



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

NICOLE MAJESKI  
SECRETARY

May 4, 2022

Mr. Carl Wilson  
The Traffic Group, Inc.  
9900 Franklin Square Drive, Suite H  
Baltimore, Maryland 21236

Dear Mr. Wilson,

The enclosed Traffic Impact Study (TIS) review letter for the **Hudson's Reserve** (Tax Parcel: 134-15.00-115.00) mixed-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 (302) 760-2124.

Sincerely,

Claudy Joinville  
Project Engineer

CJ:km

Enclosures

cc with enclosures: Mr. Craig Havenner, Christopher Companies, LLC  
Mr. Scott Roberts, Civil Engineering Associates, LLC  
Mr. John Dayton, Civil Engineering Associates, LLC  
Mr. David Edgell, Office of State Planning Coordination  
Ms. Deborah Botchie, Town of Millville  
Mr. Andrew Lyons, Town of Millville, GMB  
Mr. Andrew Parker, McCormick & Taylor, Inc.  
DelDOT Distribution

## DelDOT Distribution

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Todd Sammons, Assistant Director, Development Coordination  
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Steve McCabe, Sussex Review Coordinator, Development Coordination  
Kevin Hickman, Subdivision Manager, Development Coordination  
Mark Galipo, Traffic Engineer, DelDOT Traffic, DOTS  
Annamaria Furmato, Project Engineer, Development Coordination



May 3, 2022

Mr. Claudy Joinville  
Project Engineer  
DelDOT Division of Planning  
P.O. Box 778  
Dover, DE 19903

RE: Agreement No. 1946F  
Traffic Impact Study Services  
**Task No. 3A Subtask 04 – Hudson’s Reserve**

Dear Mr. Joinville:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Hudson’s Reserve development prepared by The Traffic Group, Inc. dated January 2022. The Traffic Group, Inc. prepared the report in a manner generally consistent with DelDOT’s Development Coordination Manual.

The TIS evaluates the impacts of the proposed Hudson’s Reserve development, to be located along the northeast corner of the intersection of Roxana Road (Delaware Route 17 / Sussex Road 52) and Peppers Corner Road/Powell Farm Road (Sussex Road 365) in the Town of Millville in Sussex County, Delaware. The proposed development would consist of a 14,500-square foot shopping center, 70 single-family detached houses, and 52 units of mid-rise multi-family housing. Two unsignalized access points are proposed for this development: one full access driveway along Roxana Road and one right-in/right-out/left-out driveway along Peppers Corner Road. Construction is anticipated to be completed in 2024.

The subject land is located on an approximately 41.5-acre parcel. The subject land is currently zoned MPC (Master Planned Community). 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 following intersection exhibits level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements:

<i>Intersection</i>	<i>Existing Traffic Control</i>	<i>Situations for which deficiencies occur</i>
Roxana Road and Peppers Corner Rd / Powell Farm Rd	Unsignalized	2024 without development AM/PM/Saturday (Case 2) 2024 with development AM/PM/Saturday (Case 3)

Roxana Road and Peppers Corner Road / Powell Farm Road

The minor street approaches at this intersection would operate at LOS E or LOS F in all future conditions both without and with the proposed development, for all three peak hours. Although mitigation is needed, DelDOT has determined that a traffic signal would not be appropriate for this intersection. To address operational deficiencies and achieve a safer condition, the developer should convert this intersection to a single-lane roundabout as noted below in Item No. 4.

Should the Town of Millville 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 (Roxana Road and Peppers Corner Road), within the limits of their frontage, to meet DelDOT’s standards for their Functional Classification as found in Section 1.1 of the Development Coordination Manual and elsewhere therein. The improvements shall include both directions of travel, regardless of whether the developer’s lands are on one or both sides of the road. Frontage is defined in Section 1 of the Development Coordination Manual, which states “This length includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway.” Questions on or appeals of this requirement should be directed to the DelDOT Subdivision Review Coordinator in whose area the development is located.
2. The developer should construct the full-movement Site Access A on Roxana Road. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Existing Configuration</b>	<b>Proposed Configuration</b>
Westbound Site Access	Approach does not exist	One shared left/right-turn lane
Northbound Roxana Road	One through lane	One through lane and one right-turn lane
Southbound Roxana Road	One through lane	One left-turn lane and one through lane

Initial recommended minimum turn-lane lengths (excluding tapers) of the separate turn lanes are listed below. 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.

<b>Approach</b>	<b>Left-Turn Lane</b>	<b>Right-Turn Lane</b>
Westbound Site Access	N/A	N/A
Northbound Roxana Road	N/A	290 feet *
Southbound Roxana Road	210 feet **	N/A

\* Initial turn-lane length based on DelDOT’s *Auxiliary Lane Worksheet*, although a shorter length may be appropriate if intersection modifications at Roxana Road and Peppers Corner Road will have the effect of reducing speeds on northbound Roxana Road compared to existing conditions

\*\* Initial turn-lane length based on DelDOT’s *Auxiliary Lane Worksheet*

- The developer should construct the right-in/right-out/left-out Site Access B on Peppers Corner Road. The proposed configuration is shown in the table below.

<b>Approach</b>	<b>Existing Configuration</b>	<b>Proposed Configuration</b>
Eastbound Peppers Corner Rd	One through lane	One through lane (no lefts in allowed)
Westbound Peppers Corner Rd	One through lane	One through lane and one right-turn lane
Southbound Site Access	Approach does not exist	One left-turn lane and one right-turn lane



Initial recommended minimum turn-lane lengths (excluding tapers) of the separate turn lanes are listed below. 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.

<b>Approach</b>	<b>Left-Turn Lane</b>	<b>Right-Turn Lane</b>
Eastbound Peppers Corner Rd	N/A (no lefts in allowed)	N/A
Westbound Peppers Corner Rd	N/A	145 feet *
Southbound Site Access	N/A	50 feet **

\* Initial turn-lane length based on DelDOT’s *Auxiliary Lane Worksheet*

\*\* Initial turn-lane length based on storage length per queuing analysis, 50-foot minimum

4. The developer should design and construct a single-lane roundabout at the intersection of Roxana Road and Peppers Corner Road / Powell Farm Road. The developer should coordinate with DelDOT’s Development Coordination Section to determine details regarding design, schedule and construction of the roundabout.
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. If clubhouses or other community facilities are constructed within the site, bicycle parking should be provided near building entrances. Where building architecture provides for an awning, other overhang, or indoor parking, the bicycle parking should be covered.
  - e. 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 Roxana Road and Peppers Corner Road.
  - f. Within the easements along the Roxana Road and Peppers Corner Road site frontages, a minimum of a ten-foot wide shared-use path that meets current AASHTO and ADA standards 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



northern and eastern 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.

- g. A pedestrian pathway should be provided from the northeast section of the Hudson's Reserve site to the adjacent Millville By The Sea development. Details of this connection should be coordinated with DelDOT's Development Coordination Section.
- h. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
- i. 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 Roxana Road and Peppers Corner Road.
- j. Where internal sidewalks are located alongside of parking spaces, a buffer should be added to prevent vehicular overhang onto the sidewalk.

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".

Andrew J. Parker, PE, PTOE  
Project Manager

Enclosure

## **General Information**

**Report date:** January 2022

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

**Prepared for:** The Christopher Companies

**Tax parcel:** 134-15.00-115.00

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

## **Project Description and Background**

**Description:** The proposed Hudson's Reserve development would consist of a 14,500-square foot shopping center, 70 single-family detached houses, and 52 units of mid-rise multi-family housing.

**Location:** The site is located along the northeast corner of the intersection of Roxana Road (Delaware Route 17 / Sussex Road 52) and Peppers Corner Road/Powell Farm Road (Sussex Road 365) in the Town of Millville in Sussex County, Delaware. A site location map is included on page 7.

**Amount of land to be developed:** approximately 41.5-acre parcel

**Land use approval(s) needed:** Subdivision approval. The subject land is currently zoned MPC (Master Planned Community), and the developer does not plan to rezone the land.

**Proposed completion year:** 2024

**Proposed access locations:** Two unsignalized access points are proposed for this development: one full access driveway along Roxana Road and one right-in/right-out/left-out driveway along Peppers Corner Road.

### **Daily Traffic Volumes (per DelDOT Traffic Summary 2019):**

- 2019 Average Annual Daily Traffic on Peppers Corner Road: 1,619 vehicles/day
- 2019 Average Annual Daily Traffic on Roxana Road: 4,780 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 Hudson's Reserve development is located within Investment Levels 2 and 3.

#### *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."

#### *Investment Level 3*

Investment Level 3 Areas generally fall into two categories. The first category covers lands that are in the long-term growth plans of counties or municipalities where development is not necessary to accommodate expected population growth during this five-year planning period (or longer). In these instances, development in Investment Level 3 may be least appropriate for new growth and development in the near term.

The second category includes lands that are adjacent to or intermingled with fast-growing areas within counties or municipalities that are otherwise categorized as Investment Levels 1 or 2. Environmentally sensitive features, agricultural preservation issues, or other infrastructure issues most often impact these lands. In these instances, development and growth may be appropriate in the near term, but the resources on the site and in the surrounding area should be carefully considered and accommodated by state agencies and local governments with land-use authority.

Due to the limits of finite financial resources, state infrastructure spending on "hard" or "grey" infrastructure such as roads, sewer, water, and public facilities will generally be directed to Investment Level 1 and 2 Areas during this planning period. The State will consider investing in these types of infrastructure in Investment Level 3 Areas once the Investment Level 1 and 2 Areas

are substantially built out, or when the infrastructure or facilities are logical extensions of existing systems and deemed appropriate to serve a particular area.

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

The proposed Hudson’s development falls within Investment Levels 2 and 3, and is to be developed as a Master Planned Community with a 14,500-square foot shopping center, 70 single-family houses, and 52 units of mid-rise multi-family housing. The proposed development is generally consistent with the character of Investment Level 2 and to a lesser extent Investment Level 3. 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.” However, given the presence of Investment Level 3, further discussion may be required to confirm that the proposed development completely complies with the Strategies.

**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 Hudson’s Reserve development is in the Town of Millville, a municipality. Sussex County strongly favors directing development to municipalities that desire it. The specific permitted uses and densities governing new construction within an incorporated municipality will continue to be governed by that municipality’s zoning ordinance, its public water and sewer capacities, and its comprehensive planning policies.

**Town of Millville Comprehensive Plan:**

*(Source: Town of Millville 2019 Comprehensive Plan, adopted October 2019)*

The Town of Millville’s Comprehensive Plan Future Land Use Map indicates that the proposed Hudson’s Reserve site is planned for “Master-Planned Community” land use. It would appear that the proposed Hudson’s Reserve fits within the intended land use for this location.

**Proposed Development’s Compatibility with Comprehensive Plan:**

The proposed development appears to comply with the Town of Millville’s Comprehensive Plan. The Hudson’s Reserve site is proposed on land that is planned for “Master-Planned Community” land use. The land is zoned as MPC (Master-Planned Community); and the developer is not seeking to re-zone.

**Relevant Projects in the DelDOT Capital 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, Tenth 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:

- 14,500-square foot shopping center (ITE Land Use Code 820)
- 70 single-family detached houses (ITE Land Use Code 210)
- 52 units of mid-rise multi-family housing (ITE Land Use Code 221)

**Table 1**  
**Hudson's Reserve Peak Hour Trip Generation**

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Retail (14,500 SF)	9	5	14	62	68	130	70	65	135
Internal Trips	-1	0	-1	-6	-18	-24			
Pass-by Trips (PM 34%, SAT 26%)	-	-	-	-19	-17	-36	-18	-17	-35
Single Family Detached House (70 units)	14	41	55	45	27	72	42	35	77
Mid-Rise Multi-Family Housing (52 Units)	5	13	18	15	9	24	14	15	29
Internal Trips	0	-1	-1	-18	-6	-24	-	-	-
<b>TOTAL TRIPS</b>	<b>27</b>	<b>58</b>	<b>85</b>	<b>79</b>	<b>63</b>	<b>142</b>	<b>108</b>	<b>98</b>	<b>206</b>

## **Overview of TIS**

### **Intersections examined:**

- 1) Site Access 1 and Roxana Road
- 2) Site Access 2 and Peppers Corner Road
- 3) Roxanna Road and Peppers Corner Road/Powell Farm Road

### **Conditions examined:**

- 1) 2021 Existing (Case 1)
- 2) 2024 without development (Case 2)
- 3) 2024 with development (Case 3)

**Peak hours evaluated:** Weekday morning and evening peak hours, Saturday peak hour

**Committed developments considered:**

- 1) Sea Edge (Sussex County) (northwest corner of Beaver Dam Road and Substation Road) (57 townhouses)
- 2) Millers Creek (a.k.a. Orr Property) (Sussex County) (east side of Central Avenue, north of Old Cemetery Road) (171 multi-family houses)
- 3) Millville by the Sea (Town of Millville) (south side of Burbage Road, east and west sides of Substation Road) (91 single-family detached houses, 84 townhouses)
- 4) Estuary (Sussex County) (631 single-family detached houses)
- 5) Lakelynnns (a.k.a. Milos Haven) (Sussex County) (northeast corner of Peppers Corner Road and Lizzard Hill Road) (45 single-family detached houses and 142 units of low-rise multi-family housing)
- 6) Beebe Roxana (Town of Millville) (northwest side of Roxana Road, east of Powell Farm Road) (216 units of mid-rise multi-family housing and 255-unit continuing care center)
- 7) Bishops Landing (f.k.a. Dove Landing) (Town of Millville) (northeast corner of Roxana Road and Burbage Road) (140 single-family detached houses and 261 units of low-rise multi-family housing)

**Intersection Descriptions**

**1) Site Access A & Roxana Road**

**Type of Control:** proposed 3 legged TWSC intersection

**Westbound Approach:** (Site Access A) proposed shared right-turn/left turn lane

**Northbound Approach:** (Roxana Road) existing single through lane, proposed through lane and dedicated right-turn lane

**Southbound Approach:** (Roxana Road) existing single through lane, proposed through lane and dedicated left-turn lane

**2) Site Access B & Peppers Corner Road**

**Type of Control:** proposed 3 legged TWSC intersection

**Eastbound Approach:** (Peppers Corner Road) existing single through lane, proposed a single through lane only (no lefts in allowed)

**Westbound Approach:** (Peppers Corner Road) existing single through lane, proposed through lane and dedicated right-turn lane

**Southbound Approach:** (Site Access B) proposed one left-turn lane and one right-turn lane

**3) Roxanna Road & Peppers Corner Road/Powell Farm Road**

**Type of Control:** existing two-way stop-controlled intersection (TWSC)

**Eastbound Approach:** (Powell Farm Road) one shared left/through/right-turn lane, stop-controlled

**Westbound Approach:** (Peppers Corner Road) one shared left/through/right-turn lane, stop-controlled

**Northbound Approach:** (Roxana Road) one shared left/through/right-turn lane

**Southbound Approach:** (Roxana Road) one shared left/through/right-turn lane

## **Safety Evaluation**

**Crash Data:** Delaware Crash Analysis Reporting System (CARS) data was provided in the TIS for the three-year period from November 15, 2019, through November 15, 2021. A total of 13 crashes occurred at the intersection of Roxana Road and Peppers Corner Road / Powell Farm Road during the three-year period. Of those 13 collisions, 5 were angle collisions, 3 involved fixed objects, and 2 were rear-end collisions. There were no fatalities in the three-year window.

**Sight Distance:** The study area generally consists of relatively flat roadways and there are few visual obstructions. Sight distance appears adequate throughout the study area. No problematic sight distance issues have been reported or indicated by crash data. 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 no bus routes in the study area.

**Planned transit service:** Jared Kaufmann representing DTC was contacted regarding existing and planned transit service in the area. He stated that DTC has no transit-specific comments regarding this site.

**Existing bicycle and pedestrian facilities:** According to DelDOT's Sussex County Bicycle Map, Roxana Road is classified as a Connector Bicycle Route with Bikeway. Peppers Corner Road is also classified as a Connector Bicycle Route but without a Bikeway. It should be noted that a bikeway can include shoulders in lieu of a dedicated bike lane. There are currently no existing bicycle lanes along the existing site frontages. There are currently no Shared-Use Paths (SUPs) or sidewalks within the study area.

**Planned bicycle and pedestrian facilities:** Shared-use paths should be constructed along the Roxana Road and Peppers Corner Road site frontages. In addition, a pedestrian pathway should be provided from the northeast section of the site to the adjacent Millville By The Sea development.

## **Previous Comments**

In a review letter dated January 11, 2022, DelDOT indicated that the Preliminary TIS was acceptable as submitted.

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) For two-way stop control intersections, the TIS and McCormick Taylor applied heavy vehicle factors (HV) by movement using existing data. For signalized and all-way stop control 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. Both the TIS and McCormick Taylor assumed 3% HV for future movements to and from the proposed site access points (as per DelDOT's Development Coordination Manual section 2.2.8.11.6.H).
- 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 determined as per the DelDOT Development Coordination Manual section 2.2.8.11.6.F where applicable.
- 3) For analyses of all intersections, McCormick Taylor and the TIS assumed 0% grade for all movements.
- 4) 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 Hudson's Reserve Traffic Impact Study – January 2022  
Prepared by The Traffic Group, Inc.

Unsignalized Intersection <sup>1</sup> One-Way Stop (T-intersection)	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>Roxanna Rd &amp; Site Access A</b>						
2024 Build Condition (Case 3)						
Westbound Site Access	A (8.4)	A (8.4)	A (8.1)	A (8.4)	A (8.4)	A (8.1)
Southbound Roxanna Rd – Left	B (14.4)	C (15.4)	B (13.0)	B (14.4)	C (15.4)	B (13.0)

<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.



Table 3  
Peak Hour Levels of Service (LOS)  
Based on Hudson's Reserve Traffic Impact Study – January 2022  
Prepared by The Traffic Group, Inc.

Unsignalized Intersection <sup>2</sup> One-Way Stop (T-intersection)	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>Peppers Corner Rd &amp; Site Access B</b>						
2024 Build Condition (Case 3)						
Southbound Site Access	B (10.9)	B (11.2)	B (11.0)	B (10.9)	B (11.2)	B (11.0)

<sup>2</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 4  
Peak Hour Levels of Service (LOS)  
Based on Hudson's Reserve Traffic Impact Study – January 2022  
Prepared by The Traffic Group, Inc.

Unsignalized Intersection <sup>3</sup> Two-Way Stop	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
<b>Roxana Rd &amp; Peppers Corner Rd / Powell Farm Rd</b>						
2021 Existing Condition (Case 1)						
Eastbound Powell Farm Rd	C (18.8)	C (15.9)	B (12.8)	C (18.8)	C (15.9)	B (12.8)
Westbound Peppers Corner Rd	D (26.8)	D (25.5)	B (13.5)	D (26.8)	D (25.5)	B (13.5)
Northbound Roxanna Rd – Lefts	A (8.0)	A (7.8)	A (7.6)	A (8.0)	A (7.8)	A (7.6)
Southbound Roxanna Rd – Lefts	A (8.4)	A (7.9)	A (7.6)	A (8.4)	A (7.9)	A (7.6)
2024 No Build Condition (Case 2)						
Eastbound Powell Farm Rd	E (35.1)	F (50.1)	C (23.8)	E (35.1)	F (50.1)	C (23.8)
Westbound Peppers Corner Rd	F (64.5)	F (148.1)	C (23.9)	F (64.5)	F (148.1)	C (23.9)
Northbound Roxanna Rd – Lefts	A (8.1)	A (8.0)	A (7.8)	A (8.1)	A (8.0)	A (7.8)
Southbound Roxanna Rd – Lefts	A (8.4)	A (8.2)	A (7.9)	A (8.4)	A (8.2)	A (7.9)
2024 Build Condition (Case 3)						
Eastbound Powell Farm Rd	E (41.7)	F (105.1)	E (36.5)	E (41.7)	F (105.1)	E (36.5)
Westbound Peppers Corner Rd	F (93.7)	F (221.0)	D (34.7)	F (93.7)	F (221.0)	D (34.7)
Northbound Roxanna Rd – Lefts	A (8.1)	A (8.0)	A (7.8)	A (8.1)	A (8.0)	A (7.8)
Southbound Roxanna Rd – Lefts	A (8.4)	A (8.3)	A (8.0)	A (8.4)	A (8.3)	A (8.0)
<b>Signalized Intersection</b>	<b>LOS per TIS</b>			<b>LOS per McCormick Taylor</b>		
<b>Roxana Rd &amp; Peppers Corner Rd / Powell Farm Rd</b>	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2024 Build Condition (Case 3)	C (25.5)	C (27.1)	C (25.1)	A (9.6)	B (10.1)	A (8.8)
<b>Roundabout Intersection</b>	<b>LOS per TIS</b>			<b>LOS per McCormick Taylor</b>		
<b>Roxana Rd &amp; Peppers Corner Rd / Powell Farm Rd</b>	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
2024 Build Condition (Case 3)						
Eastbound Powell Farm Rd	-	-	-	A (6.6)	A (6.5)	A (5.5)
Westbound Peppers Corner Rd	-	-	-	A (7.0)	A (7.5)	A (5.9)
Northbound Roxanna Rd	-	-	-	A (7.8)	A (7.7)	A (6.3)
Southbound Roxanna Rd	-	-	-	A (6.8)	A (8.3)	A (6.3)

<sup>3</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.