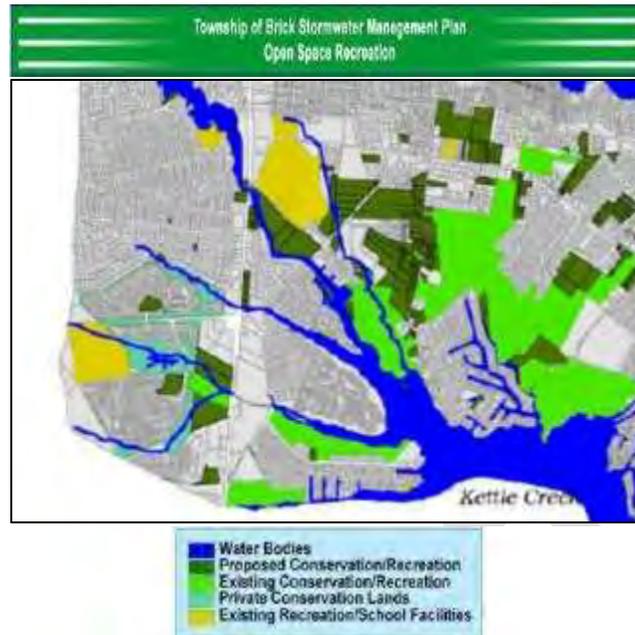




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Map 23: Open Space and Recreation Map of Princeton-Midstreams (Brick Township Master Plan, 2007)

Most, but not all, of the properties are listed on the State of New Jersey Department of Environmental Protection Green Acres Program ROSI Database. The following public parks and open spaces serve an important function and are valuable assets to the neighborhood:

BAY HARBOR PARK

Along Bay Way in Bay Harbor Estates. Off-street parking (indeterminate spaces), playground, swing set, beach (possible boat launch), no swimming

RECONSTRUCTED 2015: stone dust pedestrian walk, picnic table, park benches. Supports fishing, crabbing, kayak/stand up paddleboard launch



Figure 45: Brick Township, Oct. 8, 2015



Figure 46: Another view of Bay Harbor Park

Bay Harbor Park suffered significant damage in the wake of Superstorm Sandy. The completed project includes the installation of 200 linear feet of vinyl bulkhead, 2,000 cubic yards of sand, and 300 cubic yards of stone revetment along with a stone dust pedestrian walk, picnic table and park benches. The project improves the separation of the gravel parking lot and pedestrian area with wood guard rail.

“The result is a beautiful area for fishing, crabbing and an ideal spot for kayak or stand up paddleboard launch,” said Mayor Ducey.



Figure 47: Aerial view



Map 24: Tax Map view

CHERRY QUAY PARK/EDMUND H. HIBBARD PARK

Cherry Quay Park, also known as Edmund H. Hibbard Park, is located on Cherry Quay Road with an additional entrance on Tiller Lane in Cherry Quay. The park is the largest in the Cherry Quay-Bay Harbor neighborhood and includes six baseball/softball fields, playground, benches, walking path, about 347 parking spaces. Possible restroom/concessions



LAKE RIVIERA PARK

Currently undergoing reconstruction. Will include two playgrounds, basketball court, walking trail. Currently includes about 40 parking spaces, gazebo, playground

MALLARD POINT PARK

Off Tunes Brook Drive, passive/active recreation, picnic tables, beach, playground, swings, benches, boat ramp, volleyball net, dock, possible on-street parking. Some marsh vegetation

The Township owns and maintains the park and provides opportunities for both active and passive recreation, as well as free seasonal events, such as Summerfest with concerts and fireworks. Amenities include a beach area for swimming, a pier for fishing and crabbing, playgrounds, bocce, volleyball, and horseshoe courts, open fields, water fountains, restroom facilities, and two large parking lots.

In addition to providing public access and recreational opportunities, the remaining natural and permeable areas within the park along the waterfront also serve to absorb water during storm surge and high flood levels and prevents nearby areas from flooding as drastically than if it were developed.

DRUM POINT SPORTS COMPLEX

The park supports both active and passive recreation with a playground, swings, fields, basketball courts, and picnic tables. There are also about 18 parking stalls in the central lot, although there is also on-street parking available in the vicinity.

OPEN SPACE & PRESERVATION/CONSERVATION AREAS

There are many Township-owned properties that are listed as conservation lands or wetlands, but are not properly marked or posted on the property, nor provide public access amenities. Limiting foot traffic in certain sensitive natural areas may be necessary, but signs should be posted to notify the public. On the other hand, providing public access in existing and proposed conservation areas increases the incentive to retain the land as conservation/recreation space, as well as encourages public and environmental health, and increases opportunities to teach the public about the impact of development on the ecosystem.

OPEN SPACE & PRESERVATION/CONSERVATION AREAS

Cherry Quay-Bay Harbor also contains an abundance of conservation lands and wetlands, which are protected, as shown in [Map 23](#) above and **Error! Reference source not found. Error! Reference source not found.** below. Preserved/Conservation lands include:

EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE

The Forsythe Wildlife Refuge comprises most of the wetlands along the northeast and west sides of the Cherry Quay sub-neighborhood. The wetlands separate Cherry Quay from Sailor's Quay and Shore Acres. These are valuable natural lands of national significance and the park extends over much of the eastern portion of Brick Township and Barnegat Bay.



Figure 48: Part of Forsythe Wildlife Refuge wetlands as seen from Holly Ave., Mandalay Park (Google Streetview)

OTHER NEIGHBORHOOD DESTINATIONS

Other than the public parks and conservation/preservation spaces already listed above, there are only a few other destinations within the boundaries of the Cherry Quay-Bay Harbor neighborhood, which include private facilities. However, there are several destinations in the immediate vicinity, primarily of private commercial nature, but also professional and institutional destinations. These include grocery stores, gas stations, national banks, offices, churches, and big box retail stores, among other regional destinations.

Most of the businesses are highway or general commercial serving a large regional community. Marinas occupy a unique category bordering recreational and commercial and are most often private.



The following neighborhood destinations around Cherry Quay-Bay Harbor are listed by their location.

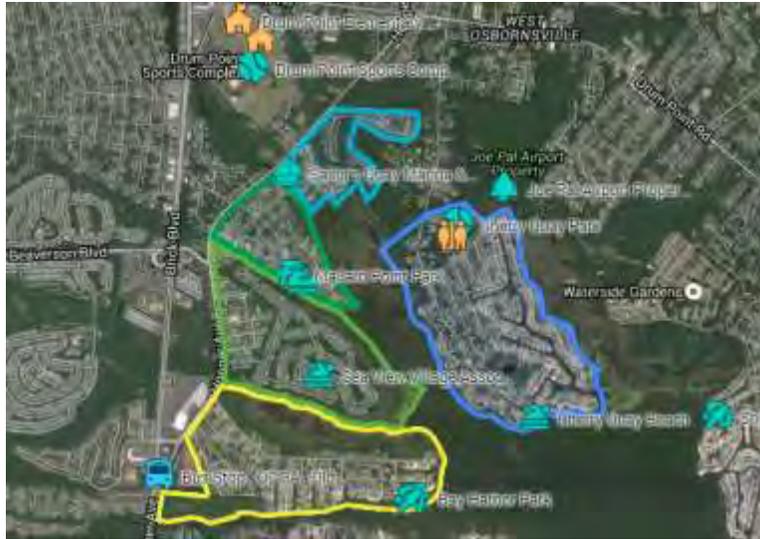


Figure 49: Neighborhood Destinations by Sub-Neighborhood

1. Sailor’s Quay Marina & Pool
2. Seaview Village Association

A private Association clubhouse at the corner of Jetty Court and Seaview Ave in Seaview Village. Includes active and passive recreation with a swimming pool, picnic tables, bocceball or shuffleboard, community center, approximately 44 off street parking spaces.

3. Cherry Quay Beach

Cherry Quay Beach is a private beach in the Cherry Quay sub-neighborhood, owned and maintained by the Cherry Quay Community Association. It is located on Block 324.08, Lot 10.

Along Captains Drive in Cherry Quay section. Passive/active rec. Swingset, playground, picnic tables, beach access, shelter, possible small craft launch, minor vegetation/scrub



Figure 50: Entrance to Cherry Quay Beach on Captains Ct., Cherry Quay (Google Streetview)



Figure 51: Township Tax Map with Cherry Quay Beach

4. Shopping Center

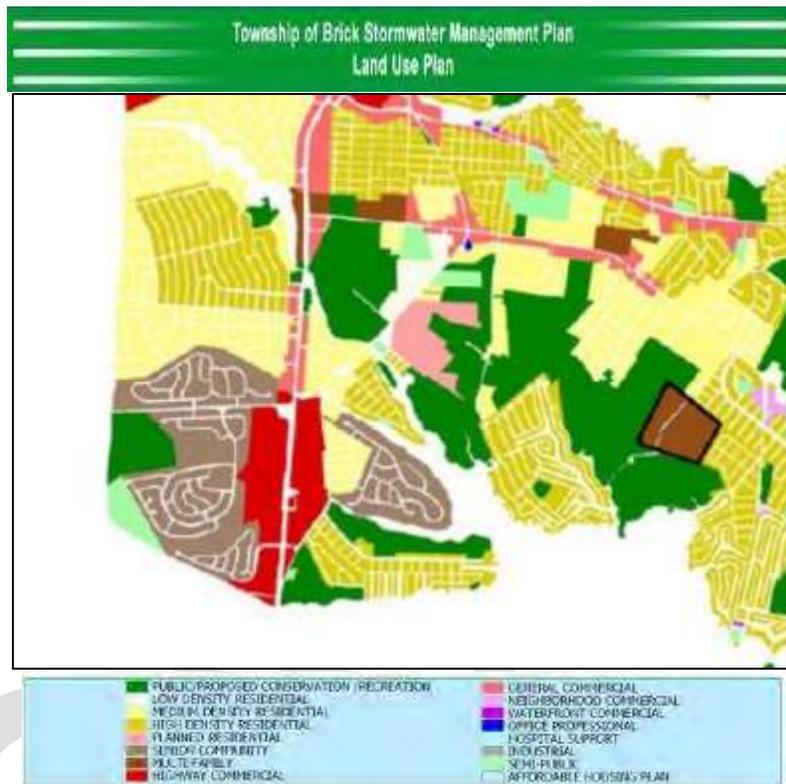
Across Bay Harbor Estates between Hooper Avenue and Brick Boulevard is a large shopping center with a Stop & Shop grocery store, M&T Bank, Burlington Coat Factory, Aaron's, PNC Bank, Baby Depot, AC Moore Arts and Crafts, et cetera. There is also a bus shelter in the front of the plaza on Brick Boulevard where the Ocean County 3A Bus also stops.

DRAFT



ZONING ANALYSIS

The majority of the neighborhood falls within a High Density Residential area or Public/Proposed Conservation/Recreation areas. However, the developed part of Waterside Gardens is Multi-Family, and there are a few small areas with Semi-Public parcels, Waterfront Commercial, and Neighborhood Commercial properties, as shown in the Township Land Use Plan on [Map 25](#) below.



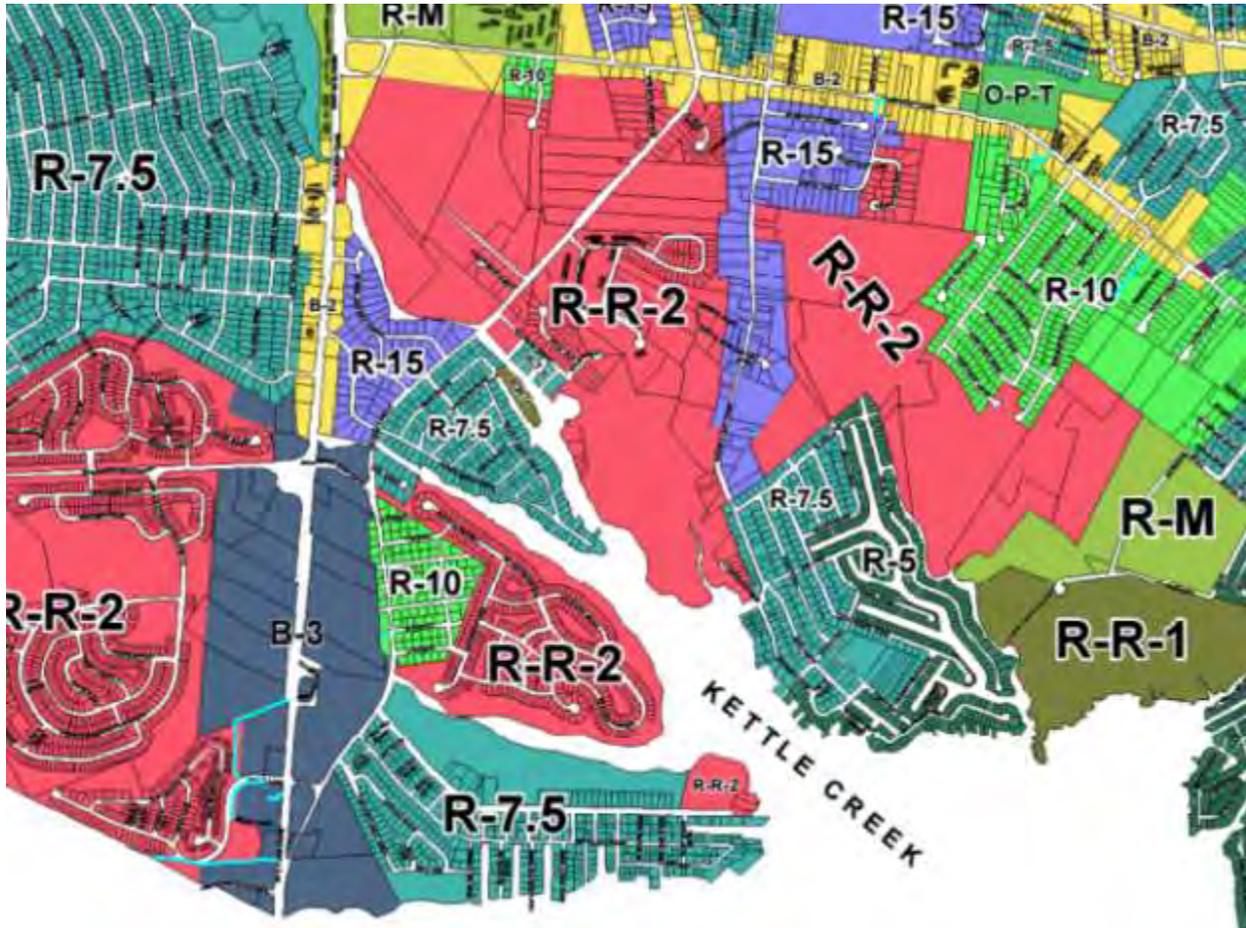
Map 25: Land Use Plan for Cherry Quay-Bay Harbor

The Township Zoning Map breaks down the land uses further to better define what types of uses are permitted in each area. As shown on [Map 26](#), there are six different zones in the Cherry Quay-Bay Harbor neighborhood – three of which constitute “High Density Residential”. These zones are divided in a similar way to the distinct sub-neighborhoods, following nearly the same boundaries.

The R-5 and R-7.5 Residential Zones cover much of the developed area of the neighborhood and includes the majority of Baywood, Cherry Quay-Bay Harbor, and Seawood Harbor. The other zones include R-10 (Single-Family Residential Zone), R-M (Multifamily Residential Zone), R-R-1 (Rural Residential Zone), and B-1 (Neighborhood Business Zone) and are all described further in this section, referring to Chapter 245: Land Use in the Township Code. R-5, R-7.5, and R-10 have the same permitted uses. This Neighborhood



Plan focuses on design standards and some suggested alterations to the uses and zoning map of the neighborhood.



Map 26: Cherry Quay-Bay Harbor Zoning Map

B-2 (GENERAL BUSINESS ZONE)

The following are permitted uses in the B-2 Zone (per Section 245-214):

- A. The retail sale of goods, as listed in the ordinance.
- B. Personal services establishments, as listed in the ordinance.
- C. Shops of a plumber, electrician, carpenter, printer, painter or similar tradesman.
- D. Boat sales and showrooms not in conjunction with a marina, provided that the standards and conditions in the ordinance are complied with.
- E. Adult day-care centers.
- F. Studios for such activities as aerobics, fitness and personal training, domestic animal training, martial arts, dance, music and art; health and fitness facilities; and indoor batting cages and



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indoor basketball courts shall be considered permitted uses and not conditional uses subject to the requirements of § 245-286.

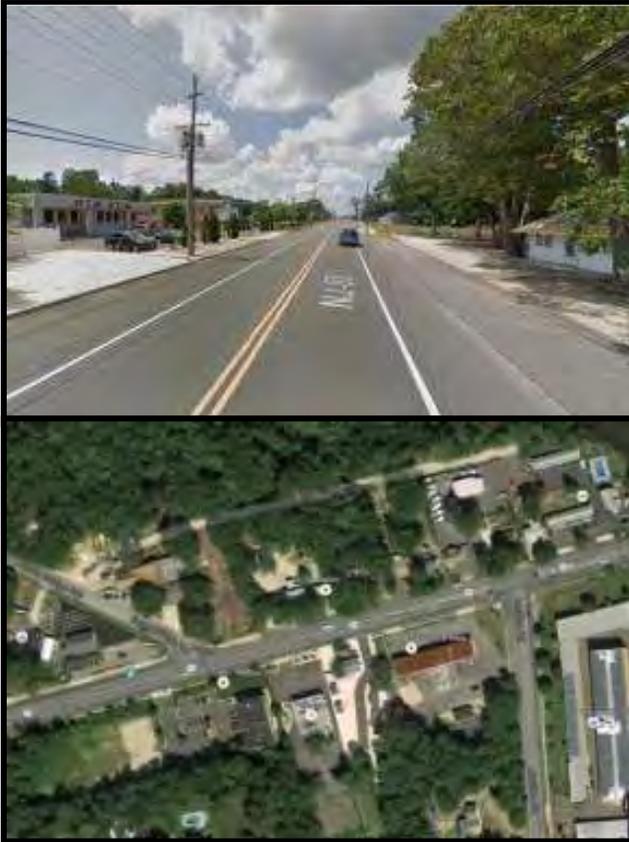


Figure 52: Typical B-2 General Commercial development
(Google Streetview/Maps)

- C. Automobile sales and/or rental facilities listed as a conditional use pursuant to § 245-289.
- D. Places of assembly, parish houses, convents and cemeteries.
- E. Scattered-site affordable housing units.

G. Municipal buildings, volunteer first-aid buildings and firehouses.

H. Public libraries.

I. Taxicab and limousine services.

J. The aforesaid permitted uses may be located in attached structures using common facilities which may be planned, developed and managed as a unit and in an enclosed building or buildings and utilizing such common facilities as customer parking areas, pedestrian walkways, truck loading and unloading space and utilities and sanitary facilities.

Permitted accessory uses shall be accessory uses as defined in Part 1 of this chapter.

The following uses are defined as conditional uses and may be permitted subject to the requirements as set forth in Article XXXII, § 245-279 et seq.:

A. Utility installations, provided that the requirements of Article XXXII are met.

B. Commercial recreation, provided that the requirements of § 245-286 are met.



Table 5: Schedule of Area, Yard and Building Requirements for Zone B-2 (from Township of Brick §245 Attachment 5)

Zone		B-2	
Minimum Lot Size	Interior Lots	Area (sf)	20,000
		Width (ft)	125
		Depth (ft)	125
	Corner Lots	Area (sf)	20,000
		Width (ft)	125
		Depth (ft)	125
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	50
		Side Yard, Each (ft)	10
		Aggregate Side (ft)	-
		Rear Yard (ft)	50
	Accessory	Side Yard (ft)	10
		Rear Yard (ft)	50
Maximum Lot Coverage by Building		30%*	
Maximum Building Height	Stories	2	
	Eaves (ft)	-	
	Feet	35	
	Ridge (ft)	38.5	
Minimum Floor/Building Area (square feet) 2 stories/1 story		2,000	
Maximum Allowable Impervious Coverage		65%	

*The maximum lot coverage shall refer only to that percentage of an affected lot which is suitable for building.



B-3 (HIGHWAY DEVELOPMENT ZONE)

The following are permitted uses in the B-3 Zone (per Section 245-224):

A. Commercial and office complex uses, such as:

1. Retail stores, shops and markets, provided it meet the requirements in the ordinance.
2. Personal service establishments, such as barber and beauty shops, tailoring and dressmaking shops and dry-cleaning and laundry collection shops, provided that no more than 1/3 of the floor space is utilized for processing and self-service laundries, provided that public sewerage facilities are available, and appliance repair shops.
3. Business and professional offices, banks and fiduciary institutions.
4. Restaurants and lunchrooms, bars and other eating and drinking establishments.
5. (Reserved)
6. Studios for such activities as aerobics, fitness and personal training, domestic animal training, martial arts, dance, music and art, health and fitness facilities, and indoor batting cages and indoor basketball courts shall be considered permitted uses and not conditional uses subject to the requirements of § 245-286.
7. Telephone exchanges and offices, telegraph and express offices and other public utility installations.
8. Commercial parking lots for private passenger vehicles.
9. Private schools conducted for profit but excluding public schools or private schools not conducted for profit.
10. Mortuaries.
11. Distribution centers. The sale of goods in bulk or wholesale quantities may be conducted in conjunction with retail operations in the B-3 Zone, provided that it meet the requirements in the ordinance.
12. Taxicab and limousine services.

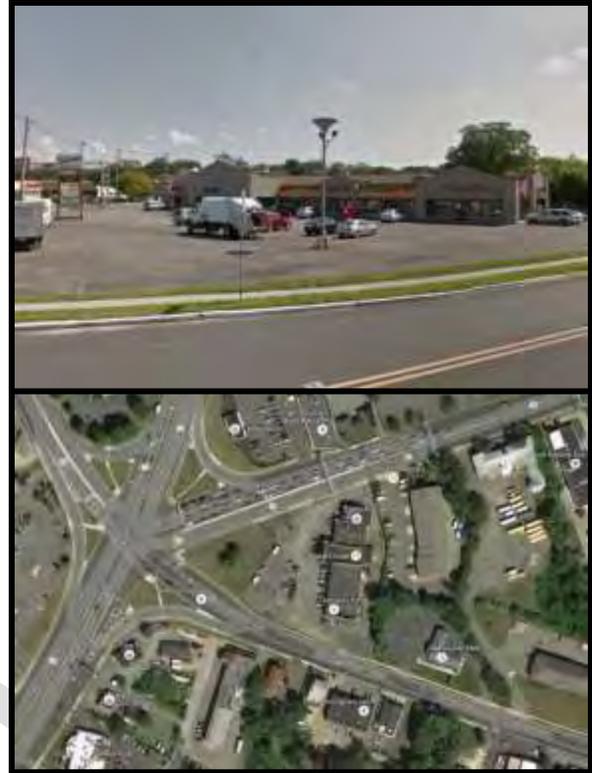


Figure 52: Typical B-3 Highway Commercial development
(Google Streetview/Maps)



- B. (Reserved)
- C. Municipal parks, playgrounds and other municipal buildings and uses as are deemed appropriate and necessary by the Township Council.
- D. Boat sales and showrooms not in conjunction with a marina may be permitted, provided that they comply with the standards and conditions in the ordinance.
- E. (Reserved)
- F. Long- and short-term care medical facilities.
- G. Municipal buildings, volunteer first-aid buildings and firehouses.
- H. Public libraries.

Permitted accessory uses shall be accessory uses as defined in Part 1 of this chapter.

The following uses are defined as conditional uses and may be permitted subject to the requirements as set forth in Article XXXII, § 245-279 et seq.:

- A. Utility installations, provided that the requirements of Article XXXII are met.
- B. Gasoline filling stations, gasoline service stations, general auto repair and convenience stores, but excluding body repair, and provided that the requirements of Article XXXII, § 245-284 are met.
- C. Automobile sales and/or rental facilities, provided that the conditions of § 245-289 are met.
- D. Hotels, provided that the conditions of Article XXXII, § 245-288, are met.
- E. Shopping centers, provided the conditions of Article XXXII are met.
- F. (Reserved)
- G. Commercial recreation, provided that the requirements of § 245-286 are met.
- H. Miniwarehouses, provided that the conditions of Article XXXII are met.

Table 6: Schedule of Area, Yard and Building Requirements for Zone B-3 (from Township of Brick §245 Attachment 5)

Zone		B-3	
Minimum Lot Size	Interior Lots	Area (sf)	2 acres
		Width (ft)	200
		Depth (ft)	200
	Corner Lots	Area (sf)	2 acres
		Width (ft)	200
		Depth (ft)	200
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	75
		Side Yard, Each (ft)	30
		Aggregate Side (ft)	-
		Rear Yard (ft)	50
	Accessory	Side Yard (ft)	20
		Rear Yard (ft)	50



Maximum Lot Coverage by Building		25%*
Maximum Building Height	Stories	-
	Eaves (ft)	-
	Feet	35
	Ridge (ft)	38.5
Minimum Floor/Building Area (square feet) 2 stories/1 story		2,000
Maximum Allowable Impervious Coverage		65%

*The maximum lot coverage shall refer only to that percentage of an affected lot which is suitable for building.

R-5 & R-7.5 (SINGLE-FAMILY RESIDENTIAL ZONES)

Permitted uses in the R-5 and R-7.5 zones are the same as those zoned for the R-20 Residential zone (§245-112). The permitted uses are as follows:

- A. One-family dwellings
- B. Municipal parks, playgrounds, and other municipal buildings and uses as are deemed appropriate and established by the Township Council. The minimum land area shall not be less than 1/2 acre.
- C. Other public buildings of a governmental or cultural nature.
- D. Volunteer first aid buildings and firehouses.
- E. Public libraries.

The following are permitted as accessory uses (as per R-20 zone):

- A. Private garage space for the storage of motor vehicles.
- B. Accessory uses as defined in Part 1 of this chapter

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- A. Scattered-site single-family detached affordable housing units
- B. Public schools and private schools which are not conducted as a business
- C. Places of assembly, parish houses, convents and cemeteries

- D. Creation of beach cottage community conditional use for structural alteration or rebuilding of these residential buildings only on the following properties; Block 25, Lot 4, Block 26, Lot 4, and Block 36, Lots 12, 13, 24, and 28.



Figure 53: Left - Typical R-5 development, Cherry Quay; Right – Typical R-7.5 development, Bay Harbor (Google Maps/Streetview)

The bulk standards for both zones are very similar because they are high density, although the minimums for the R-5 zone are slightly less than those in the R-7.5 zone. The biggest difference is seen in the lot size, where it is 5,000 square feet in R-5, whereas it is 7,500 square feet in the R-7.5 zone. Additionally, the minimum width is 50 feet for R-5 and 75 feet for R-7.5 and the minimum depth is 75 feet for R-5 and 90 feet for R-7.5. The percent lot coverage is slightly more for the R-5 zone than the R-7.5 zone, but the maximum building heights are the same for both zones.

The present bulk standards for the R-5 and R-7.5 Zones are outlined in Table 5 below:



Table 7: Schedule of Area, Yard and Building Requirements for Zones R-5 & R-7.5 (from Township of Brick §245 Attachment 5)

Zone		R-5	R-7.5
Minimum Lot Size	Interior Lots	Area (sf)	5,000
		Width (ft)	50
		Depth (ft)	75
	Corner Lots	Area (sf)	6,000
		Width (ft)	50
		Depth (ft)	75
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	20
		Side Yard, Each (ft)	5
		Aggregate Side (ft)	12
		Rear Yard (ft)	15
	Accessory	Side Yard (ft)	5
		Rear Yard (ft)	5
Maximum Lot Coverage by Building		35%	30%
Maximum Building Height	Stories	-	-
	Eaves (ft)	26	26
	Feet	35	35
	Ridge (ft)	38.5	38.5

R-10 (SINGLE-FAMILY RESIDENTIAL ZONE)

Permitted uses in the R-10 zone are the same as those zoned for the R-20 Residential zone (§245-112). The permitted uses are as follows:

- A. One-family dwellings
- B. Municipal parks, playgrounds, and other municipal buildings and uses as are deemed appropriate and established by the Township Council. The minimum land area shall not be less than 1/2 acre.
- C. Other public buildings of a governmental or cultural nature.
- D. Volunteer first aid buildings and firehouses.
- E. Public libraries.

The following are permitted as accessory uses (as per R-20 zone):

- C. Private garage space for the storage of motor vehicles.
- D. Accessory uses as defined in Part 1 of this chapter



Figure 54: Typical R-10 Development, Seaview Village (Google Maps/Streetview)



Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- A. Scattered-site single-family detached affordable housing units.
- B. Public schools and private schools which are not conducted as a business shall be permitted as a conditional use, subject to the conditions and procedures in § 245-298.2.
- C. Places of assembly, parish houses, convents and cemeteries.

Table 8: Schedule of Area, Yard and Building Requirements for Zone R-10 (from Township of Brick §245 Attachment 5)

Zone		R-10	
Minimum Lot Size	Interior Lots	Area (sf)	10,000
		Width (ft)	90
		Depth (ft)	100
	Corner Lots	Area (sf)	10,500
		Width (ft)	100
		Depth (ft)	100
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	30
		Side Yard, Each (ft)	6
		Aggregate Side (ft)	20
		Rear Yard (ft)	20
	Accessory	Side Yard (ft)	5
		Rear Yard (ft)	5
Maximum Lot Coverage by Building		30%	
Maximum Building Height	Stories	-	
	Eaves (ft)	26	
	Feet	35	
	Ridge (ft)	38.5	

R-15 (SINGLE-FAMILY RESIDENTIAL ZONE)

Permitted uses in the R-15 zone are the same as those zoned for the R-20 Residential zone (§245-112). The permitted uses are as follows:

- F. One-family dwellings
- G. Municipal parks, playgrounds, and other municipal buildings and uses as are deemed appropriate and established by the Township Council. The minimum land area shall not be less than 1/2 acre.
- H. Other public buildings of a governmental or cultural nature.
- I. Volunteer first aid buildings and firehouses.
- J. Public libraries.

The following are permitted as accessory uses (as per R-20 zone):

- E. Private garage space for the storage of motor vehicles.



F. Accessory uses as defined in Part 1 of this chapter

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- D. Places of assembly, parish houses, convents and cemeteries.
- E. Public schools and private schools which are not conducted as a business shall be permitted as a conditional use, subject to the conditions and procedures in § 245-298.2.



Figure 55: Typical R-15 Development, Cherry Quay (Google Maps/Streetview)

Table 9: Schedule of Area, Yard and Building Requirements for Zone R-15 (from Township of Brick §245 Attachment 5)

Zone		R-15	
Minimum Lot Size	Interior Lots	Area (sf)	15,000
		Width (ft)	100
		Depth (ft)	115
	Corner Lots	Area (sf)	17,250
		Width (ft)	100
		Depth (ft)	115
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	35
		Side Yard, Each (ft)	12
		Aggregate Side (ft)	-
		Rear Yard (ft)	35
	Accessory	Side Yard (ft)	10
		Rear Yard (ft)	10
Maximum Lot Coverage by Building		25%	
Maximum Building Height	Stories	-	
	Eaves (ft)	26	
	Feet	35	
	Ridge (ft)	38.5	



R-R-1 (RURAL RESIDENTIAL ZONE)

The following are permitted uses in the R-R-1 Zone:

- A. Customary and conventional farming operations.
- B. One-family dwellings.
- C. Public and accredited private schools and institutions which may be conducted as a business.
- D. Municipal parks, playgrounds and other such municipally owned buildings and uses as are deemed appropriate and necessary by the Township Council of the Township of Brick.
- E. Municipal buildings, volunteer first aid buildings and firehouses.
- F. Public libraries.

The following are permitted as accessory uses:

- A. Customary farm buildings for the storage of products or equipment or for the processing of farm products and which are located on the same parcel as the principal use.
- B. Accessory uses as defined in Part 1 of this chapter of the Code of the Township of Brick.

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- A. Public utility installation.
- B. Public and quasi-public philanthropic and charitable uses.
- C. Quasi-public buildings and recreation areas.
- D. Golf courses.
- E. Places of assembly, parish houses, convents and cemeteries.

Table 10: Schedule of Area, Yard and Building Requirements for Zone R-R-1 (from Township of Brick §245 Attachment 5)

Zone		R-R-1	
Minimum Lot Size	Interior Lots	Area (sf)	40,000
		Width (ft)	150
		Depth (ft)	150
	Corner Lots	Area (sf)	40,000
		Width (ft)	150
		Depth (ft)	150
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	50
		Side Yard, Each (ft)	50
		Aggregate Side (ft)	-
		Rear Yard (ft)	50
	Accessory	Side Yard (ft)	25



	Rear Yard (ft)	25
Maximum Lot Coverage by Building		25%
Maximum Building Height	Stories	-
	Eaves (ft)	26
	Feet	-
	Ridge (ft)	-

R-R-2 (RURAL RESIDENTIAL ADULT COMMUNITY ZONE)

The following are permitted uses in the R-R-2 Zone:

- A. All uses permitted in the R-R-1 Zone.
- B. Planned residential retirement communities.
- C. Planned residential communities.

All accessory uses in the R-R-2 Zone are permitted accessory uses.

The following uses may be permitted by the Planning Board subject to the conditions and procedures as specified for each use in **Article XXXII, §245-279** et seq.:

- A. Public utility installation.
- B. Public and quasi-public philanthropic and charitable uses.
- C. Quasi-public buildings and recreation areas.
- D. Golf courses.
- E. Single-family residential at 1.5 dwelling units per buildable acre.
- F. Single-family residential with open space.
- G. Places of assembly, parish houses, convents and cemeteries.



Figure 56: Typical R-R-2 Residential neighborhood, Sailor's Quay (Google Maps/Streetview)



Table 11: Schedule of Area, Yard and Building Requirements for Zone R-R-2/PRRC (from PRRC Zoning Schedule in Township of Brick §245-90)

Zone			R-R-2/PRRC			
			Single	Duplexes	Triplexes	Quads
Minimum Lot Size	Interior Lots	Area (sf)	5,000	4,000	4,000	4,000
		Frontage (ft)	50	30	30	30
	Corner Lots	Area (sf)	7,000	6,000	6,000	6,000
		Frontage (ft)	70	55	55	55
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	25	25	25	25
		Side Yard, Each (ft)	6	6	6	6
		Rear Yard (ft)	20	20	20	20
		Rear Setback for Elevated Deck (ft)	10	10	10	10
		Rear Setback for Sunroom when the Rear Yard borders Common Open Space Area	10	10	10	10
		Rear Yard (ft)(with porch/patio/steps)	15	15	15	15
		Distance between buildings (ft)	12	12	12	12
		Minimum Lot Depth (ft)	100	100	100	100
		Maximum Lot Coverage per Unit			35	35
Maximum Building Height		Feet	20	20	20	20
Minimum Floor Area (Sq. Ft. per Unit)		1 bedroom	800	800	800	800
		2 bedroom	960	960	960	960
Min. Number Off-Street Parking Spaces Required per Unit			2	4	6	8
Min. Number Off-Street Parking Spaces Required per Unit			2	4	6	8



ZONING ISSUES

Despite the above standards, lots vary in size and coverage, in particular for Zones R-5 and R-7.5. This is especially true in the older neighborhoods, which may have been established before the current zoning. Undersized lots (either in width or depth) cannot meet the setback requirements of the ordinance. These issues will only be exacerbated when a homeowner tries to raise their home to avoid the Post-Sandy flood insurance premiums.

When dealing with raising a home to meet the established Base Flood Elevations (“BFEs”), residents typically run into issues with building height, coverage and setbacks. Most towns affected by Sandy amended their zoning standards for height to allow homes to be elevated without height variances. However, on undersized lots the tendency was for applications for relief from yard requirements, mainly because the new construction was a larger home than what was on the lot pre-Sandy.

In Toms River Township, the governing body responded to the trend of over-building by adopting an ordinance that established a maximum “Floor Area Ratio” for single family homes, which linked the maximum size of the home to the size of the lot and elevated any variance relief to that under NJSA 40:55D-70-d, thereby requiring five affirmative votes of the Board rather than a simple majority. Since that ordinance amendment the trend has reportedly subsided. While the lots in Cherry Quay-Bay Harbor are generally larger than those found on the Barrier Island, there are isolated examples of overbuilding which suggest that a similar approach to regulating FAR might be appropriate.

The size of new homes has not yet become a major issue in Cherry Quay-Bay Harbor as much as in other neighborhoods, but there are already a few cases and it may pose a problem further into the future as more homes are rebuilt. Although not everyone perceives the size of new homes in the neighborhood as a Township issue, many residents and Township officials have criticized that overbuilding is changing the character of the neighborhoods and is out of scale with existing homes. In many locations, newly constructed homes are twice the height of older homes and are often much larger in bulk area. Examples of conflicting residential developments in Cherry Quay-Bay Harbor are shown below in Figure and **Error! eference source not found..**



Figure 57: Examples of large-scale and raised new construction homes next to smaller original homes in Cherry Quay-Bay Harbor (Google Streetview)

Another issue that confronts property owners when elevating or reconstructing their homes is the conventional regulations regarding “yards” when the entrances to the homes are a story or more above grade, requiring additional stairs in mostly confined yard areas. Most zoning ordinances define a “yard” as a required open space on a lot between a lot line and building or structure, which is unoccupied and unobstructed from grade to sky. There are a variety of stairway designs to transition from the finished grade of an elevated or reconstructed house to the

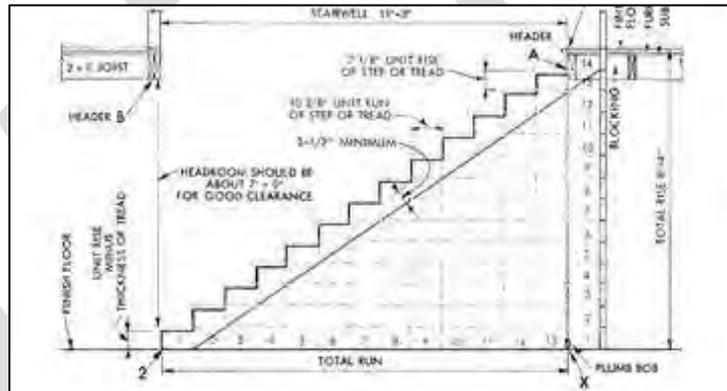


Figure 58: Typical riser and tread dimensions to cover a height of 8.33 feet

entrance doors, which are often more than 10 feet above the ground. It would require about 17 steps to cover a rise of 10 feet based on the diagram in **Error! Reference source not found.**, which would require about 14 feet of un. Straight run of steps to the front door would then frequently require front yard variance relief in an R-5 or R-7.5 zone.

Breaking up the run of entry stairways to elevated homes with one or more landings provides for a more attractive transition, but also requires more space, which often forces stairways into required yards and generates applications for variance relief to the Zoning Board of Adjustment.



To facilitate such landings, the Township amended its zoning regulations in §245-Part 2: Article XXXVIII A “Supplemental Land Use and Zoning Regulations in Special Flood Hazard Areas”. The purpose of which is to recognize limitations associated with federal and state construction and reconstruction requirements in special flood hazard areas, and encourage the restoration and reconstruction of existing neighborhoods within the Township of Brick in compliance with Chapter 196, special flood hazard areas, and the Uniform Construction Code. §245-330.4 “Permitted Yard Encroachments” permits:

- A. An access staircase and entry stoop, not to exceed 100 square feet in area, may project no further than 10 feet into a required front yard setback area. The previously referenced entry stoop may be covered or uncovered.
- B. An access staircase and entry stoop, not to exceed 50 square feet in area, may project no further than five feet into a required rear yard setback area. The previously referenced entry stoop may be covered or uncovered.
- C. An access staircase and entry stoop shall maintain a one-foot minimum side yard setback, provided that unobstructed access to the rear of the building is provided on a minimum of one side of the building.
- D. Elevated platforms for mechanical devices serving a building shall maintain a one-foot minimum side yard setback, provided that unobstructed access to the rear of the building is provided on a minimum of one side of the building.
- E. The permitted yard encroachments noted in this section are applicable to all existing and proposed buildings on any parcel of land that is designated to be in a special flood hazard area.

Additional consideration for dealing with transitioning to elevated entrances similar to the provisions made in the current ordinance for handicapped ramps could help to simplify the recovery process for property owners.

The ordinance also provides requirements for “Façade Treatments for Enclosed Spaces” (§245-330.5), as follows:

- A. A building façade with an enclosed ground level must be treated to conceal the block face.
- B. Ground level areas that are below the base flood elevation, enclosed or exposed, are uninhabitable spaces.
- C. An exposed façade area shall be screened from public view. A minimum of 30% of an exposed façade area shall be screened with landscaping, siding, venire, faux window treatments, doors, etc., to visually break up the solid wall.

These changes in the ordinance could work to help homeowners who are trying to raise their home. However, the Design Standards section of this Plan offers additional bulk standard recommendations for consideration by the Township as well as design guidelines.



RECOMMENDATIONS

The initial assessment for the Neighborhood Plan involved site visits of the area with local representatives, gathering feedback from residents, and an analysis of the information from investigations, census data, and historic documents assembled by Township Planners and consultants. From this baseline information, the following ideas emerged:

CONNECTIVITY AND STREETScape RECOMMENDATIONS

As demonstrated in previous sections of this Plan, there is a major lack of public pedestrian infrastructure within and between the sub-neighborhoods of Cherry Quay-Bay Harbor, as well as any connectivity to other neighborhoods in the region. Although there has clearly been some effort with private developers (i.e. Waterside Gardens) and newer developments to implement sidewalks, they are few and far between and often found in subpar condition.

The Township has recently demonstrated a commitment to apply for grant funding to improve circulation for increased bicycle access throughout Brick. The bicycle path along St. Lawrence Boulevard between Baywood and Seawood Harbor has been completed and is one small step towards better connectivity. However, overall this has been slow to manifest and bicycle infrastructure and circulation is still at a minimum throughout the neighborhood and the Township.

Additionally, intra- and inter-neighborhood public transportation options are non-existent. There are several public bus routes which run along major corridors, such as Brick Boulevard, but do not reach the majority of populations in isolated, but dense neighborhoods, such as Cherry Quay-Bay Harbor.

Based upon the analysis of existing conditions the following could be further investigated:

1. The Township should continue to pursue grants for pedestrian and bicycle safety and mobility through all sources, particularly the New Jersey State Department of Transportation (NJDOT) and federal grants.
2. The Township should coordinate pedestrian and bicycle mobility enhancements with improvements made by the County of Ocean on County roads. Opportunities include:
 - a. Enhancing berms along the road with street trees where space permits;
 - b. Extending or connecting existing sidewalks to serve all high traffic areas;
 - c. Coordinating bicycle routes along streets that improve safety and connectivity for bicyclists;
 - d. Adding additional crosswalks to facilitate pedestrian crossing, with priority for pedestrians, and particularly in areas not currently served by crosswalks or traffic lights,



that have heavy seasonal traffic, and that have desirable amenities (i.e. public parks, marinas, beaches, restaurants, etc.).

3. Observe pedestrian and cyclist treatments in neighboring towns where mobility is a focus in order to get a better idea of the potential to implement such treatments in this neighborhood. Explore the potential for traffic calming methods to improve roadway safety and increase pedestrian and cyclist mobility options. As a largely residential and recreational neighborhood, it is important that the roadways serve these uses. A traffic and speed study should be conducted, with a focus on Drum Point Road as the primary connector road and access to public space.
4. Develop a comprehensive network of sidewalks and crosswalks throughout the neighborhood that connect and, particularly, that allow safe and efficient pedestrian traffic along Drum Point Road and to major points of interest. Map 27 shows possible sidewalk connections in red that should be priority areas when new sidewalks are installed, with general indication to sides of the street, although a study should be conducted to determine proper location. In the process of making sidewalk and crosswalk recommendations, consideration was given to: the probable traffic level of vehicles and pedestrians; existing sidewalks and crosswalks for potential extensions; difficult intersections; creating the shortest distance between points and fewest road crossings; focusing growth in areas least compromised by the effects of climate change; and moving pedestrians to various points of interest, which are also indicated on the map. Maps 26 through 29 show the neighborhoods in detail.

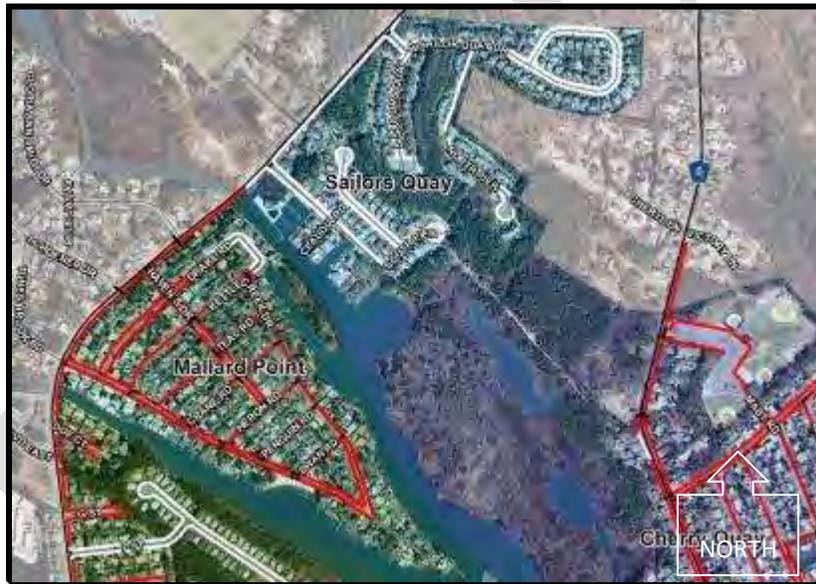
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Map 28: Detail of Cherry Quay sub-neighborhood map with existing (white) and recommended (red) sidewalks, and recommended crosswalks (black), pedestrian bridge (green)



Map 29: Detail of Sailor's Quay and Mallard Point sub-neighborhoods with existing (white) and recommended (red) sidewalks, and recommended crosswalks (black)



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Map 30: Detail of Seaview Village sub-neighborhood with existing (white) and recommended (red) sidewalks and recommended crosswalks (black)



Map 31: Detail of Bay Harbor Estates sub-neighborhood with existing (white) and recommended (red) sidewalks, and recommended crosswalks (black)

5. Crosswalks should be placed at minimum at east to west crossings on Hooper Avenue for roads of primary access to sub-neighborhoods, and other major roads and connections between neighborhoods, parks, and destinations, and at least every half-mile (see Map 27 through Map 31 above).



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6. A pedestrian bridge could be a unique and practical way to connect various parts of the neighborhood, such as Cherry Quay, where long dead-end streets inhibit pedestrian movement and accessibility.



Figure 59: Recommended sidewalks in Cherry Quay

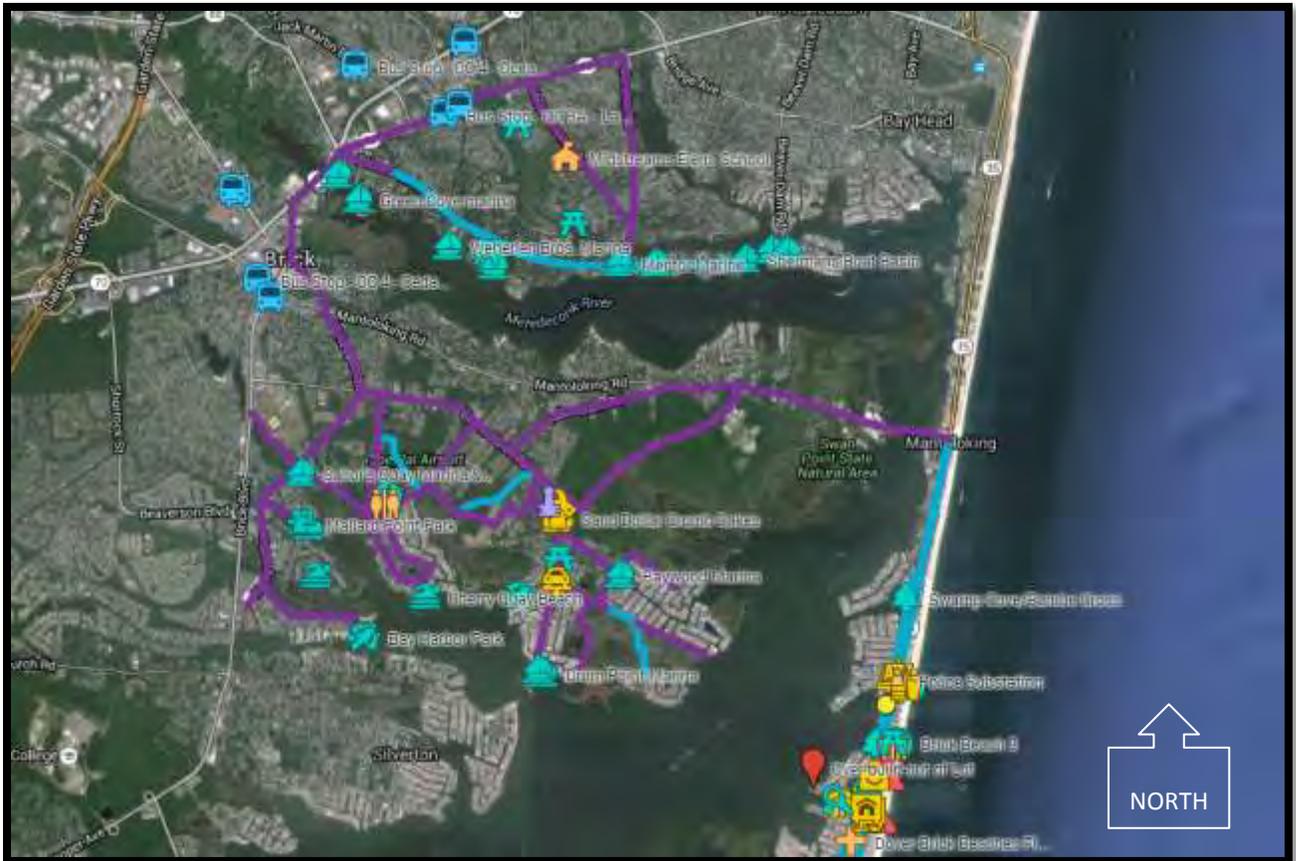


Figure 60: Example of a pedestrian bridge in a residential neighborhood (Credit: [Amatullah Guyot](http://www.welikela.com/top-10-los-angeles-bridges-to-photograph/)
<http://www.welikela.com/top-10-los-angeles-bridges-to-photograph/>)

7. Designate "Bicycle Friendly" routes within the Cherry Quay-Bay Harbor neighborhood and continue to build a network of bicycle lanes, shared lanes, and paths between the various neighborhoods and from the Bay to the beaches and to major destinations. Many of the primary and secondary roads in Cherry Quay-Bay Harbor are slow and wide enough to accommodate sidewalks and/or shared bicycle lanes.



We envision a much larger, comprehensive network of bicycle lanes and paths throughout the Township and County in the future that might develop to look similar to that which is pictured in [Map 33](#) below. However, a further study must be conducted to determine precisely the needs and design of a bicycle network. These recommendations have been made based on mapping of existing bicycle lanes, most heavily trafficked roads, destinations, and Master Plan goals.



Map 33: Bicycle Circulation Plan connecting four Brick neighborhoods with existing bicycle paths (blue) and recommended (shared) lanes or paths (purple)

8. At minimum, a Circulation Plan with a wayfinding system should be further developed and implemented for bicyclists and pedestrians and educational outreach targeted toward children to reduce the risk of accidents.
9. Explore the possibility of extending a bus line closer to Cherry Quay-Bay Harbor near Cherry Quay Road. In coordination with Ocean County Department of Transportation (Ocean Ride), a neighborhood bus stop could be executed. According to the 2010-2014 U.S. Census ACS data, 33.2% of 25 to 44 year-olds and 41.8% of 45 to 54 year-old workers in Brick Township use public transportation. This is an important demographic of workers to cater to due to the size of the population, although younger populations should be encouraged to use public transportation and curb individual automobile use, as well.



10. Sidewalk and curb treatments should be standardized with one pattern for the entire neighborhood, whether a Township standard or unique for the neighborhood, that can be modified to fit various applications. For example, slight variations could be used for smaller and broader crossing streets.
11. Where feasible, raise the street levels in areas that are most prone to flooding and especially those that serve as coastal evacuation routes for sub-neighborhoods, including:
 - a. Bay Harbor – Bay Harbor Boulevard; Bay Way; Queen Ann Road (between Hemlock Drive & Bay Way); Blue Cedar Drive; Brookfield Drive; Sunnydale Drive; Fontainebleau Drive; Homewood Drive; Acapulco Drive; Van Cortland Drive;
 - b. Cherry Quay – Captain’s Drive; Royal Drive; Clubhouse Road; Topsail Road; Port Road; Bark Road; Seagoin Road; Boom Lane; Cross Trees Road; Mizzen Road; Tiller Lane (between Royal Drive & Clubhouse Road);
 - c. Mallard Point – Tunes Brook Road; Kettle Creek Drive (between Tunes Brook Road & Heron Road);
 - d. Sailor’s Quay – Pleasant Drive; West Pier; South Pier; Claudia Road;
 - e. Seaview Village – Seaview Avenue (between Nautilus Drive & cul-de-sac; Jetty Court & Nautilus Drive); Compass Avenue.
12. Upgrade storm drains along streets to allow more efficient outflow of flood water without “reverse flooding” (water entering through storm drains), to allow emergency access/evacuation.
 - a. Some parts of the neighborhood are often cut off from major roads and emergency services during high tide events.
13. Explore the possibility of (re)connecting the street grid between the two sections of Seaview Village, if the opportunity arises. Alternatively, consider public right-of-ways for pedestrian paths between the streets. This will allow a higher density of development without adverse effect on traffic on the two thru-streets, and will increase accessibility to various parts of the neighborhood.



Figure 61: Possible street connections (pink lines)

IDENTIFICATION & WAYFINDING SIGNAGE

Overall, the Cherry Quay-Bay Harbor neighborhood has an identity as a relaxed year-round and summer waterfront community surrounded with access to nature of the Barnegat Bay and wetlands. Unlike some other neighborhoods in the Township, it is relatively easy to see the distinctions when one is in Cherry Quay-Bay Harbor versus other neighborhoods in Brick Township. The sub-neighborhoods are separated physically by various types of divisions, such as wetlands and main traffic corridors, and each has their own monument sign at a minimum of one location.

However, Cherry Quay-Bay Harbor as a whole (including all sub-neighborhoods) does not have an identity that is recognizable as a brand. The individual signage for the separate sub-neighborhoods simultaneously identify their location, but also create misperception about the connectivity of the neighborhood and whether one has left Cherry Quay-Bay Harbor altogether.

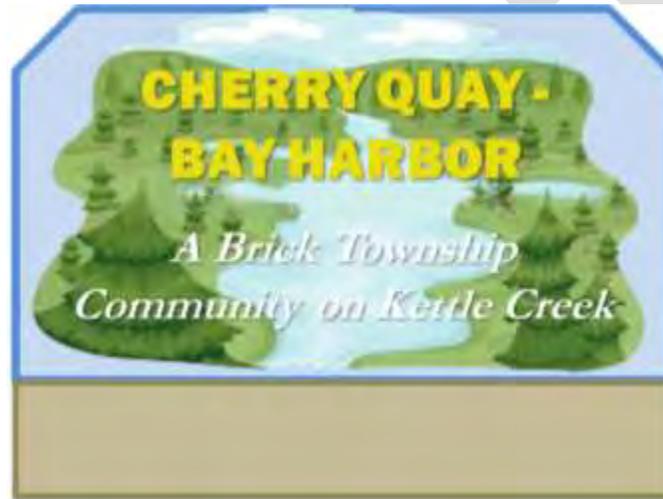
Despite the physical divisions, lack of connectivity, and a handful of signage for the sub-neighborhoods, they are still mostly indistinguishable from one another in built form. This can be viewed as an advantage which can be exploited to make the neighborhood appear more cohesive, if an effort is made to



coordinate the overall branding and signage in the neighborhood. This Neighborhood Plan recommends that there be some consistency in the identification message.

A common design theme and graphics for signage should be chosen that also reflects the local character of the neighborhood. A blend of existing Township and neighborhood color schemes, along with the consistent use of a font type and a recognizable, uniform name, discreetly shows relationships and hierarchy among places. As two of the most prominent and familiar sub-neighborhoods in this Plan area, “Cherry Quay-Bay Harbor” could continue to be used to refer to the entirety of the neighborhood. This name identifies the neighborhood by some of its most important attributes, equating to waterfront access, and is unique, although could be more succinct.

Below is a graphic example of unified branding message for new identification and gateway signage, blending typical colors found in Brick Township and within Cherry Quay-Bay Harbor.



Additional signage could be altered slightly for each sub-neighborhood, but might appear like the following:

Wayfinding signage was also identified as a way to navigate to different sub-neighborhoods, businesses, parks, and other destinations, which currently proves to be challenging. One of the challenges is the successive dead-end streets in the lagoon communities. A system of pedestrian-scale wayfinding signage should be coordinated with the gateway signage referenced above in order to reinforce the cohesiveness of the community, as well as to help residents, visitors, and customers find existing and future services, especially during the summer tourism season. Wayfinding signage could also be coordinated on Township-wide level. An example of such a system is shown below in Figure .

The following points of interest should be linked by wayfinding signage:

- Sub-Neighborhoods
- Parks
- Beaches
- Business Districts
- Marinas
- Trail Heads
- Other Brick Neighborhoods



Figure 62: Wayfinding signage is used in downtown Toms River to direct motorists to primary destinations (left). The image to the right was taken in Nantucket, MA (June 2015) and shows a system of wayfinding using plaques purchased by businesses mounted into slots on a standard that matches the antique style of the pedestrian lighting on Main Street and points in the direction of the business.

Signage that clearly identifies destinations should be provided in visible and convenient areas throughout the neighborhood at a distance and orientation which is readable for both pedestrians and vehicles from the road. These would preferably be located at major intersections, crossroads, and destinations. Finally, a color or theme-coded system relating each to a subcategory of places allows for quick and easy dissemination of place descriptors and directions. For example:

- Yellow for sub-neighborhoods
- Green for parks/open space
- Blue for water-related uses
- Red for businesses
- Brown for government/municipal services and buildings

Finally, informational signage could be provided for the neighborhood, landmarks, natural conservation areas, and parks with various facts about local history, important dates, names, ecology, and contact information.



ZONING RECOMMENDATIONS

Upon consideration of the existing zoning throughout the neighborhood, along with the physical challenges currently faced by the community and future predictions of storms and sea level rise, the following recommendations have been made to maintain and improve the built quality of the neighborhood:

BULK RECOMMENDATIONS

After reviewing the bulk standards, this Neighborhood Plan recommends the following be considered by the Township for the Cherry Quay-Bay Harbor neighborhood:

Flexible Front Yard Setbacks

Homes are presently required to have a 20 foot front yard and 15 foot rear yard in the R-5 zone, while the R-7.5 zone requires a 25 foot front yard and 15 foot rear yard. However, lot depth varies within the two neighborhood zones, with some well over 200 feet in depth and others as small as 50 feet. Lot depths in Seaview Village and Cherry Quay seem to be more consistent at 100 feet. Therefore, the shallow lots that were present in the Shore Acres and Barrier Island neighborhoods do not appear to be an issue in Cherry Quay and Bay Harbor. The other sub-neighborhoods in Cherry Quay-Bay Harbor should be evaluated for undersized lots to confirm conformity with the front and rear yard requirements of the R-5 and R-7.5 zones. Where properties do not meet required yards, which is typically a pre-existing condition, the homes on those lots generally exceed building/lot coverage standards as well. Coupled with the need to elevate homes and add exterior staircases for entrances, the required yard depths can pose significant limitations on density, although the Township has made significant strides towards rectifying this issue.

If other sub-neighborhoods in Cherry Quay-Bay Harbor have areas with shallow lots, the Township could consider amending the front yard setback to reduce the minimum requirement for the front yard from 20 feet to the prevailing front setback but maintaining a minimum of two feet, to provide homeowners more flexibility.



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Figure 63: Seaview Village Subneighborhood, showing consistency of prevailing lot depths.



Figure 64: Cherry Quay aerial with tax map overlaid shows more variation in lot widths but general consistency in lot depths.

Flexible Side Yard Setbacks

Lot widths vary greatly within Cherry Quay-Bay Harbor, with the smallest lots in the Cherry Quay sub-neighborhood, which is the oldest and densest of the sub-neighborhoods. There are a number of lots, especially vacant or substantially damaged lots, that do not meet the lot width requirements. Presently, the code requires one yard to be 5 feet wide and with the combined yards not less than 12 feet in the R-5

zone. In the R-7.5 zone, one side yard is required to be at least 6 feet and have combined side yards of at least 15 feet. A lot that is 40 feet in width would be restricted to a home that is only 28 feet wide in the R-5 zone and 25 feet wide in the R-7.5 zone, which is not practical or desired in today's residential designs.

Two short-term options are presented for the Township's consideration. The first is reducing the side yard setbacks for lots with a width less than 40 feet. A sliding scale could be provided to offer homeowners looking to rebuild with variance-free options. Lots between 31 and 39.9 feet (in width) could be permitted side yard setbacks of 4 feet each, for a total of 8 feet. Lots between 20 and 30.9 feet, if any, could be permitted a side yard setback of 0 and 3 feet, for a total of 3 feet.

The second option for the Township's consideration is a development concept called "zero-lot line". A zero-lot line home essentially places the home on one side yard line, allowing for a generous side yard on the other side that functions as the home's outdoor space in conjunction with the rear yard. On lots narrower than 40 feet, the zero-lot line concept provides one useable side yard instead of two unutilized side yards. As shown in **Error! Reference source not found.**, the homes are located along one property line. This alternative would provide more flexibility to owners of undersized lots (less than 40 feet wide) and produce usable side yards instead of useless slivers.

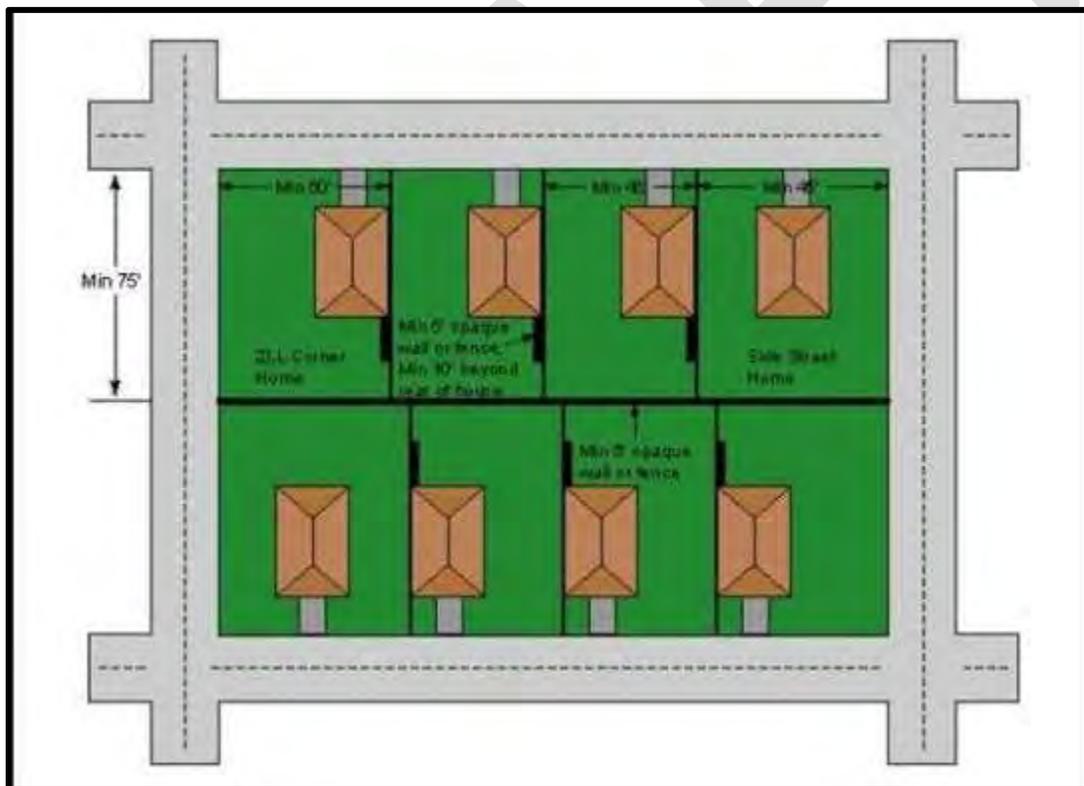


Figure 65: Illustration of Zero-Lot Line Homes



For both zones, the potential amendments to the side yard parameters could include:

Table 12: Amendments to Side Yard Setbacks

Lot Width (ft)	One Side Yard (ft)	Combined Side Yards (Both) (ft)
20 – 30.9 feet	0 and 5	5
31 – 39.9 feet	0 and 8	8
40 – 49.9 feet	0 and 12	12
50 – 50.9 feet	0 and 16	16

Lots that are 60 feet and greater in width could maintain the existing side yard setback requirements with two yards, so that larger homes do not overpower adjacent smaller lots.

Flexible principal building coverage

There are some lots within the neighborhood, particularly in Cherry Quay-Bay Harbor, which, when applying the 35% maximum principal building coverage to the lot, significantly restricts the footprint of the home. Within typical lagoon neighborhoods, undersized lots contain homes that cover much more than 35% of the lot area.

If these conditions are found upon closer examination of the Cherry Quay-Bay Harbor Neighborhood, or if the Zoning Board of Adjustment experiences repetitive applications for variance relief during the reconstruction of Sandy-damaged homes, the Township may want to consider allowing lots under a certain size (perhaps lots less than 3,000 square feet) to have a larger maximum principal building coverage, for example, 50% or 55%. This would allow a lot that is 30 feet by 50 feet to construct a home that has a first floor with 750 or 825 square feet. As was indicated earlier, the lot patterns in Cherry Quay and Bay Harbor seem to be more consistent than we have seen in Shore Acres and the Barrier Island and these adjustments may not be as relevant for this Neighborhood Plan. However, most likely the adjustments would be amendments to the R-5 and R-7.5 lot requirements and would apply in all four of the neighborhoods where these zones are found.

However, as with the other three Neighborhood Plans, we have seen examples where many homes that occupy larger lots or double lots have been reconstructed much larger than the homes they replaced and sometimes have a principal building coverage greater than 35% or even greater than 50%. This kind of overbuilding on lots that already meet the zoning requirements should be restricted to prevent unwanted growth and reduce impervious surfaces.

In addition to some of the strides that have already been taken to assist homeowners who are rebuilding, the Township has identified the need to update and amend its Land Use and Development Regulations to address many of these issues and is currently developing recommendations for zoning amendments as one of its Phase II Post Sandy Recovery Planning projects.

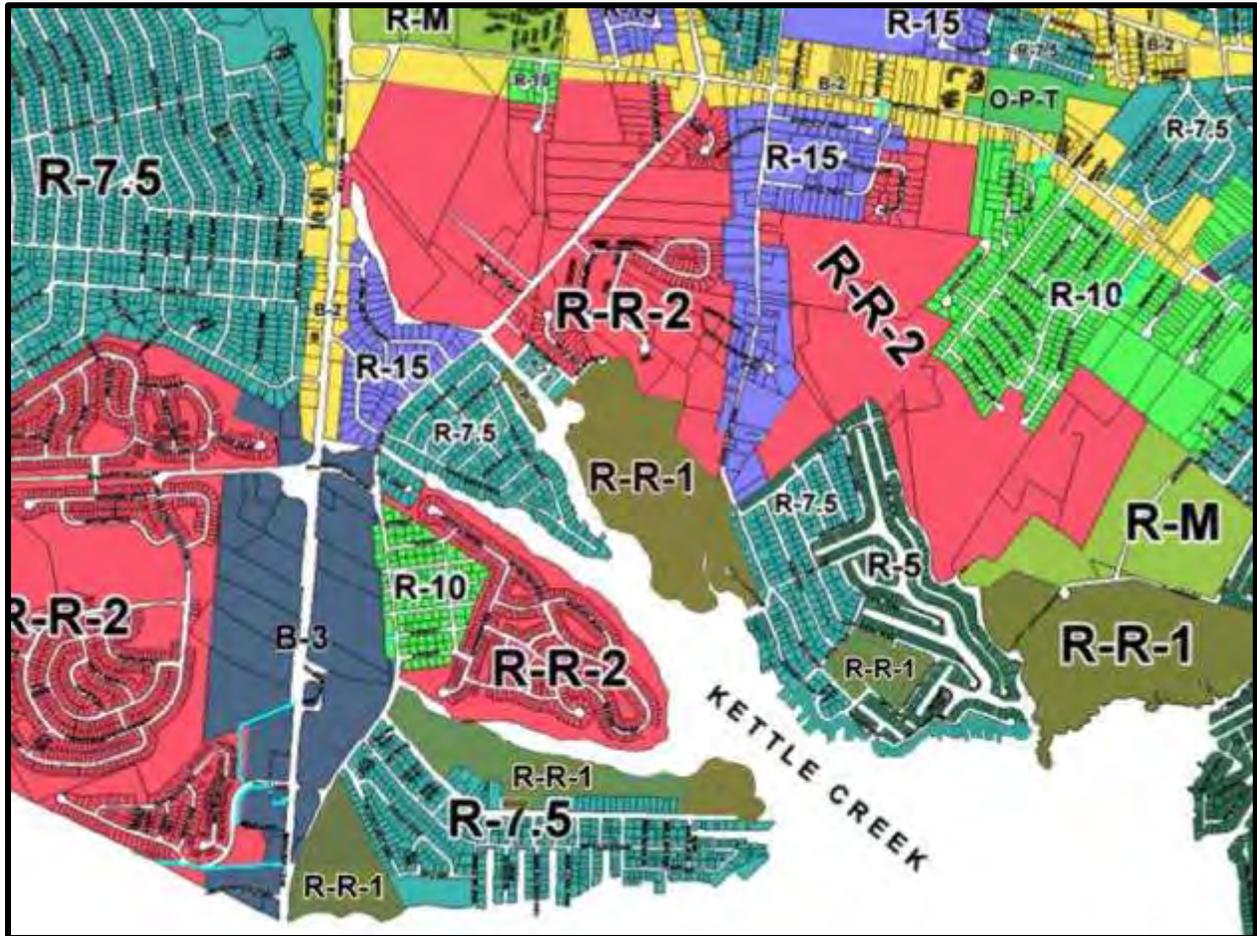


ZONING MAP CHANGES

It is recommended that the Township investigate the potential for changes to existing zoning areas, as shown on the Zoning Map, **Error! Reference source not found.** (see Map 34 for comparison). While the R-5 zone involves more undersized lots, consideration of whether a substantial number of them are undeveloped could lead to a possible downzoning to R-7.5 bulk standards or greater to prevent overbuilding and to allow larger yards that will help to reduce impervious surfaces and create greater area for water retention. Lots will be slightly larger (7,500 square feet rather than 5,000 square feet) and reduce the number of properties impacted by flooding. Many of the properties already occupy more than one lot. Several lots in the R-5 zone, particularly ones that were substantially damaged in the Cherry Quay sub-neighborhood, are undersized in width, but meet the depth requirements; however, double lots, if encouraged, would easily meet the R-7.5 bulk requirements. Much of the Cherry Quay neighborhood is already zoned as R-7.5 Residential and, therefore, a change from R-5 to R-7.5 in some areas would not explicitly alter the character of the neighborhood, except by providing slightly more space. This approach might trigger applications for lot area variances, but we think its exploration has merit.

To compensate for a possible downzoning of coastal properties, lots in the R-7.5 zone of Cherry Quay that are further inland, nearest to Cherry Quay Park, could be considered for an upzoning to the R-5 zone. This would allow for slightly smaller lots and density in an area that is closer to public amenities, that are not as vulnerable to flooding, and are near other R-5 lots

Finally, areas around catch basins and undeveloped wetlands, such as the one behind Mandalay Road and Arctic Ocean Drive, should be considered for downzoning to the Rural Residential (R-R-1) Zone in order to allow for more absorption of flood water in the basin without affecting private properties and to provide additional public open space with access to the water.



Map 34: Cherry Quay-Bay Harbor Zoning Map with Recommended Changes

FUTURE NEIGHBORHOOD GROWTH

Consistent with the recommended zoning map changes, bulk recommendations, and predicted impacts of flooding, all future neighborhood growth should be concentrated accordingly.

The R-5, R-7.5, and R-M zones will continue to have the densest residential properties; however, growth should be emphasized in areas of higher elevation away from the coastline to the northwest of Cherry Quay-Bay Harbor. Higher density growth should be encouraged particularly in areas with a primary traffic corridor with a street grid, areas around parks, and areas surrounding commercial zones. This density should promote better accessibility to services and recreation, while removing the largest populations from areas that may sustain the most environmental damage. Similarly, lower density development and conservation areas that can better absorb floodwater should be encouraged along the Barnegat Bay and Kettle Creek coastal areas.



Commercial properties that are not marine-related should be emphasized in the higher density inland areas to better serve the larger population. Currently, businesses occupying B-1 zoned lots in Cherry Quay-Bay Harbor generally do not comply with the permitted uses of that zone. Additional neighborhood commercial businesses that fall within the permitted uses should be encouraged in the B-1 Zones to make the community more inclusive and mixed-use.

DESIGN GUIDELINES

Providing greater resiliency against flooding, storm damage, and demographic shifts in the future greatly depends on the development and design guidelines and planning practices that occur during the post-Sandy recovery process. In particular, the elevation of existing residential buildings as a result of recovery grant programs, as well as the elevation of new construction based on compliance with Flood Damage Prevention, will be significant factors. The following design guidelines are intended to integrate elevated buildings with existing non-elevated residences to soften the visual impact on the neighborhood. Additionally, there are numerous opportunities to introduce new landscaping and street treatments in certain areas that permit more pervious surfaces and stormwater management.

ELEVATION OF BUILDINGS

The raising of residential homes is usually accomplished by either the use pilings or by increasing the height of foundations and crawl spaces by adding courses of masonry block. To the extent that property owners determine to increase the elevation of the lowest habitable floor to the “Design Base Flood Elevation” in the Flood Damage Prevention Ordinance (usually the “Advisory” or “Preliminary” Base Flood Elevation plus freeboard), the height difference between the grade and the first floor can be considerable, causing a design challenge to access the elevated building. Many residents are choosing to upgrade and raise their homes, although there is somewhat of a consensus that new homes are too large for the neighborhood and that the height makes getting inside difficult for emergency purposes and for elderly or disabled persons. However, residents were not as accepting of having the designs of their homes regulated.



Figure 66: Examples of raised homes

Depending on the size of the lot and the density of the building pattern in the neighborhood, the solutions to the challenge of providing access varies from a straight run of stairs to a progression of porches or landings (see **Error! Reference source not found.**).



Figure 67: Illustrations of various ways to design access to elevated first living floors of residential buildings, some which frame the piles and others that partially or completely "skirt" or wrap the piles for garage/storage space or use raised foundations.

As stated in the 2015 Hazard Mitigation Plan Element:

"Identifying strategies to support additional home elevations is a key opportunity for improved safety and resilience. However new home elevations also come with additional potential risks that must be planned for and addressed. Ensuring that spaces below elevated homes are used only as storage or garages, and not livable space, is essential to protecting public safety. If illegally converted into bedrooms or living space, these low areas become extremely dangerous during flood events. Newly elevated homes can also



sometimes negatively impact the views and other aesthetic considerations for neighboring properties. Design and regulatory measures are currently in place and other controls are being explored that can help maximize the flood safety benefits of home elevations while finding creative solutions that reduce any negative impacts for neighboring properties.”⁸

Additionally, elevated buildings can pose a hindrance and hazard for disabled and elderly persons, as well as emergency services attempting to access persons in the house. For most physically impaired persons, the design guidelines and height requirements limit access almost entirely. Elevators from the ground floor to the first elevated floor, in addition to stairs, are ideal, although restrictive for many due to the high cost. Ramps are also ideal, but generally impractical for most houses that are being lifted to the maximum height, due to the space that they require, where most lots are quite small. However, for outdoor stairways it is recommended that they are not a straight run, but, rather, provide landings and, preferably, with turns in the stairway to allow for resting spots.

The desirability of requiring such design standards as concealing exposed piles with framing or skirting, avoiding straight run stairs without a landing every so many steps will need to be balanced with the eligible costs of elevating homes covered under the various disaster relief programs so that they do not become a financial burden on property owners. If such aesthetic improvements are not covered by insurance or relief funding, the Township would need to seek other grant assistance to supplement the costs.

LANDSCAPING

Another approach to softening the visual impact of newly elevated buildings is to mask the exposed areas around the piles with landscaping. However, the present conditions caused by the elevation of housing and smaller setbacks will require that the installed landscaping not only be able to survive within the seashore environment, but may need to be compact and columnar in nature when used with narrow lot configurations. This may restrict the plant palette that can be used.

It is also recommended that local plant species and xeriscaping techniques (landscaping that reduces or eliminates the need for supplemental water) be used to reduce water and fertilizer needs. Plant beds should be tolerant to the wind, sea salt, water, and overall variable conditions of the Barnegat Bay and estuaries, while also being able to aid in absorption of additional rain or flood waters.

The following are some selections that may work well, but any planting directly in line of prevailing winds will struggle.

⁸ *Hazard Mitigation Plan Element (Draft)*. Page 27. Township of Brick. Prepared by TetraTech & Maser Consulting, P.A. November, 2015.



Table 13: Plant Species for Waterfront Neighborhoods

Plant Type	Species
Small Trees	Red Maple (<i>Acer Rubrum</i>)
	Allegheny service-berry (<i>Amelanchier laevis</i>)
	Pawpaw (<i>Asimina triloba</i>)
	Black Cherry (<i>Prunus serotina</i>)
	American mountain ash (<i>Sorbus americana</i>)
Large Shrubs	Indigo bush (<i>Amorpha fruticosa</i>)
	Coastal sweet pepperbush (<i>Clethra alnifolia</i>)
	Bigleaf Hydrangea (<i>Hydrangea macrophylla</i>)
	Northern bayberry (<i>Morella pensylvanica</i>)
	Beach Plum (<i>Prunus maritima</i>)
Evergreens (for screening)	Atlantic White Cedar (<i>Chamaecyparis thyoides</i>)
	American Holly (<i>Ilex opaca</i>)
	Eastern Red Cedar (<i>Juniperus virginiana</i>)
Perennials (for decorative filler planting)	Yarrow (<i>Achillea</i>)
	Coreopsis
	Daylily (<i>Hemerocallis</i>)
	Lavender (<i>Lavandula</i>)
	Foxglove (<i>Digitalis</i>)
	Summer Phlox (<i>Phlox paniculata</i>)
Ornamental Grasses (for filler and accent)	Stoncrop (<i>Sedum spurium</i>)
	Fescue Grass (<i>Festuca</i>)
	Panicum (Switch Grass)
	Pennisetum (Fountain Grass)

PUBLIC SPACES & STREETScape DESIGN

The plant materials recommended above can also be used in plantings within public spaces such as road medians, tree lawns (the space between the curb and sidewalk or between the sidewalk and a parking lot or front property line), passive park spaces, and similar spaces that are identified as often being overgrown with weeds and unsightly in appearance.

Bioswales are a good design option that can be used in public spaces, especially along streets to function similarly to a rain garden, which absorb water from heavy rains and flooding, while also removing pollution and silt from surface runoff water, providing a buffer from the street, and enhancing the streetscape visually. Bioswales are built with gently sloping sides that are concave toward an area of drainage and gravel and the slopes are vegetated with flood-tolerant plants.



Figure 68: Example of a streetside bioswale (www.kwalliance.org)

The use of the softer palette of plantings such as ornamental grasses and perennials, combined with the use of stone groundcover can help to enhance the coastal theme for these spaces in the sub-neighborhoods and could be relatively easily maintained by individual neighborhood associations or the Township. Private properties could also be encouraged to use similar groundcover, rather than traditional grass lawns. The images that follow are representations of various designs using these plant materials.



Figure 69: Grasses and perennials used with gravel to provide color and definition to public spaces.



Figure 70: Grasses and groundcovers can be used to soften roadside spaces and add visual interest to the public spaces such as medians.



Figure 71: Where space permits, perennials and ornamental grasses can be combined with conventional shade trees and shrubs to enhance commercial streetscapes.

GENERAL APPEARANCE FROM STREET

Within the residential blocks, every effort should be made to provide designs for the newly elevated homes that will work within the context of the existing lot lines and setbacks to enhance the overall character of the neighborhood. A number of visual ideas are provided below to act as representative examples of what can be done. There have been some examples constructed within the neighborhood as part of the Sandy recovery which embody these ideas.



Figure 72: Upper set of illustrations shows potential streetscape treatment of narrow and deep lots using trees with vase shaped or columnar habit, while lower pair shows wider lots with street trees of spreading habit in larger spaces and narrower habit in more confined spaces between houses. Homes are shown as representative for the size of lots as elevated for flood resiliency.

Residents worry that properties on small lots will look overcrowded and unappealing. Simultaneously, many small homes on small lots are directly adjacent to new homes nearly three times their size. The Township should look at various models that work well in other municipalities and provide guidelines that are appropriate for each neighborhood. Allowing for some variations in the designs for proper entrances and yard space, but maintaining some setbacks and some of the current bulk standards should prevent overcrowding while providing the necessary space to adapt to new regulations.

ABANDONED BUILDINGS AND EMPTY LOTS

Following Superstorm Sandy, many property owners who endured major damage to their homes and/or could not afford the pursuant repairs and insurance were forced to leave their properties behind or have been unable to make improvements. Several years later, there are some properties with homes that remain abandoned, have not been demolished and continue to deteriorate, or that sit empty and have not been rebuilt. These properties rest in a state of limbo because the property owners will not or cannot take responsibility and the Township has not established the necessary conduits for acquiring or selling such properties nor holding the owners accountable. Below are some recommendations for properties and buildings that have remained abandoned or in disrepair for a long period of time, in response to concerns raised by residents.

1. Many homes sit abandoned, such as the properties shown below. The Township needs to be more aggressive in taking action and holding property owners accountable.



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2. The Township should look into the possibility of acquiring properties when they cannot hold property owners accountable or when property owners are unable to rebuild. Certain properties, particularly repetitive losses, should be strategically held for water retention areas, doubling as public open space, while others that are less strategic could be resold.



Figure 73: Examples of vacant or abandoned buildings in Cherry Quay-Bay Harbor (Google Streetview)



Figure 74: Examples of vacant lots in Cherry Quay-Bay Harbor (Google Streetview)

PUBLIC PARKS, OPEN SPACE, AND CONSERVATION LANDS

All parks, open spaces, and conservation lands within the neighborhood should be considered for their dual role as wetlands to manage stormwater and to provide public amenities and recreation opportunities.



To the extent possible, pervious surfaces and vegetation or plant beds should be used to allow for the absorption of stormwater or flooding. The neighborhood was built on former wetlands between four different tributaries at the head of Kettle Creek. Without adequate elevation and building and road height, the neighborhood is very prone to flooding. Asphalt and concrete should be avoided where pervious pavers, gravel, or grass could be used.

The Township should work with the various neighborhood associations to act on opportunities to provide new open public spaces or areas for stormwater management within the neighborhood. If properties are abandoned or deeded to the Township, such lots could be restored to a more natural state or active or passive recreation facilities could be installed for the public to use. If located on the riverfront, the property should include new wetlands, whereas if it is inland, it should include flood-tolerant gardens and bioswales. Such facilities should permit and encourage users from various sub-neighborhoods. Where open space is not practical, other public services could be placed.

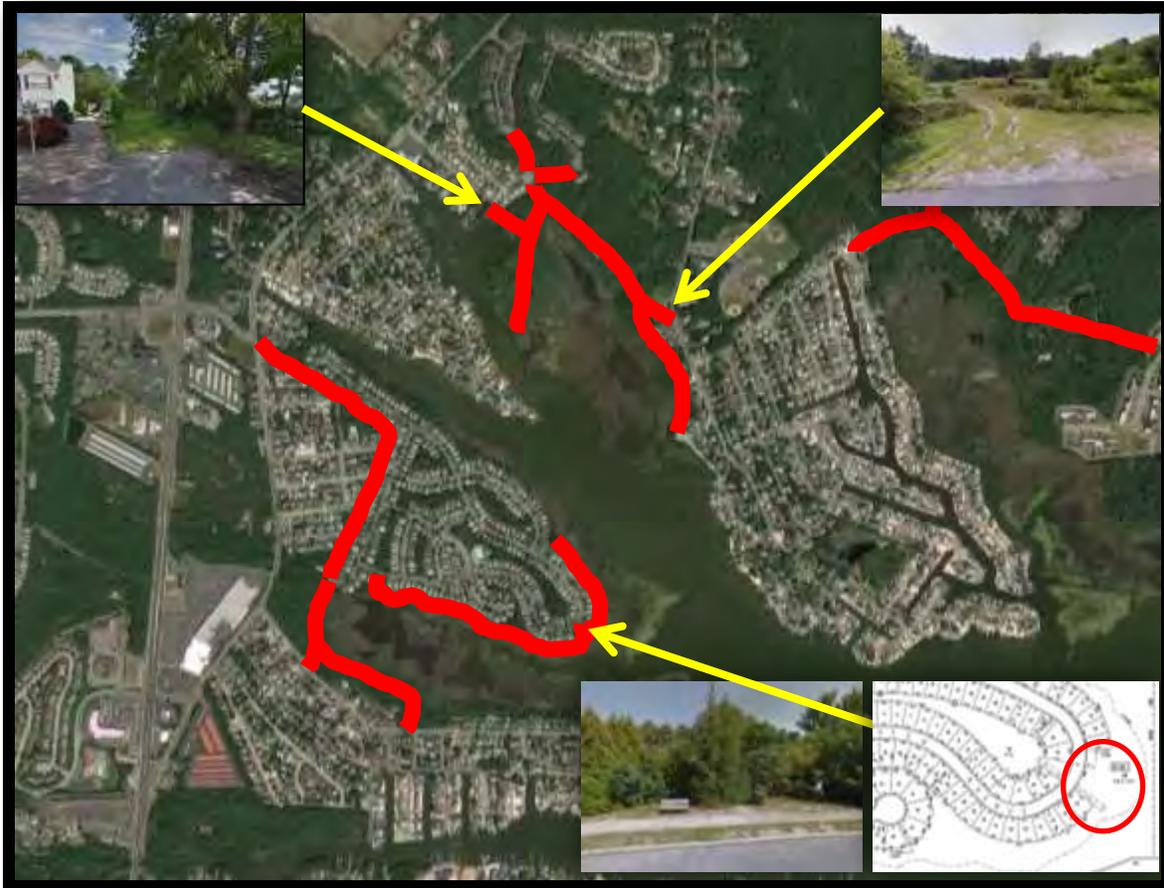
It is recommended that the Township develop a comprehensive connectivity plan for sidewalks, crosswalks, and bicycle lanes in the neighborhood, while strategizing how to best move people to various destinations around the island, including public parks and opens spaces. A connectivity plan should serve the neighborhood at its time of peak population and use, which is during the summer.

RECOMMENDED PARKS AND OPEN SPACE

There are a few Township- or County-owned parcels of land in Cherry Quay-Bay Harbor that currently do not have any designated use or improvements, but may have conservation status and provide optimal opportunity for both additional public open space and for water retention.

TRAILS

As a way to improve the connectivity of the neighborhood, as well as provide additional recreational opportunities and access to the water, the Township could explore the creation and maintenance of trail systems throughout the sub-neighborhoods that run through central or intermediary open spaces. A conceptual trail map with associated streetview images of potential trailheads is provided below.



Map 35: Conceptual open space trail map throughout Cherry Quay-Bay Harbor Neighborhood (Google Maps/Streetview images)

STREET-ENDS, BULKHEADS, AND RIGHT-OF-WAYS

Bulkheads, like jetties and other manmade barriers, can often exacerbate erosion and push floodwater elsewhere rather than absorb the water. Living shorelines, on the other hand, which include natural wetlands, are a better long-term alternative to impermeable barriers that allows the land and water to coexist while averting major damage during flooding events. Living shorelines use gentle slopes with sediment, sand, and small rocks, anchored by native coastal vegetation.

The Township could experiment by removing bulkheads that are not directly protecting improved properties in strategic locations and replacing them with a natural living shoreline with native vegetation. This should be attempted where it does not interfere with neighboring properties, boat traffic, or boat launching.

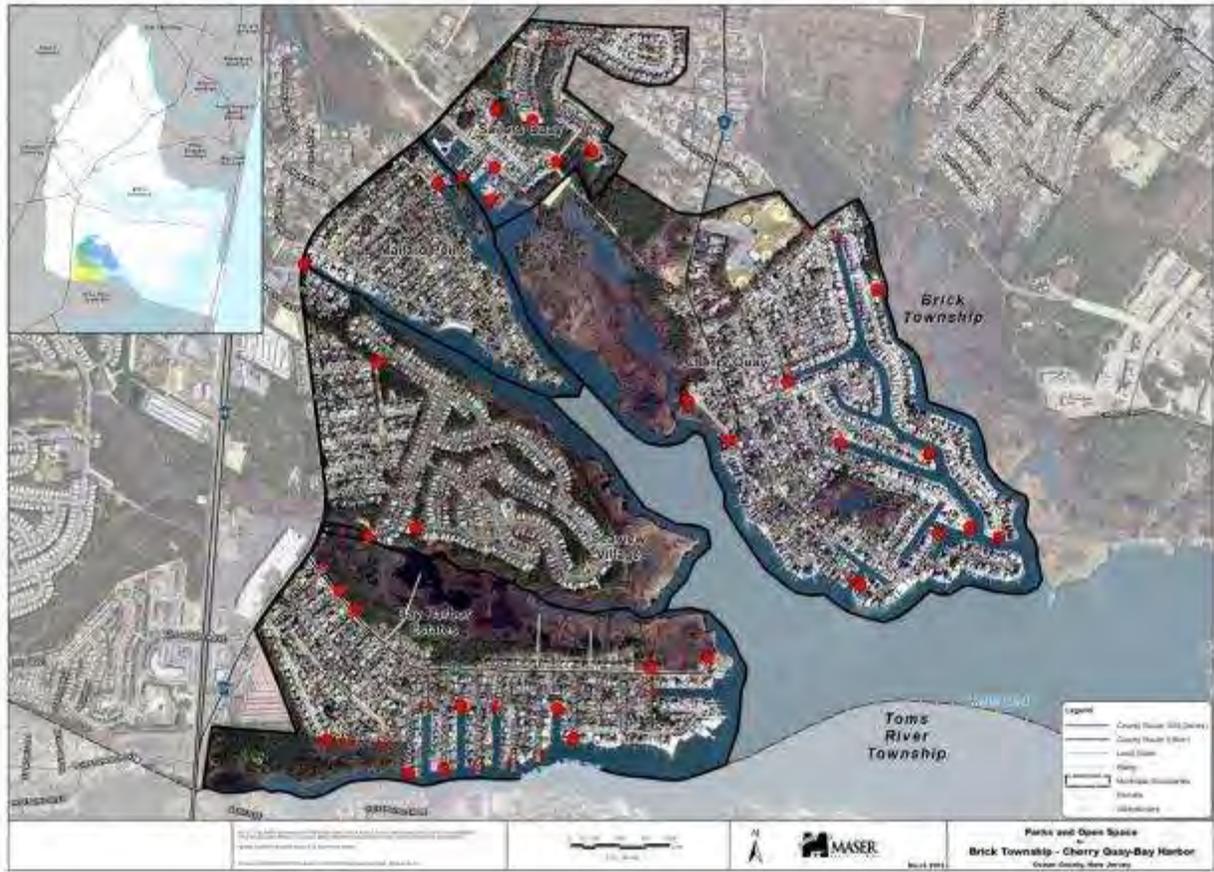


Figure 75: Example of “Living Shoreline” (Courtesy: Virginia Institute of Marine Science, College of William & Mary, 2016)

Small lots, street-ends, and land adjacent to bulkheads that are insufficient to build upon and, especially those already owned by the Township, provide an exceptional opportunity to add living shorelines and/or passive public recreational space. The examples below show various parcels throughout Princeton-Midstreams that are owned by Brick Township or where private owners could permit the Township to acquire and maintain for flood prevention. Some of these areas could be planted with marsh grasses or landscaped with benches for sitting or fishing, if there is adequate space.

INVENTORY OF STREET-ENDS IN CHERRY BAY HARBOR

[ADD LIST OF STREET ENDS]



Map 36: Street ends abutting water or natural/conservation areas

Bulkheads, like jetties and other manmade barriers, can often exacerbate erosion and push floodwater elsewhere rather than absorb the water. Living shorelines, on the other hand, which include natural wetlands, are a better long-term alternative to impermeable barriers that allows the land and water to coexist while averting major damage during flooding events. Living shorelines use gentle slopes with sediment, sand, and small rocks, anchored by native coastal vegetation.

The Township could experiment by removing bulkheads that are not directly protecting improved properties in strategic locations and replacing them with a natural living shoreline with native vegetation. This should be attempted where it does not interfere with neighboring properties, boat traffic, or boat launching.



Figure 76: Images of street-ends in Cherry Quay that experienced heavy damage to bulkheads (left) and with right-of-ways/public access with natural shoreline (right) (Google Streetview)

Right-of-way areas along the sides of streets abutting wetlands, lagoons, or rivers, should also be preserved for public use and enjoyment, as well as protection against flooding in the roads. Raised sidewalks, bike paths, or other types of trails with permeable materials along the road will allow or maintain vistas, public access to recreation, and buffers between the wetlands and the existing road.



Figure 77: Views of street-ends at Hooper Ave. & N. Kettle Creek (left) & Hooper Ave. & Tunes Brook (right) (Google Streetview)

ECOSYSTEM RESTORATION

Over the years, most of the natural ecosystem of the Cherry Quay-Bay Harbor neighborhood has been replaced by dense development, including once compact wetlands cleared for boat traffic and housing. Restoring these ecosystems, particularly wetlands, has become increasingly important as habitat loss increases from development, diversity of species is reduced, and storms and sea level rise threaten to flood neighborhoods. The provision of new open spaces and conservation lands can help reduce the cost of flooded properties, while also improving water quality, providing nursery grounds, and enhancing

quality of life. The inclusion of residents can foster a sense of environmental and community stewardship to advance this mission.

CATCH BASIN

One area that needs to be drastically improved is the catch basin in Cherry Quay. As described earlier in the Plan, as the neighborhood developed rapidly around it in the mid-1960s and '70s, there was nowhere for the water in the wetlands to drain, except into the streets, and it was not practical, nor legal, to fill.



Figure 78: Aerial photographs of catch basin site from 1931, 1940, 1953, 1956, & 2013 with natural flow of water following green lines (www.historicaerials.com)



Map 37: Township-owned half of catch basin to the north on Block 324.09, Lot 28



Using historic images and knowledge of the direction of the natural water flow, location of substantially damaged properties, and the existing lagoon system, we can make the following recommendations, which are visualized on Figure .

1. The Township should explore the engineering of placing outflow pipes from the catch basin to the lagoons with a bevel for one-direction flow. Based on the elevation of the land, natural streams, and location of the existing lagoons, it is likely that these should be directed where the red arrows indicate in the diagram below;
2. To reinforce the system and ensure that surrounding properties are not flooded regularly from the catch basin, the area around the south-southeast of the basin should be elevated to prevent water from overflowing in that direction, as indicated in yellow on the diagram;
3. Given that the Township only owns one-half of the catch basin on Block 324.09 (Township-owned Lot 28), and that the majority of infrastructure will likely go in the southern end, the Township should explore arrangements to acquire the land only on which the flooded basin sits, which could include granting certain variances for height, or a land swap.

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Figure 80: Diagram showing the problem catch basin in Cherry Quay; Blue arrows indicate direction of storm surge through the lagoons; green area showing outline of wetlands/catch basin; transparent blue area showing outline of pond at regular level; transparent purple area showing overflowing pond; red areas showing direction of easiest outflow piping; and transparent yellow areas spots that should be elevated

WETLANDS

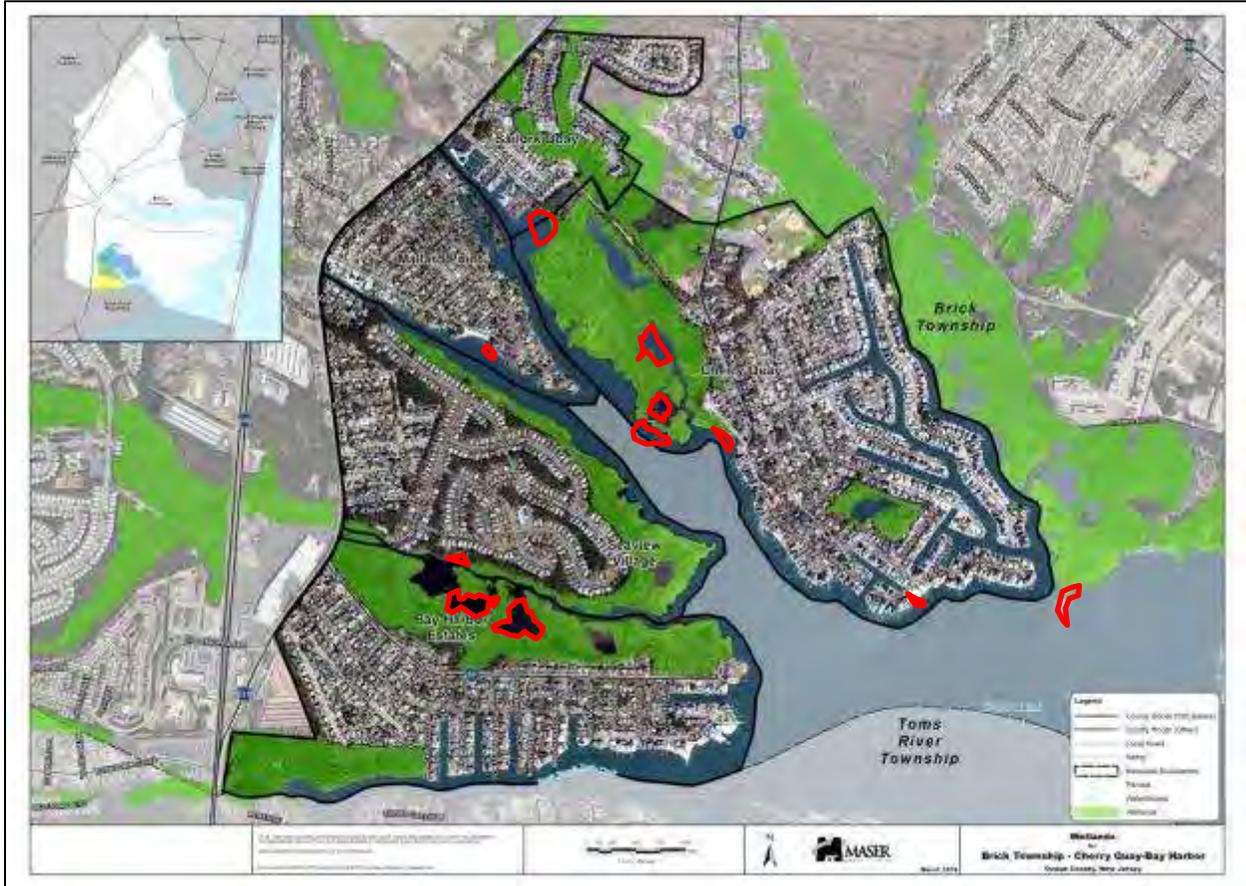
Based on a review of the early historic aerial photographs of the neighborhood, the wetlands and marshes surrounding the neighborhood were much more extensive than they are today. Correspondingly, the areas which lost the most wetlands since 1931 seem to have experienced the greatest storm surge and some of the most damage during Superstorm Sandy. Where there are existing wetlands, in most cases the storms surge inundated a majority of the wetlands without extending much farther inland. This is a testament to the importance of the ability of wetlands to absorb water. The map below shows this point by overlaying the wetlands line from 1931 with the Sandy Storm Surge Map.



Map 38: Map with Approximate 1931 Wetlands Line Overlaid on Sandy Storm Surge and Wetlands Map (dark green line = 1931 line; purple = Sandy storm surge; light green = existing wetlands; turquoise = existing wetlands inundated by storm surge; black line = neighborhood boundary)

For this reason, it is recommended that the Township explore opportunities to enhance, restore, or, in most cases, recreate wetlands in areas where they have previously existed and where wetlands deterioration has been most pronounced in order to combat the level of storm surge that was experienced during Superstorm Sandy. The National Resource Conservation Service, through the United State Department of Agriculture, has some informational resources and practice standards for restoring and creating degraded wetlands.

The existing wetlands that already surround the sub-neighborhoods in Kettle Creek present a good opportunity for enhancing or restoring wetlands because they offer a somewhat stable environment for new marshes to begin growing and are also critical for preventing even more extensive damage in the neighborhoods behind them. The lagoons should be maintained as much as possible, while extending the size of the wetlands further into the river. This process may not be practical along some of the more heavily trafficked channels due to higher erosion rates, heavy boat traffic, and dense development along the waterfront. Below, outlined in red, are some areas that may be worth exploring for restoration.



Map 39: Suggested areas for extended, restored, or enhanced wetlands (outlined in red)

FUTURE STORM AND DISASTER PREPAREDNESS

After speaking with several representatives and residents and from public feedback, there was a theme of there being a lack of proper communication channels throughout all stages of Superstorm Sandy's destruction – before, during, and in the wake of the storm. In addition to a well-designed built environment that can mitigate the effects of storms and provide physical connections for people, powered and effective communication services are critical to disaster preparedness and relief. Many times, a lack of or poor communication can lead to even more serious and costly consequences than the storm itself.

In addition to measures found in the Hazard Mitigation Plan Element, we recommend that the Township continue to take measures to inform all residents of potential storms and disasters that may affect them, as well to inform them of what steps to take beforehand, and what to do during emergencies. This will require some, if not all, of the following steps:



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1. Maintain a database of resident and property owner contact information for reverse emergency warnings. Provide a means for all, including visitors to the extent possible, to give their contact information voluntarily in order to stay informed.
2. Coordinate with all neighborhood and condominium associations, as well as fire, police, and ambulatory services, to establish and inform residents of the best safety practices, evacuation routes, and emergency care and lodging centers.
3. Obtain funding for backup generators and improvements for all communication outlets in case of disaster to prevent power failures.
4. Ensure that neighborhoods are not cut off and that there are central emergency locations that are well-stocked with supplies for all residents, preferably within less than a half-mile.

The Township should also find ways in which to coordinate efforts with adjacent communities, including Toms River Township and Mantoloking Borough, in order to provide essential services and aid to those in need during disasters. Preparedness Plans and strategies for protecting properties and utilities could also be shared among municipalities.

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SUSTAINABLE RECOVERY: LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Leadership in Energy and Environmental Design (“LEED”) is a recognized green building certification rating system. LEED provides third-party verification that a new or renovated building was designed and built using strategies and materials to lower a building’s carbon footprint. LEED was developed by the U.S. Green Building Council and is a “voluntary rating system that encourages buildings to do better, but does not add significant cost”.⁹ LEED has five rating systems for multiple project types that want to achieve LEED certification. The rating systems are:

- Building Design and Construction
- Interior Design and Construction
- Buildings Operations and Maintenance
- Neighborhood Development
- Homes

Within each rating systems there are eight main credit categories:

- Location and transportation
- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation
- Regional priority

LEED “provides building owners and operators with a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions”.¹⁰ Furthermore, LEED has been constantly improving its manuals and guidelines to keep up with technology and trends. Presently, there are four levels of LEED certification – certified, silver, gold and platinum.

This Neighborhood Plan focuses on two of the rating systems that could apply – LEED for Homes (LEED-Homes) and LEED for Neighborhood Development (LEED-ND).

LEED FOR HOMES

LEED for Homes is the certification program for single-family home design and construction. LEED-designed homes provide clean indoor air and use less energy and water, which translates to lower utility bills. Homeowners looking to rehabilitate or redevelop their damaged home can use the LEED for Homes

⁹ <http://www.usgbc.org/articles/leed-facts>

¹⁰ <http://www.usgbc.org/articles/about-leed>



credit system to make smart choices when it comes to water efficiency, energy usage, material selection, air quality and even rainwater management. LEED for Homes is an excellent resource for homeowners, even if they are not seeking LEED Certification.

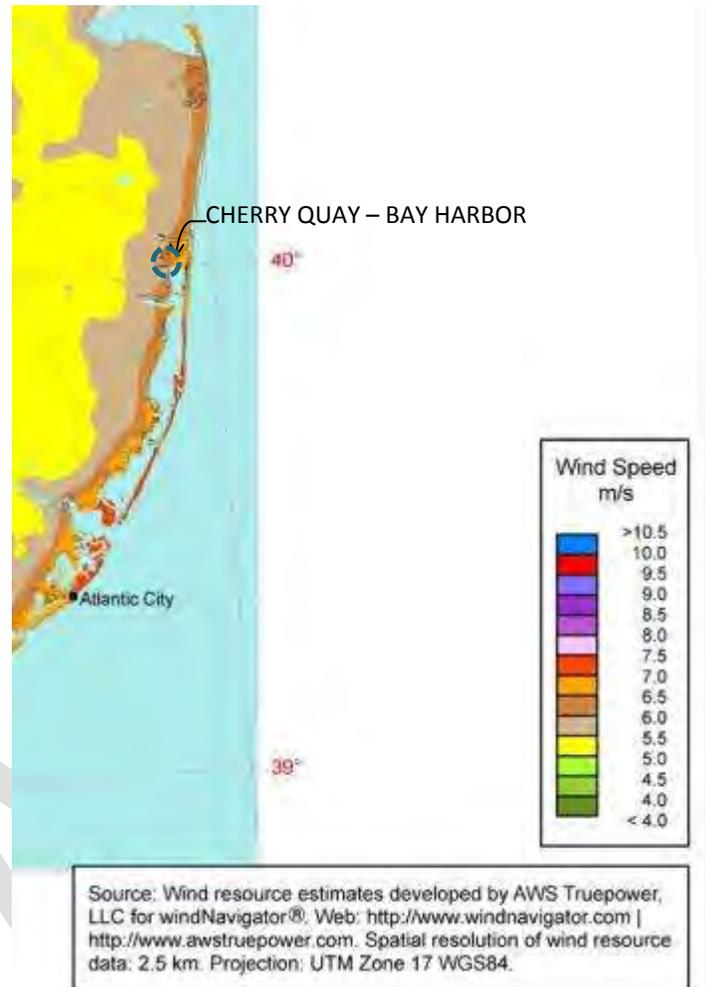
Credits that are worth noting, and that which could be utilized by the residents of the Brick Beach Neighborhood during rehabilitation and new home construction include:

- Rainwater management
 - Certain sections flood after a hard rain storm, let alone a hurricane. Reducing rainwater runoff is imperative.
 - LEED for Homes recommends the following actions to manage rainwater:
 - Planting areas with native or adapted plant material (e.g. trees shrubs)
 - Installing a vegetated roof
 - Using permeable paving
 - Installing permanent infiltration or collection features (e.g., vegetated swale, rain garden, rainwater cistern or rain barrels to capture roof runoff)
- Low-emitting materials
 - The intent of this LEED credit is to reduce concentrations of chemical contaminants that can impact air quality.
 - The requirement includes the use of low volatile organic compound (“VOC”) paints, floor materials and insulation.
- Quality views
 - Part of the appeal of the Brick Beach Neighborhood is that it is surrounded by waterfront views of both Barnegat Bay and the Atlantic Ocean. The purpose of this LEED credit is to give building occupants a connection to the natural outdoor environment providing quality views.
 - The requirement is to achieve a direct line of sight to the outdoors with glazing (e.g. windows and doors) for 75% of the regularly occupied floor area of the home.
- Green power and carbon offsets
 - LEED for Homes encourages homeowner to reduce their greenhouse gas emissions through the use of grid-source, renewable energy technologies.
 - In order to qualify for the credits, a homeowner must engage in a contract for a minimum of five years, which provides between 50% and 100% of the home’s energy from green power or renewable energy certificates.
- Renewable energy production



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- In order to offset the rising costs of homeownership, this LEED credit relies on the sun to power homes. Cherry Quay and Bay Harbor are well situated for both solar and wind systems, as the nature of the sea air and high wind levels limits large vegetation in what is largely a grassland (salt marsh/wetlands) ecosystem. Streets are generally oriented so that the main streets (Queen Ann Road & Bay Harbor Road) run east and west (Bay Harbor) so that the side facades of lots fronting the side streets face south. In Cherry Quay, the long portions of the blocks face southwest or southeast, which also enables the wide portions of lots to have optimal solar orientation. Optimal solar orientation for temperate climate zones is 17.5 degrees east of due south.¹¹ LEED-ND Credit 10 under Green Infrastructure and Building (GIB C-10) provides for credit when the long side of the street block is 15 degrees or less east or west of due south, or if the long axis of 75% or more of the buildings are 15 degrees or less east or west of due south. The Cherry Quay and Bay Harbor street grids would provide opportunities for optimizing passive solar exposure on new or rehabilitated homes.
- Areas with annual average wind speeds around 6.5 meters per second and greater at an 80-m height are generally considered to have a wind resource suitable for wind development. The Wind Speed Map indicates that the neighborhood is between 6.5 and 7.0 meters per second.
- This credit is offered to homeowners if they meet the parameters for solar energy.
- Indoor water use reduction
 - The intent of this LEED credit is to reduce indoor water consumption.
 - Homeowners can receive up to six points for this line item depending on how much they reduce their water usage.



¹¹ Design With Climate, by Victor Olgyay, Princeton University Press, 1973, page 61.



- Daylight
 - Daylighting is important in connecting building occupants to the outdoors, reinforcing circadian rhythms and reducing the use of electrical lighting.
 - The requirement is to achieve at least 55% daylighting for the regularly occupied floor area of the home.
- Outdoor water use reduction
 - The intent of this LEED credit is to reduce outdoor water consumption.
 - Homeowners receive credit if they reduce exterior irrigation between 50% and 100% by installing plants that require no irrigation (e.g. native species) or an efficient irrigation system with a water sense feature.

LEED FOR NEIGHBORHOOD DEVELOPMENT

LEED for Neighborhood Development or LEED-ND is a certification system for a neighborhood-scale project, such as the entire Brick Beach area. LEED-ND incorporates the principles of smart growth, urbanism and green building into a system for neighborhood design, which can be applied to entire neighborhoods, portions of neighborhoods or multiple neighborhoods.

There are five credit categories for LEED-ND:

1. Smart location and linkage
2. Neighborhood pattern and design
3. Green infrastructure and buildings
4. Innovation and design process
5. Regional priority credit



These sustainability principles can also be combined with efforts to make the neighborhood more resilient to storm and flood events in the future by elevating buildings and selected streets, as well as investigating longer term solutions to flood mitigation through the use of stormwater management practices. Using the adjacent salt marshes as a potential for managed wetlands for stormwater management is consistent with LEED-ND.

In addition to the overall consistency with LEED-ND, homeowners can also advance the principles of LEED-ND by:

- Improving home energy performance by 5% for new homes or 3% for major building renovations.
- Reduce indoor water usage by 20% with water efficient toilets, faucets and showerheads.
- Reduce outdoor water use through the installation of native plants or smart irrigation systems.
- Reduce rainwater runoff.
- Design and orient new homes for maximum solar orientation.
- Utilize solar power, such as solar panels.

For more information on LEED-ND, go to <http://www.usgbc.org/articles/getting-started-nd>.

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SEA LEVEL RISE AND THE FUTURE OF INFRASTRUCTURE

SEA LEVEL RISE

This Neighborhood Plan for Cherry Quay and Bay Harbor has been developed to deal with the immediate recovery needs of the neighborhood, as well as to anticipate measures for improving the resiliency of existing and future development to future storm events. However, it is important to recognize that the evidence for the phenomenon of sea level rise is compelling and that Superstorm Sandy may have been a precursor of more frequent and possibly more severe storm events to come in the future, which coupled with a rising sea level could threaten a repeat of the flooding that occurred during Sandy.



Figure 82: Graphic from www.coast.noaa.gov showing the increase in flood risk due to sea level rise.

The map above estimates the portion of Cherry Quay and Bay Harbor that would be flooded by a 1% storm event based on sea level rise of 2 ft.

Given the above, we believe the emphasis of this Neighborhood Plan on taking actions to elevate buildings, especially residential buildings, and to protect major community facilities and utilities (where applicable) would be consistent with a shorter range strategy, while elevating roads and improving stormwater management facilities would be consistent with a mid-range strategy. The key to protecting



all of the mainland neighborhoods of Brick Township, as well as the Barrier Island, will be the coordination of beach dune construction and beach replenishment by the Army Corps of Engineers as soon as possible. This was a major concern of property owners and echoed by residents on both sides of Barnegat Bay during the neighborhood outreach in 2015.

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ACTION PLAN

There are a number of relatively low cost actions that can be undertaken through a partnership between the neighborhood associations, private owners, Brick Township, and Ocean County and coordinated with the State of New Jersey Department of Transportation and Department of Environmental Protection and FEMA. The identified actions are also prioritized into high, moderate, and low. The Township should plan to address all high priority projects first, followed by those that are lowest cost and easiest to implement. They are summarized in the table below.

Table 14: Cherry Quay/Bay Harbor Neighborhood Plan – Action Plan

	Project	Responsible Entity	Begin	Estimated Cost			Priority		
				Low	Mod	High	Low	Mod	High
1.	Gateway Signage	Neighborhood associations & Township	Immediate to 1 year	X			X		
2.	Landscape Treatments, including water retention areas and pond in Cherry Quay	Neighborhood associations with cooperation from Township & County	Immediate to 1 year	X				X	
3.	Update Zoning Map & Regulations	Township Zoning Board	Within 1 year	X				X	
4.	Develop and implement an Impervious Surface Ordinance	Township Planning Board	Within 1 year	X			X		
5.	Wayfinding Signage	Township, NJDOT Grant	Within 2 years	X				X	
6.	Elevate roads for emergency access and evacuation	Brick Township and FEMA with cooperation from Ocean County & NJDOT	Within 2 years			X			X
7.	Strategy and implementation to drain catch basin in Cherry Quay	Brick Township, NJDEP, FEMA	Within 2 years			X			X
8.	Elevate residential buildings and utility buildings impacted by predicted flooding	Brick Township, FEMA	Within 2 years			X			X
9.	Strategic Plan for acquisition or sale of abandoned properties	Township, State of NJ	Within 2 years	X					X
10.	Conduct study to place a bus stop near Cherry Quay	Township & Ocean County DOT	Within 2 years	X			X		
11.	Conversion of identified strategic abandoned properties to natural & public space and water retention areas	Township, NJDEP, FEMA	Within 3 years		X			X	
12.	Extension of sidewalk network & pedestrian improvements, including crosswalks	Township & NJDOT Grant	Within 3 years			X		X	



13.	Bike Path network (Lane markings and/or signage on Township roads.	Township & NJDOT Grant	Within 3 years			X		X	
14.	Expand/Enhance public space and public access opportunities through the development of a Municipal Public Access Plan	Township & NJDEP	Within 5 years		X			X	
15.	Capital Improvements to stormwater management infrastructure	Township, FEMA Grants	Within 5 years			X			X

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APPENDIX I

NOTES FROM THE CHERRY QUAY-BAY HARBOR PUBLIC MEETING

The observations and ideas summarized above were discussed with the Township professional staff and members of Cherry Quay-Bay Harbor in a public meeting at Drum Point Elementary School on June 16, 2015. The following synthesized comments were brought up during the meeting by the Township professionals and the public:

- “Raise the road along the bike path (Shake Road aka Mandalay) into Seawood Harbor section – that road always floods, hard to get in and out of our development.”
- “Catch basins are needed at Rochester Drive flood.”
- Other general comments:
 - Barrier Island is the problem with all of the major flooding in Cherry Quay-Bay Harbor/Cherry Quay – Barrier Island needs to be fixed first.
 - Cherry Quay-Bay Harbor is a nice neighborhood, but known to flood – usually 6 inches in the street, not 6 feet. That was because of the Barrier Island breach during Sandy. The Bay hardly floods the houses – it’s the water that comes up through the storm drains.
 - Storm drains used to have bevels so water would go out drains and not back in through them – not there anymore.
 - Houses sitting empty for years – damaged badly and moldy – health and safety hazard to the whole neighborhood. Need to do something about it at some point soon, whether it’s the owner or the Township (in Cherry Quay-Bay Harbor).