



# **KINGS HIGHWAY AND GILLS NECK ROAD MASTER PLAN**

September 2016

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September 2016



*Prepared for:*

**Delaware Department of Transportation**

*Prepared by:*

Lardner/Klein Landscape Architects, P.C.  
in association with Delaware Greenways

## Acknowledgements

The Kings Highway - Gills Neck Road Master Plan is an early action project of the Lewes Scenic and Historic Byway Corridor Management Plan. The work is funded with the support of Delaware State Senator Ernesto Lopez and Delaware State Representatives Peter Schwartzkopf and Steve Smyk. Additional support is provided by the DelDOT Byways Program. The plan was prepared with the input of more than one hundred and fifty individuals that participated in two public meetings and additional stakeholder meetings, taking the time to participate and provide ideas and suggestions as well as thoughtful comments on the plan.

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Nina Cannata - Greenway & Trail Committee  
Michael DiPaolo - Lewes Historic Society  
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## CONTENTS

<b>01</b>	Introduction .....	1
	Scope of Work	
	Project Location	
	Outreach	
<b>02</b>	Corridor Design Principles .....	5
	Direction from CMP and Public Meeting	
	Design Guidance and Assumption	
<b>03</b>	Design Concepts .....	14
	Roadway Configuration	
	Landscape Medians	
	Traffic Calming Measures	
	Bicycle and Pedestrian Facilities	
	Landscape Design Typology	
<b>04</b>	Application of Design Concepts .....	25
	Coastal Highway Gateway (Route 1-Dartmouth Triangle)	
	Transition Area (Dartmouth to Clay Road)	
	Developing area between Clay Road and Gills Neck	
	Kings Highway between Gills Neck and Downtown	
	Gills Neck (between and including both sets of sharp curves to City line)	
	Gills Neck (City of Lewes)	
<b>05</b>	Implementation .....	51
<b>06</b>	Appendix .....	59
	Appendix A - Meeting October 2015	
	Appendix B - Meeting May 2016	

## Preface

### How to Use This Master Plan

The purpose of this Landscape Master Plan is to establish a vision for the desired character of two of the system of connecting routes that comprise the Lewes Scenic and Historic Byway. The two roadways, Kings Highway, a major gateway to the City of Lewes, and Gills Neck Road, are currently, and will continue to be locations of significant development. The Master Plan puts forth a vision, shows examples of how that vision can be achieved and offers guidance to the development community, the City of Lewes, Sussex County, DelDOT, the Lewes Scenic and Historic Byway Committee and the public as to how the recommendations contained in the Corridor Management Plan for the Lewes Scenic and Historic Byway can be implemented. It is the hope of the authors of the Master Plan and all of those who have contributed to it that the principles, strategies, and recommendations contained herein are implemented. Further, it is expected that all who work on projects along these two roadways will cooperatively work together to implement the Master Plan.

The Master Plan, however, does not specify the number of travel lanes, the width of the travel lanes, or the required right of way within which the improvements are constructed. That authority rests with DelDOT and its formal project development process for publicly funded projects or subdivision review process for development projects. However, the roadway typical sections, landscaping concepts, pedestrian and bicycle facilities, and traffic calming recommendations are intended to be implemented as shown or as close to as shown as possible.

The principles, strategies, and recommendations contained herein are consistent with the DelDOT publications, "Context Sensitive Solutions for Delaware Byways" and the DelDOT Road Design Manual. The Master Plan reflects the desires of the many people that participated - neighbors, property owners, those that use the roadways on a daily basis, and those that value the distinct identity and sense of place that has been maintained in the face of mounting development pressures. In the spirit of community consensus building, designers working on projects within the corridor—whether they are proposed by owners of private property or by DelDOT in response to changing transportation and land use context—must consider the Master Plan as the concept design to be built upon and implemented. Accordingly, the Master Plan document should be used as one of the justifications for design decisions as projects are developed over time.

In the end, the success of this master Plan rests with the good faith and diligent efforts of the City, County, DelDOT, developers, the Byway Committee and the public.

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*NOTE: A request was made in September 2016 by the Lewes Scenic and Historic Byway Committee to the Delaware Department of Transportation Scenic Byway Program to shorten the name of the byway to the "Lewes Historic Byway." All references in this Master Plan to the Lewes Scenic and Historic Byway will also refer to the new and shortened name upon approval by the State of Delaware.*

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# 01

## Introduction

## PURPOSE

The purpose of the project is to develop a master plan and the desired character for Kings Highway and Gills Neck Road, located in Lewes, Delaware. The two routes are key gateways into the City of Lewes and are part of the Lewes Scenic and Historic Byway, a state designated scenic byway. The Lewes Scenic and Historic Byway Corridor Management Plan (CMP), approved by Delaware’s Secretary of Transportation in 2015 and Sussex County Council in 2016, was created to guide growth along the corridor and to assist in preserving and enhancing significant natural and historic resources. The CMP process identified “guiding land use change to preserve character” as the overall emphasis for Kings Highway and Gills Neck Road.

The master plan provides a comprehensive overview of design concepts in relation to roadway improvements and desired roadway character that reinforce the community’s desired vision. The plan also identifies the coordinated public and private actions necessary to achieve the desired vision and character.

The concepts included in the Master Plan are intended to guide future changes to the corridor and are not intended for design or construction exactly as shown.

## PROJECT LOCATION

Kings Highway serves as an important Gateway into Lewes. Gills Neck Road has a distinct character, with its narrow, tree-lined section and its more open section through former farm fields.

The project area includes:

- Kings Highway from its intersection with Coastal Highway to its intersection with Freeman Highway, including the Dartmouth Drive leg from Kings Highway to Route 1.
- Kings Highway within the City of Lewes from the City line to Gills Neck
- Gills Neck Road from its intersection with Kings Highway to its intersection with Savannah Road.



Figure 1 Project Location

## COLLABORATIVE APPROACH

The process for developing the Master Plan was an open and collaborative effort involving key stakeholders, City and County staff and representatives, and State agency representatives and legislators. Key meetings and milestones included the following:

1. An initial, **small group focus** meeting was conducted in October 2015 with the Delaware Department of Transportation (DelDOT), property owners with active development proposals, representatives from the Scenic Byway Committee, selected committee chairs in the City of Lewes, and representatives from Sussex County. The purpose of the group focus meeting was to review assumptions and identify design issues.
2. An **initial public meeting** was held in October 2015 to solicit input from the general public regarding their vision and ideas for consideration in the master plan for Kings Highway and Gills Neck Road. During the public meeting, a visual preference survey (Figure 2) was conducted to gain a better understanding of the desired character of the corridor.
3. A **second small group focus** meeting was held in April 2016 with key stakeholders to review the preliminary design concept to make sure the effort was heading in the right direction.
4. A **second public meeting** was held in May 2016 to review the proposed master plan design concepts.
5. The **Lewes Scenic and Historic Byway Committee** also conducted a public meeting to review the master plan design concepts.

Comments, meeting summaries, and display materials from these meetings are included in Appendix A and B.

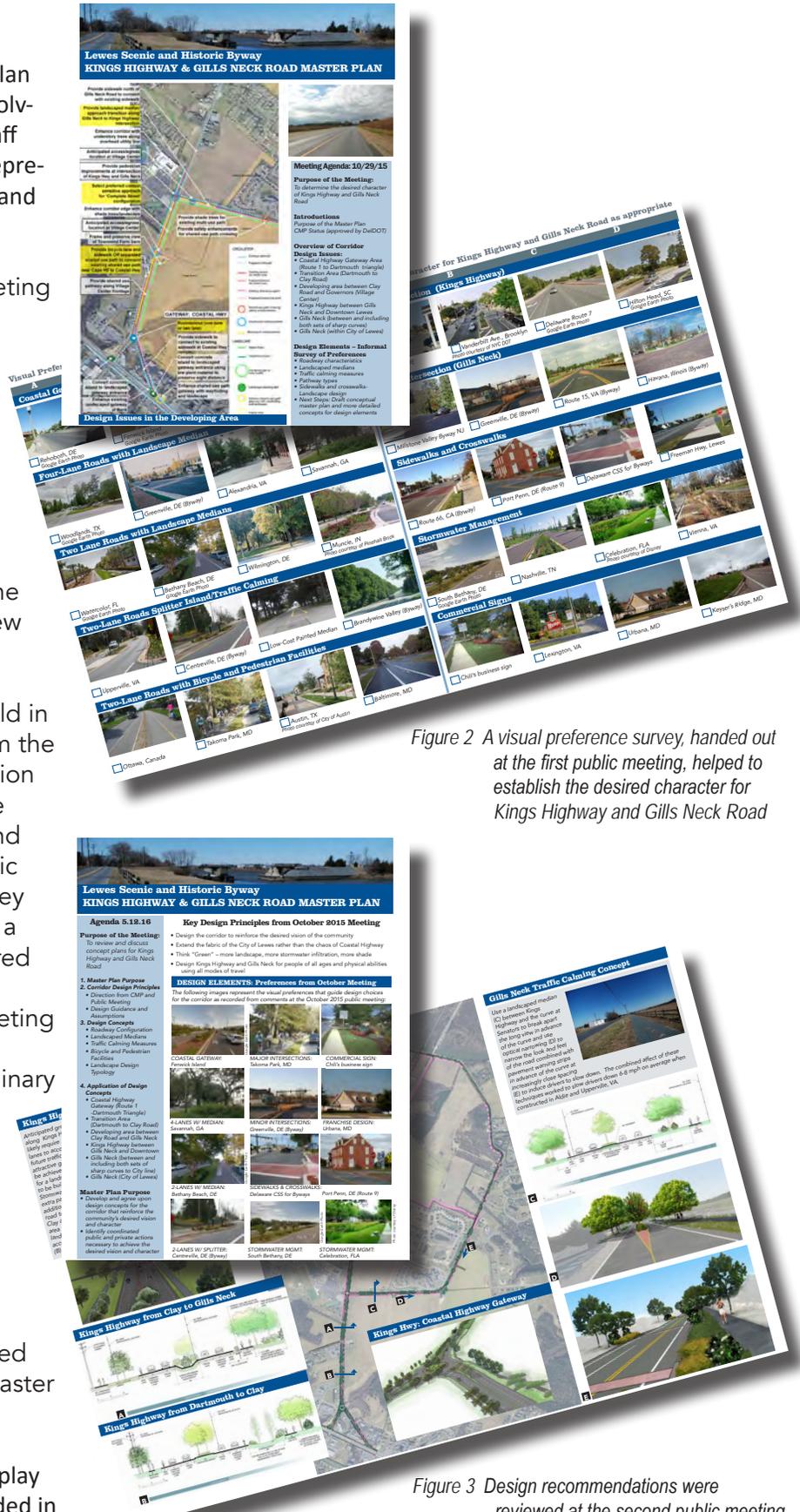


Figure 2 A visual preference survey, handed out at the first public meeting, helped to establish the desired character for Kings Highway and Gills Neck Road

Figure 3 Design recommendations were reviewed at the second public meeting

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# 02 Corridor Design Principles

## LEWES SCENIC AND HISTORIC BYWAY CORRIDOR MANAGEMENT PLAN

The Corridor Management Plan (CMP) for the Lewes Scenic and Historic Byway (2015) recommended that a master plan be developed for each byway route describing the potential roadway improvements and landscape recommendations so as to retain the context of the Byway. The CMP also recommended that the master plans be developed by forming a strong alliance between DelDOT, the City of Lewes, Sussex County, and the Byway organization as a means of achieving compatibility in land use design along the Byway routes.

The CMP recommended transportation strategies, that, when considered all together, can help to achieve compatibility between the land development and zoning codes of the City of Lewes and the County of Sussex and the transportation improvements that are often tied to development proposals.

### Context Sensitive Design:

The CMP also recommended that all transportation improvements along the Byway be designed to be sensitive to its context and in accordance with the policy documents adopted by DelDOT for Byways. The CMP recommended that Master Plans be utilized to establish design guidelines for roadside and median environments, as well as roadway design elements such as landscaping and the selection of paving materials such as brick, while recognizing that safe design is the first priority. See page 43 of CMP for Context Sensitive Design approach and principles.

### Transportation Planning Parameters Derived from the CMP Planning Process:

One of the primary goals identified by the CMP was to address safety and mobility while maintaining character within the corridor. As proposed by the CMP and facilitated by volunteer traffic counters, a Traffic Management Report was developed to shape a better understanding of how much carrying capacity Lewes may have to accommodate future growth in traffic. It was determined from the report that Lewes' carrying capacity is relatively low and at times exceeded that capacity, especially during the peak travel times and seasons. Four strategies were developed for addressing Lewes' future transportation-related challenges and are listed as follows:

#### 1. Mitigation of Development Traffic

Manage the traffic impacts of new development by developing context sensitive mitigation techniques that maintain the character and context of the Byway. These are also enhancement goals, but the development review process is where much of this needs to be discussed and implemented (i.e., Landscape Master Plan, Context Sensitive Design, Improve Developer/City/County coordination, Complete Street Policy Objectives on Scenic and Historic Roads).

#### 2. Manage Travel, Not Traffic

Develop a Traffic Management Plan. Manage events and beach overcrowding.

#### 3. Encourage Alternative Modes of Travel

Continue to carefully develop the area's trails and greenways to ensure visitors and residents alike can visit the attractions along the Byway routes on foot and on bicycles.

#### 4. Guide Land Use Change Over Time

Consider extending the patterns of lots and blocks outward using the size, scale, and character of historic Lewes. Incorporate open space and landscape into the design of transportation features.

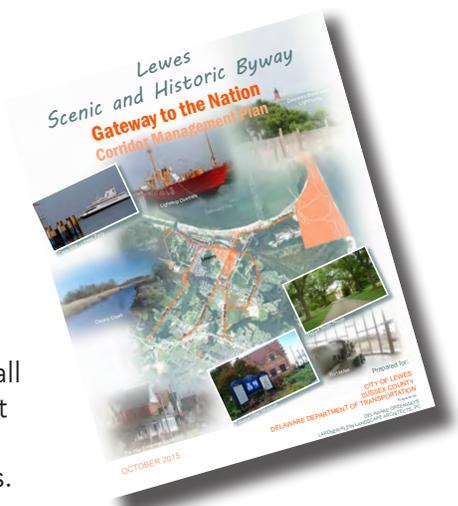


Figure 4 Lewis Scenic and Historic Byway Corridor Management Plan report

**Management Approach Derived from the CMP Planning Process**

- **Kings Highway: Guiding Development and Transportation**—use the Byway to help shape the future character of the route that is most likely to undergo the greatest amount of change.
- **Gills Neck Road: Retain the Historic Road Character**—the northern two thirds of Gills Neck Road has a distinctive character that needs to be retained in the face of the growth and development of the southern/western third.

**Design Principles**

Guiding land use change as a strategy is important along Kings Highway and Gills Neck Road. Four key design principles emerged from the CMP and are applied directly to the corridor:

1. Design the corridor to reinforce the desired vision of the community
2. Extend the fabric of the City of Lewes rather than the chaos of Coastal Highway
3. Think “Green” – more landscape, more stormwater infiltration, more shade
4. Design Kings Highway and Gills Neck for people of all ages and physical abilities using all modes of travel



Figure 5 Extending the Lewes historic pattern of lots and blocks (left) along Kings Highway and Gills Neck Road (right)



Figure 6 CMP recommendation for a landscaped median with broad sidewalks and buildings fronting the street

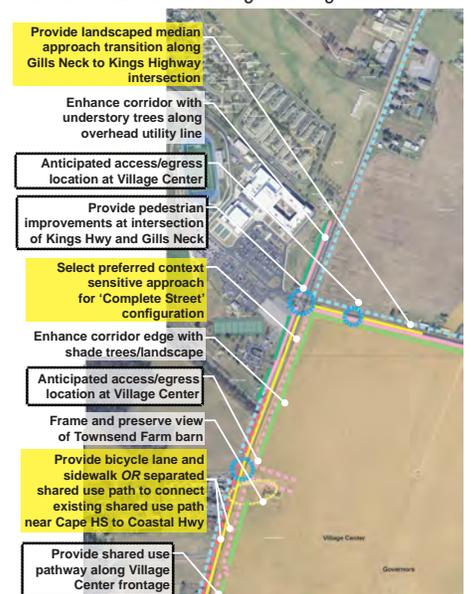


Figure 7 Diagram illustrates recommendations for the Kings Highway and Gills Neck intersection (photo above left)

**Initial Concepts**

Figure 8 on page 8 and Figure 9 on page 9 (and enlargement at right) illustrate the initial issues and concepts as presented at the September 2015 public meeting. Comments from the meeting shaped the recommendations in this master plan.

**TRANSITION: COASTAL HWY TO NEW LEWES**



Kings Highway at Gills Neck Road



Roundabout example: Rehoboth



Kings Highway at Clay Road

**GATEWAY: COASTAL HWY**



Dartmouth Drive at Coastal Highway



Kings Highway at Coastal Highway



Pedestrian improvements along Coastal Highway at Dartmouth Drive (currently under construction)

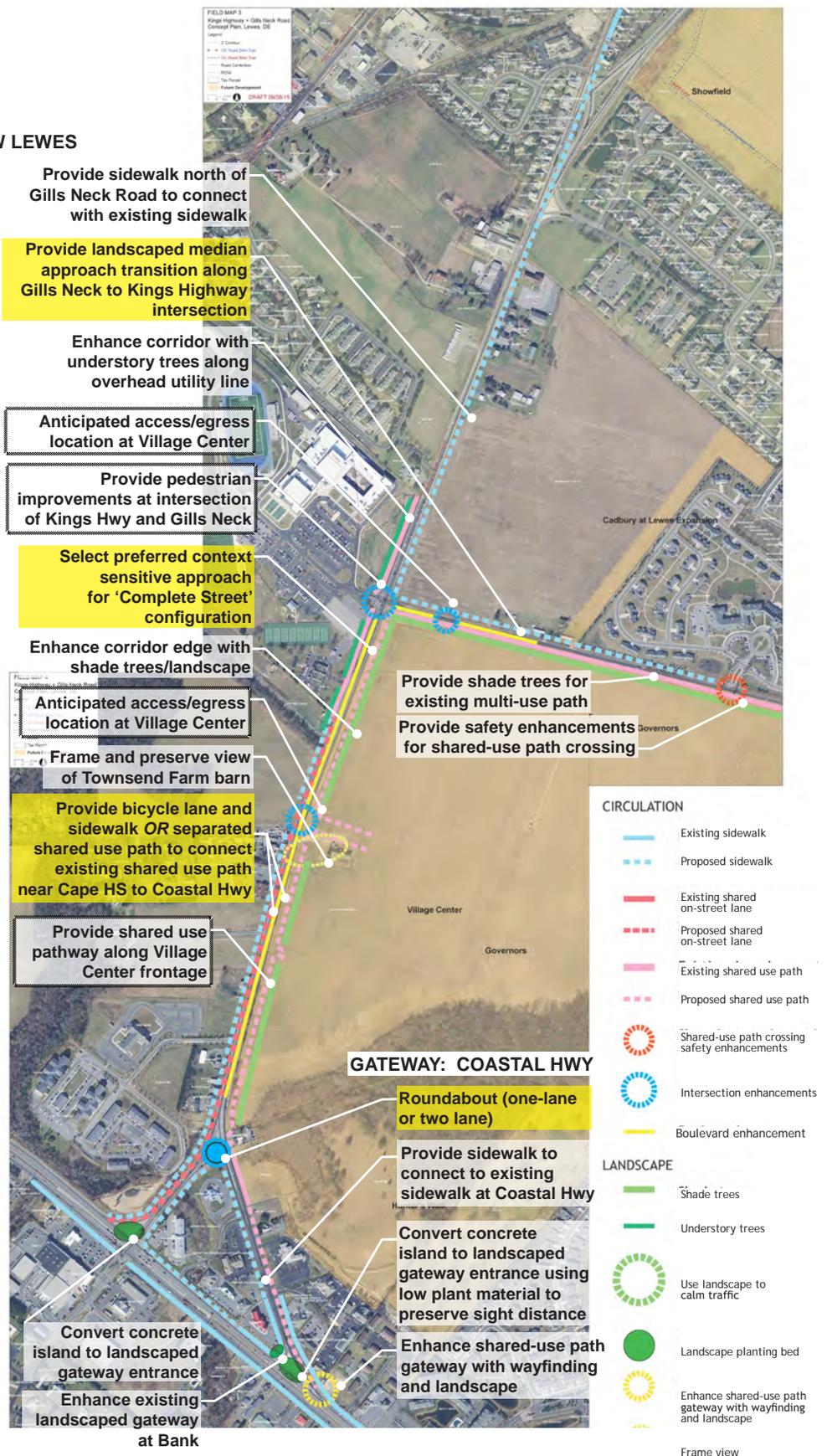


Figure 8 Preliminary Concept Plan for Kings Highway. The concept plan as presented in initial public meeting highlights key areas for improvements along the corridor. (An 11x17 copy of the display may be found in the appendix.)

**OLD LEWES**



Gills Neck Rd: view of canal



Gills Neck Rd near Hazell Smith estate

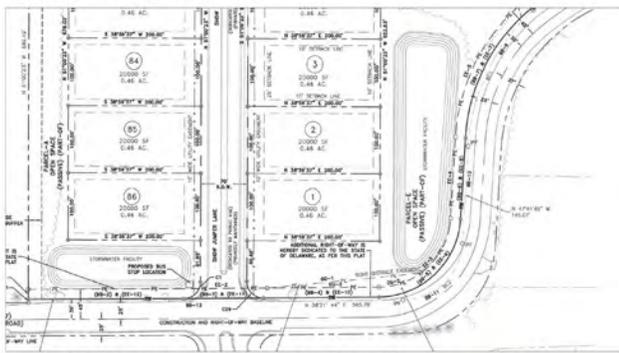


Freeman Hwy + Monroe Road

**TRANSITION: NEW TO OLD LEWES**



Gills Neck Road: two sets of curves



Gills Neck Road: curve-softening project at Showfield



Gills Neck Rd: Breakwater/Hawkseye



End of bike lane and shared-use path

**NEW LEWES**



Gills Neck Road at trail intersection



Gills Neck Road: Cadbury/Kings Hwy

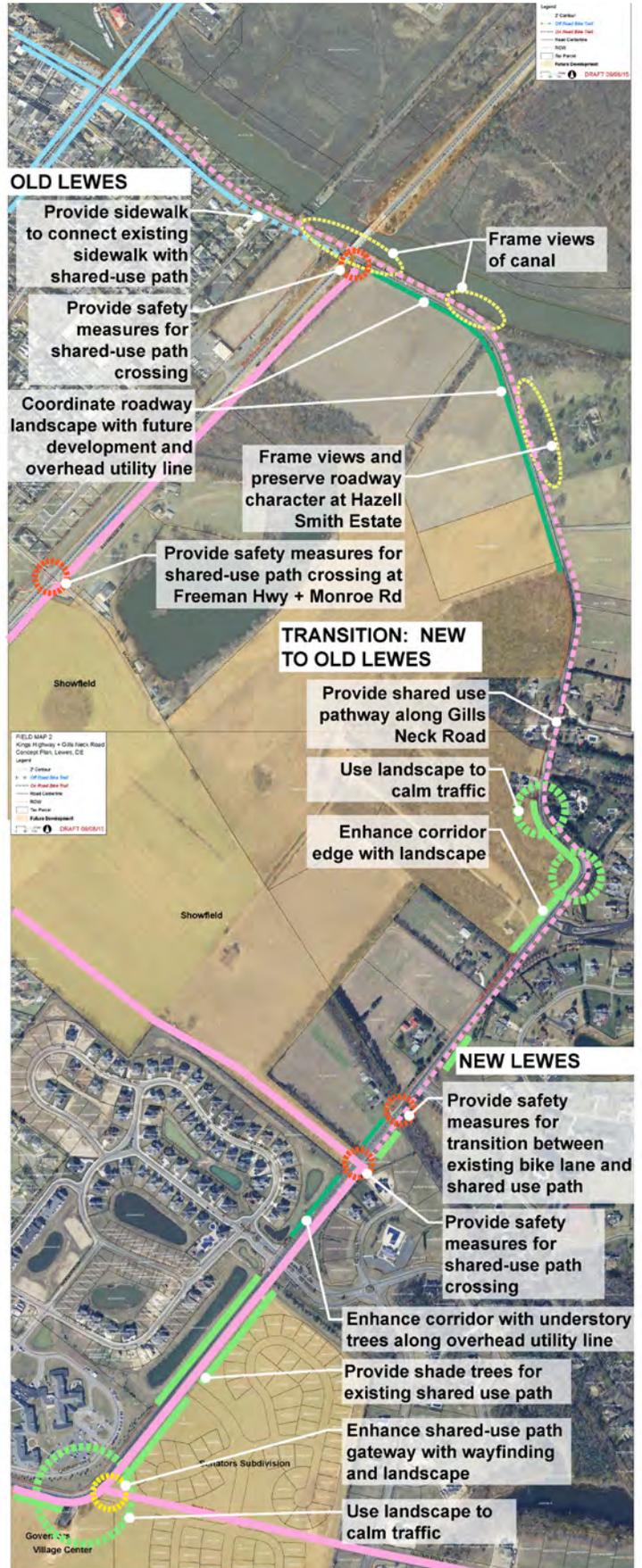


Figure 9 Preliminary Concept Plan for Gills Neck Highway. The concept plan as presented in initial public meeting highlights key areas for improvements along the corridor. (An 11x17 copy of the display may be found in the appendix.)

## VISUAL PREFERENCE SURVEY

A visual preference survey was conducted during the initial public meeting for the KHGN Master Plan in October 2015. Participants were presented a handout with example images from the following categories: coastal gateways, four-lane roads with landscape medians, two lane roads with landscape medians, two lane roads with splitter islands and traffic calming, two lane roads with bicycle and pedestrian facilities, major intersections, minor intersections, sidewalks and crosswalks, stormwater management, and commercial signs. Participants were then asked to select images from each category that best represents their desired character for Kings Highway and Gills Neck Road.



Figure 10 Visual Preference Survey handout from October 2015 meeting. (See Appendix A for visual preference survey handout)

Visual Preference Survey Element	A	B	C	D	
Coastal Gateways	2	12	4	3	
4 Lane Road with Landscape Median	4	3	3	5	one wants small landscape median
2 Lane Road with Landscape Median	1	11	3	4	
2 Lane Road with Traffic Calming	5	12		5	
2 Lane Road with Bike/Ped Facilities		8	7	5	
Major Intersections (Kings Hwy)	7	7	2	4	
Minor Intersections (Gills Neck)	3	10	3	4	one says need to eliminate curves so cars can go faster
Sidewalks and Crosswalks	8	5	10	1	one says need to get bikes off road so cars can go faster
Stormwater Management	6	6	8	2	
Commercial Signing	9	1	8		one person likes none needs to be high enough to get above trees.

## Result of Visual Preference Survey

The following images represent the visual preferences that guide design choices for the corridor as recorded from comments at the October 2015 public meeting:



COASTAL GATEWAY:  
Fenwick Island

Google Earth Photo



MAJOR INTERSECTIONS:  
Takoma Park, MD



COMMERCIAL SIGN:  
Chili's business sign



4-LANES W/ MEDIAN:  
Savannah, GA



MINOR INTERSECTIONS:  
Greenville, DE (Byway)



FRANCHISE DESIGN:  
Urbana, MD



2-LANES W/ MEDIAN:  
Bethany Beach, DE

Google Earth Photo



SIDEWALKS & CROSSWALKS: Delaware  
CSS for Byways



2-LANES W/ SPLITTER:  
Port Penn, DE (Route 9)



2-LANES W/ SPLITTER:  
Centerville, DE (Byway)



STORMWATER MGMT:  
South Bethany, DE

Google Earth Photo



STORMWATER MGMT:  
Celebration, FLA

Photo courtesy of Disney

## RELATIONSHIPS BETWEEN LAND USE AND TRANSPORTATION

One of the purposes of the KHGN Master Plan is to identify coordinated public and private actions necessary to achieve the desired vision and character for the corridor. Private actions that affect the character of the corridor are primarily changes related to land development activities. Development activities can either be built out as currently zoned (referred to as “by right”) or a developer may seek a zoning change. In both cases, the developer must comply with any Federal, State and with any and all regulations/restrictions set forth by the County.

Delaware State Law, TITLE 29, CHAPTER 92, Subchapter II. § 9203, spells out which local land use planning actions are subject to review process through the Office of State Planning Coordination. All projects meeting any one of the criteria outlined in § 9203 are subject to review summarized below (see full text for exceptions):

1. Major residential subdivisions with internal road networks and more than 50 units;
2. Non-residential subdivision with a total floor area exceeding 50,000 square feet;
3. Rezoning, conditional uses, site plan reviews and/or subdivisions, within environmentally sensitive areas, as identified within any local jurisdiction’s comprehensive plan;
4. Annexations inconsistent with the local jurisdiction’s comprehensive plan;
5. Applications for rezoning if not in compliance with the local jurisdiction’s comprehensive plan;
6. Any other project which is required to be referred to the State for pre-application review by local jurisdiction regulations;
7. Any local land use regulation, ordinance or requirement referred to the Office of State Planning Coordination by a local jurisdiction; and
8. County and municipal comprehensive plans as required by Titles 9 and 22.

Modifications to Kings Highway and Gills Neck Road have been made for each of the approved projects in the corridor; are under discussion for current development proposals (Village Center); and, will likely be necessary for any of the larger parcels where further development is likely to be proposed meeting any one of the above criteria.

### Existing and Proposed Development

In developing the Master Plan for Kings Highway and Gills Neck Road, information on existing plans and proposals was gathered. The illustrations shown on Figure 11 on page 12 and Figure 12 on page 13, as displayed at the May 2016 meeting, highlight the key active projects for the study area such as:

- Pedestrian Improvements on Route 1
- J&B trail system
- Georgetown-Lewes Trail system
- Village Center site
- Senators – curve softening, residential development
- Governors and Showfield and related roadway changes now under construction
- Oyster Brewery and Coastal Hammocks
- Bicycle parking area on the NE corner of Gills Neck and Savannah

An 11x17 copy of the display boards, as presented in May 2016 meeting, is included in the appendix.

# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN: Active Projects 4-18-16

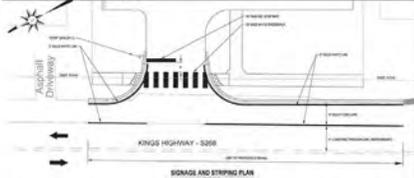


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## Bicycle and Pedestrian Connection to Junction & Breakwater Trail



## Oyster Brewery



## Senator's Roadwork at Kings Highway/Gills Neck



## Crooked Hammock Brew Pub



## Parsell (Access Modifications)



## Coastal Highway Pedestrian Facilities

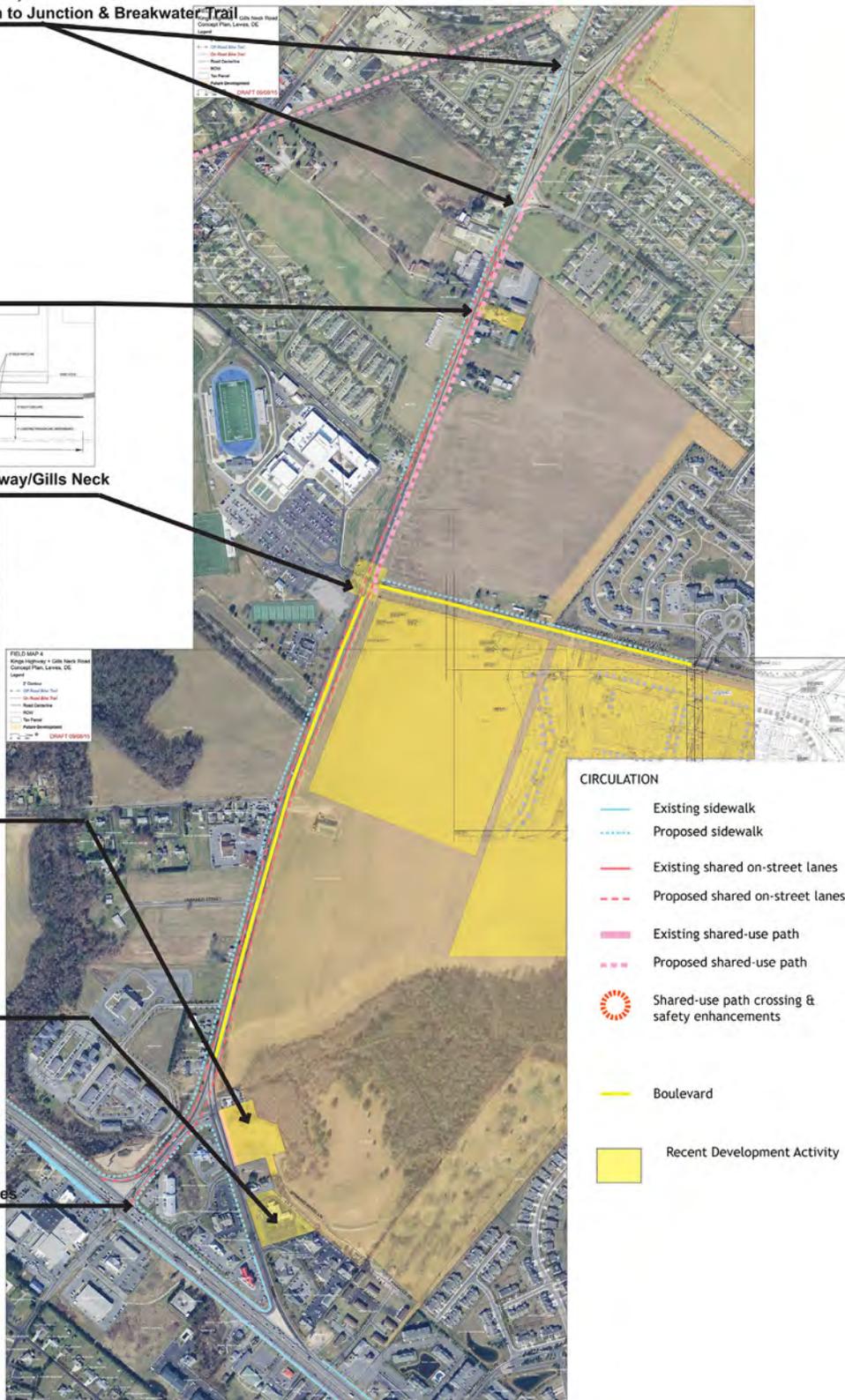


Figure 11 Active Development Projects along Kings Highway as of May 2016

# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN: Active Projects

4-18-16



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## Georgetown-Lewes Rail Trail Connecting to Junction and Breakwater Trail under Freeman Highway

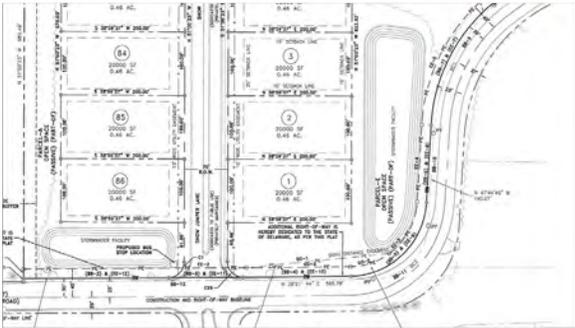


Junction and Breakwater at Gills Neck



Under Freeman Highway

## Showfield (Sussex County)



Gills Neck Road: curve-softening project at Showfield

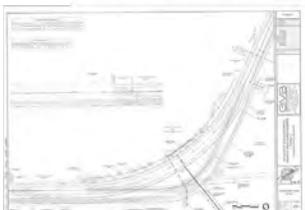
## Junction and Breakwater Trail Beach Loop



Gills Neck Road at trail intersection



## Curve Softening at Governors



Gills Neck Road as constructed

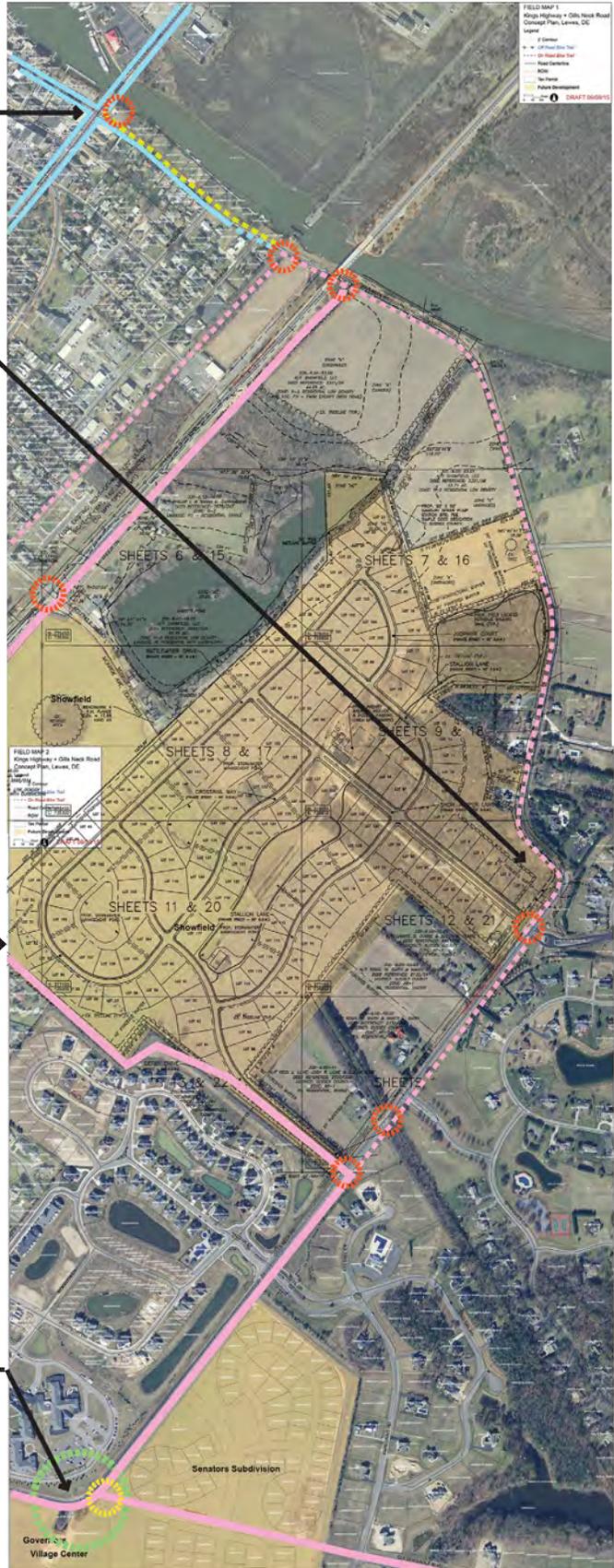


Figure 12 Active Development Projects along Gills Neck as of May 2016

### Transportation Assumptions

A roadway should be designed to accommodate and serve the travel demands placed upon it. As documented in planning level traffic analyses conducted as part of the CMP and by the City of Lewes, Kings Highway is very congested in the summer months and is less congested the rest of the year. Recent improvements at Gills Neck Road have helped reduce the congestion, but congestion is still overwhelming most of the day. Therefore, something will need to be done to relieve congestion and reestablish mobility.

Concerns were expressed as part of the KHGN Master Plan’s public process that expanding capacity on Kings Highway from two to four travel lanes would not be in keeping with the Byway or the character of Lewes. While keeping Kings Highway to one lane in each direction would be ideal in some respects, the fact is that at times it currently operates beyond its carrying capacity. As more land is converted from agricultural or low density residential use to more intense land uses sometime in the future, the roadway will need to change to accommodate that development. The regulation and management of development is a responsibility of Sussex County, and not DelDOT. While the County is beginning its Comprehensive Plan Update and the question of type and density of development along Kings Highway will be a topic considered in the development of that plan, for DelDOT to do nothing or to rule out any additional travel lanes means that the current traffic situation remains in place indefinitely, a situation that is not desired by anyone.

Rather than set the lane arrangement of Kings Highway in the Master Plan, the Plan assumes that additional capacity is needed. The Master Plan acknowledges that additional capacity could take the form of additional turning lanes only, additional travel lanes only or some combination, depending upon the detailed traffic studies that will be shared with the community as well as the Byway Committee. The sketches presented at the Second Public Meeting on May 12, 2016 and included within the master plan will serve as guidance as the modifications are proposed through the development process.

Modifications to Kings Highways and Gills Neck Road will be implemented over time, some by developers and some by DelDOT. The Master Plan serves as the coordinating document. As individual projects move forward, specific transportation needs will be defined by more detailed studies and further public input from the community, possibly resulting in different lane configurations than those presented in a particular sketch from the Master Plan. However, the desired character as illustrated in the sketch will form the baseline from which all projects will be reviewed. As modifications are built out over time, the desired character as presented at the May 12, 2016 public meeting will be achieved by applying the design principles and concepts outlined in this Master Plan in a coordinated way to each individual project.

In addition to the issues outlined above regarding traffic capacity, the relationship to ongoing land development activities, and the configuration of Kings Highway and Gills Neck Road, pedestrian and bicycle safety issues were raised during the process especially in relationship to Cape Henlopen High School, along Gills Neck Road (especially the relationship of the softening of the curves and observed vehicular operating speeds), and at the current terminus of the Junction and Breakwater Trail connector trail.



Figure 13 Results of 2014 planning level analysis (top) indicating the hours during the day when intersection carrying capacity was exceeded at the Kings Highway/Gills Neck/Cape Henlopen High School intersection (bottom)

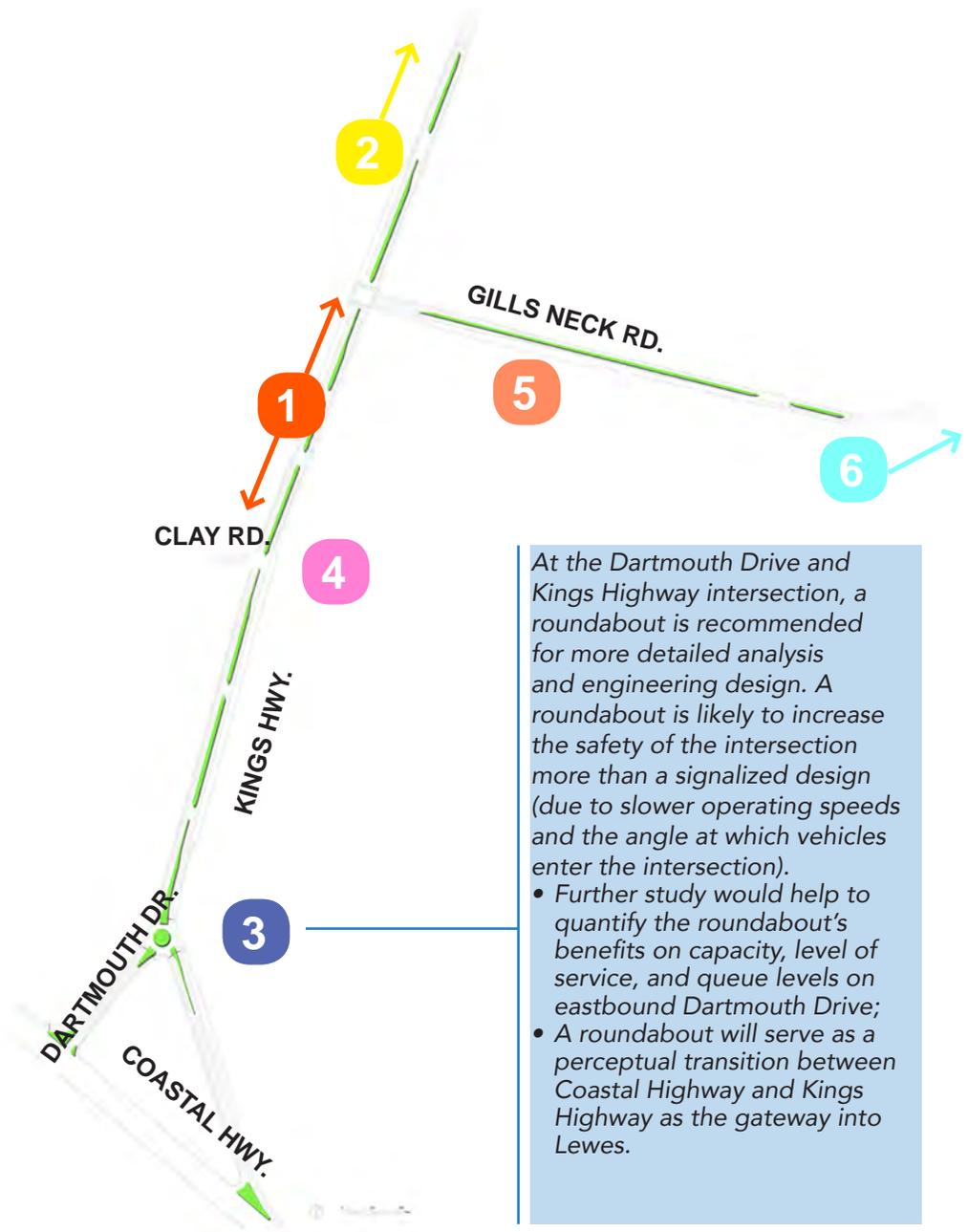
# 03 Design Concepts

## ROADWAY CONCEPTS

Taking into consideration the strong support for the Kings Highway boulevard concept as the best approach to form a distinctive gateway into Lewes, master plan concepts have been developed assuming a four lane configuration with a landscaped median between Dartmouth and Gills Neck. Between Gills Neck and Freeman the median will transition from boulevard to two lane road. While it is possible that a four-lane configuration may never be needed, at a minimum, turn lanes would be needed for access to new development. Therefore, future investments in stormwater, access management, landscape, pathways, and utility work should all assume a four-lane boulevard configuration.

The plan recommends a landscaped median along Gills Neck Road from Kings Highway to the Senators entrance. New traffic calming measures are needed approaching the two sets of curves along Gills Neck.

The diagram (right) is the basis for the Master Plan recommendations.



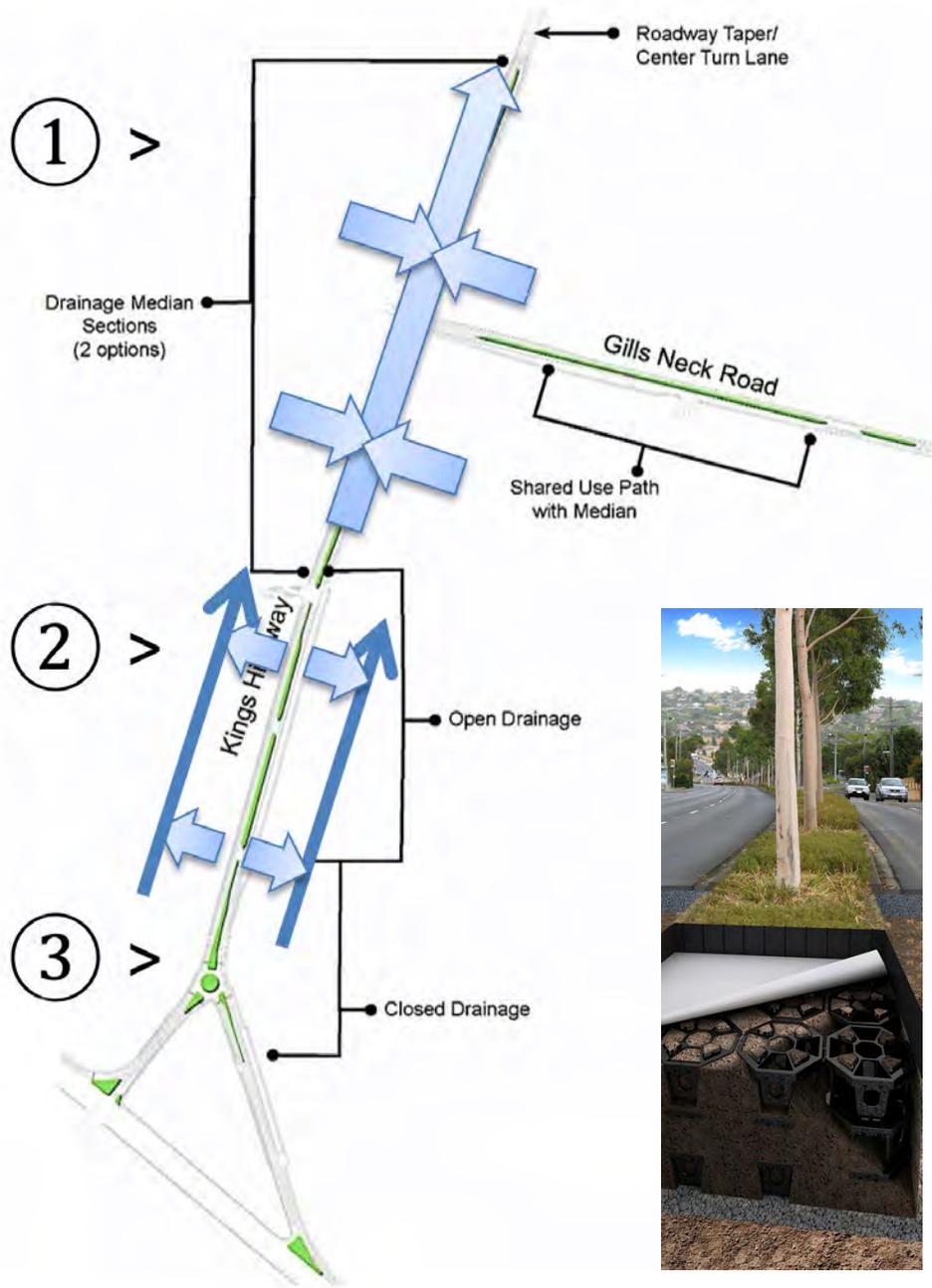
At the Dartmouth Drive and Kings Highway intersection, a roundabout is recommended for more detailed analysis and engineering design. A roundabout is likely to increase the safety of the intersection more than a signalized design (due to slower operating speeds and the angle at which vehicles enter the intersection).

- Further study would help to quantify the roundabout's benefits on capacity, level of service, and queue levels on eastbound Dartmouth Drive;
- A roundabout will serve as a perceptual transition between Coastal Highway and Kings Highway as the gateway into Lewes.

Figure 14 Roadway configuration assumptions

- 1 Kings Highway between Dartmouth Drive and north of Gills Neck Road: 2 travel lanes per direction, boulevard design
- 2 Kings Highway Approaching Freeman Highway: one travel lane per direction with center turn lane
- 3 Intersection with Dartmouth Drive: roundabout
- 4 Intersection with Clay Road: signalization
- 5 Gills Neck Road along proposed shopping center: 1 travel lane per direction boulevard design
- 6 Remainder of Gills Neck Road: 1 travel lane per direction, curve smoothing with traffic calming

**STORMWATER MANAGEMENT CONCEPTS**



Increasing pavement width, whether for turn lanes or for adding vehicular lanes, require stormwater to be managed to meet both water quality and water quantity standards

Managing stormwater runoff takes up a lot of room – just a standard roadway ditch with a four foot wide flat bottom has side slopes that require six feet of space for every one foot of rise. A typical four-foot deep ditch would require as much as 28’ in width.

The amount of space can be narrowed by steepening the side slopes and by using infiltration within the ditch area. Soil cells, specifically designed for stormwater management can be installed underground to help meet both water quantity and water quality requirements utilizing less space.

The diagram on this page illustrates the overall concepts for managing stormwater either within a closed system (curb and gutter (area 3), or with open drainage flowing away from the road (area 2), or with open drainage flowing toward the median (area 1).

Figure 15 Stormwater management assumptions for Kings Highway

① Clay Road to Freeman - drain roadway runoff towards median and use infiltration/ green infrastructure to treat runoff

② Dartmouth to Clay Road - drain roadway runoff towards roadside areas to treat runoff

③ Coastal Highway to Dartmouth - use curb and gutter through proposed intersection/ roundabout

### LANDSCAPED MEDIANS

Landscaped medians were proposed along certain sections of Kings Highway and Gills Neck Road as shown in the illustration at right. Landscape median islands have the following benefits:

- Landscape - trees and other vegetation promote aesthetic beautification and provide important environmental and thermal comfort benefits such as evapotranspiration and shade
- Traffic Calming - the addition of median island creates a visual perception of roadway narrowing which tends to slow traffic speeds
- Stormwater Management some of the landscaped medians were designed as depressed basins for the purposes of stormwater infiltration. Soil cell technology may be used to increase stormwater capacity.

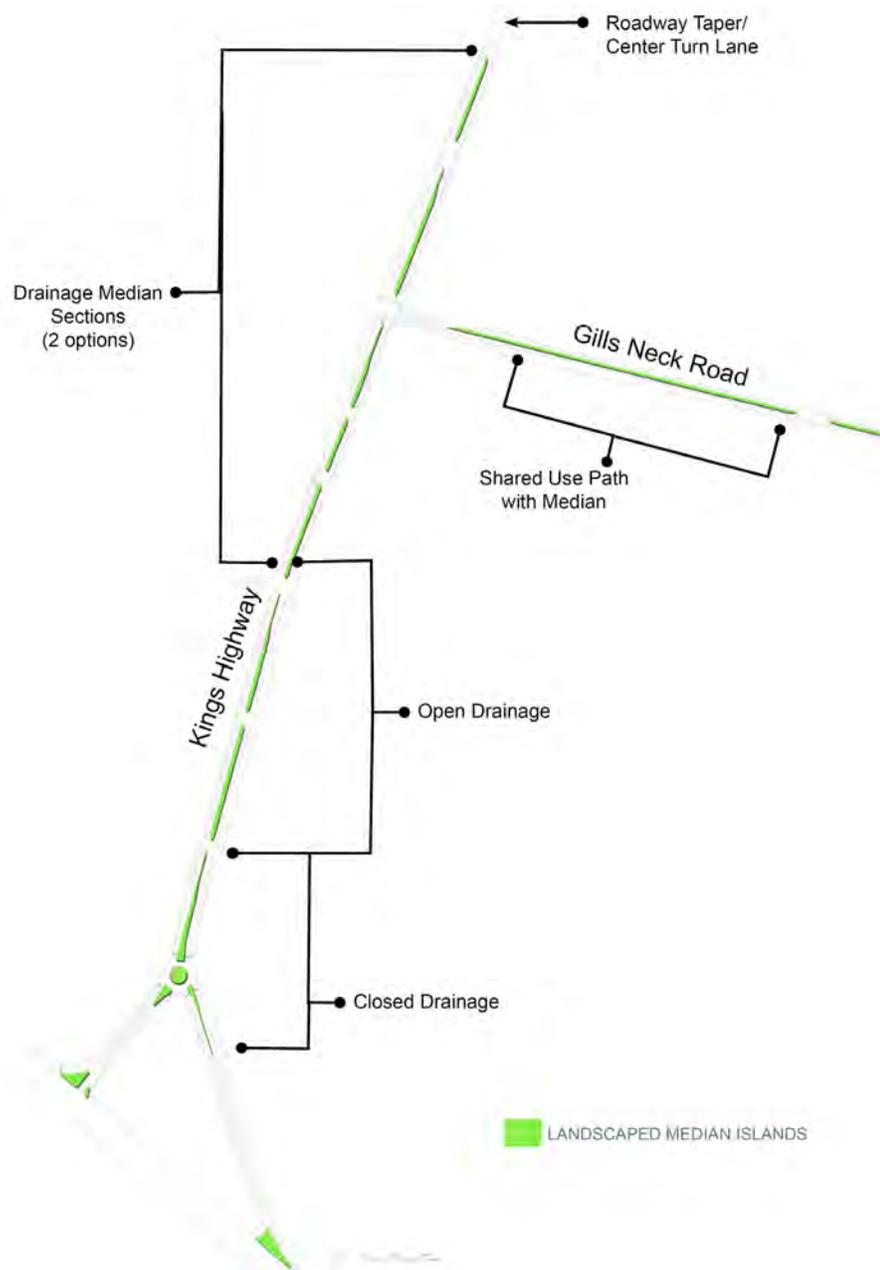


Figure 16 Assumptions regarding placement of landscape medians

## INTERSECTING SIGHT DISTANCES

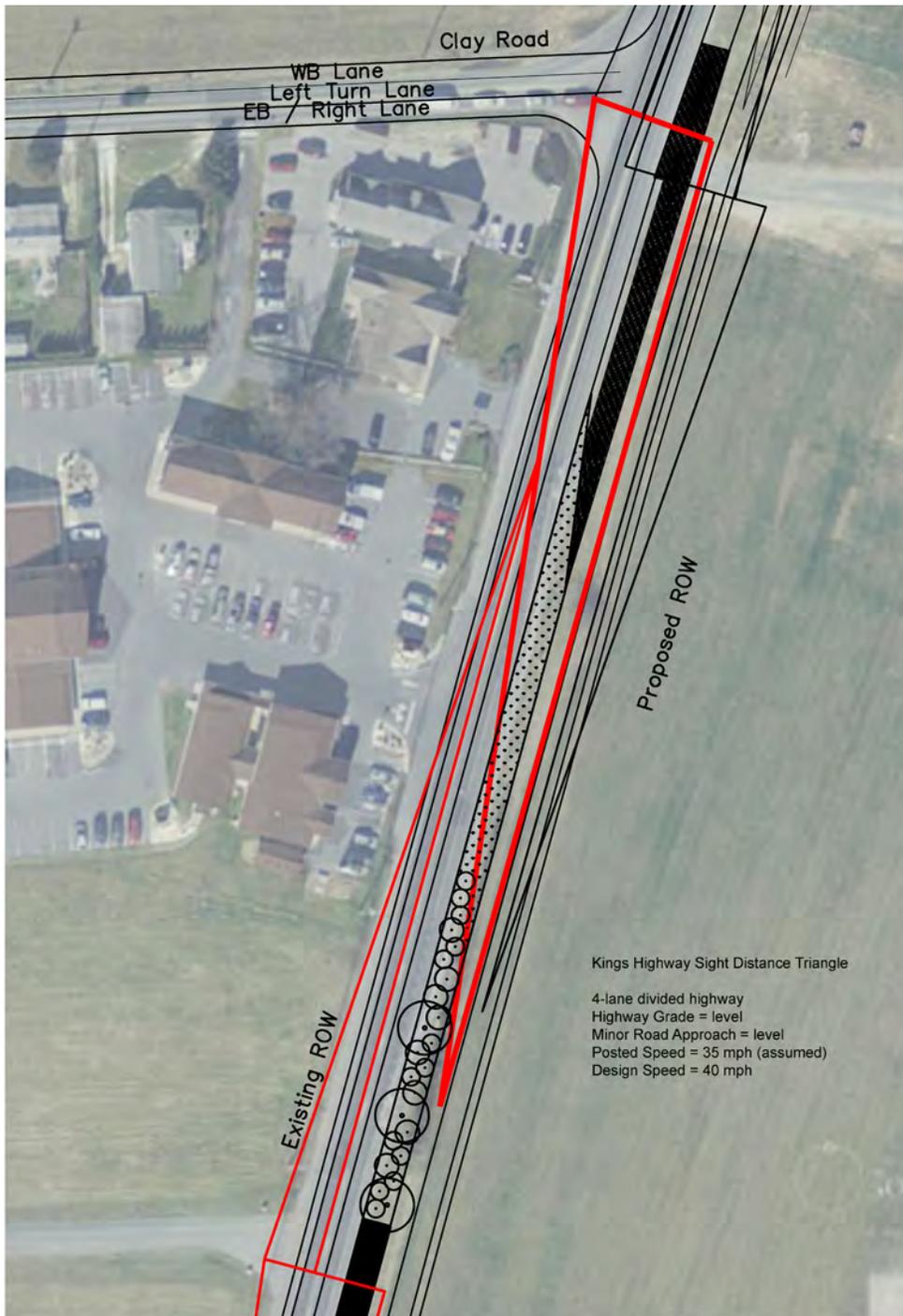


Figure 17 Sight distance triangle application and the resulting planting density for a typical boulevard median

shrubs could be planted that would not exceed 24" at maturity. Using this design guideline, all the benefits of increased vegetation density could be achieved without obstructing the driver's view. All trees within sight distance triangles must be pruned to a minimum height of 8'6" above the pavement grade.

Section 7.4 of the DeIDOT Road Design Manual and the American Association of State Highway and Transportation Officials (AASHTO) Green Book provide guidance regarding obstructions within a sight distance triangle. AASHTO further states that "the determination of whether an object constitutes a sight obstruction should consider both the horizontal and vertical alignment of both intersecting roadways, as well as the height and position of the object." (Chapter 9, Intersections)

Many jurisdictions do, however, allow planting within sight distance triangles (SDT), given the plant does not obstruct the driver's view. FDOT's design manual, in particular, is one of the best examples of very clear direction on how trees and shrubs can be planted within SDTs and factors in posted speed, diameter of tree, and tree spacing. (See <http://www.dot.state.fl.us/rddesign/DS/08/IDx/546.pdf>)

Assuming a design speed of 40 mph, trees could be planted with less than an 11" diameter at 40' intervals. Assuming a driver height of 3.5', (AASHTO, Chapter 9, Intersections) low growing

## TYPICAL SECTIONS

Common elements of the Kings Highway roadway sections would include the following:

- Posted speed 35 mph/ design speed 40 mph
- Two 11' travel lanes in each direction with a 16' wide planted median (18' wide including curb and gutter)
- 10' multi-use pathway on inbound right side from Coastal Highway to Freeman Highway
- 5' sidewalk on outbound right side from Freeman Highway to Coastal Highway (connecting to existing 10' shared-use path at high school)

### Closed Drainage (Dartmouth/Kings Highway Intersection)

As part of the proposed roundabout, roadway development would include the construction of curbs along the road edge where water would be directed to a subsurface drainage system.

### Open Drainage (Dartmouth to Clay)

Figure 19 depicts a typical section along Kings Highway as it would be applied between the Dartmouth intersection with Kings Highway and Clay Road (see Figure 15 on page 17). In this scenario, the center of the roadway is crowned and drainage is directed to the edges of the roadway. Drainage on the east side of the road is channeled into a 28' ditch.

### Stormwater Management in Median (Clay to east of Gills Neck)

Figure 20 and Figure 21 illustrate typical roadway sections (running from Clay Road to South Atlantic) where stormwater runoff is managed within the median. The roadway (one travel lane in each direction) would be widened to two lanes in each direction to accommodate future travel demands and to facilitate turning movements. The right lane in both directions would be a combined through lane and right turn lane. Left hand turns would be accommodated within the 16' median. Sheet flow drainage from the roadway would be captured within the depressed landscape median to promote stormwater management best practices. Soil cells would be needed to be installed to increase the storage capacity of the channel as well as to more effectively meet water quality standards. The 10' shared use path is provided on the east side of the roadway to accommodate a wider variety of user groups and provide trail connectivity within the corridor. On the west side of the roadway, a 5' sidewalk is proposed and would connect to the School to provide a safer pedestrian route. The existing utility pole placement varies along the west edge of the roadway, so the sidewalk location may vary also.

Trees would need to be setback a minimum of 10' from an existing gas line. Figure 20 places the trail within that setback with trees planted 2-3' beyond the edge of the trail. Figure 21 illustrates trees planted closer to the roadway (but outside the roadway clear zone) and the trail sited behind. The two sections show how the trail alignment can curve to provide interest.

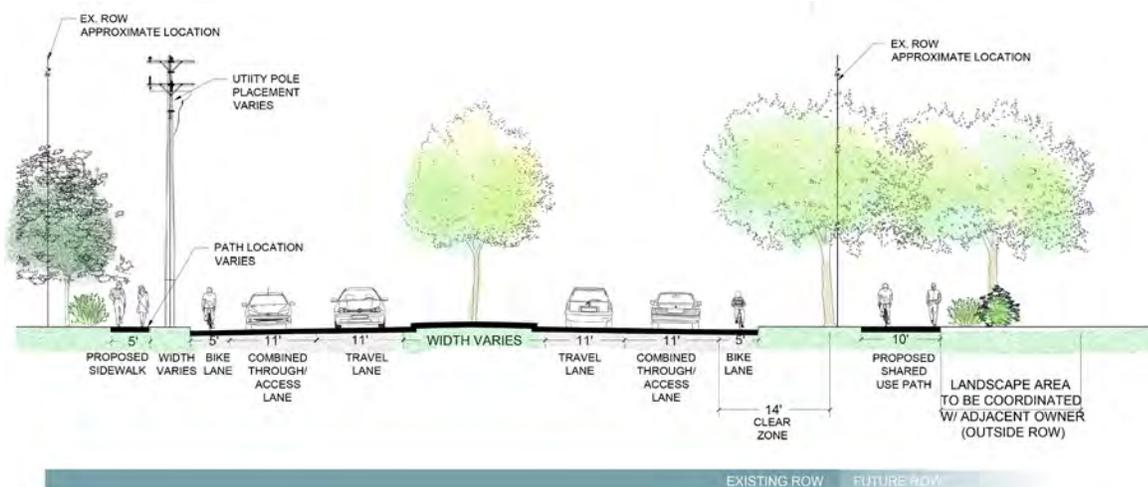


Figure 18 Closed drainage (curb and gutter).

**Kings Highway Right-of-Way Implications**

Each of the typical sections for Kings Highway identify the approximate location of the existing right-of-way. The median drainage approach would reduce the amount of right-of-way required to accommodate the boulevard cross sectional elements. The width of the open drainage cross section as shown in Figure 19 could be reduced by steepening the side slopes and using similar soil cell technology as proposed for the open median drainage system shown in Figure 20.

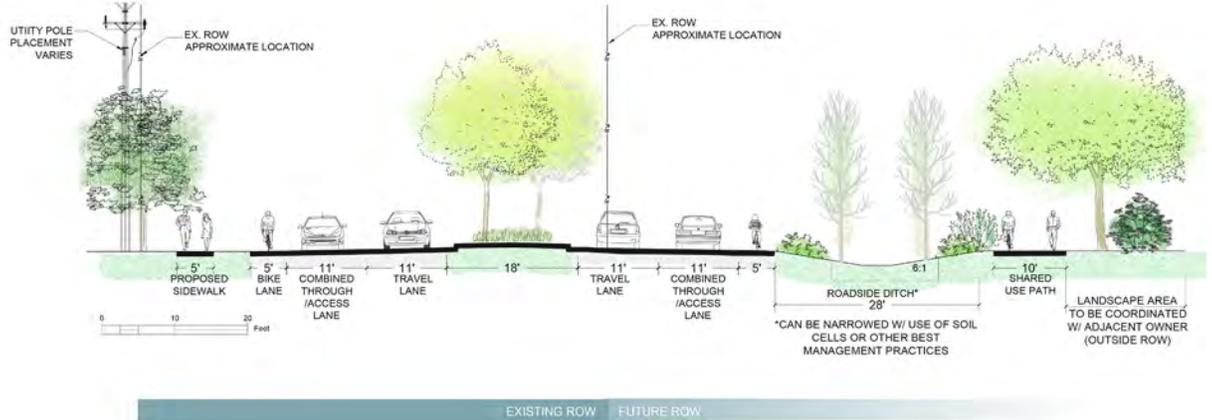


Figure 19 Open roadside drainage typical section (between Dartmouth and Clay)

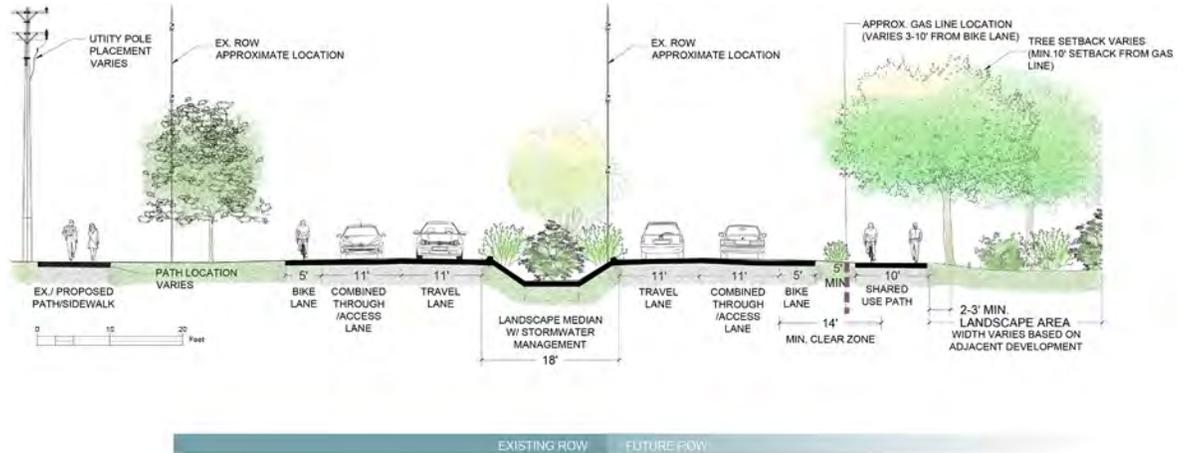


Figure 20 Open median drainage between Clay and South Atlantic with trail along roadside and street trees behind.

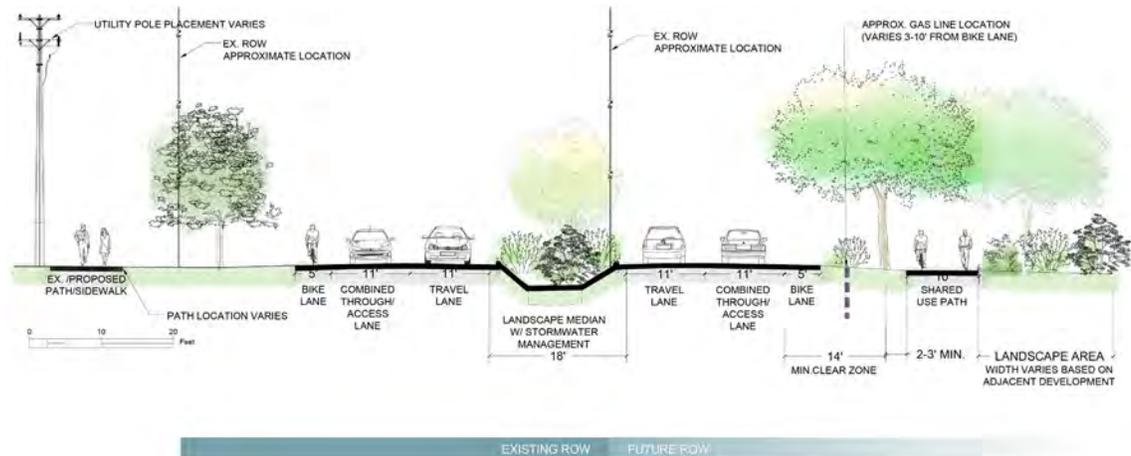


Figure 21 Open median drainage between Clay and South Atlantic with street trees along roadside and trail behind

**Between South Atlantic and Freeman Highway**

Figure 22 depicts the roadway section as it narrows from four lanes to two lanes as it approaches Freeman Highway. A center lane turn lane is provided instead of a roadway median. A splitter island would be placed to help narrow the look of the roadway and slow traffic as it approaches Freeman. Curbs are provided and water drains into the existing subsurface drainage system. A 10' shared use pathway would be provided along the west side of the road to increase connectivity with the existing regional trail system. The Oyster Brewery project was already submitted prior to the completion of the master plan and it included curb and gutter and a fifteen foot setback area to accommodate future trail and landscape needs. However, the curb and gutter is not in the corridor location to accommodate this typical section and may need to be rebuilt.

**Gills Neck from Kings Highway to Senators**

Figure 23 illustrates a typical section along Gills Neck Road just east of the intersection with Kings Highway to just west of the entrance to Senators (see illustration page 13). In this scenario, the center of the roadway is crowned and drainage is directed to the edges of the roadway. There would be one through travel lane in each direction. The entrance into the Village Center from Gills Neck would need to be coordinated with the placement and the required opening in the median. The median width would taper down as it approaches the existing entrance to Senators.

South of the roadway, the recently constructed shared use path remains in place and no new right-of-way (ROW) would be required. ROW would be required on the north side of Gills Neck and would need to be coordinated with the future development of the Mitchell Farm.

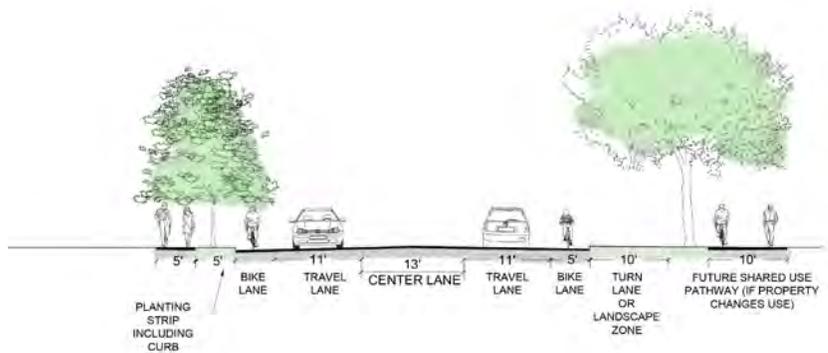


Figure 22 Kings Highway between South Atlantic and Freeman Highway

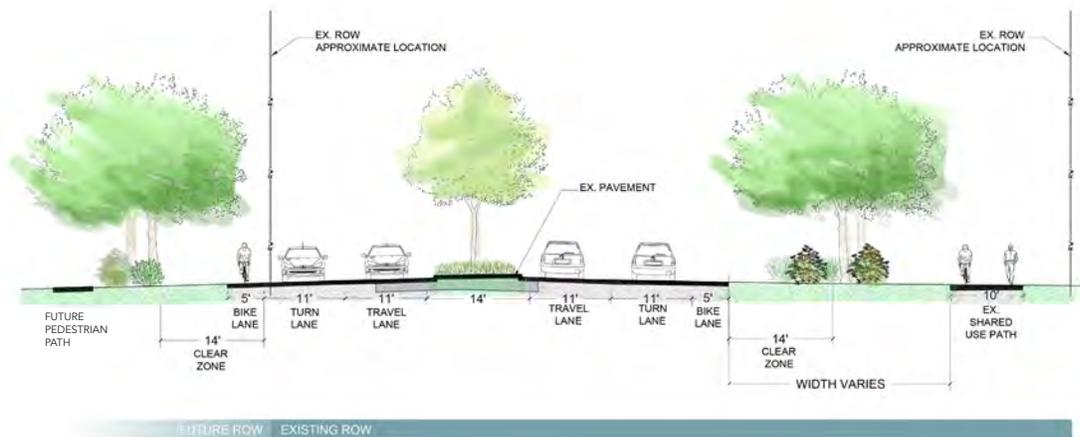


Figure 23 Gills Neck Road from Kings Highway to Senators

## TRAFFIC CALMING MEASURES

Safety concerns associated with high travel speeds along Gills Neck Road was one of the more frequently expressed concerns throughout the public process for the Master Plan. The concerns were exacerbated with the curve softening that was required as part of the development review process for the Governor's and at the second set of curves as part of Showfield (see Figure 9 on page 9). The decision to alter the alignment was made prior to initiating this master plan and therefore the community needs to come back in after the fact and find ways to slow vehicular operating speeds along Gills Neck Road in general and through these curves in particular.

There are no magic solutions that can be applied to every byway community in the same way. Instead, applying the context sensitive solutions process and approach described in the CMP to speed reduction and safety related projects along the byway can help to increase the safety of the travel experience while at the same time maintain the character defining features.

Traditional traffic calming solutions (sometimes referred to as "humps and bumps") to achieve speed reduction are typically not appropriate for arterial or even minor arterial roadways with speeds greater than 35 or 40 mph. Instead, a number of tools can be considered to change the perception of drivers as they approach the desired slow down points. These include (noted here from a range of less aggressive to more aggressive measures):

- Low cost transverse markings painted along the edge line (with spacing that gets closer and closer together) in advance of the slow point to give drivers a warning that they need to slow down (Figure 24);
- Radar activated speed limit warning signs in advance of the slow point (Figure 25);
- Textured pavement strips (Figure 26) placed in advance of the slow point at more closely spaced intervals to induce speed reduction (more permanent and visually appealing than the transverse markings noted above);
- Roadside treatment – increasing the visual friction along the roadside areas to induce speed reduction through the use of landscape clusters, tinted shoulder, entry sign, or gateways (Figure 26 and Figure 27); and
- Horizontal alignment shift –using a splitter island in combination with narrowed travel lanes to break up excessively long sight lines and force drivers to slow down to navigate around the splitter island (Figure 27).



Figure 24 Transverse markings used to induce slower operating speeds (Source: FHWA)



Figure 25 Multiple studies have shown that radar activated speed limit signs with changeable message reflecting actual speed are effective means of slowing operating speeds of between 3-8 mph (Source: FHWA)



Figure 26 Textured pavement strips and roadside treatment on US Route 50 in Upperville, Virginia



Figure 27 Combined splitter island and gateway approach approaching Centreville, DE on the Brandywine Valley Scenic Byway slows traffic while increasing visual appeal, as noted in the visual preference survey.

## LANDSCAPE DESIGN

For the concept plans presented in this master plan document, the landscape design for Kings Highway and Gills Neck Road is depicted conceptually with no individual plant species listed. Symbolic vegetation shown on the concept plans may be grouped into the following categories:

- Trees/Shrubs/Groundcover
  - roadside
  - under utility lines
  - within stormwater median/ water-tolerant/ inundation
  - within ditch drainage median/ possible inundation
  - suitable for planting within sight distance triangles\*
- Meadow
- Turf grass
- Perennial planting bed

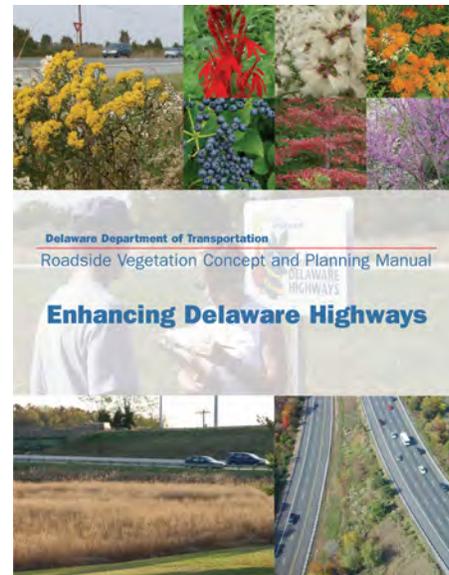


Figure 28 DelDOT's Enhancing Delaware Highways: Roadside Vegetation Concept and Planning Manual:

### Use of Native Plants

One of the challenges of the developing corridor is that developers typically will install plants to meet the minimum requirements for landscape areas as directed by local site plan requirements in Sussex County or the City of Lewes. In some cases developers will try to enhance the marketability of the property by installing fast growing high impact species such as Crape Myrtles and Flowering Pears. The result is an homogenized landscape which runs counter to the character defining features of the remaining parts of the byway which are dominated by either native woodland or meadow. The Master Plan recommends utilizing the concepts and plant lists offered in the DelDOT's "Enhancing Delaware Highways: Roadside Vegetation Concept and Planning Manual" ([https://www.deldot.gov/information/pubs\\_forms/manuals/edh/pdf/plantpalette.pdf](https://www.deldot.gov/information/pubs_forms/manuals/edh/pdf/plantpalette.pdf)) The native trees, shrubs, groundcovers and grasses are not only more consistent with the desired character as expressed through the public outreach conducted for this Master Plan, but also contribute to good habitat for animals and birds.

### Maintenance

A critical factor in the long term sustainability for the corridor is the importance of factoring maintenance into the landscape design concepts as they are applied to the corridor. For state maintained roadways:

- DelDOT is responsible for mowing within the right-of-way. According to the DelDOT mowing policy, residential quality turf is mowed to a height of 3 inches routinely while utility turf (medians and roadsides) is mowed to a height of 6 inches. Planting beds are should be designed with long curves and short tangents so that a mower can easily navigate around the beds.
- Unless other arrangements are first determined, DelDOT must maintain the stormwater management facilities that are installed as part of its transportation facilities.
- Planting areas within the right-of-way will need to be sponsored to ensure that they receive the appropriate maintenance. A sample agreement is contained in the appendix. The Harriet Tubman Underground Railroad Byway recently agreed to sponsor maintenance in a new roundabout that also serves as a community gateway.
- Outside of the public right-of-way, developers are initially responsible for maintenance of landscaped areas including stormwater management facilities, eventually turning those over to the Homeowners Association (HOA).

# 04 Application of Design Concepts

## KINGS HIGHWAY CONCEPT PLAN



The following pages illustrate the application of the recommended design concepts to Kings Highway between Coastal Highway and Freeman Highway. In addition recommendations follow for limited enhancements to improve water quality and pedestrian safety for the City of Lewes section of Kings Highway.

**4. Kings Highway between Gills Neck and Downtown**

**3. Developing area between Clay Road and Gills Neck**

**2. Transition Area (Dartmouth to Clay Road)**

**1. Coastal Highway Gateway (Route 1-Dartmouth Triangle)**

Figure 29 Kings Highway master plan concept:

**Coastal Highway Gateway (Route 1- Dartmouth Triangle)**

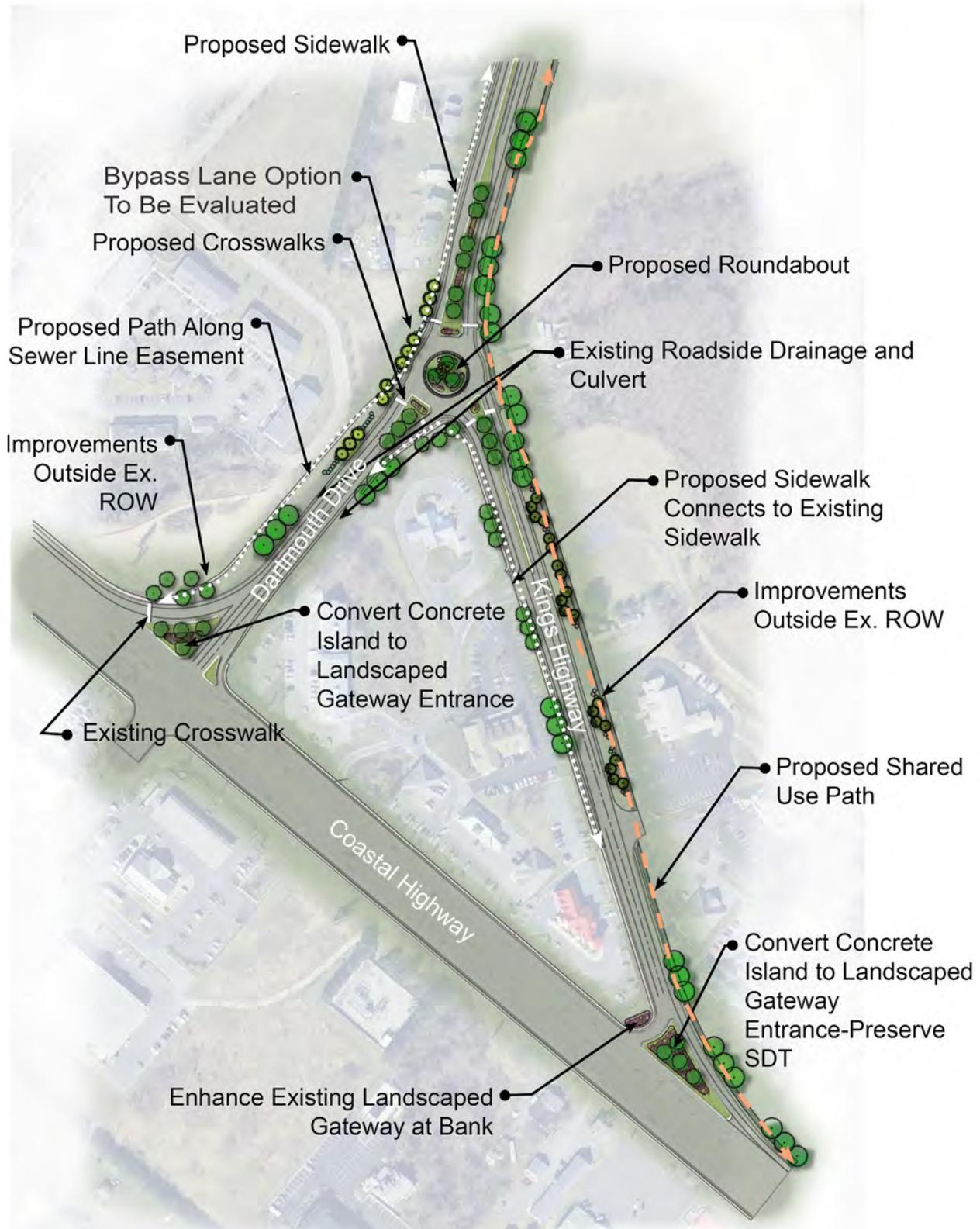


Figure 30 Design recommendations for the Coastal Highway Gateway



Figure 31 Oblique view illustrating the proposed Dartmouth Rd./ Kings Highway roundabout.

### **Proposed Roundabout at Kings Highway and Dartmouth**

The roadway design for the area from Coastal Highway to the intersection of Dartmouth Drive and Kings Highway will change significantly with the addition of a roundabout. A roundabout was proposed for the following reasons:

1. A roundabout will improve traffic capacity. (According to DelDOT preliminary traffic studies, there will be increasing travel demand along this corridor and the need for greater traffic capacity).
2. Due to the slower travel speeds and direction of movement required in a roundabout, the severity of collisions and crashes is reduced. (Cars crash at an angle, not a T-bone.)
3. The roundabout creates a strong visual cue that drivers need to slow down and shift their driving style.
4. The roundabout will serve as an attractive gateway entrance into and out of the Lewes area

The design presented for the roundabout is conceptual only. Further engineering studies will be undertaken to determine the exact location and dimensions of the roundabout.

Other proposed elements presented in the concept plan include a 10' wide shared use path along the east side of the roadway along Kings Highway and proposed sidewalks (connecting to the existing sidewalks) along the west side of the roadway as illustrated in Figure 30 on page 27. Existing drainage structures along the west side of Dartmouth Drive may prohibit the construction of a sidewalk and therefore, a path along the sewer line easement could be constructed as an alternative. Crosswalks with textured pavement are proposed along each leg of the roundabout with landscaping proposed within the median islands and the roundabout island. Large concrete islands at the Y intersections with Coastal Highway may be converted to landscaped areas. The creation of "rain gardens" within the islands that would capture and filter stormwater would enhance the area aesthetically and also promote stormwater best management practices (Figure 32).



Figure 32 Concrete Island to Rain Garden: Before and after photo simulation showing enhanced gateway. The concrete island is replaced with a “rain garden” to provide an important entry/transition feature, to increase the thermal comfort of pedestrians, and to promote stormwater best management practices.



Figure 33 View to Dartmouth Roundabout: The long view is shortened by the placement of the roundabout, calming traffic to create a more pleasant environment for pedestrians and cyclists.



**Transition Area (Dartmouth to Clay Road)**

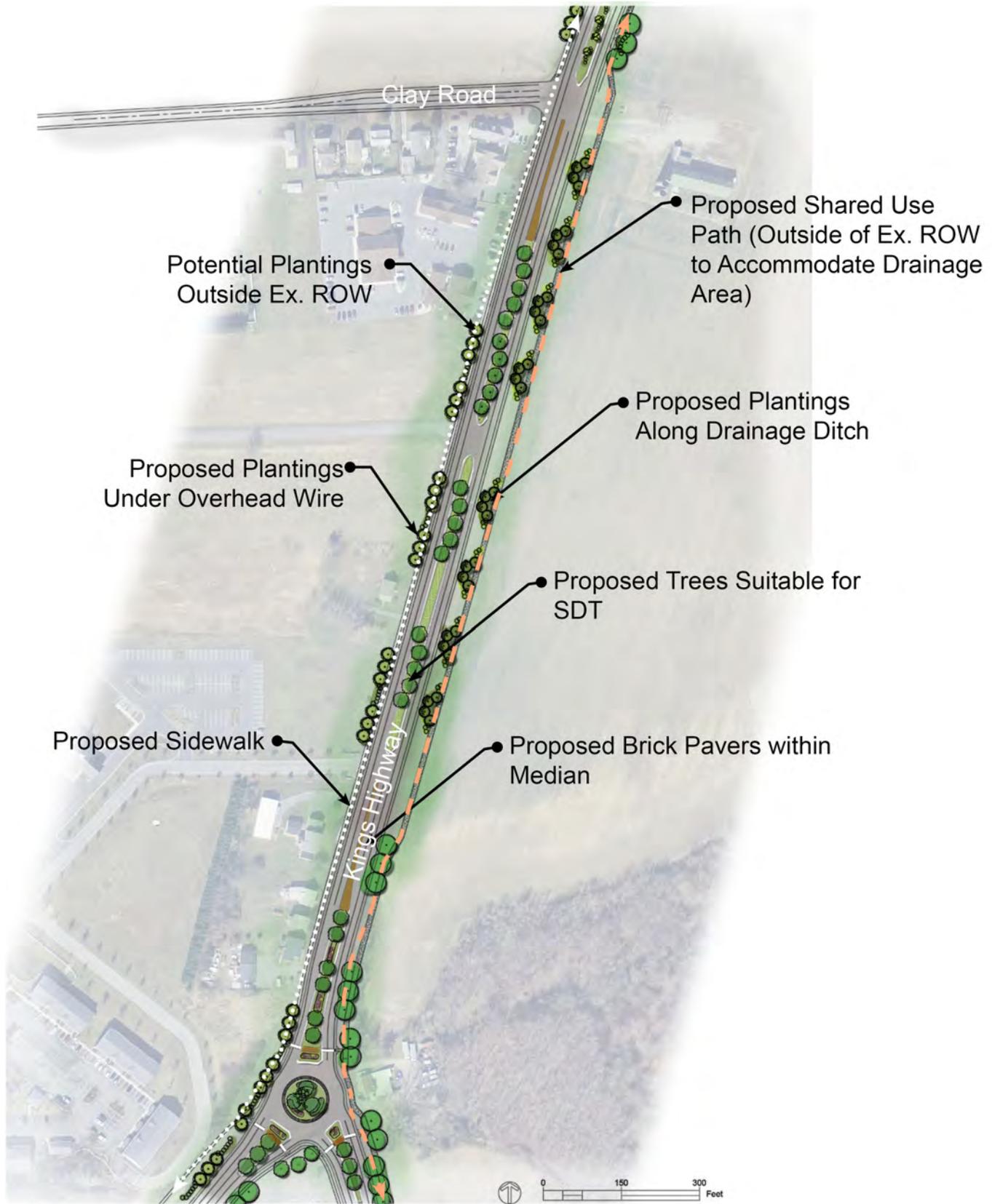


Figure 34 Concept Plan.



Figure 36 Existing Photo Looking North from Dartmouth

The area between Dartmouth Drive and Clay Road is characterized by existing commercial and residential parcels to the west and farmland to the east. By proposing two additional travel lanes and a landscaped median, the ROW will need to be widened on the east through coordination with any proposed developments. The median will be raised in this area, with water draining to a 28' wide proposed roadside ditch. A 10' wide shared use path is proposed along the east side of the roadway and a sidewalk is proposed along the west side of the roadway. Placement of the sidewalk and trees along the west may vary to accommodate existing utilities. Textured pavement is proposed where the median tapers and transitions to a left turn lane. Transportation plans call for the Clay Road intersection to be signalized which will help with the management of traffic.

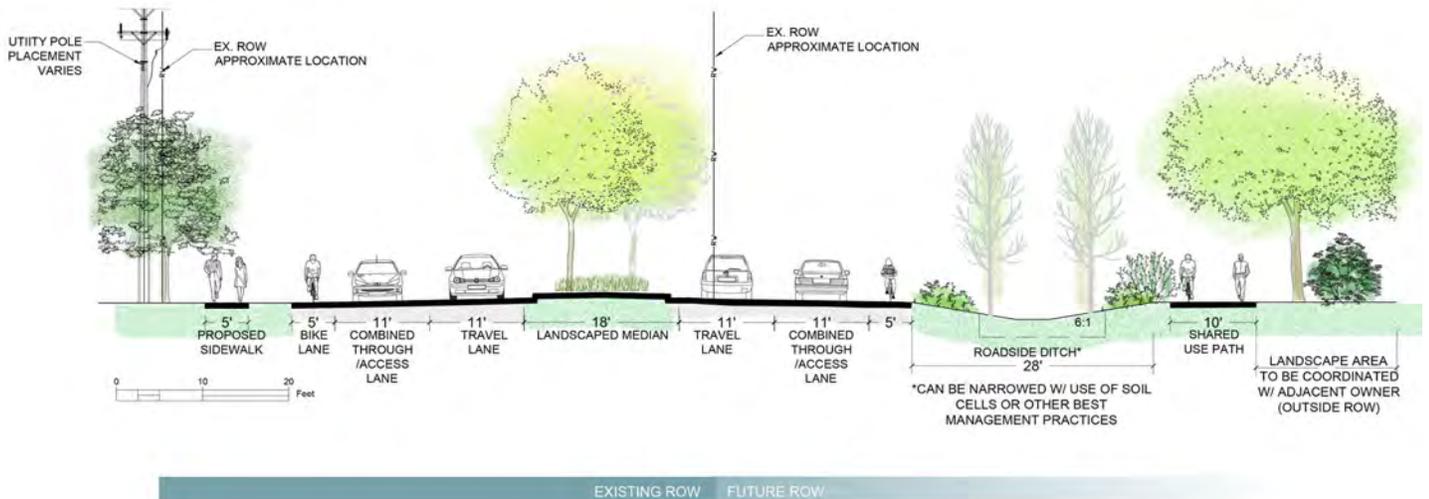
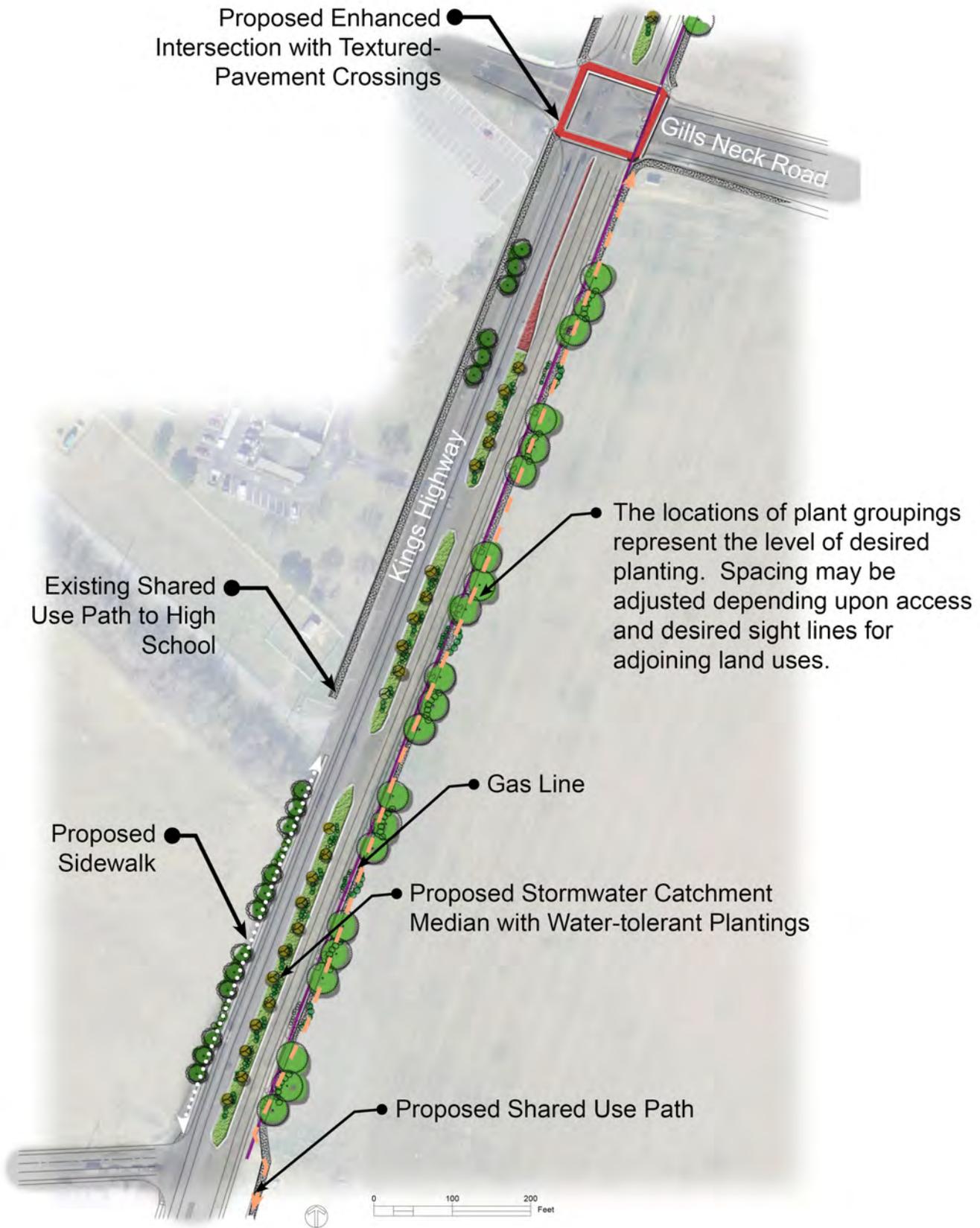


Figure 35 Typical roadway section

### Developing area between Clay Road and Gills Neck



Proposed Enhanced Intersection with Textured-Pavement Crossings

Gills Neck Road

Kings Highway

Existing Shared Use Path to High School

The locations of plant groupings represent the level of desired planting. Spacing may be adjusted depending upon access and desired sight lines for adjoining land uses.

Gas Line

Proposed Sidewalk

Proposed Stormwater Catchment Median with Water-tolerant Plantings

Proposed Shared Use Path

0 100 200 Feet



Figure 37 Existing Conditions North of Clay Road.

### Landscaped Medians and Stormwater Management

North of Clay Road, stormwater would be directed toward the landscaped median islands (see Figure 15 on page 17 and Figure 20 on page 21). Approaching Cape Henlopen High School's entrance, the median island would taper to accommodate a left turn lane. Stormwater would need to go under the intersection to the next median north of Gills Neck (Figure 39)

### Sidewalk and Shared Use Pathway

A sidewalk is proposed along the west side of the roadway to connect to an existing shared use path adjacent to Cape Henlopen High School (from both directions). The alignment of the shared use path proposed along the east side of the roadway may vary depending upon the location and desired setback from the existing gas line, with a varying pathway alignment desired, rather than a straight path.

Figure 38 Proposed Two-Lane Roadway with Stormwater Median. Stormwater runoff from the roadway is directed into the median island. Water-tolerant plants located within the median assist in filtering pollutants from stormwater before being absorbed into the soil.



Figure 39 Oblique View Gills Neck Road/ Kings Highway Intersection (looking north). The image above represents the proposed enhanced intersection for Gills Neck Road. Textured pavement crosswalks (vehicular clay pavers recommended) lined with thermoplastic edging alert motorists to pedestrian movements and enhance the intersection's appearance through color and texture. A 10' shared use path is provided on the east side of the roadway and the existing shared use path remains on the west side of the roadway. In the image above the roadway has been widened to include two lanes on each side of the roadway and 5' bike lane on both sides of the roadway. The landscaped median island tapers to textured pavement near the intersection to provide for left turns.



**Gills Neck to Retail Plaza**

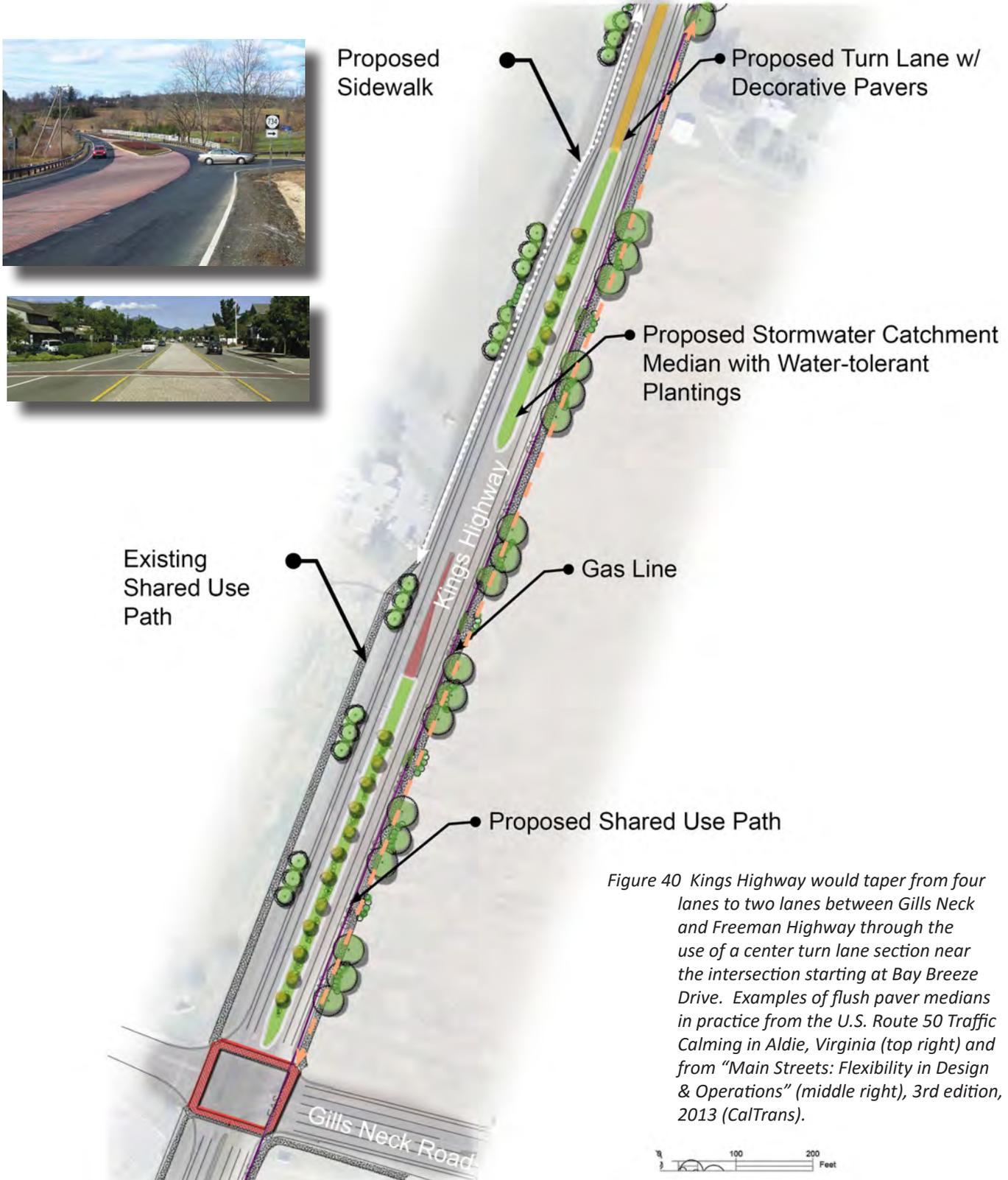


Figure 40 Kings Highway would taper from four lanes to two lanes between Gills Neck and Freeman Highway through the use of a center turn lane section near the intersection starting at Bay Breeze Drive. Examples of flush paver medians in practice from the U.S. Route 50 Traffic Calming in Aldie, Virginia (top right) and from "Main Streets: Flexibility in Design & Operations" (middle right), 3rd edition, 2013 (CalTrans).



Figure 41 A proposed shared use path and sidewalk will greatly benefit pedestrians (top) and students (above) who routinely travel along the shoulder towards Cape Henlopen High School

### Roadway, Landscaped Median and Stormwater Management

Between the Kings Highway intersections at Gills Neck Road and Freeman Highway, the roadway design tapers down from the landscaped boulevard (two-lanes in each direction) to one travel lane in each direction with a central turn lane to accommodate turning movements into the retail plaza on the west side and multiple driveways on the east side. Stormwater that is treated in the open median section would then need to enter a closed drainage system that would also begin at the retail plaza (see Figure 40)

Two 11' travel lanes are accommodated with a 13' central turning lane. The center turn lane would incorporate vehicular clay pavers to promote traffic calming and provide aesthetic enhancement. Curbs are proposed along this section of the crowned roadway to channel roadway drainage into subsurface pipes. A 10' landscape zone is proposed along the eastern edge of the roadway to allow a future turn lane, if needed.

### Sidewalk and Shared Use Pathway

Two on-road bike lanes, a sidewalk, and a shared use path are proposed to accommodate multiple user groups. The shared use path and associated landscaping would continue along the east side of the road. The exact configuration of the path and landscape design will be determined based on gas line constraints and private property coordination (see Figure 20 and Figure 21 on page 21). The existing shared use path along the west side of the road will remain in place and then transition into the proposed 5' wide sidewalk where the available right-of-way narrows east of the South Atlantic intersection in front of the commercial center.

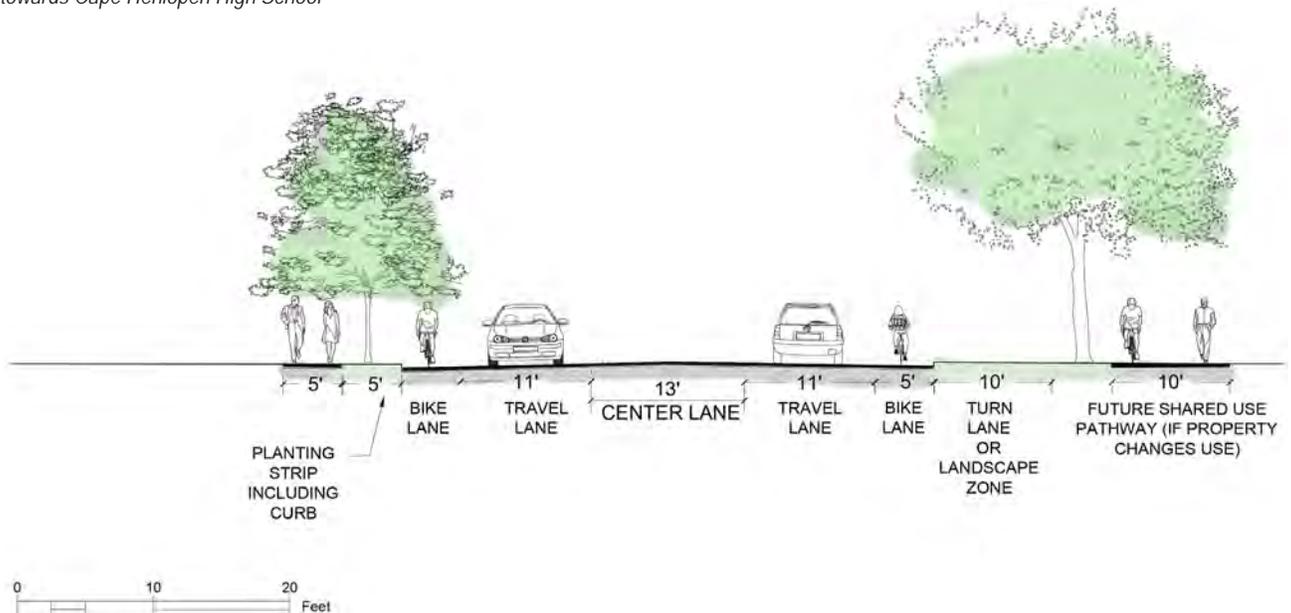


Figure 42 Typical section curbed roadway with center lane.

Approaching Freeman Highway

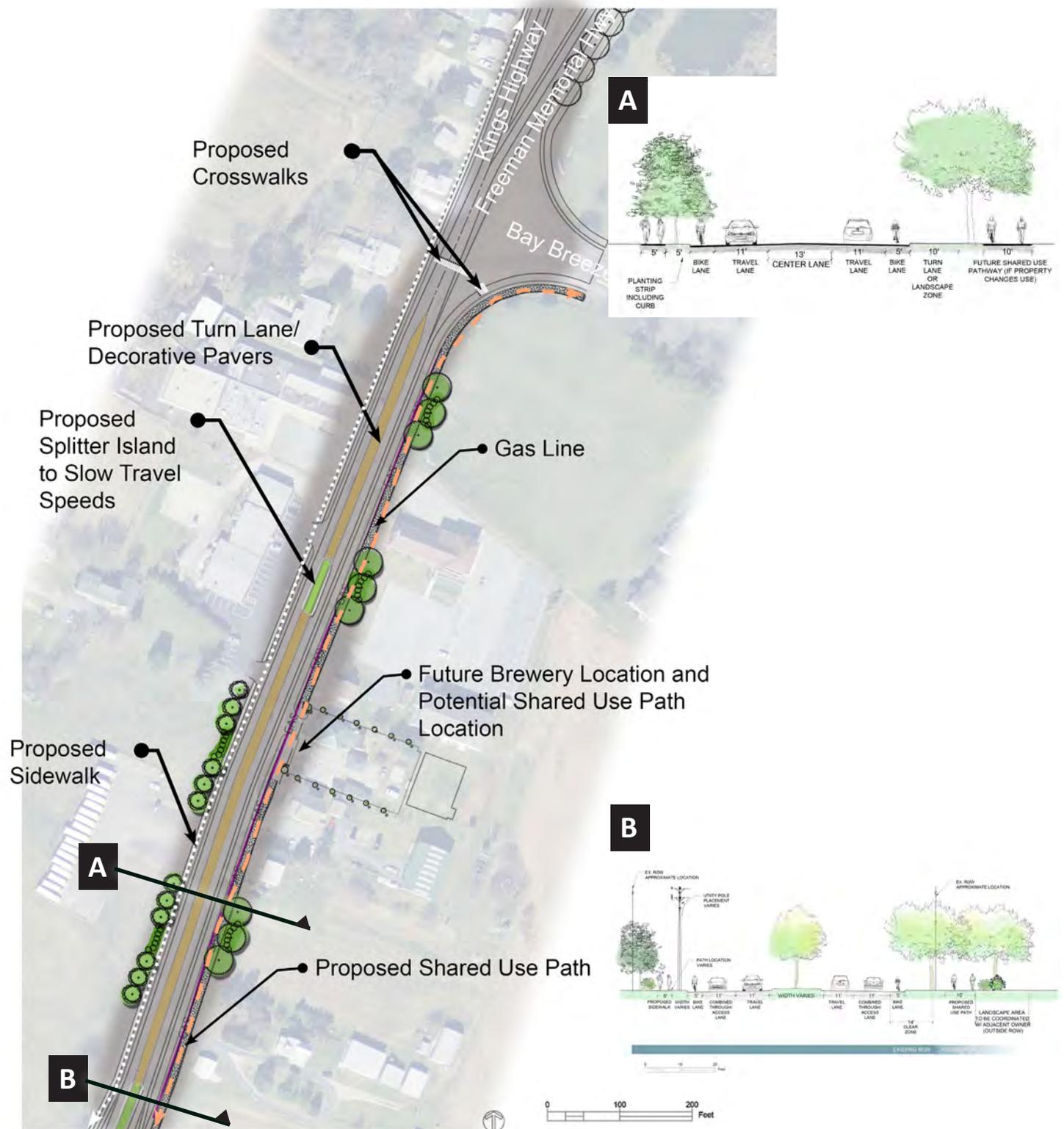


Figure 43 Concept Plan. The concept plan illustrates the major components of the proposed roadway including the center turn lane (with decorative pavement), shared use path, sidewalk, and splitter island. Sections A and B reference the transition of the roadway from having a stormwater catchment median island to a center turn lane.

As the right-of-way narrows approaching the Freeman Memorial Highway/ Bay Breeze intersection, and the intersection geometry increases in complexity (Figure 44), the center turn lane would drop past the First Baptist Church entrance but in advance of the Bay Breeze Drive Intersection. Since the Freeman Highway intersection tapers down to one through lane in each direction for Kings Highway on both sides, adding additional capacity through the intersection would require significant modifications to the intersection. A splitter island is proposed just north of the future brewery to slow traffic and to help guide automobile turning movements.



Figure 45 Right-of-way constraints in front of the existing retail plaza on the west side of Kings Highway

The future brewery development (location noted in Figure 43) submitted a site plan during the development of the master plan. The brewery project plan, as submitted, had one 11' travel lane in each direction, and a right turn lane at 10' width. No bicycle lanes, sidewalks or shared use pathways were shown on the access plan. Future modifications to the roadway will need to be coordinated with future development and the brewery modifications may need to be reconstructed.



A 5' wide sidewalk would continue on the west side of the roadway and a 10' shared use path would continue on the east side of the roadway, connecting to the Junction and Breakwater Trail Connector. Crosswalks are needed to connect the retail plaza to the Junction and Breakwater Trail (options are shown with the green arrows for further evaluation).

**Kings Highway - One Lane Each Direction (ORANGE)**

**Freeman Highway - One Lane in Each Direction - Then Widens to Two (RED)**

**Gateway Intersection with Turning Movements Shown**

**Kings Highway - One Lane Each Direction (ORANGE)**

Figure 44 Freeman Memorial Highway/Kings Highway Intersection. Potential pedestrian crossings are shown in green. Connections to the J & B trail are recommended either at Bay Breeze Drive or at the split between Freeman and Kings at the lighthouse gateway.

### Freeman Highway to Savannah Road

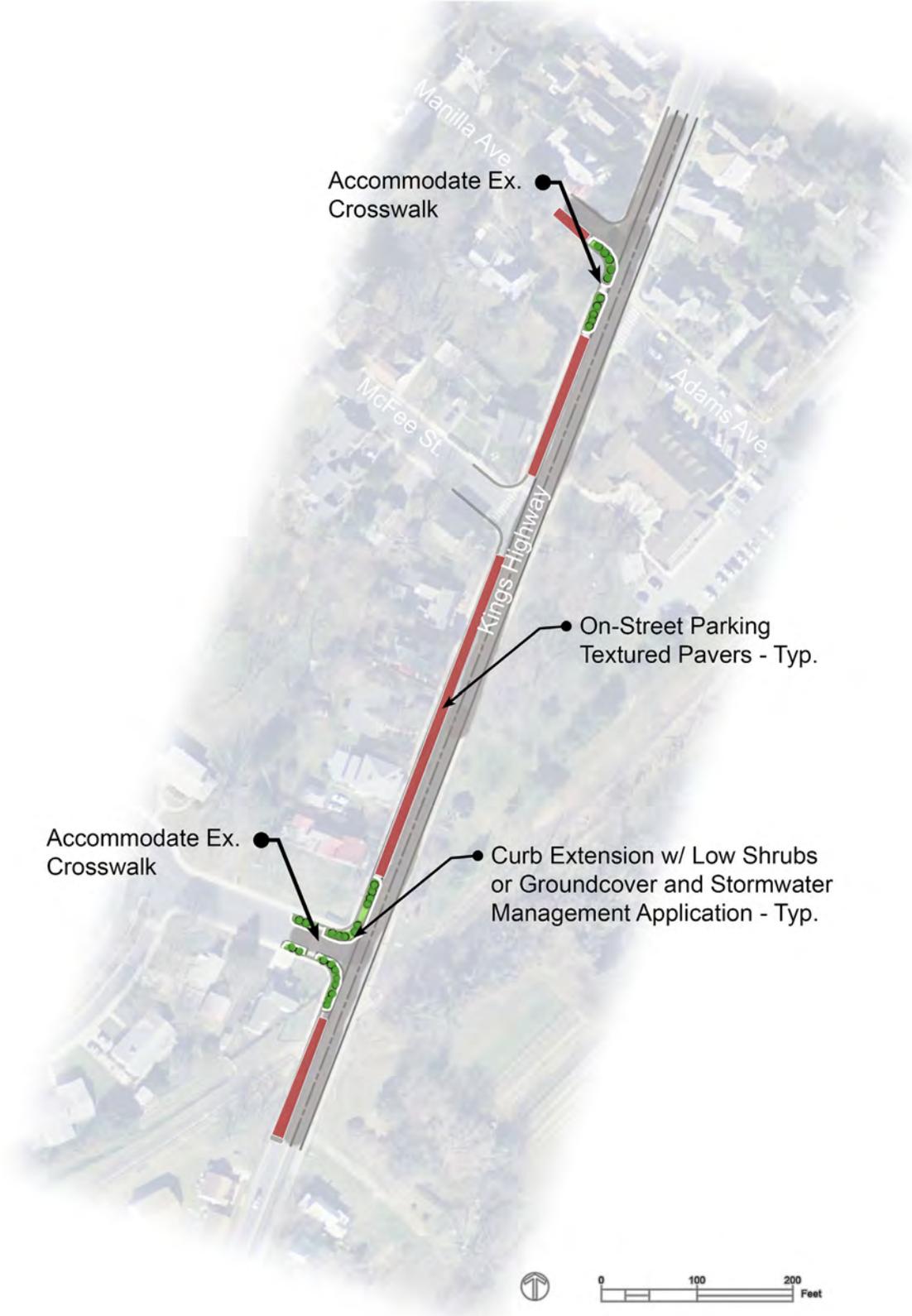


Figure 46 Illustrative example of showing locations where curb extensions and on street parking with pervious pavers could be installed to manage stormwater runoff and increase pedestrian safety at crosswalks on Kings Highway within the City of Lewes. Further study and public input is needed.



Figure 47 Curb extensions could be installed at corners where no parking is allowed (all yellow painted curbs)

When rain falls on Kings Highway it runs off toward the storm sewers, carrying with it all of the non-point source pollution from the roadway surface. As rainfall intensity increases with the changing climate, efforts may be needed to provide more storage (and treatment for water quality) for runoff prior to its release in the Delaware Bay.

As Kings Highway continues toward the City of Lewes' residential neighborhoods and downtown area, the roadway narrows to 32' across from curb to curb— providing enough room for one twelve-foot travel lane in each direction and an eight foot parking lane on the outbound (east) side. Kings Highway would be enhanced by providing visibility to pedestrians crossing the streets at intersections, and by upgrading the stormwater management system.

Figure 46 and Figure 47 illustrate the types of locations where curb extensions may be considered for use at street intersections to narrow the total crossing distance for pedestrians and to provide infiltration areas for stormwater quality management. In the Portland, Oregon example (Figure 48), water flows into the system in the catch basin (lower right corner of photo) but instead of going directly into an underground pipe, it flows through the planted areas prior to entering the stormwater system.

Figure 49 illustrates a recently constructed example of how permeable paving may be used to designate parking areas and provide stormwater infiltration on Maryland Avenue, the main entryway into Cambridge, Maryland from US Route 50. In both example photos, the curb is extended far enough to provide for a side street parking lane which help to create a buffer between the roadway and the sidewalk.



Figure 48 Curb extension that also serves to enhance water quality by filtering stormwater runoff as it enters the system (courtesy of City of Portland, Oregon)

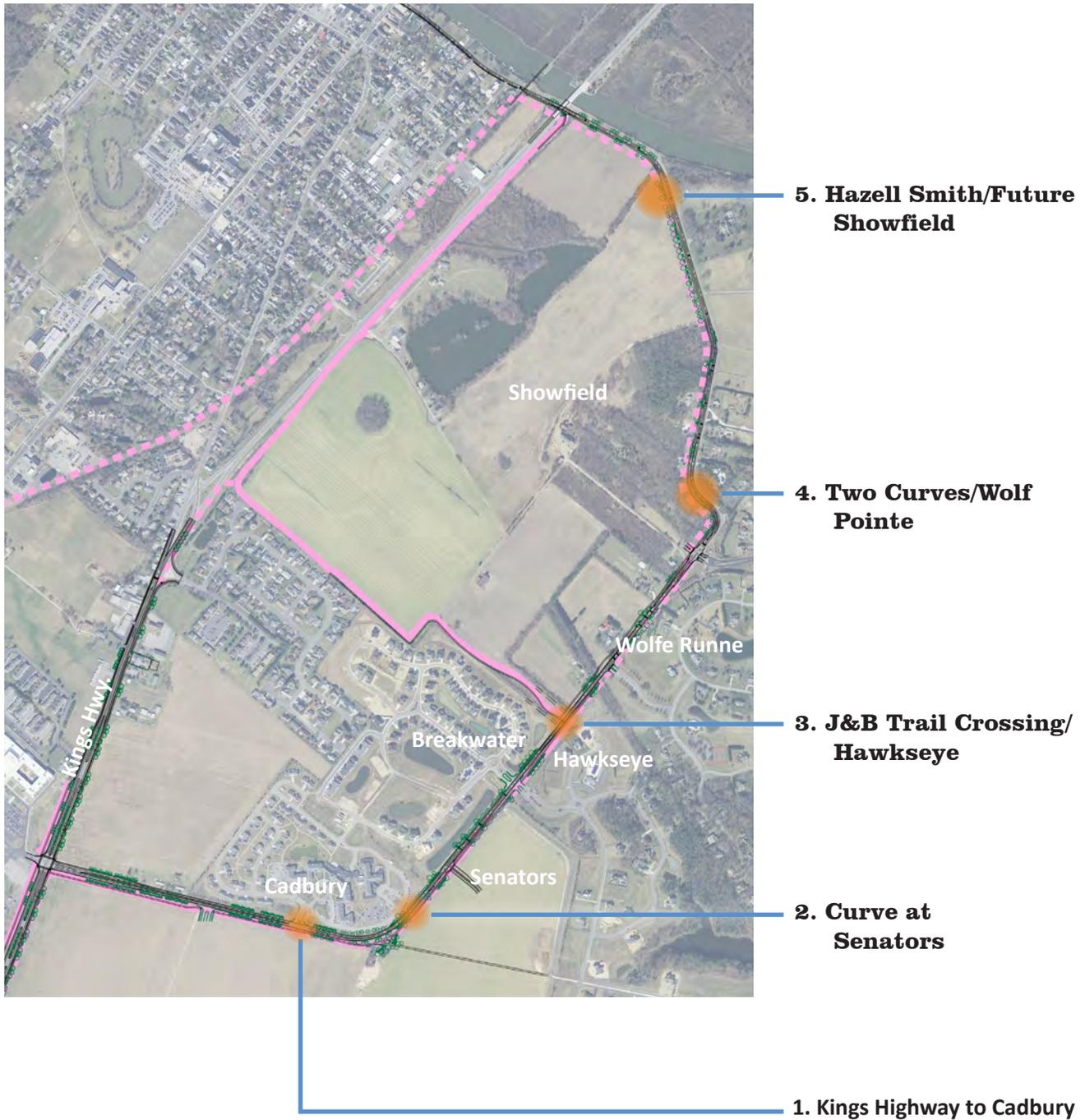


Figure 49 Example of curb extensions with low plantings combined with permeable pavers along the parking lane to encourage infiltration of stormwater through soil. (Cambridge, Maryland)

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## GILLS NECK ROAD CONCEPT PLAN

The following pages illustrate the application of the recommended design concepts for Gills Neck Road between Kings Highway and downtown Lewes including recommendations for addressing the intersection of the Junction and Breakwater Trail with Gills Neck Road.



**Gills Neck (between and including both sets of sharp curves to City line)**

**Kings Highway to Cadbury**

A vegetated median island and landscape elements are used to visually narrow the roadway and reduce traffic speeds within the area approaching Cadbury from Kings Highway. As seen in the section below (Figure 52), travel lanes and turn lanes are accommodated along with a 14' landscaped median with 5' on-road bike lanes on both sides of the roadway. The existing shared use path south of the roadway would remain for all other trail users (Figure 50)



Figure 50 Existing view east along Gills Neck Road

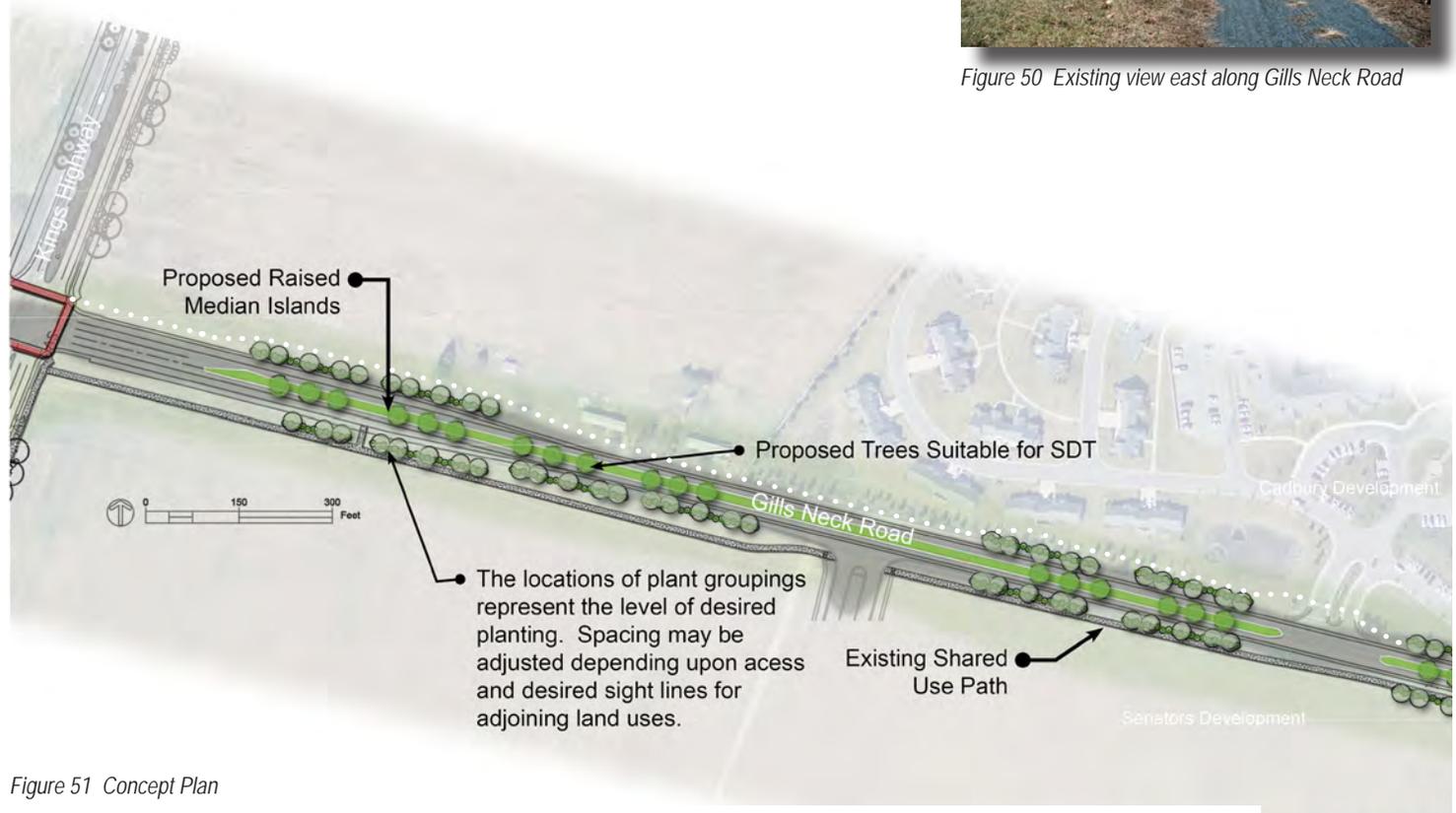


Figure 51 Concept Plan

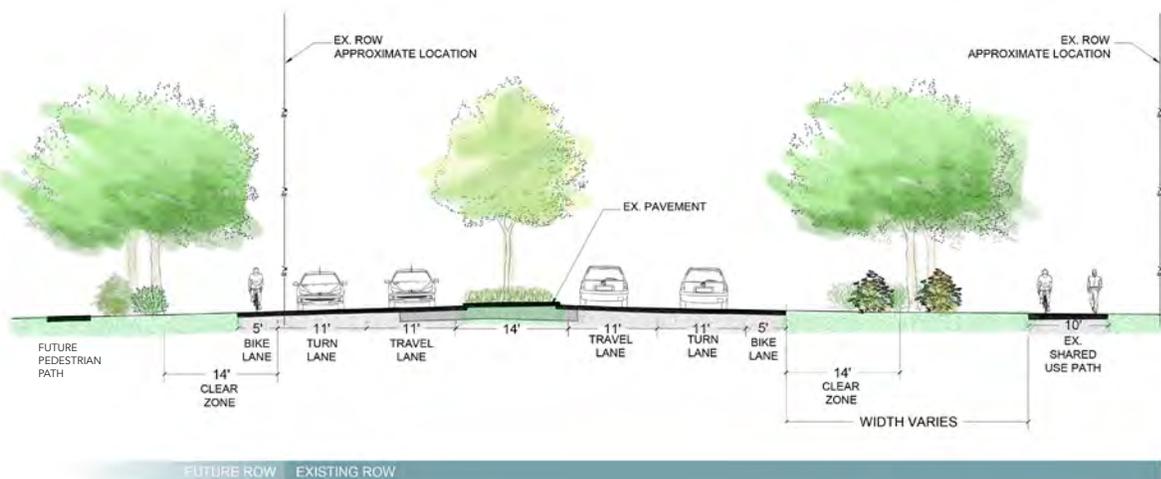


Figure 52 Typical section looking east through Gills Neck landscaped median

### Curve at Senators

The concept shown (Figure 54) illustrates the proposed roadway design and landscape enhancements for the area approaching Senators subdivision. Roadway modifications required as part of Showfield and Senators resulted in widened shoulders, turn lanes and a softened (increased radius) to facilitate vehicular traffic through the curve. Many comments received through public involvement expressed concerns about the potential for increased operating speeds through the softened curve. Figure 53

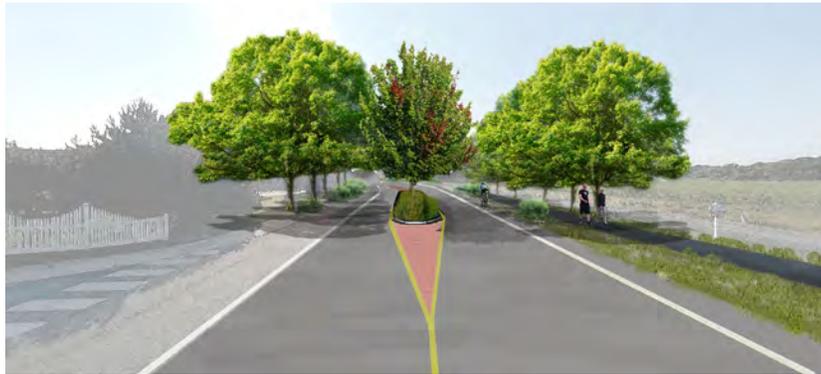


Figure 53 Perspective A illustrating the splitter island

and Figure 55 illustrate the use of a splitter island and vegetation groupings to break up the long sight distances approaching the curve, promoting traffic calming principles. Existing bike lanes (as built) are located on each side of the roadway as well as an existing 10' shared use path on the east side of Gills Neck Road. Where the Junction and Breakwater trail intersects the shared use path, a trailhead or gateway feature is proposed.



Figure 54 Concept plan for traffic calming approaching softened curve



MEADOW TYPE 1



MEADOW TYPE 2

Figure 56 Visual qualities of the meadow types proposed along Gills Neck Road . Photos from DelDOT's "Roadside Vegetation Concept and Planning Manual: Enhancing Delaware Highways".



Figure 55 Perspective B, illustrating the use of roadside vegetation to narrow the perceived width of the roadway



The concept shown at left illustrates the approach to the curve at Senators coming from the northeast. Vegetation groupings help to visually narrow the roadway. Textured pavement strips placed in strategic locations across the roadway are another applied traffic calming measure that helps to reduce automobile speeds.



Figure 57 Example of textured pavement strips from US Route 50 Traffic Calming Project; Aldie, Virginia. Traffic calming measures in this similar setting have resulting in reducing automobile speeds up to eight mph (Google Maps).

Figure 58 Concept plan for traffic calming approaching curve at Senators from northeast



Figure 59 Typical pavement warning strips and associated landscape treatment (View from A above)

### J & B Trail Crossing/ Hawkseye



Figure 60 Illustration of recommended green tint shoulder treatment to call attention to the J&B Trail crossing on Gills Neck Road

The Junction and Breakwater Trail connects to Gills Neck Road near the Hawkseye development, as shown in Figure 61. The trail crossing and trail connection allows trail users and neighbors to cross Gills Neck Road and access the existing shared use path and avoid using Gills Neck Road as the bicycle route into Lewes. See Figure 66 on page 48 for recommendations regarding the connection from the Junction and Breakwater Trail to Georgetown-Lewes Trail and then to downtown Lewes.

The crosswalk also provides an opportunity to extend a shared use path along the west side of Gills Neck Road to limit conflicts with vehicular traffic and provide more direct connectivity to the J & B trail from nearby neighborhoods. (See page 46 for details.). FHWA approved green tinting

is recommended to be added to the shoulders approaching the trail crossing to increase awareness of bicyclists that may be crossing from Gills Neck Road shoulders to the shared use path system.

An agreement for maintenance of the tinting will need to be coordinated between DelDOT and a local sponsor.

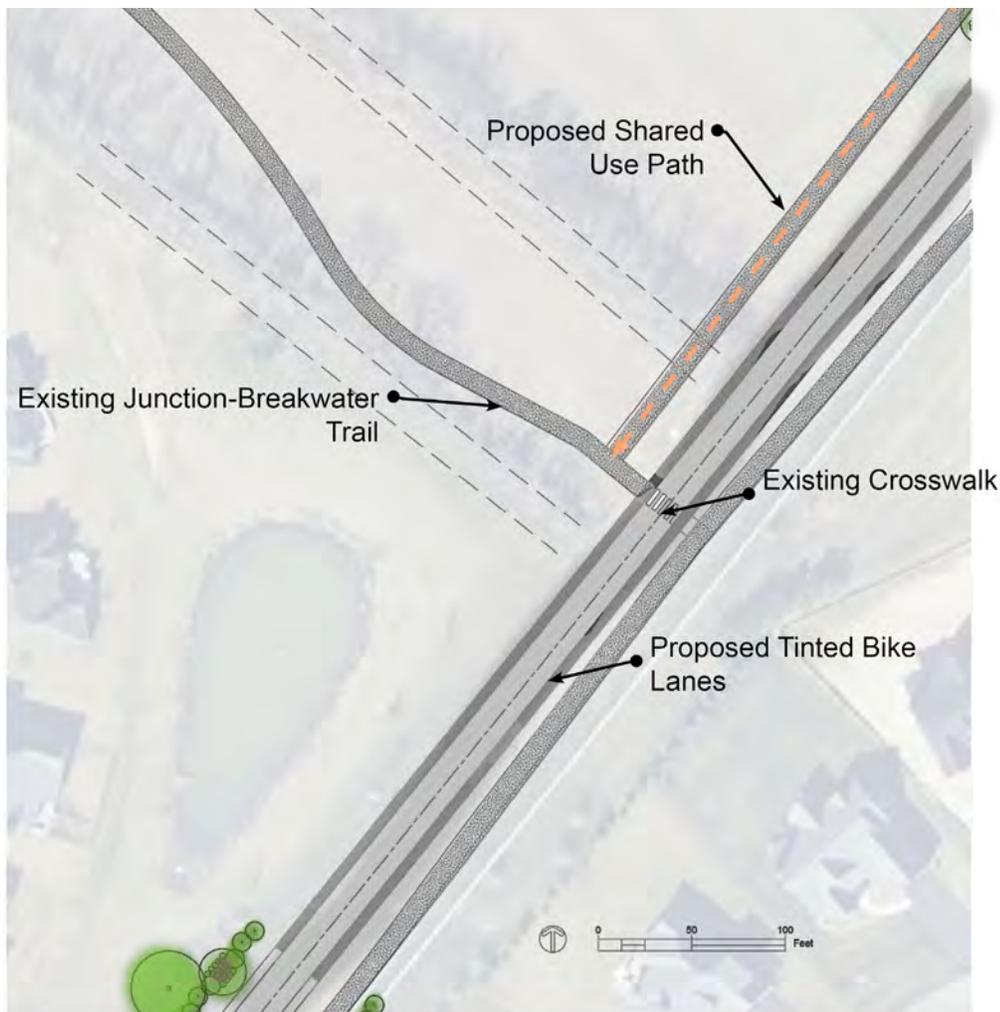


Figure 61 Concept plan for Junction and Breakwater trail crossing



Figure 62 FHWA approved tinted shoulder lanes in Alexandria, Virginia (courtesy of the City of Alexandria)

### Two Curves/ Wolfe Pointe

The concept plan below shows an area of Gills Neck Road with two curves, near the Wolfe Runne development. Developer plans for Showfield include additional curve softening for these routes along with a wider pavement cross section (4' shoulders for bicycle use) which may necessitate additional traffic calming measures similar to those shown starting on page 44. The traffic calming features shown for the north side of the curves should also be applied south of the curves.

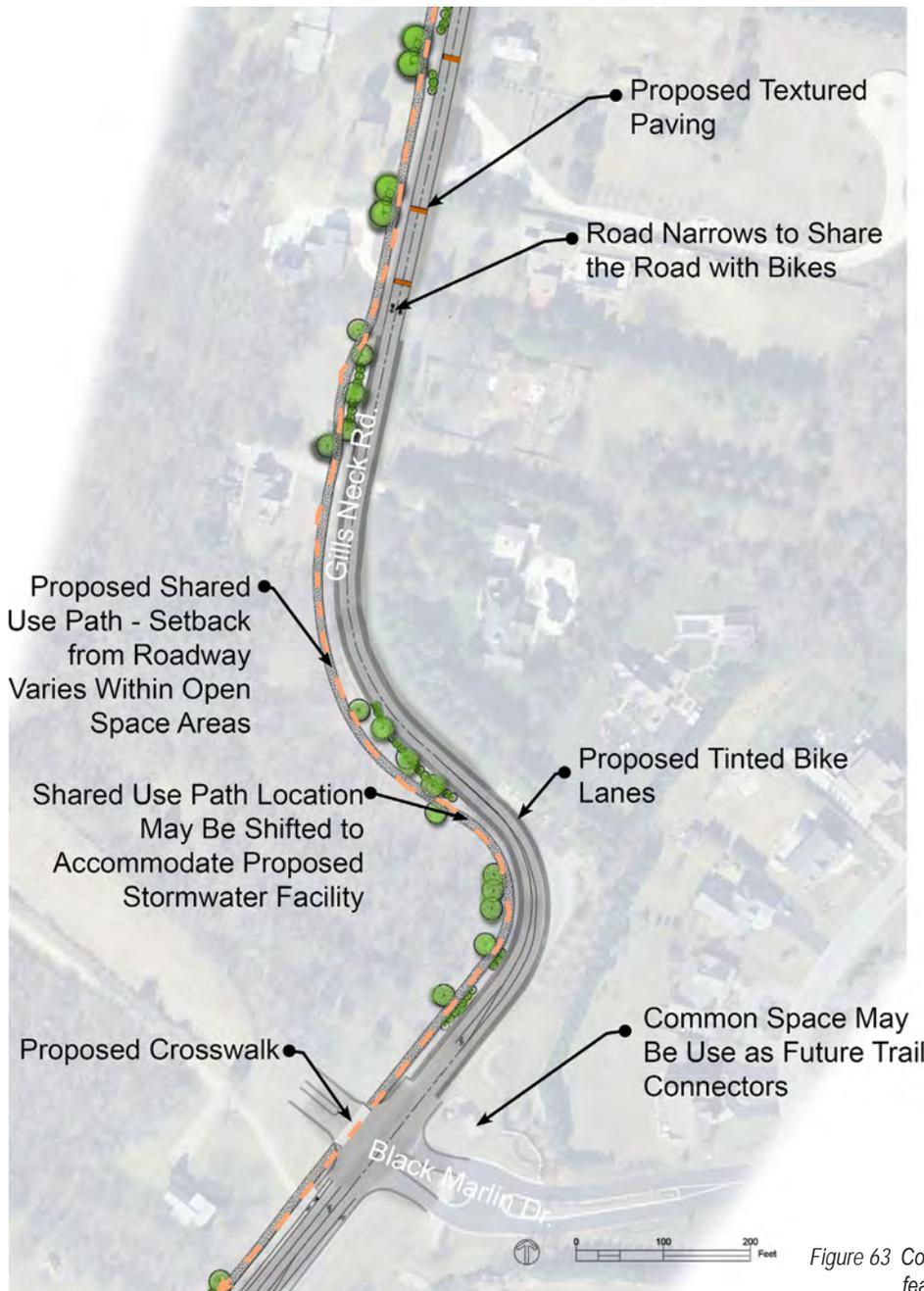


Figure 63 Concept Plan illustrates proposed traffic calming features (also to be considered approaching from the south side of the curves) ad the shared use pathway along the east side of Gill 's Neck Road.

The proposed shared use path continues north and the setback varies from the roadway where space allows to create visual interest and allow for increased vegetation. The actual location of the shared use path may be adjusted to accommodate future development.

Tinted bike lanes (Figure 62) are proposed along the edges of the roadway through the curves to increase the visual recognition of bicyclists by motorists as they traverse the curves.

Near the city limit for Lewes, the right-of-way narrows and there is no space for designated on-road bike lanes. Textured pavement strips are proposed as traffic calming measures in this area as well as bike pavement markings called "sharrows" which signal to the motorist that the roadway must be shared with bicyclists.

The use of the textured pavement strips and vegetation groupings help to alert the driver of the curve ahead and create "visual friction" to give the driver more cues to slow down.

**Hazell/Smith/ Future Showfield**

The screening that was planted will not last long (Figure 64). Groupings of deciduous trees that are native are recommended as shown in Figure 65.

The shared use path continuing along the west side of Gills Neck Road can fit between the planted trees and the existing road in lieu of widening the shoulders on Gills Neck near the Hazell Smith tract. Preserving and/or replacing the concrete posts, in kind, and planting deciduous trees mixed in with the evergreens will help to preserve the character of this area.



Figure 64 Existing historic fence detail



Figure 65 Concept Plan. Illustrates recommended planting approach for Gills Neck in advance of planned development

Freeman Highway/ J & B Trailhead

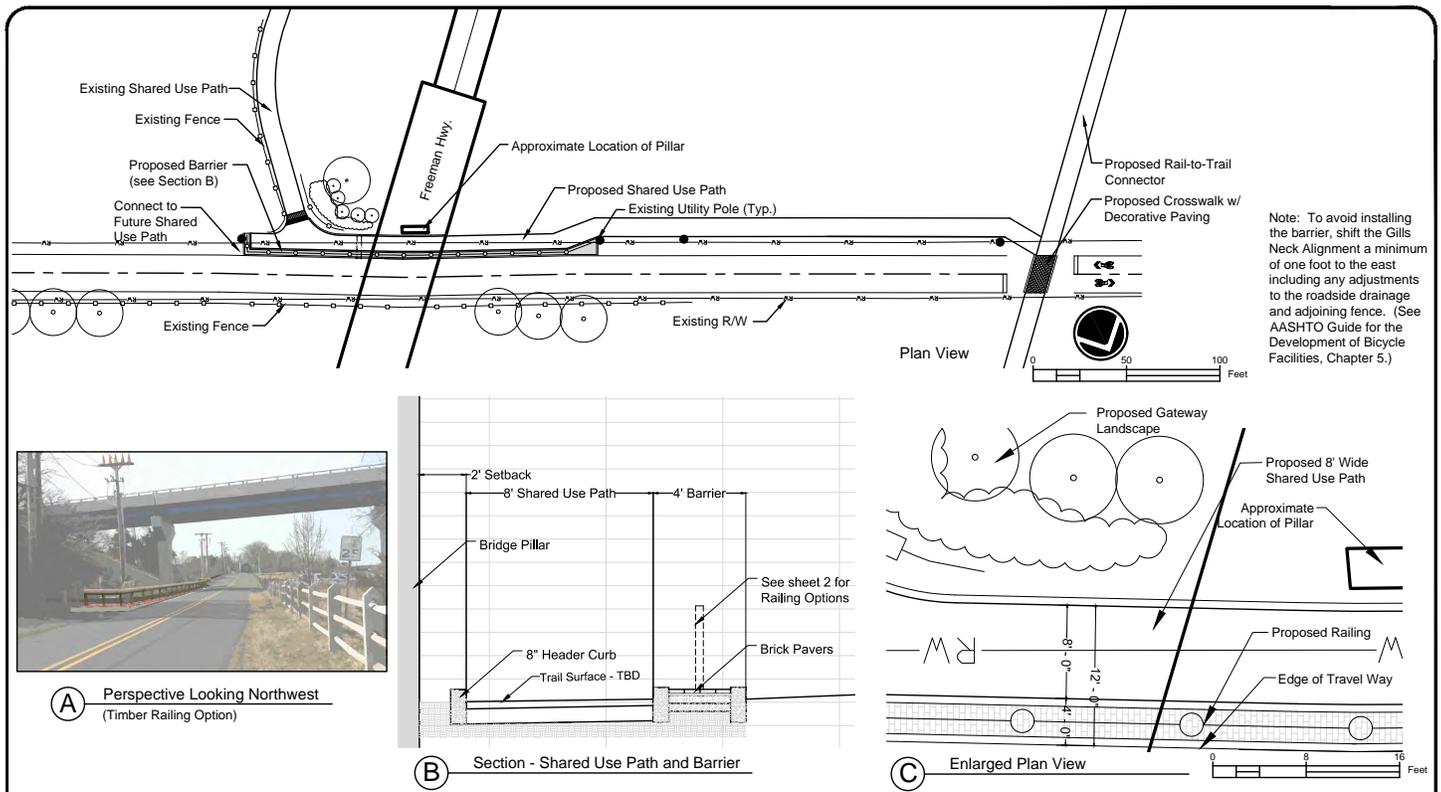


Figure 66 Conceptual drawing showing long-term plan of area as well perspective and section of timber railing options.

As illustrated in the conceptual drawing above, the area around the Freeman Highway Bridge is characterized by two trail intersections. The proposed shared use path that runs along the west side of Gills Neck Road will connect to the existing J & B trail as well as the Georgetown-Lewes rail-to-trail further west. Where the path connects to the rail-to-trail on the west, a crosswalk is proposed. The crosswalk will facilitate pedestrian/bike crossings to the other side of the trail as well provide cyclists a safer way of accessing the westbound share-the-road travel lane.

Because of the limited right-of-way width both under and adjacent to the bridge, a barrier element will be required as a buffer between the roadway and the path. As shown in the enlarged plan view (C), the path must be reduced to 8' to allow for a 4' wide strip between the roadway and the path. Since a minimum 5' separation is required according to AASHTO, a vertical barrier must be provided. Perspective A and Section B are provided to illustrate the railing concept.

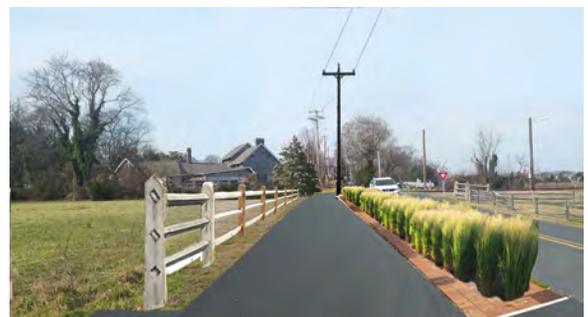


Figure 67 Photo simulation. A vegetated barrier would be beneficial, but if there is less than a minimum 5' distance between the shared use path and the edge of the travel lane, a physical barrier is recommended.



### Bicycle and Pedestrian connection to Lewes

The Georgetown-Lewes Rail Trail, could at some point in the future, connect over the railroad bridge eventually to the Cape May-Lewes Ferry. However, the feasibility and cost for such a crossing is very prohibitive. Bicyclists coming from either the Junction and Breakwater Trail or the Georgetown-Lewes Rail Trail will need to use Gills Neck Road as a shared roadway. Given the 25 mph speed limit and the residential nature of Gills Neck Road in this section, on-road bicycle use is a reasonable option for most bicyclists.

Pedestrians, however, do not have enough space to walk in the street and the existing sidewalk needs to be extended to accommodate a minimum five-foot sidewalk. The extension can easily be made with the cooperation of adjoining property owners and the construction of a low retaining wall.

The benefit of providing a safe place for pedestrians will provide a reasonable opportunity for young families with small children to gain access to Lewes' growing trail and byway system.



Figure 68 Existing condition along Gills Neck Road showing the slope and connecting sidewalk (heading west toward town, top; and heading east away from town, bottom)

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# 05 Implementation

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## HOW WILL THIS PLAN BE IMPLEMENTED?

As stated in the Preface, the Master Plan puts forth a vision, shows examples of how that vision can be achieved and offers guidance to the development community, the City of Lewes, Sussex County, DelDOT, the Lewes Scenic and Historic Byway Committee and the public as to how the recommendations originally contained in the Corridor Management Plan for the Lewes Scenic and Historic Byway can be implemented.

This Master Plan report is intended to supplement the Corridor Management Plan to add specificity to the recommendations in a rapidly changing portion of the Lewes Scenic and Historic Byway. It is designed to be used as a policy reference by the State Agencies (DelDOT and the State Office of Planning and Coordination), charged with coordinating land development and transportation through the PLUS Process; the Subdivision Review Process and the Capital Transportation Improvement Process; by Sussex County, charged with the responsibility of managing land use change through the Comprehensive Planning and Zoning Process;

and by the City of Lewes, charged with the Comprehensive Planning and Zoning Process. The Master Plan is also designed to be used by developers and land owners as they improve and develop their properties. Finally, it is designed to be used by the Lewes Scenic and Historic Byway Committee as a tool to manage the day to day affairs of the Byway so as to preserve and enhance the Byway that they worked so hard to establish in the first place.

Specifically, there are four distinct ways in which the Kings Highway Gills Neck Master Plan will be implemented:

### 1) Capital Projects and DelDOT State Funded Programs

A brochure summarizing the CTP process can be found at [http://deldot.gov/information/pubs\\_forms/CTP/pdf/capital\\_transportation\\_program\\_development\\_process.pdf](http://deldot.gov/information/pubs_forms/CTP/pdf/capital_transportation_program_development_process.pdf). The following summarizes DelDOT initiated opportunities:

1. Roundabout at Dartmouth and Kings Highway – the roundabout will be prioritized as part of the statewide list of projects. Further traffic analysis, engineering design and community engagement are needed to advance the design, establish a budget and move the project forward towards a capital improvement. Contributions may also be considered as part of the development review process,

## Implementation Knowns and Unknowns

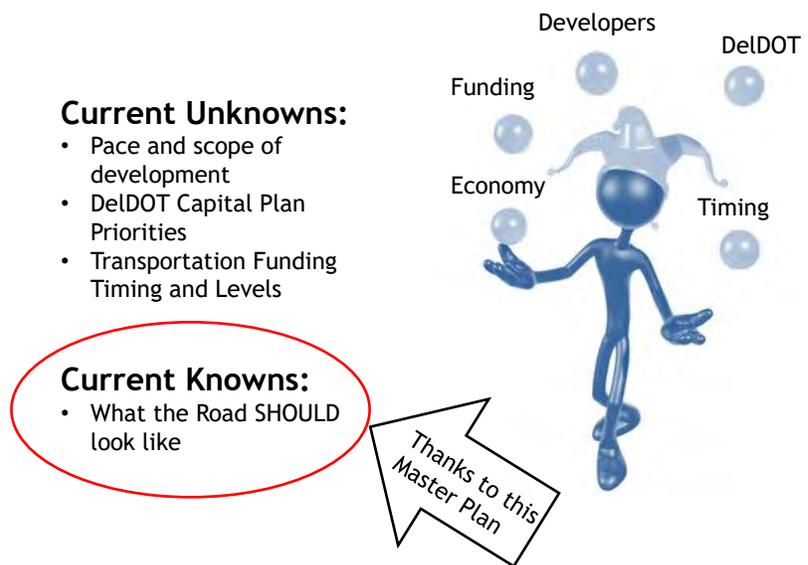


Figure 69 Diagram on "Implementation" from Lewes Scenic and Historic Byway meeting presentation, June 29th, 2016

moving forward.

2. In addition to the CTP, DelDOT will consider seeking demonstration funds for the traffic calming projects on Gills Neck. Further design and community engagement is needed to advance the design and install as a safety measure demonstration project.
3. Pedestrian and bicycle facilities – while the majority of pedestrian and bicycle facilities fit under the category of “Locally Initiated Projects” below, DelDOT incorporates pedestrian and bicycle facilities into capital projects, where applicable. Coordination of future capital and other DelDOT initiated projects in the Lewes area (such as projects initiated to ease congestion or improve safety may present opportunities to implement projects contained in this Master Plan.

## **2) Land Use/Transportation Improvements Coordinated Through Development Review**

As noted in the section “Relationships Between Land Use and Transportation” on page 11, most of the development projects anticipated along Kings Highway and Gills Neck Road will be reviewed by DelDOT and the State Office of Planning and coordination through the PLUS Process and the Subdivision Review Process, in addition to review by Sussex County should a change in the zoning be requested. The Master Plan will service as reference guide for coordinated development review. of future large scale development projects – such as Mitchell Farm, etc.– coordinated by Sussex County/DelDOT/City of Lewes other state agencies as part of PLUS. The following master plan elements would be implemented through this process:

1. Developers are typically required to mitigate traffic impact (often resulting in added roadway capacity)
2. Developers may be required to dedicate right of way for the Kings Highway boulevard configuration as shown in the Master Plan or in the transition area between the Gills Neck intersection of Kings Highway and the Freeman Highway intersection
3. What the developers do not build or dedicate R/W for, DelDOT would assume as a Capital Project when funding becomes available. This also depends upon level of funding available and prioritization.

For smaller scale projects where no rezoning is requested nor a PLUS review is triggered, the Master Plan can be used by the property owner to coordinate their investments in stormwater management, pedestrian and bicycle facilities, planting or other plan elements.

## **3) Locally Initiated Projects**

The City of Lewes and Sussex County, as well as the byway committee and others seeking outside funding to implement smaller projects can implement those projects through the following state and federal programs. The primary federally funded program that is often used for the types of projects anticipated in the master plan is the **Transportation Alternatives program (TAP)**. TAP provides funding for programs and projects defined as transportation alternatives, which include on- and off-road facilities for pedestrians and bicyclists, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation. The program also covers recreational trail projects, safe routes to school, and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways.. The department primarily uses the program to support pedestrian and bicycle projects, spending about 80 percent of program funds on these types of projects.

Healthy communities is a current priority for many community-oriented funding programs that include efforts to encourage more walking and bicycling, as well as other quality of life issues. There are other public and private grant opportunities available to fund projects of the type under consideration as part of the master plan: One example is the **The Robert Wood Johnson Foundation** (<http://www.rwjf.org/>) who

invests in grantees (e.g., public agencies, universities, and public charities) that are working to improve the health of all Americans. Current or past projects in the topic area “walking and biking” include greenway plans, trail projects, advocacy initiatives, and policy development

A third area is related to water quality. As noted in the CMP, DNREC is extensively involved as the lead organization in the Delaware Bayshore Initiative. DNREC is responsible statewide for protecting water quality, including the Great Marsh and Delaware Bay. DNREC administers the state’s land protection programs, as well as the state’s Trail and Pathway Program including the Junction & Breakwater Trail. Maintaining the quality of the water within the Canary Creek Watershed, of which Kings Highway is the major divide is a priority for the DNREC. Enhancements that protect water quality and enhance the visual quality of the Byway—the major entrance to Lewes—provide a win-win opportunity to enhance visual quality and educate residents and visitors about the connection between stormwater runoff into the Great Marsh and Delaware Bay. The master plan identifies opportunities for the use of rain gardens and infiltration areas. Funding should be pursued to advance the design concepts to establish a budget and to further work with the community on these water quality related efforts along Kings Highway.

#### **4) Maintenance**

DelDOT is interested in working with qualified local organizations to adopt an area for various types of landscape enhancements, tree planting and other landscape management practices. Going beyond standard design practices for state projects can also be implemented through sponsorships/partnerships by local organizations – including adoption by civic groups for gateways and other key spots. Tree planting, for example, where ten trees are planted annually over a five year period within the public right-of-way could go a long way towards reestablishing a tree canopy along Gills Neck or shading portions of the Junction and Breakwater Trail

Homeowner Associations (HOA) often find themselves responsible for developer installed landscape areas once all the homes are sold off and the warranty period expires for common areas. The developer is often motivated to provide attractive, but fast growing landscape materials, that consequently have a shorter than average life span. Many public comments submitted as part of the planning process indicating a concern about the predominance of quick growing, non-native, developer provided landscapes. Over time, HOA's can transform the developer provided landscapes into more sustainable landscapes in keeping with the desired character of Kings Highway and Gills Neck Road.

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# 06 Appendix

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# Appendix A

Meeting October 2015

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Lardner/Klein Landscape Architects, P.C.

## Memorandum:

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To: FILE  
From: Comments assembled by DeIDOT (transmitted by Ann Gravatt)  
Cc: For distribution to Lewes Historic Byway Committee 1-8-16)  
Date: 11-25-15 (comments compiled)  
Subject: Kings Highway - Gills Neck Roads Public Meeting  
Summary of comments received by DeIDOT

**Summary:** The comments below were compiled by DeIDOT from all written comments received either during or after the 10-29-15 public meeting for the Kings Highway and Gills Neck Road Concept Plan. Comments are a direct transcription of handwriting with minor typographical errors corrected that were obvious. Where not obvious (a few) they were left as is.

The meeting was attended by 108 people (those that signed in for the meeting on the sign-in sheet). Thirty-two comment forms were received. PDF files are available of comment forms.

A separate file documents the oral comments made at the meeting as transcribed from easel pad notes.

The comments are organized by four geographic areas (character areas) for the byway route:

1. Coastal Gateway (Coastal Hwy to Dartmouth)
2. Developing Area between Dartmouth and Gills Neck Road
3. Kings Hwy Bet. Gills Neck and Downtown Lewes
4. Gills Neck CSS Design Ideas (entire length)

The results of the visual preference survey are appended.

### 1. Coastal Gateway (Coastal Hwy to Dartmouth)

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- Circle good idea but keep it single lane
- Roundabout idea looks badly flawed. Potential for stopped traffic in one direction halting traffic in opposite direction. Safety issues arise from Americans' unfamiliarity with traffic circle etiquette. Very hard to see how it could ever help traffic flow.
- Needs beautification. Traffic generally moves well.
- The approach to Coastal Highway on Dartmouth from the Crooked Hammock Restaurant area is often backed up - the light controlling entrance to Coastal Highway is long and few cars get to cross when light is green. The roundabout proposal near Crooked Hammock while being aesthetically appealing may not solve the traffic congestion.
- At the intersection of Dartmouth and Kings Hwy, we would prefer a traffic light instead of a traffic circle. WE had several circles in our old Montgomery County MD neighborhood and drivers frequently failed to yield proper right of way. They were unsafe.

- Narrow median with low growth landscaping. Investigate feasibility of circle at end of Dartmouth.
- The intersection is rather inadequate at this point in time - it should not be overdeveloped to avoid it looking and functioning like the rest of Route 1 from Dartmouth down to Dewey Beach!
- Island in middle for beauty and safety
- I strongly recommend that as many trees as possible be planted where feasible the entire length of Kings Hwy up to the landscaped triangle.
- Design as picturesque as area or feature as possible. Current entrances are ugly.
- Traffic circle is good!
- Swales are good. Native plants preferred.
- I support the greening of concrete triangles! Could Lewes in Bloom partner with DeIDOT to maintain it?
- Add a long dedicated right hand turning lane onto Route 1 heading North. Add landscaped medians. I support the landscaped roundabout at Dartmouth to keep traffic moving. Allow a left hand turn onto Route 1 at Kings Hwy and Rte 1.
- This segment should be viewed as one of the three primary gateways into Lewes with the others Savannah and New Road. As Savannah and New Road are outside the scope of this effort, in my opinion, it is important to get this one right so we have the template for the others. The character/transition should begin here with the large number of Route 1 north travelers exiting and heading toward Lewes using Kings Highway. The existing Route 1 exit with concrete median seems appropriate for safety reasons if no better options exist. Improvements to landscaping on the right side of Kings Highway connection to the Junction Trail extensions would allow pedestrians and cyclers safe travel between Route 1 to Lewes and other venues. A portion of the trail has been implemented in front of the Crooked Hammock. The design/character of the Kings Highway Gateway at Route 1 should quickly transition and slow the traveler from busy Route 1 to our historic bay and beach environments. Signage or "feature" (fountain, obelisk, lighthouse ???) would be appropriate on the left median in front of the bank directing travelers towards Lewes, bay ferry and beaches. Additional landscaping around the directional sign/object could diminish views of the parking lot and bank building and support the transition. The current two land -tow way highway configuration from Route 1 to Dartmouth heading towards Lewes seems to work for the most part. Traffic moves towards Lewes as long as gridlock does not occur on Dartmouth (or Gills Neck). The new apartment buildings and Crooked Hammock restaurant do not appear to negatively impact traffic flows at the present into Lewes. A multi-use trail along Kings Highway to connect to the Junction Trail extension and improved landscaping on both sides of Kings Highway through to Dartmouth should suffice?
- Route 1 to Dartmouth Drive and Dartmouth Drive to Gills Neck Road- With the addition of the Beach Plum apartment complex and Crooked Hammock Brewery, traffic has greatly increased--a landscaped roundabout at Dartmouth Drive intersection to keep traffic moving is a great idea, especially since Lingo/Townsend has already informed us a traffic signal is being installed at the Clay Road intersection. I don't recall seeing this traffic signal on your master plan--is this traffic signal contingent upon Lingo/Townsend obtaining their CR-1 re-zoning application? A landscaped median on Kings Highway for traffic calming and off-road bike paths and sidewalks, shoulders is very desirable.

- Allow a left-hand turn where Kings Hwy meets Coastal Hwy, allowing traffic to proceed southbound on Coastal Hwy. By encouraging southbound traffic to bypass the Dartmouth/Coastal Hwy signal, we benefit from a longer stretch of road to handle higher capacity than the Dartmouth “stub” can accommodate. This would also reduce congestion at an intersection with several highly-trafficked stores and the new RAL theatre. [There is only a small commercial center opposite where Kings Hwy meets Coastal Hwy]
- Allow a left-hand turn where Kings Hwy meets Coastal Hwy, allowing traffic to proceed southbound on Coastal Hwy. By encouraging southbound traffic to bypass the Dartmouth/Coastal Hwy signal, we benefit from a longer stretch of road to handle higher capacity than the Dartmouth “stub” can accommodate. This would also reduce congestion at an intersection with several highly-trafficked stores and the new RAL theatre. [There is only a small commercial center opposite where Kings Hwy meets Coastal Hwy]b. Lengthen the right-hand turn lane from Dartmouth onto Coastal Hwy. c. Landscaped medians along Kings Hwy and Dartmouth if at all possible – preferably bio-swale to do double duty in managing polluted runoff. A nicely landscaped gateway roundabout [bio-swale] at Dartmouth and Kings Hwy is an excellent way to manage traffic flow – northbound traffic headed to Dartmouth, and southbound traffic headed further down Kings Hwy to Coastal Rd to turn left, so long as it can accommodate commercial traffic coming off the ferry.
- The round-about planned at Dartmouth Drive is desirable to keep traffic moving and should be landscaped with native plants.
- I favor a rotary at Dartmouth Drive. I love the rotary near Weldin Road at the Blue Ball Barn in Wilmington, Our son and family live off Weldin Road and it is a pleasure to use this rotary. I favor extending King’s Highway as a southbound route to Route 1 at Dartmouth Drive. Traffic heading north can use the current short-roadway which intersects the WaWa. Southbound traffic would continue to Community Bank and intersect with Route 1 there. That would permit more traffic to line up and mitigate the high traffic volumes which seem to strangle residents behind the Wawa/Home Goods shopping center.
- This triangle of roadway is an anachronism. Traffic growth has outpaced it's ability to handle the varying speeds of traffic. The entrance from NB Coastal Hwy (Rte 1) onto Kings Highway (KH) has vehicles entering at 45+ mph; unless there is one turning into the community right there at the Par 3 golf sign. Then, wow, near miss rear-end collisions. This speed is carried past the business entrances along there (including medical suites), unless someone is exiting said business, then again, a near miss. To me there is an obvious fix. Close this access. Traffic cannot use it from SB Rte 1 anyway. Traffic simply would travel the 0.1 miles to turn right at Dartmouth, and since it is a 90 degree turn, would have to slow down. I think a right turn lane may need to be added here. Dartmouth was just modified to have three lanes turn left onto Rte 1, and has much improved traffic flow. After turning right from NB Rte 1, traffic now has to stop before turning onto KH. But if KH is a dead end, then this stop can be eliminated here, and moved to the dead end side. The proposed roundabout will not work, as was said at the meeting. This new configuration would eliminate the need for it.
- Dartmouth should not be a roundabout (circle). New Jersey is discontinuing them and re-designing those heavy traffic intersection with "traffic lights"

- Open , Lighted (with appropriate Signage indicating entrance onto Dartmouth / Kings Hwy. Kings Hwy should be of adequate width - with a walk way & cycle section on both sides.

## 2. Developing Area between Dartmouth and Gills Neck Road

- Thanks for preparing for Village that we support. Provide parallel service road into sports and arts area thence into village to pull some traffic off Kings Hwy
- Clay and King can be a problem intersection - i.e. Clay onto King, but Clay improvements could cause all kinds of inefficient traffic routing at busy times to avoid gridlocked traffic on Rt 1.
- Kings highway is heavily trafficked. Going west, it often back up to Clay Road. Remember Kings Highway is an evacuation route and as the only way out of Lewes when Savannah and New Road floods.
- There is a move afoot to sharply reduce the size of or eliminate Village Center. Any development plan should consider that possibility.
- Add sidewalks / bike lane along entire length and traffic light at Clay Rd.
- Retain 2 lane road with side landscaping and multi-use paths and appropriate turn lanes for Clay Rd. Gills Neck, etc. NO LIGHT AT CLAY ROAD.
- 4 lane dual with traffic signals at Dartmouth and Gills Neck with left turn arrows. Widen Clay Rd. to 4 lanes. No roundabout on Dartmouth - way too much traffic and given development plans, much more to come. After functional roads are approved and in place, then planting trees, shrubs, etc. can be done.
- Island in middle for beauty and safety
- The idea of a roundabout has some attractions, namely, to keep the traffic moving. The challenge will be to make it big enough to work efficiently.
- Be careful using traffic slowing / stopping aids, as they will back up traffic on Rte. 1. Do not allow traffic to turn off Kings Hwy into any additional shop allowed or along Kings Hwy.
- Need to widen Kings Hwy to 4 lanes.
- No commercial zone! Regardless of improved conditions at the High School entrance, students cannot be relied upon to cross at a crosswalk. If a shopping center is across the road, some (perhaps many) students will jaywalk. If there is a sidewalk (which is good), students will use it and cross wherever. A commercial zone just shouldn't go there.
- Love the roundabout concept. Needs a focal point like a welcome sign or icon similar to Bethany's totem pole. I don't see enough consideration of Clay Rd. intersection, particularly since Lingos are working with DeIDOT to divert Rt 1 traffic through New Road to Clay Rd to proposed Village Center. I am very against it and it will worsen traffic.
- I prefer a landscaped median as wide as possible to create a Gateway entrance to Lewes Scenic Byway. Include a separated bike path on both sides, or at a minimum a separated bike path on one side and a sidewalk on the other. Make all sidewalks brick (context sensitive). At Gills Neck Intersection, use brick or imprinted brick crosswalks for traffic calming and pedestrian pork chop islands at crossings....no painted crosswalks! If lighting is needed use period lights with down lights. Any development should be required to use down lights that will reduce glare on adjacent residential properties. No shoulders to keep the road narrow and in scale with Lewes roads. Acceleration and

deceleration lanes in this sections are unacceptable and deceleration lanes creates a 4 lane highway that is too wide and out of context. Add signage that says "Lewes Scenic and Historic Byway"... Gateway to the Nation.

- As we know, the current intersection of Kings Highway and Dartmouth can be a disaster when the ferry and/or high school sends large volumes of cars onto Kings Highway towards Route 1. The new Dartmouth traffic configuration of three left hand turn lands onto Route 1 south as the Wawa is helpful (albeit a bit dangerous) as it increases the left hand turning volume at the Route 1 intersection by a third. The right turn from Dartmouth onto Route 1 north should be substantially extended (guardrail now) to allow more cars to make the right hand turn (and keep them out of the three left turn lanes) on to Route 1 north to keep things moving. I would recommend we give this new configuration a chance before we implement a traffic circle assuming something can be done (remover guard rail and build new land ) to extend the Dartmouth right hand turn onto Route 1 north lane. The other difficulty of the Dartmouth/Kings Highway intersection is the traffic making the left turn from Dartmouth/Kings Highway. After some thought and looking at Google Earth, it might be possible to use a three-way stop sign to improve traffic flow. Dartmouth left turning traffic would alternate with the Kings Highway two-way traffic to keep things moving. Kings Highway westbound right turn onto Dartmouth would potentially need to be extended or modified to cleanly separate traffic continuing on Kings Highway. Traffic going west (continuing) ton Kings Highway ouwl stop and so would the eastbound onto Dartmouth and the remaining traffic should be albe to flow through the three way stop. The three way stop would be better supported if Dartmouth could be extended southeast (50 -100feet?) and Kings Highway shifted southeast to insure traffic is separated and potentially extend/increase Dartmouth capacity. There is another oppportunity for appropriate signage and landscaping at Dartmouth and Kings Highway heading towards Lewes around the address 16844 Kings Highway (Seasonal Solutions?). The nex improvement on this stretch is Kings Highway and Clay Road. It is amazing to me that nothing has been done to date to improve this very dangerous intersection. I have heard that Townsend/Lingo may be involved with improvements at some future time but DeIDOT should do something now even if its a hanging flashing yellow light. for the purpose of this process, I would like to see us move ahead now with the standard left turn lane onto Clay and straight lane to continue on Kings Highway eastbound. Kings Highway westbound at Clay requires the right turn lane onto Clay and straight lane to continue on Kings Highway westbound. It goes without saying a red light is required at this intersection and the sooner the safer. Whatever happens with the Village Center we might as well accommodate the straight, right and left turns lands consistent with what we do at Kings Highway and Gills Neck. Trees, median, pedestrian and cycling friendly, etc. The multi-use path should extend along Kings Highway eastbound connecting Route 1 to the Junction Trail extension at Gills Neck Road.
- Gills Neck Road to Freeman Highway - Would like to see all of your recommended improvements (safe off-road bike path and sidewalks to school, safe crossings at high school entrance, safe bike/pedestrian crossing at Monroe Street to new Library and safe bike connections to downtown Lewes).
- A landscaped median running from the Dartmouth Circle all the way to the median where Kings Hwy veers off from Freeman hwy, varying in width or tapering as needed. Highly recommend a bio-swale approach along this stretch given that it crosses over the Lewes wellhead water recharge area. Tall grasses interspersed periodically with

- appropriate, aesthetically pleasing, low maintenance trees. b. Sidewalk along both sides with designated bicycle path along at least one side – thinking about a spur running from the new trailhead at the library near Monroe. c. At Gills Neck/Kings Hwy intersection, imprinted or brick crosswalks and safety areas in median for pedestrians. Byway directional/interpretive signs, ambient lighting. d. From here on into Lewes and down Gills Neck, I encourage no more than two lane roads. If the above recommendations are considered, two lanes should be adequate to handle traffic flow most of the time. Adding more lanes would be like force-feeding a goose without end... the goose being the charming and historic city of Lewes.
- When improvements are made to Kings highway, given the enormous amount of traffic congestion on that road today, it would be desirable to build a shopping center that would be more to the scale and size of Historic Lewes. Whenever possible it would be important to preserve the two-lane roads leading into Historic Lewes, where our two-lane roads are narrow and cannot be expanded to accommodate traffic from a large scale shopping center. On Kings highway it is important to keep traffic moving, but it should be done in a context sensitive manner that is in keeping with the goals of the Lewes Scenic & Historic Byway. I like the center landscaped median on Kings Highway and Gills Neck Road. I assume the width of the median will be determine by available rights of way, but the more landscaping that can be provided in the median, the more attractive the Gateway to Lewes. I like the concept of providing stormwater management in the median giving it a dual purpose.
  - To use the standards applied to Route 52 in Wilmington. Divided planted medians when possible; traffic calming techniques; brick crosswalks; bike paths adjacent to the road. I favor keeping Kings Highway 2-lanes with a divided median. I like the water runoff treatment in the center median. We lived on Bancroft Parkway in Wilmington and there is no prettier road in the state!
  - Coastal Gateways All plantings should use native plants, as are used at the Lewes Campus of UD on Pilottown Road. Information about the plants and the stormwater management garden can be obtained from the University Offices. Stormwater Management See garden at the campus as mentioned above. These natural gardens use no mulch, which repels water, and require less water; as long as care is taken to select the right plants for each micro-climate area.

### 3. Kings Hwy Bet. Gills Neck and Downtown Lewes

- Shared bike/ pedestrian paths a must to get bikes off road proper.
- Deff to plan before we know what will happen to the 60 acres across from CHHS (Townsend property)
- Going west this only backs up when the ferry arrives in summer. This is well traveled by students and cyclists and needs sidewalks and bike paths separated from the road.
- Add traffic light at Monroe and Freeman Hwy, to facilitate pedestrian and biker safety when crossing. Extend Monroe into new Showfield community to provide direct access to Kings Hwy without forcing that traffic onto Gills Neck Rd.
- same as #2 to the left.
- 4 lane dual hwy up to Lewes light at 1st street. Intersection at Gills Neck, Savannah and 1st St needs to be dual, as well as Savannah down to Lewes Beach. Will need new

bridges across L/R Canal also Savannah from Lewes Beach back to Route 1 needs to be a dual land divided hwy.

- Splitter islands to control speed and give less commercial look to residential area.
- Maintain Kings Hwy as a single road in each direction. We should all remember that is one of the most historic roadways in Delaware history.
- This department of DelDOT needs to coordinate with traffic study being done by DelDOT on Kings Highway - Please, please, please do not make the assumption that the Village Center is going to be done - this only plays into Lingo's request for changing zoning to CRI from AR1 - you are representing us - the citizens - not Lingo, the developer. Please don't have the stand that the land owners have the right of development. Development is determined by zoning not ownership.
- Separate bike / walking train from highway using landscaped median.
- Need to continue 4 lanes on Kings Hwy to the DRBA Freeman Hwy - 4 lanes up to Cape Henlopen
- No commercial zone along Gills Neck Rd! The specific site plan for the "Village Center" does not matter. This area is totally wrong for a commercial zone with all its possible legal uses.
- Love the boulevard concept / tree lined medians. Love the added use of shade trees. Issue with shared bike / pedestrian path b/c bicyclists ride fast and do not always share road / path with walkers.
- Short median at Gills Neck intersection in front of Mitchell Farm tapering down as you approach the Lighthouse. Separate bike path on one side at Mitchell Farm and sidewalk on the other at high school. No shoulders as bikers/walkers can use separated path...makes road too wide and ugly. Landscape the medians at the Lewes Georgetown Rail Trail on Kings Highway. Provide a safe crossing at Monroe St. from J & B Trail to Library trail head and open Monroe Str. to Showfield development to reduce traffic using Gills Neck Rd. intersection and Savannah Rd intersection at Gills Neck Road.
- It looks like plans and some work are underway for this intersection. I would like to see the typical left, straight and right at all four road (which I believe is planned )at this intersection improved by the use of landscaped medians with trees. May we all do what is necessary to deny CR-1 zoning for the parcel of ground across from cape Henlopen High School. A small Village Center may be fine, but nowhere near the scope proposed by the Lingo/ Townsend organizations. Extension of the multi-use trail along Kings Highway from Gills Neck to extend and connect to new trail across from the library towards Monroe Ave. Improved sidewalks on the Cape Henlopen HS side extending into Lewes and connecting with the new Georgetown-Lewes Trail. I think the existing Kings Highway entrance to Lewes Town with Lighthouse and Lewes in Bloom landscaping looks great and should serve as the esthetic model of the entire Route 1/Kings Highway to Lewes Town Byway.
- Landscaped median [bio-swale] running from Gills Neck to the Lighthouse median. b. Sidewalks on both sides, and bike path on one side connecting with the new Library trailhead. c. Integrate roadside landscaping with new library and trailhead area. d. Need some kind of pedestrian-activated crossing signal at Monroe for safety. Once library and trailhead go in, safety issues will escalate
- You need to manage traffic light at intersection. A separate signal needs to work for left turns. Also, at non-school hours early in am there should be a blinking light.

- Kings Hwy needs either a traffic light or pedestrian / bike overpass at Kings Hwy and Monroe Street (near new library). I walk the new trail from Giles Neck Road to Monroe Street frequently. Crossing Kings Hwy at Monroe St is worth your life and very dangerous. Before someone gets killed, a light needs to be installed so walkers and bikers can hit a button for a red light to drivers.
- same as 2a. Left to those residents effected to ACCEPT / REJECT .....by VOTE
- what ever the PEOPLE VOTE FOR -who are resident( in homes or apartments ) of Lewes - NOTE : at the intersection of Kings Hwy & Woods Edge Dr. - suggest a traffic light - "BLINKING - OFF HRS " and "OPERATING DURING PEAK HRS." If Kings is made wide enough it would "ALLOW" merging traffic at intersections of residences ... reducing wait time

#### 4. Gills Neck CSS Design Ideas (entire length)

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- We attended the meeting and were very pleased with your plans. Look forward to it happening!
- Need shared pedestrian / bike lane from high school to old Lewes. Gotta get bike off roads. Need safe access from Gills Neck communities to Village and HS.
- Please DO NOT soften the curve by the Wolfe Pointe / Showfield entrance. A very marked crosswalk at Canbury would be wonderful.
- "Softening Curve" on Gills Neck below Showfield not shown in plan presented. Is it real? What we had - the curves and trees, seem to be a big part of the proposal to slow traffic. If the Lingo prop gets rezoned to commercial, the Townsend property would as well. New problem!
- The planned roadwork will be great. The crossing at Cadbury is important and the bike path crossing near Wolfe Pointe needs work. The bike path exit at the railroad bridge needs a barrier.
- Bike trail should run entire length of Gills Neck Rd. right into Savannah Road intersection in town.
- Provide sidewalk / bike lane along entire length. Provide speed bumps to control traffic speed. Cut back low vegetation at all bike path crossings to facilitate greater visibility for bikers and vehicles.
- Add multi-use paths along entire length with side landscaping (low growth, to preserve views of fields)
- All roads in this area need to be divided dual lane hwys with controlling traffic signals with left turn arrows at major intersections. This includes Kings Hwy, Gills Neck, Clay Road, Savannah Road, New Road. Ther is just too much development being permitted in this area and the existing roads, lights, etc. simply cannot support the new development - not to mention a high school, a hospital, a Ferry, ocena bese and state parks and a tiny town loaded with tourists.
- bike path separate from roadways. Delaware drivers are constantly passing on right shoulders wherever they know it is not protected. They will injure walkers and bikers and school children.
- Work to maintain the scenic and rural appearance through there is way too much development along its perimeter. I would not want to see the sections of the road closer to downtown Lewes altered.

- Narrow car / truck lanes. Provide for separate bike / walking trail separate from roadway using landscaped median.
- Do not slow traffic down.
- Safer pedestrian and bike crossings. Way to slow increasing traffic are critical. Do not encourage the road to become a throughway to Lewes. We should not draw more cars onto Gills Neck.
- Please do not soften "S" curve - it already provides traffic calming. 2. Please extend bike path to Wolfe Point neighborhood - it is too dangerous for us to get to bike trail. 3. Please use natural vegetation - avoid a homogenous suburban look to landscaping. 4. We need thicker landscape buffers with developments and curves. 5. Consider adding benches along Gills Neck path for rest stops. 6. Concept design should factor in alternative modes of transportation like jitneys. 7. Factor in climate change and open space.
- Add a median on Gills Neck Rd. from the intersection at Kings Highway to Cadbury. Use the median to provide a safe crossing for the residents of Cadbury to get to the bike/ped path across the street and to Governors development and proposed shopping. Use brick or print imprint crosswalks to calm traffic for the elderly residents with islands as appropriate. See her letter attached in comment group 3 for more....
- IN general, in my opinion, Gills Neck Road from Kings Highway intersection to the Lewes Town border is looking pretty good. Much depends on how the entrance to the hopefully significantly smaller Village Center and the newly underway Governors and Showfield developments proceed. there is a current issue with speeding on Gills Neck(limit 35 mph) and the new softened curve does not help. I believe there are plans to add landscaping at the softened curve at the Junction Trail and I support that. I also assume that as soon as possible the multi-use trail will be restored/improved to asphalt along Gills Neck to connect to the Junction Trail. From the curve all the way to Wolfe Runne entrance on Gills Neck in my opinion is working well. We do need improvement to the Junction Trail crossing Gills Neck for safety of cyclers and pedestrians. Personally, I would not be against soft speed bumps on either side of trail crossing to slow vehicle traffic. The Junction Trail should be extended along Gills Neck in front of Wolfe Runne and Wolfe Point developments and connect with a pedestrian crossing to the new entrance to Showfield. Lingo/ Townsend have committed to road improvements similar to those done for the Senators development on Gills Neck. 4a. Monroe Ave Extension - Critical to the improvements for Kings Highway and Gills Neck Road Byways is the implementation of a connector road joining Gills Neck Road and Kings Highway. It appears that the Showfield design and gillsneck.com to downtown Lewes via Monroe Avenue. Looks like it may have been removed with their website update? Many reasons like safety, direct access from Gills Neck to Beebe, Lewes Library, reduce traffic at Gills Neck/KNHY and Front Savannah etc. support the connector. I would like to see a multi-use trail following the connector to the intersection of Monroe at Kings Highway. From the S curve (please do not modify or soften) to Lewes Town city limit I would like to see a shoulder on both sides of Gills Neck Road for limited bike travel and pedestrian safety. Continue the shoulder on both side to under the Freeman Highway bridge where the Junction Trail and the new Georgetown Trail join Gills Neck. At the point to Front and Savannah I would like to see a multi-use trail on the canal side of Gills Neck. 5. Kings Hwy / Freeman at Monroe - With the new library and trailheads converging at this location, a new intersection is created that will require all of the pedestrian and traffic

management feature needed at Caly and Gills Neck. Red light with Freeman left, straight and right turn lanes intersections. Monroe Avenue will need improvement to accommodate traffic flow and access to Lewes Town and across Showfield to Gills Neck Road. Note: It would be great to acquire land off Monroe surrounding the lake for a new Lewes Town Park.

- Most importantly, open discussions with the overseers of the Freeman Highway. The major problem I see for bicyclers in the Lewes area is a way for them to cross the Freeman Highway safely. If a light or overpass was installed at Monroe Street creating a safe alternative to reach the Rehoboth and Breakwater Trail from the Library Trailhead will pay for itself in lives and enjoyment. I recommend using DELDOT money, donations, fundraisers, or moving funds from the Rails and Trails fund in order to do this CRITICAL step in the bike paths. Gills Neck Road from Showfield to Freeman Highway Bridge:

Add appropriately spaced speed bumps to the "S" curves. The curves are a natural barrier to driving over 25 miles per hour and the speed bumps would enhance safety. This is a relatively low cost way to fix a speeding problem.

Add a safety barrier on the Freeman Highway bicycle path so bicyclers would have to dismount their bicycles when reaching Gills Neck Road. This is a relatively low cost way to fix a safety problem.

Historic Gills Neck Road from Freeman Highway Bridge to Savannah Road:

Encourage this section of road to be a "shared" highway for both cars and bicycles. Many European roads have sections of road where both drivers and bicyclers honor each other. You are aware this is a shared road because it is marked as such.

Extend sidewalk from Savannah Road to the Freeman Highway Bridge.

This is a relatively low cost way to fix a safety problem for both bicyclers and walkers.

- Gills Neck Road to Cadbury / Curve at Senators -This stretch of road is a speedway. With no shoulders and lots of construction vehicles, many with trailers attached that are too wide for these narrow lanes, run off the roadway into the dirt and lose control. The new, improved softening of this curve has created a sloped shoulder at the turn, in addition to increased speed. Shoulders need to be added between Cadbury and Kings Highway. Beyond Cadbury, whatever improvements can be made in the way of landscaping to reduce speeding and calm traffic--but no speed bumps please!!! This needs to be a priority. Curve at Showfield -PLEASE do not make a second mistake by softening this curve!!! Lingo has already destroyed all the tree growth around this turn and placed the blame on Deldot--your requirement for curve softening. If this curve is "softened", drivers approaching the curve from Lewes will simply speed around it, coming immediately upon the entrances to Wolfe Pointe and Showfield where cars will be entering/leaving--creating another dangerous intersection. Adding a 20 foot landscaped buffer to a softened curve will do nothing but encourage speeders as in the Cadbury/Senators turn. Please have Lingo replace the historic fence around the current curve/Showfield property and leave the curve as it is!!! J&B Trail Crossing and Gills Neck/Hawkseye Crossing:

Create safe crossings for bikers and pedestrians by installing a barrier where bike riders

need to dismount and walk bike across cross road.

Gills Neck Road from Showfield to Freeman Highway Bridge:

Agree with your suggestions to retain the historic road at Hazel Smith property and protect the historic fence. I do not see the need to widen this section of Gills Neck Road with shoulders--Bike riders should be encouraged to use the current bike trails and future bike trails through Showfield to get to downtown Lewes and beaches.

- Narrow median from Kings Hwy down Gills Neck past the proposed Governors entrance, to Cadbury, if possible. Again, nicely landscaped bios-wales recommended. b. Not sure how many entrances will end up off Gills Neck if the proposed commercial project is allowed. I understand that any commercial entrance would be right turn only onto Gills neck, but the separate Governors entrance is likely to be left and right, so will need to be accommodated. Need to design a pedestrian/bike crossing at Cadbury with safety in mind. Would prefer something substantive for crosswalks, like brick or imprint versus painted lines. c. Similar brick or imprint crossing where the J&BW trail crosses Gills Neck Rd. Extend the multi-use bike path along the east side of Gills Neck to the last community, Wolfe Point. Remove the bike lane/shoulder on the road in front of Senators and Hawks Eye.
  - d. Use a landscaping approach along the northern stretch of Gills Neck to calm traffic. e. Landscape the curve at Senators [recently softened], and consider integrating a guard rail of some kind. Curve is dangerous in winter or wet weather. This is also where the J&BW trail enters Senators and would be a great wayfinding spot for Byway signage and interpretive materials. f. At Showfield, don't proceed with plans to soften that curve. It will only accelerate traffic speed. Roadside landscaping there should integrate with the look and feel of Gills Neck heading into town. g. Where the J&BW trail ends at Gills Neck near the Freeman, consider reconfiguring this exit, if space allows, turning it right or left, parallel to the road, even for a short bit, to force riders to slow down. Install some soft safety structure at the end which forces them to stop before crossing. Make sure signage is large and clear about the road crossing. h. Closer to town, beyond all the developed communities, I urge that we make no changes at all to the character of the road along this stretch. No shoulders, no bike lanes or MUPs. This section is a priceless treasure, and should be preserved!
- While I support an off road bike/pedestrian path thought the project area connecting to the other nearby bike path, especially in the area of the high school, I strongly support leaving the rest of historic Gills Neck Road undisturbed as it is all that is left of what was one of the most beautiful historic roads in Lewes. Specifically this is the area from the curve at Snowfield to Savannah Road. it includes the Hazel Smith home along the canal, a significant view from the Byway road, and the historic homes along the canal from Freeman Highway bridge to Savannah Road. These homes and the road are in the Lewes historic district and therefore the road should not be disturbed.
- Please "do not" soften curve near Showfield. This road is a speedway and not monitored by police. Speed could be curtailed with speed bumps in various areas particularly by entrance to trail.
- I would argue that there are two Gill's Neck Roads. The first goes from Freeman highway to around Wolfe Point, and the second continues on through the curves and on into town. The improvements to the first part of Gill's neck were appropriate and attractive. The second part of Gill's Neck is more like a scenic highway, except that it is very narrow, has no shoulders, and in some parts, a deep ditch has developed. There doesn't

seem to be any way to keep cyclists and cars from mixing. Slowing down the cars with traffic smoothing and making them aware of the cyclists could help the safety issue. Beyond that acquisition of more right of way is the only other solution and I would not be in favor of that. Shortly after the first part of the Breakwater and Junction Trail was completed, the main goal was to get cyclists OFF Gills Neck precisely because of the unsafe conditions, and the recent completion of the trail to Monroe Avenue was supposed to accomplish that. That cyclists are faced with another unsafe situation, trying to cross Freeman highway to get to the trailhead would seem to suggest a traffic light.

- One simple question: will this plan be able to handle the projected traffic loads? Having lived in the area for over forty years, the amount of traffic consistently exceeded anticipated traffic projections. There seems to be a lack of vision. Hope the road will be pragmatic designed for future traffic demands rather than focus on beauty, etc.
- Gills Neck Road Context Sensitive Design Transportation - a Jitney Service -both ADA compliant
  1. one to provide prompt service for the able bodied
  2. another for the disabled - using wheel chairs , scooters , rollators , walkers and requiring a lift - those who cannot walk - up/down- step

Similar to what the State of Delaware has now on their ADA compliant fixed & paratransit systems.

  3. wide sidewalks & bike paths ....where ever possible

Results of Visual Preference Survey (see handout for key) - can choose more than one or none

Visual Preference Survey Element	A	B	C	D	
<b>Coastal Gateways</b>	2	12	4	3	
<b>4 Lane Road with Landscape Median</b>	4	3	3	5	one wants small landscape median
<b>2 Lane Road with Landscape Median</b>	1	11	3	4	
<b>2 Lane Road with Traffic Calming</b>	5	12		5	
<b>2 Lane Road with Bike/Ped Facilities</b>		8	7	5	
<b>Major Intersections (Kings Hwy)</b>	7	7	2	4	
<b>Minor Intersections (Gills Neck)</b>	3	10	3	4	one says need to eliminate curves so cars can go faster
<b>Sidewalks and Crosswalks</b>	8	5	10	1	one says need to get bikes off road so cars can go faster
<b>Stormwater Management</b>	6	6	8	2	
<b>Commercial Signing</b>	9	1	8		one person likes none  needs to be high enough to get above trees.

# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN: Preliminary 10-26-15



Delaware Department of Transportation  
Lardner/Klein Landscape Architects, P.C.  
in association with Delaware Greenways

## TRANSITION: COASTAL HWY TO NEW LEWES



Kings Highway at Gills Neck Road



Roundabout example: Rehoboth



Kings Highway at Clay Road

## GATEWAY: COASTAL HWY



Dartmouth Drive at Coastal Highway



Kings Highway at Coastal Highway



Pedestrian improvements along Coastal Highway at Dartmouth Drive (currently under construction)

Provide sidewalk north of Gills Neck Road to connect with existing sidewalk

Provide landscaped median approach transition along Gills Neck to Kings Highway intersection

Enhance corridor with understory trees along overhead utility line

Anticipated access/egress location at Village Center

Provide pedestrian improvements at intersection of Kings Hwy and Gills Neck

Select preferred context sensitive approach for 'Complete Street' configuration

Enhance corridor edge with shade trees/landscape

Anticipated access/egress location at Village Center

Frame and preserve view of Townsend Farm barn

Provide bicycle lane and sidewalk OR separated shared use path to connect existing shared use path near Cape HS to Coastal Hwy

Provide shared use pathway along Village Center frontage

## GATEWAY: COASTAL HWY

Roundabout (one-lane or two lane)

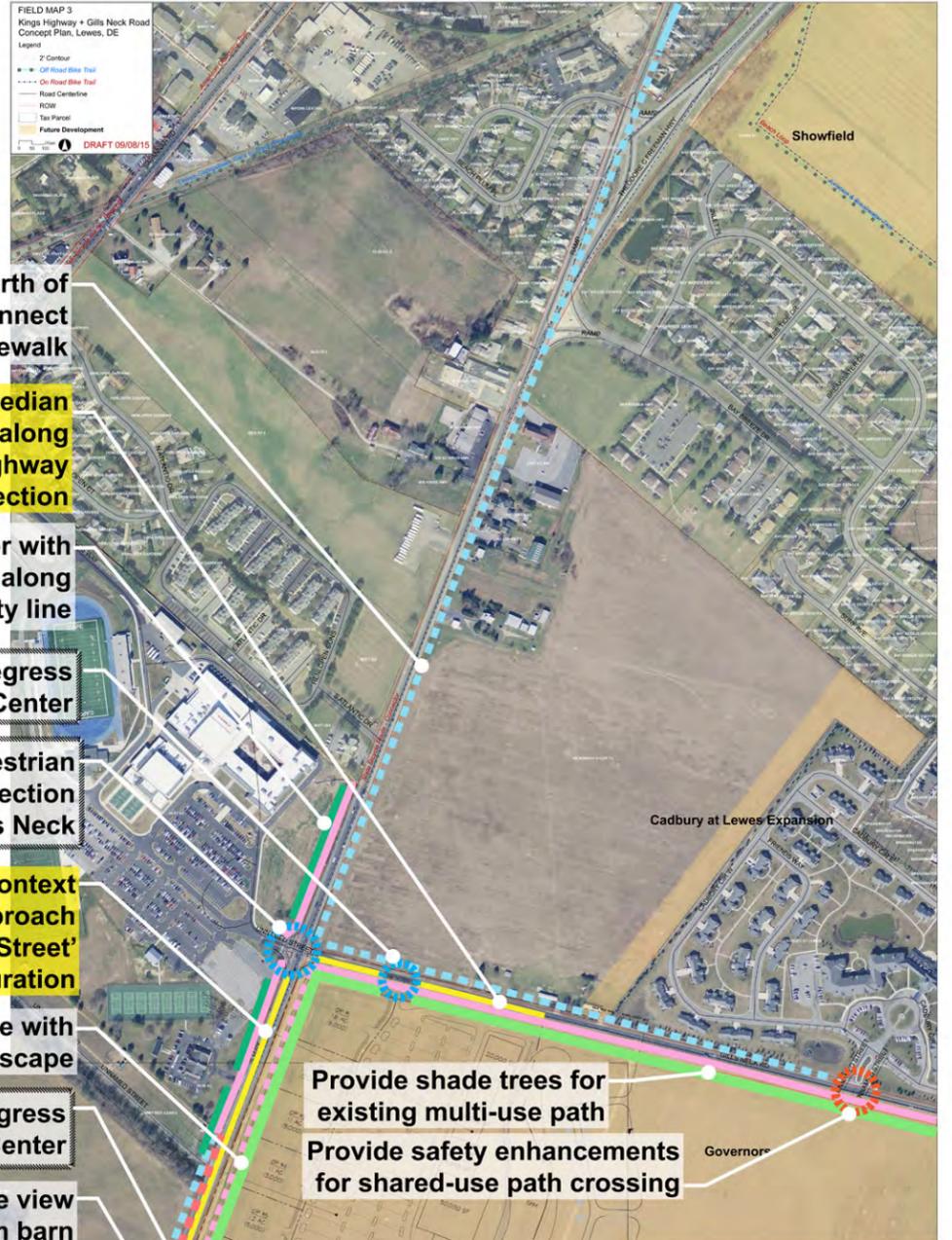
Provide sidewalk to connect to existing sidewalk at Coastal Hwy

Convert concrete island to landscaped gateway entrance using low plant material to preserve sight distance

Enhance shared-use path gateway with wayfinding and landscape

Convert concrete island to landscaped gateway entrance

Enhance existing landscaped gateway at Bank



- CIRCULATION**
- Existing sidewalk
  - Proposed sidewalk
  - Existing shared on-street lane
  - Proposed shared on-street lane
  - Existing shared use path
  - Proposed shared use path
  - Shared-use path crossing safety enhancements
  - Intersection enhancements
  - Boulevard enhancement
- LANDSCAPE**
- Shade trees
  - Understory trees
  - Use landscape to calm traffic
  - Landscape planting bed
  - Enhance shared-use path gateway with wayfinding and landscape
  - Frame view

FIELD MAP 3  
Kings Highway + Gills Neck Road  
Concept Plan, Lewes, DE  
Legend  
2' Contour  
Off Road Bike Trail  
On Road Bike Trail  
Road Centerline  
RWS  
Tax Parcel  
Future Development  
DRAFT 09/08/15

FIELD MAP 4  
Kings Highway + Gills Neck Road  
Legend  
Tax Parcel  
Future Development

# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN: Preliminary



Delaware Department of Transportation  
Lardner/Klein Landscape Architects, P.C.  
in association with Delaware Greenways

## OLD LEWES



Gills Neck Rd: view of canal



Gills Neck Rd near Hazell Smith estate



Freeman Hwy + Monroe Road

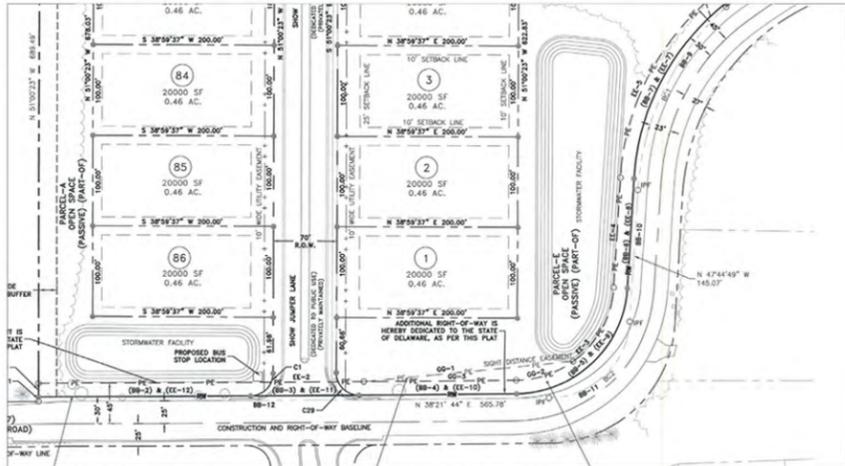
## TRANSITION: NEW TO OLD LEWES



Gills Neck Road: two sets of curves



Gills Neck Road: curve-softening project at Showfield



Gills Neck Road: curve-softening project at Showfield



Gills Neck Rd: Breakwater/Hawkseye



End of bike lane and shared-use path

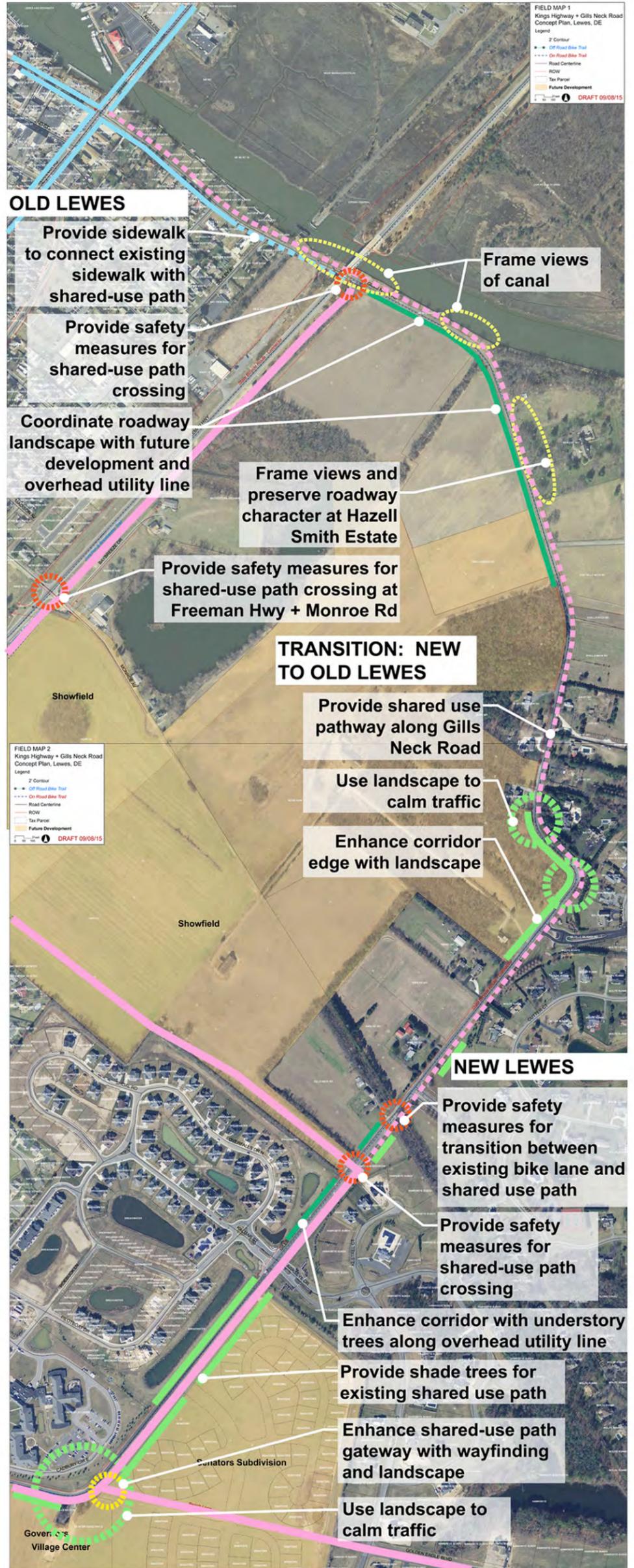
## NEW LEWES

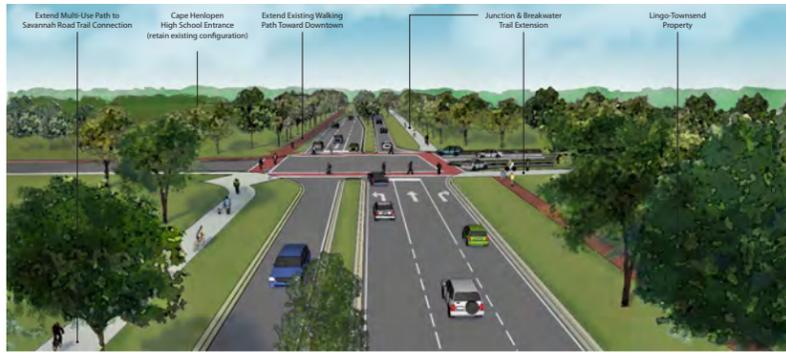


Gills Neck Road at trail intersection



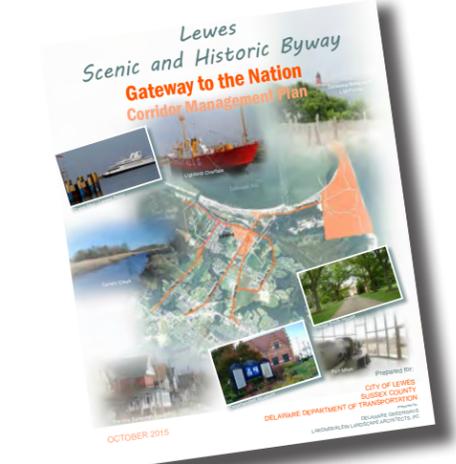
Gills Neck Road: Cadbury/Kings Hwy





Kings Highway at Gills Neck Road: Proposed Boulevard  
Lewes Historic Byway: Gateway to the Nation  
Lardner/Klein Landscape Architects, P.C.

Sketch from the corridor management plan (CMP) illustrating context sensitive design principles applied to the intersection of Kings Highway and Gills Neck Road. A multi-use path will be added to the Village Center side and bicycle lanes added to the street cross section. The master plan will advance the concepts presented in the CMP working with adjoining property owners, DeDOT, the County and the Scenic Byway Committee.

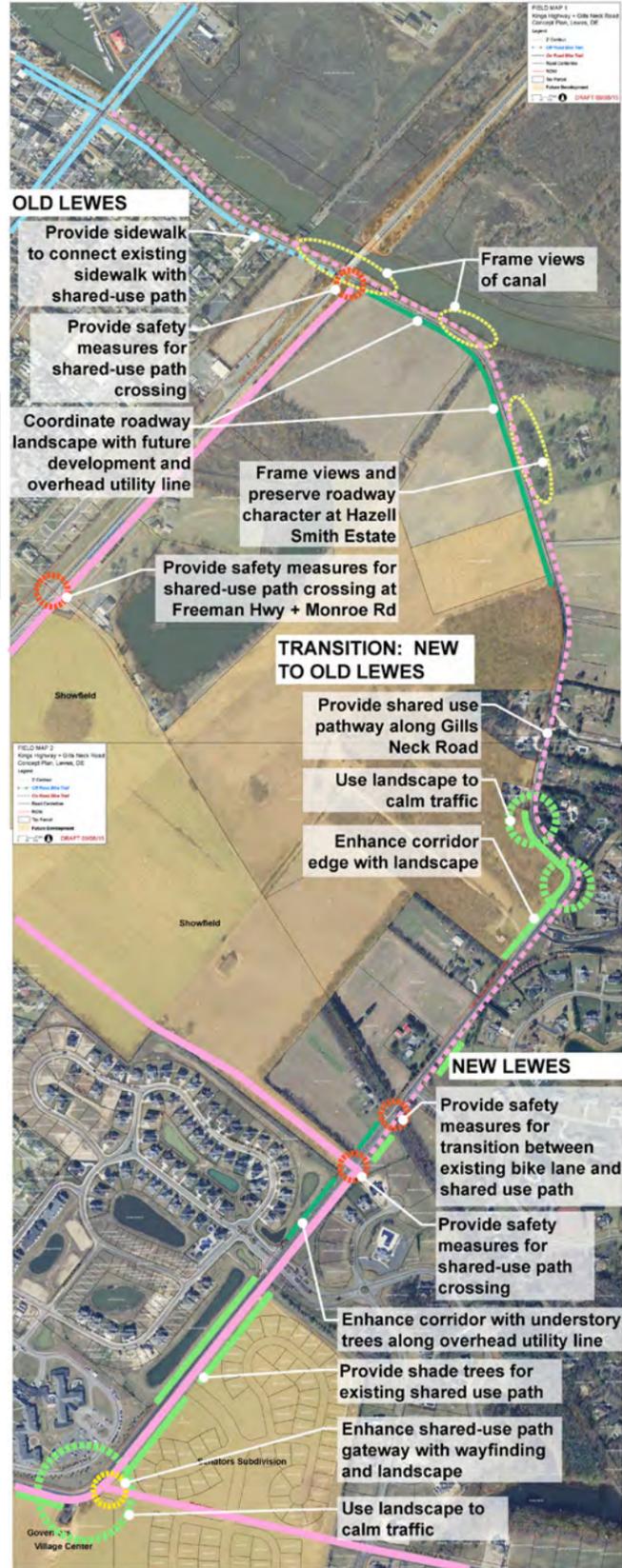


The landscape master plan is an early action project of the recently completed corridor management plan for the Lewes Scenic and Historic Byway. The plan will be available from the DeDOT byway page at [http://www.deldot.gov/information/community\\_programs\\_and\\_services/byways/lewes.shtml#byways\\_page](http://www.deldot.gov/information/community_programs_and_services/byways/lewes.shtml#byways_page)

**For more information, please contact:**  
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Federal Land Access Programs  
Statewide and Regional Planning  
302.760.2254  
ann.gravatt@state.de.us  
www.byways.deldot.gov

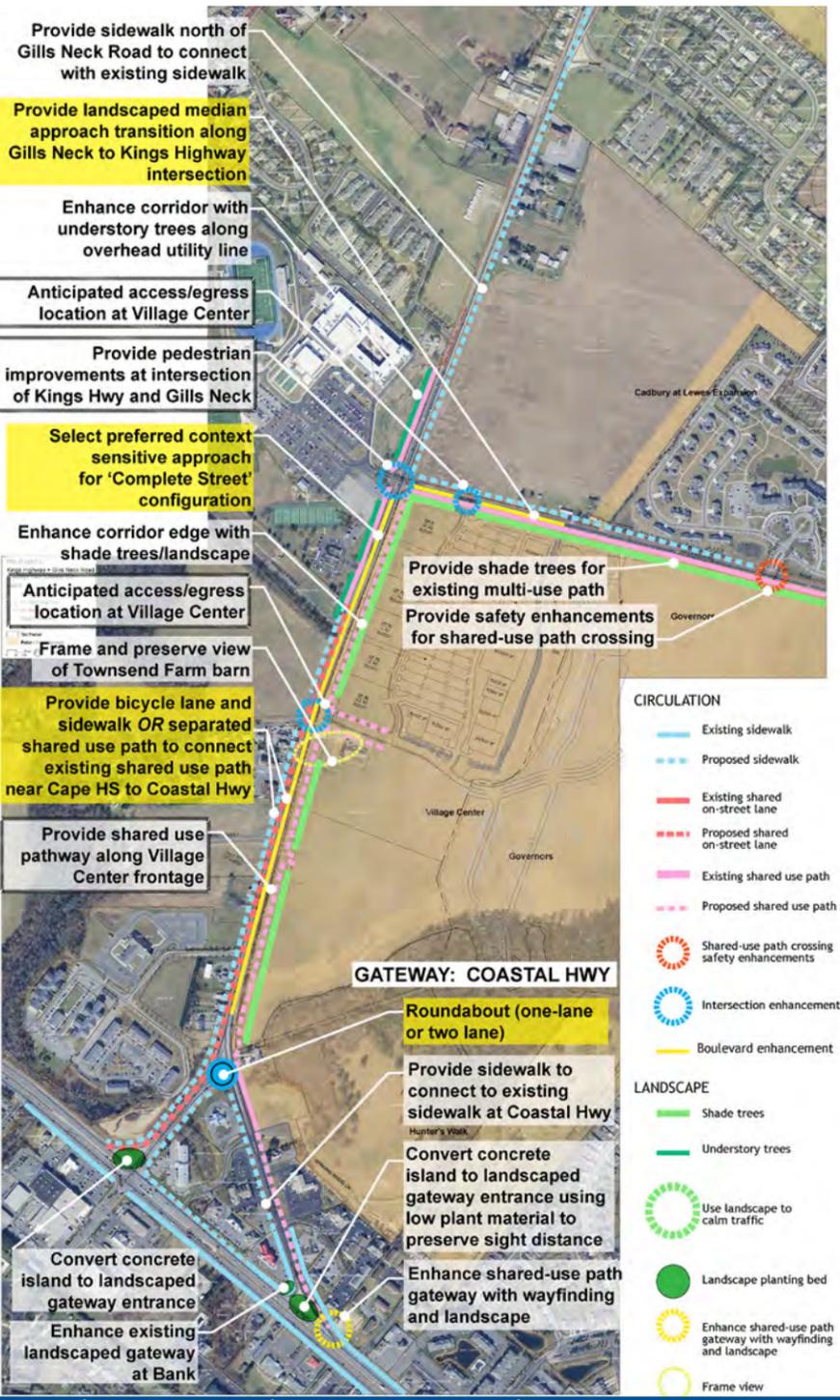


The Kings Highway - Gills Neck Road Master Plan is an early action project of the Lewes Scenic and Historic Byway Corridor Management Plan. The work is funded with the support of Delaware State Senator Ernesto Lopez and Delaware State Representatives Peter Schwartzkopf and Steve Smyk. Additional support is provided by the DeDOT Byways Program.

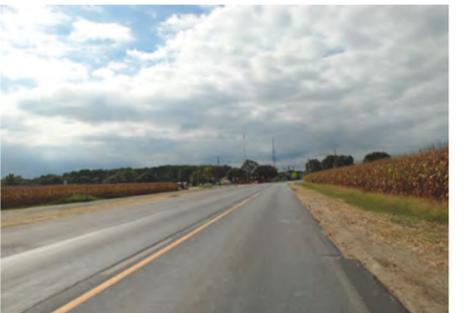


**Gills Neck Road Context Sensitive Design Issues**

**Lewes Scenic and Historic Byway  
KINGS HIGHWAY & GILLS NECK ROAD MASTER PLAN**



**Design Issues in the Developing Area**



**Meeting Agenda: 10/29/15**

**Purpose of the Meeting:**  
To determine the desired character of Kings Highway and Gills Neck Road

**Introductions**  
Purpose of the Master Plan  
CMP Status (approved by DeDOT)

- Overview of Corridor**
- Design Issues:**
- Coastal Highway Gateway Area (Route 1 to Dartmouth triangle)
  - Transition Area (Dartmouth to Clay Road)
  - Developing area between Clay Road and Governors (Village Center)
  - Kings Highway between Gills Neck and Downtown Lewes
  - Gills Neck (between and including both sets of sharp curves)
  - Gills Neck (within City of Lewes)

- Design Elements - Informal Survey of Preferences**
- Roadway characteristics
  - Landscaped medians
  - Traffic calming measures
  - Pathway types
  - Sidewalks and crosswalks- Landscape design
  - Next Steps: Draft conceptual master plan and more detailed concepts for design elements

**Visual Preference Survey: Please mark those images that most closely represent the desired character for Kings Highway and Gills Neck Road as appropriate**

**A B C D**  
**Coastal Gateways - nearby examples**



Rehoboth, DE  
 Google Earth Photo



Fenwick Island  
 Google Earth Photo



Bethany Beach  
 Google Earth Photo



Ocean City, MD  
 Google Earth Photo

**Four-Lane Roads with Landscape Median**



Woodlands, TX  
 Google Earth Photo



Greenville, DE (Byway)



Alexandria, VA



Savannah, GA

**Two Lane Roads with Landscape Medians**



Watercolor, FL  
 Google Earth Photo



Bethany Beach, DE  
 Google Earth Photo



Wilmington, DE



Muncie, IN  
 Photo courtesy of Pinehall Brick

**Two-Lane Roads Splitter Island/Traffic Calming**



Upperville, VA



Centreville, DE (Byway)



Low-Cost Painted Median



Brandywine Valley (Byway)

**Two-Lane Roads with Bicycle and Pedestrian Facilities**



Ottawa, Canada



Takoma Park, MD



Austin, TX  
 Photo courtesy of City of Austin



Baltimore, MD

**A B C D**  
**Major Intersection (Kings Highway)**



Rehoboth, DE



Vanderbilt Ave., Brooklyn  
 Photo courtesy of NYC DOT



Delaware Route 7  
 Google Earth Photo



Hilton Head, SC  
 Google Earth Photo

**Minor Intersection (Gills Neck)**



Millstone Valley Byway NJ



Greenville, DE (Byway)



Route 15, VA (Byway)



Havana, Illinois (Byway)

**Sidewalks and Crosswalks**



Route 66, CA (Byway)



Port Penn, DE (Route 9)



Delaware CSS for Byways



Freeman Hwy, Lewes

**Stormwater Management**



South Bethany, DE  
 Google Earth Photo



Nashville, TN



Celebration, FLA  
 Photo courtesy of Disney



Vienna, VA

**Commercial Signs**



Chili's business sign



Lexington, VA



Urbana, MD



Keyser's Ridge, MD



# Lewes Scenic and Historic Byway KINGS HIGHWAY & GILLS NECK ROAD MASTER PLAN

OCTOBER 29, 2015 PUBLIC MEETING COMMENT FORM

*Please use this form to provide the planning team with any comments or suggestions. Thank you!*

## **1: Coastal Gateway (Coastal Highway to Dartmouth)**

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## **2: Developing Area Between Dartmouth and Gills Neck Road**

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## **3: Kings Highway Between Gills Neck Road and Downtown Lewes**

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## **4. Gills Neck Road Context Sensitive Design Ideas (entire length)**

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Element (check preferred character)	A	B	C	D
Coastal Gateways _____ _____				
4-lane Road with Landscape Median _____ _____				
2-Lane Road with Landscape Median _____ _____				
2-Lane Road w/Traffic Calming _____ _____				
Major Intersections (Kings Highway) _____ _____				
2-Lane Road w/ Bike/Ped Facilities _____ _____				
Minor Intersections (Gills Neck) _____ _____				
Sidewalks and Crosswalks _____ _____				
Stormwater Management _____ _____				
Commercial Signage _____ _____				

Please email additional comments to:  
**Ann Gravatt, Planning Supervisor**  
 Transportation Alternatives, Byways, Federal Land Access  
 Statewide and Regional Planning  
 302.760.2254  
[ann.gravatt@state.de.us](mailto:ann.gravatt@state.de.us)  
[www.byways.deldot.gov](http://www.byways.deldot.gov)

If you have any additional questions about the planning effort, please contact :

**Lardner/Klein Landscape Architects, PC**  
 Jim Klein, ASLA, Principal  
[jim.klein@lardnerklein.com](mailto:jim.klein@lardnerklein.com) or 1-800-337-1370

# Appendix B

Meeting May 2016

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**Memorandum:**

To: Ann Gravatt  
 From: Lardner/Klein Landscape Architects  
 Cc: Jeff Greene  
 Date: 05/16/16  
 Subject: Lewes KHGN Master Plan: Summary of public meeting on 5-12-16

Summary: A public meeting was held on 5-12-16 from 6-8 pm at Cape Henlopen High School in Lewes, Delaware. The purpose of the meeting was to present the conceptual master plan for Kings Highway and Gills Neck Road and to get comments from the public and address concerns. Attendees were given a newsletter to explain the key concepts of the project, a handout defining terms relevant to the project, and a comment sheet. Below is a summary of the presentation and questions raised by the meeting's attendees.

**Attendees:**

Name	Organization	Email	Phone
Jim Klein	LKLA		
Lori Moore	LKLA		
Jeff Greene	Delaware Greenways		
Chip Kneavel	DelDOT		
Ann Gravatt	DelDOT		
Patti Drago	Lewes Byway Committee		
Mike Hahn	DelDOT		
Gail Van Gilder			
Claudia and Don Doran			
Betty and Rob Breen			
Rich Weissmann			
Arline and Bruce Connor			
Gail and Mike Robertson			
Randy Bies			
Deirdre Bies			
Daniela and Goran Lindsjo			
Judy Wetzal			
Ruth Lauver			
Christine Dougherty			
Dave Ennis			
Ray Glichdum			
Rick Moritz			
Warren Golde			

George Rudgers			
Margaret Rudgers			
Dennis Crawford	LIB		
Mary Jo Porrela	Breakwater		
Nicholas Hoogs	Breakwater		
Murray Summers	Breakwater		
Suzanne Rommel	Breakwater		
Dan Herrman			
Mary Roth	DGI		
Denise Bridges	Breakwater		
Kathy Kelly	Breakwater		
Paul Collins	Breakwater		
Pam Meador	Breakwater		
Michael Warns	Senators		
Bill Leibert	Hawkseye		
Gaicy Werbeck	Senators		
Nitan Sons			
Bitsy Mahon	Wolfe Runne	<a href="#">f</a>	
Pat Hancock			
Margaret Wietse			
Ernie Lopez	State		
Ted Becker	Lewes		
Mark Foglietta	CPA		
Libby Owen			
Bonnie Osler	Lewes		
Tim Paul	Lewes		
Bob Wardwell	Resident-senators		
Dave Stuart	Lewes Byway		
Tim Ritzert			
Patti and Ernie Soffronff	Wolfe Pointe		
Mark Schaeffer	Lewes		
Hugh Leahy	Breakwater		
Don Long	Lewes		
Alex Kotanides	Lewes		
Karen Parker	Lewes		
Mike Mahaffie			
John Waetyte			
Eric Van Gilder			
Debra Killeen			
Jane Lord			
Nadina Wink			
Olaive Jones			
Ronal Smith	Lewes		

## Presentation

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- Introduction by Ann Gravatt
- Jim Klein (Primary Presenter); Jeff Green (Transportation) - KHGN Master Plan
  - Purpose of Master Plan
    - Guidance
    - Concepts, not construction
    - Gain consensus
    - CMP
  - Design principles and elements
    - Visual preference survey from October public meeting
    - Community vision of corridor
    - Green - landscape, stormwater infiltration, shade
    - All ages, all physical abilities, all modes of travel
    - Desired character
  - Assumptions
    - Existing and on-going projects (as-builts, proposed developments, pedestrian improvements, trail system)
    - Typical road sections (drainage, clear zones, travel lanes, bike paths, shared use path, tree sizes and placement)
    - Stormwater/drainage/ potential use of soil cells
    - Traffic, transportation, crosswalk locations, roundabout (Jeff Greene)
  - Application of the concepts
    - Maintenance is a key issue/ potential for adopt-a spot
    - Kings Highway
      - Roundabout (less dangerous crashes due to slower speeds and travel angle)
      - Roadside ditch drainage in some areas (tradeoff with development on ROW)
      - Shared use pathway location varies due to gas line
      - People are walking on pavement/ strong need for sidewalks
      - Splitter island near Freeman to help with traffic speeds
      - Curb extensions and permeable pavers near Savannah Rd. (curb extensions will not increase likelihood for crashes with proper placement and design)
    - Gills Neck Road
      - Traffic calming measures - tree planting and textured pavement strips
      - Possibility of tinting bike lanes (green) near Junction and Breakwater crossing to alert motorists
      - Must work with property owners where proposed shared use path near Wolfe Pointe
      - Importance of historic fence
      - Freeman Highway Bridge - width of the bike lane is a critical element/ may need barrier between bike lane and roadway
  - Need public input/ comments

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## Questions and Comments

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- Whose roadway is it? State or County?  
*Kings is DeLDOT/DRBA; Gills Neck is DeLDOT to City section (Ann)*
- What about funding for future improvements? What source in relation to ownership?  
*Federal for state road - shared with state on matching basis; DRBA has to be a partner (Ann)*
- What about utility, lighting, safety, traffic control, etc. - who addresses these issues?  
*This project is in the planning phase with only conceptual development. At the design/preliminary engineering phase, traffic analysis would be a key element. We are aware of these needs, but they will be addressed at the design phase (Ann).*
- How involved is the medical community (emergency vehicles)?  
*DeLDOT has reached out to Beebee and kept them in the loop. For these designs, minimum widths were used from an engineering standpoint so emergency vehicle access should not be a problem (Ann). As we go further into design development, the engineering of the roadways would be developed further (Jeff). The roadway widths can handle a stalled vehicle so a fire truck can get around.*
- County buy in? Will planning and zoning require that developers follow the plan?  
*County Planning is involved. They have been kept in the loop and are represented in this presentation (Ann).*
- Will there be a traffic signal on clay road?  
*Yes (Jim)*
- The roundabout could be used as a gateway to announce entry into Lewes. Would that be beneficial or too distracting?  
*There are differing opinions on whether signage is too distracting in a roundabout. Probably icons would be a good idea in the roundabout but no words on signage (Jim). The Byways Committee is already looking at possible locations of gateway signage along this corridor (Jeff).*
- Who maintains the landscape for this project?  
*The mowing would be done by DeLDOT, the drainage areas maintained by partners who benefit, and the planting would be maintained by sponsorship or adjoining owners (Jim). DeLDOT will need a maintenance plan for this area and will often enter into agreements with entities for maintenance (Ann). EXAMPLE: HTUGRR Byway working on roundabout project with DeLDOT. Byway organization taking on maintenance as an agreement with DeLDOT.*
- Concern for school population for those on foot or bike and when they're crossing the street - especially crossing at Kings Highway to new development which may be an attraction.  
*Safety is the number one metric when DeLDOT looks at projects, especially considering our state ranking on pedestrian safety. We look at safety for all modes or travel, especially pedestrians (Ann). The main reason we went from 4 lanes to 3 lanes (between Gills Neck and Freeman Highway) is to provide for bike lanes and sidewalks with the intent of directing people to safe refuge*

- areas and safe crossings (Jeff).*
- In terms of the methods used to slow travelers on Gills Neck Rd., how noisy are the pavement strips?  
*JK to follow up on example from Aldie. From experience with their use in Aldie, there have been no complaints. They are smaller than rumble strips and less noisy. The treatment will be looked into further when the design is more developed (Jim).*
  - How to get from neighborhoods to trail system? In terms of the bike connectivity near Hawkseye, will bikes need to get on the road?  
*Plans show the trail system integrated throughout and a proposed separated bike path extending all the way to Georgetown-Lewes Rail Trail on Gills Neck.*
  - Summer crowds - travel time from Lowes to Rehoboth on Route 1? - how to get onto Route 1? With new development, the travel times and congestion will only increase.  
*Development review at DelDOT mandates traffic studies of new projects and those studies will determine the types of improvements along the roadway. Right now, the 2 lanes assumed on Kings Hwy to be added should handle future growth based on current projections (CMP had strategies for managing travel - not road capacity - e.g. travel information provided in advance). Knowing the zoning and the information we have now, we believe the lanes we are proposing can handle the traffic. The key is to get people to walk and bike more (Ann).*
  - At the Gills Neck road straightaway between curves, many drivers accelerate along that stretch. With the entrance to the trail, I am concerned about pedestrian safety. So, how do we slow traffic in advance of the crossing? Right now, the speed limit sign is in front of the yield sign and blocks it.  
*Ann to bring it up with traffic. Better visibility might resolve the situation but other measures might be of benefit such as speed reduction, e.g. sign with flashing light such as at Rehoboth for pedestrian crossing. This is an area where engineers might need to evaluate and see if additional warnings are needed (Jeff).*  
*Answer - At the western crossing of Gills Neck between the developments we (traffic) are planning to install a pedestrian rapid flash beacon.*
  - Benefits of Jitney service on traffic congestion as part of development review - coordinated in advance of expanding the road (Gail)  
*The CMP talks about steps to establish a Jitney service but there is much work still to do and much data to be collected (Jeff).*
  - Timeframe for big design?  
*Dependent upon capital financing, development activity, safety measures - longer than 5 years. Based on certain criteria, the project would fall into a list of ranked projects (Ann). Attending public meetings like these and the byway meetings helps. It shows public support which helps with funding (Jeff).*
  - Projection about cost?  
Not yet.
  - Would this project impact property owners/property taxes?  
*In the broadest sense, yes, because we all pay state taxes, but locally unknown at this point (Ann).*

- I would suggest maintenance by adjoining developers. Also, the project must be designed for stormwater AND floodwater (sea level rise and storm surge issues); funding from flood mitigation from federal system is FHWA; planting trees to absorb and sequester pollutants - especially around aquifer - water quality and quantity; walking and bicycling benefit from shade of vegetation; mitigate temp increase. Could get funding from EPA. Need for paths and shade, especially in the hot months.

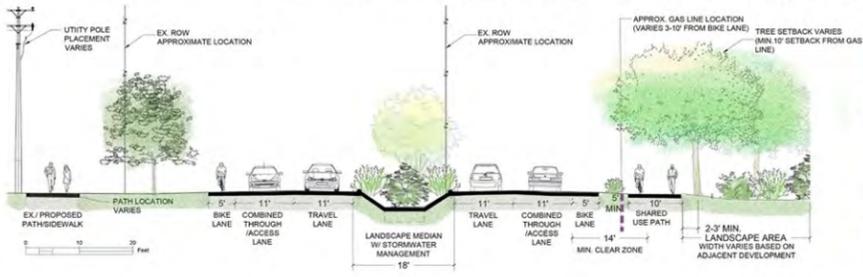
# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN:

5-12-16



Delaware Department of Transportation  
Lardner/Klein Landscape Architects, P.C.  
in association with Delaware Greenways

## KINGS HWY - BOULEVARD CONCEPTS - DRAFT Open Median Drainage w/Trail along Roadside and Street Trees Behind

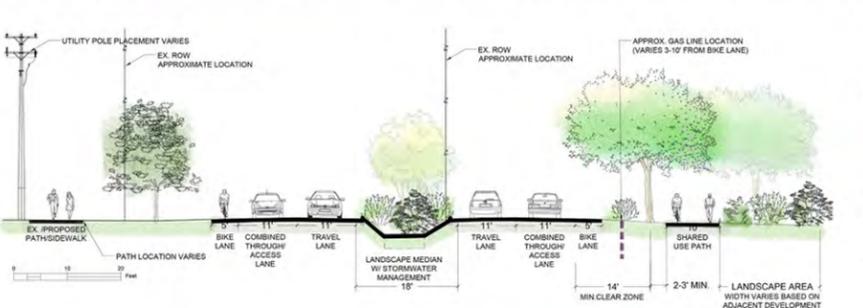


## Clay to Gills Neck



Kings Highway-Gills Neck Intersection (looking north)

## KINGS HWY - BOULEVARD CONCEPTS - DRAFT Open Median Drainage w/Street trees along Roadside and Trail Behind



Kings Highway north of Clay w/ stormwater median in median

## KINGS HWY - BOULEVARD CONCEPTS - DRAFT

## Open Roadside Drainage



16' RAISED LANDSCAPED MEDIAN

## Coastal Gateway



Kings Highway-Dartmouth Intersection (proposed roundabout)



Enhance "gateway" and apply best management practice for stormwater management



## Dartmouth to Clay

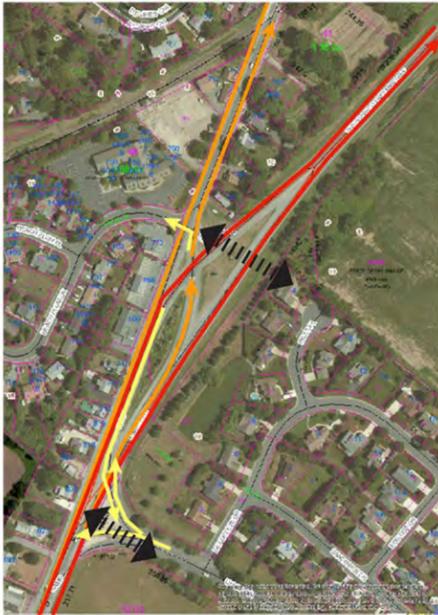


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When rain falls on Kings Highway it runs off toward the storm sewers, carrying with it all of the non-point source pollution from the roadway surface. As rainfall intensity increases with the changing climate, efforts may be needed to provide more storage (and treatment for water quality) for runoff prior to its release in the Delaware Bay.

Streets like Kings Highway can be retrofitted by converting the parking lane to permeable pavers (Cambridge Maryland, above right, and constructing infiltration areas as curb extensions on the corners where parking is prohibited (the yellow painted areas above). The example from Portland, Oregon (above left) illustrates an attractive approach for treating stormwater runoff.



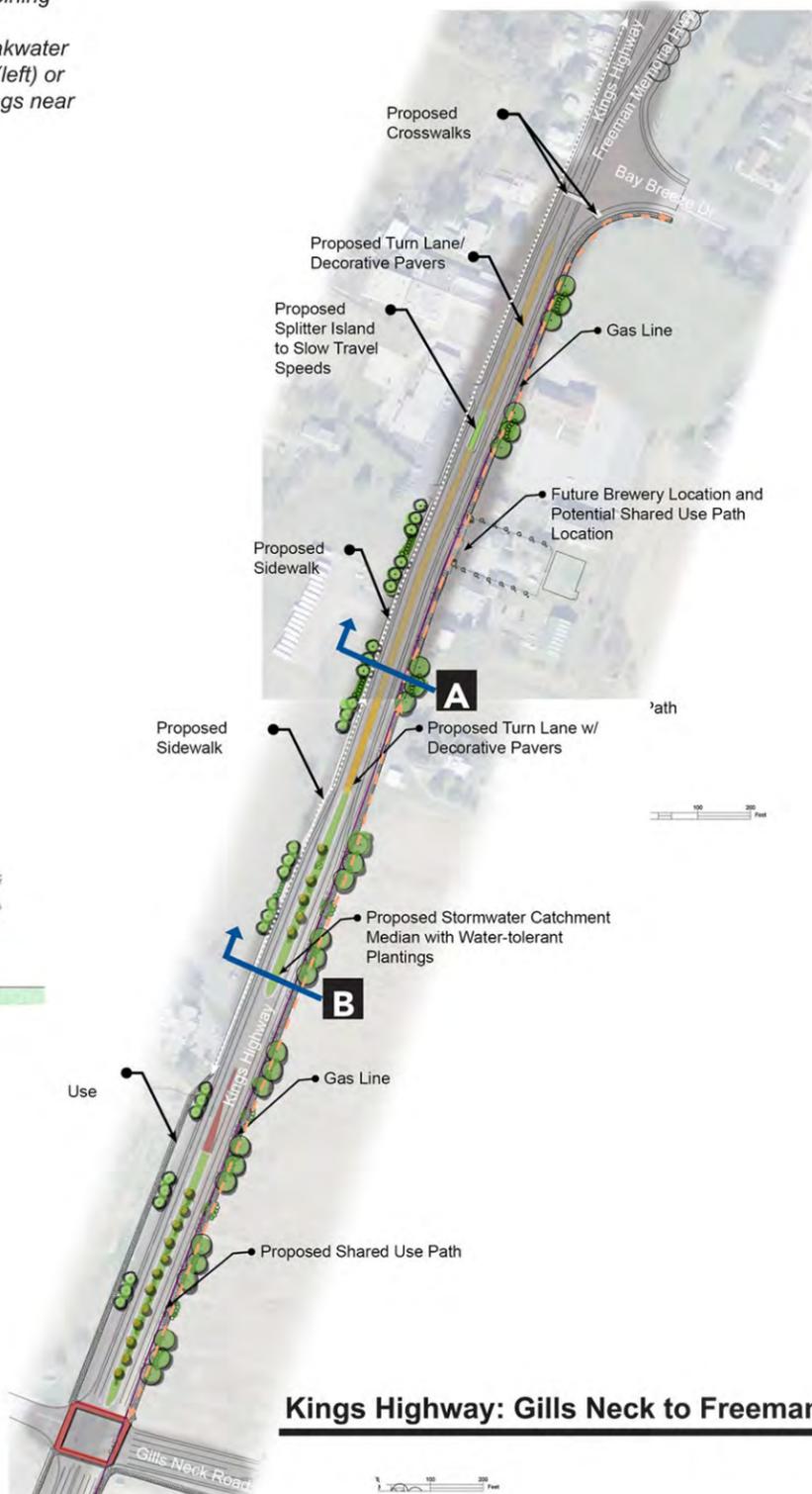
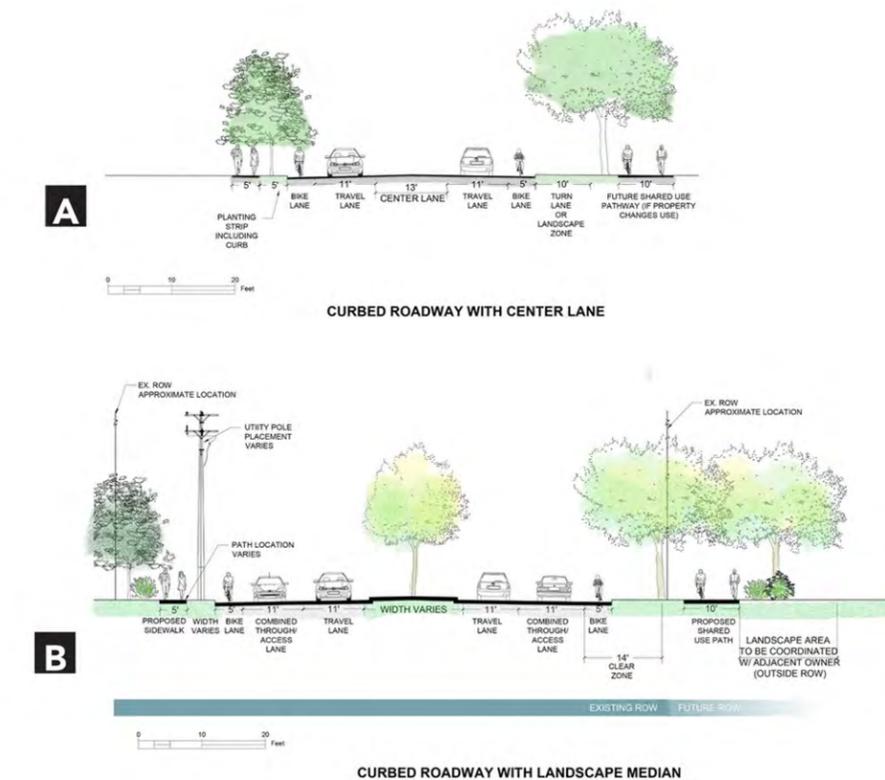
## Kings Highway: Crossing Options at Freeman Hwy.

## Kings Highway: City of Lewes



Pedestrian connections are recommended from:

- Cape Henlopen High School and adjoining neighborhoods to the north
- Connections to the Junction and Breakwater Trail loop either at Bay Breeze Drive (left) or at the split between Freeman and Kings near the light house gateway

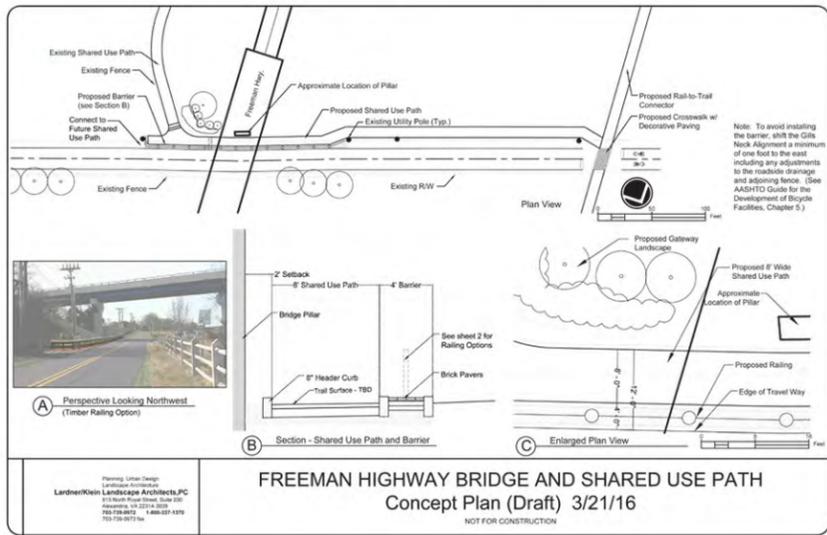


## Kings Highway: Gills Neck to Freeman Highway

# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN:

5-12-16 (DRAFT)

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A shared use path can fit between the planted trees and the existing road in lieu of widening the shoulders on Gills Neck near the Hazell Smith tract. Preserving and/or replacing the concrete posts, in kind, and planting deciduous trees mixed in with the evergreens will help to preserve the character



## Gills Neck Road: City of Lewes

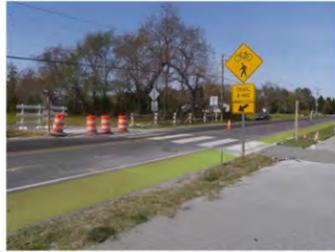
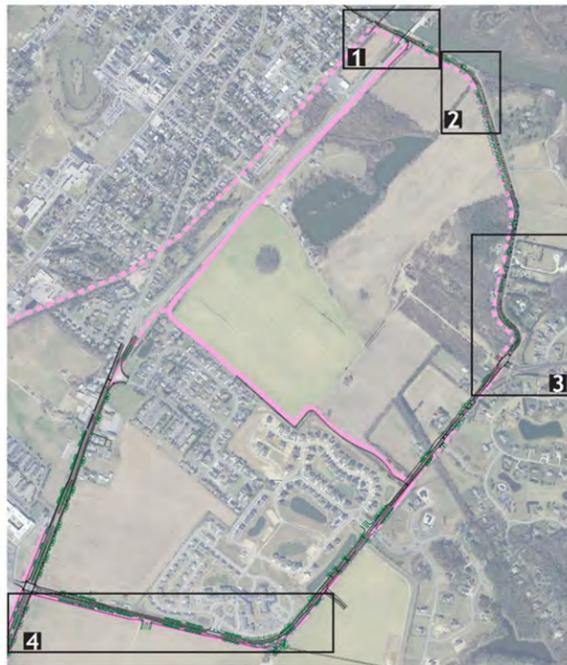


Illustration of proposed green tint applied to recently installed bicycle lanes to increase visibility and better differentiate bicycle lanes from vehicular lanes

## Gills Neck: J&B Beach Loop Trail Xing



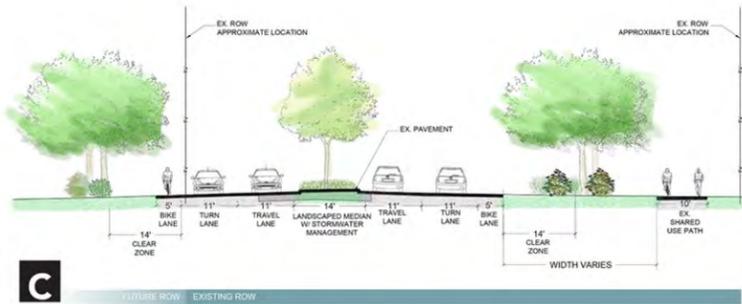
Example of existing textured pavement warning strips (VA US Route 50 Traffic Calming Project)



Proposed textured pavement warning strips in advance of recently softened curve near Senators Drive.



## Gills Neck Road: Curves at Showfield



**C** FUTURE ROW EXISTING ROW



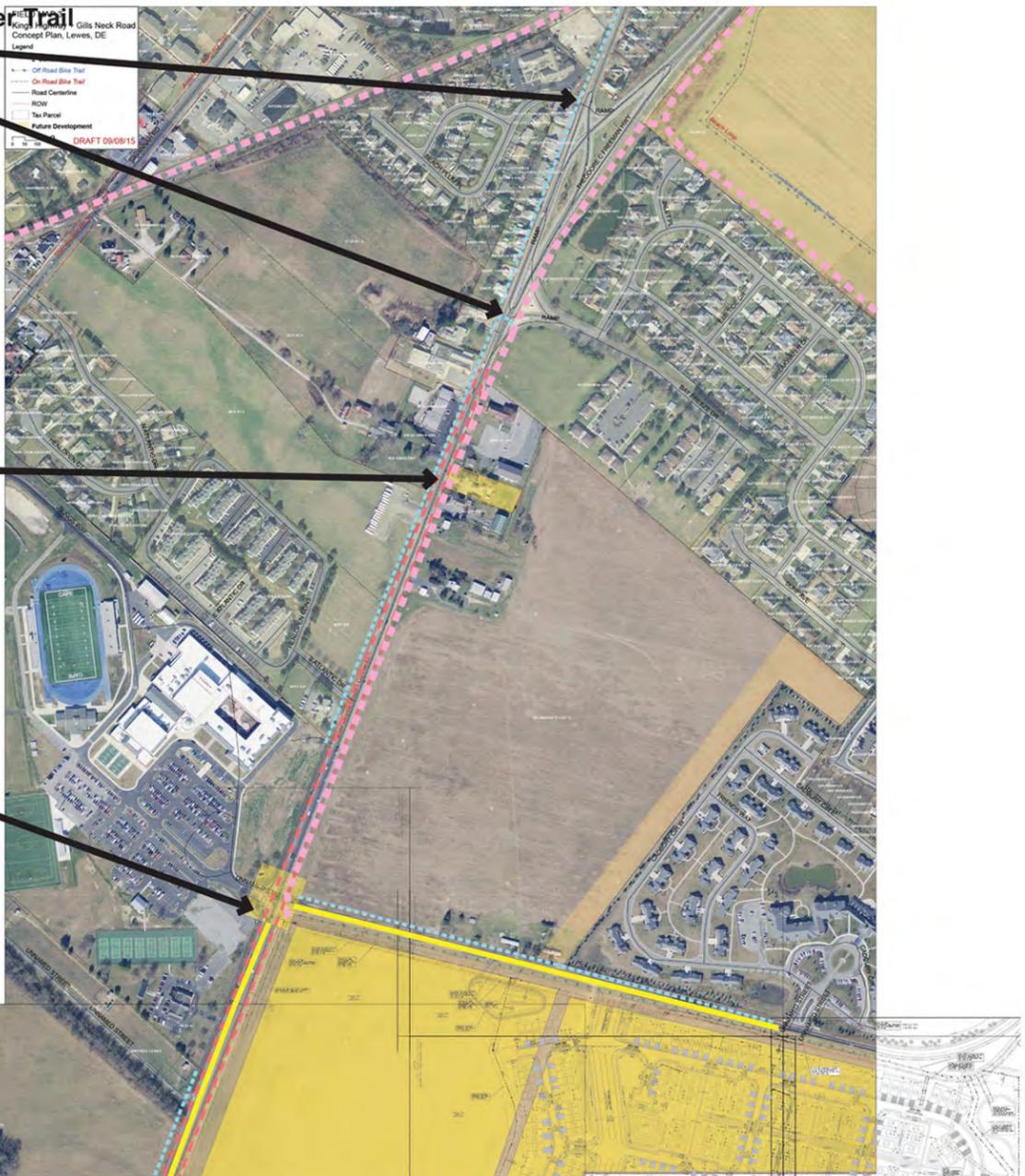
## Gills Neck Road: Kings Highway to curve at Senators Dr.



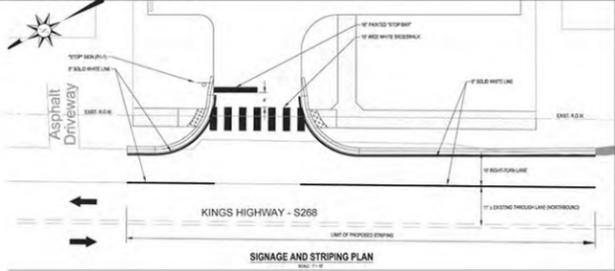
# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN: Active Projects 4-18-16


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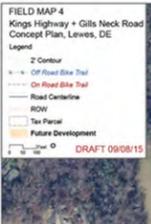
## Bicycle and Pedestrian Connection to Junction & Breakwater Trail



## Oyster Brewery



## Senator's Roadwork at Kings Highway/Gills Neck



## Crooked Hammock Brew Pub



## Parsell (Access Modifications)



## Coastal Highway Pedestrian Facilities



- CIRCULATION**
-  Existing sidewalk
  -  Proposed sidewalk
  -  Existing shared on-street lanes
  -  Proposed shared on-street lanes
  -  Existing shared-use path
  -  Proposed shared-use path
  -  Shared-use path crossing & safety enhancements
  -  Boulevard
  -  Recent Development Activity

# KINGS HIGHWAY AND GILLS NECK ROAD CONCEPT PLAN: Active Projects 4-18-16

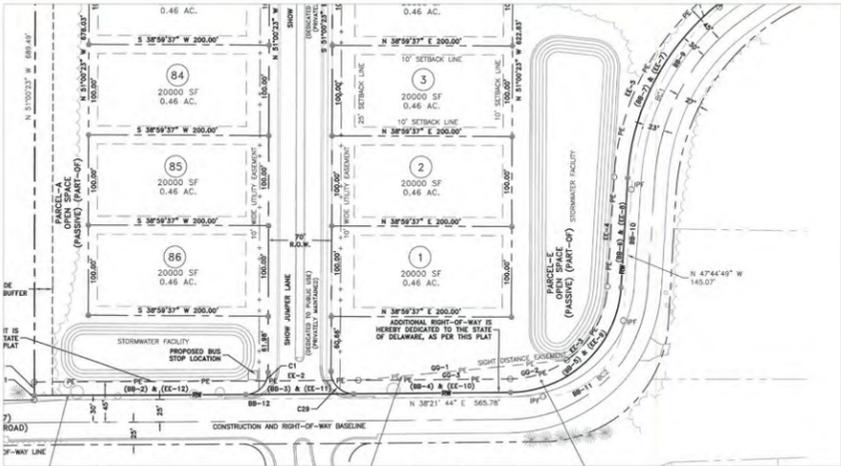

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## Georgetown-Lewes Rail Trail Connecting to Junction and Breakwater Trail under Freeman Highway



Junction and Breakwater at Gills Neck      Under Freeman Highway

## Showfield (Sussex County)



Gills Neck Road: curve softening project at Showfield

## Junction and Breakwater Trail Beach Loop



Gills Neck Road at trail intersection

## Curve Softening at Governors



Gills Neck Road as constructed

