and the inspection requirements presented above.

- All structural components must be inspected for cracking, subsidence, spalling, erosion, and deterioration at least annually.
- Require existing stormwater basins at the Atlantic City Racetrack to be assessed and improved as needed as part of the redevelopment strategy described earlier (existing basins are reportedly not working properly.)
- Require the use of best management practices to reduce nonpoint source pollution from private waterfront property such as limiting tree clearing and establishing 25-50 foot vegetative buffers at the water's edge.
- Consider other techniques to encourage good practices such as providing credit for the nonstructural methods described earlier in this section and alternatives management strategies for potential problem areas or "hot spots" such as locations where petroleum products are loaded and unloaded.

IMPLEMENTATION RECOMMENDATIONS

Priority	Strategies	Implementation Tasks	Responsible Parties	Estimated Timeframe	Estimated Cost	Funding Sources
1.	<p>Develop Strategic Area Plan for Mays Landing Bypass Plan</p>	<ol style="list-style-type: none"> These two recommended actions may be implemented simultaneously; create a detailed strategic plan with a bypass component using guidelines provided in this report Request review comments/approval from Pinelands Commission Adopt plan and related regulations 	<ol style="list-style-type: none"> Hamilton's Economic Development Director and Planning Commission; qualified consultant Pinelands Commission Hamilton's Governing Body 	<ol style="list-style-type: none"> nine months two months one month 	Township staffing; \$50,000 for consultant	Township; Atlantic County; N.J. Department of Community Affairs (Office of Smart Growth) NJ Department of Transportation
2.	<p>Develop Strategic Area Plan for Race Track District</p>	<ol style="list-style-type: none"> Develop Strategic Area Plan using guidelines provided in this report Request review comments/approval from Pinelands Commission Adopt plan and related regulations 	<ol style="list-style-type: none"> Hamilton's Economic Development Director and Planning Commission; qualified consultant Pinelands Commission Hamilton's Governing Body 	<ol style="list-style-type: none"> nine months two months one month 	Township staffing; \$50,000 for consultant	Township; Atlantic County; N.J. Department of Community Affairs (Office of Smart Growth)
3.	<p>Adopt Build-To Commercial Building Siting</p> <p>Revise Site Plan Parking Requirements</p> <p>Obtain Street Connectivity through Subdivision Regulations</p>	<ol style="list-style-type: none"> All three recommended actions may be implemented simultaneously by revising current regulations using guidelines provided in this report Request review comments/approval from Pinelands Commission Adopt revised regulations 	<ol style="list-style-type: none"> Hamilton's Planning Commission; Township Planner and Solicitor Pinelands Commission Hamilton's Governing Body 	<ol style="list-style-type: none"> three to six months two months one month 	Township staffing	Township
4.	<p>Adopt Greenway Plan</p>	<ol style="list-style-type: none"> Create Greenway Plan using guidelines provided in this report Request review comments/approval from Pinelands Commission Adopt plan 	<ol style="list-style-type: none"> Hamilton's Planning Commission; qualified consultant Pinelands Commission Hamilton's Governing Body 	<ol style="list-style-type: none"> three to six months two months one month 	Township staffing; \$25,000 for consultant (or by Township planner)	Township; Atlantic County; State Green Acres Program
5.	<p>Map Framework Street Corridors</p> <p>Revise Street Design Guidelines</p>	<ol style="list-style-type: none"> These two recommended actions may be implemented simultaneously; create detailed street network plan and design guidelines. As a first step, revise Circulation Element of Master Plan. Request review comments/approval from Pinelands Commission Amend Official Map 	<ol style="list-style-type: none"> Hamilton's Planning Commission; Township Engineer and Planner, or qualified consultant Pinelands Commission Hamilton's Governing Body 	<ol style="list-style-type: none"> six months two months one month 	Township staffing; \$25,000 - \$50,000 for consultant	Township; N.J. Department of Community Affairs (Office of Smart Growth)

IMPLEMENTATION RECOMMENDATIONS

Priority	Strategies	Implementation Tasks	Responsible Parties	Estimated Timeframe	Estimated Cost	Funding Sources
6.	Revise Stormwater Regulations	<ol style="list-style-type: none"> 1. Adopt open space requirements that credit shallow stormwater basins. 2. Strengthen provisions for stormwater basin construction and maintenance. 3. Encourage use of best management practices. 	<ol style="list-style-type: none"> 1. Hamilton's Planning Commission and Land Use Land Use Subcommittee; Township Engineer; County Engineer 2. Pinelands Commission 3. Hamilton's Governing Body 	<ol style="list-style-type: none"> 1. six months 2. two months 3. one month 	Township staffing	Township; Camden County
7.	Revise Master Plan	<ol style="list-style-type: none"> 1. Revise to support/achieve consistency with above recommendations. 	<ol style="list-style-type: none"> 1. Hamilton's Planning Commission; Township Engineer and Planner, or qualified consultant 2. Pinelands Commission 3. Hamilton's Governing Body 		Township staffing and Planner	Township

Tree Removal Ordinance

MODEL TREE CLEARING ORDINANCE ORDINANCE NO. __ - Amended 2003

AN ORDINANCE TO AMEND THE CODE OF THE TOWNSHIP _____, CHAPTER __ THEREOF ENTITLED _____.

SECTION 1. Purpose. It is recognized that there is a strong relationship between _____Township's quality of life and the integrity of the region's water quality, air quality, natural Pinelands landscape and aesthetic amenities. Destruction of the Township's existing trees, woodlands and vegetation contributes to increased soil erosion and sedimentation, increased stormwater runoff and costs to control runoff, degradation of water resources, decreased groundwater recharge, increased buildup of atmospheric carbon, decreased wildlife habitat, increased dust and decreased property values, all of which negatively affect the character of the Township. The appropriate management of existing vegetation resources are an important health, safety and welfare concern.

Therefore, it is the intent of this ordinance to protect and preserve the air, water, natural Pinelands landscape and aesthetic quality of the Township by preserving the maximum possible number of trees and in the course of development of a site, ensuring that the health of trees and vegetation used for landscaping on a site is maintained throughout the development process and protecting larger, older specimens of trees.

SECTION 2. Chapter __ of the Code of the Township of _____, Section __, Definitions, is hereby amended to add and modify the following definitions:

COMPATIBLE TREE OR SHRUB: Trees and shrubs authorized by N.J.A.C. 7:50-6.25 to be used for revegetation or landscaping purposes, or other trees and shrubs not listed under N.J.A.C. 7:50-6.25 but adapted to the droughty, nutrient-poor conditions found in the New Jersey Pinelands.

CRITICAL ROOT ZONE (CRZ): The minimum area surrounding an established tree which must be left undisturbed in order to preserve sufficient root mass to provide the tree with a reasonable chance of survival. Defined as a circular area surrounding an established tree, of which the center is the center of the tree trunk and the radius is the distance from the outside of the trunk to any point eighteen (18) times the diameter at breast height (DBH). The CRZ shall extend to a depth of five (5) feet below surface ground level.

FRONT YARD: An open unoccupied space (except as permitted herein) on the same lot with a principal building and extending across the width of the lot between the front lot line and the front walls or supports of the principal building, regardless of its configuration.

HAZARDOUS TREE: A dead tree, or one so affected by a significant structural defect or disease that falling or failure appears imminent and that poses a threat to life or property, or a tree that impedes safe vision or traffic flow, or that otherwise currently poses a threat to life or property, all as determined by a Certified Arborist

at the applicant's expense.

LOT DISTURBANCE: Clearing, cutting, grading, excavating, filling, transporting, or any other activity that alters, eliminates or removes trees of six (6) inches DBH or larger on a lot.

NEW JERSEY BIG TREE: A tree formally designated by the New Jersey Forest Service's New Jersey's Big Tree Program, New Jersey Division of Parks and Forestry, which identifies and catalogues the largest individual trees in the state according to species. A listing of such trees and a map showing their location is maintained at the principal offices of the Division.

NON-TURF VEGETATION: Includes compatible trees of a minimum size of two and one-half (1.5) inches DBH and compatible shrubs.

PRESERVED TREE: A tree of 6" DBH or larger which is not removed from a lot on which development is occurring.

PROTECTION MEASURE: A practice or combination of practices (e.g., construction barriers, protective fencing, tree wells, etc.) used to control construction or development impacts to vegetation.

REMOVE, REMOVAL: The direct or indirect removal of a tree(s) or vegetation through actions including, but not limited to: clearing, cutting, causing irreversible damage to roots or trunks; poisoning; destroying the structural integrity of trees or vegetation; filling, excavating, grading or trenching in the Critical Root Zone; relocating an existing tree to a new planting location; or the removal through any of these processes of greater than thirty percent of the height, size or bulk of an established tree.

UNDERSTORY VEGETATION: Small trees, shrubs, and groundcover plants.

SECTION __. Chapter __ of the Code of the Township of __, Section __, is hereby amended to add a new subsection A to read as follows:

Maximum Lot Disturbance Requirements for Residential Lots.

A.1. Residential development shall comply with the following schedule of lot disturbance limitations:

Lot Size	Max. Lot Disturbance Permitted (to be measured in SF)
æ 10,000 SF	85%
> 10,000 SF	no lot disturbance permitted outside of a 10 foot buffer of any existing or proposed structure on the lot
All town homes, condominiums, garden apartments and zero lot line applications	55% of overall tract/parcel

- A.2. In addition to the maximum lot disturbance requirements described in A1., no lot disturbance shall be permitted within 10 feet of the rear lot line of any lot over 10,000 SF.
- A.3. In addition to the requirements above, if the applicant proposes to remove any "New Jersey Big Trees" from the lot, regardless of their location, the applicant is required to apply to the Planning Board for a permit to do so. The permit application must include a site plan clearly marking the location of each New Jersey Big Tree.
- A.4. The applicant may remove any hazardous trees on the lot provided they have been verified by a Certified Arborist and approval has been given for the removal by the Planning Board.

SECTION __. Chapter __ of the Code of the Township of _____, Section __, is hereby amended to add a new subsection B to read as follows:

- B. Minimum Non-Turf Landscaping Requirement for front yards.
 - B.1. Applicant is required to ensure that the amount of non-turf vegetation in the front yard meets the following schedule:

Lot Size	Min. Non-Turf Vegetation in the Front Yard
æ 7,000 SF	3.0% of lot size
7,001 - 10,000 SF	7.0% of lot size
10,001 - 20,000 SF	9.0% of lot size
20,001 - 40,000 SF	12.0% of lot size
> 40,000 SF	16.0% of lot size

- B.2. The non-turf landscaping requirement shall be met according to the following specifications:
 - B.2.1. This requirement may be met with existing vegetation; or
 - B.2.2. Where a shortfall exists, replacement plantings must be used according to both of the following two schedules:

- Schedule A: Mix by Size: per 400 sq. ft. = 40 points (with at least 1 tree)
 1. Understory deciduous shrub = 2 points
 2. Understory evergreen shrub = 3 points
 3. 1.5" DBH tree = 2 points
 4. 2.5" DBH tree = 6 points
 5. 4" DBH tree = 12 points
 6. 6" DBH tree = 18 points
- Schedule B: Mix by Point Type
 1. Maximum 90% deciduous
 2. Minimum 10% evergreen
 3. Maximum 50% shrubs
 4. Maximum 25% any one species

- B.2.3. If the shortfall(s) is less than a multiple of 400 SF, applicant must round up to the next multiple of 400 SF (e.g., 500 SF shortfall = 800 SF requirement), and

Appendix A - Tree Removal Ordinance

B.2.4. The replacement trees and understory vegetation shall be composed of compatible trees and shrubs as authorized by N.J.A.C. 7:50-6.25. Other trees and shrubs may be used in the following circumstances, with the approval of the Planning Board:

B.2.4 (i) When the parcel to be developed or its environs contain a predominance of shrubs and tree species not authorized by N.J.A.C. 7:50-6.25; or

B.2.4 (i) For limited ornamental purposes around buildings and other structures; or

B.2.4 (iii) When limited use of other shrubs or tree species is required for proper screening or buffering.

B.2.5. To the extent practicable, replacement plantings shall be done in clusters, consistent with what occurs naturally. In any case, the shortfall square footage should be covered with a mulch of hard wood chips at least two (2) inches deep and no more than four (4) inches deep.

B.2.6. Replacement trees, shrubs and understory vegetation shall be nursery-grown and comply to American Association of Nurserymen (AAN) standards. Replacement trees must be planted according to the following standards:

(i) Planting hole must be two (2) times wider than root ball of tree; and

(ii) Native soil must be used for backfill and tamped lightly to avoid soil compaction; and

(iii) Where appropriate, trees must be staked for trunk support and root anchorage.

B.2.7. For lots equal to or smaller than 10,000 SF, credits for shortfalls may be taken off-lot for clusters of plantings on islands in streets in front of homes, perimeters around the subdivision, plantings between homes in front of the minimum building setback line, and percentages exceeding the minimum on corner lots and other appropriate areas. Off-lot plantings must follow both schedules in B.2.2.

B.2.8. Any replacement plantings that die within 2 years from the time of planting must be replaced by the applicant.

SECTION ____. Chapter ____ of the Code of the Township of ____, Section ____, is hereby amended to add a new subsection C to read as follows:

1. Lot Landscaping Plan. A landscaping plan shall be submitted to the Planning Board for approval. All landscaping plans must show:

C.1. The footprint(s) of all existing or proposed structures

C.2. Either the proposed lot clearance for lots under 10,000 SF, or the 10-foot buffer(s) of all existing or proposed structures for lots over 10,000 SF

C.3. The location of each tree of 6" DBH or larger

C.4. The location of any hazardous trees on the lot which the applicant proposes to remove; and

C.5. How the required schedules of non-turf vegetation will be met in the front yard.

SECTION ____. Chapter ____ of the Code of the Township of ____, Section ____, is hereby amended to add a new subsection D to read as follows:

D. Critical Root Zone Protection.

D.1 Most trees can tolerate only a small amount of root damage. Prior to any land disturbance, all trees of six (6) inches DBH and larger to be preserved shall be protected from damage during construction using protection measures that protect the Critical Root Zones. These protection measures shall be done according to the following standards:

D.1.1. Protective tree fencing shall be installed along the outer edge of and completely surrounding the Critical Root Zones of all preserved trees. These fences shall be self-supporting wooden snow fences or orange plastic construction fences a minimum of four (4) feet high and shall be accompanied by "Tree Preservation Area" signage; and

D.1.2. Clearing within the Critical Root Zone shall be done only by hand-operated equipment; and

D.1.3. Excavation or storage of materials or equipment, including soil, shall not be conducted within the Critical Root Zone; and

D.1.4. The grade of the land located within the Critical Root Zone of all preserved trees shall not be raised or lowered more than six (6) inches unless compensated by welling or retaining wall methods; and in no event shall welling or retaining wall methods occur within the Critical Root Zone; and

D.1.5. Where utilities must be installed through a Critical Root Zone, such installation shall be done using tunneling rather than trenching; and

D.1.6. Physical damage to trunks, branches, foliage and roots of preserved plant material must be avoided; and

D.1.7. Nothing shall be nailed or tied to preserved trees or understory vegetation; and

D.1.8. The removal of trees adjacent to preserved trees can cause inadvertent damage to the roots of preserved trees. Whenever possible, trenches of a minimum width of two (2) feet shall be cut along the limits of land disturbance

so that roots are cut rather than torn. Tunneling may be required for the protection of New Jersey Big Trees.

D.2. Appropriate protection measures shall be implemented to protect understory vegetation and other plant material to be preserved.

D.3. Where the Planning Board has determined that irreparable damage has occurred to preserved trees and/or understory vegetation, the damaged plant materials must be removed and replaced.

SECTION ____. Chapter ____ of the Code of the Township of ____, Section ____, is hereby amended to add a new subsection E to read as follows:

E. Non-Residential Lot Disturbance and Landscaping Plan Requirements.

E.1. On non-residential lots, no disturbance beyond the following areas of the lot shall be permitted:

E.1.1. The building envelope; and

E.1.2. Required parking, driveways, loading areas and utility access; and

E.1.3. A ten (10) foot construction zone beyond the building and any other existing or proposed structures on the lot.

E.2. A landscaping plan for all non-residential lots shall be submitted to the Planning Board for approval prior to any vegetation removal or land disturbance. The landscaping plan shall demonstrate compliance with all non-turf landscaping requirements described in subsection B; however, those requirements may be met on any portion(s) of the lot.

[OPTIONAL: SECTION ?. TREE REMOVAL PERMIT PROGRAM. This would basically require homeowners who wish to remove a tree from their property to apply for a permit, and the number of trees they are allowed to remove per year would be limited to some number. Exceptions could include removal of "hazardous trees," which as defined above would need to be verified by a Certified Arborist. There are many examples of municipal tree removal permit programs (Princeton Twp. has a good one), and in fact most tree preservation ordinances seem to follow this model.]

SECTION ____. Nothing in this ordinance or within the shall be deemed to impose any liability for damages or a duty of care and maintenance upon the Township or upon any of its officers or employees. The owner of any private property shall have a duty to keep the trees upon the property and under their control in a safe, healthy condition. Any person who feels a tree located on property possessed, owned or controlled by them is a danger to the safety of themselves, others or structural improvements on-site or off-site shall have an obligation to secure the area around the tree, support the tree, or to verify with the Planning Board that the tree is hazardous and remove it to safeguard both persons and improvements from harm.

SECTION __. All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed.

SECTION __. If any section, subsection, sentence, clause, phrase or portion of this Ordinance is for any reason held invalid or unconstitutional by a Court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portions hereof.

SECTION 16. This Ordinance shall take effect upon final passage, adoption and publication in the manner prescribed by law.

Dated: April 1, 2003

Hamilton Township's Development Characteristics

Positive Housing Types:



Five Corners - five small streets with nice homes and a nice scale



Nice townhouse development with well-landscaped entrance and relocated parking



Timber Glen - condos with nice back yards, green buffer, and mature trees



House tucked into the landscape



House tucked into the landscape



Tanglewood development is an example of appropriate lot size and density

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Negative Housing Types:



House destroyed landscape



Triplex - ordinance should be created to protect old, single-family homes



Woodlands - condos with back yards too close to street; backs of houses facing the street



Evergreen Apartments - too crowded



New development - it all looks the same; cut down all the trees and pack in the houses



Cologne Garden Apartments - old, ugly design; no landscaping (3 photos)

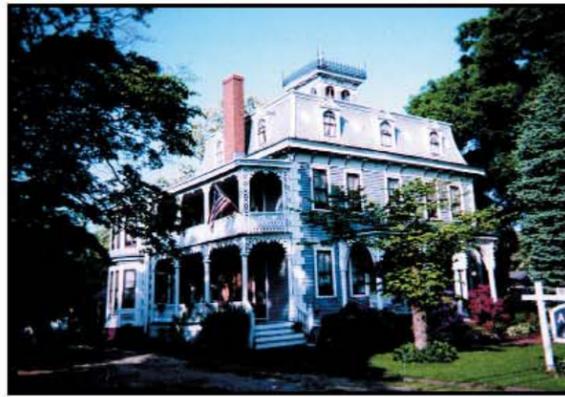
** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Positive Commercial Types:



Fleet Bank, Cape May Avenue - a new use that maintained the original architecture (4 photos)



Abbott House B&B, Main Street - nice renovation of historic building (2 photos)



Main Street office building across from Courthouse - nice new construction in historic district



Inn at Sugar Hill - beautiful historic preservation / commercial use that capitalizes on waterfront



Kneble's Auto Center - new and most attractive business



Hamilton Mall - commercial ratables help to offset cost of forced housing

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Negative Commercial Types:



Verizon, Main Street - Inappropriate architecture for historic district (4 photos)



New construction on 322 & 40 - if you jam 10 pounds of mud into a 5 pound sack, you will have a problem

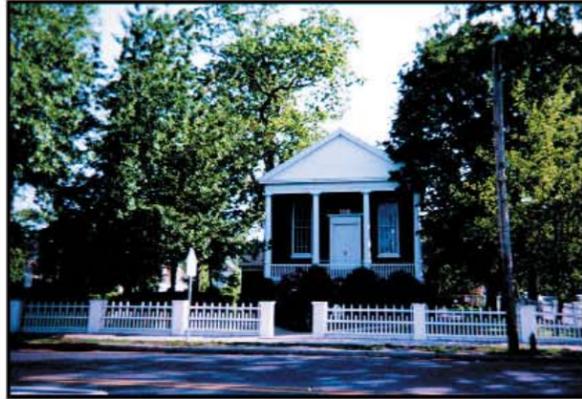


Hott Spot - several adult entertainment establishments in Hamilton Township detract from community

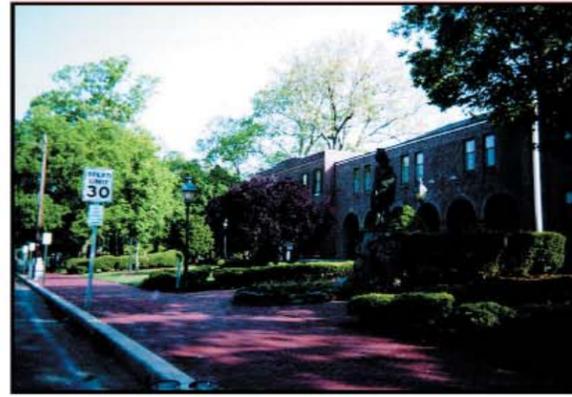
** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Positive Institutional Types:



Presbyterian Church, Main Street - nice preservation of building and grounds (6 photos)

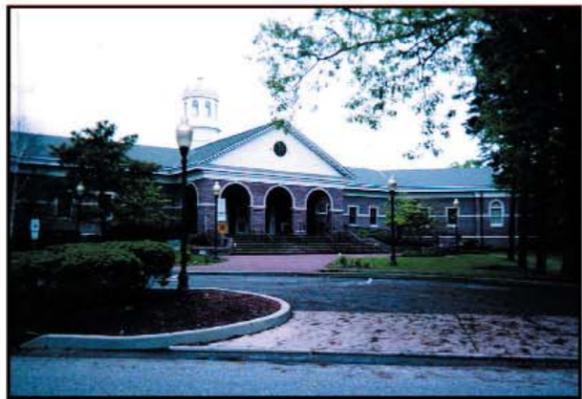


County Court House (with Lenni Lenape Statue) - Nice historic preservation; Hamilton Township is steeped in history (4 photos)

Negative Institutional Types:



St. Vincent de Paul School, Main Street - Inappropriate architecture for historic district



Municipal Building - attractive building, good location



MUA Building - exceptional and positive; representative of historic district

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

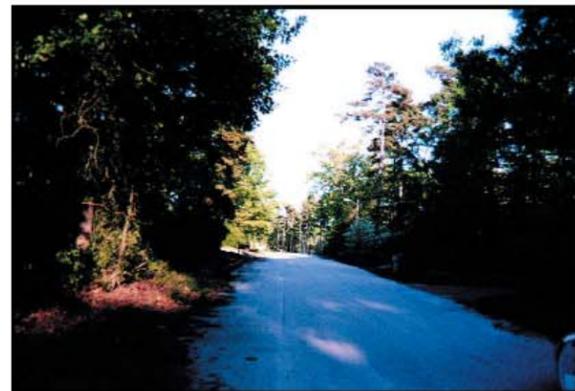
Positive Streetscape Types:



Main Street, Mays Landing - a nice place to walk; a mix of historic homes, businesses, and restaurants



Main Street, Mays Landing - nice brick sidewalk



Scenic streetscape



Consumer Square - parking can be attractive

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Negative Streetscape Types:



Main Street & U.S. 40 at Egg Harbor River - choke point



Traffic at center of town - traffic will kill a town if it is not managed



Bulkhead at riverfront - overcongestion; dangerous intersection; detracts from scenic beauty



2nd & Farragut Streets, Mays Landing - deplorable maintenance for historic district



Cologne Avenue traffic signal - the signal that was supposed to solve a problem, and then created a traffic nightmare (Note: DOT plans to address underway)



Rt. 40 & Babcock - lack of infrastructure improvements by DOT causing traffic and safety problems (Note: DOT plans to address underway)

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Positive Park & Open Space Types:



Lake Lenape - beautiful scenic and recreational area; valuable natural resource (5 photos)



Gaskill Park - County-owned open space; well-maintained; site of summer concerts (4 photos)



Memorial Park, Main & Cape May Avenue - Nice, small town "Main Street" park; great feature (3 photos)



Atlantic County Bikeway - new positive addition to Hamilton Township; safe recreational activity; encourages family exercise activities (3 photos)



Blueberry Farm - agriculture helps maintain open space and should be promoted (3 photos)



Great Egg Harbor River - federally-designated wild and scenic river (2 photos)

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Negative Park & Open Space Types:



Improve waterfront amenities with walkways, lighting, access, landscaping, activities, and parking (2 photos)



Integrate waterfront into Mays Landing



Integrate Main Street into Gaskill Park



Great Egg Harbor River - wasted potential

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

Hamilton Township's Development Characteristics

Redevelopment Opportunities:



Wheaton Cotton Mill - ideal for creating mixed-use facility anchoring historic district; ripe for positive, creative development (5 photos)



Main Street - nice architecture and potential renovation



Atlantic City Race Track - integration of race track town center into Hamilton Mall is a natural extension and progression in the township's evolution



Empty storefronts; waste of potential



Welcome signs - unwelcoming, unattractive entrance to Mays Landing on Route 50

** Note: Photos and captions provided by Hamilton Township's Vision Team members*

The Pinelands Excellence Program - Creating Livable Communities

(What's it all about ?)

The Pinelands
Excellence
Program is about
Achieving Excellence in
Community Design and



Livable Places
What does it mean?
"Places are spaces you can remember,
that you can care about,
and make a part of your life."
Charles W. Moore
Its about legacy . . .
Are we building the kind of places that are
grandchildren will want to live in?



Instead of building places . . .
we've been building no-places . . .
The Symptoms of Sprawl:



We are developing open space in
excess of our population growth.



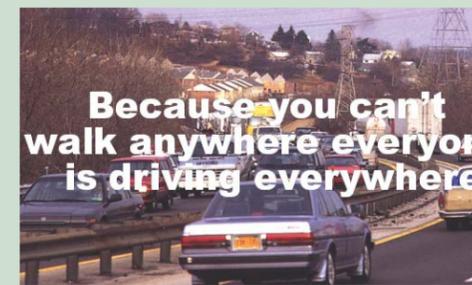
Segregation of land uses



Segregation of people by limited
housing choices



Congestion



Environmental Degradation



Loss of community and
social interaction



Loss of local character and
defining features



Very cost inefficient

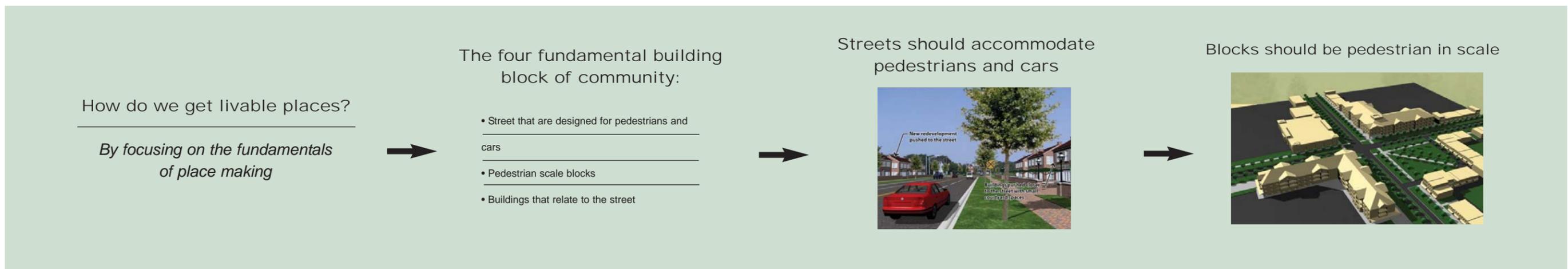


How do we fix it?

*By insisting on excellence in
community design*

The Pinelands Excellence Program - Creating Livable Communities

(What's it all about ?)



The Pinelands Excellence Program - Creating Livable Communities

(What's it all about ?)

Streets need to become public
"outdoor rooms"



Land uses should be mixed within
building and district



Can it happen in New Jersey?

it already is

Livable Communities Case Study:
New Town Center



Washington Township, Mercer County

Livable Communities Case Study:
Redevelopment



Garden State Race Track, Camden County, NJ

Livable Communities Case Study:
Village Extension



Marlton Town Center, Burlington County, NJ

How do we make it work?

its all about the code. . . .

Create a vision and codify it

VILLAGE EXTENSION DISTRICT TOWNSHIP OF LEACOCK Residential Buildings and Lots Detached Types		Appendix		
CATEGORY	SINGLE FAMILY	ACCESSORY	COTTAGE	
LOCATION	East-West Street	North-South Street	Zero-Lot-Line	All Streets
BUILDING HEIGHT				
DIMENSIONS				
PARKING				
PERMITTED SUBDIVISIONS				

Emphasize the four fundamental
building blocks of community.

- Street that are designed for pedestrians and cars
- Pedestrian scale blocks
- Buildings that relate to the street