

STATE OF DELAWARE

DEPARTMENT OF TRANSPORTATION

800 BAY ROAD P.O. Box 778

DOVER, DELAWARE 19903

March 27, 2014

DelDOT =

SHAILEN P. BHATT SECRETARY

> Mr. D.J. Hughes Davis, Bowen & Friedel, Inc. 23 N. Walnut Street Milford, DE 19963

Dear Mr. Hughes,

The Department has completed its review of the Traffic Impact Study (TIS) for the Harbor Point residential development (f.k.a. Point Farm), prepared by Davis, Bowen & Friedel, Inc. (DBF) and dated March 7, 2014. DBF prepared the report in a manner generally consistent with DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access.

The TIS evaluates the impacts of Harbor Point, proposed to be located on the west side of Park Road, north of Canary Creek, in Sussex County, with annexation into the City of Lewes proposed.

The proposed development would consist of 69 single-family detached homes, to be developed on approximately 80 acres of a 635.8-acre parcel of land (Tax Parcel 335-7.00-1.00). One access point is proposed, via a permanent easement to Park Road through lands owned by the State of Delaware. Construction is anticipated to be complete by 2016.

The land is currently zoned as AR-1 (Agricultural Residential) in Sussex County, and the developer proposes an annexation into the City of Lewes with R-3 (Residential Beach) zoning.

DelDOT currently has no relevant projects in the study area. However, it is noted that the Delaware Department of Natural Resources and Environmental Control (DNREC) has one relevant project within the study area along Park Road. DNREC's project involves improving Park Road from Samantha Drive (Canary Creek site access) to Pilottown Road via a new road north of the causeway. The new road is intended to divert traffic from local roads and re-route through traffic around the campus of the University of Delaware's College of Marine Studies; in particular, to re-direct boat-trailer traffic away from the intersection of Pilottown Road and New Road.

As discussed in DelDOT's comments from the Preliminary Land Use Service (PLUS) review dated February 28, 2013, the developer has expressed interest in having a segment of Park Road transferred from DNREC to DelDOT. As part of this arrangement, the developer would improve Park Road, from just north of Samantha Drive to the causeway, subject to DelDOT's review and inspection, and ultimately the City of Lewes would accept the road for City maintenance.

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Based on our review, we have the following comments and recommendations:

All intersections included in the scope of this TIS meet the level of service (LOS) requirements in the Standards and Regulations for Subdivision Streets and State Highway Access.

Should the City of Lewes choose to approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan by note or illustration. All applicable agreements (i.e. letter agreements for off-site improvements and traffic signal agreements) should be executed prior to entrance plan approval for the proposed development.

1. The developer should construct the site entrance on Park Road. The proposed configuration is shown in the table below.

| Approach | Current Configuration | Proposed Configuration |
|----------------------------|-------------------------|----------------------------------------|
| Northbound Park Road | One through lane | One shared left-turn / through lane |
| Southbound Park Road | One through lane | One shared through / right-turn lane |
| Eastbound Site Entrance | Approach does not exist | One shared left-turn / right-turn lane |

- 2. The developer should improve Park Road between a point just north of Samantha Drive to the south end of the causeway on Park Road in order to meet DelDOT's local road standards. These standards include but are not limited to eleven-foot travel lanes and five-foot shoulders. The developer should provide a bituminous concrete overlay to the existing lanes' pavement section and recommend an overlay thickness to the developer's engineer if necessary.
- 3. The following bicycle and pedestrian improvements should be included:
 - a. A multi-use pathway should be added on the northbound side of Park Road at the start of the site entrance to the beginning of the causeway, located approximately 1,000 feet northeast of the site.
 - b. Utility covers should be made flush with the pavement.
 - c. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
 - d. Internal sidewalks for pedestrian safety and to promote walking as a viable transportation alternative should be constructed within the property. These sidewalks should each be a minimum of five feet wide and should meet current AASHTO and ADA standards. These internal sidewalks should connect to the multi-use pathway on Park Road.

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Improvements in this TIS may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at http://www.deldot.gov/information/pubs_forms/manuals/de_mutcd/index.shtml. For any additional information regarding the work zone impact and mitigation procedures during construction please contact Mr. Adam Weiser of DelDOT's Traffic Section. Mr. Weiser can be reached at (302) 659-4073 or by email at Adam.Weiser@state.de.us.

Please note that this review generally focuses on capacity and level of service issues; additional safety and operational issues will be further addressed through DelDOT's subdivision review process.

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Additional details on our review of this TIS are attached. If you have any questions concerning this review, please contact me at (302) 760-2167 or Mr. Claudy Joinville at (302) 760-2124. My email is Troy.Brestel@state.de.us and Mr. Joinville's email is Claudy.Joinville@state.de.us.

Sincerely,

Troy Brestel
Project Engineer

TEB:cjm Enclosures

cc with enclosures: Mr. Ring Lardner, Davis, Bowen & Friedel, Inc.

Mr. Lawrence Lank, Sussex County Planning and Zoning

Mr. Shane Abbott, Sussex County Planning & Zoning

Mr. Paul Eckrich, City Manager, City of Lewes

Mr. Robert McCleary, Director, Transportation Solutions (DOTS)

Mr. Drew Boyce, Director, Planning

Mr. Mark Luszcz, Chief Traffic Engineer, Traffic, DOTS

Mr. Michael Simmons, Assistant Director, Project Development South, DOTS

Mr. J. Marc Coté, Assistant Director, Development Coordination

Mr. T. William Brockenbrough, Jr., County Coordinator, Development Coordination

Mr. Thomas E. Meyer, Traffic Studies Manager, Traffic, DOTS

Ms. Lisa Collins, Service Development Planner, Delaware Transit Corporation

Mr. Marco Boyce, Planning Supervisor, Statewide & Regional Planning

Ms. Donna Robinson, Administrative Assistant, Statewide & Regional Planning

Mr. Todd Sammons, Subdivision Engineer, Development Coordination

Mr. Steven Sisson, Sussex County Subdivision Coordinator, Development Coordination

Mr. John Fiori, Subdivision Manager, Development Coordination

Mr. Chris Sylvester, Traffic Engineer, Traffic, DOTS

Mr. Claudy Joinville, Project Engineer, Development Coordination

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General Information

Report date: March 7, 2014

Prepared by: Davis, Bowen & Friedel, Inc. (DBF)
Prepared for: Harbor Point (f.k.a. Point Farm)

Tax parcels: 335-7.00-1.00

Generally consistent with DelDOT's Standards and Regulations for Subdivision Streets and

State Highway Access: Yes

Project Description and Background

Description: The proposed Harbor Point (f.k.a. Point Farm) reservation development would consist of 69 single-family detached homes.

Location: Harbor Point is proposed to be located on the west side of Park Road, north of the Canary Creek residential development, in Sussex County, with annexation into the City of Lewes proposed. A site location map is included on Page 6.

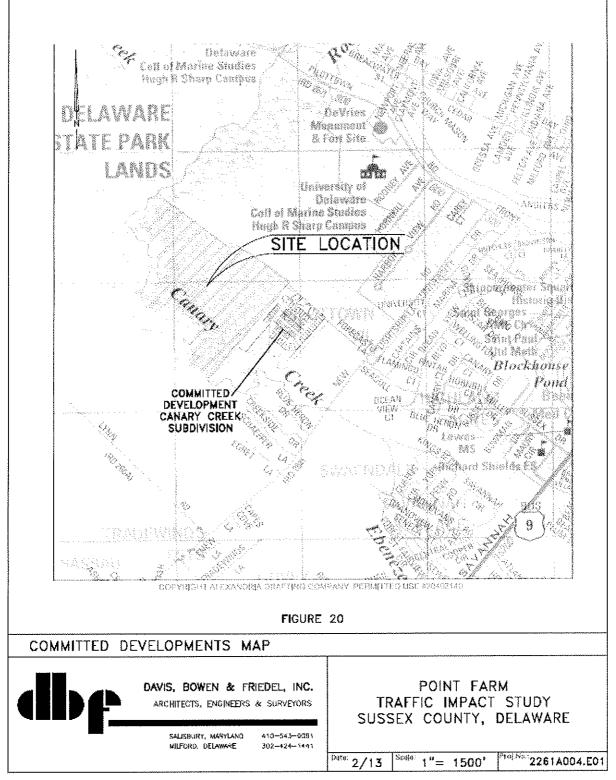
Amount of land to be developed: approximately 80 acres of a 635.8-acre parcel of land Land use approval(s) needed: Subdivision approval, City of Lewes land use approval

Proposed completion date: 2016

Proposed access locations: One full access via a permanent easement to Park Road

Daily Traffic Volumes (per DBF ATR traffic counts dated July 2013):

• 2013 Average Annual Daily Traffic on Park Road: 171 vpd



Delaware Strategies for State Policies and Spending - 2010 Update

Location with respect to the Strategies for State Policies and Spending Map of Delaware: The proposed Harbor Point development is located within Investment Level 1 and Level 3 areas, with the majority of the site in Level 3.

Investment Level 1

Investment Level 1 Areas are areas of the state that are most prepared for growth and where the state can make cost-effective infrastructure investments for schools, roads, and public safety. In these areas, state investments and policies should support and encourage a wide range of uses and densities, promote other transportation options, foster efficient use of existing public and private investments, and enhance community identity and integrity. Investment Level 1 Areas are often municipalities, towns, or urban / urbanizing places in counties. Density is generally higher than in the surrounding areas. Overall, it is the state's intent to use its spending and management tools to maintain and enhance community character, to promote well-designed and efficient new growth, and to facilitate redevelopment in Investment Level 1 Areas.

Investment Level 3

Investment Level 3 Areas generally fall into two categories. The first category covers lands that are in the long-term growth plans of counties or municipalities where development is not necessary to accommodate expected population growth. The second category includes lands that are adjacent to or intermingled with fast-growing areas within the counties or municipalities that are otherwise categorized as Investment Levels 1 and 2. These lands are most often impacted by environmentally sensitive features, agricultural-preservation issues, or other infrastructure issues.

Level 3 Areas are characterized by low density and rural homes, which may or may not be served by public utilities. New housing development in the short term would, in most cases, represent leap-frog development while in the longer term these areas may be desirable for a variety of housing types, styles and densities in conjunction with local government comprehensive plans.

The priorities in the Level 3 Areas are for the Department to focus on regional movements between towns and other population centers. In these areas, local roadway improvements will be made by developers and property owners as development occurs.

Proposed Development's Compatibility with Strategies for State Policies and Spending:

The proposed Harbor Point development is located within Investment Level 1 and 3 areas, and is to be developed as 69 single-family detached homes. This type of development is consistent with the character of Investment Level 1 and 3 areas. It is therefore concluded that the proposed development generally complies with the policies stated in the 2010 update of the "Strategies for State Policies and Spending."

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Comprehensive Plan

City of Lewes Comprehensive Plan:

(Source: City of Lewes Comprehensive Plan Adopted and Certified in October 2005)

The proposed Harbor Point development is located in an area with future land use designated as "Pursuing Preservation measures but to be rezoned Residential."

The parcel is currently zoned AR-1 (Agricultural Residential), and the developer proposes an annexation into the City of Lewes with R-3 (Residential Beach) zoning. According to Section 197-28 the City of Lewes Code Book, characteristics of R-3 zoning are as follows:

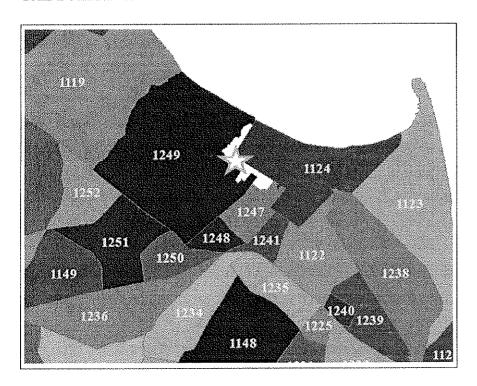
- This district provides for residential development in the City's beachfront area.
- This district preserves the distinctive residential character of the City's beachfront area.
- This district preserves physical and visual access to nearby beaches and marshes.

Proposed Development's Compatibility with Comprehensive Plan: The proposed Harbor Point residential development is planned as 69 single-family detached homes. Given that the site's future land use designation and R-3 zoning are both residential in nature, the proposed land use (single-family detached homes) is residential; this development is consistent with the City of Lewes Comprehensive Plan.

Transportation Analysis Zones (TAZ)

Transportation Analysis Zones (TAZ) where development would be located: 1124 and 1249

TAZ Boundaries:



Current employment estimate for TAZ: 3828 jobs in 2013 Future employment estimate for TAZ: 4772 jobs in 2035 Current population estimate for TAZ: 3358 people in 2013 Future population estimate for TAZ: 4366 people in 2035 Current household estimate for TAZ: 1559 houses in 2013 Future household estimate for TAZ: 2027 houses in 2035

Relevant committed developments in TAZ: Canary Creek (residential development)

Would the addition of committed developments to current estimates exceed future projections: No

Would the addition of committed developments and the proposed development to current estimates exceed future projections: No

Relevant Projects in the DelDOT Capital Transportation Program (FY 2013 – FY 2018)

DelDOT currently has no relevant projects in the study area.

Trip Generation

Trip generation for the proposed development was computed using comparable land uses and equations contained in <u>Trip Generation</u>, Ninth Edition, published by the Institute of Transportation Engineers (ITE). The following land uses were utilized to estimate the amount of new traffic generated for this development:

• Single-Family Detached Housing (ITE Land Use Code 210)

Table 1
HARBOR POINT <u>PEAK HOUR</u> TRIP GENERATION

| Land Use | Weekday PM Peak Hour | | | Saturday Peak Hour | | |
|---------------------------------|-------------------------|-----|-------|-----------------------|-----|-------|
| | In | Out | Total | In | Out | Total |
| 69 Single-family detached homes | 15 | 43 | 58 | 38 | 32 | 70 |
| TOTAL TRIPS | 15 | 43 | 58 | 38 | 32 | 70 |

Table 2
HARBOR POINT DAILY TRIP GENERATION

| Land Use | V | Veekda ADT | ıy | Saturday ADT | | |
|---------------------------------|-----|---------------|-------|-----------------|-----|-------|
| | In | Out | Total | In | Out | Total |
| 69 Single-family detached homes | 373 | 373 | 746 | 360 | 359 | 719 |
| TOTAL TRIPS | 373 | 373 | 746 | 360 | 359 | 719 |

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Overview of TIS

Intersections examined:

- 1) Park Road / Site Entrance
- 2) Park Road / Samantha Drive (Canary Creek Site Access)
- 3) Park Road / New Road (Sussex Road 266)
- 4) New Road / Pilottown Road
- 5) New Road / Nassau Road (Sussex Road 266B)

Conditions examined:

- 1) 2013 existing conditions (Case 1)
- 2) 2016 without Harbor Point (Case 2)
- 3) 2016 with Harbor Point (Case 3)

Peak hours evaluated:

Weekday evening and Saturday midday peak hours. As this TIS is for a residential development located in the vicinity of a resort area, evening traffic counts were conducted from 4:00 PM to 6:00 PM to reflect traffic conditions when evening traffic is at its peak. Additionally, the Saturday peak period designated for traffic counts was 9:00 AM to 2:00 PM to reflect traffic conditions when Saturday traffic is at its peak.

Committed development considered:

1) Canary Creek (30 single-family detached houses and 72 townhomes)

Intersection Descriptions

1) Park Road & Site Entrance

Type of Control: proposed two-way stop-controlled (rights-in/rights-out/lefts-in/lefts-out T-intersection)

Northbound approach: (Park Road) existing one through lane; proposed one shared left-turn lane / through lane

Southbound approach: (Park Road) existing one through lane; proposed one shared through / right-turn lane

Eastbound approach: (Proposed Site Entrance) proposed one shared left-turn / right-turn lane, stop-controlled

2) Park Road & Samantha Drive

Type of Control: existing two-way stop-controlled (four-leg intersection)

Northbound approach: (Park Road) one shared left-turn / through / right-turn lane Southbound approach: (Park Road) one shared left-turn / through / right-turn lane

Eastbound approach: (Samantha Drive / Canary Creek Entrance) one shared left-turn / through / right-turn lane, stop-controlled

Westbound approach: (Unnamed street) one shared left-turn / through / right-turn lane, stop-controlled

3) Park Road & New Road

Type of Control: two-way stop-controlled (rights-in/rights-out/lefts-in/lefts-out T-intersection)

Southbound approach: (Park Road) one shared left-turn / right-turn lane, stop-controlled

Eastbound approach: (New Road) one shared left-turn lane / through lane Westbound approach: (New Road) one through lane and one right-turn lane

4) New Road & Pilottown Road

Type of Control: two-way stop-controlled (rights-in/rights-out/lefts-in/lefts-out T-intersection)

Northbound approach: (Pilottown Road) one shared left-turn lane / through lane Southbound approach: (Pilottown Road) one shared through / right-turn lane Eastbound approach: (New Road) one shared left-turn / right-turn lane, stop-controlled

5) New Road & Nassau Road

Type of Control: two-way stop-controlled (rights-in/rights-out/lefts-in/lefts-out T-intersection)

Northbound approach: (Nassau Road) one shared through / right-turn lane

Southbound approach: (Nassau Road) one shared left-turn lane / through lane

Westbound approach: (New Road) one shared left-turn / right-turn lane, stop-controlled

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Safety Evaluation

Crash Data: Crash data was obtained for January 2011 through January 2014 for the intersections and roadway segments within the study area. This included a total of one (1) crash, which occurred at the intersection of New Road at Nassau Road. The crash involves a collision between vehicle and a utility pole. There were no injuries or fatal crashes reported in the study area during this three-year period.

Sight Distance: The proposed entrance on Park Road would be located on the outside of a horizontal curve, which presents potential sight distance and safety concerns especially for left-turning vehicles to and from the site. The proposed location of the Park Road site entrance, as well as the lane configurations and allowed movements at that intersection, may require a closer evaluation from a safety perspective.

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: The Delaware Transit Corporation (DTC) does not currently have any transit route serving the proposed Harbor Point residential development.

Planned transit service: Mr. Wayne Henderson, a Service Development Planner for the DTC, provided comments on March 12, 2014 regarding DTC's future plans for transit services in this area. Mr. Henderson confirmed that no transit routes are planned within the study area in the near future.

Existing bicycle and pedestrian facilities: According to the bicycle level of service (BLOS) calculator developed by the *League of Illinois Bicyclists* Park Road operates at BLOS B. There is currently a multi-use pathway located along the northeast side of Park Road extending from New Road to just beyond the entrance to the Canary Creek development at Samantha Drive. In addition, there is an existing multi-use pathway along the westbound side of New Road extending for a short distance on both sides of the intersection of Park Road and New Road. There are no sidewalks or bicycle lanes along the section of Park Road where the site access is proposed to be located. There are existing crosswalks on all approaches at the intersection of Samantha Drive and Park Road, and along the westbound side of New Road at Park Road.

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Planned bicycle and pedestrian facilities: Marco Boyce of DelDOT's Statewide & Regional Planning Section responded to DBF via an e-mail dated January 25, 2014, with comments regarding planned or requested bicycle and pedestrian facilities in the study area of this proposed development. Mr. Boyce stated that a multi-use pathway from the Harbor Point development should connect to the existing pathway along the east side of Park Road. Additionally, from within the development, a network of sidewalks should feed directly and logically to this multi-use pathway extension. Bikes can ride on-road within the proposed development to the multi-use pathway extension. Crosswalks should be added across all approaches at the site entrance along Park Road.

Previous Comments

All comments from DelDOT's Scoping Letter, Traffic Count Review, and Preliminary TIS (PTIS) Review were addressed in the Final TIS submission.

General HCS Analysis Comments

(see table footnotes on the following pages for specific comments)

- 1) For unsignalized intersections, the TIS and DelDOT applied heavy vehicle (HV) percentages by movement. For future conditions, the TIS and DelDOT generally assumed future HV percentages to be the same as existing HV percentages.
- 2) For existing conditions at unsignalized intersections, the TIS and DelDOT determined and applied, for each intersection, the peak hour factor (PHF) by movements. For future conditions, the TIS assumed future PHF for some movements that were generally different from the PHF DelDOT applied. DelDOT used future PHF of 0.92 for movements that had significant increase in trips for future conditions.
- 3) Neither the TIS nor DelDOT included percent grade in their analyses.

Table 3 PEAK HOUR LEVELS OF SERVICE (LOS) based on Traffic Impact Study for Harbor Point Report dated March 7, 2014

Prepared by Davis, Bowen & Friedel, Inc.

| Unsignalized Intersection ¹ Two-Way Stop Control (T-intersection) | LOS p | er TIS | LOS per DelDOT | |
|---------------------------------------------------------------------------------|---------------|---------------------|-------------------|---------------------|
| Park Road & Site Entrance | Weekday PM | Saturday Mid-day | Weekday PM | Saturday Mid-day |
| 2016 with Harbor Point (Case 3) | | | | |
| Eastbound Site Entrance | A (8.6) | A (8.5) | A (8.6) | A (8.5) |
| Northbound Park Road – Left | A (7.4) | A (7.3) | A (7.4) | A (7.3) |

¹ For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds.

Table 4 PEAK HOUR LEVELS OF SERVICE (LOS)

based on Traffic Impact Study for Harbor Point Report dated March 7, 2014 Prepared by Davis, Bowen & Friedel, Inc.

| Unsignalized Intersection ² Two-Way Stop Control (four-leg intersection) ³ | LOS per TIS | | LOS per DelDOT | |
|-----------------------------------------------------------------------------------------------------|-------------|----------|-------------------|----------|
| Park Road & | Weekday | Saturday | Weekday | Saturday |
| Samantha Drive | PM | Mid-day | PM | Mid-day |
| 2013 Existing (Case 1) | | | | |
| Northbound Park Road | A (7.3) | A (7.3) | A (7.3) | A (7.3) |
| Eastbound Samantha Drive | A (8.5) | A (8.6) | A (8.5) | A (8.6) |
| Southbound Park Road | A (7.2) | A (7.2) | A (7.2) | A (7.2) |
| Westbound - unnamed street | A (9.4) | A (9.3) | A (9.3) | A (9.3) |
| 2016 without Harbor Point (Case 2) | | | | |
| Northbound Park Road | A (7.4) | A (7.3) | A (7.4) | A (7.3) |
| Eastbound Samantha Drive | A (8.6) | A (8.6) | A (8.5) | A (8.6) |
| Southbound Park Road | A (7.2) | A (7.2) | A (7.2) | A (7.2) |
| Westbound -unnamed Street | A (9.9) | A (9.3) | A (9.8) | A (9.5) |
| 2016 with Harbor Point (Case 3) | | | | |
| Northbound Park Road | A (7.4) | A (7.4) | A (7.4) | A (7.4) |
| Eastbound Samantha Drive | A (8.7) | A (8.9) | A (8.7) | A (8.9) |
| Southbound Park Road | A (7.4) | A (7.3) | A (7.3) | A (7.3) |
| Westbound -unnamed Street | B (10.6) | B (10.1) | B (10.4) | B (10.1) |
| | | | <u></u> | |

street as input in order for HCS to report a delay for this approach.

² For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds.

³ The TIS and DelDOT analyze this intersection utilizing a westbound through volume of one (1) for the unnamed

Table 5 PEAK HOUR LEVELS OF SERVICE (LOS)

based on Traffic Impact Study for Harbor Point Report dated March 7, 2014 Prepared by Davis, Bowen & Friedel, Inc.

| Unsignalized Intersection ⁴ Two-Way Stop Control (T-intersection) | tion) LOS per TIS ⁵ | | LOS per DelDOT | | |
|---------------------------------------------------------------------------------|--------------------------------|----------|-------------------|----------|--|
| Park Road & | Weekday | Saturday | Weekday | Saturday | |
| New Road | PM | Mid-day | PM | Mid-day | |
| 2013 Existing (Case 1) | | | | | |
| Southbound Park Road | A (9.2) | A (9.4) | A (9.4) | A (9.9) | |
| Eastbound New Road | A (7.5) | A (7.5) | A (7.5) | A (7.5) | |
| 2016 without Harbor Point (Case 2) | | | | | |
| Southbound Park Road | A (9.4) | A (9.8) | A (9.7) | B (10.2) | |
| Eastbound New Road | A (7.6) | A (7.6) | A (7.6) | A (7.6) | |
| 2016 with Harbor Point (Case 3) | | | | | |
| Southbound Park Road | A (9.8) | B (10.2) | B (10.2) | B (10.6) | |
| Eastbound New Road | A (7.7) | A (7.6) | A (7.7) | A (7.7) | |
| | | | | | |

DelDOT applied, resulting in slightly higher control delays and poorer level of service.

⁴ For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds.

The TIS analyzes this intersection applying peak hour factors (PHF) that are generally different from the PHF

Table 6 PEAK HOUR LEVELS OF SERVICE (LOS) based on Traffic Impact Study for Harbor Point Report dated March 7, 2014 Prepared by Davis, Bowen & Friedel, Inc.

| Unsignalized Intersection ⁶ Two-Way Stop Control (T-intersection) | LOS p | er TIS ⁷ | LOS per DelDOT | |
|------------------------------------------------------------------------------|---------|---------------------|-------------------|----------|
| New Road & | Weekday | Saturday | Weekday | Saturday |
| Pilottown Road | PM | Mid-day | PM | Mid-day |
| 2013 Existing (Case 1) | | | | |
| Northbound Pilottown Road | A (7.6) | A (7.5) | A (7.6) | A (7.6) |
| Eastbound New Road | A (9.4) | A (9.6) | A (9.4) | A (9.9) |
| 2016 without Harbor Point (Case 2) | | | | |
| Northbound Pilottown Road | A (7.6) | A (7.6) | A (7.6) | A (7.6) |
| Eastbound New Road | A (9.6) | A (9.7) | A (9.5) | A (9.9) |
| 2016 with Harbor Point (Case 3) | | | | |
| Northbound Pilottown Road | A (7.6) | A (7.6) | A (7.6) | A (7.6) |
| Eastbound New Road | A (9.6) | A (9.7) | A (9.6) | A (10.0) |
| | | | | |

⁶ For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds.

The TIS analyzes this intersection applying peak hour factors (PHF) that are generally different from the PHF

DelDOT applied, resulting in slightly higher control delays and poorer level of service.

Table 7 PEAK HOUR LEVELS OF SERVICE (LOS) based on Traffic Impact Study for Harbor Point Report dated March 7, 2014

Prepared by Davis, Bowen & Friedel, Inc.

| Unsignalized Intersection ⁸ Two-Way Stop Control (T-intersection) | LOS p | er TIS ⁹ | LOS per DelDOT | |
|------------------------------------------------------------------------------|----------|---------------------|-------------------|----------|
| New Road & | Weekday | Saturday | Weekday | Saturday |
| Nassau Road | PM | Mid-day | PM | Mid-day |
| 2013 Existing (Case 1) | | | | |
| Southbound Nassau Road | A (7.5) | A (7.7) | A (7.6) | A (7.7) |
| Westbound New Road | B (10.5) | B (10.6) | B (10.7) | B (11.0) |
| 2016 without Harbor Point (Case 2) | | | | |
| Southbound Nassau Road | A (7.6) | A (7.7) | A (7.6) | A (7.7) |
| Westbound New Road | B (10.7) | B (10.8) | B (10.9) | B (11.0) |
| 2016 with Harbor Point (Case 3) | | | | |
| Southbound Nassau Road | A (7.7) | A (7.8) | A (7.7) | A (7.8) |
| Westbound New Road | B (11.1) | B (11.0) | B (11.0) | B(11.1) |
| | | | | |

⁸ For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds.

The TIS analyzes this intersection applying peak hour factors (PHF) that are generally different from the PHF

DelDOT applied, resulting in slightly higher control delays and poorer level of service.