

Plantation Lakes Parking Study

Town of Millsboro

Project number: 60637517

November 19, 2020

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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Table of Contents

1. Introduction.....	5
2. Analysis	6
3. Solutions.....	11
4. Recommendations	16
Appendix A	17
App heading 2.....	17

Figures

Figure 2-1. Example of cars parked on both sides of road limiting two-way traffic.....	7
Figure 2-2. Example of extra wide vehicle parked on right side of road and away from curb.	7
Figure 2-3. Example of a sidewalk obstructed by a vehicle.....	8
Figure 2-4. Example of vehicles blocking driveways.	8
Figure 2-5. Example of vehicle parked too close to crosswalk and in intersection.....	9
Figure 3-1. Potential curb painting along driveways	14
Figure 3-2. Existing "No parking any time" sign.....	14

Tables

No table of figures entries found.

1. Introduction

Limited parking, as well as pedestrian and vehicle circulation within the Plantation Lakes subdivision has become difficult due to insufficient overall parking availability, narrow road width, and front facing garages with driveways. Most homes appear to have more than one vehicle and some of the vehicles are too long to fit within garages/driveways. These factors lead to residents needing to park further away from their residences, difficulty with navigating through the neighborhood in locations with cars parked on the street, and pedestrians having to avoid vehicles impeding the sidewalks.

These issues are multiplied when combined with the challenges that arise on trash days, summer weekends, and holidays where the amount of available parking is even more limited.

We have evaluated the current parking, traffic and vehicle circulation within Sections F, G, & H of the Plantation Lakes Development and have made recommendations based on our findings.

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2. Analysis

2.1 Limited parking availability

- 2.1.1 Per conversation with the original Design Engineer (MRA), the development was designed to maximize the available parking. However, parking along the streets is limited by various factors including front facing driveways, fire hydrants, and crosswalks.

The original design meets the zoning requirements for parking. This was achieved without accounting for on-street parking in its calculation of available spaces. However, it appears that there may be more households with multiple vehicles or larger vehicles than what is accounted for in the zoning requirement.

Another factor limiting the number of available spaces is the residents that either cannot or chose not to park in their garages. The garage dimensions are not conducive to all vehicle sizes and it appears that many residents have large vehicles or use their garages for storage. However, without surveying the homeowners, the number of available spaces reduced due to this factor cannot be determined.

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2.2 Limited road width

- 2.2.1 The existing street width within the development is 25 feet from curb line to curb line, except for the two boulevards (Charlotte and Plantation Lakes Boulevard, are 32 feet but additional parking was not permitted on them). This is typical for streets with two-way traffic. However, this width does not account for parking within the road width as roads with on-street parking are typically much wider.

Typically, one-way street widths range between 10-15 feet and two-way streets range from 20-30 feet (also not accounting for parking within the road width). Adding parking on one side of the street at a time would reduce the road width below the typical width of a two way street. Assuming an average car width of 6.5 feet (plus a 1 foot buffer), by parking on one side of the road, the width is reduced to 18 feet. This is less than ideal for two-way traffic but would be manageable in a residential development.

Under this same assumption of widths, and adding parking on both sides of the street, the travel width is reduced to 10 feet. If the streets were changed to one-way only, then the travel path of 10 feet would be typical of a one way street.

This issue of limited road width can be exacerbated by other factors such as wider vehicles and parking more of a distance off the curb as seen in Figure 2.B. If another wide vehicle parked off the curb on the opposite side of the street, one-way traffic may be difficult with parking on both sides.



Figure 2-1. Example of cars parked on both sides of road limiting two-way traffic.

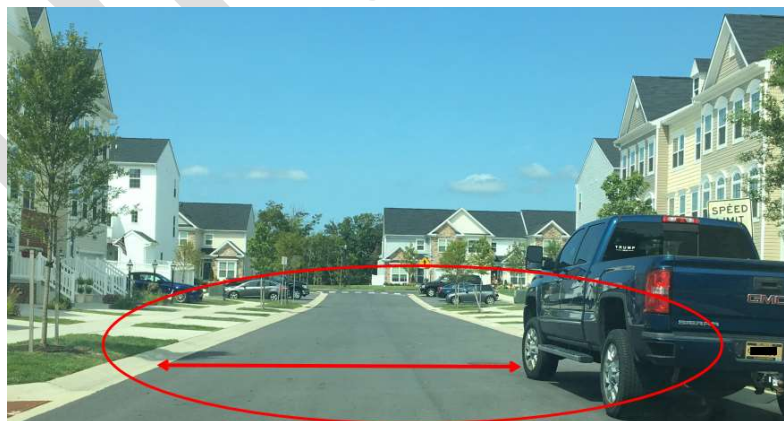


Figure 2-2. Example of extra wide vehicle parked on right side of road and away from curb.

Existing parking restrictions

2.2.2 Existing parking restrictions limit the number of available parking spaces but allow for improved pedestrian and vehicle circulation within the development. The following restrictions exist and would apply to the parking within Plantation Lakes (per the Delaware Code):

2.2.2.1 No person shall stop, stand or park a vehicle, except when necessary to avoid conflict with other traffic or in compliance with the directions of a police officer or traffic-control device, including all state-owned and/or state leased property; in any of the following places:

(1) On a sidewalk;



Figure 2-3. Example of a sidewalk obstructed by a vehicle.

(2) In front of a public or private driveway;



Figure 2-4. Example of vehicles blocking driveways.

(3) Within an intersection;



Figure 2-5. Example of vehicle parked too close to crosswalk and in intersection.

- (4) Within 15 feet of a fire hydrant;
- (5) On a crosswalk;
- (6) Within 20 feet of a crosswalk;
- (7) Within 30 feet upon the approach to any flashing beacon, stop sign or traffic-control signal;
- ...
- (17) Wherever a curb is marked yellow or a yellow line is placed at the edge of a roadway or shoulder;

(Delaware Code; Title 21; Chapter 41; Subchapter X; 4179; e)

- 2.2.2.2 (a) Except as otherwise provided in this section, every vehicle stopped or parked upon a 2-way roadway shall be so stopped or parked with the right-hand wheels parallel to and within 12 inches of the right-hand curb or outside edge of the shoulder.
- (b) Except when otherwise provided by local ordinance, every vehicle stopped or parked upon a one-way roadway shall be so stopped or parked parallel to the curb or edge of the roadway, in the direction of authorized traffic movement, with its right-hand wheels within 12 inches of the right-hand curb or outside edge of the shoulder, or its left wheels within 12 inches of the left-hand curb or outside edge of the shoulder.

(Delaware Code; Title 21; Chapter 41; Subchapter X; 4180 Additional Parking Regulations; penalty.)

- 2.2.3 Regarding the ADA accessibility for pedestrians (per the Delaware Pedestrian Accessibility Standards):
- 2.2.3.1 The Minimum Standard for PAR pinch points includes not be less than 34" in width and not more than 24" in length, measured in the direction of travel, as illustrated in Figure 3.7.1.2. Pinch Points are permitted only in constrained areas of Maintenance, 3R, and Alteration Projects. Pinch points are not permitted on New Construction Projects.

(Pedestrian Accessibility Standards for Facilities in the Public Right of Way; 3.7.1.2 Pinch Points)

2.2.4 The following streets within the development have been dedicated to the Town of Millsboro

2.2.4.1 Brunswick Lane?

2.2.4.2 Overman Way?

2.2.4.3 Whitaker Way?

2.2.4.4 Albermale Lane?

2.2.4.5 Asheville Drive?

2.2.4.6 Bladen Drive?

2.2.4.7 Enfield Drive?

2.2.4.8 Gaston Drive?

2.2.4.9 Pinetop Drive?

2.2.4.10 Bridgewater Road?

2.2.4.11 Charlotte Boulevard?

2.2.4.12 Plantation Lakes Boulevard?

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3. Solutions

3.1 Maintain current traffic patterns and designate additional spots.

- 3.1.1 While there is some availability of areas undesignated for parking spaces (that meet requirements for parking), the availability is very limited. This option would create additional spots only on one side of the street. We propose to avoid placing any new spots directly across from another to avoid situations where two-way traffic will be impeded by parking on both sides of the street. Within the entire site, we have identified 119 potential spaces that could be painted to indicate proper parking spaces within the development. These locations are shown in Figure A.1 in the appendix.



Figure 3A. Example of a street with two-way traffic and parking on one side

3.2 Change the flow of traffic within the development.

- 3.2.1 The most drastic option would change some of the existing two-way streets to one-way and designate additional spots on both sides of the streets. Since one-way traffic requires a narrower road width, parking could be added on both sides of the newly designated one-way streets while maintaining a manageable road width for one-way traffic.

This option will also include the addition of new street signage as well as paint to designate the new spaces.

Within the entire site, we have identified 172 potential spaces that could be painted to indicate parking spaces within the development. These locations are shown in Figure A.2 in the appendix.



Figure 3B. Example of a street with one-way traffic and parking on both sides

3.3 Stricter enforcement of existing regulations

- 3.3.1 From what we have gathered, the issue of improper parking has occurred frequently within the Plantation Lakes development. We do not have the data regarding the number of violations issued by the HOA or the Millsboro police, but it can be assumed that stricter enforcement of the existing parking restrictions would result in fewer instances of improper parking. By eliminating some of the improper parking, there may be additional room for those parking properly. However, there are not many visual cues (signage/curb paint) so this option may need to be chosen in conjunction with the following option (3.4).

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3.4 Install additional signage/painting

- 3.4.1 As a way to make it more clear where parking is and is not allowed in restricted areas, additional signage and/or curb paint could be installed. From a site visit, there appear to be a limited number of "No Parking Any Time" signs, but it does not appear that any yellow curb paint is used to indicate no parking is permitted. This option would make it clear to the residents/guests as well as the enforcement entities (police/HOA). The recommended locations for these are shown in attachment X.X. Installing one of the two methods should be sufficient at most locations but installing both may be appropriate in trouble areas with consistent parking concerns.



Figure 3-1. Potential curb painting along driveways

- 3.4.2 The Plantation Lakes development, Town of Millsboro, and the State of Delaware have existing regulations that are not consistently being followed by all of the residents/guests. There are also Federal ADA regulations concerning sidewalks and pedestrian pathways that would be applicable. Some of these regulations are marked with signage (eg. "No Parking Any Time") and some are less apparent.



Figure 3-2. Existing "No parking any time" sign.

Figure 3.A Example of existing signage.

3.5 Assign Individual spaces

- 3.5.1 Limiting the number of spaces allowed per unit is a method used in some other neighborhoods. This option would attempt to equalize the number of parking spaces used by each unit. However, this option may be difficult to enforce since the units were sold with no restriction on on-street and/or off-street parking and could result in litigation.

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4. Recommendations

After reviewing the existing issues and exploring potential solutions, it is our recommendation that the Town first:

Begin with Solution 3.4 and install additional signage and pavement markings; and if those measures do not improve the situation enough then follow up with Solution 3.3 to increase enforcement of existing laws and restrictions.

While this solution may appear to reduce the amount of available parking, we feel that by having vehicles parked in the better locations that more spaces will become available and that residents will be more satisfied with the parking situation due to improved vehicular and pedestrian circulation.

Table 1. Options with additional spots and paint.

OPTION	NEW SPOTS	ADD. SIGNS
3.1	118	
3.2	172	
3.4	0	

Appendix A

App heading 2

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THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ACT AND ALL RULES AND REGULATIONS THERE TO AND APPURTENANT.



NO.	DESCRIPTION	DATE	BY



SCALE HORIZONTAL VERTICAL
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN ADJUST SCALE ACCORDINGLY.

ONE-WAY PARKING EXHIBIT
PLANTATION LAKES PARKING STUDY
TOWN OF MILLSBORO
SUSSEX COUNTY, DELAWARE

DRAWN BY: ERH
DESIGNED BY: ERH
REVIEWED BY: ERH
APPROVED BY: _____

ISSUE DATE: 11/16/2020

REVISION: 0

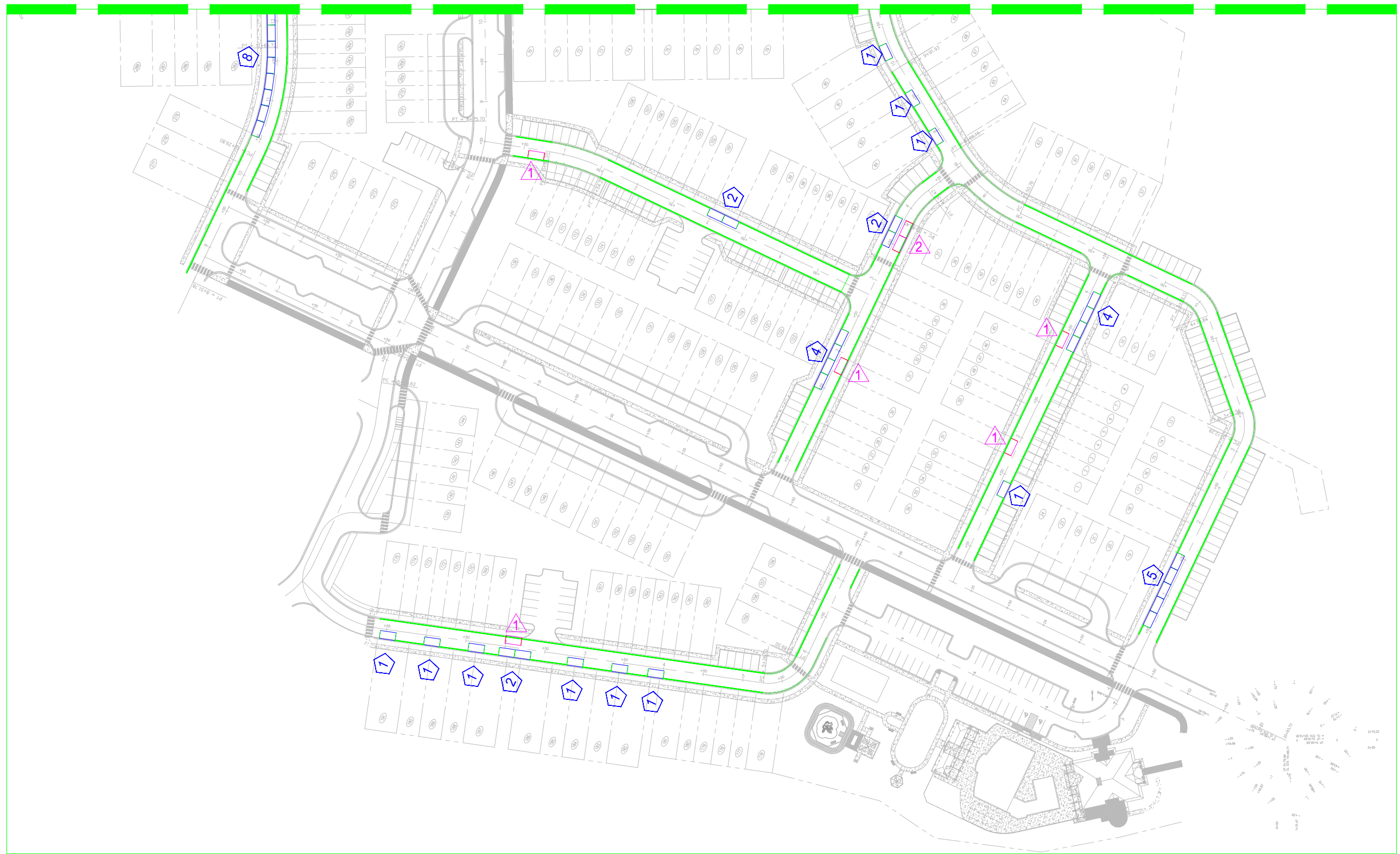
PROJECT NO.: 60637517

SHEET NO.:

EX.2.1

SHEET SEQUENCE

MATCHLINE SEE EX 2.2



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