



Pedestrian Circulation Element of the Master Plan Township of Monroe

**Transportation and Community Development Initiative Grant
Funded by DVRPC and the Township of Monroe**

2005

MONROE TOWNSHIP
Gloucester County, New Jersey

**PEDESTRIAN CIRCULATION
ELEMENT OF THE MASTER PLAN
2005**

Adopted by
MONROE TOWNSHIP
PLANNING BOARD
August 11, 2005
Adopted Pursuant to N.J.S.A. 40:55D-28,
The New Jersey Municipal Land Use Law

J. Timothy Kernan, P.E., P.P., C.M.E.
N.J. Planner License No. 05400

Prepared by:

melvin|kernan
development strategies

Kingsway Commons
935 Kings Highway, Suite 300
Thorofare, NJ 08086
p.856.251.9989 f.856.853.1310

File No. MT03015

ACKNOWLEDGEMENTS

MAYOR

Michael F. Gabbianelli, Mayor

TOWNSHIP COUNCIL

Leonard Dramesi, III, President
Marvin Dilks, Vice President
Richard Gledhill
Bill A. Julio

Walter Bryson
Frank Caligiuri
Kathleen Simon

PLANNING BOARD

Obie O'Brien, Chairman
Michael F. Gabbianelli, Mayor
V. James Agnesino
Barry Straga
Tom Crane
Timothy Brown

Frank Caligiuri, Councilman
Robert Hochswinder, Vice Chairman
Rob Catania
James Muth, Alternate
David Lawyer, Alternate

PLANNING BOARD SECRETARY

Carolyn F. Farrell

PLANNING BOARD SOLICITOR

Leonard T. Schwartz, Esquire

PLANNING BOARD PLANNER

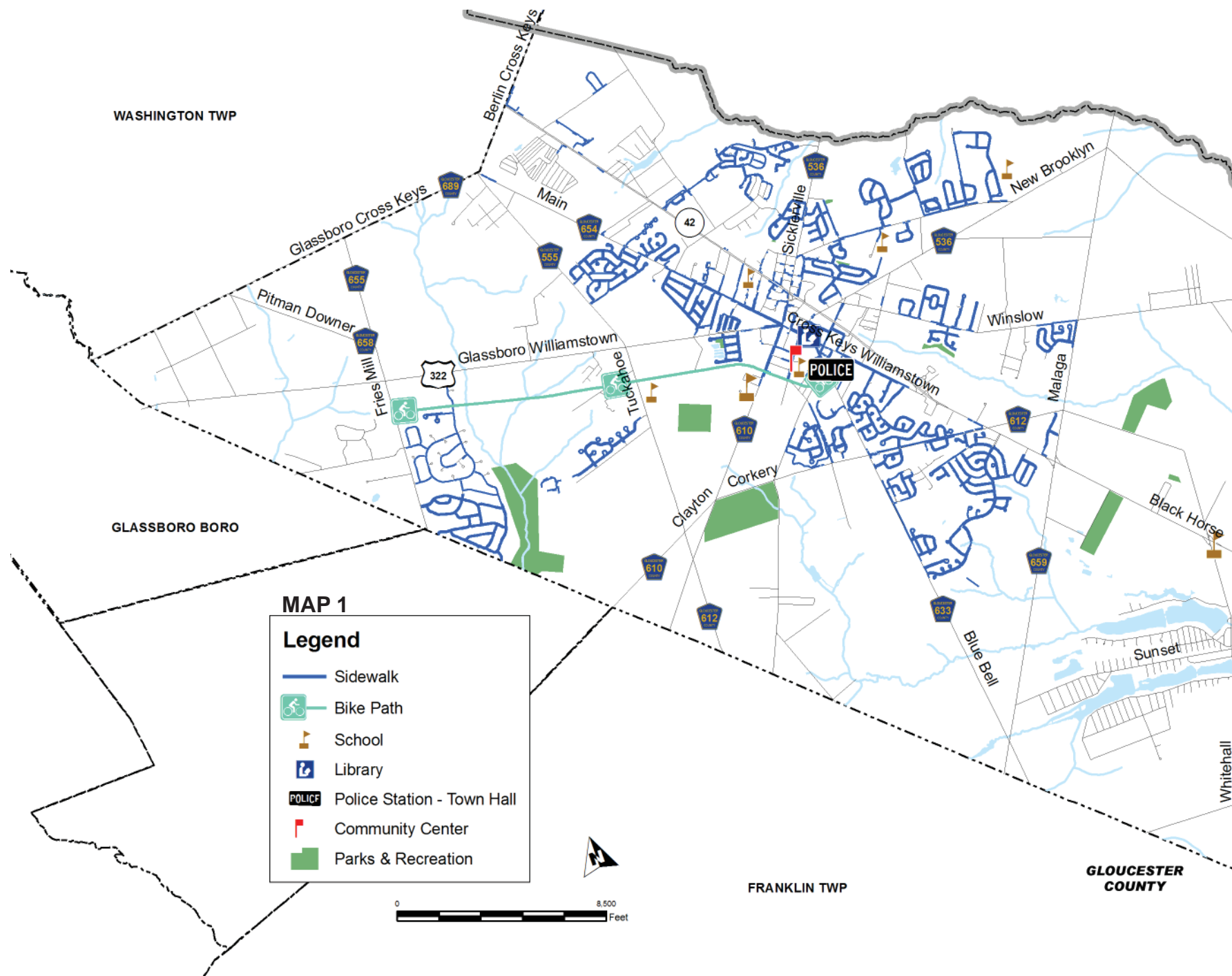
J. Timothy Kernan, P.E., P.P., C.M.E.

PLANNING BOARD ENGINEER

Raymond Jordan, P.E., P.P., C.M.E.

TABLE OF CONTENTS

	PAGE
I. EXISTING CONDITIONS	4
II. ELEMENTS OF A WALKABLE COMMUNITY	13
III. GOALS AND OBJECTIVES	17
IV. RECOMMENDATIONS	20
V. REFERENCES	47
VI. APPENDICES	48



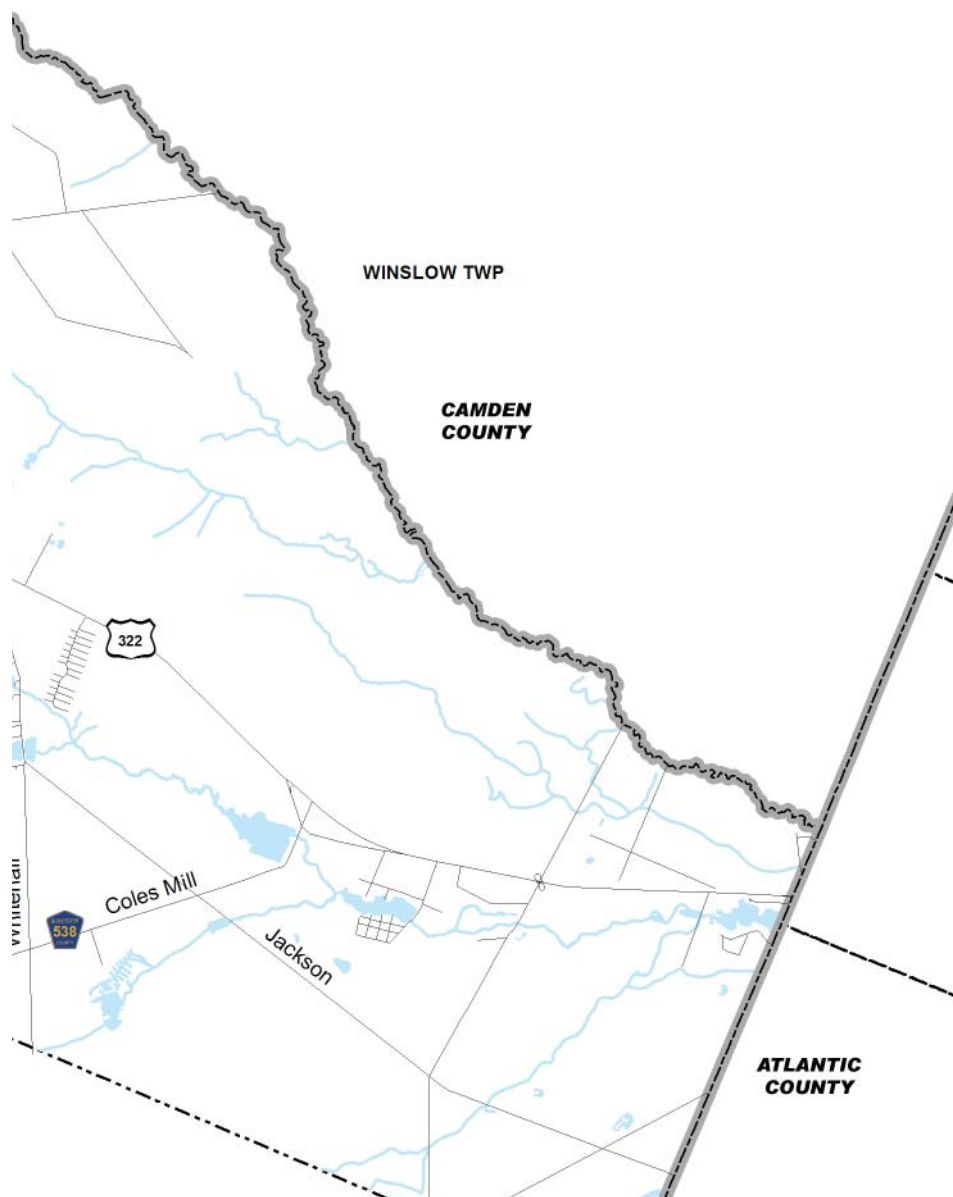
EXISTING CONDITIONS

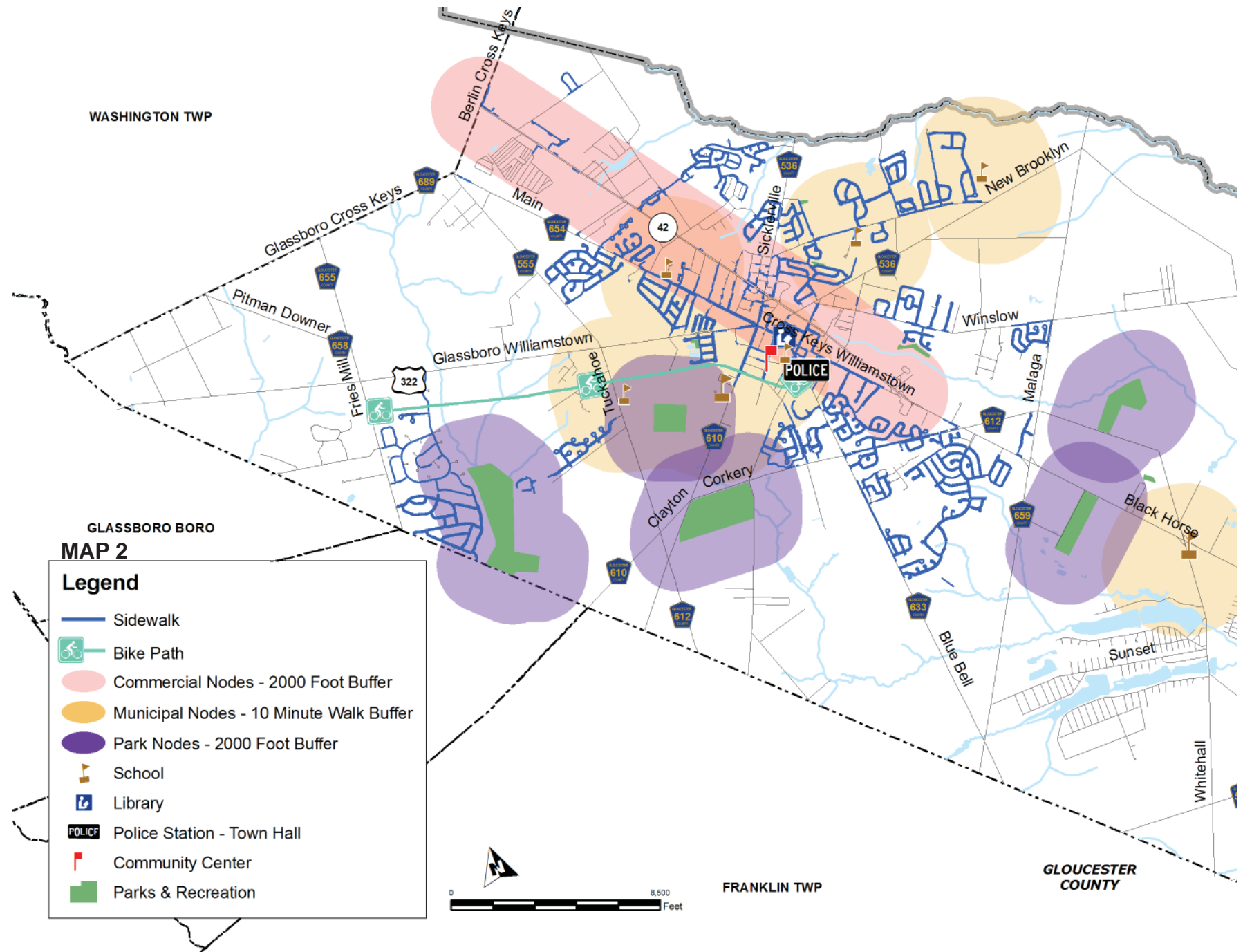
Introduction

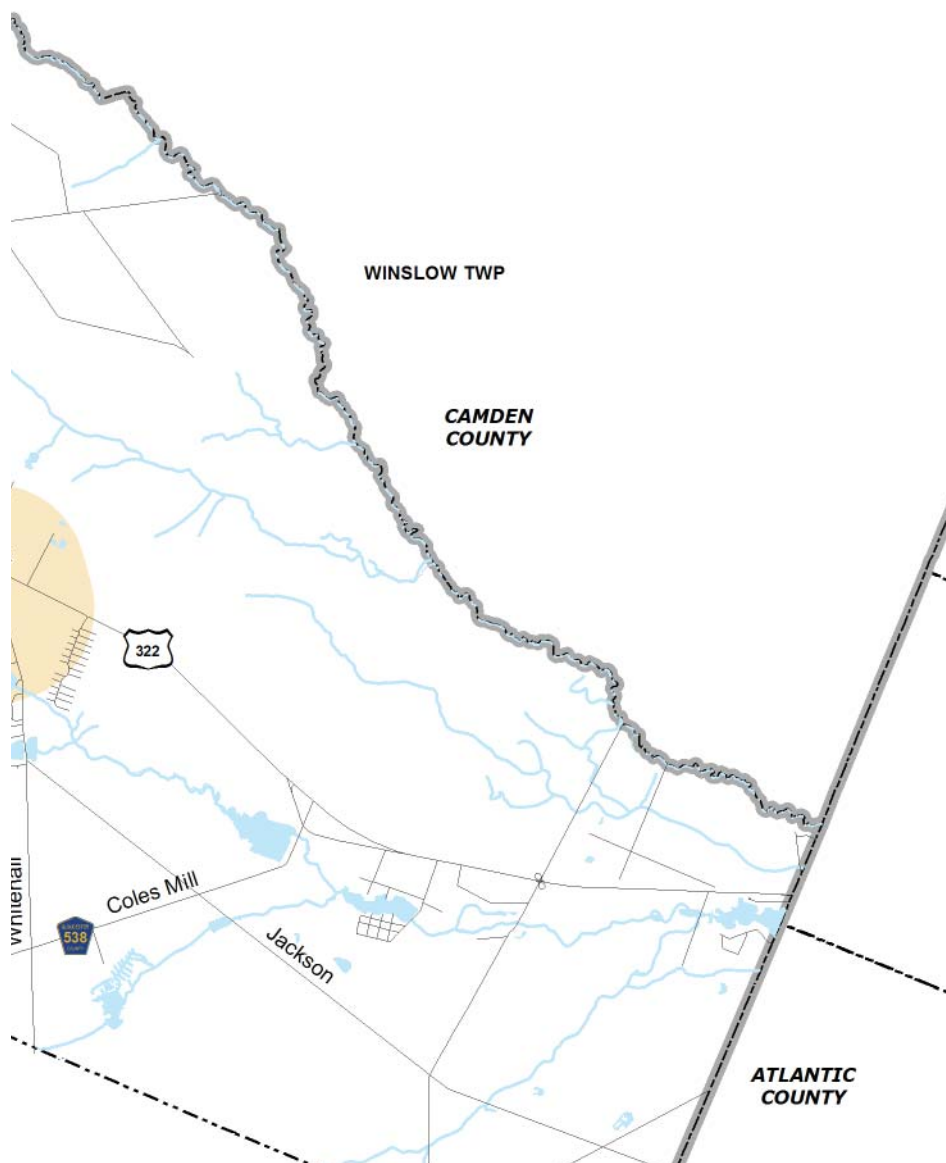
Monroe Township, Gloucester County is a rapidly growing municipality. However, much of the Township's 46.9 square miles remains undeveloped. It is a township composed of everything from large-lot rural and agricultural areas to medium density Town development radiating out from the historic Central Business District (CBD) of Williamstown. While there are examples of suburban subdivisions in the rural areas, most of the Township's development is centered around Williamstown. This area contains most of the Township's public buildings, such as the town hall/police station, community center, post office, library, and many historic buildings. Older housing is located in close proximity to these public buildings and has access to them via sidewalks. Newer residential development has taken place further outside the core along arterial roads, while newer commercial development is located along the Black Horse Pike Corridor.

Pedestrian

The irregular grid of the Williamstown core provides many walking routes for pedestrians. However, housing, stores, and offices recently constructed away from the core are largely automobile dependent as they are not well integrated with pedestrian systems of sidewalks and paths. Some of this development is absent of sidewalks all together. While some newer residential areas do have sidewalks, the street patterns are not interconnected to neighboring residential areas, commercial areas (particularly along the Black Horse Pike), recreational and educational areas, or the Williamstown CBD thus discouraging pedestrian movement. Many of these subdivisions have internal







sidewalks that stop as soon as they reach the arterial roads. Arterial roads also have gaps in their sidewalks. Furthermore, while many sidewalks in Monroe are functionally sound, many of them are unwelcoming to pedestrians because of a lack of landscaping and hostile conditions created by heavily trafficked roads. Map 1 shows the location of all existing sidewalks in Monroe.

Bicycle

Within the Township, there is one dedicated bicycle route that runs parallel to Glassboro-Williamstown Rd. (US 322). The path is part of an on-going Regional Rails-to-Trails project coordinated by the Delaware Valley Regional Planning Commission (DVRPC). At present, this path only provides access to the core

Current bicycle path crossing at Tuckahoe Road



MAP 3

Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

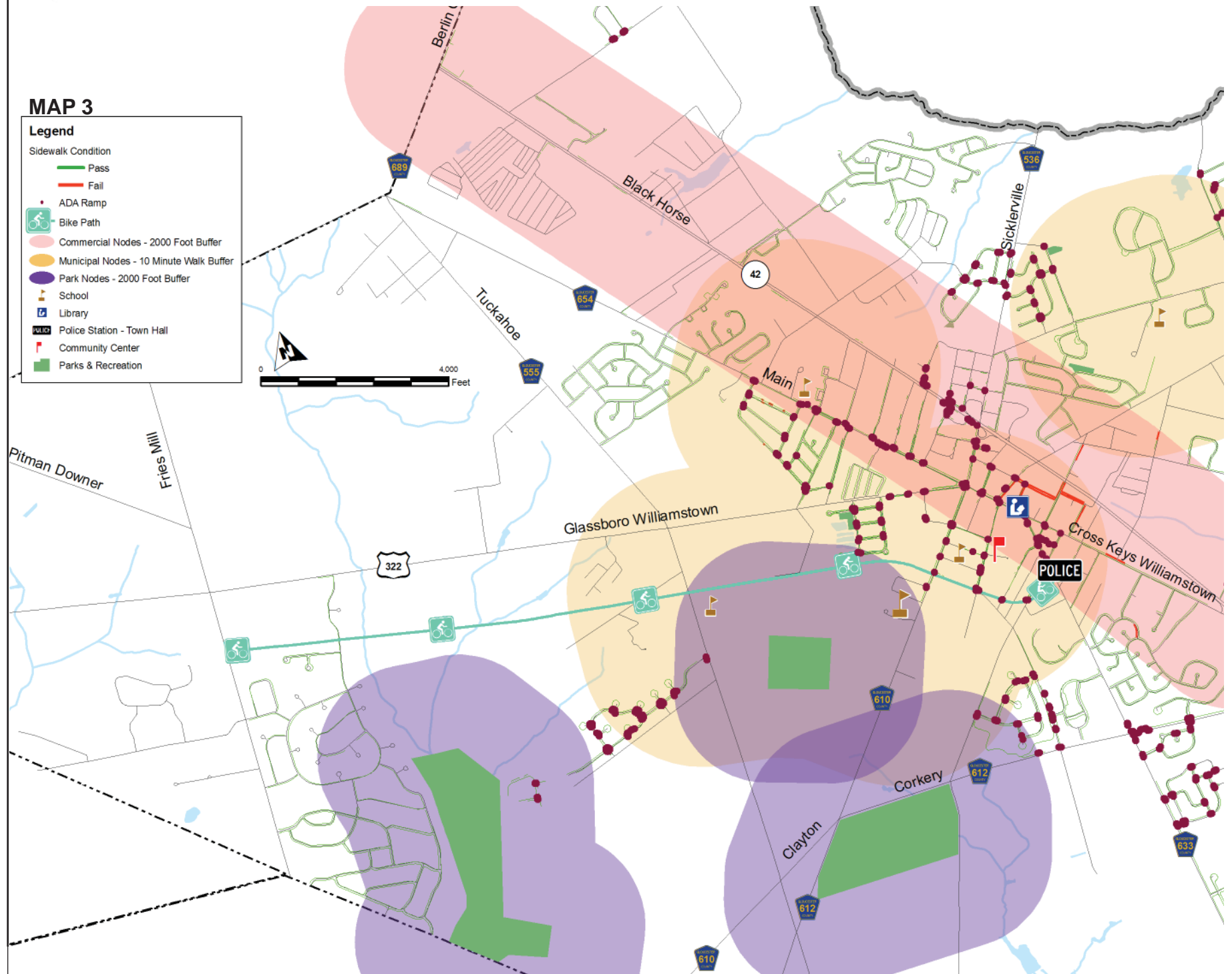
School

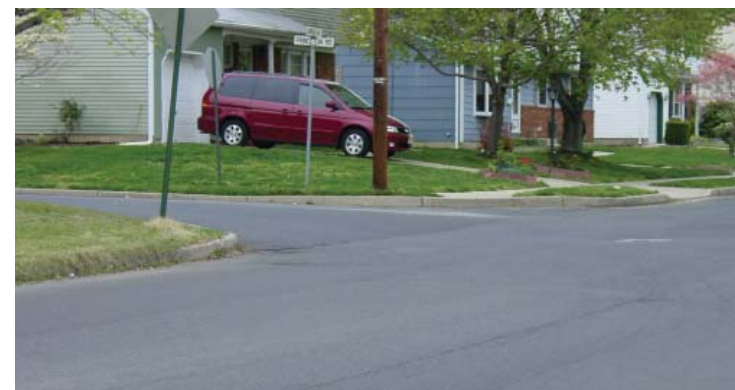
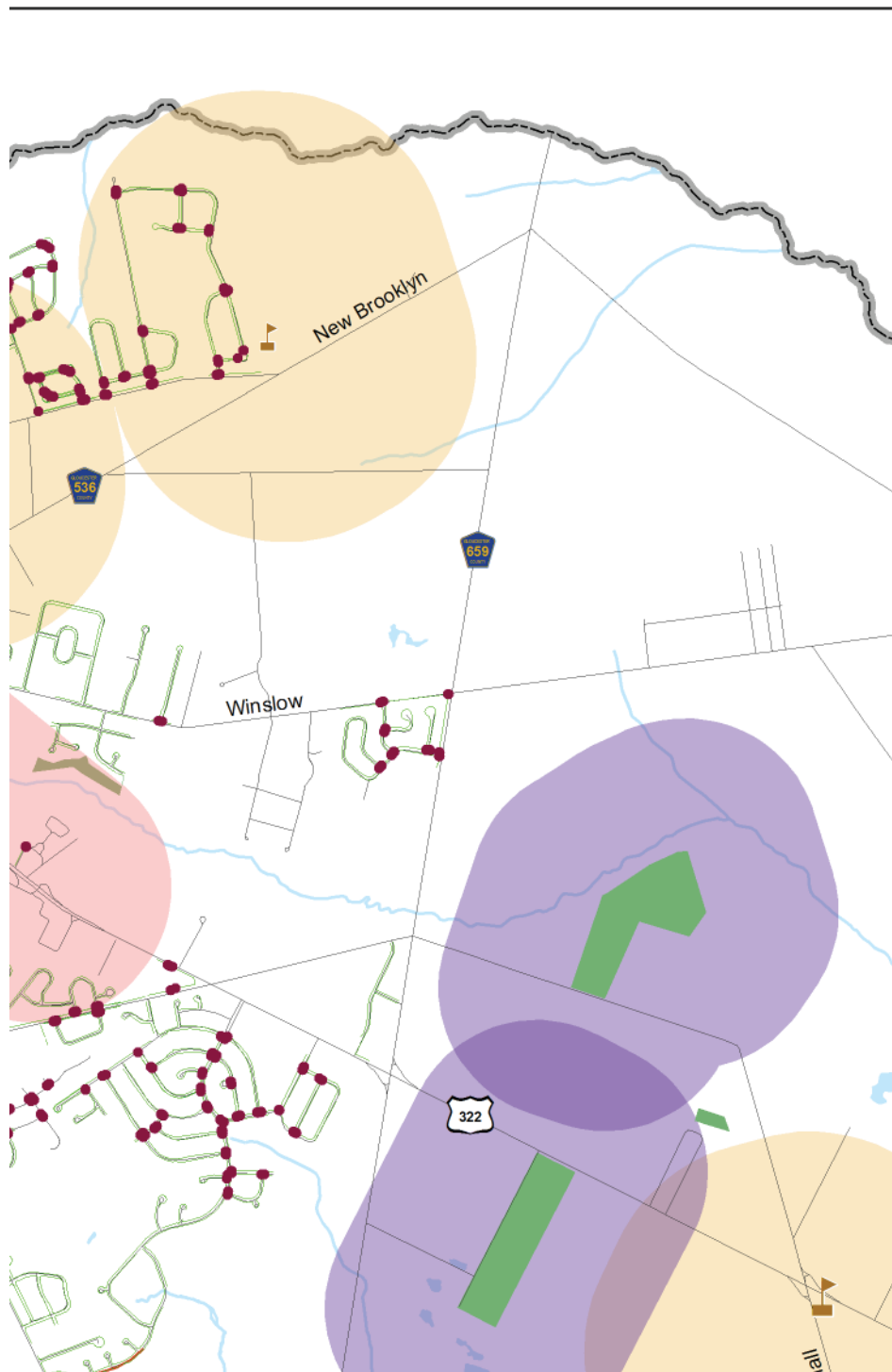
Library

Police Station - Town Hall

Community Center

Parks & Recreation





Discontinued sidewalk- missing linkage

Williamstown CBD. The area connected by the trail to the core is sparsely developed when compared to other areas of the Township. Furthermore, although the bicycle crossing on Tuckahoe Road is marked with painted lines and a sign, colored pavers are recommended to highlight the crossing as a warning to motorists traveling down this heavily wooded stretch of road. In addition to off road bike trails, Monroe needs to also look at on-road solutions in order to provide a comprehensive system. Many arterial roads in Monroe would be suitable for bicycle travel but currently lack the proper signage and lane designations. Map 1 shows the location of Monroe's bicycle path.

Nodes

Several areas in the Township have been identified as activity centers that warrant pedestrian connectivity. They include recreation areas, schools, and the Black Horse Pike Commercial Corridor which are all located outside of the Williamstown CBD. While the High School and Middle School are served by the bicycle path and sidewalks, many of the other sites are isolated from residential areas and are not connected by pedestrian or bicycle paths. Such linkages will become increasingly crucial as development in Monroe

Township continues to spread further away from the CBD. Map 2 shows the location of activity nodes in Monroe.

Structure

Monroe Township is a mixture of three discernable environments. They consist of Town, Suburb, and Country. Within each environment is a road hierarchy that consists of arterials, collectors, and locals. An effective pedestrian circulation system will link all three areas, yet acknowledge that there are design and land use issues that distinguish each as unique. It is the intent of this study to articulate that vocabulary and present a cohesive pedestrian circulation system.

Conditions

For the purpose of planning a comprehensive pedestrian circulation network that links the various elements of a township, it is necessary to know about the existence of sidewalks and paths. A comprehensive inventory and survey of existing sidewalks was performed that analyzed their existing conditions and locations. Various criteria were used to determine these conditions, such as width, physical condition, type of pavement, and the mere existence of some kind of path or sidewalk. For purposes of simplification and the facilitation of understanding, the known sidewalk criteria have been broken down into a system of “pass” or “fail.” Knowing these two conditions will allow for proper updating of the network. It will also determine the design of new sidewalks and multi-use paths and where corrective measures must take place, as necessary to further enhance the connective grid of Monroe Township. (An explanation of the sidewalk analysis and a full inventory of existing sidewalks



Excellent- Sidewalk is structurally sound. No obvious cracks. No overgrown grass. The sidewalk would clearly provide safe passage for a wheelchair. For example, brand new or newly repaired sidewalk segments.

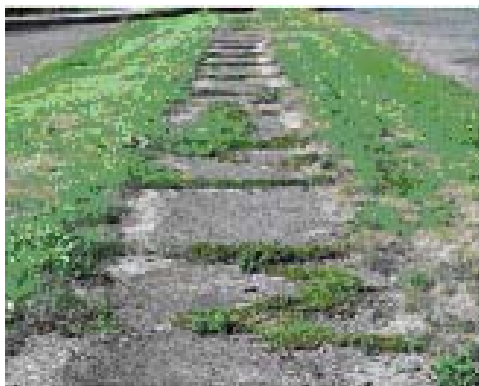


Fair- Sidewalk may have minor uplifting and cracks, but sidewalk material (generally concrete) is not broken. There may be a little grass growing between panels, but the safety of the walkway is not compromised.



can be found in Appendix A and B respectively.)

Maps 3 and 4 show the conditions of all the sidewalks in Monroe using a “Pass/Fail” classification. Almost all of Monroe’s existing sidewalks were given a “Pass” rating. The sidewalks on Main St. are of exceptional quality because they were recently replaced. This street was enhanced through a combination of textured paving and lighting. This was done to improve pedestrian safety, enhance the appearance of Main St., and support the revitalization of the CBD. The only sidewalks given a “Fail” rating are localized in the CBD area north of Main St. on Hall St., Clinton Ave., Madison Ave., and Washington Ave.



Poor- Sidewalk has succumbed to sinking, heaving, breaking, or presents a significant tripping hazard. Also sidewalks overgrown with grass are considered poor.

Sidewalk Gaps

The following arterial roads have sidewalk gaps, which prevent efficient connections between residential, commercial, and institutional areas:

1. Glassboro-Williamstown Rd. (US 322) between the Hunter Woods development and the 5-point intersection in Williamstown CBD.
2. Tuckahoe Rd.. between Clayton Rd. (GC 610) and the Scotland Run development.
3. Cross-Keys Williamstown Rd. (GC 654) between Grandview Ave. and West Lois Dr.
4. Black Horse Pike (NJ 42/US 322) between Berlin Cross Keys Rd. and Village Pkwy.
5. Sicklerville Rd. (GC 536) between Holiday City Blvd. and Black Horse Pike (NJ 42).
6. Clayton Rd. (GC 610) between the bicycle path and Tuckahoe Rd. (GC 555).
7. Corkery Ln. (GC 612) between Clayton Rd.. and Whitehall Rd./Black Horse Pike (US 322).

8. Williamstown-Blue Bell Rd. (GC 633) between proposed Sunset Av. Pedestrian extension and Virginia Ave.
9. Radix Rd. between Saddlebrook Dr. and Sickler-ville Rd.. (GC 536).
10. Williamstown-New Brooklyn Rd. (GC 536) between Princeton Blvd. and Black Horse Pike (NJ 42).
11. Winslow Rd. between Angielee Ave. and Williamstown-New Brooklyn Rd.. (GC 536).
12. Whitehall Rd. between Lakeside Dr. and Black Horse Pike (US 322).

Map 5 shows these sidewalk gaps

Incomplete Network

The following residential developments have incomplete or non-existent sidewalk networks:

1. The Ridings (non-existent)
2. Hunter Woods (incomplete)
3. Nationwide (non-existent)
4. Crystal Lakes (non-existent)
5. Holiday City (incomplete)
6. Chelsea Farms (incomplete)
7. Green Meadows (incomplete)
8. Buckhorn Estates (non-existent)
9. Eastwoods (non-existent)
10. Forest Hills (incomplete)
11. Timberlakes (non-existent)
12. Victory Lakes (non-existent)
13. Friendly Village (non-existent)

Map 5 shows these incomplete and non-existent networks.

Pedestrian Linkages

There is also a problem concerning pedestrian linkages to the shopping areas on Black Horse Pike (NJ 42). The following collector and local streets that feed into this area lack sidewalks:

1. Georgia Ave.
2. Prosser Ave.
3. Laurel Ave.
4. Ketel Ave.
5. Grandview Ave.
6. Harrel Ave.
7. Lake Ave.
8. Maxine Ave.
9. Marsha Ave.
10. Lindale Ave.
11. Saybrook Ave.
12. May Ave.
13. East Pine St./Pine St.
14. Broad St.
15. Garwood Ave.
16. Poplar St.

Map 5 shows these missing linkages.

Constraints

There are many physical hindrances that prevent the implementation of safe and efficient pedestrian and bicycling facilities in Monroe:

- The first of these is the width of Main Street. The current dimensions here do not allow for the creation of a bike lane in the street.
- The second constraint is the plants and trees adjacent to Black Horse Pike (NJ 42/US 322). Much of this vegetation will have to be cleared in order to

locate pedestrian and bicycle facilities on this road. To a lesser extent, the same holds true for many of Monroe's other arterial roads.

- The third constraint is the need to design a safe and efficient crossing at Black Horse Pike for a potential bike lane/multi-purpose path system.
- The fourth constraint is right-of-way choke points at bridges that prevent the provision of pedestrian and bicycle facilities.
- Finally, land may need to be acquired from private interests in order to implement a safe and efficient pedestrian and bicycling network.

RSIS Compliance

Municipalities in the State of New Jersey are required to adhere to the Residential Site Improvement Standards (RSIS) for new residential subdivisions subject to either Planning Board or Zoning Board of Adjustment approvals. The RSIS controls the design of residential streets which include requirements for sidewalks within street rights-of-way. Per the RSIS, *neighborhood street* sidewalks are to have a minimum width of 4' and collector/arterial street sidewalks shall have a minimum width of 6'. In addition, RSIS states that *separate bicycle paths and lanes shall be required only if such paths and lanes have been specified as part of a municipality's adopted master plan and/or official map.*

ELEMENTS OF A WALKABLE COMMUNITY

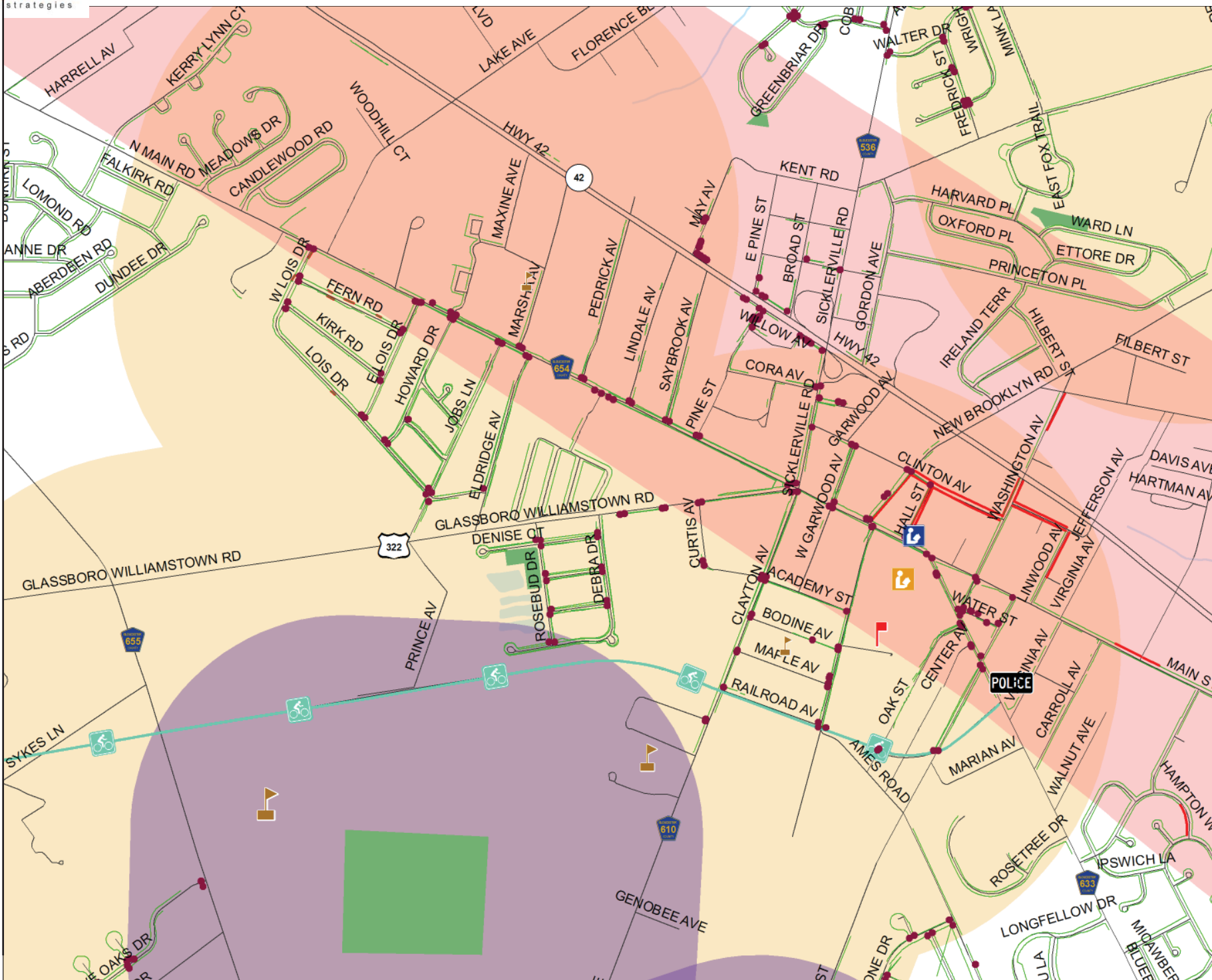
Pedestrian Network Connectivity

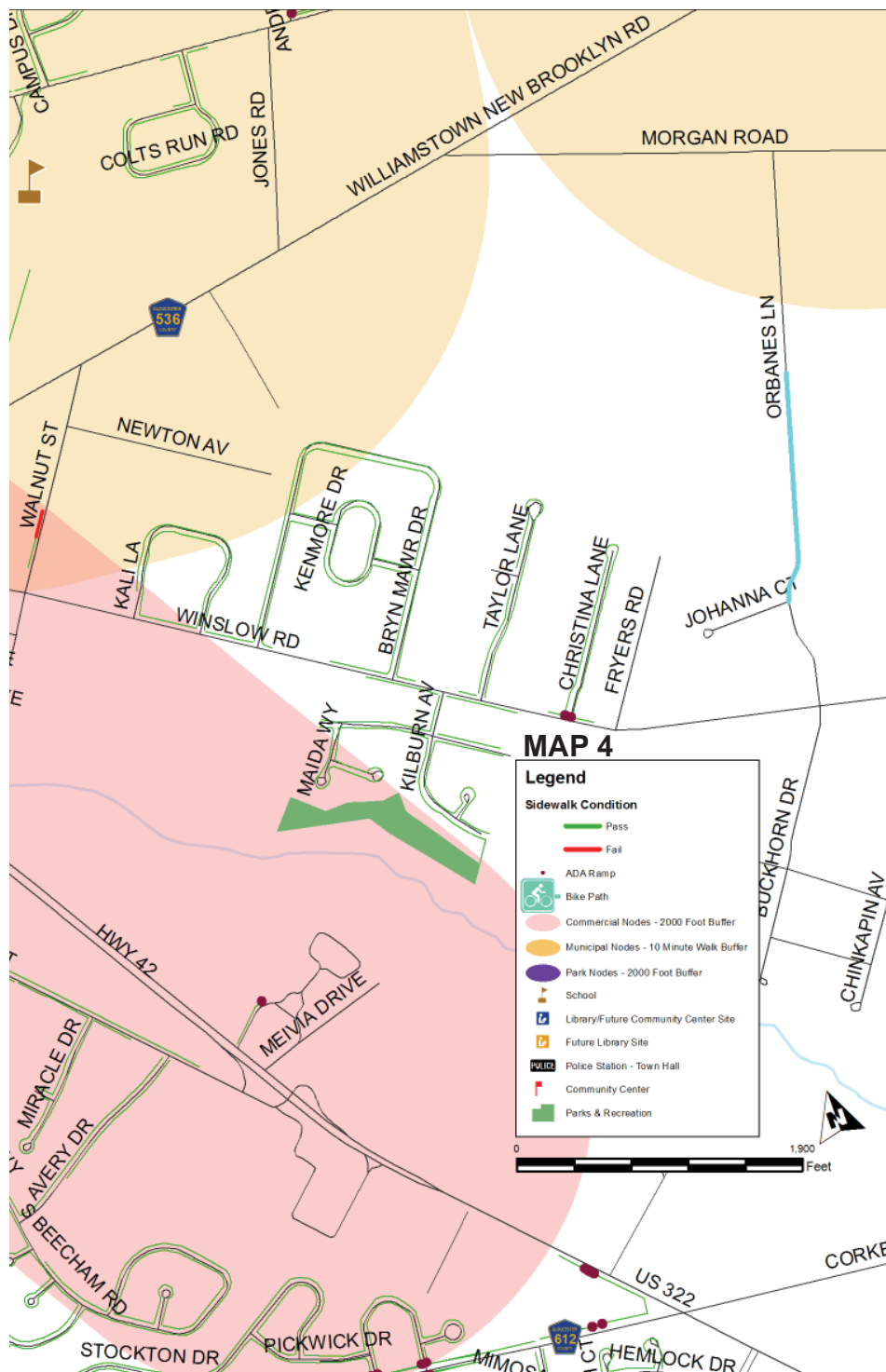
Creating an interconnected network of sidewalks and other pedestrian paths provides the framework for a walkable community. When sufficiently connected, sidewalks, jogging paths, and bicycle trails should give residents both a recreational amenity and a practical alternative to driving by affording them an uninterrupted, pedestrian pathway from their front door to their destination. Officials can promote connectivity by ensuring that no sidewalk or path exists that does not connect to every other pedestrian path in the Township. Sidewalks and multi-purpose paths should also connect to pedestrian generators such as neighborhoods, schools, parks, places of work and worship, shopping centers and other destinations.

Responsiveness to Patterns of Use

Ultimately the usefulness of any pedestrian network depends on its ability to accommodate the pedestrian trips residents and visitors want to take. A variety of users may utilize the paths in a number of different ways. The pedestrian network plan should accommodate two kinds of pedestrian trips: "destination" trips and "recreation" trips. Pedestrians use sidewalks and bicycle paths not only to reach a particular destination such as school, work, shopping, or home, but also for recreation. Therefore, in addition to connecting homes and destination points, the network should accommodate walkers, joggers, cyclists, rollerbladers, skateboarders, wheelchair users and others. Routes that serve as pedestrian arterials should provide appropriate accommodations, sidewalk widths should vary based on expected levels of use, and traffic patterns

CIRCULATION ELEMENT





Traffic calming mid-block bump-out

should be anticipated so that network design can minimize pedestrian-vehicle conflicts.

In addition to providing the connective tissue that makes destinations accessible to residents on foot (or bicycle), a township's pedestrian network can help promote social and economic cohesion with neighboring municipalities. Bicycle and pedestrian paths that extend across municipal borders form a regional network. A healthy network encourages pedestrian and intermodal commuting and recreational trips. Increased pedestrian and bicycle traffic has also been found to provide new demand for businesses along recreation paths. To that end, a township's bicycle paths and sidewalks should connect with those of neighboring townships as well as with regional transit stops. Also, such a network functions best when paths are arranged to connect residents with pedestrian generators based on distance rather than municipal affiliation.

A network that encourages more recreational uses



Traffic calming neck-down and textured pavement photo courtesy of Project for Public Spaces

may have additional needs. Monotonous areas along a path, such as paths that go through undeveloped areas, can be enlivened with plantings and landscaping to form a greenway. If pedestrian or bicycle paths extend for several miles without a destination, a public oasis such as a bicycle repair facility or covered rest area may be in order.

Minimizing Pedestrian-Vehicle Conflicts

A pedestrian plan should seek to bring pedestrian pathways into harmony with vehicular traffic. Pedestrian/vehicle conflicts can be minimized by clearly delineating those areas in the pedestrian “domain” as well as by taking measures to ensure drivers remain alert and drive slowly in pedestrian areas. Markings should clearly indicate pedestrian rights-of-way at crosswalks and along shoulders where they exist. Crosswalks visibly highlighted by pavers, signs, flashing lights or other markings help indicate where pedestrians should cross and also act as a “traffic calming” device, discouraging motorists from speeding.

Traffic calming techniques involve altering the driving environment in order to force motorists to remain aware of their surroundings and drive more slowly. Such methods might include placing obstacles such as textured roadway pavement, plantings or curb bump-outs in the road to prevent speeding and to force drivers to remain attentive to their surroundings.

Safe, Attractive Streetscape

The safety and attractiveness of a pedestrian pathway depend largely on its physical design. The layout, landscaping, and appearance of the street, known together as the “streetscape”, should incorporate pedestrian pathways. Streetscape designers should tailor the landscape to the appropriate users. While motorists may tolerate a barren highway landscape, pedestrians need frequent incentives to continue their journey. Items of interest such as plantings or destinations such as buildings create a sense of place and invite the pedestrian to continue down the pathway. Amenities such as street furniture and lighting along a pedestrian pathway not only provide convenience and

Active, spacious downtown sidewalk photo courtesy of Dan Burden



safety, but their design and placement help define the character of an area by bringing it into human scale.

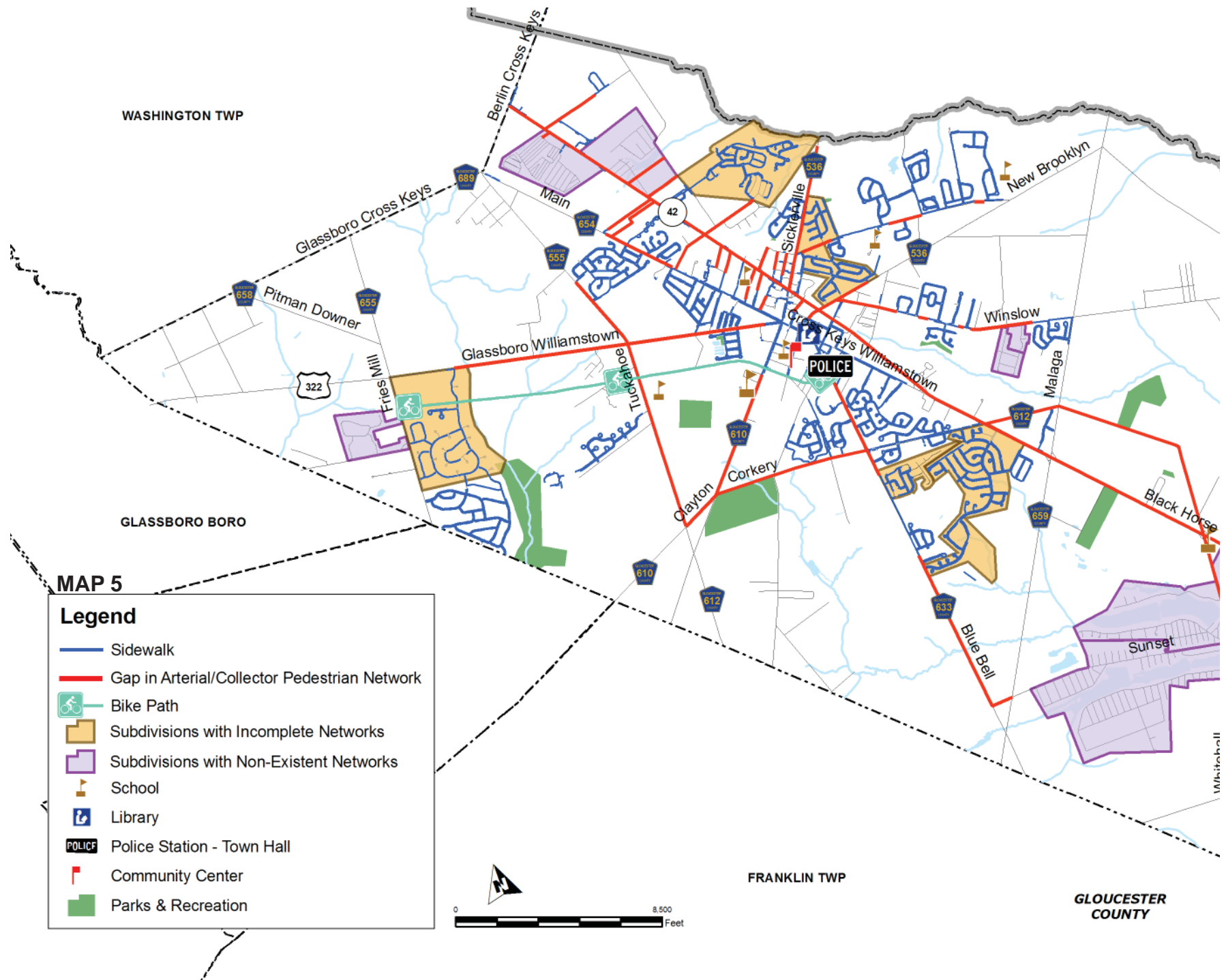
Details matter. Trees placed strategically on both sides of a pedestrian pathway can provide a sense of enclosure and protection from automobile traffic. Lighting fixtures placed at frequent intervals and at a “human scale” provide a welcoming atmosphere for pedestrians. Street furniture such as a bench conveys that an area is meant to provide a public resting place while lack of furniture suggests an area is not in the public domain. Lighting can also influence the character of an area. Lighting schemes that do not light pedestrian pathways as thoroughly as they light the roadway marginalize the pathway psychologically. The height, material, color, shape, luminosity, and hue of a lamppost each contribute to defining an area’s character. A twelve-foot tall, intricately-designed light post can give a streetscape a quaint ambiance just as a fluorescent, wall-mounted fixture can create an institutional feel.

Goals and Objectives

The recommendations and other elements put forth in this guide seek to further the following goals and objectives with respect to the Township’s pedestrian and bicycle network and facilities:

Goals

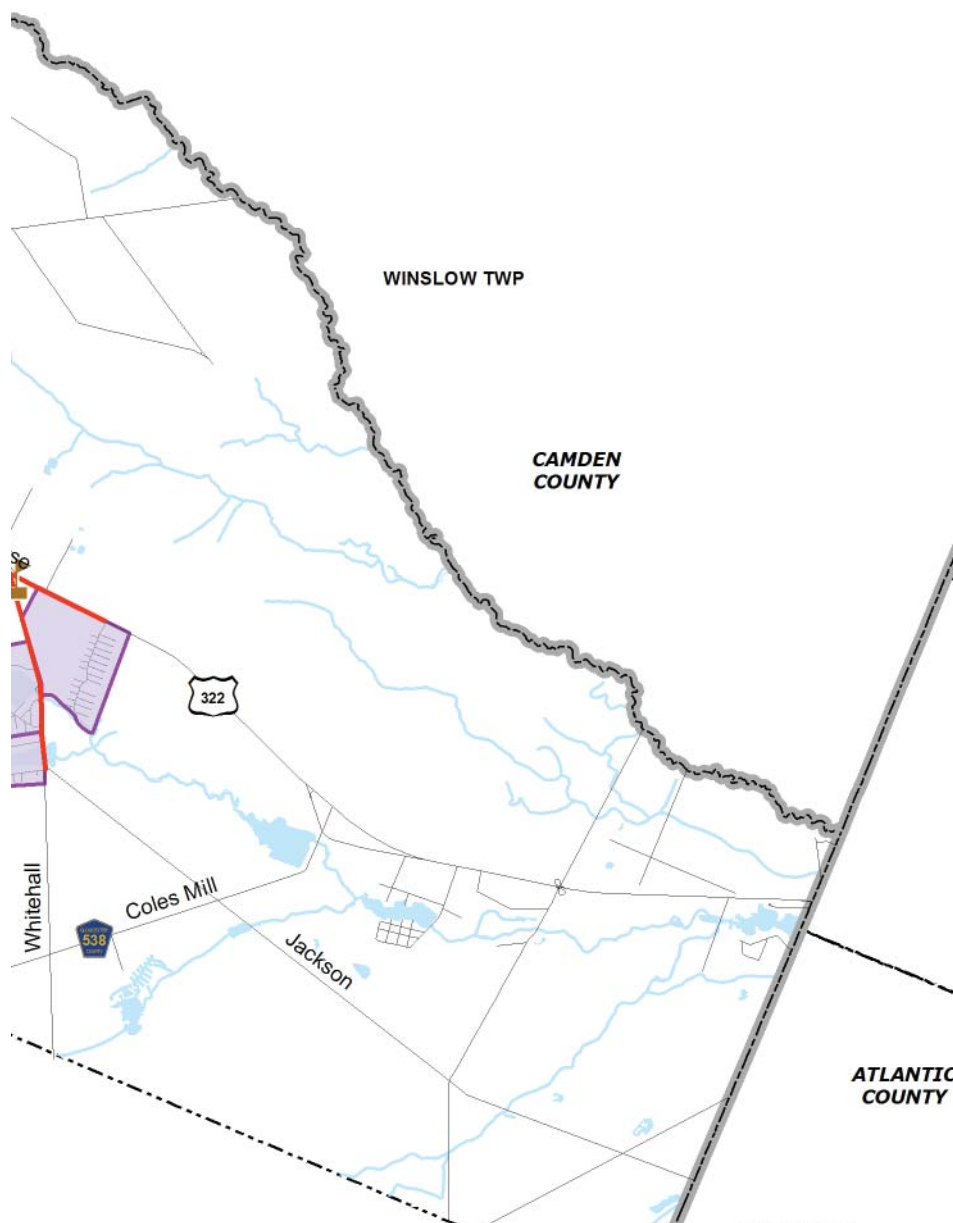
- To transform Monroe into a walkable community that reaps social and economic benefits from its pedestrian paths and facilities both by complimenting and reaching beyond its road network.
- Create a pedestrian and bicycle path network that provides a viable alternative to driving for a significant number of trips taken within and through Monroe Township.
- Ensure safe and efficient pathways exist to accommodate most pedestrian trips generated in and immediately around the Township.
- Enable a lifestyle of recreational walking and bicycle-riding and outdoor social interaction in order to promote healthy living.
- Ensure the sidewalks and bicycle paths that the Township provides form a continuous network that acts as an element of a larger regional pedestrian network.
- Further the goals and objectives of National, State, and local standards including those of the Americans with Disabilities Act, New Jersey’s Residential Site Improvement Standards, The New Jersey State Development and Redevelopment Plan, the Delaware Valley Regional Planning Commission’s Transporta-



tion and Community Development grant program, and the 2004 Monroe Township Master Plan.

Objectives

- To establish guidelines that ensure existing and future sidewalk routes are safe and convenient.
- To identify and create a strategy for dealing with existing sidewalks that are incomplete or do not meet accessibility standards.
- To continue to provide for the development of a pedestrian and bikeway system that will connect residents and commuters to work, school, and commercial areas within and around the Township.
- To identify specific opportunities for new pedestrian and bicycle path links.
- To utilize separated pedestrian walkways and bike paths along roadways and along stream corridors, greenways, and open space areas where possible.
- To ensure proper pedestrian facilities are in place to support mixed-use development patterns and multimodal transportation options that reduce overall automobile trips.
- To minimize pedestrian-vehicle conflicts and ensure that all modes of transportation operate in a safely designed environment.



RECOMMENDATIONS

Design Vocabulary

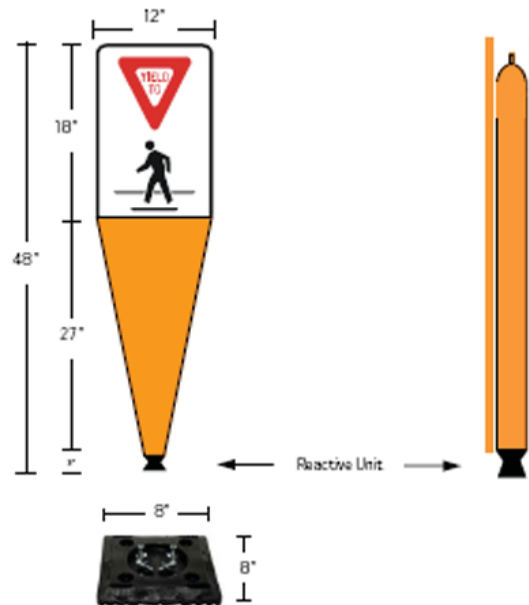
The following terms all serve as traffic calming techniques to lessen vehicular conflicts with pedestrians and bicyclists.

- **Neckdown** - extension of the sidewalk into the roadway at intersections. It shortens the crossing distance of the pedestrian and encourages vehicles to slow down.
- **Mid-block bump-out** – same as a neckdown only it occurs in mid-block, not at intersections.
- **Speed-table** – humps that are spaced on a street and are flat on top. It causes approaching vehicles to reduce speed with minimal discomfort. A benefit is that it can also be used as a crosswalk.
- **Raised medians** – a curbed island in between lanes which provides pedestrians refuge as they cross the street in a boulevard situation. It also provides an opportunity for streetscape such as trees and sculpture.
- **Crosswalks** – a marked area for pedestrian crossing. At minimum crosswalks should be clearly marked with paint. They are most effective when at a signalized intersection. Other traffic calming techniques can be implemented such as rumble strips, textured paving, and pedestrian crosswalk signage.
- **Raised crosswalks** – a marked area for pedestrian crossing which is comprised of different paving material to alert drivers of a special area. The raised cross-

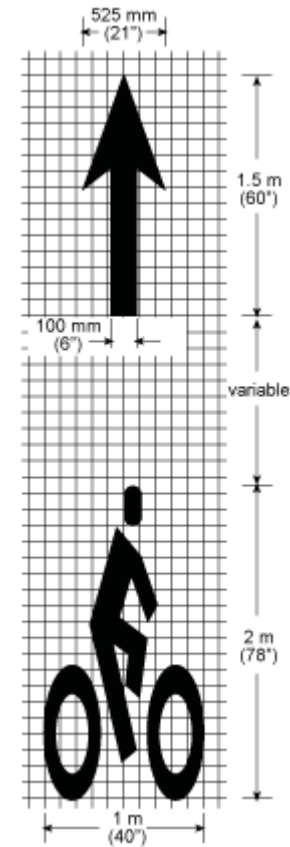
walk influences drivers to reduce speed.

- **Rumble strip** – different paving material such as granite or roughened concrete that provide visual cues to drivers that the area is a special interest. Rumble strips can be utilized between bicycle lanes and vehicle lanes on a roadway and along crosswalks.
- **Painted or textured bike lanes** – clearly marked bike lanes on the shared roadway. Textured bike lanes are more effective than painted lanes in alerting drivers of the separation.
- **Signage** – providing adequate signage warns motorists to reduce speed because of special pedestrian and bicyclist areas such as schools, crosswalks, and bike lanes. Signage can also include flashing yellow lights on pedestrian crossing signs. Examples of signage are provided on adjacent page.
- **Bollards** – decorative bollards serve two purposes. They can be implemented along the edge of the sidewalk adjacent to the curb to provide a sense of security for the pedestrian from traffic. They can also be used at the entrances of multi-use paths to prevent vehicles from entering and to warn bicyclists of roadway crossings.

PEDESTRIAN AND BICYCLE SIGNAGE



YIELD TO PEDESTRIAN
CROSSWALK SIGNAGE



TYPICAL PAINTED
BICYCLE LANE

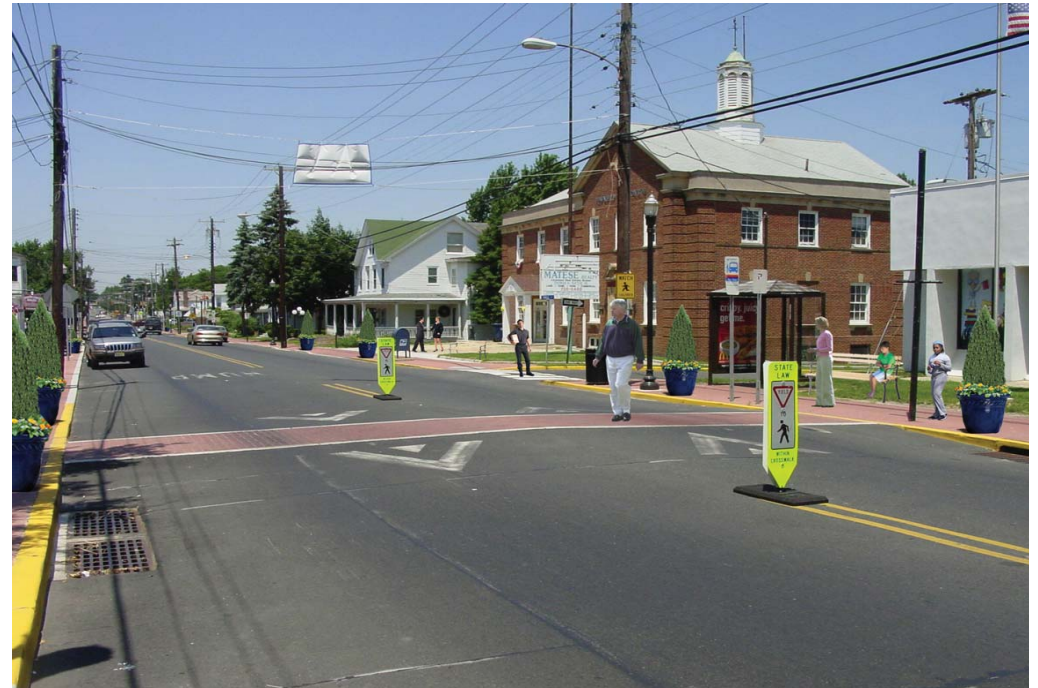


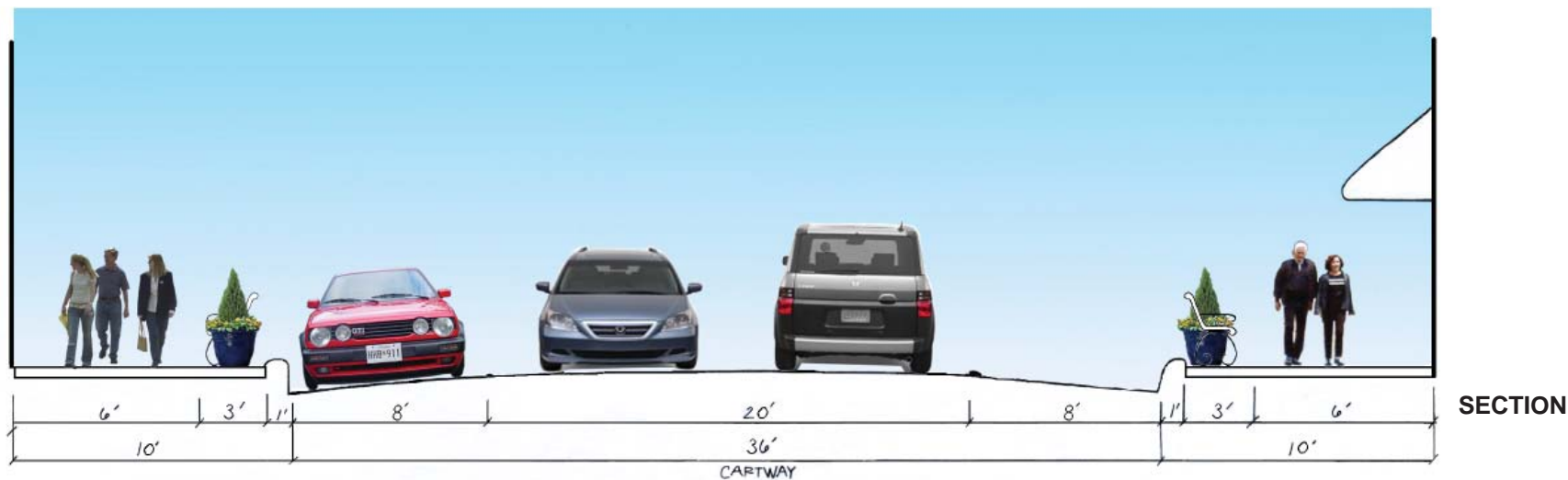


BEFORE IMPLEMENTATION

AFTER IMPLEMENTATION

- Addition of pedestrian amenities including:
 - Movable planters
 - Benches
 - Information kiosks

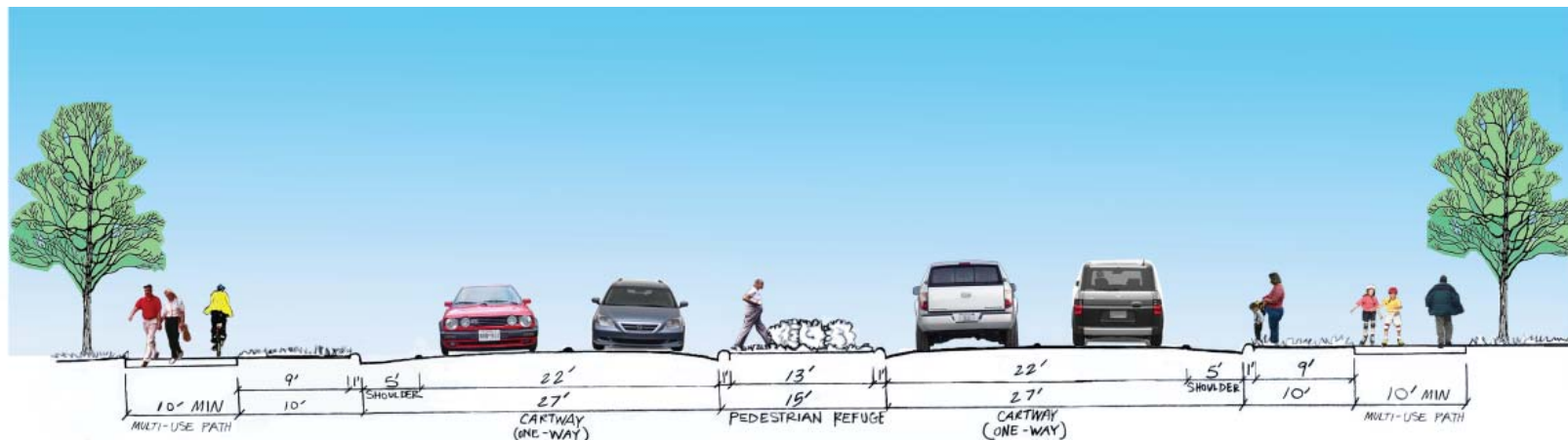




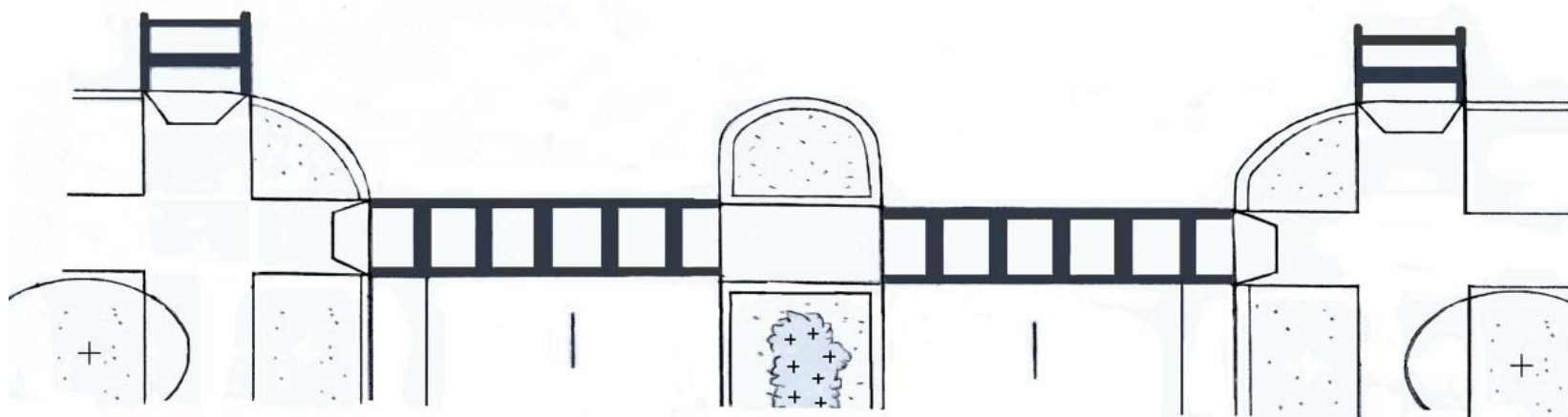
SIDEWALK MAIN STREET, URBAN ARTERIAL ROAD



This example from another community illustrates the benefit of providing a pedestrian refuge along a busy major thoroughfare. It is recommended that a similar pedestrian refuge could be provided at intersections along U.S. Rt. 322, east of N.J. Rt. 42. It is also recommended that curbing be installed along the roadway.



SECTION



PLAN

MULTI-USE PATH WITH PEDESTRIAN REFUGE **U.S. RT. 322 BETWEEN N.J. RT. 42 AND WHITE HALL ROAD**

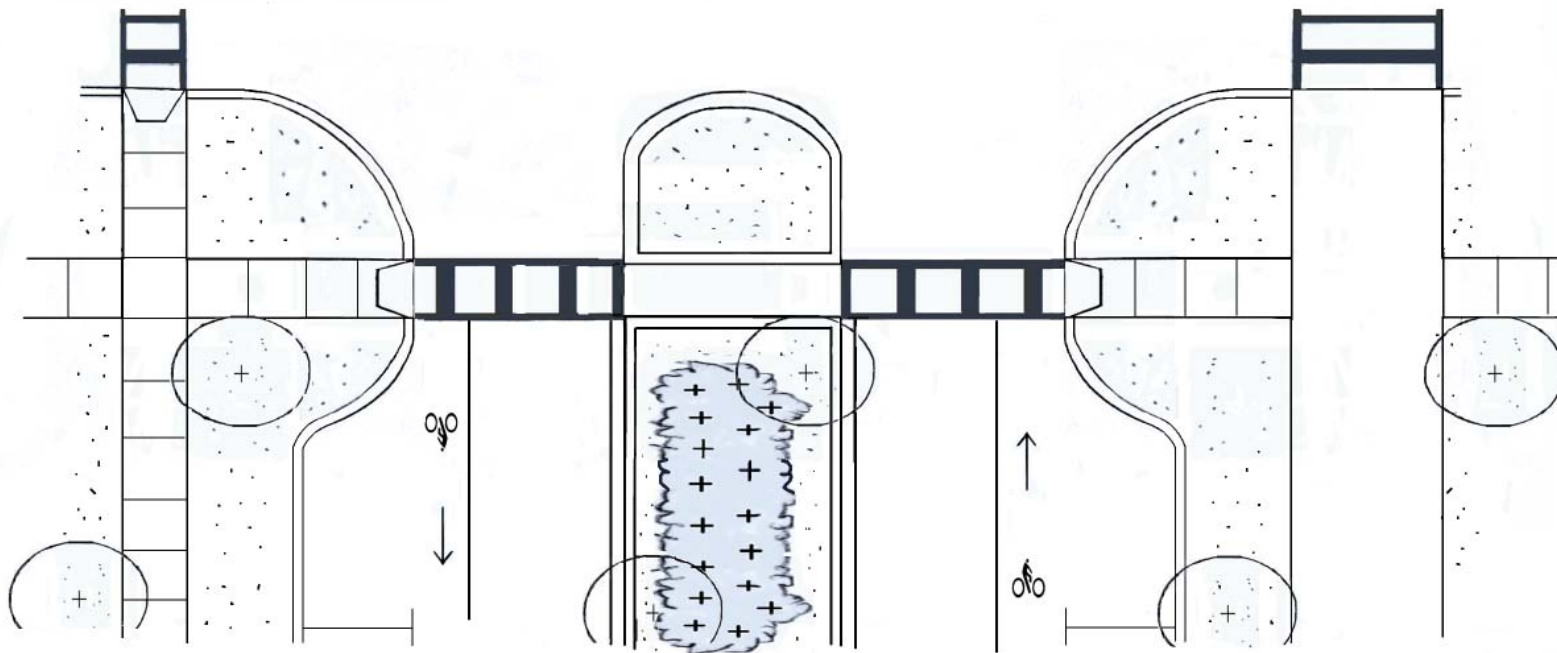
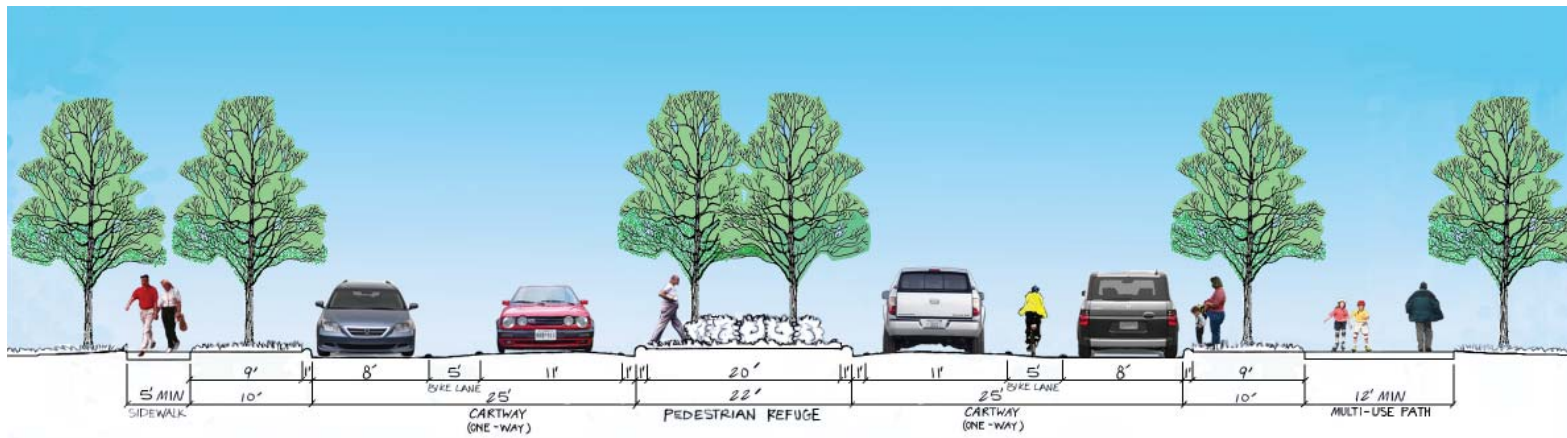


photo courtesy of ITE Pedestrian Bike Council

These examples from other communities illustrate the advantage of a boulevard through a mixed-use area. It is designed to accommodate the heavy use of both pedestrian and vehicular traffic as well as provide parking opportunities. It also provides an alternate means of transportation by providing a bicycle lane in both directions and a multi-purpose path. The pedestrian refuge is designed to be a minimum of twenty feet to provide a left turn lane for vehicles at signalized intersections while still providing a refuge for pedestrians crossing the street. It is recommended that intersections be designed with a neckdown, to provide pedestrians with a shorter crossing distance and to encourage vehicles to decelerate.

photo courtesy of Micheal Ronkin, Oregon DOT



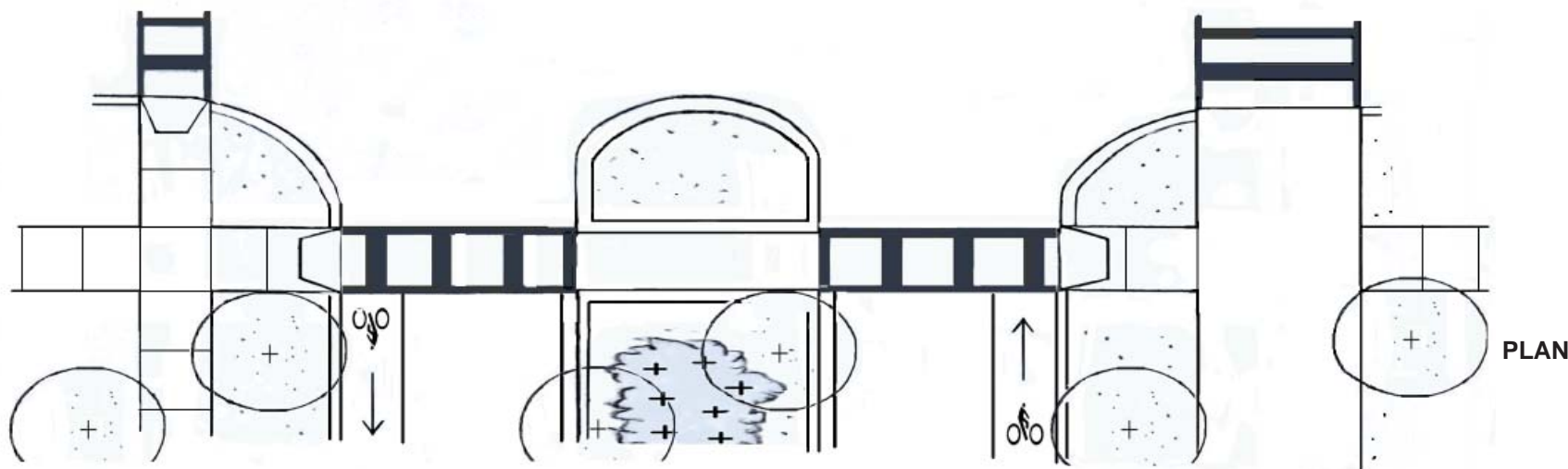
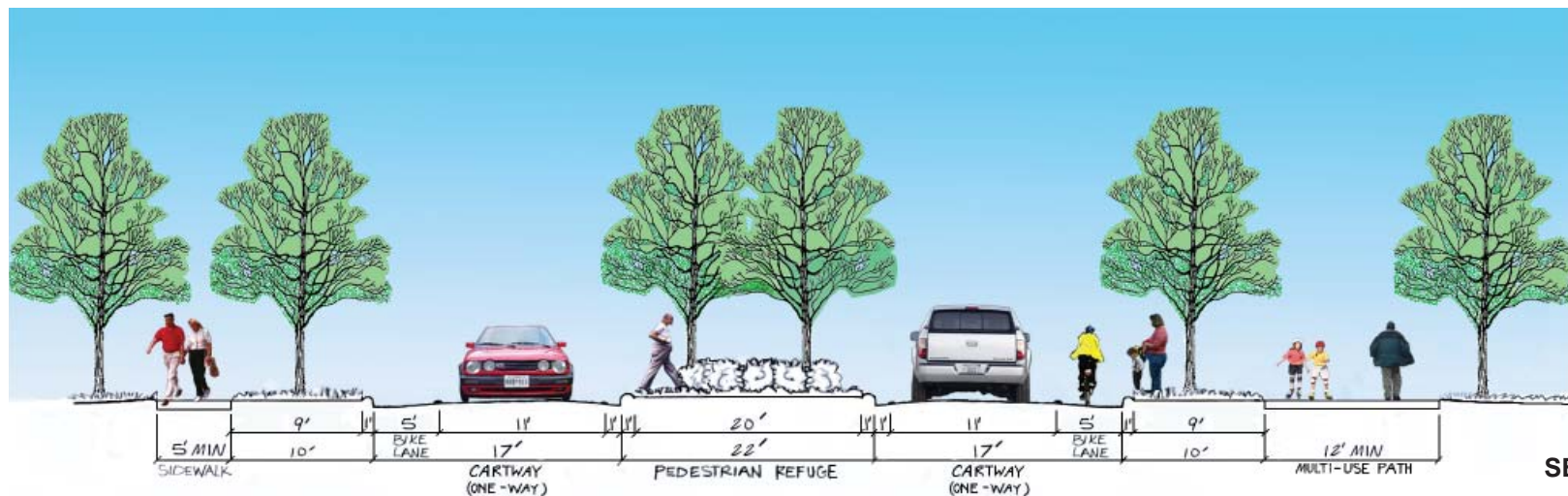


**SIDEWALK, MULTI-PURPOSE PATH AND BICYCLE LANE
TYPICAL NEW URBAN BOULEVARD, MIXED-USE**



photo courtesy of "Flexible Design of New Jersey's Main Streets"

This example from another community illustrates the advantage of a residential boulevard. It is designed to accommodate the heavy use of both pedestrian and vehicular traffic. It also provides the opportunity for recreational activities such as walking, rollerblading and bicycling. The pedestrian refuge is designed to be a minimum of twenty feet to provide a left turn lane for vehicles at signalized intersections while still providing a refuge for pedestrians crossing the street. No on-street parking would be provided.

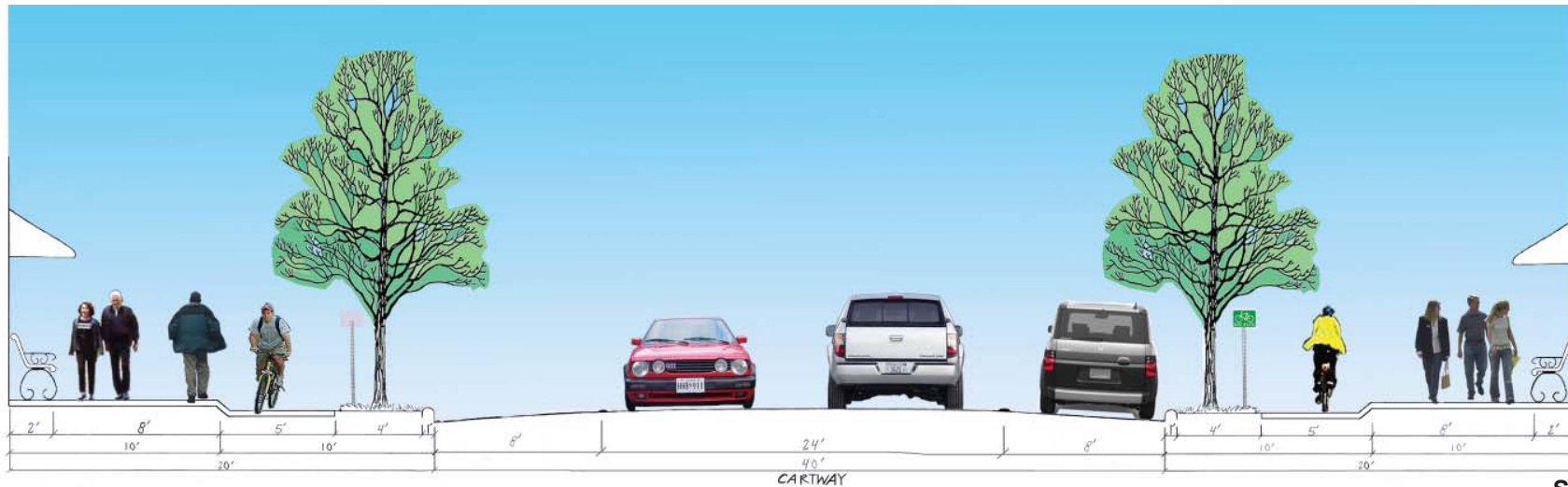


**SIDEWALK, MULTI-PURPOSE PATH AND BICYCLE LANE
TYPICAL NEW URBAN BOULEVARD, RESIDENTIAL**

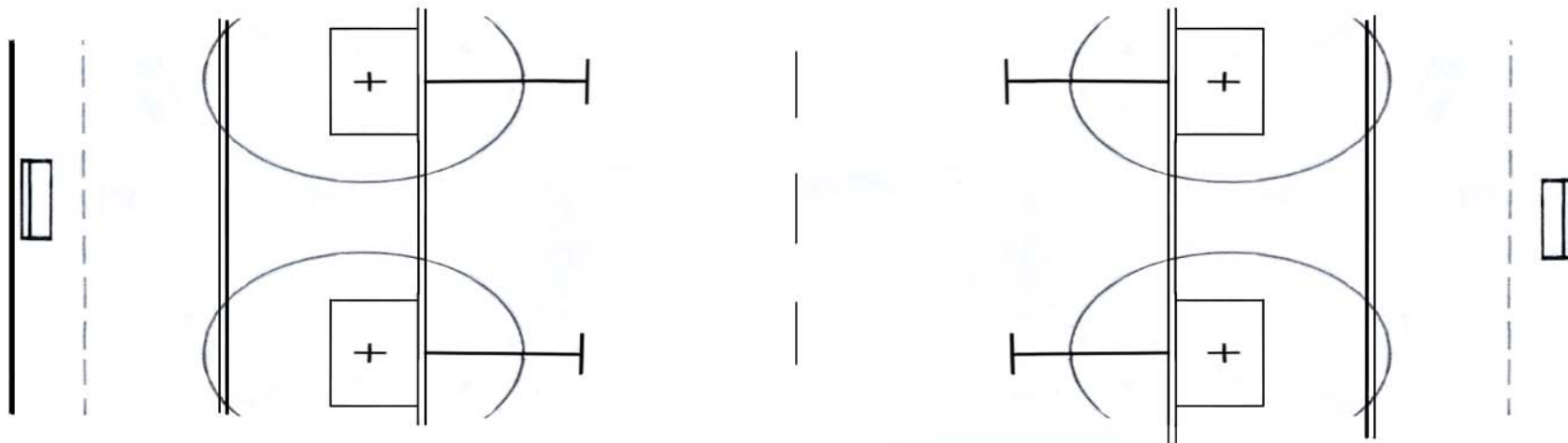


photo courtesy of Bicycle Transportation Alliance of Western Australia

This example from another community illustrates the combination of a sidewalk and raised bicycle lane with the only separation between the two being a mountable curb. It is recommended that intersections be designed with a neckdown, to provide the pedestrian with a shorter crossing distance and to encourage vehicles to decelerate. These pedestrian/bicyclist elements could be introduced into the construction of newly developing areas throughout Williamstown.



SECTION



PLAN

SIDEWALK AND RAISED BICYCLE LANE TYPICAL NEW URBAN ARTERIAL AND COLLECTOR ROAD

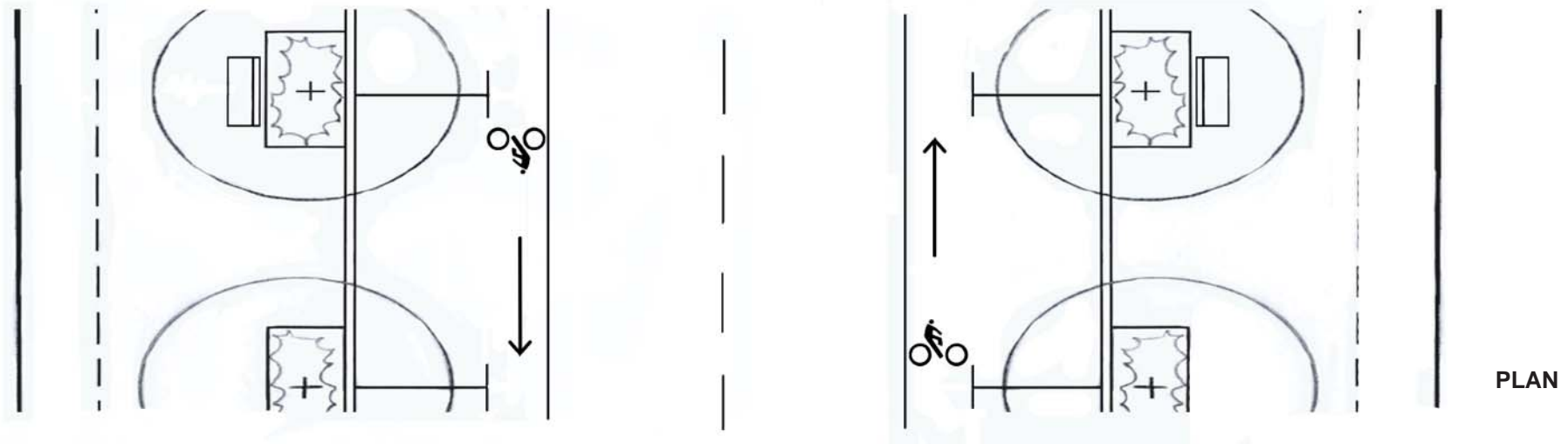
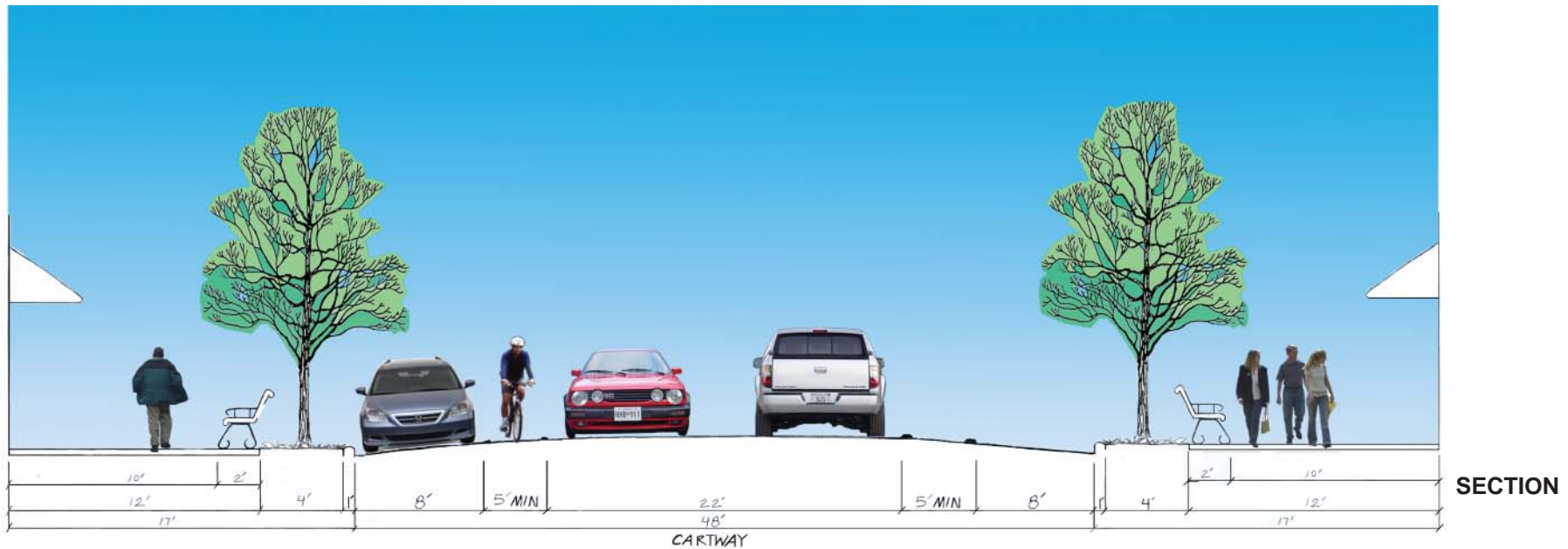


photo courtesy of "Flexible Design of New Jersey's Main Streets"

This example from another community illustrates the separation of pedestrians and bicyclists in a busy urban setting. The bicycle lane is marked and the addition of a rumble strip can be added between the car lane and bicycle lane for further delineation. It is recommended that intersections be designed with a neckdown, to provide the pedestrian with a shorter crossing distance and to encourage vehicles to decelerate. This design element is recommended for future urban areas in Williamstown.

photo courtesy of Dan Burden





**SIDEWALK AND BICYCLE LANE
TYPICAL NEW URBAN COLLECTOR AND LOCAL ROAD**

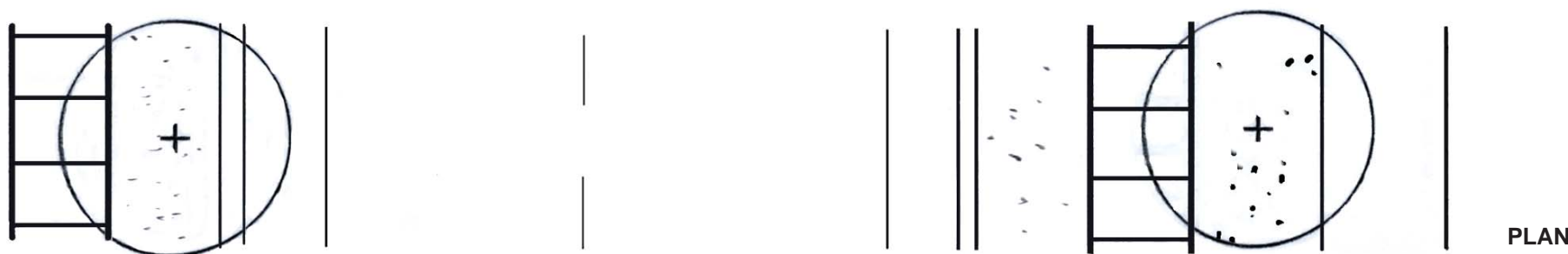
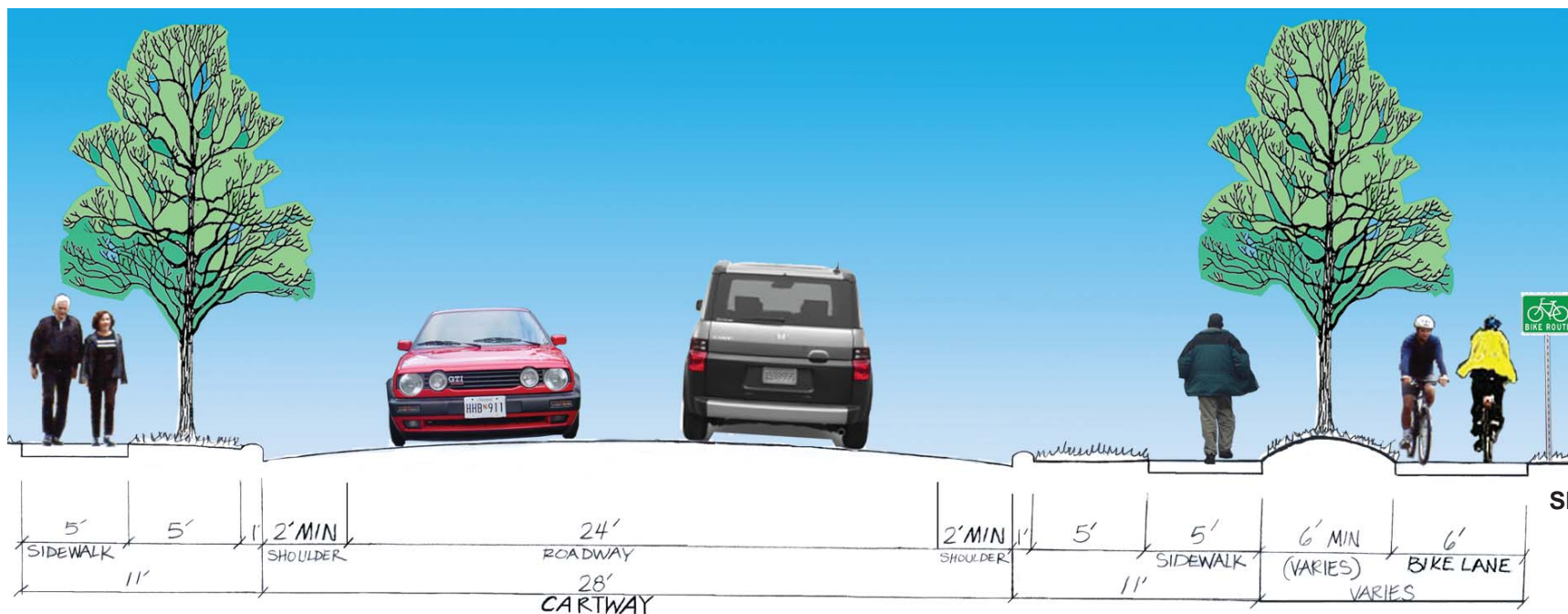


BEFORE IMPLEMENTATION

AFTER IMPLEMENTATION

- Addition of bicycle path
- Addition of sidewalk on the other side of the street
- Landscape enhancements such as street trees





**SIDEWALK AND BICYCLE PATH
TYPICAL SUBURBAN ARTERIAL AND COLLECTOR ROAD**



BEFORE IMPLEMENTATION

AFTER IMPLEMENTATION

- Addition of multi-use path
- Landscape enhancements such as street trees





SECTION



PLAN

MULTI-USE PATH TYPICAL SUBURBAN COLLECTOR ROAD

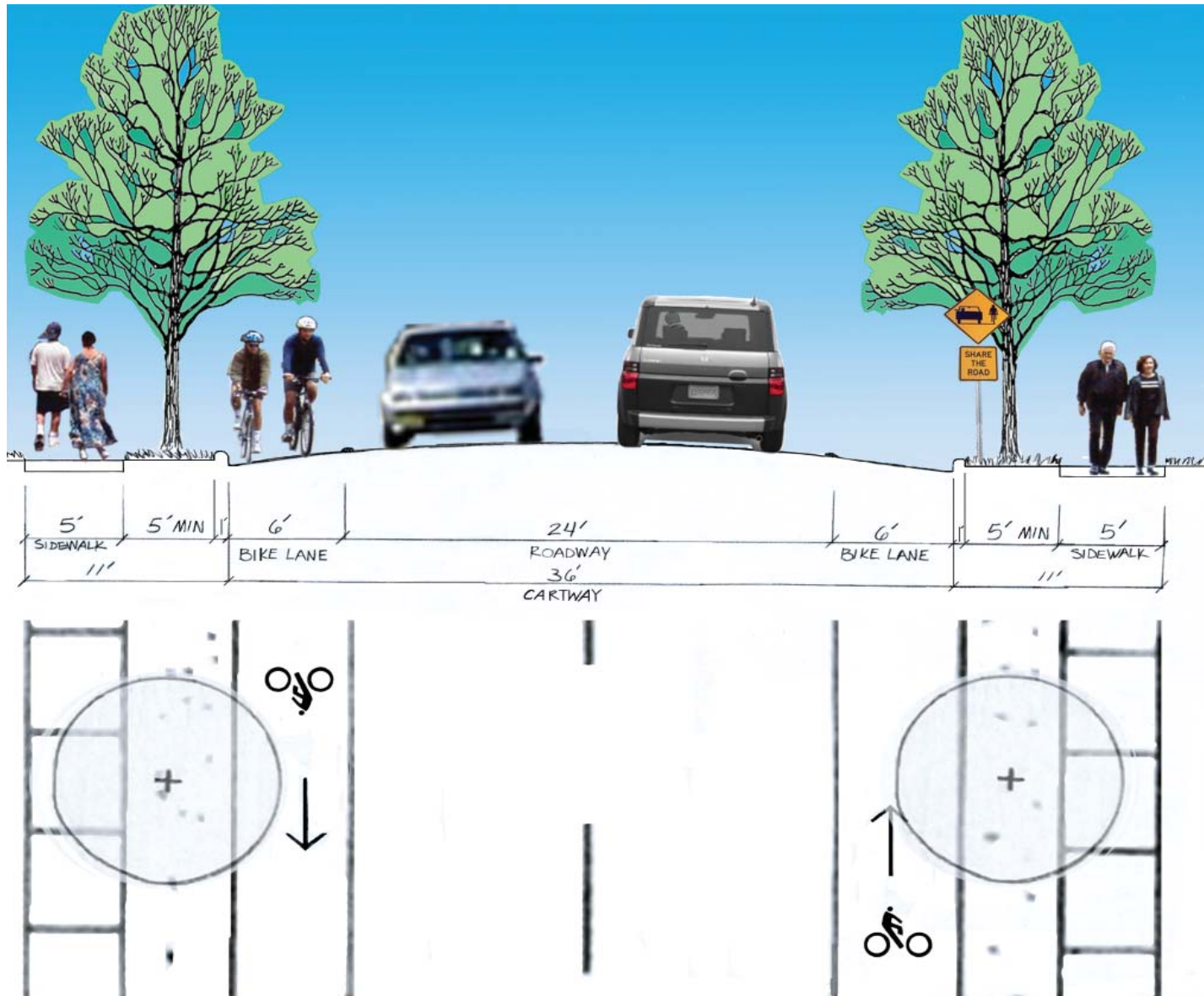


BEFORE IMPLEMENTATION

AFTER IMPLEMENTATION

- Addition of curbing
- Addition of sidewalks on both sides of the street
- Bicycle lanes created on roadways with striping
- Driveways and intersections clearly marked by pavers to warn bicyclists of potential automobile conflicts
- Landscape enhancements such as street trees





**SIDEWALK AND BICYCLE LANE
TYPICAL SUBURBAN COLLECTOR ROAD**



BEFORE IMPLEMENTATION

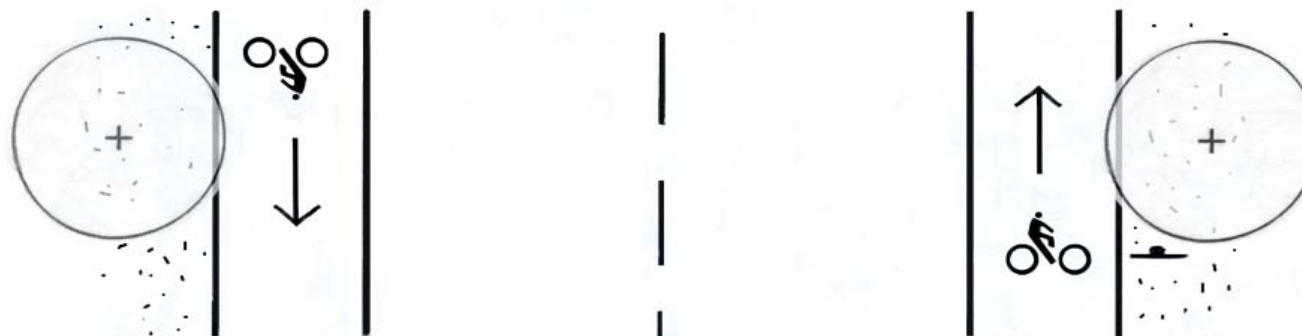
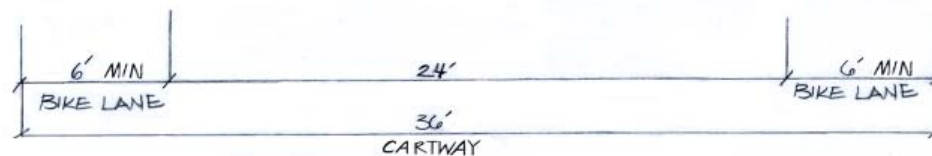
AFTER IMPLEMENTATION

- Bicycle lanes created on roadways with striping
- Landscape enhancements such as street trees



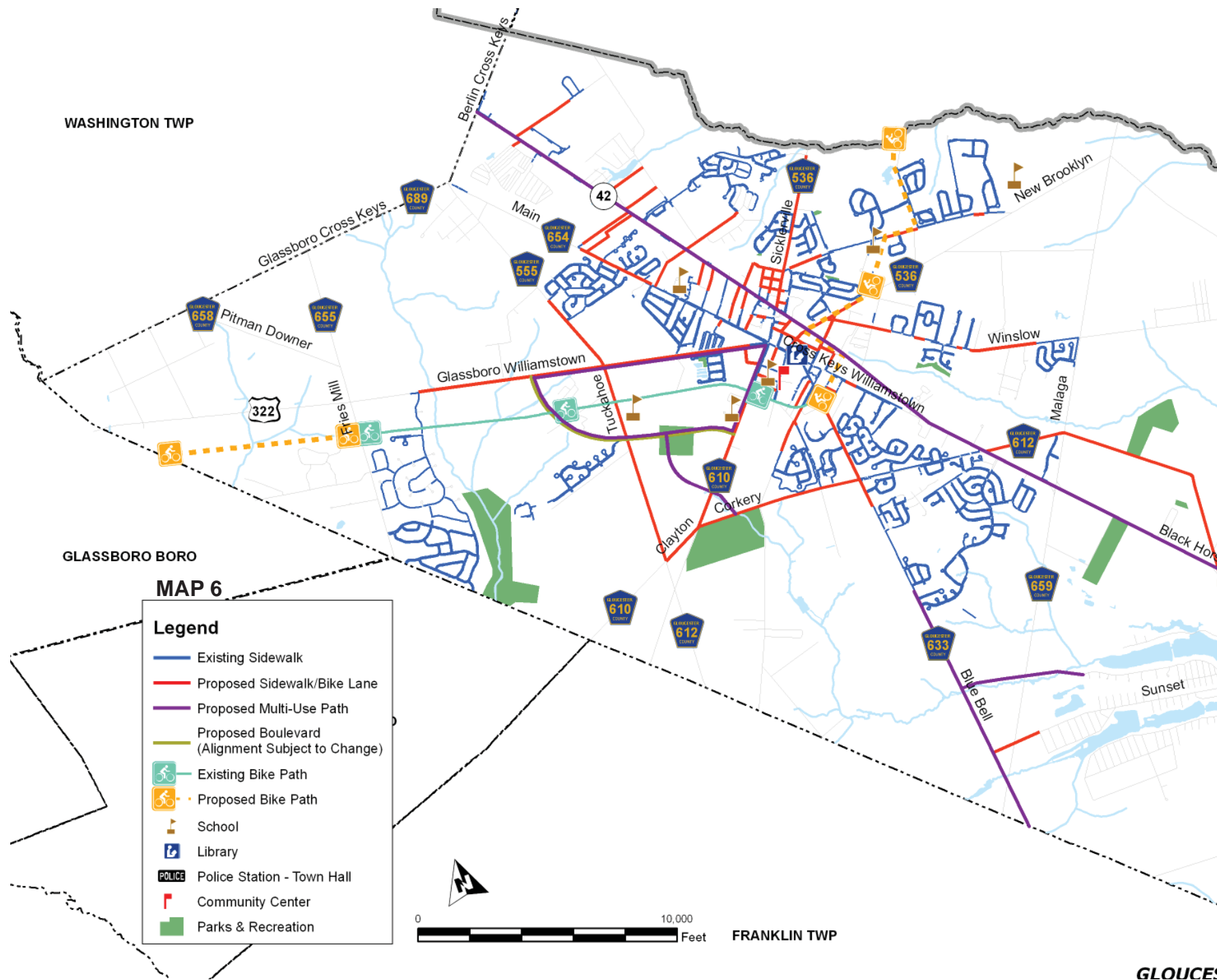


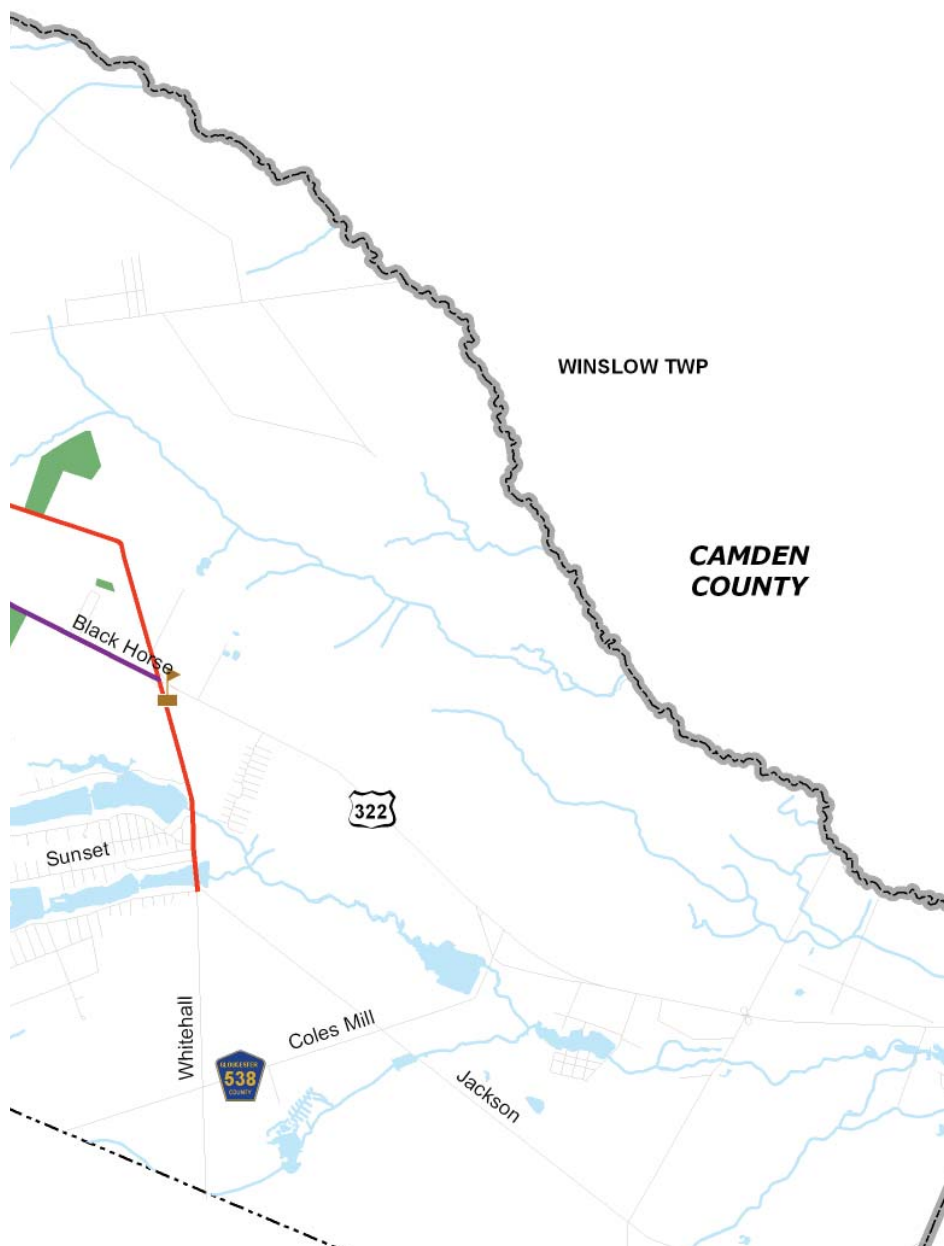
SECTION



PLAN

BICYCLE LANE TYPICAL RURAL COLLECTOR AND LOCAL ROAD





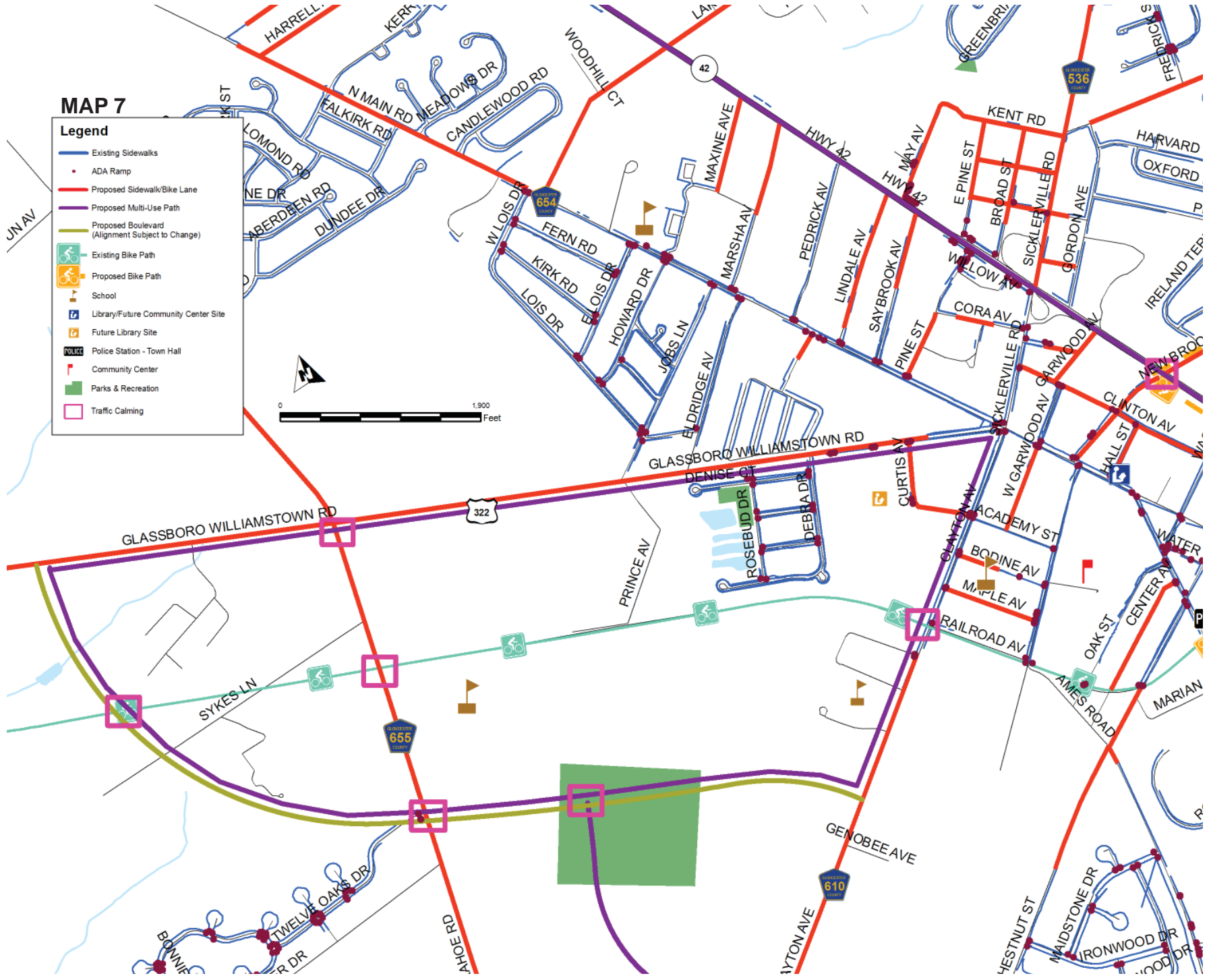
RECOMMENDATIONS

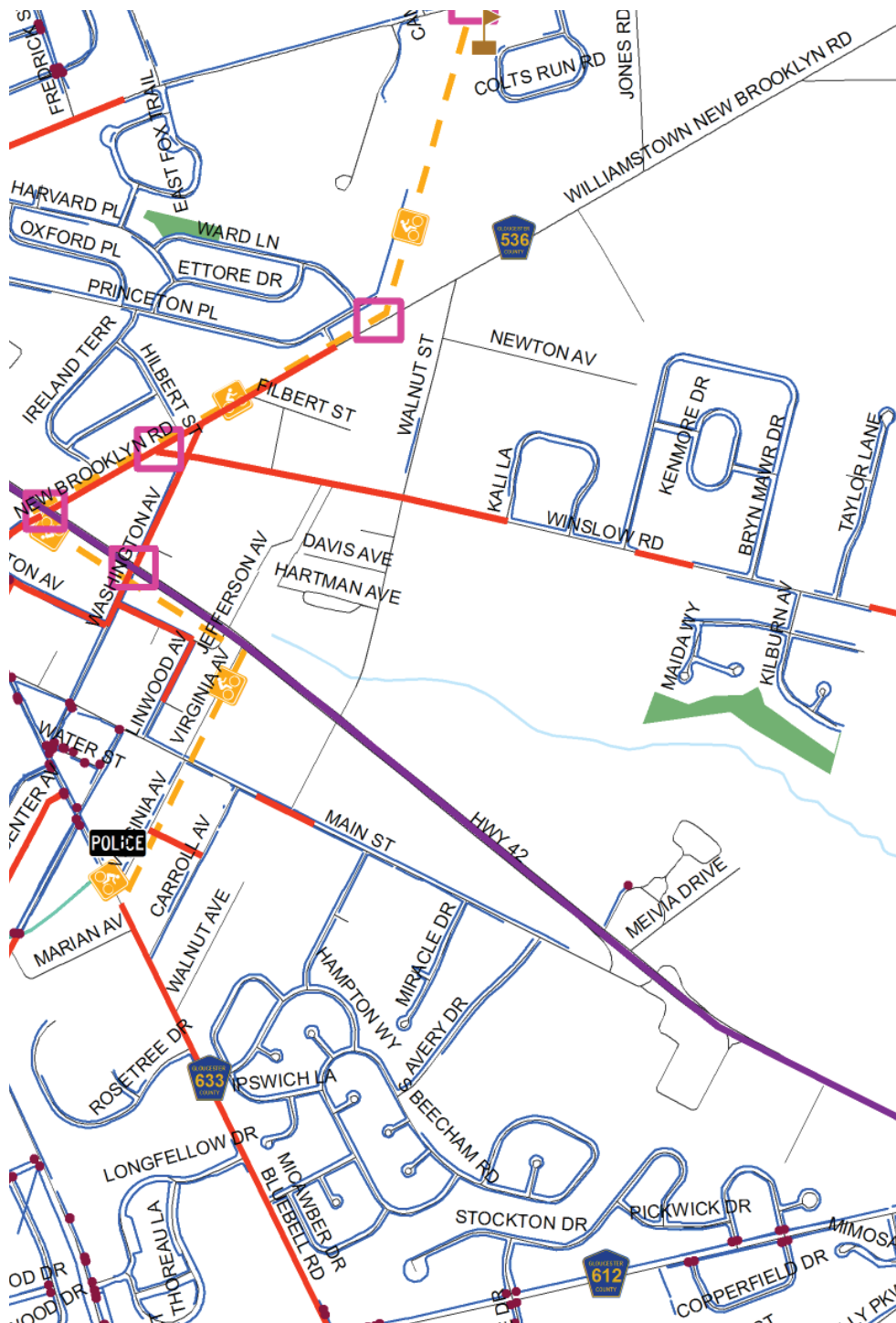
- It is recommended that additional sidewalks be implemented wherever there are gaps between existing sidewalks to provide immediate linkages between existing neighborhoods and points of interest.
- It is recommended that existing sidewalks be made ADA compliant by providing a depressed curb and ramp from the street.
- It is recommended that all sidewalk given a failed rating in this report be repaired or infilled.
- Main Street in downtown Williamstown has had recent sidewalk improvements installed. Stamped concrete and pavers have replaced concrete sidewalks adding more appeal to the space. Speed tables have been implemented to encourage the 25 m.p.h speed limit. Due to the existing right-of-way conditions, Main Street can only accommodate narrow sidewalks, severely restricting the placement of any street trees which would provide shade and scale to the street. Therefore, the only recommendation at this time would be the addition of pedestrian amenities such as benches, information kiosks, and large movable planters. These amenities would add to the pedestrian scale and create a more inviting pedestrian environment. By placing the kiosks and planters near the curb, a sense of safety would be created through the separation of the traffic and the pedestrians utilizing the sidewalk.
- To be in compliance with New Jersey's RSIS standards, it is recommended that the existing sidewalks throughout Williamstown be widened to four(4) feet where design constraints do not prohibit implementation and a high volume of pedestrian activity occurs.

MAP 7

Legend

- Existing Sidewalks
- Proposed Sidewalk/Bike Lane
- Proposed Multi-Use Path
- Proposed Boulevard (Alignment Subject to Change)
- 🚲 Existing Bike Path
- 🚲 Proposed Bike Path
-  School
-  Library/Future Community Center Site
-  Future Library Site
-  Police Station - Town Hall
-  Community Center
-  Parks & Recreation
-  Traffic Calming





Sidewalks less than four(4) feet wide do not promote a feeling of safety for the pedestrian nor does it adequately provide room for two persons side by side.

- It is recommended that the existing bicycle path be widened to a minimum of twelve(12) feet where existing constraints do not restrict the proposed design standards illustrated in this chapter. This would create a recreational system for joggers, roller bladers, and pedestrians as well.

- It is recommended to extend the existing bicycle path (newly created multi-use path) located in Williamstown. The most feasible alignment for the path would continue east from Williamstown-Blue Bell Road along Virginia Avenue, follow north along N.J. State Route 42, continue east on Williamstown-New Brooklyn Road, extend north along a utility easement, and continue into Winslow Township via a pedestrian bridge over the Atlantic City Expressway. One problem with this alignment is associated with automobile stacking and cut-throughs at the corner of N.J. State Route 42 and Williamstown-New Brooklyn Road/Poplar Street. This could create conflicts between bicycles, pedestrians, and automobiles. A more ideal alignment would have the path follow east along Virginia Avenue, lead into the utility easement, and continue straight into Winslow. This alignment would require a pedestrian bridge to be constructed over N.J. State Route 42.

- In addition, there should be a multi-use path introduced which would run east to west along N.J. State Route 42, where it would intersect the proposed bicycle path extension and continue down U.S. Highway Route 322 to the intersection of Whitehall Road. This system would provide connectivity throughout a majority of Williamstown as well as provide linkages into sev-

eral surrounding communities. This regional approach to non-automobile dependency will provide access to jobs, shopping and dining by means of walking or bicycling. It is recommended that proposed pedestrian and bicycle crossings of these highways only occur at existing signalized intersections, providing the pedestrian and bicyclist enough visibility and time to cross the multiple lanes of traffic.

- A pedestrian friendly boulevard connecting U.S. Highway 322 and Tuckahoe Road would benefit the newly built or under construction housing developments of Twelve Oaks and Willowoods, as well as the proposed mixed-use development contemplated in the township's Housing Element and Fair Share Plans. It would also provide an alternative way to reach Williamstown High School, Middle School and Owens Park. Sidewalks should be provided on one side of the roadway and a twelve foot multi-purpose path on the other side. Additionally, the addition of bicycle lanes located within both sides of the cartway is recommended to provide biking in both directions.

- In general, we recommend that Williamstown establish and enforce design standards based on the proposed pedestrian friendly design elements and traffic calming techniques in this report.

- It is recommended that Williamstown seek other sources of funding besides the Township's Sidewalk Trust Fund to carry out the goals and objectives outlined in this report. Grant programs through NJDOT, NJDEP, NJDCA and DVRPC may be available.

- Add traffic calming/safe crossing zones for multi-purpose path in Williamstown at the following intersec-

tions:

- Tuckahoe Road at Williamstown High school
- NJ Route 42 and Washington Avenue
- Railroad Avenue and Clayton Road
- Proposed Boulevard and US Route 322
- Madison Avenue and south of NJ Route 42
- All projects adjacent to Rails to Trails Bike Path must connect projects to the circulation system.
- Provide multi-purpose path connection along Clayton Avenue from the proposed boulevard to Main Street.
- Provide bike lanes in streets as outlined on Map 4.

REFERENCES

Accommodating Pedestrians. Rutgers Transportation Policy Institute discussion paper for the New Jersey Department of Transportation. (n.d.)
<http://www.activeliving.org/downloads/accommodating.pdf>

Ewing, Reid & King, Michael *Flexible Design of New Jersey's Main Streets*. Voorhees Transportation Policy Institute, Edward J. Bloustein School of Planning & Public Policy, Rutgers, The State University of New Jersey

Harris, C.W. & Dines, N.T. (1998) *Time Saver Standards For Landscape Architecture* (2nd ed.). New York: McGraw-Hill.

Monroe Township Master Plan. (2004)

New Jersey Residential Site Improvement Standards. (2004) N.J.A.C. Section 5:21.

New Jersey State Development and Redevelopment Plan. (2004)
<http://www.state.nj.us/dca/osg/plan/>

Oregon Bicycle and Pedestrian Plan. (1995, June 14)
http://safety.fhwa.dot.gov/ped_bike/docs/orbpplan.pdf#search='oregon%20bicycle%20pedestrian%20plan'

Pathways For The Garden State: A Local Government Guide to Planning Walkable, Bikeable Communities. (n.d) Association of New Jersey Environmental Commissions (ANJEC).

<http://www.anjec.org/pdfs/pathways.pdf>

Traffic Calming 101. Project For Public Spaces.(2005)
<http://www.pps.org/info/placemakingtools/casesforplaces/livememtraffic>

Zegeer, C.V. (1998, March) *Design and Safety of Pedestrian Facilities: A Recommended Practice of the Institute of Transportation Engineers*. Washington, D.C.: Institute of Transportation Engineers.

APPENDICES

APPENDIX A

Sidewalk Study Criteria:

For the purpose of planning a comprehensive pedestrian circulation network that links the various elements of a township, what is necessary to know is the existence of sidewalks and paths. A comprehensive inventory and survey of existing sidewalks was performed of Monroe Township that analyzed the various conditions of the existing sidewalks as well as their locations. Various criteria were used to determine condition such as width, condition of pavement, type of pavement, and the mere existence of some kind of path or sidewalk. For purposes of simplification and the facilitation understanding, a map has been created that breaks down all the known criteria into a system of pass or fail. This map is meant to clearly define where sidewalks exist and if so, are they usable. Knowing these two conditions will allow for proper updating and where corrective measures must take place and the design of updated new sidewalks and multi-use paths, as necessary to further enhance the connective grid of Monroe Township.

Detail of Collected Data:

When the inventory was performed the following parameters were included in the survey that is included in appendix B. Criteria was entered for : Width, Material, Condition and Compliance with township or Residential Site Improvement Standards (RSIS) standards. The following table provides the values as assigned to the inventory.

Criteria	Value	Value	Value
Width	1=4 feet	2=5 feet	3=Other
Material	1=Brick	2=Concrete	3=Other
Condition	1=Poor	2=Fair	3=Excellent
Compliance	1=Compliant	2=Non Compliant	

The following criteria further define the Condition values listed above.

1= Poor Sidewalk has succumbed to sinking, heaving, breaking or presents a significant tripping hazard. Also sidewalks overgrown with grass are considered poor.

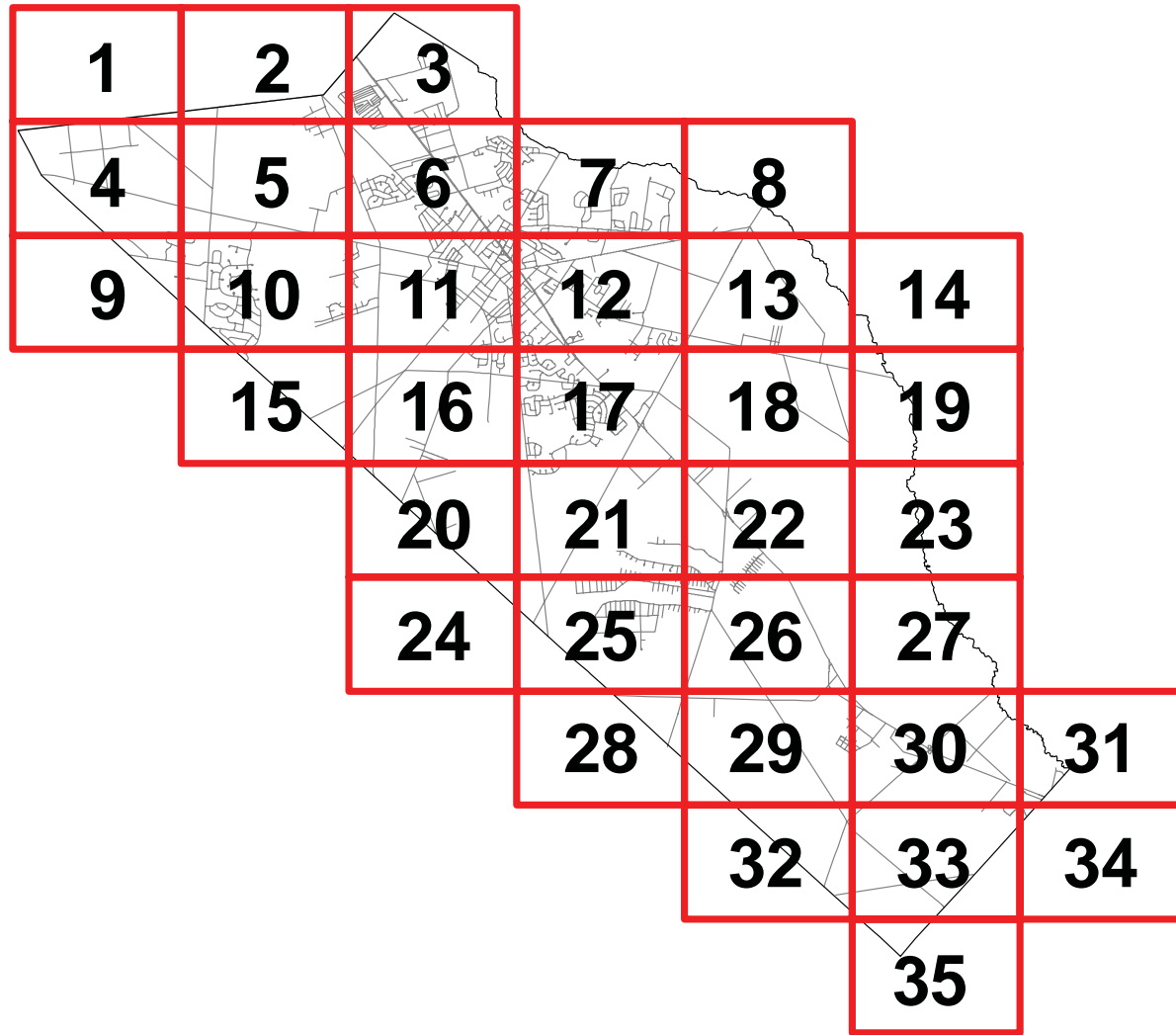
2 = Fair Sidewalk may have minor uplifting and cracks, but sidewalk material (generally concrete) is not broken. There may a little grass growing between panels, but the safety of the walkway is not compromised.

3= Excellent Sidewalk is structurally sound. No obvious cracks. No overgrown grass. The sidewalk would clearly provide safe passage for a wheelchair.

Criteria for Pass or Fail:

Criteria were kept simple when determining pass or fail. Only sidewalks in excellent condition were given a pass. Sidewalks in fair and poor conditions were failed because they will continue to deteriorate if left uncorrected.

APPENDIX B

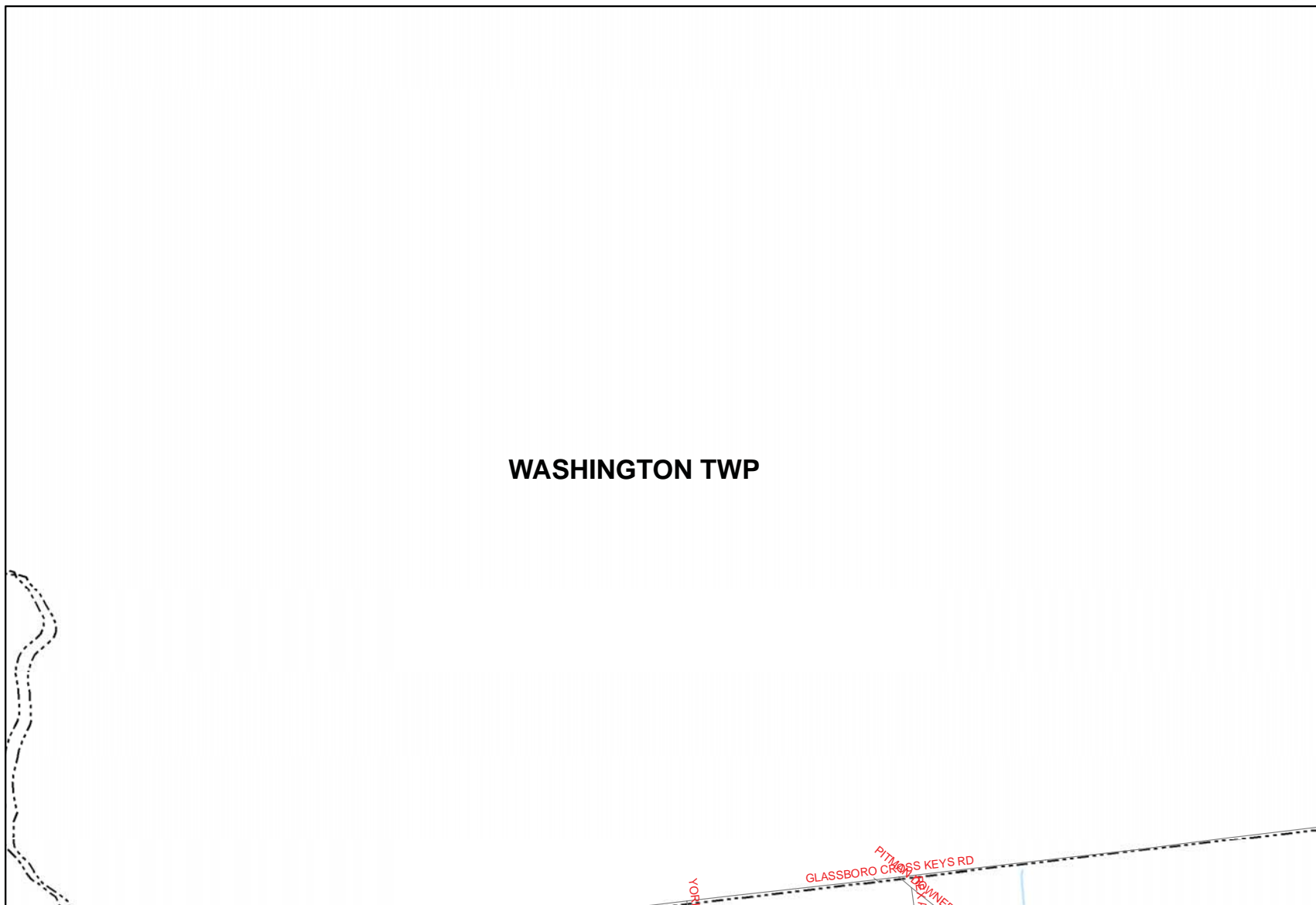


MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY

Map Key



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW
Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



WASHINGTON TWP

Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

School

Library

Police Station - Town Hall

Community Center

Parks & Recreation

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY



melvin|kernan
development strategies



SIDEWALK STUDY

Project No.: MT 03015

Date: June 2005

Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

Sheet 1 of 35

WASHINGTON TWP

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY

Sheet 2 of 35

Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

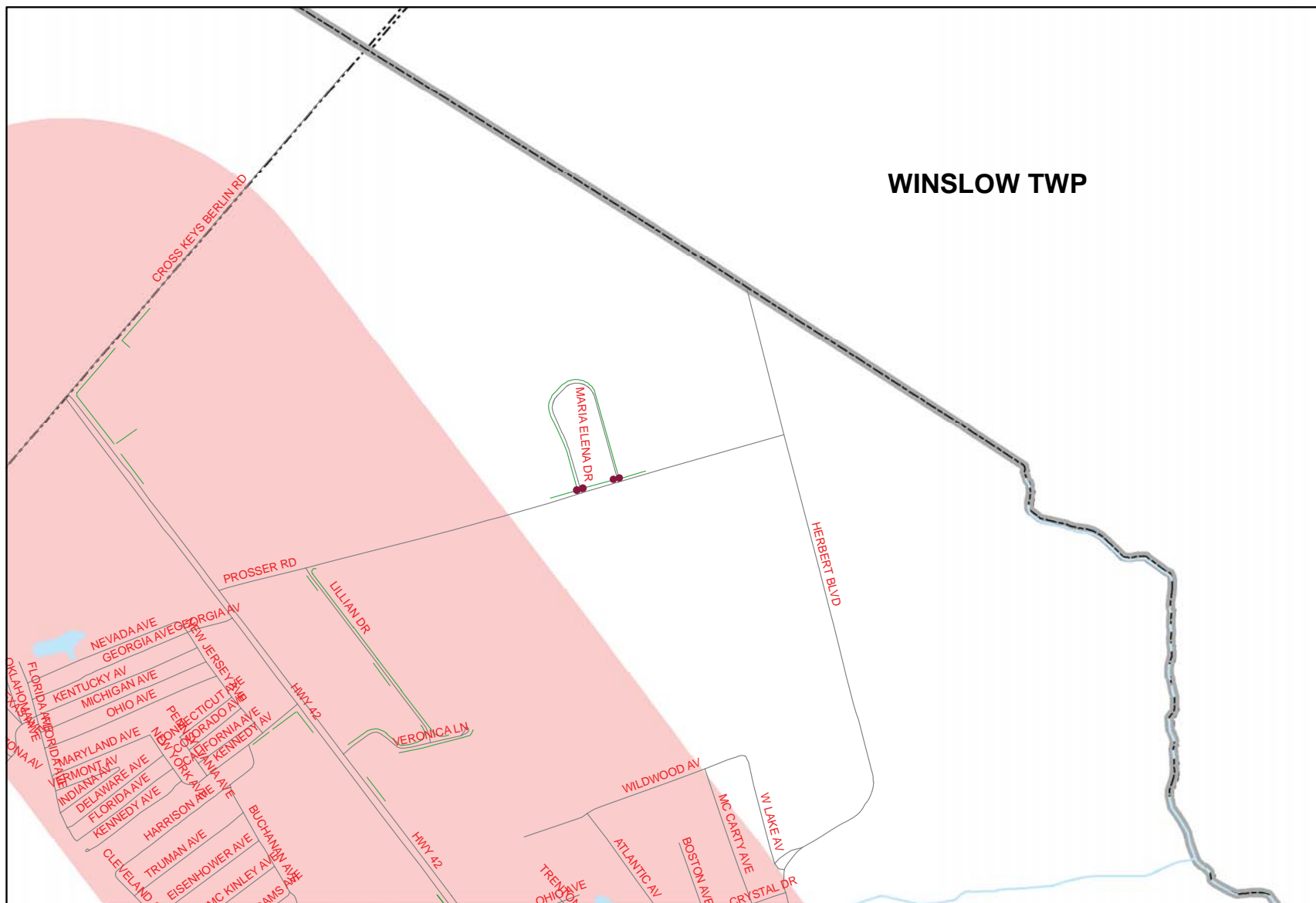


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 3 of 35

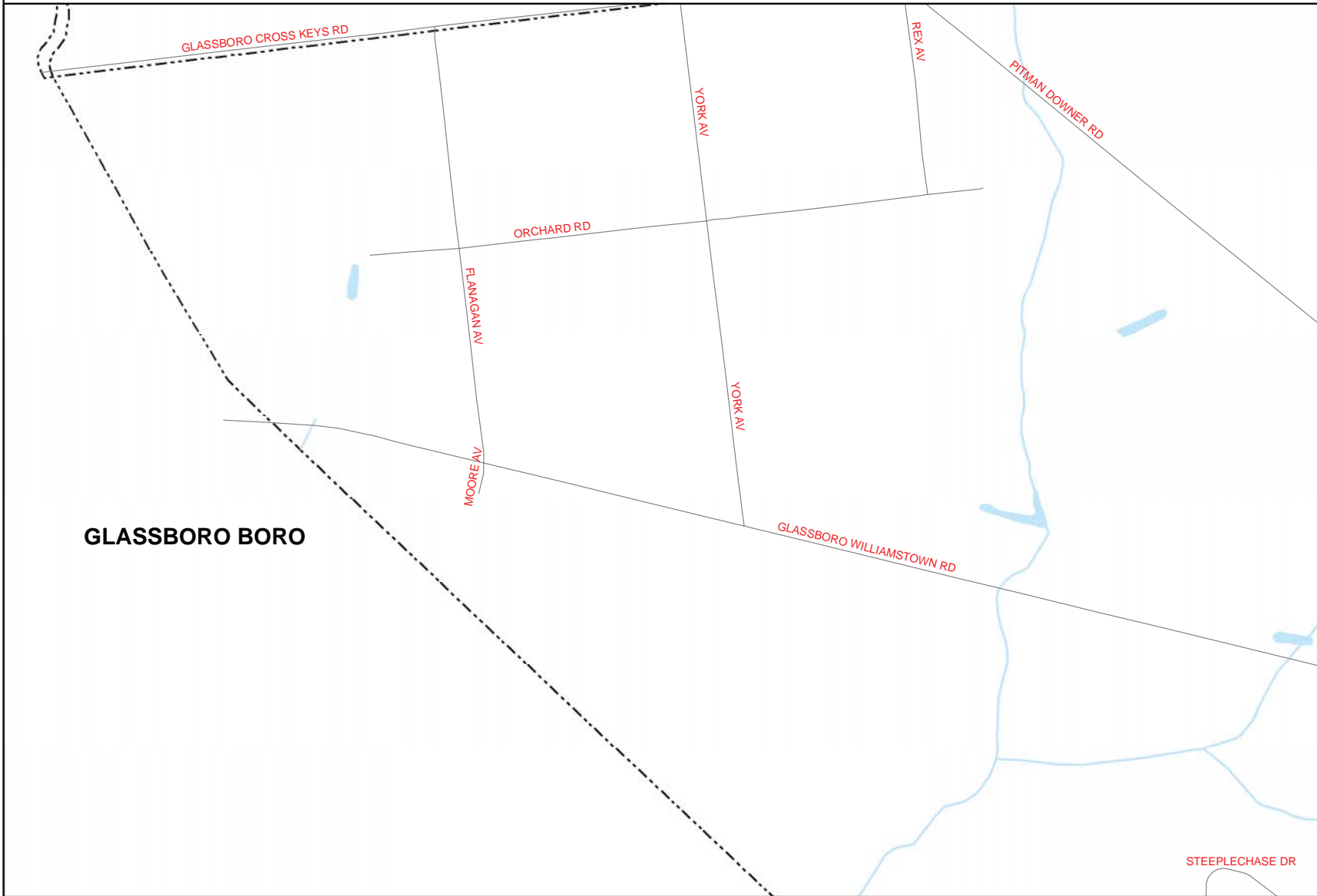


melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 4 of 35



melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

Legend

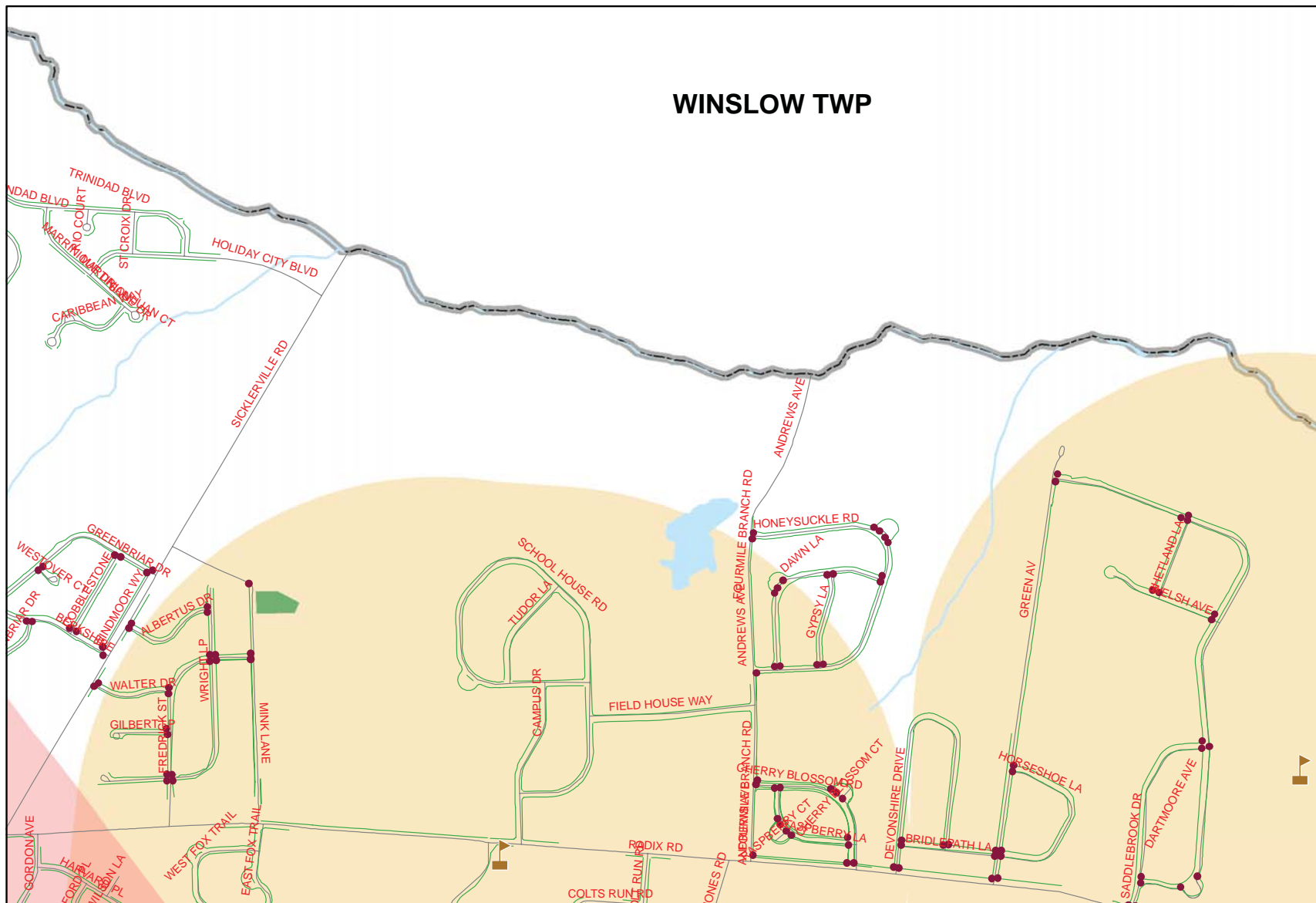
-

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Sheet 6 of 35

WINSLOW TWP



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 7 of 35



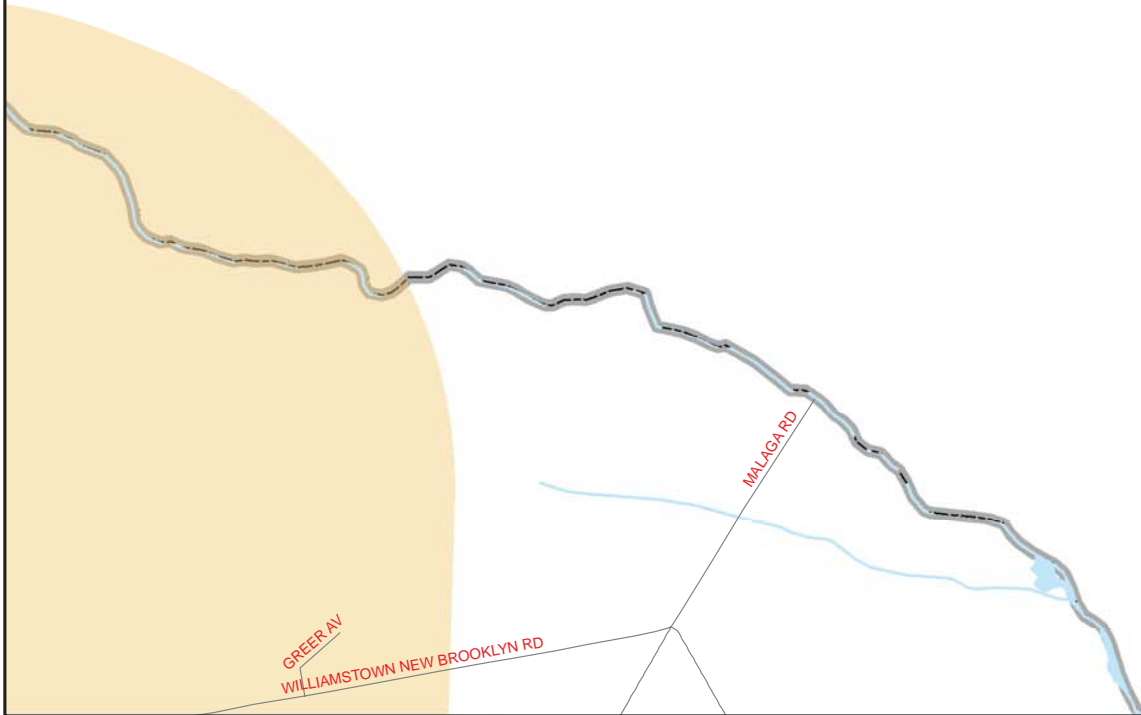
melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

WINSLOW TWP



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY



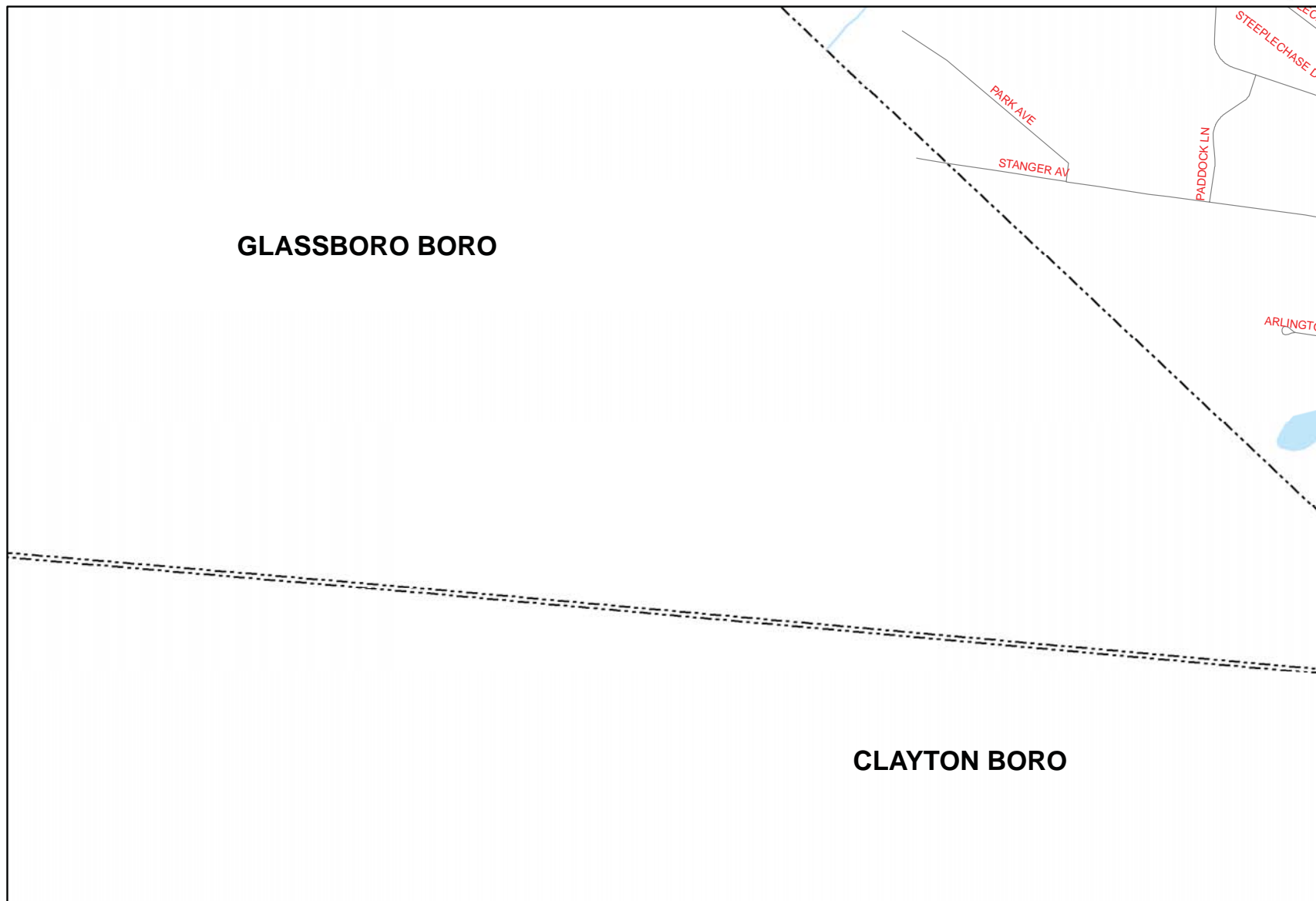
melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

Sheet 8 of 35



Legend

Sidewalk Condition

- Pass
- Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 9 of 35



melvin|kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

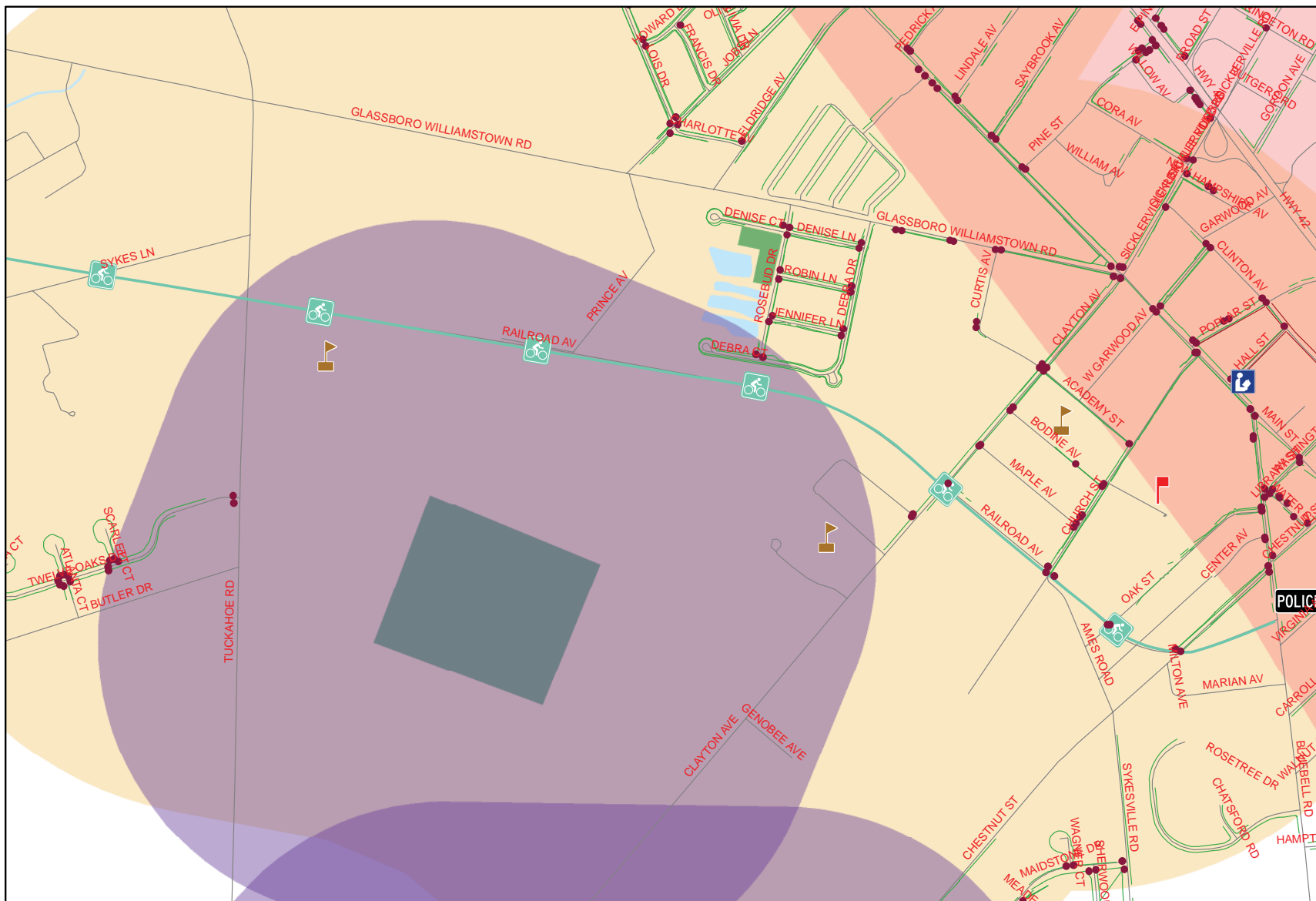
Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



0 1,550 Feet

SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 11 of 35

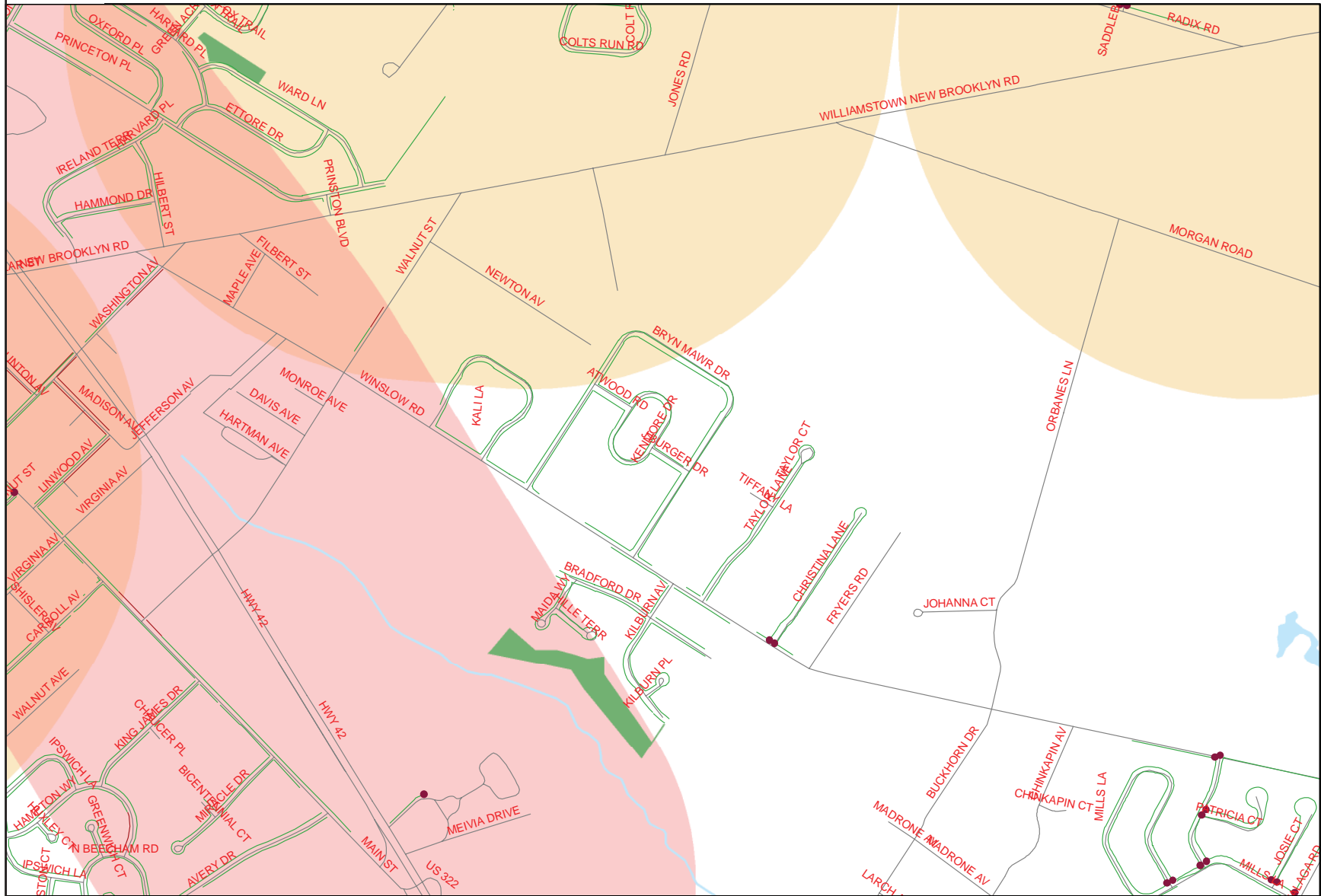


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 030 15
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 12 of 35

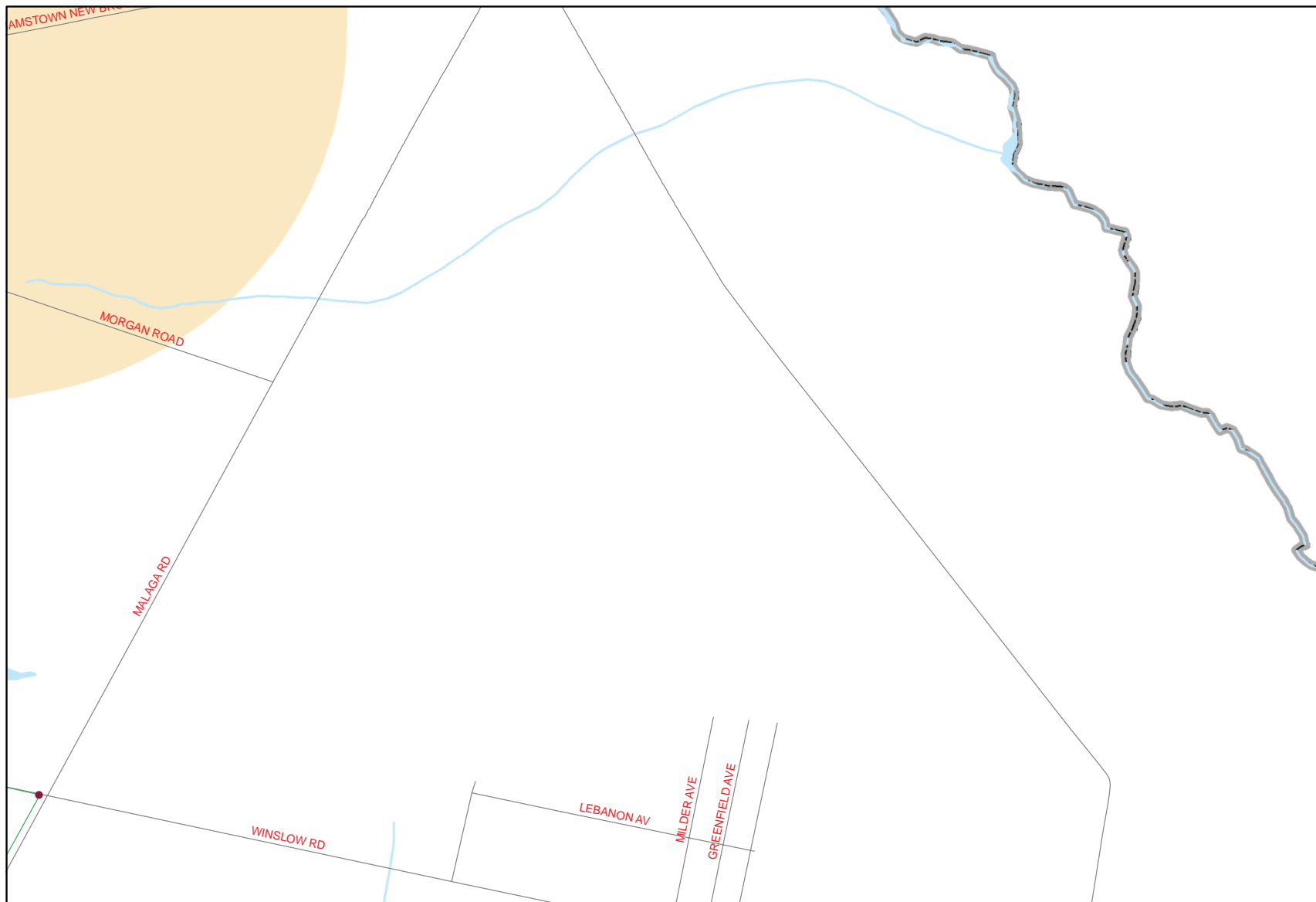


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 13 of 35



melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

WINSLOW TWP

Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY



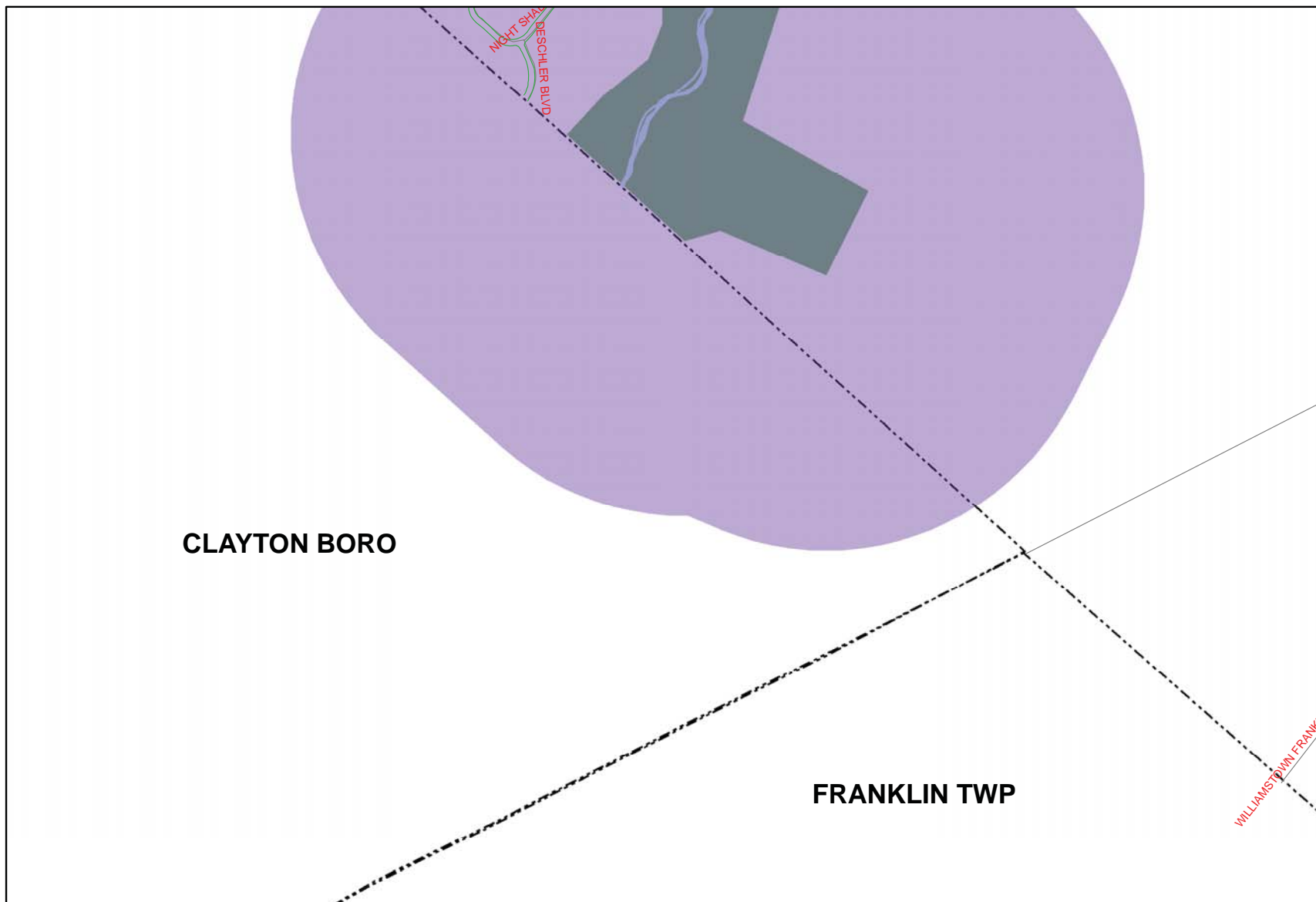
melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

Sheet 14 of 35



Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

School

Library

Police Station - Town Hall

Community Center

Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 15 of 35



melvin|kernan
development strategies



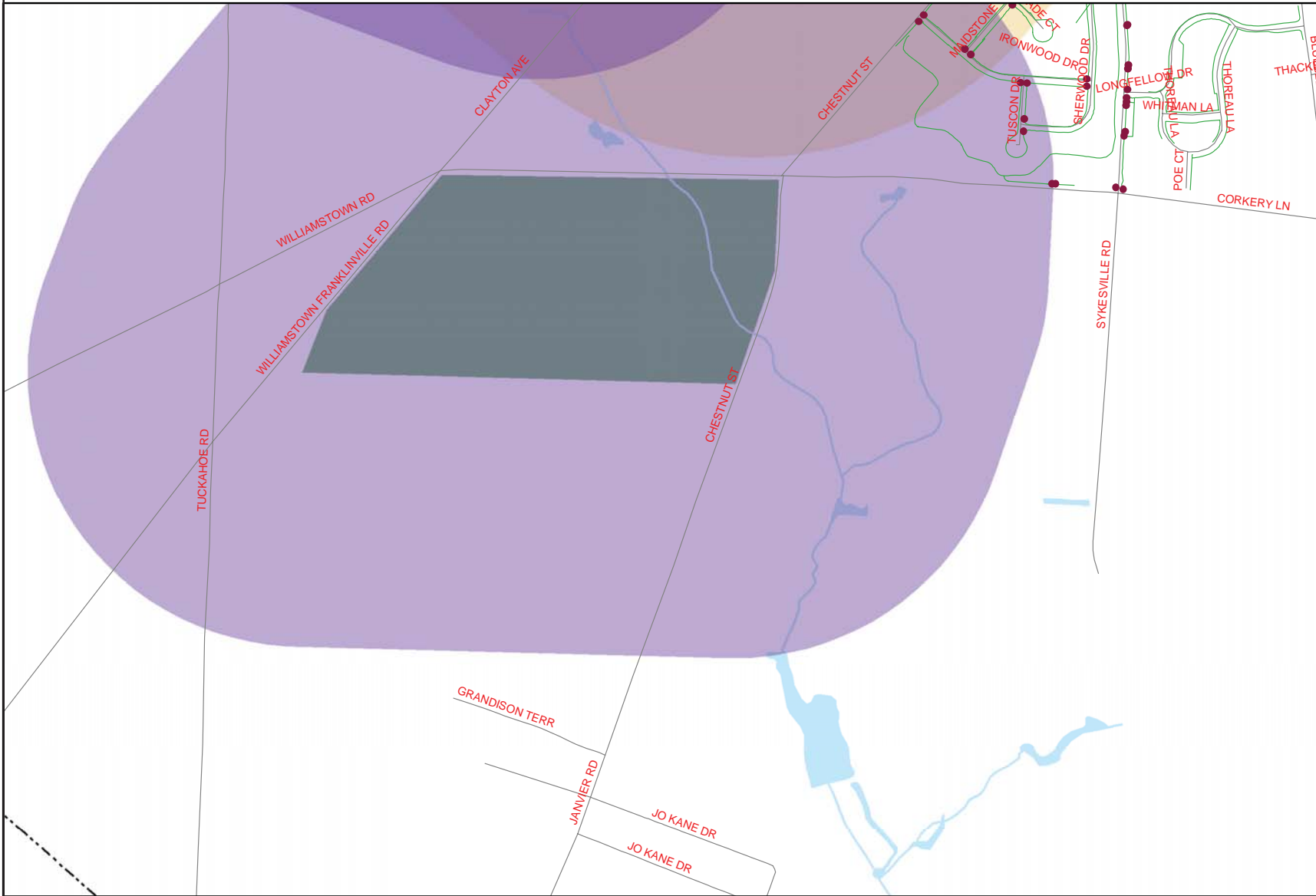
SIDEWALK STUDY

Project No.: MT 03015

Date: June 2005

Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 16 of 35

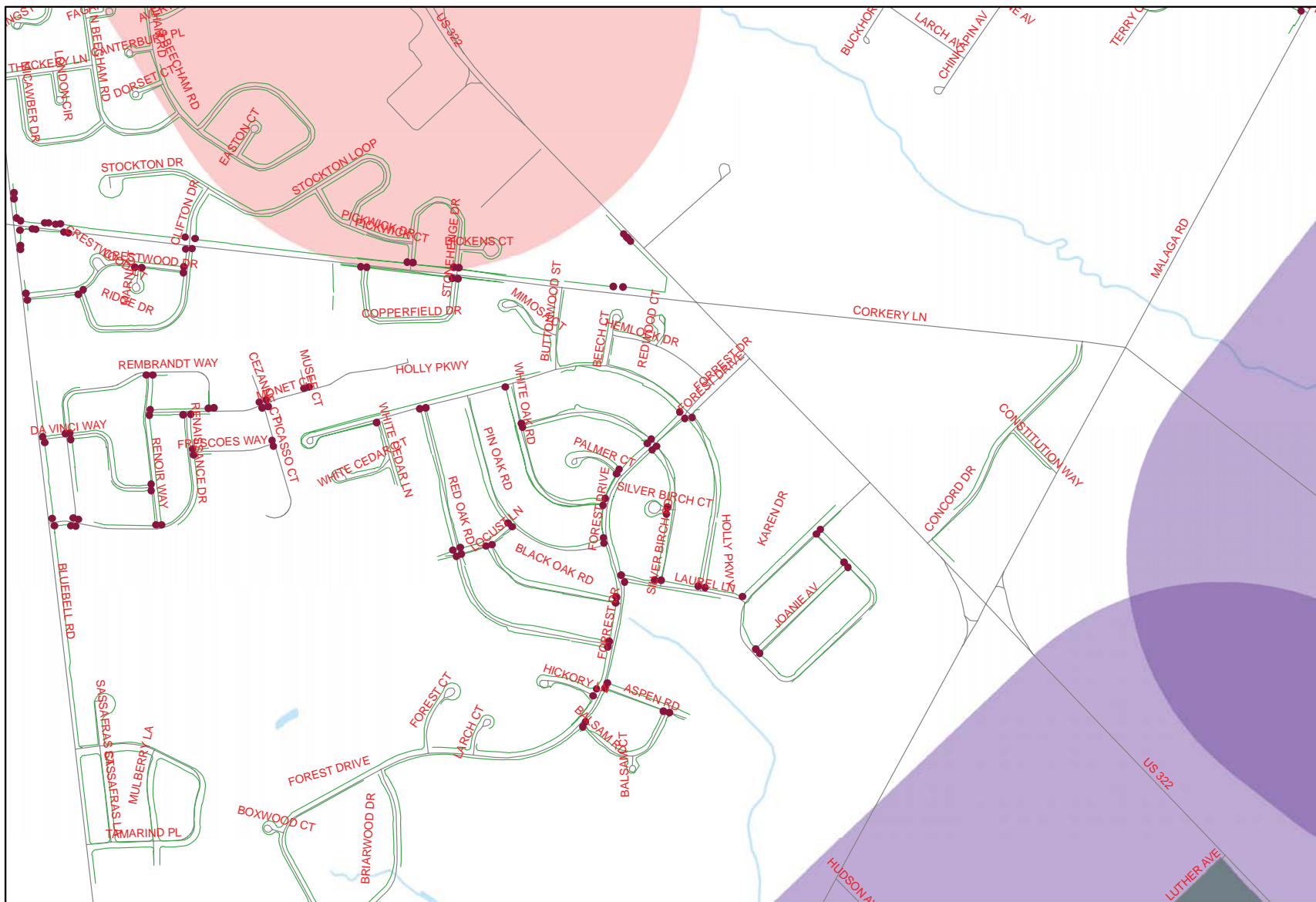


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

- Pass
- Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 17 of 35

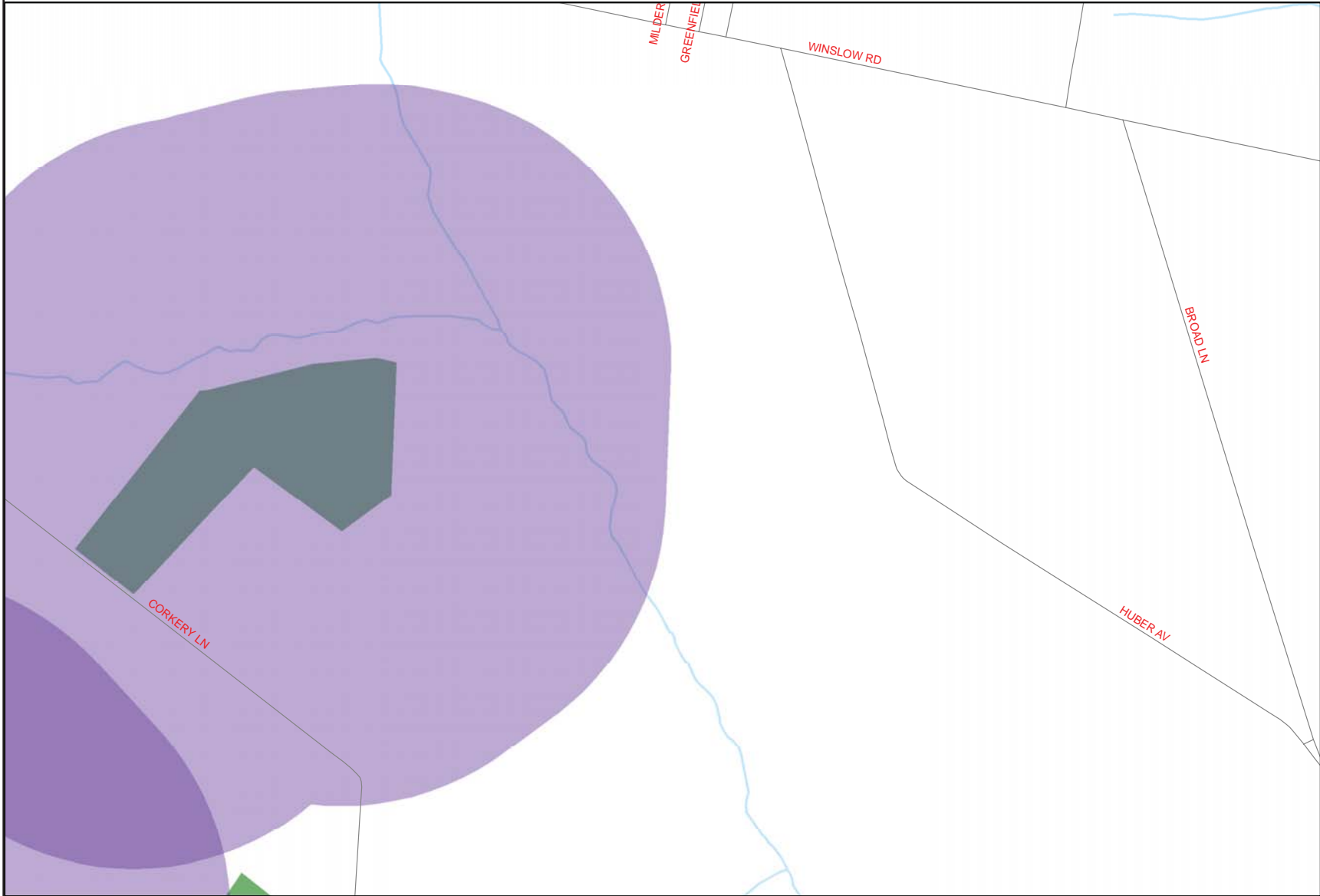


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

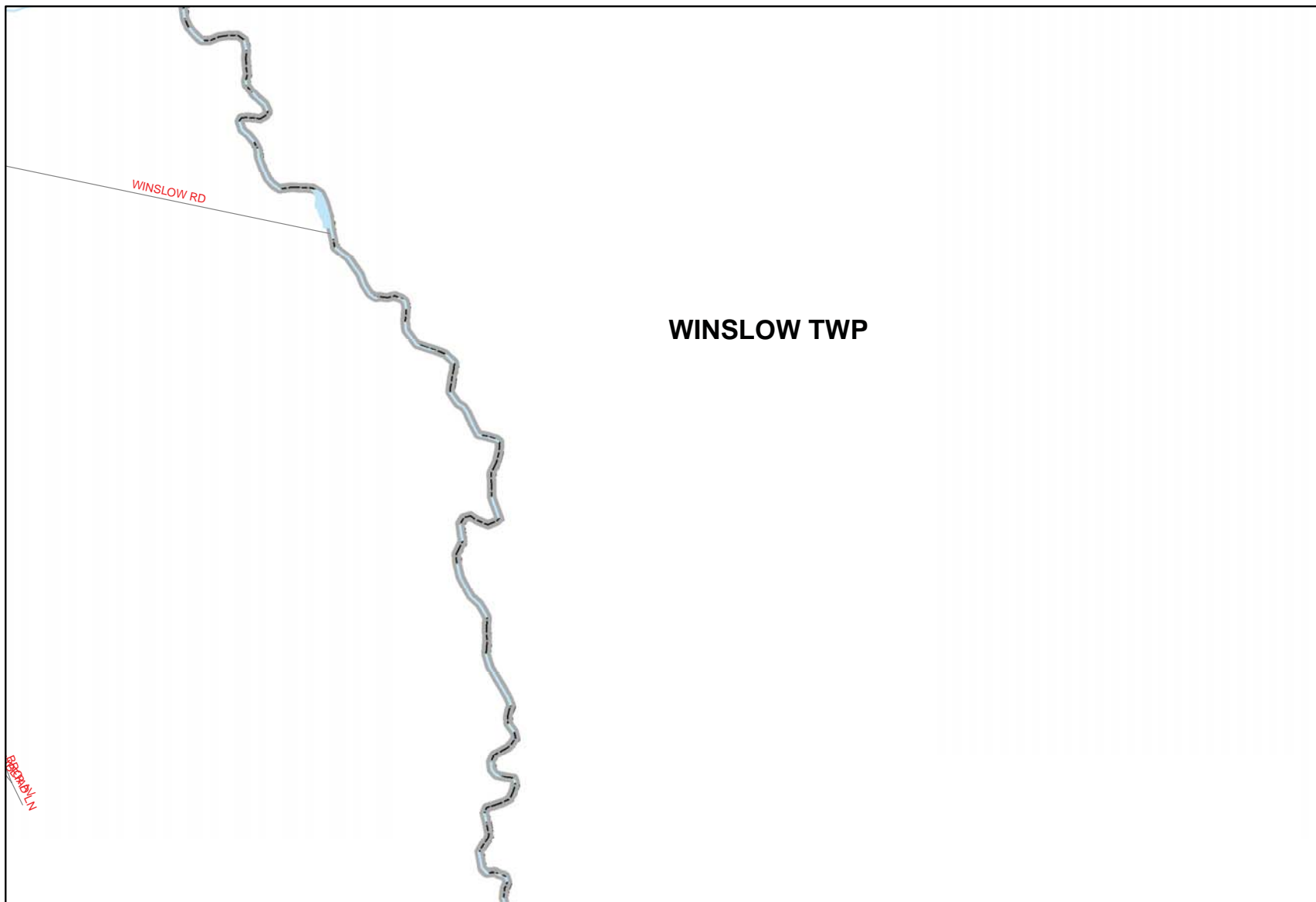
Sheet 18 of 35



melvinkernan
development strategies



SIDEWALK STUDY
 Project No.: MT 03015
 Date: June 2005
 Drawn By: MW
 Source: Monroe Tax Assessor,
 GPS Survey
 This plan was developed using NJ DEP GIS
 data, but this secondary product has not been
 verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

School

Library

Police Station - Town Hall

Community Center

Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 19 of 35



melvin|kernan
development strategies

0 1,550
Feet

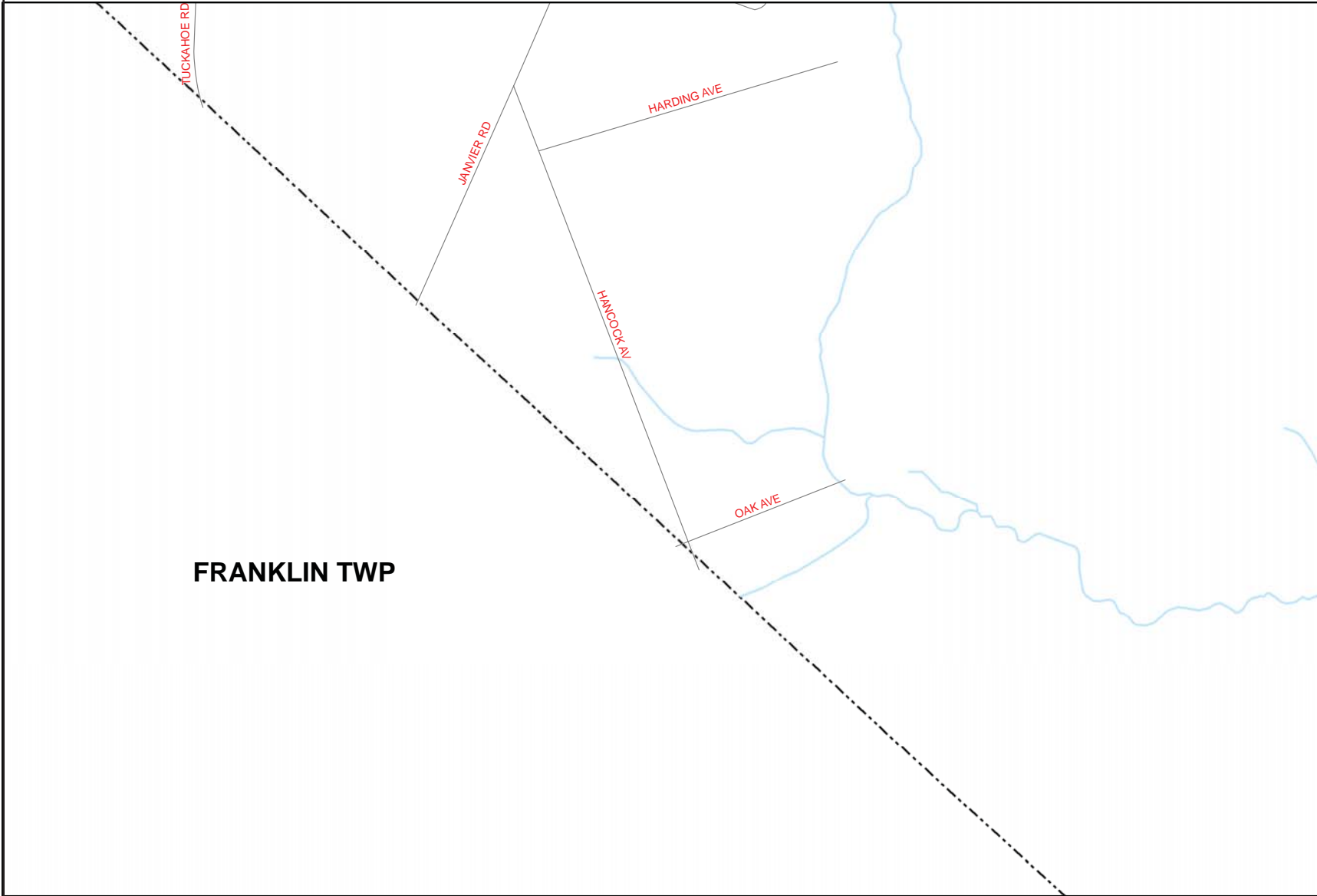
SIDEWALK STUDY

Project No.: MT 03015

Date: June 2005

Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 20 of 35

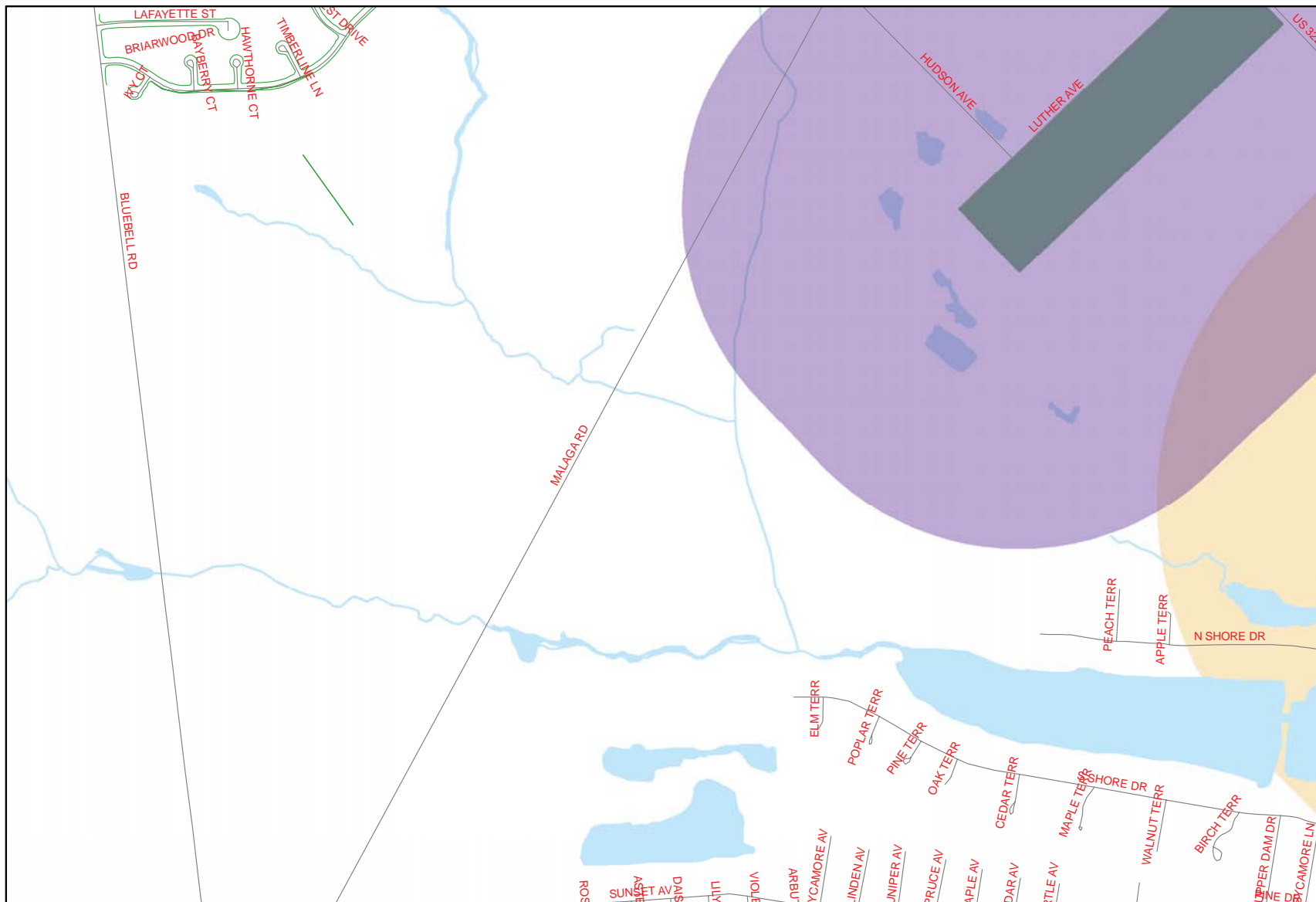


melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT-03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 21 of 35



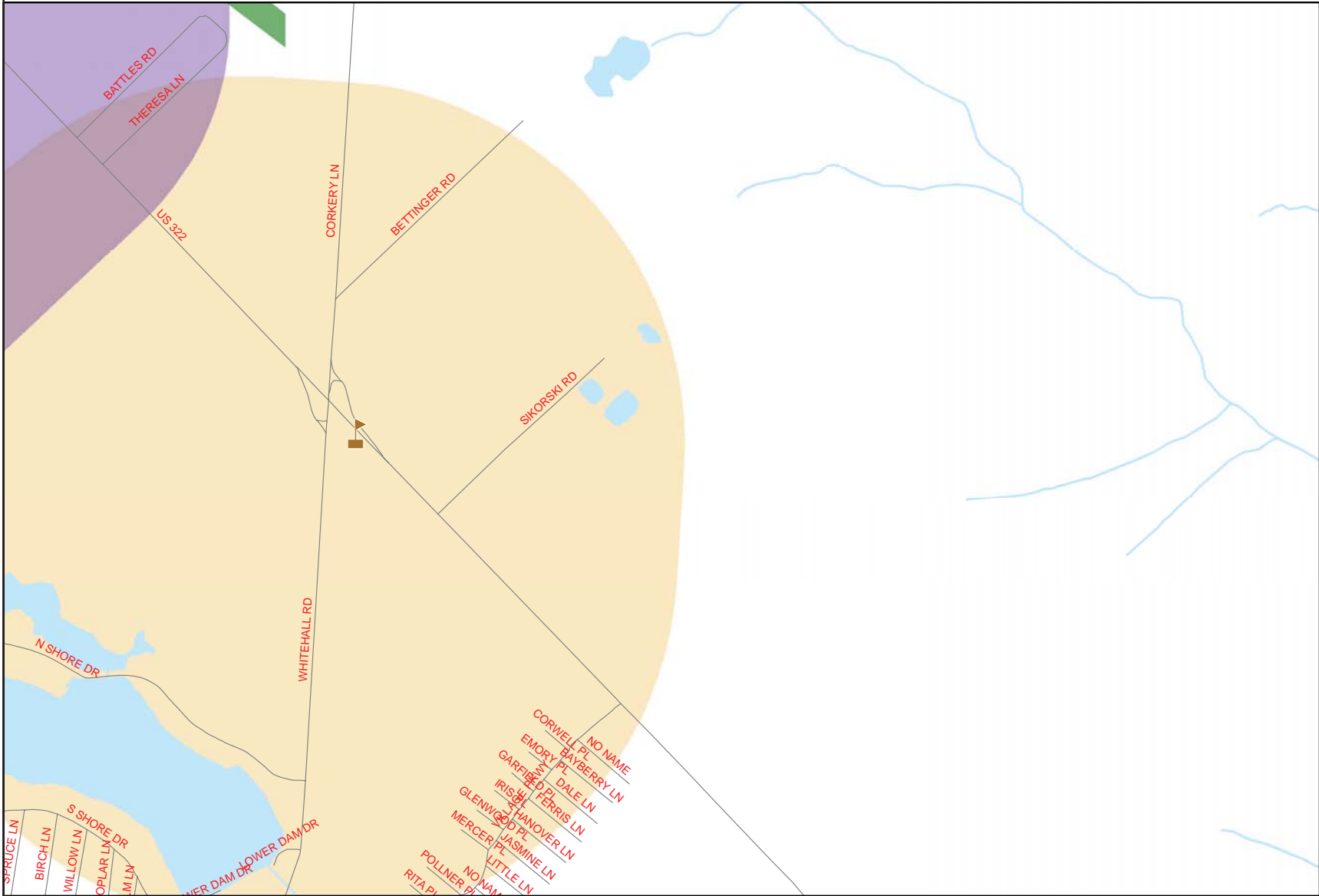
melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

APPENDIX B - GPS SURVEY



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY

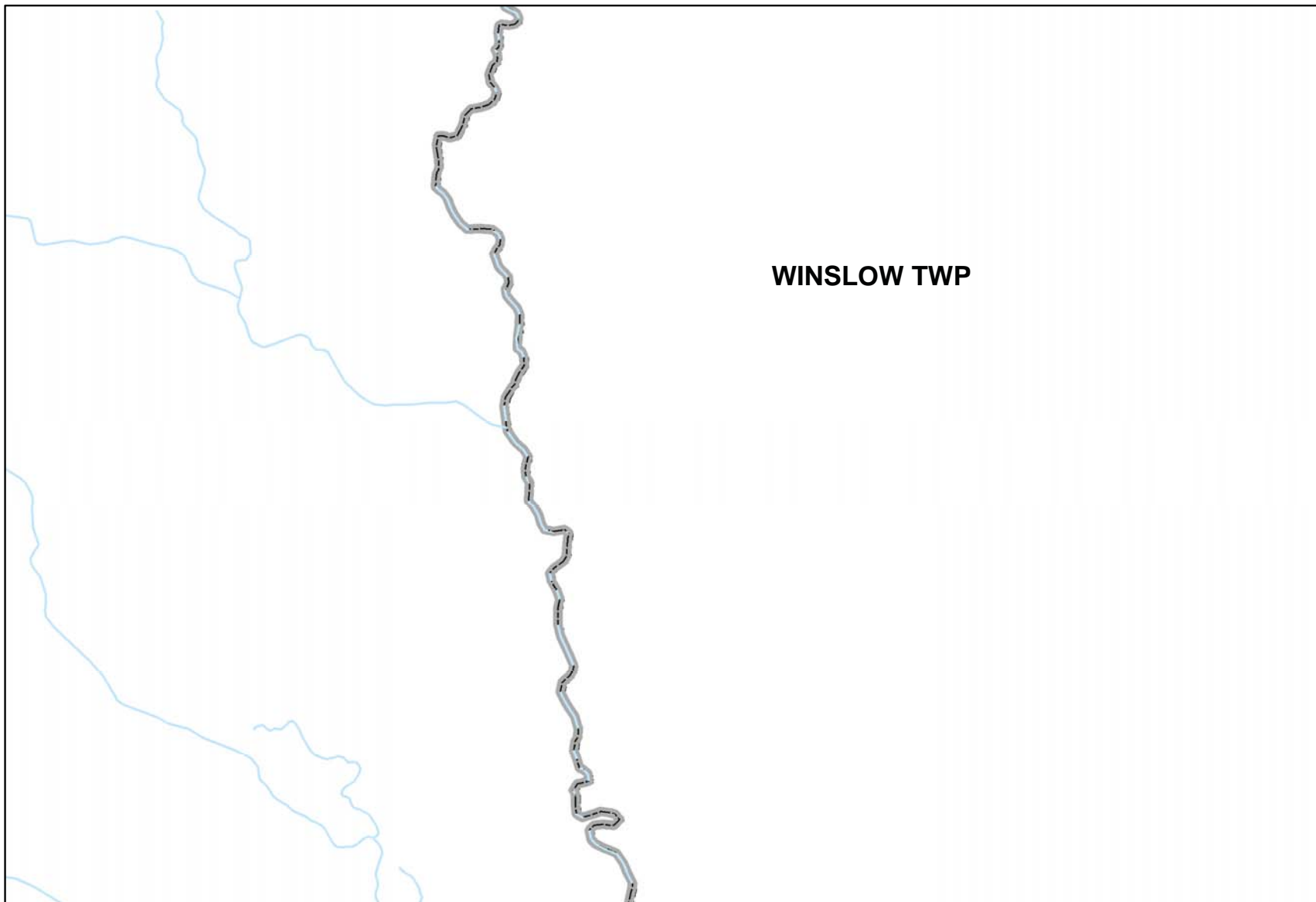
Sheet 22 of 35



melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW
Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



WINSLOW TWP

Legend

Sidewalk Condition

- Pass
- Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 23 of 35









melvin|kernan
development strategies



SIDEWALK STUDY
 Project No.: MT 03015
 Date: June 2005
 Drawn By: MW
 Source: Monroe Tax Assessor,
 GPS Survey
 This plan was developed using NJ DEP GIS
 data, but this secondary product has not been
 verified by NJDEP and is not state authorized

FRANKLIN TWP

Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
-  Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
-  School
-  Library
-  Police Station - Town Hall
-  Community Center
-  Parks & Recreation

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY



melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

School

Library

Police Station - Town Hall

Community Center

Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 25 Of 35



melvin kerner
development strategies



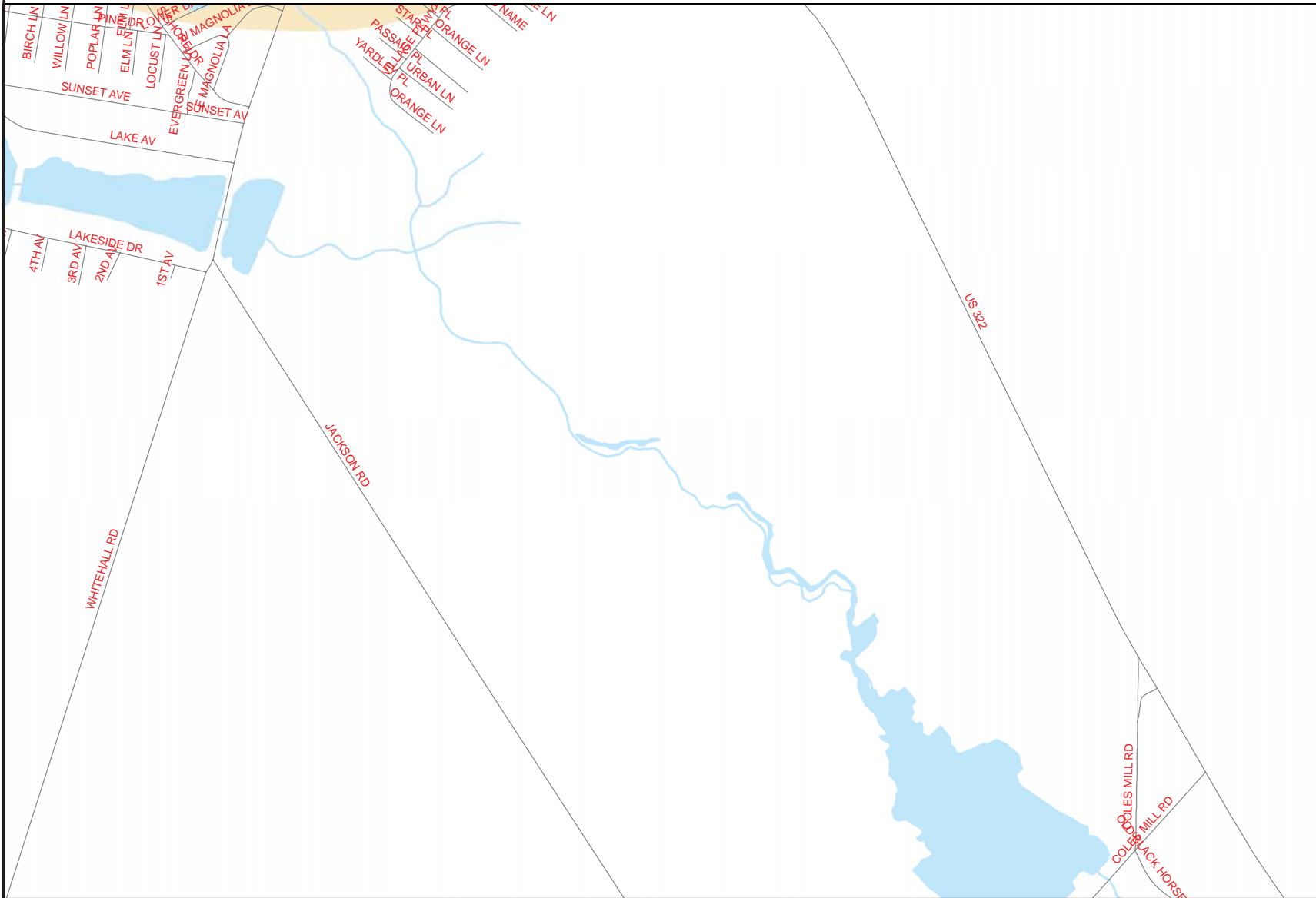
SIDEWALK STUDY

Project No.: MT 03015

Date: June 2005

Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 26 of 35

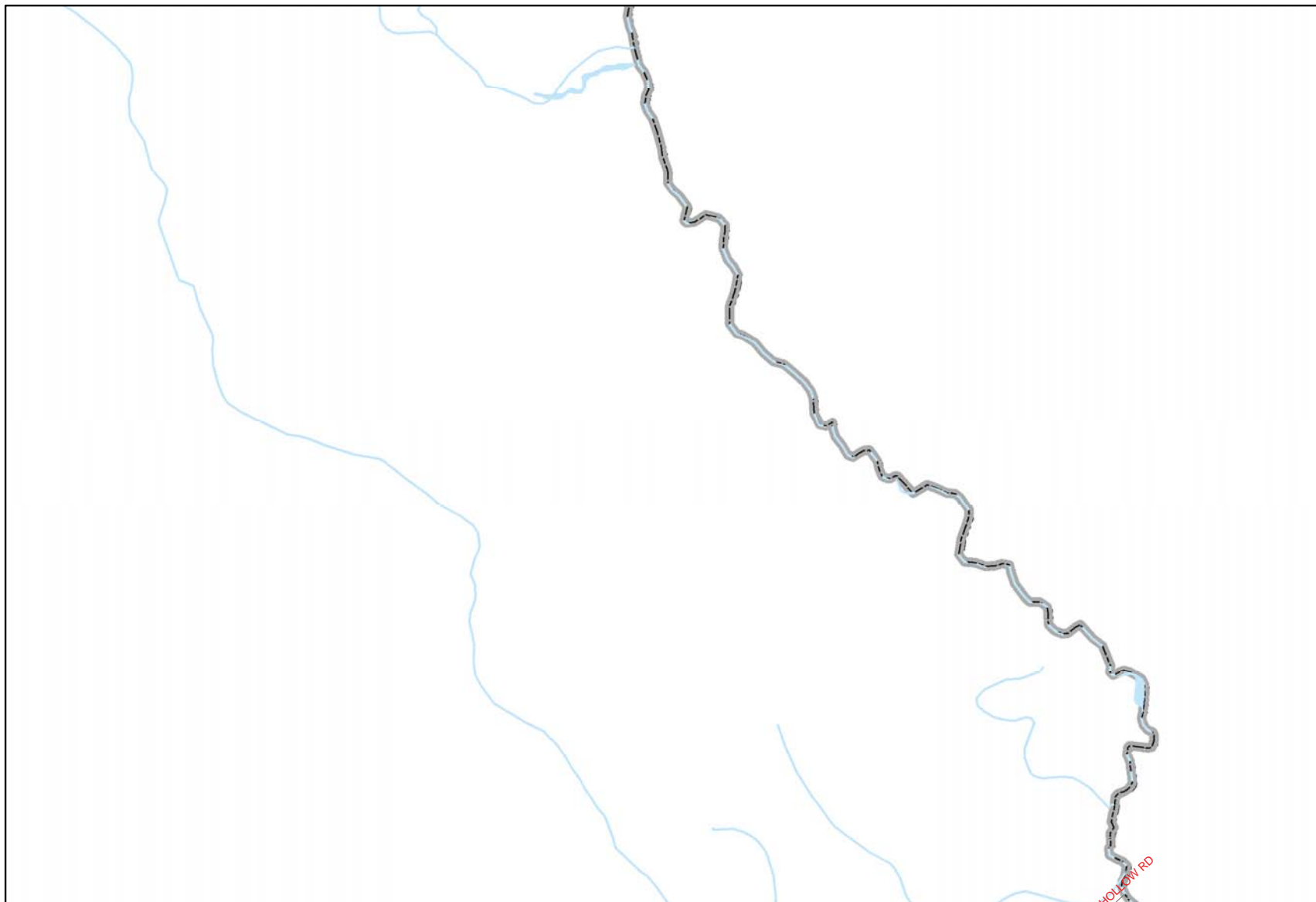


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

- Pass
- Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 27 of 35



melvin|kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized

FRANKLIN TWP

COLES MILL RD

WHITEHALL RD
WHITEHALL RD

Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY

Sheet 28 of 35

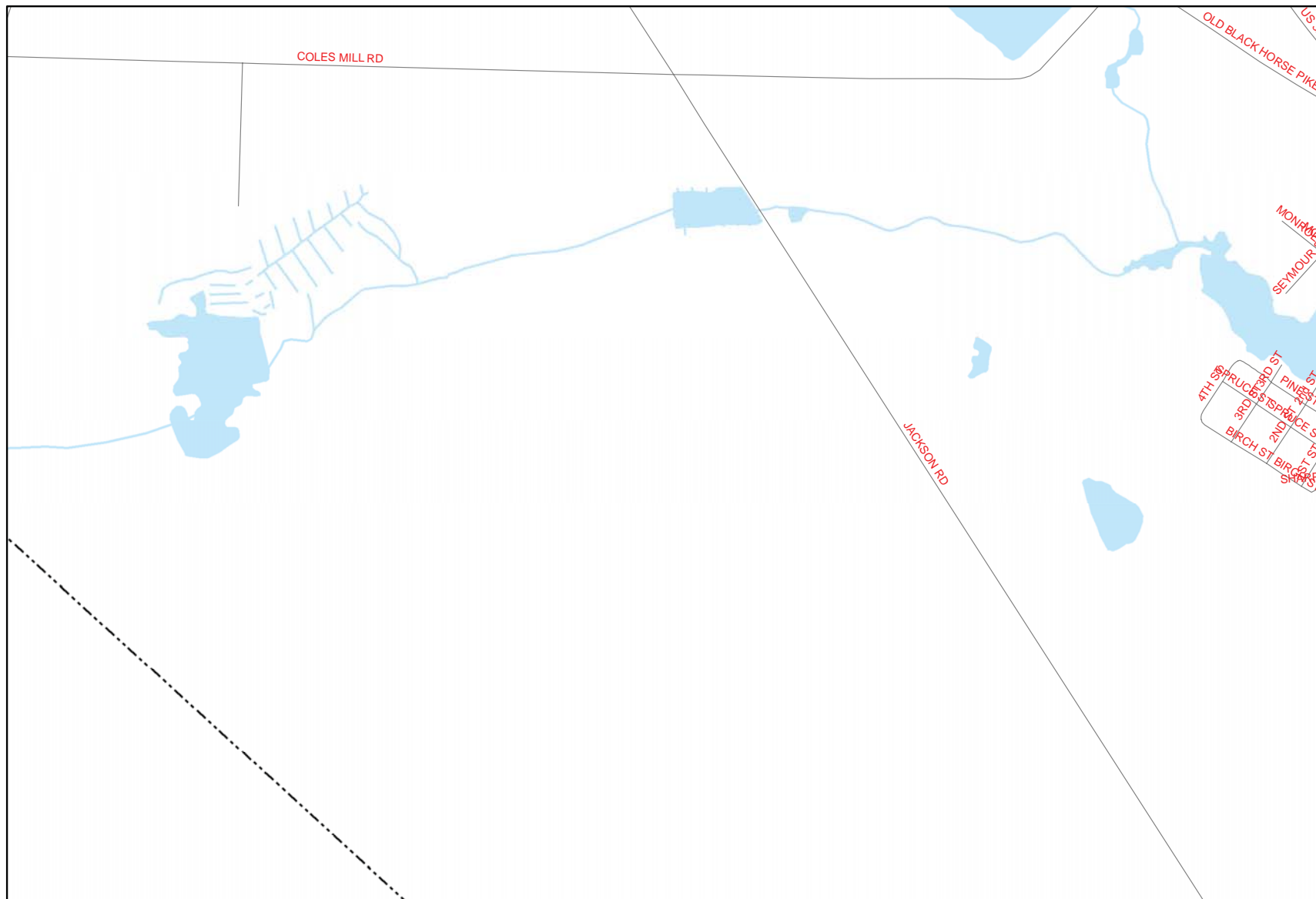


melvinkernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

School

Library

Police Station - Town Hall

Community Center

Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 29 of 35



melvin kerner
development strategies



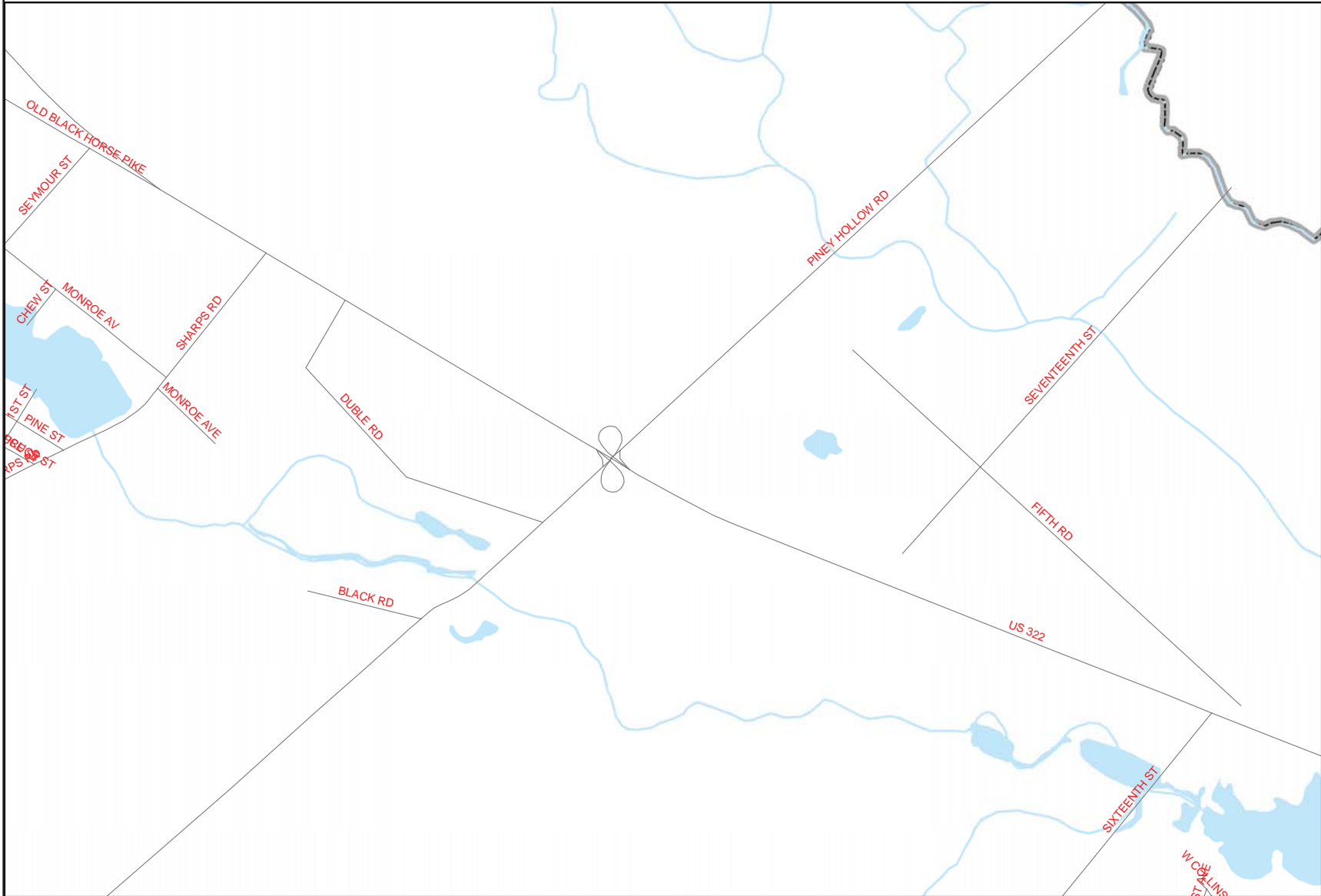
SIDEWALK STUDY

Project No.: MT 03015

Date: June 2005

Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

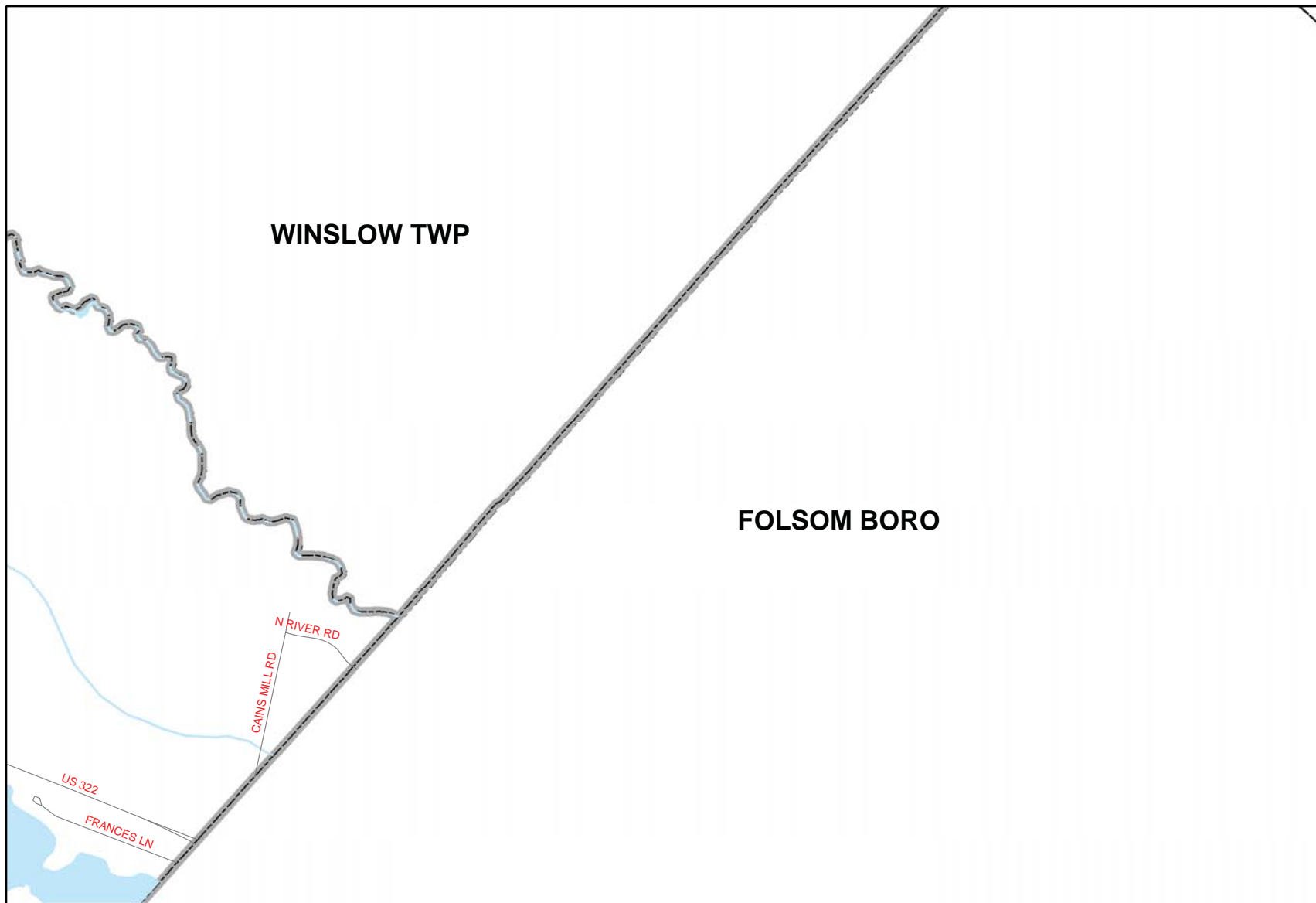
Sheet 30 of 35



melvinkernan
development strategies



SIDEWALK STUDY
 Project No.: MT 03015
 Date: June 2005
 Drawn By: MW
 Source: Monroe Tax Assessor,
 GPS Survey
 This plan was developed using NJ DEP GIS
 data, but this secondary product has not been
 verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

Pass

Fail

ADA Ramp

Bike Path

Commercial Nodes - 2000 Foot Buffer

Municipal Nodes - 10 Minute Walk Buffer

Park Nodes - 2000 Foot Buffer

School

Library

Police Station - Town Hall

Community Center

Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 31 of 35



melvin kerner
development strategies



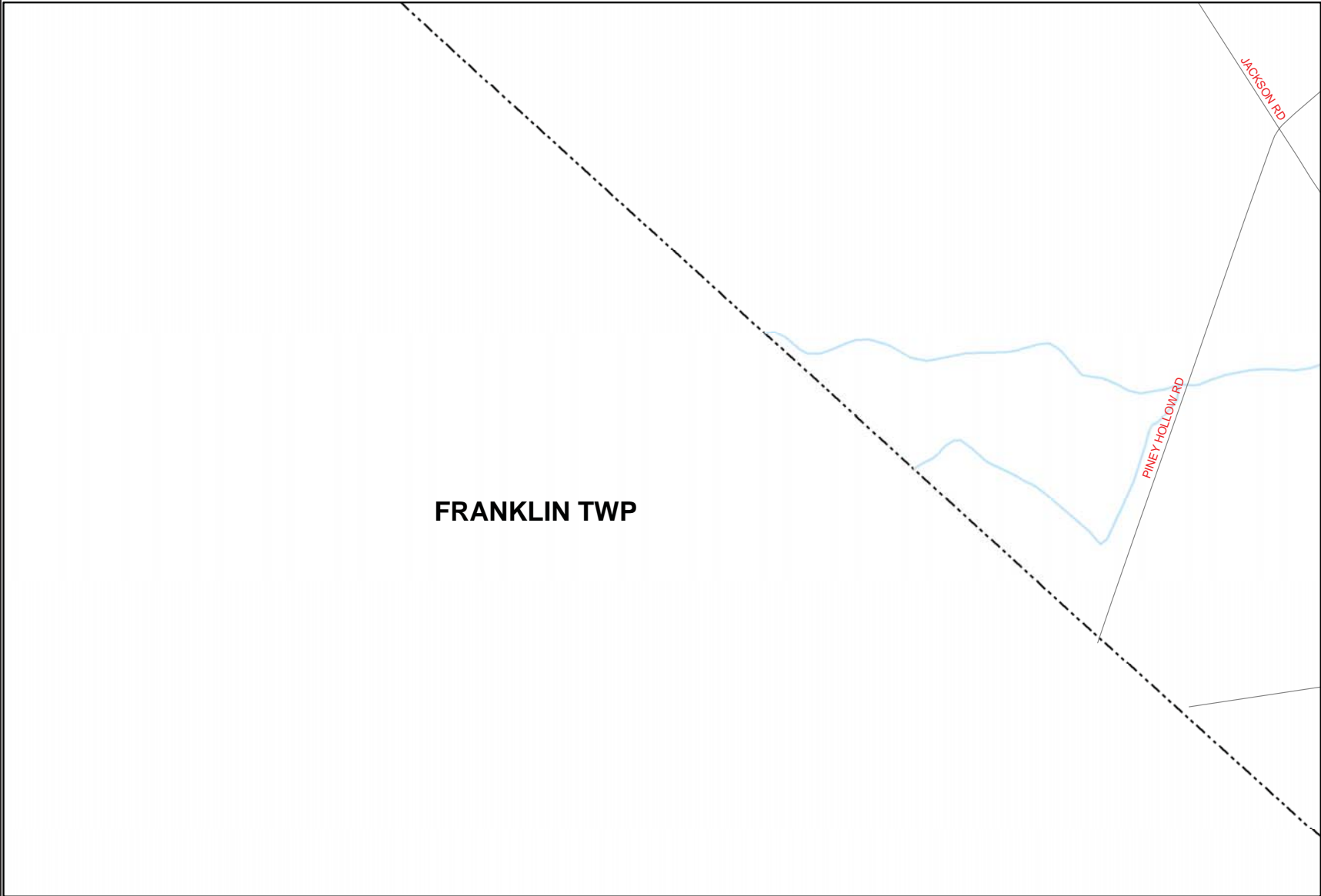
SIDEWALK STUDY

Project No.: MT 03015

Date: June 2005

Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 32 of 35

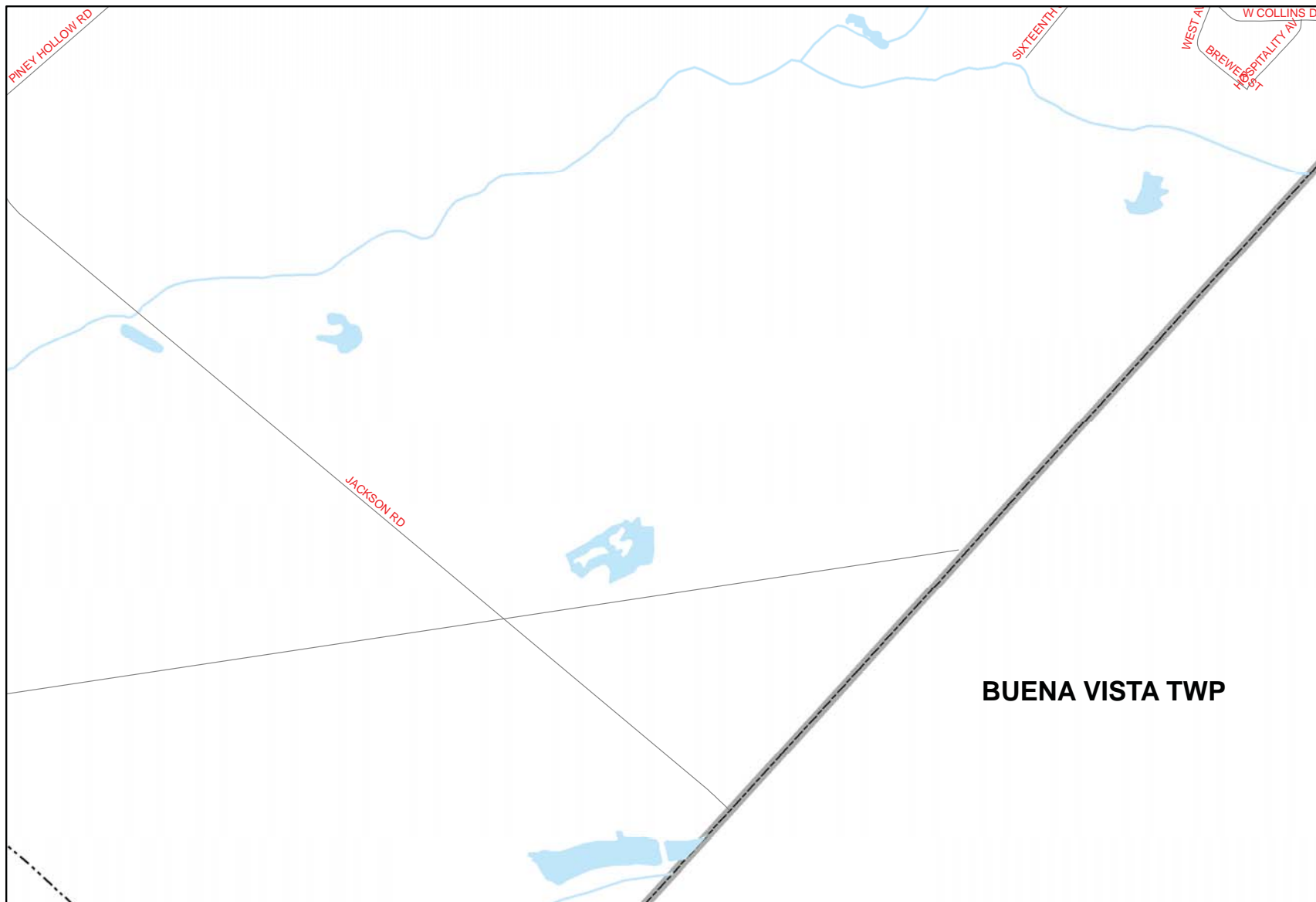


melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

- Pass
- Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 33 of 35

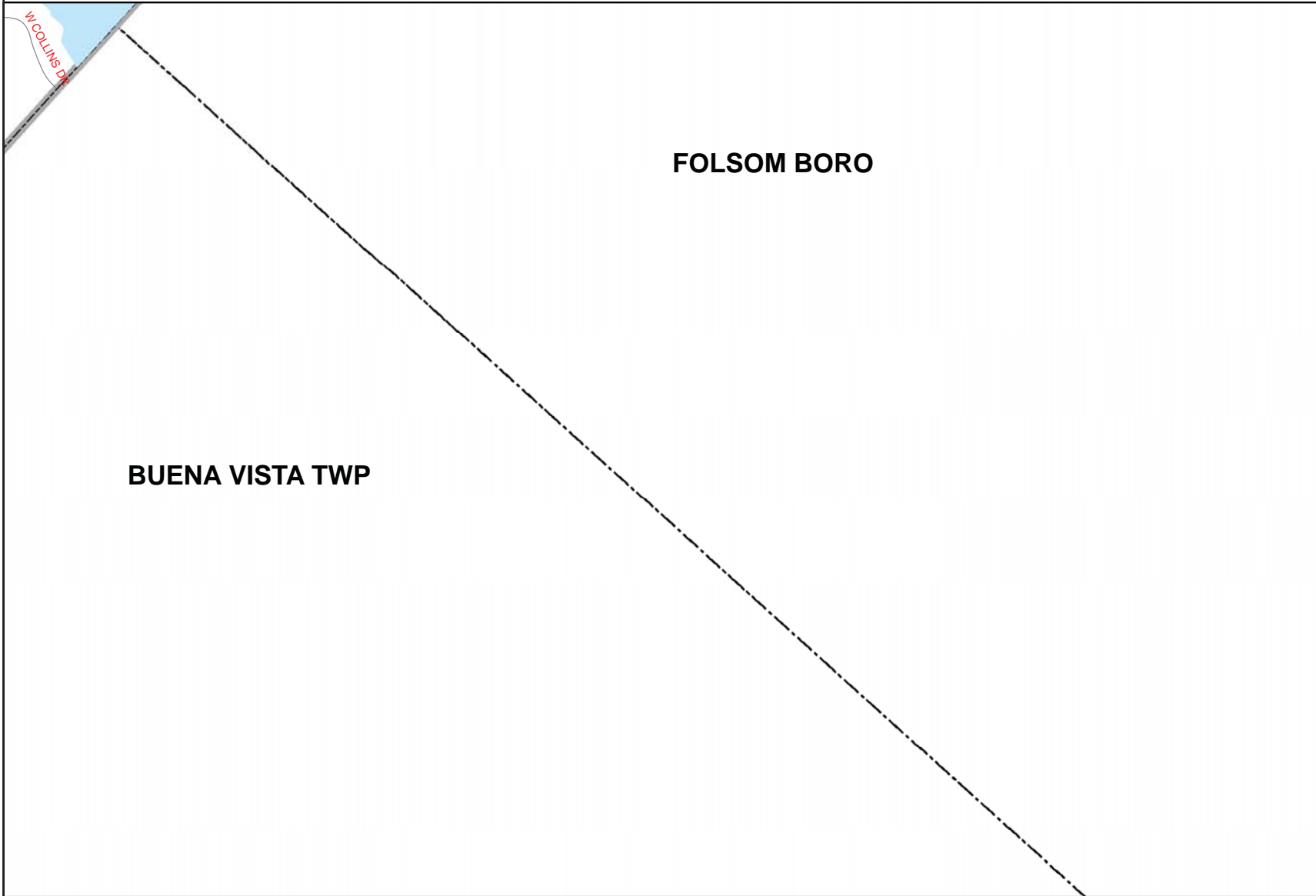


melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

- Sidewalk Condition
 - Pass
 - Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

**MONROE TOWNSHIP
GLOUCESTER COUNTY
NEW JERSEY**

Sheet 34 of 35

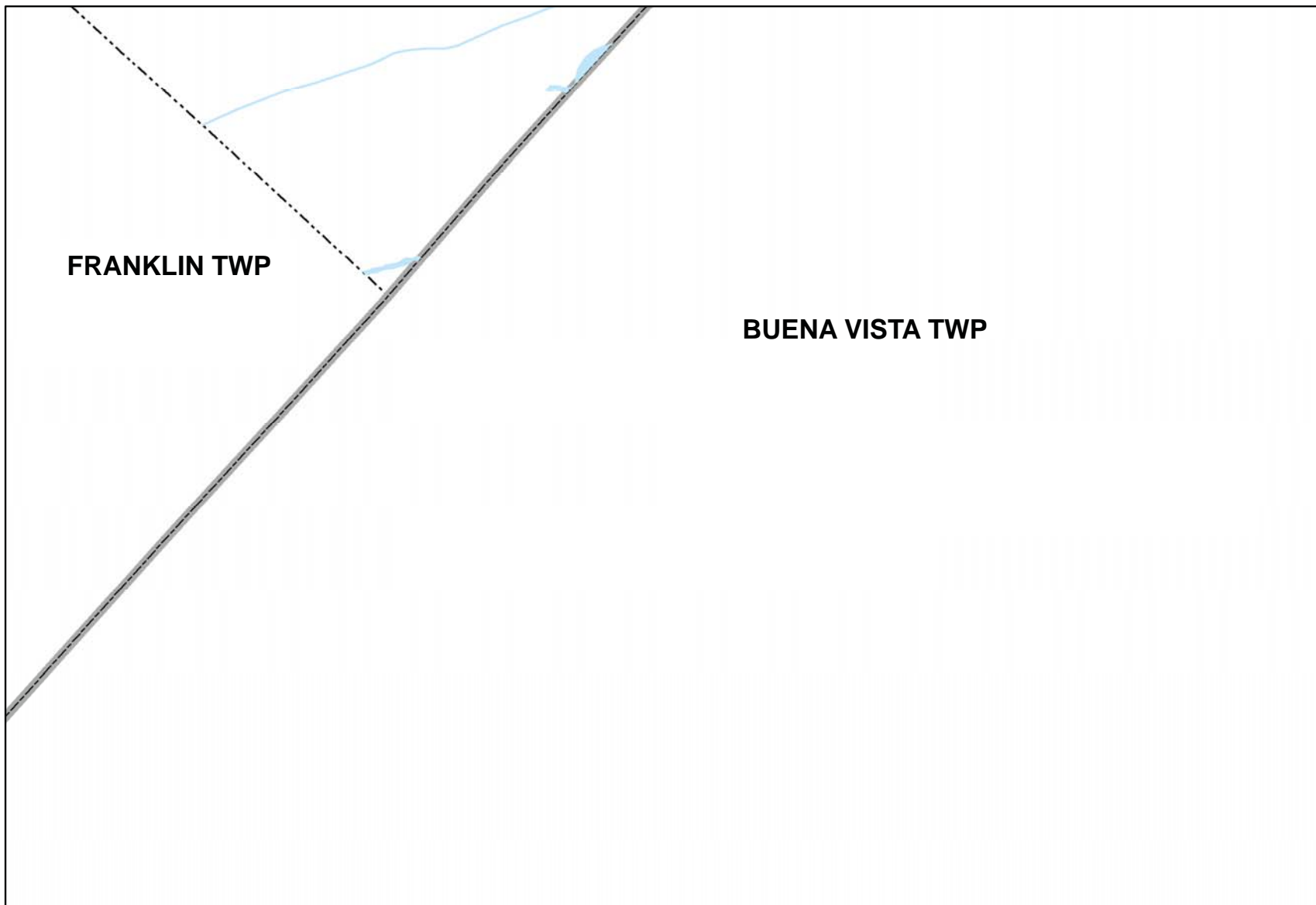


melvin kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized



Legend

Sidewalk Condition

- Pass
- Fail
- ADA Ramp
- Bike Path
- Commercial Nodes - 2000 Foot Buffer
- Municipal Nodes - 10 Minute Walk Buffer
- Park Nodes - 2000 Foot Buffer
- School
- Library
- Police Station - Town Hall
- Community Center
- Parks & Recreation

MONROE TOWNSHIP GLOUCESTER COUNTY NEW JERSEY

Sheet 35 of 35



melvin|kernan
development strategies



SIDEWALK STUDY
Project No.: MT 03015
Date: June 2005
Drawn By: MW

Source: Monroe Tax Assessor,
GPS Survey
This plan was developed using NJ DEP GIS
data, but this secondary product has not been
verified by NJDEP and is not state authorized