



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

NICOLE MAJESKI  
SECRETARY

June 4, 2024

Christopher Duke, P.E.  
Becker Morgan Group, Inc.  
100 Discovery Blvd, Suite 102  
Newark, DE 19713

Dear Mr. Duke:

The enclosed Traffic Impact Study (TIS) review letter for the proposed **Belle Meade** (Tax Parcel: 334-18.00-40.01) multi-use 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](mailto:Annamaria.Furmato@delaware.gov).

Sincerely,

Annamaria Furmato  
TIS Group Project Engineer

AF:km

Enclosures

cc with enclosures: William Krapf, Capano Group, L.P.  
David L. Edgell, Office of State Planning Coordination  
Jamie Whitehouse, Sussex County Planning & Zoning  
Andrew J. Parker, McCormick Taylor, Inc.  
Tucker Smith, McCormick Taylor, Inc.  
DelDOT Distribution

## DelDOT Distribution

Brad Eaby, Deputy Attorney General  
Shanté Hastings, Deputy Secretary / Director of Transportation Solutions (DOTS)  
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  
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  
Pamela Steinebach, Director, Planning  
Todd Sammons, Assistant Director, Development Coordination, Planning  
Wendy Polasko, Subdivision Engineer, Development Coordination, Planning  
John Pietrobono, Acting Sussex County Review Coordinator, Development Coordination, Planning  
Kevin Hickman, Sussex 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, Planning  
Steve Bayer, Regional Transportation Planner, Statewide & Regional Planning



June 3, 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. 5A Subtask 08A – Belle Meade**

Dear Ms. Furmato:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Belle Meade development prepared by Becker Morgan Group, Inc. dated February 2024. Becker Morgan Group prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed Belle Meade development, along the south side of Delaware Route 24 (Sussex Road 24), approximately 1,800 feet southwest of the intersection with Mulberry Knoll Road (Sussex Road 284), in Sussex County, Delaware. The proposed development would consist of 125,00 square feet of retail space and 480 low-rise multi-family houses. One signalized access point is proposed on Delaware Route 24 opposite Lexington Avenue. Construction is anticipated to be completed in 2032.

The subject land is located on an approximately 38.33-acre parcel. The subject land is currently zoned AR-1 (Agricultural Residential) and the developer plans to rezone the land to C-4 (Planned Commercial).

### **Relevant and On-Going Projects and Studies**

Currently, DelDOT has two relevant and ongoing projects within the area of study.

The *SR 24, Love Creek to Mulberry Knoll* (State Contract No. T201212201) project will improve safety and increase capacity on Delaware Route 24 from Love Creek to Mulberry Knoll Road. Dual lanes along Delaware Route 24 will extend from SR 1 to west of the school entrances located west of Mulberry Knoll Road. The dualized portion of the project will include a 12-foot center-left-turn lane along with two 11-foot travel lanes in each direction, an 8-foot shoulder eastbound and a 5-foot shoulder/bike lane westbound. Improvements at the intersection of Delaware Route 24 and Mulberry Knoll Road will include signalization, changing the Delaware Route 24 approaches so they each have one left-turn lane, two through lanes, and one right-turn lane, along with widening the Mulberry Knoll Road approaches so they each have one left-turn lane and one shared through/right turn lane. Construction is expected to be completed in 2024.

The proposed development is located within the boundary of the operational Henlopen Transportation Improvement District (TID). The TID is a planning concept that seeks to proactively align transportation infrastructure spending and improvements with land use projections and future development within the designated district. The intersections in the study area of the proposed development are within the TID boundary.

Although the proposed development is within the Henlopen TID, the proposed plan for the development is inconsistent with the Land Use and Transportation Plan (LUTP) that was developed for the TID. For developments that are consistent with the LUTP, the developer is required to pay a fee in lieu of performing a TIS and making off-site improvements in accordance with the TIS. However, as the proposed development is inconsistent with the LUTP, a TIS was required to determine if the TID improvements are still adequate given the additional trips associated with this development. The TID buildout year is 2045 and the minimum acceptable is LOS D.

### **Summary of Analysis Results**

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

The following intersections exhibit level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements:

<i><b>Intersection</b></i>	<i><b>Existing Traffic Control</b></i>	<i><b>Situations for which deficiencies occur</b></i>
1. SR 24 / Lexington Avenue / Site Entrance	Unsignalized	2032 with development AM, PM, SAT (Case 3)
4. SR 24 / Plantation Road / Warrington Road	Signalized	2032 with development PM (Case 3)
6. SR 24 / Bryn Mawr Drive	Unsignalized	2032 without development PM and SAT (Case 2) 2032 with development AM, PM, SAT (Case 3)
9. Warrington Road / Old Landing Road	Unsignalized	2022 Existing SAT (Case 1) 2032 without development AM, PM, SAT (Case 2) 2032 with development AM, PM, SAT (Case 3)
10. Mulberry Knoll Road / Cedar Grove Road	Unsignalized	2032 without development SAT (Case 2) 2032 with development PM and SAT (Case 3)
12. SR 24 / Spencer Lane / Williams Way	Unsignalized	2022 Existing PM and SAT (Case 1) 2032 without development AM, PM, SAT (Case 2) 2032 with development AM, PM, SAT (Case 3)
13. SR 24 / Camp Arrowhead Road	Signalized	2032 with development SAT (Case 3)

14. SR 24 / Harts Road	Unsignalized	2022 Existing PM (Case 1) 2032 without development AM, PM, SAT (Case 2) 2032 with development AM, PM, SAT (Case 3)
16. SR 24 / Jolyns Way	Unsignalized	2032 without development SAT (Case 2) 2032 with development SAT (Case 3)

1. SR 24 / Lexington Avenue / Site Entrance (See Recommendations 2 and 3 & Table 2, Page 22)

This unsignalized intersection experiences LOS deficiencies during the AM, PM, and Saturday peaks in Case 3. In Case 3 during the PM and Saturday peaks, the northbound and southbound approaches are expected to operate at LOS F with over 2,500 seconds of delay. The developer proposes to construct a traffic signal at this intersection to mitigate the LOS deficiency. A Traffic Signal Justification Study (TSJS) has been prepared by the Department demonstrating that the warrants for a traffic signal are met with Case 3 volumes. If the intersection were signalized with the lane configuration as proposed in the *SR 24, Love Creek to Mulberry Knoll* project, the intersection will still operate at LOS F in the Saturday peak. The Henlopen TID proposes to widen SR 24 through this intersection to provide two through lanes in each direction. With signalization and the TID improvements the intersection is expected to operate at LOS C or better during all three peak periods. It is recommended that the developer widen SR 24 within the limits of their site frontage to increase the capacity and mitigate the LOS deficiency at the proposed signal at the site entrance. The developer will be granted credit against their TID fee for this work.

4. SR 24 / Plantation Road / Warrington Road (See Recommendation 4 & Table 5, Page 25)

This signalized intersection experiences LOS deficiencies during the PM peak in Case 3. In Case 3 during the PM peak, the northbound approach is expected to operate at LOS F with 81.7 seconds of delay while the overall intersection will operate at LOS E with 60.8 seconds of delay. Queues on the northbound approach are expected to be over 838 feet long which exceeds the available storage. The Henlopen TID proposes to widen the Plantation Road and Warrington Road approaches to include two left-turn lanes, two through lanes, and one right turn lane. With the TID improvements at this intersection, the intersection is expected to operate at LOS D with 49.5 seconds of delay. It is recommended that the developer pay the Henlopen TID fee.

6. SR 24 / Bryn Mawr Drive (Table 7, Page 27)

This unsignalized intersection experiences LOS deficiencies during the PM and Saturday peaks in Case 2 and the AM, PM, and Saturday Peaks in Case 3. In Case 3 during the PM peak, the southbound approach is expected to operate at LOS F with 62.5 seconds of delay and queues over 65 feet long. A signal could mitigate the LOS deficiencies at this intersection. However, a signal is not recommended because of the proximity to adjacent signals and the low minor street volumes. Bryn Mawr Drive is a private road and the delay is only experienced on the minor street approach without impact to Delaware Route 24. No mitigating improvements are recommended at this intersection from the Belle Meade developer.

9. Warrington Road / Old Landing Road (See Recommendation 4 & Table 10, Page 30)

This unsignalized intersection experiences LOS deficiencies during the Saturday peak in Case 1, and the AM, PM, and Saturday peaks in Cases 2 and 3. In Case 3 during the PM peak, the intersection has failing LOS on three approaches with the overall intersection operating at LOS F with 69 seconds of delay. The Henlopen TID proposes a roundabout at this intersection which will mitigate the LOS deficiency. It is recommended that the developer pay the Henlopen TID fee.

10. Mulberry Knoll Road / Cedar Grove Road (See Recommendation 4 & Table 11, Page 31)

This unsignalized intersection experiences LOS deficiencies during the Saturday peak in Case 2 and the PM and Saturday peaks in Case 3. In Case 3 during the Saturday peak, the northbound Mulberry Knoll Road approach is expected to operate at LOS F with 837.7 seconds of delay and queues over 753 feet long. The developer recommends the construction of a dedicated eastbound right-turn lane on Cedar Grove Road. However, this improvement fails to fully mitigate the LOS deficiency. The Henlopen TID proposes a roundabout at this intersection. It is recommended that the developer pay the Henlopen TID fee.

12. SR 24 / Spencer Lane / Williams Way (See Recommendation 4 & Table 13, Page 33)

This unsignalized intersection experiences LOS deficiencies during the PM and Saturday peak hours in Case 1, and the AM, PM, and Saturday peaks in Cases 2 and 3. In Case 3, during the PM peak, the southbound approach is expected to operate at LOS F with 505.6 seconds of delay and queues over 63 feet long. The Henlopen TID proposes to widen SR 24 to include two through lanes in each direction at this intersection. With that improvement, the intersection continues to experience LOS deficiencies. It should be noted that the delay is only experienced on the minor street approach, which is a private road. A signal is not recommended at this intersection due to the low minor street volumes. Additionally, the northbound volume during all peak hours is less than 10 vehicles. It is recommended that the developer pay the Henlopen TID fee.

13. SR 24 / Camp Arrowhead Road (See Recommendation 4 & Table 14, Page 34)

This signalized intersection experiences LOS deficiencies during the Saturday peak in Case 3. In Case 3 during the Saturday peak, the eastbound approach is expected to operate at LOS F with 95 seconds of delay and queues over 1,573 feet long. The Henlopen TID proposes to widen SR 24 to include two through lanes in each direction at this intersection which mitigates the LOS deficiency. It is recommended that the developer pay the Henlopen TID fee.

14. SR 24 / Harts Road (See Recommendation 4 & Table 15, Page 35)

This unsignalized intersection experiences LOS deficiencies during the PM peak in Case 1, and the AM, PM, and Saturday peaks in Cases 2 and 3. In Case 3 in the PM peak hour the southbound Harts Road approach is expected to operate at LOS F with 989.9 seconds of delay. The Henlopen TID proposes the elimination of this intersection. It is recommended that the developer pay the Henlopen TID fee.

16. SR 24 / Jolyns Way (See Recommendation 4 & Table 17, Page 37)

This unsignalized intersection experiences LOS deficiencies during the Saturday peak in Cases 2 and 3. In Case 3 during the Saturday peak, the northbound Jolyns Way approach is expected to

operate at LOS E with 45.3 seconds of delay and queues of less than one vehicle. It should be noted that the forecasted volume on this approach is five (5) vehicles in the Saturday peak hour. The Henlopen TID proposes to signalize this intersection, widen SR 24 to include two through lanes in each direction, and add a northern leg to the intersection that will connect to Robinsonville Road. These improvements will mitigate the LOS deficiencies. It is recommended that the developer pay the Henlopen TID fee.

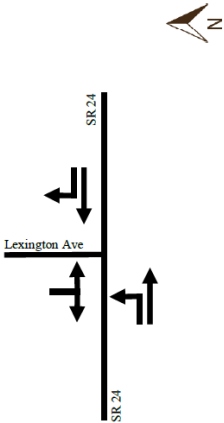
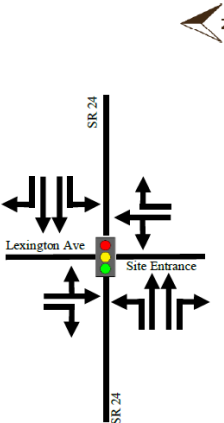
### **Development Improvements**

Should Sussex 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 Roads on which they front (Delaware Route 24), within the limits of their frontage. 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.



2. The developer should construct the full-movement Site Entrance on Delaware Route 24. The proposed configuration is shown in the table below.

Approach	Current Configuration		Approach	Proposed Configuration	
Eastbound SR 24	One left turn lane and one through lane		Eastbound SR 24	One left turn lane, two through lanes, and one right turn lane	
Westbound SR 24	One through lane and one right turn lane.		Westbound SR 24	One left turn lane, two through lanes, and one right turn lane	
Northbound	Approach does not exist.		Northbound Site Entrance	One shared left / through lane and one right turn lane.	
Southbound Lexington Avenue	One shared left / right turn lane. Stop Control.		Southbound Lexington Avenue	One left turn lane and one shared through / right turn lane.	

At the proposed Site Entrance intersection, an eastbound right-turn lane is warranted on SR 24 based on DelDOT's Auxiliary Lane Worksheet, Figure 5.2.9.1-b. Initial recommended minimum turn lane length (excluding taper) is a 400-foot right-turn lane on eastbound SR 24. The left turn lane should be designed to accommodate the 95<sup>th</sup> percentile queues. Initial recommended minimum turn lane length (excluding taper) is a 400-foot left-turn lane on westbound SR 24. The developer should coordinate with DelDOT's Development Coordination Section to determine final turn lane lengths and other design details during the site plan review.

3. The developer should enter into a traffic signal agreement to design and construct a traffic signal with pedestrian crossings. SR 24 should be widened to include two through lanes in each direction within the extents of the site frontage. At the signalized intersection there should be dedicated left-turn lanes and channelized right turn lanes on each SR 24 approach, on the northbound and southbound approaches there should be a shared left / through lane and a channelized right turn lane. At the signalized intersection the developer should also construct signalized pedestrian crossings on all approaches.



4. The developer shall pay the Henlopen TID fee in place of making physical mitigating improvements at the following intersections.
  - a. SR 24 / Plantation Road / Warrington Road
  - b. Mulberry Knoll Road / Cedar Grove Road
  - c. Warrington Road / Old Landing Road
  - d. SR 24 / Spencer Lane / Williams Way
  - e. SR 24 / Camp Arrowhead Road
  - f. SR 24 / Harts Road
  - g. SR 24 / Jolyns Way
5. The following bicycle and pedestrian improvements should be included:
  - a. Per the DelDOT Development Coordination Manual section 5.2.9.2, bicycle lanes are required where right-turn lanes are being installed.
  - b. Appropriate bicycle symbols, directional arrows, pavement markings, and signing should be included along bicycle facilities and turn lanes within the project limits.
  - c. Utility covers should be made flush with the pavement.
  - d. A minimum 15-foot-wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontages along Delaware Route 24. Within the easement, a minimum of a 10-foot wide shared-use path should be constructed. The shared-use path should meet AASHTO and ADA standards and should have a minimum of a five-foot buffer from the roadway. At the property boundaries, the shared-use path should connect to the adjacent property 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 shared-use path design and connections/terminations at or before both boundaries of the property.
  - e. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
  - f. 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 the proposed shared-use path along the site frontages.

- g. Construct a bus stop pad on SR 24 within the site frontage. Bus stop pad should connect to shared use paths and sidewalks along the site frontage. Location, size, and type of bus pad will be determined through coordination with the Delaware Transit Corporation (DTC).

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](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](mailto:ajparker@mccormicktaylor.com) if you have any questions concerning this review.

Sincerely,

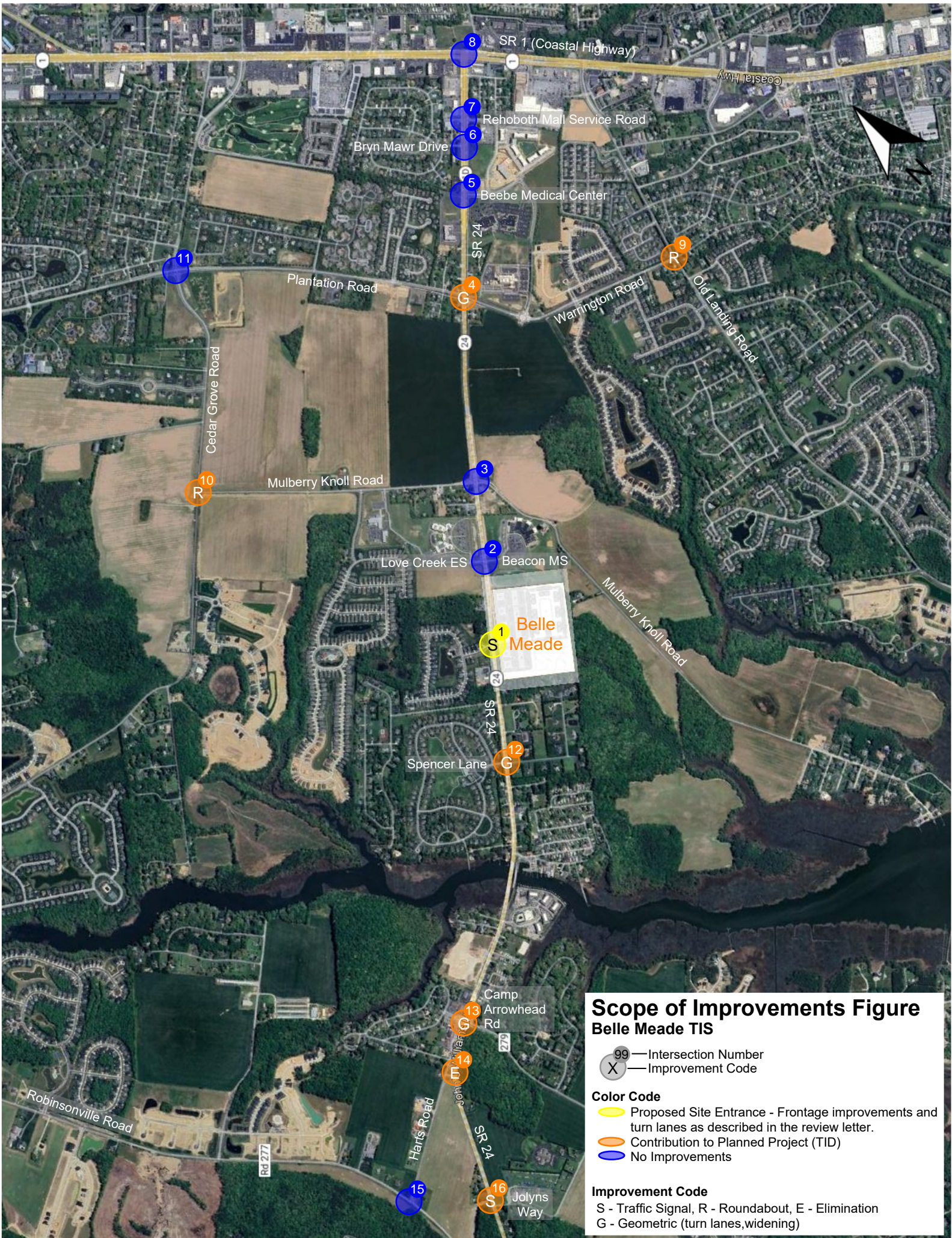
**McCormick Taylor, Inc.**

A handwritten signature in black ink, appearing to read "Andrew J. Parker", with a long horizontal flourish extending to the right.

Andrew J. Parker, PE, PTOE  
Project Manager

Enclosure





**Scope of Improvements Figure  
Belle Meade TIS**

99 — Intersection Number  
X — Improvement Code

**Color Code**  
Yellow — Proposed Site Entrance - Frontage improvements and turn lanes as described in the review letter.  
Orange — Contribution to Planned Project (TID)  
Blue — No Improvements

**Improvement Code**  
S - Traffic Signal, R - Roundabout, E - Elimination  
G - Geometric (turn lanes, widening)



## **General Information**

**Report date:** February 2024

**Prepared by:** Becker Morgan Group, Inc

**Prepared for:** Capano Management, Inc.

**Tax parcel:** 334-18.00-40.01

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

## **Project Description and Background**

**Description:** The proposed Belle Meade development consists of 125,000 square feet of retail space, 480 low-rise multi-family houses.

**Location:** The site is located along the south side of Delaware Route 24, approximately 1,800 feet southwest of the intersection with Mulberry Knoll Road (Sussex Road 284), in Sussex County, Delaware. A site location map is included on page 11.

**Amount of land to be developed:** an approximately 38.33-acre parcel.

**Land use approval(s) needed:** The subject land is currently zoned AR-1 (Agricultural Residential), and the developer plans to rezone the land to C-4 (Planned Commercial).

**Proposed completion year:** 2032

**Proposed access locations:** One full access point is proposed on Delaware Route 24 opposite Lexington Avenue.

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

- Delaware Route 24: 18,591 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 Belle Meade development is located within Investment Level 2.

#### *Investment Level 2*

This investment level has many diverse characteristics. These areas can be composed of less developed areas within municipalities, rapidly growing areas in the counties that have or will have public water and wastewater services and utilities, areas that are generally adjacent to or near Investment Level 1 Areas, smaller towns and rural villages that should grow consistently with their historic character, and suburban areas with public water, wastewater, and utility services. These areas have been shown to be the most active portion of Delaware's developed landscape. They serve as transition areas between Level 1 and the more open, less populated areas. They generally contain a limited variety of housing types, predominantly detached single-family dwellings.

In Investment Level 2, 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.

Investments should encourage departure from the typical single-family-dwelling developments and promote a broader mix of housing types and commercial sites encouraging compact, mixed-use development where applicable. Overall, the State's intent is to use spending and management tools to promote well-designed development in these areas. Such development provides for a variety of housing types, user-friendly transportation systems, and provides essential open spaces and recreational facilities, other public facilities, and services to promote a sense of community. Investment Level 2 areas are prime locations for designating "pre-permitted areas."

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

The proposed Belle Meade development falls within Investment Level 2 and is to be developed as 125,000 square feet of retail space, 480 low-rise multi-family houses. The proposed development is consistent with the character of Investment Level 2. It is therefore concluded that the proposed development appears to generally comply with the policies stated in the 2020 "Strategies for State Policies and Spending."

## **Comprehensive Plan**

### **Sussex County Comprehensive Plan:**

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

The Sussex County Comprehensive Plan Future Land Use Map indicates that the proposed Belle Meade site is planned for "Commercial" land use. It would appear that the proposed Belle Meade development generally fits within the intended land use for this location.

### **Proposed Development's Compatibility with Comprehensive Plan:**

The proposed development appears to comply with the Sussex County Comprehensive Plan. The Belle Meade development is proposed on land that is planned for Commercial use. The land is

zoned as AR-1 (Agricultural Residential), and the developer plans to rezone the land to C-4 (Planned Commercial). The proposed development generally aligns with both the Future Land Use Map and the proposed zoning.

### **Relevant Projects in the DelDOT Capital Transportation Program**

Currently, DelDOT has two relevant and ongoing projects within the area of study.

The *SR 24, Love Creek to Mulberry Knoll* (State Contract No. T201212201) project will improve safety and increase capacity on Delaware Route 24 from Love Creek to Mulberry Knoll Road. Dual lanes along Delaware Route 24 will extend from SR 1 to west of the school entrances located west of Mulberry Knoll Road. The dualized portion of the project will include a 12-foot center-left-turn lane along with two 11-foot travel lanes in each direction, an 8-foot shoulder eastbound and a 5-foot shoulder/bike lane westbound. Improvements at the intersection of Delaware Route 24 and Mulberry Knoll Road will include signalization, changing the Delaware Route 24 approaches so they each have one left-turn lane, two through lanes, and one right-turn lane, along with widening the Mulberry Knoll Road approaches so they each have one left-turn lane and one shared through/right turn lane. Construction is expected to be completed in 2024.

The proposed development is located within the boundary of the operational Henlopen Transportation Improvement District (TID). The TID is a planning concept that seeks to proactively align transportation infrastructure spending and improvements with land use projections and future development within the designated district. The intersections in the study area of the proposed development are within the TID boundary.

Although the proposed development is within the Henlopen TID, the proposed plan for the development is inconsistent with the Land Use and Transportation Plan (LUTP) that was developed for the TID. For developments that are consistent with the LUTP, the developer is required to pay a fee in lieu of performing a TIS and making off-site improvements in accordance with the TIS. However, as the proposed development is inconsistent with the LUTP, a TIS was required to determine if the TID improvements are still adequate given the additional trips associated with this development.



## **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:

- 480 low-rise multi-family dwelling units (ITE Land Use Code 220)
- 125,000 square-foot Retail Space (ITE Land Use Code 821)

**Table 1**  
**Peak Hour Trip Generation**

Land Use	Phase	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
LUC 220	Gross	173	211	384	249	211	460	336	315	651
LUC 821	Pass-by	0	0	0	114	106	220	127	116	243
<b>Total Trips</b>		<b>173</b>	<b>211</b>	<b>384</b>	<b>363</b>	<b>317</b>	<b>680</b>	<b>463</b>	<b>431</b>	<b>894</b>

## **Overview of TIS**

### **Intersections examined:**

- 1) Site Entrance / Lexington Avenue / Delaware Route 24
- 2) Delaware Route 24 / Love Creek Elementary School / Beacon Middle School (backfill)
- 3) Delaware Route 24 / Mulberry Knoll Road (Sussex Road 284)
- 4) Delaware Route 24 / Plantations Road / Warrington Road (Sussex Road 275)
- 5) Delaware Route 24 / Lexus Way (Beebe Medical Center campus) / Colonial Oaks (Residence Inn) (backfill)
- 6) Delaware Route 24 / Bryn Mawr Drive (backfill)
- 7) Delaware Route 24 / Rehoboth Mall Service Road / Hudson Way (backfill)
- 8) Delaware Route 1 / Delaware Route 24
- 9) Warrington Road / Old Landing Road (Sussex Road 274)
- 10) Mulberry Knoll Road / Cedar Grove Road (Sussex Road 283)
- 11) Cedar Grove Road / Plantations Road
- 12) Delaware Route 24 / Spencer Lane / Williams Way (backfill)
- 13) Delaware Route 24 / Camp Arrowhead Road (Sussex Road 279)
- 14) Delaware Route 24 / Harts Road (Sussex Road 277C)\*
- 15) Robinsonville Road (Sussex Road 277) / Harts Road\*
- 16) Delaware Route 24 / Jolyns Way (Sussex Road 289)

**Conditions examined:**

- 1) Existing (2022) (Case 1)
- 2) 2032 without development (Case 2)
- 3) 2032 with development (Case 3)

**Peak hours evaluated:** Weekday morning and evening and Saturday mid-day peak hours

**Committed developments considered:**

- 1) Scenic Manor f.k.a. Estates at Mulberry Knoll (320 single-family detached houses)
- 2) V&M, LLC (5,000 square-foot super convenience store with gas pumps and a 12,000 square-foot office)
- 3) Belle Terre (269 single-family detached houses)
- 4) Arbor-Lyn (142 single-family detached houses)
- 5) Beebe Health Care (100-employee hospital) – might be fully built already; if so, please exclude from study.
- 6) Seaglass f.k.a. Herola Property (216 apartment units) – might be fully built already; if so, please exclude from study.
- 7) Osprey Point (217 single-family detached houses)
- 8) Delaware State Police Troop 7 (25,270 square-foot administrative facility and a 10,115 square-foot maintenance facility) – might be fully built already; if so, please exclude from study.
- 9) Welshes Pond f.k.a. Fieldstone (247 single-family detached houses)
- 10) Wellesley (132 single-family detached houses)
- 11) Centre at Love Creek f.k.a. Pelican Landing (84,576 square-foot shopping center)
- 12) Rehoboth Point Yacht Club (f.k.a. Love Creek Marina) (180 units of three-story apartments, 5,000 square-foot quality restaurant, and a 500 square-foot retail facility) – might be fully built already; if so, please exclude from study.
- 13) Henlopen Meadows (f.k.a. Windswept at Lewes) (201 single-family detached houses, 178 townhouses)
- 14) Marsh Island (139 single-family detached houses)
- 15) Acadia Landing (f.k.a. Insight at Lewes Point) (238 single-family detached houses)
- 16) Chase Oaks f.k.a. Charter Oak (249 single-family detached houses)
- 17) Brentwood (f.k.a. Coral Lakes) (198 single-family detached houses)
- 18) Tanager Woods (f.k.a. Street Property) (173 single-family detached houses)
- 19) Middle Creek Preserve (313 single-family detached houses)
- 20) Hailey's Glen (f.k.a. Kielbasa Property) (68 single-family detached houses)
- 21) Beachtree Preserve (155 single-family detached houses)

## **Intersection Descriptions**

### **1) Site Entrance/Lexington Avenue & Delaware Route 24**

**Type of Control:** Currently unsignalized and proposed to be signalized.

**Eastbound Approach:** (DE 24) existing one through and one left turn lane; proposed two through, one left turn, and one right turn lane.

**Westbound Approach:** (DE 24) existing one through and one right turn lane; proposed two through, one left turn, and one right turn lane.

**Northbound Approach:** (Site Entrance) stop-controlled; proposed one shared through-left and one right-turn lane.

**Southbound Approach:** (Site Entrance) stop-controlled; currently one shared left-right turn lane; proposed one shared through-left and one right-turn lane.

### **2) Delaware Route 24 / Love Creek Elementary School / Beacon Middle School**

**Type of Control:** signalized four-leg intersection.

**Eastbound Approach:** (DE 24) existing two through lanes and one exclusive lane for each turning movement.

**Westbound Approach:** (DE 24) existing two through lanes and one exclusive lane for each turning movement.

**Northbound Approach:** (Beacon Middle School) existing one shared through-left lane and one right turn lane.

**Southbound Approach:** (Love Creek Elementary School) existing one shared through-left lane and one right turn lane.

### **3) Delaware Route 24 & Mulberry Knoll Road**

**Type of Control:** signalized four-leg intersection.

**Eastbound Approach:** (DE 24) existing two through lanes and one exclusive lane for each turning movement.

**Westbound Approach:** (DE 24) existing two through lanes and one exclusive lane for each turning movement.

**Northbound Approach:** (Mulberry Knoll Road) existing one shared through-left lane and one right turn lane.

**Southbound Approach:** (Mulberry Knoll Road) existing one shared through-left lane and one right turn lane.

### **4) Delaware Route 24 & Plantation Road / Warrington Road**

**Type of Control:** signalized four-leg intersection.

**Eastbound Approach:** (DE 24) existing one left-turn lane, two through lanes, and one channelized right-turn lane.

**Westbound Approach:** (DE 24) existing one left-turn lane, two through lanes, and one right-turn lane.

**Northbound Approach:** (Warrington Road) existing one exclusive left-turn lane, one shared through-left lane, one exclusive through lane, and one right-turn lane.

**Southbound Approach:** (Plantation Road) existing one exclusive left-turn lane, one shared through-left lane, one exclusive through lane, and one right-turn lane.

- 5) **Delaware Route 24 / Lexus Way (Beebe Medical Center campus) / Colonial Oaks (Residence Inn)**  
**Type of Control:** signalized four-leg intersection.  
**Eastbound Approach:** (DE 24) existing one left-turn lane, two through lanes, and one right-turn lane.  
**Westbound Approach:** (DE 24) existing one left-turn lane, two through lanes, and one right-turn lane.  
**Northbound Approach:** (Beebe Road) existing one exclusive right-turn lane and one shared through-left lane.  
**Southbound Approach:** (Entrance to Residence Inn) existing one exclusive right-turn lane and one shared through-left lane.
- 6) **Delaware Route 24 / Bryn Mawr Drive**  
**Type of Control:** three-leg stop controlled intersection.  
**Eastbound Approach:** (DE 24) existing one left-turn lane and two through lanes.  
**Westbound Approach:** (DE 24) existing one right-turn lane and two through lanes.  
**Southbound Approach:** (Bryn Mawr Drive) stop-controlled; existing one shared left-right turn lane.
- 7) **Delaware Route 24 / Rehoboth Mall Service Road / Hudson Way**  
**Type of Control:** signalized four-leg intersection.  
**Eastbound Approach:** (DE 24) existing one left-turn lane, two through lanes, and one right-turn lane.  
**Westbound Approach:** (DE 24) existing one left-turn lane, two through lanes, and one right-turn lane.  
**Northbound Approach:** (Rehoboth Mall Service Road) existing one exclusive right-turn lane and one shared through-left lane.  
**Southbound Approach:** (Hudson Way) existing one exclusive right-turn lane and one shared through-left lane.
- 8) **Delaware Route 1 / Delaware Route 24**  
**Type of Control:** signalized three-leg intersection.  
**Eastbound Approach:** (DE 24) existing three left-turn lanes and two right-turn lanes.  
**Northbound Approach:** (DE 1) existing two exclusive left-turn lanes and three through lanes.  
**Southbound Approach:** (DE 1) existing two exclusive left-turn lanes, three through lanes, and one U-turn lane.
- 9) **Warrington Road / Old Landing Road (Sussex Road 274)**  
**Type of Control:** all-way stop-controlled four-leg intersection.  
**Eastbound Approach:** (Warrington Road) existing one exclusive left-turn lane and one shared through-right lane.  
**Westbound Approach:** (Strawberry Road) existing one shared through-left-right lane.  
**Northbound Approach:** (Old Landing Road) existing one shared through-left-right lane.  
**Southbound Approach:** (Old Landing Road) existing one shared through-left-right lane.

**10) Mulberry Knoll Road / Cedar Grove Road (Sussex Road 283)**

**Type of Control:** stop-controlled three-leg intersection.

**Eastbound Approach:** (Cedar Grove Road) existing one shared through -right lane; proposed to be one through lane and one right-turn (stop-controlled) lane.

**Westbound Approach:** (Cedar Grove Road) existing one shared through-left lane.

**Northbound Approach:** (Mulberry Knoll Road) stop-controlled; existing one shared left-right lane.

**11) Cedar Grove Road / Plantation Road**

**Type of Control:** signalized four-leg intersection.

**Eastbound Approach:** (Cedar Grove Road) existing one through lane, one channelized right-turn lane, and one left-turn lane.

**Westbound Approach:** (Cedar Grove Road) existing one through lane, one channelized right-turn lane, and one left-turn lane.

**Northbound Approach:** (Plantation Road) existing one through lane, one channelized right-turn lane, and one left-turn lane.

**Southbound Approach:** (Plantation Road) existing one through lane, one channelized right-turn lane, and one left-turn lane.

**12) Delaware Route 24 / Spencer Lane / Williams Way**

**Type of Control:** stop-controlled three-leg intersection.

**Eastbound Approach:** (DE 24) existing one through lane, one right-turn lane, and one left-turn lane.

**Westbound Approach:** (DE 24) existing one through lane, one right-turn lane, and one left-turn lane.

**Northbound Approach:** (Williams Way) existing one shared through-left-right lane (stop-controlled).

**Southbound Approach:** (Spencer Lane) existing one right-turn lane and one left-turn lane (stop-controlled).

**13) Delaware Route 24 / Camp Arrowhead Road (Sussex Road 279)**

**Type of Control:** signalized four-leg intersection.

**Eastbound Approach:** (DE 24) existing one through lane, one channelized right-turn lane, and one left-turn lane.

**Westbound Approach:** (DE 24) existing one through lane, one right-turn lane, and one left-turn lane.

**Northbound Approach:** (Camp Arrowhead Road) existing one through lane, one channelized right-turn lane, and one left-turn lane.

**Southbound Approach:** (Fairfield Road) existing one shared through-right lane and one left-turn lane.

**14) Delaware Route 24 / Harts Road (Sussex Road 277C)**

**Type of Control:** stop-controlled three-leg intersection.

**Eastbound Approach:** (DE 24) existing one through lane and one left-turn lane.

**Westbound Approach:** (DE 24) existing one through lane and one right-turn lane.

**Southbound Approach:** (Harts Road) existing one right-turn lane and one left-turn lane (stop-controlled).

**15) Robinsonville Road (Sussex Road 277) / Harts Road**

**Type of Control:** stop-controlled three-leg intersection.

**Westbound Approach:** (Harts Road) existing one shared left-right turn lane (stop-controlled).

**Northbound Approach:** (Robinsonville Road) existing one shared through-right turn lane.

**Southbound Approach:** (Robinsonville Road) existing one shared through-left turn lane.

**16) Delaware Route 24 / Jolyns Way (Sussex Road 289)**

**Type of Control:** stop-controlled three-leg intersection.

**Eastbound Approach:** (DE 24) existing one shared through-right turn lane.

**Westbound Approach:** (DE 24) existing one shared through-left turn lane.

**Northbound Approach:** (Jolyns Way) existing one shared left-right turn lane (stop-controlled).

**Safety Evaluation**

**Crash Data:** Delaware Crash Analysis Reporting System (CARS) data was provided in the TIS for the three-year period from January 1, 2021, through December 31, 2023. A total of 7 reportable crashes occurred within 0.1 miles of the site access. Three were rear-end, two were sideswipe, one was an angle, and one was a single-vehicle crash. None of the crashes caused any injury or involved pedestrians or bicyclists.

**Sight Distance:** The study area generally consists of relatively flat roadways and there are few visual obstructions. As always adequacy of available sight distance should 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 fixed-route transit bus route in the area of the proposed Belle Meade development. Route 215 Millsboro/Rehoboth runs along DE 24 with the nearest stops located west of the site at the Love Creek Marina and east of the site at Beebe Medical Center.

**Planned transit service:** Delaware Transit Corporation (DTC) has requested that the developer construct a bus stop pad on SR 24 within the site frontage. The location, size, and type of bus pad will be determined through coordination with DTC.

**Existing bicycle and pedestrian facilities:** According to DelDOT's Sussex County Bicycle Map, Delaware Route 24 is designated as a High-Traffic Regional Bicycle Route with a Bikeway. Plantation Road is designated as a High-Traffic Statewide Bicycle Route with a Bikeway. Recent DelDOT projects along SR 24 have or are in the process of adding bicycle lanes along SR 24 between Love Creek and SR 1. The same projects have also added sidewalks or shared use paths along the same segment of SR 24, except for the segment between Mulberry Knoll Road and Plantation Road / Warrington Road.

**Planned bicycle and pedestrian facilities:** The developer should maintain the existing sidewalk or shared use path along the site frontage that was constructed by the "SR 24, Love Creek to Mulberry Knoll" project. In addition, a signalized pedestrian crossing of SR 24 should be included at the proposed signal at the intersection of SR 24 and Lexington Avenue.

### **Previous Comments**

The initial scoping memorandum between the developer and DelDOT was dated December 9, 2022.

In a review letter dated October 6, 2023, DelDOT commented on the traffic counts and seasonally adjusted traffic volumes. The developer was asked to include additional committed developments that were originally included in the scoping memorandum. DelDOT also provided additional count data and directed the developer to update the volume figures.

In a second review letter dated October 30, 2023, DelDOT requested additional revisions to the committed development volumes due to construction detours in the area during the traffic counts. The developer was asked to address the noted issues and proceed with the Preliminary TIS.

In a third review letter dated December 28, 2023, DelDOT commented on the Preliminary TIS. The developer was asked to make additional revisions to the committed development volumes and distribution. The developer was then directed to resubmit the Preliminary TIS.

In a fourth review letter dated January 25, 2024, DelDOT commented on the Preliminary TIS. The developer was asked to make additional revisions to the committed development volumes and then resubmit the Preliminary TIS.

In a fifth review letter dated February 15, 2024, DelDOT commented on the Preliminary TIS. The developer was asked to revise how growth factors were applied to volumes provided by the Henlopen TID and associated volume figures then resubmit the Preliminary TIS.

In a sixth review letter dated February 19, 2024, DelDOT noted that the Preliminary TIS was acceptable as submitted and directed the developer to proceed with the Final TIS.

It appears that all substantive comments from DelDOT's TIS Scoping Memorandum, Traffic Count Review, 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) Both the TIS and McCormick Taylor utilized Highway Capacity Software (HCS) version 2023 to complete the traffic analyses.
- 2) The TIS and McCormick Taylor generally used heavy vehicle percentages (HV%) from turning movement counts for existing and future conditions (as per DelDOT's Development Coordination Manual section 2.2.8.11.6.H). McCormick Taylor and the TIS assumed 3% HV for future movements and at the proposed site entrance.
- 3) The TIS and McCormick Taylor determined overall intersection peak hour factors (PHF) for each intersection based on the turning movement counts. Future PHFs were determined as per the DelDOT Development Coordination Manual section 2.2.8.11.6.F where applicable. The application of future PHFs in the TIS was inconsistent between intersections and volume scenarios.
- 4) For analyses of all intersections, McCormick Taylor and the TIS assumed 0% grade for all movements.

Table 2  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>1</sup> Two-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
1. SR 24 / Lexington Avenue / Site Entrance	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Eastbound SR 24 – Left	A (8.1)	B (10.4)	A (8.7)	A (8.1)	B (10.5)	A (8.8)
Southbound Lexington Avenue	D (30.0)	E (42.7)	E (35.7)	D (30.5)	E (43.0)	E (36.3)
2032 No Build (Case 2) <sup>2</sup>						
Eastbound SR 24 – Left	A (9.0)	B (13.3)	B (10.5)	A (9.0)	B (13.2)	B (10.4)
Southbound Lexington Avenue	E (36.8)	F (90.0)	F (53.2)	F (108.0)	F (251.2)	F (150.1)
2032 Build (Case 3) <sup>2</sup>						
Eastbound SR 24 – Left	A (9.0)	B (12.8)	B (10.1)	A (9.0)	B (12.7)	B (10.1)
Westbound SR 24 – Left	B (13.9)	C (17.7)	D (34.9)	B (13.8)	C (16.6)	E (35.8)
Northbound Site Entrance	F (333.4)	F (3337.9)	F (10913)	F (1486.8)	F (17804.0)	F (44574.1)
Southbound Lexington Avenue	F (354.3)	F (2563.7)	F (6644.9)	F (3163.6)	F (13387.7)	<sup>3</sup>
2032 Build (Case 3) Signal <sup>2</sup>						
Overall	-	-	-	B (14.1)	C (28.3)	F (92.9)
2032 Build (Case 3 w/ TID) Signal <sup>4</sup>						
Overall	B (10.2)	B (11.6)	B (19.2)	B (12.0)	B (16.0)	C (25.0)

<sup>1</sup> 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.

<sup>2</sup> TIS modeled Case 2 and 3 with two through lanes in both eastbound and westbound directions on SR 24. MT modeled with one through lane in each direction based on the proposed condition in the SR 24, Love Creek to Mulberry Knoll Road Project.

<sup>3</sup> Capacity cannot be calculated as intersection volume exceeds HCM limitations.

<sup>4</sup> Henlopen TID proposes two through lanes in each direction along SR 24.

Table 3  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>5</sup>	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>2. SR 24 / Love Creek Elementary School / Beacon Middle School</b>						
2022 Existing (Case 1) <sup>6</sup>						
Overall	A (9.6)	A (7.7)	A (2.0)	B (14.2)	B (10.4)	A (6.6)
2032 No Build (Case 2)						
Overall	A (6.4)	A (4.6)	A (0.6)	B (10.3)	A (5.4)	C (20.3)
2032 Build (Case 3)						
Overall	A (5.9)	A (4.5)	A (0.8)	C (23.3)	A (7.3)	D (41.3)

<sup>5</sup> 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.

<sup>6</sup> TIS modeled intersection in Case 1 with one through lane in each direction. Existing conditions, following the completion of the SR 24, Love Creek to Mulberry Knoll Road Project, will have two through lanes in each direction along SR 24.

Table 4  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>7</sup>	LOS per TIS			LOS per McCormick Taylor		
3. SR 24 / Mulberry Knoll Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Overall	A (8.8)	A (9.3)	B (18.1)	A (8.9)	A (8.3)	B (17.0)
2032 No Build (Case 2)						
Overall	C (30.5)	D (46.0)	E (78.1)	B (19.9)	C (23.3)	C (28.5)
2032 Build (Case 3)						
Overall	D (37.0)	D (52.3)	F (85.0)	C (20.7)	C (24.9)	C (30.1)
2032 Build (Case 3 w/ TID) <sup>8</sup>						
Overall	-	-	-	B (17.1)	B (16.4)	C (23.5)

<sup>7</sup> 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.

<sup>8</sup> Henlopen TID proposes the addition of dedicated right-turn lanes on both minor street approaches. The turn lanes are modeled with 180-foot storage length.

Table 5  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>9</sup>	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>4. SR 24 / Plantation Road / Warrington Road</b>						
2022 Existing (Case 1)						
Overall	C (23.3)	C (31.8)	C (34.6)	D (36.6)	D (44.1)	D (50.4)
2032 No Build (Case 2)						
Overall	C (26.1)	C (35.6)	D (39.0)	C (32.4)	D (53.6)	D (50.1)
2032 Build (Case 3)						
Overall	C (26.7)	D (37.5)	D (40.7)	C (31.5)	E (60.8)	D (54.8)
2032 Build (Case 3 w/ TID) <sup>10</sup>						
Overall	-	-	-	C (28.8)	D (49.5)	D (42.0)

<sup>9</sup> 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.

<sup>10</sup> The Henlopen TID conceptual design includes two left turn lanes, two through lanes, and one right turn lane on the Warrington Road and Plantation Road approaches.

Table 6  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>11</sup>	LOS per TIS			LOS per McCormick Taylor		
5. SR 24 / Lexus Way (Beebe Medical Center campus) / Colonial Oaks (Residence Inn)	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Overall	A (1.5)	A (5.1)	A (1.3)	A (1.8)	A (9.4)	A (7.3)
2032 No Build (Case 2)						
Overall	A (1.3)	A (3.8)	A (1.3)	A (1.3)	B (10.9)	B (11.3)
2032 Build (Case 3)						
Overall	A (1.3)	A (3.7)	A (1.3)	A (1.7)	B (11.1)	B (12.2)

<sup>11</sup> 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 Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>12</sup> Two-Way Stop-Control	LOS per TIS <sup>13</sup>			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>6. SR 24 / Bryn Mawr Drive</b>						
2022 Existing (Case 1)						
Eastbound SR 24 - Left	B (10.4)	B (11.4)	B (11.7)	A (8.5)	A (9.5)	A (8.8)
Southbound Bryn Mawr Drive	C (15.1)	C (20.1)	C (21.8)	C (18.7)	C (20.1)	C (23.7)
2032 No Build (Case 2)						
Eastbound SR 24 - Left	B (12.4)	C (17.0)	C (18.1)	A (8.9)	B (11.3)	B (11.1)
Southbound Bryn Mawr Drive	C (17.4)	D (29.6)	D (33.7)	D (30.6)	E (49.5)	F (56.3)
2032 Build (Case 3)						
Eastbound SR 24 - Left	B (11.5)	B (14.1)	C (15.1)	A (9.1)	B (11.7)	B (11.7)
Southbound Bryn Mawr Drive	C (17.1)	D (25.7)	D (29.4)	E (35.8)	F (62.4)	F (75.2)

<sup>12</sup> 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.

<sup>13</sup> TIS modeled this intersection with three through lanes in each direction on SR 24 which does not match the existing or proposed conditions.



Table 8  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>14</sup>	LOS per TIS			LOS per McCormick Taylor		
7. SR 24 / Rehoboth Mall Service Road / Hudson Way	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Overall	A (3.1)	A (8.0)	A (5.4)	A (3.8)	B (10.7)	A (5.9)
2032 No Build (Case 2)						
Overall	A (2.5)	A (6.0)	A (4.3)	A (2.5)	A (7.4)	A (5.0)
2032 Build (Case 3)						
Overall	A (2.4)	A (5.7)	A (4.1)	A (3.2)	A (7.1)	A (4.2)

<sup>14</sup> 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 Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>15</sup>	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
8. SR 24 / SR 1						
2022 Existing (Case 1)						
Overall	B (19.7)	C (23.0)	D (39.2)	B (17.8)	C (22.9)	C (24.0)
2032 No Build (Case 2)						
Overall	D (43.2)	D (52.2)	E (77.3)	C (23.6)	C (32.1)	C (29.7)
2032 Build (Case 3)						
Overall	D (46.2)	E (56.5)	F (83.9)	C (29.8)	D (35.1)	C (33.1)

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<sup>15</sup> 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 Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>16</sup> All-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
9. Warrington Road / Old Landing Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Eastbound Warrington Road	D (31.6)	C (23.3)	F (116.1)	D (28.4)	C (20.4)	F (102.7)
Westbound Strawberry Way	A (9.5)	A (9.6)	B (11.1)	A (9.6)	A (9.7)	B (11.2)
Northbound Old Landing Road	C (15.7)	B (12.9)	C (22.5)	C (15.6)	B (12.8)	C (22.3)
Southbound Old Landing Road	B (12.3)	C (20.3)	D (31.6)	B (12.3)	C (20.0)	D (31.2)
Overall	C (22.9)	C (20.0)	F (66.0)	C (21.2)	C (18.7)	F (60.0)
2032 No Build (Case 2)						
Eastbound Warrington Road	F (130.4)	F (131.1)	F (336.8)	F (75.9)	F (51.7)	F (216.8)
Westbound Strawberry Way	B (10.7)	B (12.1)	B (12.9)	B (10.8)	B (12.1)	B (13.0)
Northbound Old Landing Road	C (22.4)	C (20.2)	E (42.8)	C (22.1)	C (20)	E (42.4)
Southbound Old Landing Road	C (15.2)	F (88.0)	F (103.2)	C (15.1)	F (89.9)	F (101.8)
Overall	F (76.7)	F (91.8)	F (192.0)	E (48.5)	F (60.2)	F (138.3)
2032 Build (Case 3)						
Eastbound Warrington Road	F (161.0)	F (155.6)	F (380.1)	F (115.3)	F (62.0)	F (243.9)
Westbound Strawberry Way	B (10.8)	B (12.2)	B (13.0)	B (10.9)	B (12.3)	B (13.1)
Northbound Old Landing Road	C (23.4)	C (20.9)	E (46.7)	C (23.1)	C (20.8)	E (46.3)
Southbound Old Landing Road	C (16.1)	F (105.0)	F (128.6)	C (16.0)	F (103.4)	F (127.6)
Overall	F (93.3)	F (108.9)	F (221.0)	F (57.0)	F (69.8)	F (159.9)
2032 Build (Case 3 w/ TID) Roundabout						
Overall	B (10.6)	B (11.7)	C (20.4)	B (10.6)	B (11.7)	C (20.4)

<sup>16</sup> 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 Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>17</sup> One-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
10. Mulberry Knoll Road / Cedar Grove Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Westbound Cedar Grove Road - Left	A (8.2)	A (7.6)	A (9.8)	A (8.1)	A (7.6)	A (9.9)
Northbound Mulberry Knoll Road	B (11.5)	B (11.1)	C (20.5)	B (11.8)	B (11.1)	C (20.9)
2032 No Build (Case 2)						
Westbound Cedar Grove Road - Left	A (8.9)	A (8.3)	B (12.3)	A (8.9)	A (8.3)	B (12.3)
Northbound Mulberry Knoll Road	C (20.1)	D (32.5)	F (614.3)	C (20.1)	D (32.5)	F (614.3)
2032 Build (Case 3)						
Westbound Cedar Grove Road - Left	A (8.9)	A (8.3)	B (12.8)	A (8.9)	A (8.3)	B (12.8)
Northbound Mulberry Knoll Road	C (22.3)	E (40.4)	F (837.7)	C (22.3)	E (40.4)	F (837.7)
2032 Build (Case 3) w/ improvements <sup>18</sup>						
Westbound Cedar Grove Road - Left	A (8.9)	A (8.3)	B (12.8)	A (8.9)	A (8.3)	B (12.8)
Northbound Mulberry Knoll Road	C (19.3)	D (33.9)	F (581.4)	C (19.3)	D (33.9)	F (581.4)
2032 Build (Case 3) Roundabout <sup>19</sup>						
Overall	-	-	-	A (6.9)	A (6.7)	C (18.0)

<sup>17</sup> 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.

<sup>18</sup> The TIS proposes to construct a dedicated eastbound right-turn lane on Cedar Grove Road.

<sup>19</sup> Henlopen TID proposes a roundabout at this intersection.

Table 12  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>20</sup>	LOS per TIS			LOS per McCormick Taylor		
11. Cedar Grove Road / Plantation Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Overall	B (18.3)	B (18.3)	C (31.2)	B (17.6)	B (17.7)	C (34.7)
2032 No Build (Case 2)						
Overall	B (19.8)	C (22.5)	D (41.4)	B (18.8)	C (21.0)	C (34.1)
2032 Build (Case 3)						
Overall	C (20.2)	C (23.3)	D (44.4)	B (19.1)	B (21.9)	D (44.8)

<sup>20</sup> 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 13  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>21</sup> Two-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>12. SR 24 / Spencer Lane / Williams Way</b>						
2022 Existing (Case 1)						
Eastbound SR 24 - Left	A (8.6)	B (10.4)	A (8.6)	A (8.6)	B (10.4)	A (8.6)
Westbound SR 24 - Left	A (9.8)	A (8.9)	B (10.0)	A (9.8)	A (8.9)	B (10.0)
Northbound Williams Way	C (24.3)	F (56.0)	D (31.2)	C (24.3)	F (56.0)	D (31.2)
Southbound Spencer Lane	C (24.3)	E (44.1)	E (40.6)	C (24.3)	E (44.1)	E (40.6)
2032 No Build (Case 2)						
Eastbound SR 24 - Left	A (9.6)	B (12.9)	B (10.2)	A (9.6)	B (13.5)	B (10.4)
Westbound SR 24 - Left	B (11.5)	B (10.6)	B (12.3)	B (11.5)	B (10.9)	B (12.7)
Northbound Williams Way	F (52.4)	F (220.3)	F (97.8)	F (52.4)	F (284.6)	F (115.8)
Southbound Spencer Lane	F (65.8)	F (233.6)	F (221.1)	F (65.8)	F (330.5)	F (291.9)
2032 Build (Case 3)						
Eastbound SR 24 - Left	A (10.0)	B (13.5)	B (10.8)	A (10.0)	B (14.2)	B (11.0)
Westbound SR 24 - Left	B (11.9)	B (11.1)	B (13.3)	B (11.9)	B (11.4)	B (13.8)
Northbound Williams Way	F (65.5)	F (305.4)	F (148.5)	F (65.5)	F (406.1)	F (181.6)
Southbound Spencer Lane	F (91.3)	F (535.2)	F (408.7)	F (91.3)	F (505.6)	F (547.1)
2032 Build (Case 3 w/ TID) <sup>22</sup>						
Eastbound SR 24 - Left	-	-	-	B (10.4)	B (14.5)	B (11.1)
Westbound SR 24 - Left	-	-	-	B (12.0)	B (11.5)	B (13.9)
Northbound Williams Way	-	-	-	E (41.9)	F (130.2)	F (86.1)
Southbound Spencer Lane	-	-	-	D (33.3)	F (176.2)	F (117.7)

<sup>21</sup> 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.

<sup>22</sup> Henlopen TID proposes left-turn lanes, two through lanes, and right turn lanes on both SR 24 approach at this intersection.

Table 14  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Signalized Intersection <sup>23</sup>	LOS per TIS			LOS per McCormick Taylor		
13. SR 24 / Camp Arrowhead Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Overall	B (10.5)	B (13.7)	B (14.6)	B (12.4)	B (15.8)	B (16.6)
2032 No Build (Case 2)						
Overall	C (27.4)	E (59.5)	F (88.3)	B (10.6)	B (17.8)	B (18.2)
2032 Build (Case 3)						
Overall	D (45.3)	F (89.5)	F (129.1)	B (12.3)	D (38.9)	E (58.6)
2032 Build (Case 3 w/ TID) <sup>24</sup>						
Overall	-	-	-	A (6.5)	B (11.0)	B (12.2)

<sup>23</sup> 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.

<sup>24</sup> Henlopen TID proposes an additional through lane in both directions of SR 24.



Table 15  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>25</sup> One-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
14. SR 24 / Harts Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Eastbound SR 24 - Left	A (8.4)	A (9.4)	A (8.5)	A (8.2)	A (9.5)	A (8.5)
Southbound Harts Road	C (16.8)	E (37.7)	D (31.7)	C (18.6)	E (38.6)	D (32.3)
2032 No Build (Case 2)						
Eastbound SR 24 - Left	A (9.3)	B (11.5)	A (9.9)	A (9.3)	B (11.5)	A (9.9)
Southbound Harts Road	F (109.5)	F (648.1)	F (541.0)	F (109.5)	F (648.1)	F (541.0)
2032 Build (Case 3) <sup>26</sup>						
Eastbound SR 24 - Left	A (9.6)	B (11.9)	B (10.4)	A (9.6)	B (11.9)	B (10.4)
Southbound Harts Road	F (198.1)	F (989.8)	F (982.7)	F (198.1)	F (989.8)	F (982.7)

<sup>25</sup> 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.

<sup>26</sup> Henlopen TID proposes the removal of this intersection.

Table 16  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>27</sup> One-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
15. Robinsonville Road / Harts Road	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2022 Existing (Case 1)						
Westbound Harts Road	B (10.1)	B (13.2)	B (12.7)	B (10.1)	B (13.2)	B (12.7)
Southbound Robinsonville Road - Left	A (7.8)	A (7.6)	A (7.9)	A (7.8)	A (7.6)	A (7.9)
2032 No Build (Case 2)						
Westbound Harts Road	B (11.5)	A (25.1)	C (19.8)	B (11.8)	A (29.5)	C (19.8)
Southbound Robinsonville Road - Left	A (8.2)	A (8.2)	A (8.7)	A (8.2)	A (8.3)	A (8.7)
2032 Build (Case 3)						
Westbound Harts Road	B (11.7)	D (29.7)	C (23.2)	B (12.0)	D (29.7)	C (20.5)
Southbound Robinsonville Road - Left	A (8.2)	A (8.3)	A (8.8)	A (8.3)	A (8.3)	A (8.7)

<sup>27</sup> 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 17  
Peak Hour Levels of Service (LOS)  
Based on Belle Meade Traffic Impact Study – April 2024  
Prepared by Becker Morgan Group, Inc.

Unsignalized Intersection <sup>28</sup> One-Way Stop-Control	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>16. SR 24 / Jolyns Way</b>						
2022 Existing (Case 1)						
Westbound SR 24 - Left	A (8.7)	A (8.3)	A (9.1)	A (9.0)	A (8.3)	A (9.1)
Northbound Jolyns Way	C (16.0)	C (15.6)	C (20.8)	C (16.6)	C (16.1)	C (20.8)
2032 No Build (Case 2)						
Westbound SR 24 - Left	A (9.4)	A (9.1)	B (10.2)	A (9.4)	A (9.1)	B (10.2)
Northbound Jolyns Way	C (22.2)	C (24.5)	E (37.1)	C (22.2)	C (24.5)	E (37.1)
2032 Build (Case 3)						
Westbound SR 24 - Left	A (9.6)	A (9.3)	B (10.6)	A (9.6)	A (9.3)	B (10.6)
Northbound Jolyns Way	C (24.3)	D (27.5)	E (45.3)	C (24.3)	D (27.5)	E (45.3)
2032 Build (Case 3 w/ TID) Signal <sup>29</sup>						
Overall	-	-	-	A (1.5)	A (1.6)	A (1.4)

<sup>28</sup> 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.

<sup>29</sup> Henlopen TID proposes to signalize this intersection with two through lanes and dedicated turn lanes in each direction along SR 24, extending Jolyns Way north of SR 24 to connect to Robinsonville Road forming a northern leg of the intersection, and adding dedicated right turn lanes on both Jolyns Way approaches. The capacity analysis for the Case 3 with TID results above modeled the intersection without the proposed northern leg because traffic volumes have not been prepared for this condition.