



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

NICOLE MAJESKI  
SECRETARY

April 24, 2023

Ms. Betty H. Tustin, PE  
The Traffic Group, Inc.  
104 Kenwood Court  
Berlin, Maryland 21811

Dear Ms. Tustin,

The enclosed Traffic Operational Analysis (TOA) review letter for the **Marlin Cove** (Tax Parcels: 533-19.00-7.00, 8.01, and 9.00) residential development has been completed under the responsible charge of a registered professional engineer whose firm is authorized to work in the State of Delaware. They have found the TOA to conform to DelDOT's Development Coordination Manual and other accepted practices and procedures for such studies. DelDOT accepts this letter and concurs with the recommendations. If you have any questions concerning this letter or the enclosed review letter, please contact me at (302) 760-2124.

Sincerely,

Claudy Joinville  
TIS Group Project Engineer

CJ:km

Enclosures

cc with enclosures:

Mr. Russell Garufi, Marlin Cove, LLC  
Mr. Rich Polk, Vista Design, Inc.  
Mr. David Edgell, Office of State Planning Coordination  
Mr. Jamie Whitehouse, Sussex County Planning & Zoning  
Ms. Joanne M. Arellano, Johnson, Mirmiran, & Thompson, Inc.  
Mr. Mir Wahed, Johnson, Mirmiran, & Thompson, Inc.  
DelDOT Distribution

## DelDOT Distribution

Brad Eaby, Deputy Attorney General  
Shanté Hastings, Deputy Secretary / Director of Transportation Solutions (DOTS)  
Pamela Steinebach, Director, Planning  
Mark Luszcz, Deputy Director, DelDOT Traffic, DOTS  
Michael Simmons, Assistant Director, Project Development South, DOTS  
Peter Haag, Chief Traffic Engineer, DelDOT Traffic, DOTS  
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, DelDOT Traffic, DOTS  
Sean Humphrey, Traffic Engineer, DelDOT Traffic, DOTS  
Todd Sammons, Assistant Director, Development Coordination, Planning  
Wendy Polasko, Subdivision Engineer, Development Coordination, Planning  
Kevin Hickman, Sussex County Review Coordinator, Development Coordination, Planning  
Thomas Gagnon, Sussex County Subdivision Reviewer, Development Coordination, Planning  
Sireen Muhtaseb, TIS Group Manager, Development Coordination, Planning  
Annamaria Fumato, TIS Group Project Engineer, Development Coordination, Planning  
Philip Lindsey, TIS Group Project Engineer, Development Coordination, Planning  
Matt Schlitter, South District Public Works Engineer, Maintenance & Operations  
Jared Kauffman, Service Development Planner, Delaware Transit Corporation  
Tremica Cherry, Service Development Planner, Delaware Transit Corporation  
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning, Planning  
Jennifer Cinelli, Transportation Planner, Statewide & Regional Planning



April 20, 2023

Mr. Claudy Joinville  
Project Engineer  
Delaware Department of Transportation  
Development Coordination, Division of Planning  
800 Bay Road  
Dover, DE 19901

RE: Agreement No. 1945F  
Project Number T202069012/PO#611882  
Traffic Impact Study Services  
Task 11-10A – Marlin Cove TOA

Dear Mr. Joinville:

Johnson, Mirmiran, and Thompson (JMT) has completed a review of the Traffic Operational Analysis (TOA) for the Marlin Cove development, which was prepared by The Traffic Group, Inc. dated January 13, 2023. This review was assigned as Task Number 11-10A. The report is prepared in a manner generally consistent with DelDOT's *Development Coordination Manual*.

The TOA evaluates the impacts of a proposed residential development in Sussex County, Delaware. The proposed development would consist of 114 single family detached homes and 114 duplexes on an approximately 61.98-acre assemblage of parcels. The land is currently zoned as AR-1 (Agricultural Residential), and the developer does plan to rezone the land to MR (Medium-Density Residential) with a conditional use approval to permit the multi-family (duplex) homes.

The development is located on the west side of New Road (Sussex Road 391), approximately 80 feet north of the intersection with Delaware Route 54. Two full access points are proposed on New Road. Construction is expected to be complete in 2027.

The developer has decided to pursue payment of the Area Wide Study Fee (AWSF) in lieu of doing a TIS. However, DelDOT requested the TOA to determine if turn lanes would be required at the Delaware Route 54 and New Road intersection when the development is built.

DelDOT does not have any relevant and ongoing improvement projects within the study area. However, DelDOT has a traffic study in the area called the *Southeast Sussex Study*. The study focuses on identifying existing circulation issues, future growth potential and opportunities for operational, safety and infrastructure improvements for the study area which includes the Delaware Route 54 and New Road intersection. The study began in 2021 and has looked at existing conditions including traffic volumes, travel speeds, crash assessments and intersection performance. The next steps include growth projections, future traffic estimates, future performance estimates, and identification of potential short, medium, and long-term improvements. Those steps should be complete by Summer of 2023. More information regarding the study can be found at <https://deldot.gov/projects/Studies/southeast-sussex/>.



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

There are no intersections that exhibit level of service (LOS) deficiencies. However, based on the DelDOT *Road Design Manual* and DelDOT’s *Development Coordination Manual*, an eastbound left turn lane and a westbound right turn lane are warranted along Delaware Route 54 at the New Road intersection. As such, it is recommended the developer improve the intersection to provide turn lanes.

Should Sussex County approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan. 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 shall improve New Road within the limits of their frontage to meet DelDOT’s standards for their Functional Classification as found in Section 1.1 of the *Development Coordination Manual* and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer’s lands are on one or both sides of the road. Frontage is defined in Section 1 of the *Development Coordination Manual*, which states “This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway.” The developer should coordinate with the DelDOT Subdivision Review Coordinator to determine the design details during the plan review.
2. The developer should construct an unsignalized full access Site Entrance A for the proposed Marlin Cove development along New Road, approximately 1,925 feet north of the intersection with Delaware Route 54. The intersection should be consistent with the lane configurations shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Eastbound Site Entrance A	Approach does not exist	One shared left turn/right turn lane
Northbound New Road	One through lane	One shared left turn/through lane
Southbound New Road	One through lane	One through lane and one right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length (excluding taper) of the southbound right turn lane is 50 feet. The projected queues from the HCS analysis can be accommodated within the recommended storage lengths.

3. The developer should construct an unsignalized full access Site Entrance B for the proposed Marlin Cove development along New Road, approximately 1,350 feet north of



the intersection with Delaware Route 54. The intersection should be consistent with the lane configurations shown in the table below.

<b>Approach</b>	<b>Current Configuration</b>	<b>Proposed Configuration</b>
Eastbound Site Entrance B	Approach does not exist	One shared left turn/right turn lane
Northbound New Road	One through lane	One shared left turn/through lane
Southbound New Road	One through lane	One through lane and one right turn lane

Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length (excluding taper) of the southbound right turn lane is 50 feet. The projected queues from the HCS analysis can be accommodated within the recommended storage lengths.

4. The developer should construct an eastbound left turn lane and a westbound right turn lane along Delaware Route 54 at the intersection with New Road, as they are warranted per the DelDOT *Road Design Manual*. Based on the DelDOT *Road Design Manual*, the recommended minimum storage length (excluding taper) of the eastbound left turn lane is 100 feet. Based on DelDOT’s *Development Coordination Manual*, the recommended minimum storage length (excluding taper) of the westbound right turn lane is 240 feet. The developer should coordinate with DelDOT Development Coordination Section during the plan review process to determine the design of the intersection.
5. The following bicycle, pedestrian, and transit improvements should be included:
  - a. A minimum of fifteen-foot wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT along the New Road site frontage. Within the easement, the developer should construct a ten-foot wide shared-use path (SUP). The SUP should be designed to meet current AASHTO and ADA standards. A minimum five-foot setback should be maintained from the edge of the pavement to the SUP. If feasible, the SUP should be placed behind utility poles and street trees should be provided within the buffer area. The developer should coordinate with DelDOT’s Development Coordination Section during the plan review process to identify the exact location of the SUP.
  - b. At least one internal connection of a sidewalk or SUP in the vicinity of the site entrances from the SUP along New Road should be provided.
  - c. ADA compliant curb ramps and marked crosswalks should be provided along the site entrances.



- d. Minimum five-foot wide bicycle lanes should be incorporated in the right turn lane and shoulder along the New Road approaches to the site entrances.
- e. Utility covers should be moved outside of any designated bicycle lanes and any proposed sidewalks/SUP or should be flush with the pavement.

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 Plan Review process.

Improvements in this TOA may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at [https://www.deldot.gov/Publications/manuals/de\\_mutcd/index.shtml](https://www.deldot.gov/Publications/manuals/de_mutcd/index.shtml). For any additional information regarding the work zone impact and mitigation procedures during construction, please contact Mr. Jeff VanHorn, Assistant Director for Traffic Operations and Management. Mr. VanHorn can be reached at (302) 659-4606 or by email at [Jeffrey.VanHorn@delaware.gov](mailto:Jeffrey.VanHorn@delaware.gov).

Additional details on our review of the TOA are attached. Please contact me at (302) 266-9600 if you have any questions concerning this review.

Sincerely,  
Johnson, Mirmiran, and Thompson, Inc.

A handwritten signature in black ink, appearing to read 'Joanne M. Arellano', is written above the printed name.

Joanne M. Arellano, P.E., PTOE

cc: Mir Wahed, P.E., PTOE  
Tanner Chiamprasert, E.I.T.

Enclosure

## **General Information**

**Report date:** January 13, 2023

**Prepared by:** The Traffic Group, Inc.

**Prepared for:** Marlin Cove, LLC

**Tax Parcels:** 533-19.00-7.00, 8.01 and 9.00

**Generally consistent with DelDOT's *Development Coordination Manual (DCM)*:** Yes

## **Project Description and Background**

**Description:** The proposed residential development consists of 114 single-family detached houses and 114 single-family attached homes (duplexes).

**Location:** The site is located on the west side of New Road (Sussex Road 391), approximately 80 feet north of the intersection with Delaware Route 54, in Sussex County, Delaware.

**Amount of Land to be developed:** An approximately 61.98-acre assemblage of parcels.

**Land Use approval(s) needed:** Entrance Plan, Rezoning.

**Proposed completion date:** 2027.

**Proposed access locations:** Two full access points are proposed on New Road.

### **Daily Traffic Volumes:**

- 2022 Average Annual Daily Traffic on New Road: 298 vehicles per day

\*AADT is sourced from ATR data provided by the TOA report. Data taken from seven full days starting October 8, 2022.

## Site Map



*\*Graphic is an approximation based on the Marlin Cove Subdivision Preliminary Plat prepared by Vista Design, Inc. dated May 16, 2022.*

## Relevant and On-going Projects

DelDOT does not have any relevant and ongoing improvement projects within the study area. However, DelDOT has a traffic study in the area called the *Southeast Sussex Study*. The study focuses on identifying existing circulation issues, future growth potential and opportunities for operational, safety and infrastructure improvements for the study area which includes the Delaware Route 54 and New Road intersection. The study began in 2021 and has looked at existing conditions including traffic volumes, travel speeds, crash assessments and intersection performance. The next steps include growth projections, future traffic estimates, future performance estimates, and identification of potential short, medium, and long-term improvements. Those steps should be complete by Summer of 2023. More information regarding the study can be found at <https://deldot.gov/projects/Studies/southeast-sussex/>.



## **Livable Delaware**

*(Source: Delaware Strategies for State Policies and Spending, 2020)*

### **Location with respect to the Strategies for State Policies and Spending Map of Delaware:**

The proposed development is located within Investment Level 3 and Level 4.

#### *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 during a five-year planning period (or longer). In these instances, development in Investment Level 3 may be least appropriate for new growth and development in the near term. The second category includes lands that are adjacent to or intermingled with fast-growing areas within counties or municipalities that are otherwise categorized as Investment Levels 1 or 2. Environmentally sensitive features, agricultural-preservation issues, or other infrastructure issues most often impact these lands. In these instances, development and growth may be appropriate in the near term, but the resources on the site and in the surrounding area should be carefully considered and accommodated by state agencies and local government with land-use authority. Investment Level 3 is further characterized by areas with new development separated from existing development by a substantial amount of vacant land that is not contiguous with existing infrastructure, areas that are experiencing some development pressure, areas with existing but disconnected development, and possible lack of adequate infrastructure.

The state will consider investing in infrastructure within Investment Level 3 Areas once the Investment Level 1 and 2 Areas are substantially built out, or when the infrastructure or facilities are logical extensions of existing systems and deemed appropriate to serve a particular area. The priorities in the Level 3 Areas are for DelDOT to focus on regional movements between towns and other population centers. DelDOT also supports the development and implementation of Transportation Improvement Districts in Investment Level 3 areas. Local roadway improvements will be made by developers and property owners as development occurs. Lower priority is given to transportation system–capacity improvements and transit-system enhancements.

#### *Investment Level 4*

Delaware's Investment Level 4 Areas are rural in nature and are where the bulk of the state's open space/natural areas and agricultural industry is located. These areas contain agribusiness activities, farm complexes, and small settlements. They typically include historic crossroads or points of trade, often with rich cultural ties. Delaware's Investment Level 4 Areas are also the location of scattered residential uses, featuring almost entirely single-family detached residential structures. Delaware's Investment Level 4 Areas also include many unincorporated communities, typically with their own distinctive character and identity. Investment Level 4 Areas depend on a transportation system primarily of secondary roads linked to roadways used as regional thoroughfares for commuting and trucking.

It is the state's intent to discourage additional urban and suburban development in Investment Level 4 Areas unrelated to agriculture and to the areas' needs. In Investment Level 4 Areas, the state's investments and policies should retain the rural landscape and preserve open spaces and farmlands, support farmland-related industries, and establish defined edges to more concentrated development. The focus for the Level 4 Areas will be to preserve and maintain existing facilities in safe working order, corridor-capacity preservation, and the enhancement of transportation facilities to support agricultural business. The lowest priority is given to transit system enhancements.

**Proposed Development's Compatibility with Livable Delaware:**

The proposed site is located within Investment Level 3 and Level 4. Investment Level 3 consists of areas adjacent to fast growing areas. The proposed site is within close proximity to Delaware and Maryland beaches. Investment Level 4 areas consist of scattered residential uses, predominately single-family detached homes, for individuals that value quiet and isolation provided by locations away from more developed settings. Therefore, the proposed development is consistent with the 2020 update of the Livable Delaware "Strategies for State Policies and Spending."

**Comprehensive Plan**

*(Source: Sussex County Comprehensive Plan, 2019)*

**Sussex County Comprehensive Plan:**

Per the *Sussex County Comprehensive Plan Existing Land Uses Map*, the proposed development appears to be currently zoned as Agricultural and Undeveloped Land. Per the *Sussex County Comprehensive Plan Future Land Use Map*, the proposed development is in an area designated as Coastal Growth Area.

**Proposed Development's Compatibility with the Sussex County Comprehensive Plan:**

The *Sussex County Comprehensive Plan* states that Coastal Growth areas are the most desirable locations for new housing. Therefore, the proposed development is consistent with the *Sussex County Comprehensive Plan*.

The developer plans to rezone the land to Medium-Density Residential with a conditional use approval to permit the single-family attached homes (duplexes).

**Trip Generation**

The trip generation for the proposed development was determined by using the comparable land use and rates/equations contained in the 11<sup>th</sup> Edition of the ITE *Trip Generation Manual*, published by the Institute of Transportation Engineers (ITE) for ITE Land Use Code 210 (Single-Family Detached Houses) and ITE Land Use Code 215 (Single-Family Attached Houses). Trip generation was reviewed by DelDOT as part of the Preliminary TOA (PTOA) submission.

**Table 1**  
Marlin Cove Trip Generation

Land Use	ADT	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
114 Units Single-Family Detached Houses (ITE – 210)	1,138	22	62	84	71	41	112	58	50	108
114 Units Single-Family Attached Houses (ITE – 215)	818	17	37	54	36	28	64	36	39	75
Total	1,956	39	99	138	107	69	176	94	89	183

**Overview of TOA**

**Intersections examined:**

1. Site Entrance A / New Road (Sussex Road 391)
2. Site Entrance B / New Road
3. Delaware Route 54 / New Road

**Conditions examined:**

1. Case 1 – 2022 existing
2. Case 2 – 2027 without development
3. Case 3 – 2027 with development

**Committed Developments considered:**

1. Estuary
2. Old Mill Bridge Road Property
3. Melson Property
4. Bay Knolls
5. Kingfisher

\*DelDOT provided TDM-based background volumes for use in the TOA in lieu of generating peak hour volumes for each individual committed development.

**Peak hours evaluated:** Weekday AM, weekday PM, and summer Saturday midday.

## **Intersection Descriptions**

### **1. Site Entrance A / New Road (Sussex Road 391)**

**Type of Control:** Proposed two-way stop-controlled intersection (T-intersection).

**Eastbound Approach:** (Site Entrance A) Proposed one shared left turn/right turn lane, stop-controlled.

**Northbound Approach:** (New Road) Existing one through lane; proposed one shared left turn/through lane.

**Southbound Approach:** (New Road) Existing one through lane; proposed one shared through lane/right turn lane.

### **2. Site Entrance B / New Road**

**Type of Control:** Proposed two-way stop-controlled intersection (T-intersection).

**Eastbound Approach:** (Site Entrance B) Proposed one shared left turn/right turn lane, stop-controlled.

**Northbound Approach:** (New Road) Existing one through lane; proposed one shared left turn/through lane.

**Southbound Approach:** (New Road) Existing one through lane; proposed one shared through lane/right turn lane.

### **3. Delaware Route 54 / New Road**

**Type of Control:** Existing two-way stop-controlled intersection (T-intersection).

**Eastbound Approach:** (Delaware Route 54) Existing one shared left turn/through lane.

**Westbound Approach:** (Delaware Route 54) Existing one shared through/right turn lane.

**Southbound Approach:** (New Road) Existing one shared left turn/right turn lane, stop-controlled.

## **Transit, Pedestrian, and Bicycle Facilities**

**Existing transit service:** Per DelDOT Gateway, there are no bus routes that run through the study area.

**Planned transit service:** Per email correspondence on January 27, 2023, with Mr. Jared Kauffman, Fixed-Route Planner for DART, the Delaware Transit Corporation does not have any transit specific comments for this project.

**Existing bicycle and pedestrian facilities:** According to DelDOT's Sussex County Bicycle Map, Delaware Route 24 is considered a regional bicycle route. Delaware Route 54 has bike lanes in the eastbound and westbound directions.

**Planned bicycle and pedestrian facilities:** Per email response received on February 21, 2023 from Mr. John Fiori and Ms. Linda Osiecki, there are pedestrian and bicycle recommendations for the site:

- It is highly recommended to install a 10' wide shared-use path along the property frontage of New Road with angled terminations into the shoulder and have the shared-use path extended to the property lines to the northern and southern property limits due to the surrounding vicinity of the site, as there are destinations people can bike or walk in lieu of using a vehicle.
- An internal connection(s) from the SUP along New Road shall be required.
- At this time, Active Transportation & Community Connections (ATCC) has no bicycle/pedestrian improvement projects within the area of this project.
- Per the Development Coordination Manual (DCM), the site shall dedicate right-of-way per the roadway classification and establish a 15' wide permanent easement along all property roadway frontages. The current plans submitted show a 15' multi-use path easement and should be revised to current standards in the DCM.
- All entrance, roadway and/or intersection improvements required shall incorporate bicycle and pedestrian facilities. Per the DCM, if the right turn lane is warranted, then a separate bike lane shall be incorporated along the right turn lane; if a left turn lane is required, any roadway improvements shall include a shoulder matching the roadway functional classification or existing conditions (minimum 5-feet).
- There could be additional and/or revised comments once project is discussed at a pre-submittal meeting and/or plans are submitted for LONO/ENT review/approval.

**Bicycle Level of Traffic Stress in Delaware:** Researchers with the Mineta Transportation Institute developed a framework to measure low-stress connectivity, which can be used to evaluate and guide bicycle network planning. Bicycle LTS analysis uses factors such as the speed of traffic, volume of traffic, and the number of lanes to rate each roadway segment on a scale of 1 to 4, where 1 is a low-stress place to ride and 4 is a high-stress place to ride. It analyzes the total connectivity of a network to evaluate how many destinations can be accessed using low-stress routes. Developed by planners at the Delaware Department of Transportation (DelDOT), the bicycle Level of Traffic Stress (LTS) model will be applied to bicycle system planning and evaluation throughout the state. The Bicycle LTS for the roadways under existing conditions along the site frontage are summarized below. The Bicycle LTS was determined utilizing the DelDOT Gateway.

- New Road LTS: 2

### **Crash Evaluation**

Per the crash data included in the TOA from January 4, 2020, to January 4, 2023, provided by the Delaware Department of Transportation (DelDOT), a total of 2 crashes were reported within the study area. Of the 2 crashes reported, no fatalities occurred.

The Delaware Route 54 and New Road intersection had two crashes reported with the primary contributing cause a deer in the roadway.

### **Previous Comments**

All comments from the PTOA have been addressed in the Final TOA.

**Sight Distance Evaluation**

No sight distance constraints were noted at the proposed site entrance locations per a field visit conducted on January 26, 2023.

**General HCS Analysis Comments**

*(See table footnotes on the following pages for specific comments)*

- 1) The TOA used HCS Version 2023, whereas JMT used version 7.9.6 of HCS7 to complete the analysis.
- 2) Per DelDOT's *Development Coordination Manual*, JMT utilized the existing PHF for the existing condition (Case 1) whereas the TOA used different values.
- 3) Per DelDOT's *Development Coordination Manual*, JMT utilized the future intersection PHF of 0.80 for roadways with less than 500 vph, 0.88 for roadways between 500 and 1,000 vph, and 0.92 for roadways with more than 1,000 vph, or used the existing PHF if higher, whereas the TOA used different values.
- 4) JMT utilized the existing heavy vehicle percentage for each movement greater than 100 vph in the Case 1 existing scenario while the TOA utilized the existing heavy vehicle percentage for each movement.
- 5) Per DelDOT's *Development Coordination Manual*, JMT used a heavy vehicle percentage of 3% for each movement greater than 100 vph in the Case 2 and Case 3 future scenario analysis, unless the existing heavy vehicle percentage was greater than 3% and there was no significant increase of vehicles along that movement, in which case the existing heavy vehicle percentage was used for the analysis of future scenarios.
- 6) Per DelDOT's *Development Coordination Manual* and coordination with DelDOT Planning, JMT used a heavy vehicle percentage of 5% for each movement less than 100 vph along roadways in the analyses.

Table 2  
Peak Hour Levels Of Service (LOS)  
Based on Final Traffic Operational Analysis for Marlin Cove  
Report Dated: January 13, 2023  
Prepared by: The Traffic Group, Inc.

Unsignalized Intersection Two-Way Stop Control <sup>1</sup> (T-Intersection)	LOS per TOA			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance A / New Road						
2027 with Development (Case 3)						
Eastbound Site Entrance A Approach	A (9.1)	A (9.2)	A (9.4)	A (9.2)	A (9.3)	A (9.5)
Northbound New Road Left Turn	A (7.3)	A (7.4)	A (7.4)	A (7.4)	A (7.5)	A (7.5)

<sup>1</sup> For signalized and unsignalized analysis, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.



Table 3  
Peak Hour Levels Of Service (LOS)  
Based on Final Traffic Operational Analysis for Marlin Cove  
Report Dated: January 13, 2023  
Prepared by: The Traffic Group, Inc.

Unsignalized Intersection Two-Way Stop Control (T-Intersection)	LOS per TOA			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
Site Entrance B / New Road						
2027 with Development (Case 3)						
Eastbound Site Entrance B Approach	A (9.0)	A (9.0)	A (9.2)	A (9.1)	A (9.2)	A (9.4)
Northbound New Road Left Turn	A (7.4)	A (7.4)	A (7.4)	A (7.4)	A (7.4)	A (7.5)

Table 4  
Peak Hour Levels Of Service (LOS)  
Based on Final Traffic Operational Analysis for Marlin Cove  
Report Dated: January 13, 2023  
Prepared by: The Traffic Group, Inc.

Unsignalized Intersection Two-Way Stop Control <sup>1</sup>	LOS per TOA			LOS per JMT		
	Weekday AM	Weekday PM	Saturday Peak	Weekday AM	Weekday PM	Saturday Peak
2022 Existing (Case 1)						
Eastbound Delaware Route 54 Left Turn	A (7.8)	A (8.2)	A (8.2)	A (7.9)	A (8.3)	A (8.2)
Southbound New Road Approach	B (10.7)	B (12.6)	B (12.1)	B (10.8)	B (12.5)	B (12.1)
2027 without Development (Case 2)						
Eastbound Delaware Route 54 Left Turn	A (7.9)	A (8.4)	A (8.4)	A (8.0)	A (8.5)	A (8.4)
Southbound New Road Approach	B (11.5)	B (14.9)	B (14.2)	B (11.7)	B (14.9)	B (14.3)
2027 with Development (Case 3)						
Eastbound Delaware Route 54 Left Turn	A (8.0)	A (8.6)	A (8.6)	A (8.0)	A (8.7)	A (8.5)
Southbound New Road Approach	B (13.2)	C (18.7)	C (18.5)	B (13.4)	C (18.8)	C (18.7)