



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

NICOLE MAJESKI
SECRETARY

April 23, 2024

Ms. Nicole Kline-Elsier
McMahon Associates, Inc., A Bowman Company
835 Springdale Drive, Suite 200
Exton, PA 19341

Dear Ms. Kline-Elsier:

The enclosed Traffic Impact Study (TIS) review letter for the **Terraces at Pike Creek** (Tax Parcels: (Tax Parcels: 08-036.40-058, 08-042.40-134, and 08-036.10-109) 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 TIS 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 Annamaria.Furmato@delaware.gov.

Sincerely,

Annamaria Furmato
TIS Group Project Engineer

AF:km

Enclosures

cc with enclosures: Arthur Helmick, Pike Creek Recreational Services LLC
Tom Schreier, Hillcrest Associates, Inc.
Braden Garrison, McMahon Associates, Inc., A Bowman Company
David L. Edgell, Office of State Planning Coordination
Antoni Sekowski, New Castle County Department of Land Use
Bradford Shockley, New Castle County Department of Land Use
Owen C. Robatino, New Castle County Department of Land Use
Andrew J. Parker, McCormick Taylor, Inc.
Tucker Smith, McCormick Taylor, Inc.
DelDOT Distribution

DelDOT Distribution

Brad Eaby, Deputy Attorney General
Shanté Hastings, Director, Deputy Secretary, Transportation Solutions (DOTS)
Mark Luszcz, Deputy Director, Operations and Support, Traffic, DOTS
Matthew Vincent, Assistant Director, DOTS
Peter Haag, Chief Traffic Engineer, Traffic, DOTS
Wendy Carpenter, Traffic Calming & Subdivision Relations Manager, Traffic, DOTS
Sean Humphrey, Traffic Engineer, Traffic, DOTS
Brian Schilling, Canal District Engineer, Canal District
Nathan Draper, Canal District Public Works Engineer, Canal District
Jared Kauffman, Service Development Planner, Delaware Transit Corporation
Tremica Cherry, Service Development Planner, Delaware Transit Corporation
Pamela Steinebach, Director, Planning
Todd Sammons, Assistant Director, Development Coordination, Planning
Wendy Polasko, Subdivision Engineer, Development Coordination, Planning
Randhir Sharma, New Castle Review Coordinator, Development Coordination, Planning
John Andrescavage, New Castle County Subdivision Reviewer, Development Coordination, Planning
Sireen Muhtaseb, TIS Group Manager, Development Coordination, Planning
Philip Lindsey, TIS Group Project Engineer, Development Coordination, Planning
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
Steve Bayer, Regional Transportation Planner, Statewide & Regional Planning



April 22, 2024

Ms. Annamaria Furmato
Project Engineer
DelDOT Division of Planning
P.O. Box 778
Dover, DE 19903

RE: Agreement No. 1946F
Traffic Impact Study Services
Task No. 4A Subtask 21A – Terraces at Pike Creek

Dear Ms. Furmato:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Terraces at Pike Creek residential development prepared by McMahan dated July 17, 2023. McMahan prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed Terraces at Pike Creek development to be located on the northwest side of New Linden Hill Road (New Castle Road 321), northeast of Upper Creek Road (New Castle Road 31A), and southwest of Skyline Drive (New Castle Road 320) and Pike Creek Boulevard (New Castle Road 320), in New Castle County. It is located on the former Three Little Bakers golf course. The proposed development would consist of 61 single-family detached houses. There are proposed two access points as defined by DelDOT: one to the north at the intersection of Skyline Drive (DelDOT Site Access A) and Pike Creek Boulevard by way of Foxcroft Drive (a.k.a. Three Little Bakers Boulevard), and another to the south at the intersection of New Linden Hill Road and Skyline Drive (DelDOT Site Access B) by way of Fairmont Drive. New Castle County considers the two accesses to be the intersections of Skyline Drive & Foxcroft Drive and Skyline Drive & Fairmont Drive. Internally, there are site accesses on Foxcroft Drive and Fairway Drive. Construction is expected to be complete by 2026.

The subject land is located on a gross area assemblage of parcels totaling 179.28 acres (with a base of 49.28 acres after 130 acres are transferred to adjacent parcel per deed restriction set aside). The subject land is currently zoned S (Suburban) in New Castle County. The developer does not plan to rezone the land.

Currently, there are no active DelDOT projects within the study area.



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

The proposed Terraces at Pike Creek development would meet the New Castle County Level of Service (LOS) Standards as stated in Section 40.11.210 of the Unified Development Code (UDC), for all intersections included in the scope of study.

However, as shown in the table below, based on the criteria listed in Chapter 2 of DelDOT’s Development Coordination Manual, one intersection identified by DelDOT as being required for study may exhibit LOS deficiencies without the implementation of physical roadway and/or traffic control improvements. The potential LOS deficiency is on the stop-controlled minor-street approach at one unsignalized intersection. The deficiency pertains to that approach only, and the intersection is not subject to New Castle County’s concurrency requirements.

<i>Intersection</i>	<i>Existing Traffic Control</i>	<i>Situations for which deficiencies occur</i>
Skyline Drive (DelDOT Site Access A) and Pike Creek Boulevard	Unsignalized	2026 without development AM (Case 2) 2026 with development AM (Case 3)

Skyline Drive (DelDOT Site Access A) and Pike Creek Boulevard

This unsignalized intersection would operate with level of service deficiencies on the stop-controlled westbound approach of Pike Creek Boulevard during the future AM peak hour without development (LOS E) and with development (LOS F). The 95th percentile queue length on the westbound approach during the future with development AM peak hour would be approximately 200 feet long. The westbound approach currently has one shared left/right-turn lane. Modifying the westbound approach to separate the turn lanes would mitigate the LOS deficiency and reduce the queue length to approximately 100 feet long. We recommend that the developer add a separate left-turn lane on the westbound Pike Creek Boulevard approach.

Should the County 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 shall improve the State-maintained road(s) on which they front (Skyline Drive, Foxcroft Drive, Fairway Drive, Fairmont Drive, New Linden Hill Road, and Upper Pike Creek Road). 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” means the length along the state right-of-way of a single property tract where an entrance is proposed or required. If a single property tract has frontage along multiple roadways, any segment of roadway including an entrance shall be improved to meet DelDOT’s Functional Classification criteria as found in Section 1.1 of the Development Coordination Manual and elsewhere therein, and/or improvements established in the Traffic Operational Analysis and/or Traffic Impact Study. “Secondary Frontage” means the length along the state right-of-way of a single property tract where no entrance is

proposed or required. The segment of roadway may be upgraded by improving the pavement condition of the existing roadway width. The Pavement Management Section and Subdivision Section will determine the requirements to improve the pavement condition.

- The developer should modify the intersection of Skyline Drive (DeIDOT Site Access A) and Pike Creek Boulevard. The proposed configuration is shown in the table below.

Approach	Current Configuration	Approach	Proposed Configuration
Eastbound	Approach does not exist	Eastbound	Approach does not exist
Westbound Pike Creek Boulevard	One shared left/right-turn lane, stop controlled	Westbound Pike Creek Boulevard	One left-turn lane and one right-turn lane, stop controlled
Northbound Skyline Drive (DeIDOT Site Access A)	One shared through/right-turn lane	Northbound Skyline Drive (DeIDOT Site Access A)	One shared through/right-turn lane
Southbound Skyline Drive	One shared through/left-turn lane	Southbound Skyline Drive	One shared through/left-turn lane

On the westbound Pike Creek Boulevard approach, the creation of separate left and right turn lanes should be accomplished by modifying the existing grass median to create a dedicated left-turn lane. Initial recommended minimum turn-lane lengths (excluding tapers) of the separate turn lanes are listed below. The developer should coordinate with DeIDOT’s Development Coordination Section to determine final turn-lane lengths and other design details during the site plan review.

Approach	Left-Turn Lane	Right-Turn Lane
Westbound Pike Creek Boulevard	100 feet *	N/A
Northbound Skyline Drive (DeIDOT Site Access A)	N/A	N/A
Southbound Skyline Drive	N/A	N/A

* Initial turn-lane length based on queuing analysis

3. The developer should implement physical traffic calming measures to address speeding concerns along Skyline Drive between Mermaid Boulevard and Pike Creek Boulevard. These may include but are not limited to speed humps. The developer should coordinate with DelDOT's Development Coordination Section and Traffic Section during the site plan review to determine the specific traffic calming measures to be utilized and the design details of such measures.
4. The following bicycle and pedestrian improvements should be included:
 - a. Utility covers should be made flush with the pavement.
 - b. A minimum 15-foot wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontage along Skyline Drive. Within the easement, sidewalk or shared-use path should be constructed wherever one doesn't currently exist. Sidewalk should be a minimum of five-feet wide and shared-use path should be a minimum of ten-feet wide. Any new sidewalk or shared-use path should meet AASHTO and ADA standards and should have a minimum of a five-foot buffer from the roadway. At the boundaries of the Skyline Drive site frontage, the sidewalk or shared-use path should connect to the adjacent existing sidewalks or to the shoulder in accordance with DelDOT's *Shared-Use Path and/or Sidewalk Termination Reference Guide* dated August 1, 2018. The developer shall coordinate with DelDOT's Development Coordination Section through the plan review process to determine the details of the sidewalk and/or shared-use path design.
 - 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. Per DelDOT's Development Coordination Manual (Chapter 3.5.4.3), internal sidewalks for pedestrian safety and to promote walking as a viable transportation alternative should be constructed within the development. These sidewalks should each be a minimum of five-feet wide (with a minimum of a five-foot buffer from the roadway) and should meet current AASHTO and ADA standards. Internal sidewalks in the development should connect to sidewalk or shared-use path along Skyline Drive.

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://deldot.gov/Publications/manuals/de_mutcd/index.shtml.

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 site plan review process.



Additional details on our review of this TIS are attached. Please contact me at (610) 640-3500 or through e-mail at ajparker@mccormicktaylor.com if you have any questions concerning this review.

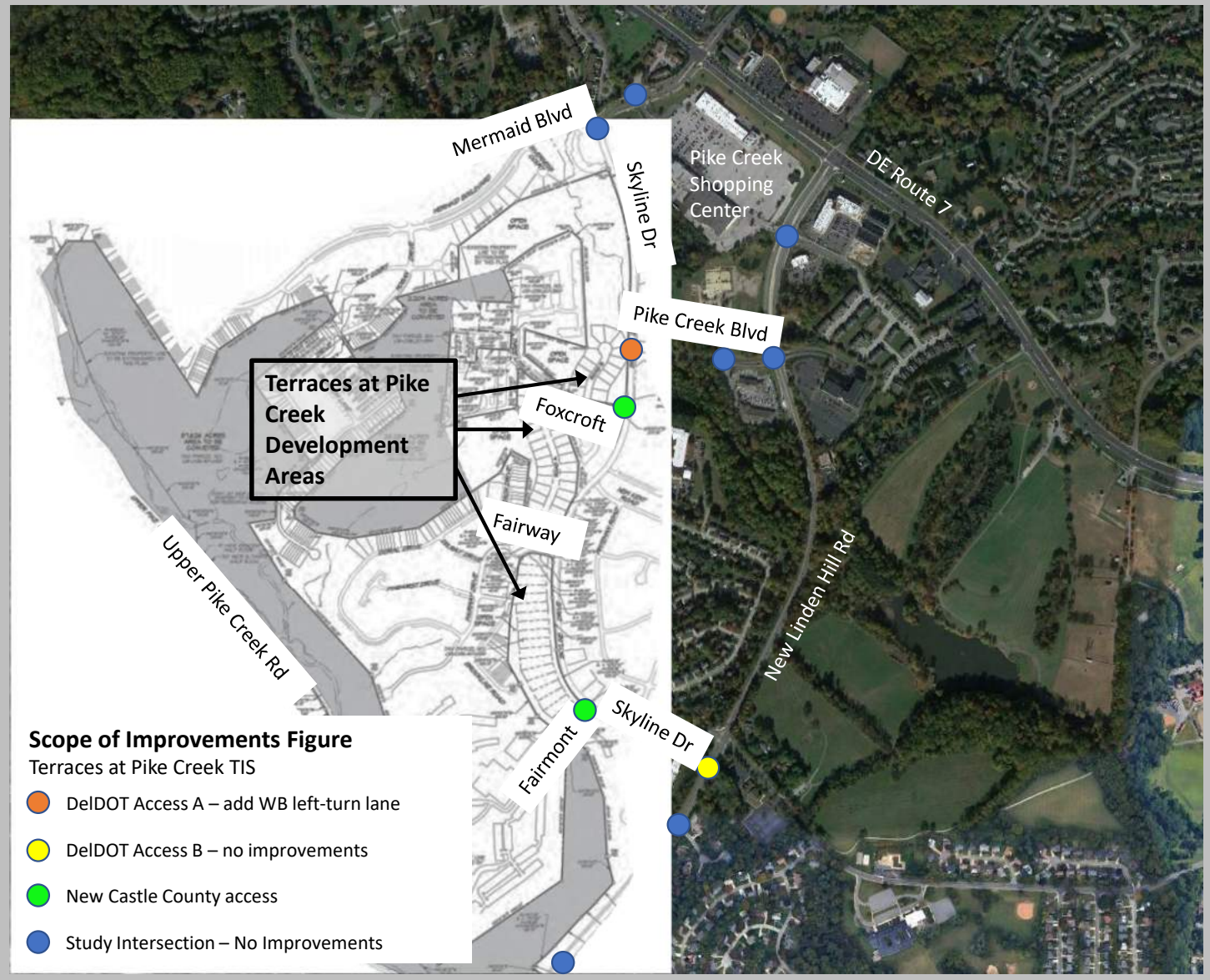
Sincerely,

McCormick Taylor, Inc.

A handwritten signature in black ink, appearing to read "Andrew J. Parker".

Andrew J. Parker, PE, PTOE
Project Manager

Enclosure



Terraces at Pike Creek Development Areas



- Scope of Improvements Figure**
Terraces at Pike Creek TIS
- DelDOT Access A – add WB left-turn lane
 - DelDOT Access B – no improvements
 - New Castle County access
 - Study Intersection – No Improvements

General Information

Report date: July 17, 2023

Prepared by: McMahon

Prepared for: Pike Creek Recreational Services, LLC

Tax parcels: 08-036.40-058, 08-042.40-134, & 08-036.10-109

Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed Terraces at Pike Creek development would consist of 61 single-family detached houses.

Location: The land is located on the northwest side of New Linden Hill Road (New Castle Road 321), northeast of Upper Creek Road (New Castle Road 31A), and southwest of Skyline Drive (New Castle Road 320) and Pike Creek Boulevard (New Castle Road 320), in New Castle County. It is located on the former Three Little Bakers golf course. A site location map is included on page 8.

Amount of land to be developed: gross area assemblage of parcels totaling 179.28 acres (with a base of 49.28 acres after 130 acres are transferred to adjacent parcel per deed restriction set aside)

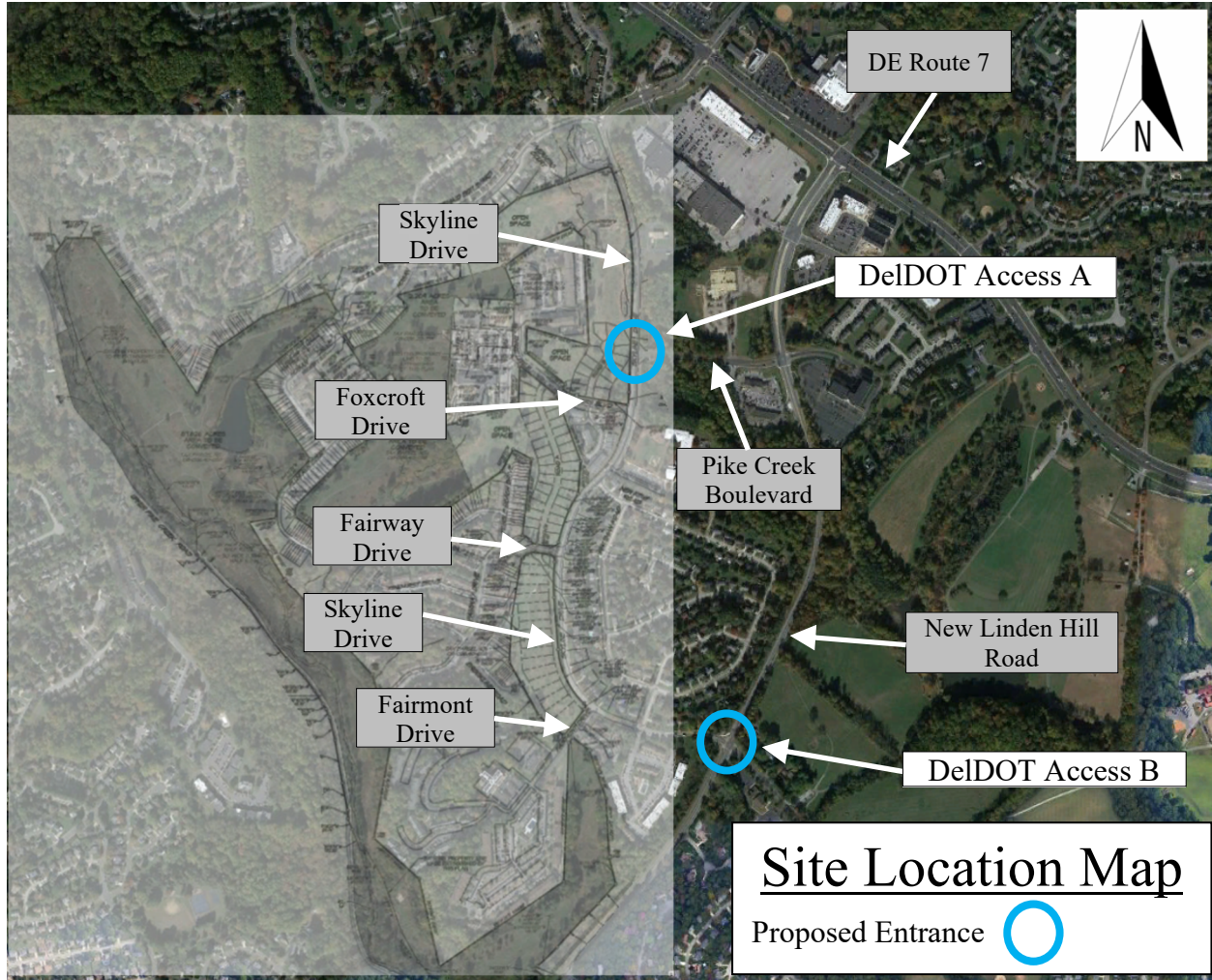
Land use approval(s) needed: The subject land is currently zoned S (Suburban) in New Castle County. The developer does not plan to rezone the land.

Proposed completion year: 2026

Proposed access locations: There are proposed two access points as defined by DelDOT: one to the north at the intersection of Skyline Drive (DelDOT Site Access A) and Pike Creek Boulevard by way of Foxcroft Drive (a.k.a. Three Little Bakers Boulevard), and another to the south at the intersection of New Linden Hill Road and Skyline Drive (DelDOT Site Access B) by way of Fairmont Drive. New Castle County considers the two accesses to be the intersections of Skyline Drive & Foxcroft Drive and Skyline Drive & Fairmont Drive. Internally, there are site accesses on Foxcroft Drive and Fairway Drive.

Average Annual Daily Traffic Volumes (per DelDOT Traffic Summary 2022):

- Skyline Drive (north of Pike Creek Boulevard): 6,105 vehicles/day
- New Linden Hill Road (north of Skyline Drive): 8,356 vehicles/day
- New Linden Hill Road (south of Skyline Drive): 14,306 vehicles/day



2020 Delaware Strategies for State Policies and Spending

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

The proposed Terraces at Pike Creek development is located mostly within Investment Level 1.

Investment Level 1

Investment Level 1 Areas are often municipalities, towns, or urban/urbanizing places in counties. Density is generally higher than in the surrounding areas. There are a variety of transportation opportunities available. Buildings may have mixed uses, such as a business on the first floor and apartments above.

In Investment Level 1 Areas, state investments and policies should support and encourage a wide range of uses and densities, promote a variety of transportation options, foster efficient use of existing public and private investments, and enhance community identity and integrity. 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. These areas would be a prime location for designating "pre-permitted areas" to help steer development where the local government and citizens are most prepared to accept it.

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

The proposed Terraces at Pike Creek project includes 61 single-family detached houses in an Investment Level 1 area. Investment Level 1 generally supports this type of development. As such, the proposed development appears to comply with the guidelines set forth in the 2020 "Strategies for State Policies and Spending".

Comprehensive Plan

New Castle County Comprehensive Plan:

(Source: New Castle County Comprehensive Plan 2050, July 2022)

The New Castle County Comprehensive Plan's Future Land Use Map 2022 indicates that the proposed development area is designated as Residential future land use.

Proposed Development's Compatibility with Comprehensive Plan: The proposed Terraces at Pike Creek development would consist of 61 single-family detached houses on a gross area assemblage of parcels totaling 179.28 acres (base 49.28 acres after 130 acres transferred to adjacent parcel per deed restriction, yielding a density of 1.24 dwelling units per acre). The land is currently zoned currently zoned S (Suburban) in New Castle County. The developer does not plan to rezone the land. According to Section 40.02.200 of the New Castle County Unified Development Code (UDC), characteristics of the S (Suburban) zoning district are as follows:

- Permits a wide range of residential uses.
- Permits moderate to high-density development and a full range of residential uses in a manner consistent with providing a high quality suburban character. Significant areas of open space and/or landscaping shall be provided to maintain the balance between green space and buildings that characterize suburban character.

- Used to in-fill tracts containing at least five acres or where New Castle County seeks to redevelop the area to suburban character.

The proposed development appears to fit within the above characteristics of S zoning and is within the allowable density range. It appears to comply with the New Castle County’s Comprehensive Plan 2050.

Relevant Projects in the DelDOT Capitol Transportation Program

Currently, there are no active DelDOT projects within the study area.

Trip Generation

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

- 61 single-family detached houses (ITE Land Use Code 210)

**Table 1
Terraces at Pike Creek Peak Hour and ADT Trip Generation**

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekday ADT		
	In	Out	Total	In	Out	Total	In	Out	Total
61 single-family detached houses	12	36	48	39	23	62	320	320	640
TOTAL TRIPS	12	36	48	39	23	62	320	320	640

Overview of TIS

Intersections examined:

- 1) Skyline Drive & Foxcroft Drive (a.k.a. Three Little Bakers Boulevard)
- 2) Skyline Drive & Fairmont Drive
- 3) Skyline Drive (DelDOT Site Access A) & Pike Creek Boulevard
- 4) New Linden Hill Road & Skyline Drive (DelDOT Site Access B)
- 5) Pike Creek Boulevard & Shoppes of Linden Hill Entrance
- 6) New Linden Hill Road & Pike Creek Boulevard / Linden Park Entrance
- 7) New Linden Hill Road & South Riding Boulevard / Pike Creek Shopping Center
- 8) Skyline Drive & Mermaid Boulevard
- 9) Skyline Drive & East Brigantine Court / Pike Creek Shopping Center
- 10) New Linden Hill Road & Lauren Court
- 11) New Linden Hill Road & Videre Court

Conditions examined:

- 1) 2023 Existing (Case 1)
- 2) 2026 No-Build (Case 2)
- 3) 2026 Build (Case 3)

Peak hours evaluated: Weekday morning and evening peak hours

Committed developments considered:

- 1) Linden Hill Shoppes & Offices: 48,000 sf office space
- 2) Pike Creek / Sports Plus Indoor Recreation Center: 33,000 sf recreation center
- 3) Hogan Drive Townhouse Addition: 17 townhomes
- 4) Milltown Square: 42,000 sf medical office space
- 5) Delaware Hospice: 50,738 sf hospice space and 9,240 sf inpatient wing
- 6) Pike Creek Daycare: 8,200 sf daycare facility

Intersection Descriptions

1) Skyline Drive & Foxcroft Drive (a.k.a. Three Little Bakers Boulevard)

Type of Control: one-way stop (T-intersection)

Eastbound Approach: (Foxcroft Drive) one shared left/right-turn lane, stop controlled

Northbound Approach: (Skyline Drive) one shared through/left-turn lane

Southbound approach: (Skyline Drive) one shared through/right-turn lane

2) Skyline Drive & Fairmont Drive

Type of Control: one-way stop (T-intersection)

Eastbound Approach: (Fairmont Drive) one shared left/right-turn lane, stop controlled

Northbound Approach: (Skyline Drive) one shared through/left-turn lane

Southbound approach: (Skyline Drive) one shared through/right-turn lane

3) Skyline Drive (DeIDOT Site Access A) & Pike Creek Boulevard

Type of Control: one-way stop (T-intersection)

Westbound Approach: (Pike Creek Boulevard) one shared left/right-turn lane, stop controlled

Northbound Approach: (Skyline Drive (DeIDOT Site Access A)) one shared through/right-turn lane

Southbound approach: (Skyline Drive) one shared through/left-turn lane

4) New Linden Hill Road & Skyline Drive (DelDOT Site Access B)

Type of Control: signalized

Eastbound Approach: (Skyline Drive (DelDOT Site Access B)) one shared through/left-turn lane and one right-turn lane

Westbound approach: (Skyline Drive) one shared through/left-turn lane and one right-turn lane

Northbound Approach: (New Linden Hill Road) one left-turn lane, one through lane and one right-turn lane

Southbound approach: (New Linden Hill Road) one left-turn lane, one through lane and one right-turn lane

5) Pike Creek Boulevard & Shoppes of Linden Hill Entrance

Type of Control: two-way stop controlled

Eastbound Approach: (Pike Creek Boulevard) one shared left/through/right-turn lane

Westbound Approach: (Pike Creek Boulevard) one left-turn lane and one shared through/right-turn lane

Northbound Approach: (Shoppes of Linden Hill Entrance) one shared through/left-turn lane and one right-turn lane, stop controlled

Southbound approach: (future sports center driveway) one shared left/through/right-turn lane, stop controlled

6) New Linden Hill Road & Pike Creek Boulevard / Linden Park Entrance

Type of Control: signalized

Eastbound Approach: (Pike Creek Boulevard) one shared through/left-turn lane and one right-turn lane

Westbound approach: (Linden Park Entrance) one shared through/left-turn lane and one right-turn lane

Northbound Approach: (New Linden Hill Road) one left-turn lane, one through lane and one right-turn lane

Southbound approach: (New Linden Hill Road) one left-turn lane, one through lane and one right-turn lane

7) New Linden Hill Road & South Riding Boulevard / Pike Creek Shopping Center

Type of Control: signalized

Eastbound Approach: (Pike Creek Shopping Center) one shared through/left-turn lane and one right-turn lane

Westbound approach: (South Riding Boulevard) one shared through/left-turn lane and one right-turn lane

Northbound Approach: (New Linden Hill Road) one left-turn lane, two through lanes and one right-turn lane

Southbound approach: (New Linden Hill Road) one left-turn lane, two through lanes and one right-turn lane

8) Skyline Drive & Mermaid Boulevard

Type of Control: one-way stop (T-intersection)

Eastbound Approach: (Mermaid Boulevard) one left-turn lane and one right-turn lane, stop controlled

Northbound Approach: (Skyline Drive) one left-turn lane and one through lane

Southbound approach: (Skyline Drive) one through lane and one right-turn lane

9) Skyline Drive & East Brigantine Court / Pike Creek Shopping Center

Type of Control: two-way stop controlled

Eastbound Approach: (East Brigantine Court) one shared through/left-turn lane and one right-turn lane, stop controlled

Westbound Approach: (Pike Creek Shopping Center) one shared through/left-turn lane and one right-turn lane, stop controlled

Northbound Approach: (Skyline Drive) one left-turn lane, two through lanes and one right-turn lane

Southbound approach: (Skyline Drive) one left-turn lane, one through lane and one right-turn lane

10) New Linden Hill Road & Lauren Court

Type of Control: one-way stop (T-intersection)

Westbound Approach: (Lauren Court) one shared left/right-turn lane, stop controlled

Northbound Approach: (New Linden Hill Road) one shared through/right-turn lane

Southbound approach: (New Linden Hill Road) one shared through/left-turn lane

11) New Linden Hill Road & Videre Court

Type of Control: one-way stop (T-intersection)

Westbound Approach: (Videre Court) one shared left/right-turn lane, stop controlled

Northbound Approach: (New Linden Hill Road) one shared through/right-turn lane

Southbound approach: (New Linden Hill Road) one left-turn lane and one through lane

Safety Evaluation

Crash Data: Delaware Crash Analysis Reporting System (CARS) data was provided in Appendix C of the TIS for the period from November 4, 2018 through December 4, 2021. Of the 11 intersections in the study area, 8 of them had 5 or fewer crashes over that period. Three (3) intersections had 10 or more crashes during this three-year period. Listed below is additional information for those three intersections:

- New Linden Hill Road & South Riding Boulevard / Pike Creek Shopping Center (signalized): 13 crashes occurred but none included any injuries
- New Linden Hill Road & Pike Creek Boulevard / Linden Park Entrance: 14 crashes occurred, including 2 with injuries
- Skyline Drive (DelDOT Site Access A) & Pike Creek Boulevard: 15 crashes occurred, including 4 with injuries

At each of these three intersections the most common type of crash was rear-end, followed by angle crashes. There were no fatalities within the study area during this three-year period.

Sight Distance: The DelDOT-defined site accesses both appear to have adequate site distance with no apparent visual obstruction, with one exception: at Site Access A the westbound approach of Pike Creek Boulevard at Skyline Drive has limited sight distance looking to the right due to trees on the northeast corner. As always, the adequacy of available sight distance must be confirmed during the site plan review process for all proposed movements at the site accesses.

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Based on the current DART Bus Stop Map, the Delaware Transit Corporation (DTC) currently operates one bus route within the study area. This is Route 18 with weekday service between Pike Creek and Claymont. The nearest bus stops to the site are located on New Linden Hill Road just south of Skyline Drive (DelDOT Site Access B), where there is one stop in each direction.

Planned transit service: Jared Kaufmann, representing DTC, was contacted regarding existing and planned transit service in the area, but no response was received. We are not aware of any imminent changes to transit service or facilities within the study area.

Existing bicycle and pedestrian facilities: The following study area roadways are identified as “Bicycling Routes” on the *New Castle County Bicycle Map* published by DelDOT:

- Skyline Drive from Delaware Route 7 to Mermaid Boulevard:
 - Statewide Bicycle Route without bikeway
- Skyline Drive from Mermaid Boulevard to New Linden Hill Road:
 - Statewide Bicycle Route with bikeway
- New Linden Hill Road from Skyline Drive to Polly Drummond Hill Road
 - Statewide Bicycle Route with bikeway
 - High Traffic (over 10,000 vehicles daily)
 - A designated Off-Road Trail is identified west of New Linden Hill Road between Skyline Drive and Polly Drummond Hill Road
- Bicycle Route 1 follows all of the roadways listed above

A portion of Skyline Drive south of Pike Creek Boulevard has bike symbols marked on the shoulders. Along New Linden Hill Road there is a shared-use path (SUP) provided on the west side of the road. North of Skyline Drive this SUP is immediately adjacent to the travel lane, and south of Skyline Drive the SUP is separated from the roadway.

Sidewalk is provided on the west side of Skyline Drive from East Brigantine Court to Foxcroft Drive and on the east side of Skyline Drive near Pike Creek Shopping Center and from Pike Creek Boulevard to New Linden Hill Road. It is also found on the south side of Foxcroft Drive, the south side of Pike Creek Boulevard, both sides of Mermaid Boulevard, both sides of South Riding Boulevard, and both sides of New Linden Hill Road near South Riding Boulevard. There are shared-use paths along other portions of New Linden Hill Road as described above. The three

signalized intersections in the study area have ped signals and crosswalks on at least one leg. There is also an unsignalized crosswalk across Skyline Drive at East Brigantine Court, and five more unsignalized crosswalks on Skyline Drive between Pike Creek Boulevard and New Linden Hill Road.

Planned bicycle and pedestrian facilities: DelDOT has not provided any comments about planned bicycle or pedestrian facilities near the site. The developer has not proposed any additional bicycle or pedestrian facilities, other than crosswalks across their “internal” site accesses on Foxcroft Drive.

Previous Comments

In a review letter dated June 29, 2023, DelDOT indicated that the Preliminary TIS was acceptable as submitted.

It appears that all substantive comments from DelDOT’s Revised TIS Scoping Memorandum (dated May 26, 2023), Traffic Count Review (dated June 9, 2023), Preliminary TIS Review, and other correspondence were addressed in the Final TIS submission.

General HCS Analysis Comments

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

- 1) For two-way stop control intersections, the TIS and McCormick Taylor applied heavy vehicle factors (HV) by movement using existing data. For signalized intersections, the TIS and McCormick Taylor applied HV by lane group using existing data. The TIS and McCormick Taylor generally assumed future HV to be the same as existing HV at all intersections other than site access.
- 2) For existing conditions, the TIS and McCormick Taylor determined overall intersection peak hour factors (PHF) for each intersection based on the turning movement counts that were available. Future PHFs were assumed to be the same as existing.
- 3) For analyses of signalized intersections, McMahan and McCormick Taylor used a base saturation flow rate of 1,900 pc/hr/ln per DelDOT’s Development Coordination Manual.
- 4) For analyses of all intersections, McCormick Taylor and the TIS assumed 0% grade for all movements.
- 5) The TIS and McCormick Taylor used different signal timings when analyzing the signalized intersections in some cases.

Table 2
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ¹ One-Way Stop (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Skyline Drive & Foxcroft Drive				
2023 Existing (Case 1)				
Eastbound Foxcroft Drive	C (15.6)	B (12.4)	C (15.6)	B (12.4)
Northbound Skyline Drive – Left	A (8.2)	A (7.9)	A (8.2)	A (7.9)
2026 No-Build Condition (Case 2)				
Eastbound Foxcroft Drive	C (16.5)	B (12.8)	C (16.4)	B (12.8)
Northbound Skyline Drive – Left	A (8.2)	A (7.9)	A (8.2)	A (7.9)
2026 Build Condition (Case 3)				
Eastbound Foxcroft Drive	C (19.9)	B (13.7)	C (19.8)	B (13.7)
Northbound Skyline Drive – Left	A (8.3)	A (8.0)	A (8.3)	A (8.0)

¹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 3
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ² One-Way Stop (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Skyline Drive & Fairmont Drive				
2023 Existing (Case 1)				
Eastbound Fairmont Drive	B (10.5)	B (11.2)	B (10.5)	B (11.2)
Northbound Skyline Drive – Left	A (7.5)	A (7.8)	A (7.5)	A (7.8)
2026 No-Build Condition (Case 2)				
Eastbound Fairmont Drive	B (10.7)	B (11.7)	B (10.7)	B (11.6)
Northbound Skyline Drive – Left	A (7.5)	A (7.8)	A (7.5)	A (7.8)
2026 Build Condition (Case 3)				
Eastbound Fairmont Drive	B (10.9)	B (12.0)	B (10.9)	B (11.9)
Northbound Skyline Drive – Left	A (7.6)	A (7.9)	A (7.6)	A (7.9)

² For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 4
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ³ One-Way Stop (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Skyline Drive (DelDOT Site Access A) & Pike Creek Boulevard				
2023 Existing (Case 1)				
Westbound Pike Creek Boulevard	D (33.2)	B (12.5)	D (31.7)	B (12.4)
Southbound Skyline Drive – Left	A (8.7)	A (7.8)	A (8.7)	A (7.8)
2026 No-Build Condition (Case 2)				
Westbound Pike Creek Boulevard	F (51.6)	B (13.7)	E (47.5)	B (13.6)
Southbound Skyline Drive – Left	A (9.0)	A (7.8)	A (9.0)	A (7.8)
2026 Build Condition (Case 3)				
Westbound Pike Creek Boulevard	F (68.4)	B (14.9)	F (61.8)	B (14.8)
Southbound Skyline Drive – Left	A (9.1)	A (7.9)	A (9.1)	A (7.9)
2026 Build Condition (Case 3) <i>with separate westbound left-turn lane</i>				
Westbound Pike Creek Boulevard	-	-	D (31.9)	B (12.8)
Southbound Skyline Drive – Left	-	-	A (9.1)	A (7.9)

³ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 5
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Signalized Intersection ⁴	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
New Linden Hill Road & Skyline Drive (DelDOT Site Access B)				
2023 Existing (Case 1)	B (14.7)	B (17.8)	B (14.7)	B (17.8)
2026 No-Build Condition (Case 2)	B (15.4)	B (19.8)	B (15.4)	B (19.8)
2026 Build Condition (Case 3)	B (15.5)	C (20.2)	B (15.5)	C (20.2)

⁴ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 6
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ⁵ Two-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Pike Creek Boulevard & Shoppes of Linden Hill Entrance				
2023 Existing (Case 1)				
Eastbound Pike Creek Blvd – Left	A (7.4)	A (7.4)	A (7.4)	A (7.4)
Westbound Pike Creek Blvd – Left	A (8.0)	A (7.6)	A (8.0)	A (7.6)
Northbound Shoppes of LH Entrance	B (13.1)	B (11.0)	B (13.1)	B (11.0)
Southbound future sports center driveway	-	-	-	-
2026 No-Build Condition (Case 2)				
Eastbound Pike Creek Blvd – Left	A (7.7)	A (7.5)	A (7.7)	A (7.5)
Westbound Pike Creek Blvd – Left	A (8.1)	A (7.8)	A (8.1)	A (7.8)
Northbound Shoppes of LH Entrance	C (15.3)	B (12.3)	C (15.3)	B (12.3)
Southbound future sports center driveway	C (17.1)	B (13.5)	C (17.1)	B (13.5)
2026 Build Condition (Case 3)				
Eastbound Pike Creek Blvd – Left	A (7.7)	A (7.6)	A (7.7)	A (7.6)
Westbound Pike Creek Blvd – Left	A (8.1)	A (7.8)	A (8.1)	A (7.8)
Northbound Shoppes of LH Entrance	C (15.8)	B (12.5)	C (15.8)	B (12.5)
Southbound future sports center driveway	C (17.6)	B (13.9)	C (17.6)	B (13.9)

⁵ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 7
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Signalized Intersection ⁶	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
New Linden Hill Road & Pike Creek Boulevard / Linden Park Entrance				
2023 Existing (Case 1)	B (10.2)	B (13.2)	B (10.2)	B (13.2)
2026 No-Build Condition (Case 2)	B (10.6)	B (17.3)	B (10.6)	B (17.3)
2026 Build Condition (Case 3)	B (11.3)	B (17.7)	B (11.3)	B (17.7)

⁶ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 8
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Signalized Intersection ⁷	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
New Linden Hill Road & South Riding Boulevard / Pike Creek Shopping Center				
2023 Existing (Case 1)	A (9.4)	B (12.0)	A (9.4)	B (12.0)
2026 No-Build Condition (Case 2)	A (9.0)	B (12.0)	A (9.0)	B (12.0)
2026 Build Condition (Case 3)	A (9.0)	B (11.8)	A (9.0)	B (11.8)

⁷ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 9
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ⁸ One-Way Stop (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Skyline Drive & Mermaid Boulevard				
2023 Existing (Case 1)				
Eastbound Mermaid Boulevard	C (17.0)	B (13.6)	C (17.0)	B (13.6)
Northbound Skyline Drive – Left	A (7.9)	A (7.8)	A (7.9)	A (7.8)
2026 No-Build Condition (Case 2)				
Eastbound Mermaid Boulevard	C (18.7)	B (14.2)	C (18.7)	B (14.2)
Northbound Skyline Drive – Left	A (8.0)	A (7.9)	A (8.0)	A (7.9)
2026 Build Condition (Case 3)				
Eastbound Mermaid Boulevard	C (19.4)	B (14.6)	C (19.4)	B (14.6)
Northbound Skyline Drive – Left	A (8.0)	A (7.9)	A (8.0)	A (7.9)

⁸ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 10
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ⁹ Two-Way Stop	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Skyline Drive & East Brigantine Court / Pike Creek Shopping Center				
2023 Existing (Case 1)				
Eastbound East Brigantine Court	B (14.1)	C (22.0)	B (14.1)	C (22.0)
Westbound Pike Creek Shopping Center	B (11.6)	B (14.5)	B (11.6)	B (14.5)
Northbound Skyline Drive – Left	A (7.9)	A (7.9)	A (7.9)	A (7.9)
Southbound Skyline Drive – Left	A (8.4)	A (8.5)	A (8.4)	A (8.5)
2026 No-Build Condition (Case 2)				
Eastbound East Brigantine Court	B (14.5)	C (23.0)	B (14.5)	C (23.0)
Westbound Pike Creek Shopping Center	B (11.9)	C (15.0)	B (11.9)	C (15.0)
Northbound Skyline Drive – Left	A (7.9)	A (7.9)	A (7.9)	A (7.9)
Southbound Skyline Drive – Left	A (8.5)	A (8.6)	A (8.5)	A (8.6)
2026 Build Condition (Case 3)				
Eastbound East Brigantine Court	B (14.7)	C (23.4)	B (14.7)	C (23.4)
Westbound Pike Creek Shopping Center	B (12.0)	C (15.4)	B (12.0)	C (15.4)
Northbound Skyline Drive – Left	A (7.9)	A (8.0)	A (7.9)	A (8.0)
Southbound Skyline Drive – Left	A (8.6)	A (8.6)	A (8.6)	A (8.6)

⁹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 11
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ¹⁰ One-Way Stop (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
New Linden Hill Road & Lauren Court				
2023 Existing (Case 1)				
Westbound Lauren Court	B (12.6)	C (20.5)	B (12.6)	C (20.4)
Southbound New Linden Hill Road – Left	A (8.8)	A (9.2)	A (8.8)	A (9.2)
2026 No-Build Condition (Case 2)				
Westbound Lauren Court	B (13.4)	C (22.9)	B (13.4)	C (22.9)
Southbound New Linden Hill Road – Left	A (9.1)	A (9.4)	A (9.1)	A (9.4)
2026 Build Condition (Case 3)				
Westbound Lauren Court	B (13.5)	C (23.3)	B (13.5)	C (23.3)
Southbound New Linden Hill Road – Left	A (9.1)	A (9.5)	A (9.1)	A (9.5)

¹⁰ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 12
Peak Hour Levels of Service (LOS)
Based on Terraces at Pike Creek Traffic Impact Study – July 2023
Prepared by McMahon

Unsignalized Intersection ¹¹ One-Way Stop (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
New Linden Hill Road & Videre Court				
2023 Existing (Case 1)				
Westbound Videre Court	C (21.4)	D (25.2)	C (21.4)	D (25.2)
Southbound New Linden Hill Road – Left	A (8.8)	A (9.4)	A (8.8)	A (9.4)
2026 No-Build Condition (Case 2)				
Westbound Videre Court	C (24.8)	D (29.1)	C (24.8)	D (29.1)
Southbound New Linden Hill Road – Left	A (9.0)	A (9.7)	A (9.0)	A (9.7)
2026 Build Condition (Case 3)				
Westbound Videre Court	D (25.2)	D (29.8)	D (25.2)	D (29.8)
Southbound New Linden Hill Road – Left	A (9.0)	A (9.7)	A (9.0)	A (9.7)

¹¹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.