MAYOR AND CITY COUNCIL OF LAUREL

8103 Sandy Spring Road

Laurel, Maryland 20707-2502

(301) 725-5300

www.cityoflaurel.org

Mayor and City Council Work Session

Wednesday, September 4, 2024

6:00 PM

Agenda

IN-PERSON

Watch the meeting on Laurel TV streaming live in your web browser at https://laureltv.org/watch-live or locally Laurel TV can be found on Comcast Channel 996 (HD), 71 (SD) or Verizon FiOS Channel 12.

1. Call to Order - James Kole, President
2. Van Dusen Road Roadway Improvement Project-Department of Public Works with a Presentation by Century Engineering
3. Ordinance No. 2029- An Ordinance Amending the General Operating Budget and Capital Improvement Program of the Mayor and City Council of Laurel, Maryland, for Fiscal Year July 1, 2024 through June 30, 2025 and to Provide an Effective Date
4. Bid Recommendation- Fourth and Fifth Street Roadway Improvements- Department of Public Works
5. Bid Recommendation- Compton Avenue Alley Improvements- Department of Public Works
6. Bid Recommendation- Virginia Manor Court Street Improvements- Department of Public Works
7. Purchase Requisition- Rehrig Vision Service Verification Hardware/Software- Environmental Programs
8. Bid Recommendation- Back-up Generator Replacement Project Phase I- Department of Community Resources and Emergency Management
9. Adjournment

CITY OF LAUREL
ROADWAY IMPROVEMENTCONCEPT STUDY
[DRAFT]

VAN DUSEN ROAD IMPROVEMENTS

(CONTEE ROAD TO OLD SANDY SPRING ROAD)

November 26, 2023

Prepared by:

CENTURY ENGINEERING
A Kleinfelder Company

Prepared for:

City of Laurel DPW

CITY OF LAUREL MARYLAND
MAYOR AND CITY COUNCIL OF LAUREL

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

Century Engineering, LLC, A Kleinfelder Company (Century) was tasked by the City of Laurel Department of Public Works (City) to prepare this pedestrian and vehicular traffic safety improvement Concept Study (Study) along the Van Dusen Road corridor, from Contee Road to Old Sandy Spring Road (approximately 1.6 miles) in Laurel, Maryland. The scope of the Study included assessments of pedestrian/bicycle facilities (ramps, crosswalks, sidewalks, Hiker-Biker Trails), Bus Stop locations, traffic signal operations, and Drainage/Stormwater Management (SWM) requirements, along with a determination of Utility, Right-of-Way (ROW), and environmental impacts. An *Order-of-Magnitude (OOM) Cost Estimate* was prepared for all the recommended improvements. The overall Study goal was to better define the scope of work for the Final Design and construction of the safety and operational improvements along the Van Dusen Road Study corridor. Preparation of this Roadway Improvement Concept Study, and the design and construction of the improvements will use American Rescue Plan Act (ARPA) 2023 funding.

2.0 STUDY CORRIDOR LOCATION AND DESCRIPTION

2.1 Study Corridor

The Van Dusen Road Study corridor includes 1.6 miles (approx.) of roadway, from the southern limit at Contee Road to the northern limit at Old Sandy Spring Road (see *Figure 1*). It runs in a north-south direction and has a posted speed limit of 30 MPH. The corridor's typical cross section is a combination of open-section roadway and closed-section roadway, with the vehicular travel lanes conveying 2-lanes of traffic up to 6-lanes of traffic across multiple segments. There are also pedestrian and bicycle facilities throughout the corridor; these are described further in this report.

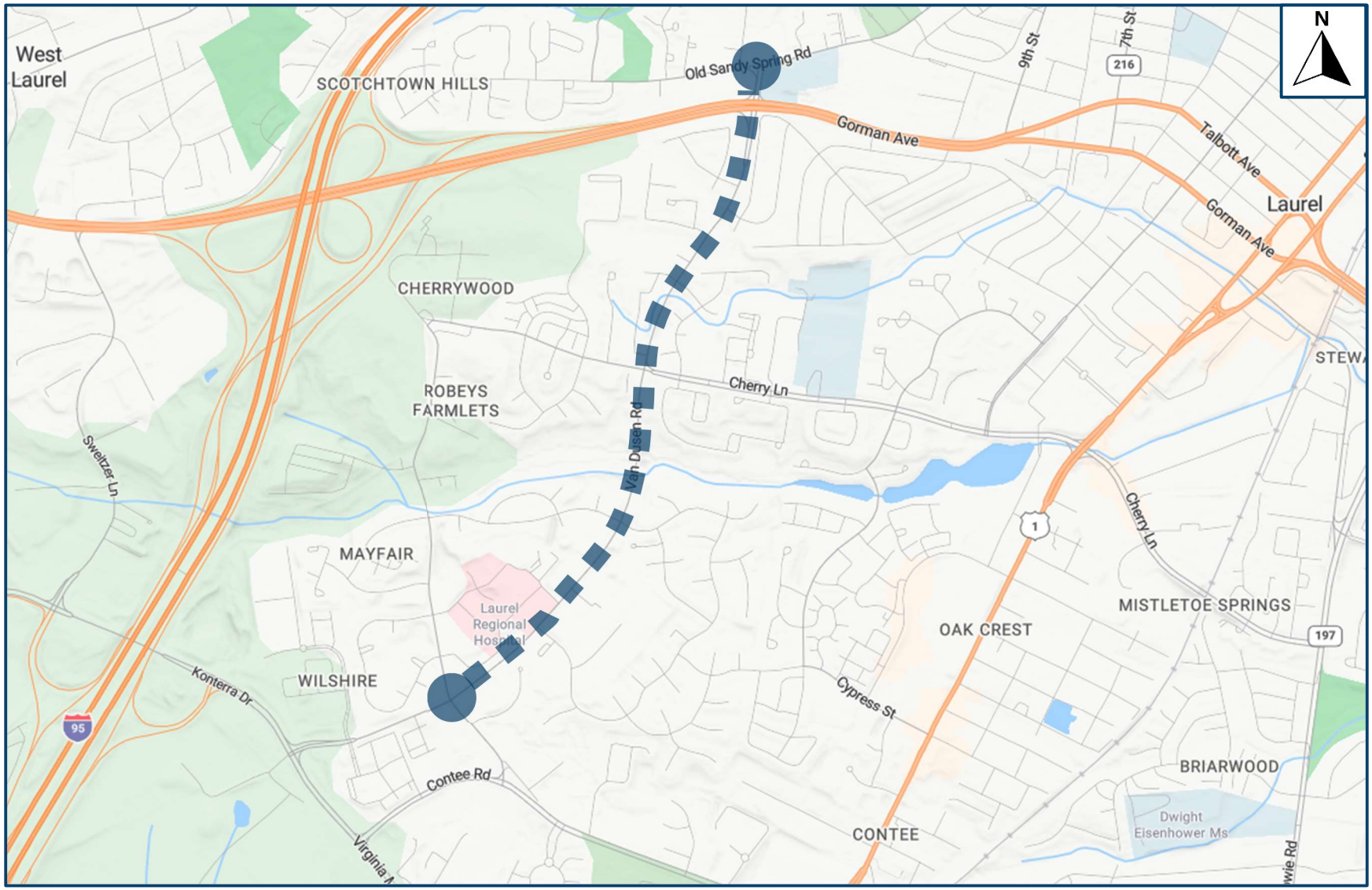
2.2 Corridor Main Segments

The segment of Van Dusen Road **between Contee Road and Cherry Lane is classified as a Major Collector** with the typical roadway section varying between 2-lanes and 4-lanes for vehicular traffic. It has a 1,035 ft. flush median just south of the Cherry Lane intersection, which separates a single lane of traffic in each direction. A Hiker-Biker trail runs along the east side of the roadway, which also has curb and gutter and storm drain inlets (closed-section) for the entire segment length. The west side of the segment is primarily an open-section roadway with 10 ft. shoulder from 520 ft. north of Contee Road to 110 ft. south of the intersection at UMD Laurel Medical Center; and from 220 ft. north of the UMD Laurel Medical Center intersection to 325 ft. south of the intersection at Olive Branch Way/Killbarron Drive. The segment contains four (4) signalized intersections at Contee Road, UMD Laurel Medical Center, Olive Branch Way/Killbarron Drive, and Cherry Lane.

Between Cherry Lane and MD 198 (Sandy Spring Road), Van Dusen Road is classified as a Minor Arterial with a typical roadway section varying between 2-lanes and 6-lanes for vehicular traffic. Sidewalk runs along the east side of the roadway, which also has curb and gutter and storm drain inlets (closed-section) for the entire segment length. The west side of the segment is primarily an open-section roadway from the Laurel Oaks Lane southern ingress/egress to MD 198, with shoulder widths varying from 0 ft. – 11 ft. There is some guardrail, however, not all sections without shoulder have guardrails. There are three (3) signalized intersections – excluding the Cherry Lane intersection – at South Arbory Lane, Arbory Court, and MD 198.

The segment of Van Dusen Road **between MD 198 and Old Sandy Spring Road is classified as a Major Collector** with a typical roadway section of 6-lanes, i.e., 2-lanes northbound and 4-lanes southbound, separated by a raised median up to 35 ft.-wide, having plantings (trees and shrubs). This segment is a closed-section roadway with sidewalk running along the east side of the roadway. There is no storm drain inlet within the segment.

Figure 1
VAN DUSEN ROAD CONCEPT STUDY LIMITS



Source: Bing Maps®

3.0 CORRIDOR FIELD REVIEW

This section of the Study, along with *Section 4.0* and *Section 5.0* present the findings of preliminary field reviews of the Van Dusen Road corridor, with a focus on Traffic Control Devices (TCD), pedestrian and bicycle facilities, drainage facilities, and potential environments impacts. *Appendix A* contains aerial imagery plans of the existing Van Dusen Road corridor that depict the existing signing and pavement markings and the condition (compliant/non-compliant) of pedestrian/bicycle, Bus Stop, and roadside facilities within the Study limits.

3.1 Van Dusen Road

Signing and Pavement Markings

The following are some general observations of the condition and application of the signing and pavement markings along the corridor. Additional descriptions of specific locations and their associated deficiencies are provided in *Section 6.2*.

- The signing and pavement markings for multiple turn bays along Van Dusen Road do not meet guidance provided in the Federal Manual on Uniform Traffic Control Devices (MUTCD) and the Maryland Supplement to the MUTCD (MDMUTCD).
- The Van Dusen Road through lanes for multiple locations drop or widen with little guidance. This does not meet driver expectation.
- Most of the signing along Van Dusen Road does not meet requirements of the MDMUTCD.

Pedestrian and Bicycle Facilities

- 4 ft. sidewalk next to utility or light poles:
  - Along northbound Van Dusen Road from Cherry Lane to Arbory Court
  - Along both sides of Old Sandy Spring Road.
- 10 ft. Hiker-Biker trail along northbound Van Dusen Road from Contee Road to Cherry Lane.
- ADA compliant 5 ft. – 8 ft. wide sidewalks from Arbory Court to Old Sandy Spring Road.
- Along southbound of Van Dusen Road at Duniho Nigh Community Park, there are no sidewalks from Laurel Oaks Lane or South Arbory Lane, which are the two nearest streets to the community park.
- Thirty-seven (37) non-complaint pedestrian ramps. Five (5) are non-compliant due to detectable warning surfaces issues including the Laurel Park Drive pedestrian ramp detectable warning surface do not extend through the width of the ramp; and Church of Jesus Christ Latter-Day Saints and Laurel Park Shopping Center ADA ramps have detectable warning surfaces on an unsignalized or unnamed roadway.
- Two (2) ADA ramps are missing from the west leg of Van Dusen Road at Old Sandy Spring Road. There is an existing crosswalk on this leg.

Bus Stops

- Seven (7) non-compliant bus stops due to missing pedestrian bus pads. There are four (4) bus stops along southbound Van Dusen Road and three (3) bus stops along northbound Van Dusen Road. The four (4) southbound Van Dusen Road bus stops are currently placed along existing drainage ditches with non-compliant/no handrails.
- One (1) non-compliant existing pedestrian bus pad.
- One (1) complaint bus pad along southbound of Van Dusen Road at the UMD Laurel Medical Center entrance; however, the sidewalk in front of it is 4 ft. wide.

Handrails

- Four (4) non-compliant handrails due to insufficient height requirements. These are located along the back of inlets.

Traffic Barriers

- All the existing traffic barrier within the project limits is non-complaint including the wooden railing behind the Hiker-Biker trail between Kilbarron Drive and Cherry Lane.
- The wooden railing is too short to protect pedestrian/bikers from a steep drop-off behind the Hiker-Biker trail.

Drainage Facilities

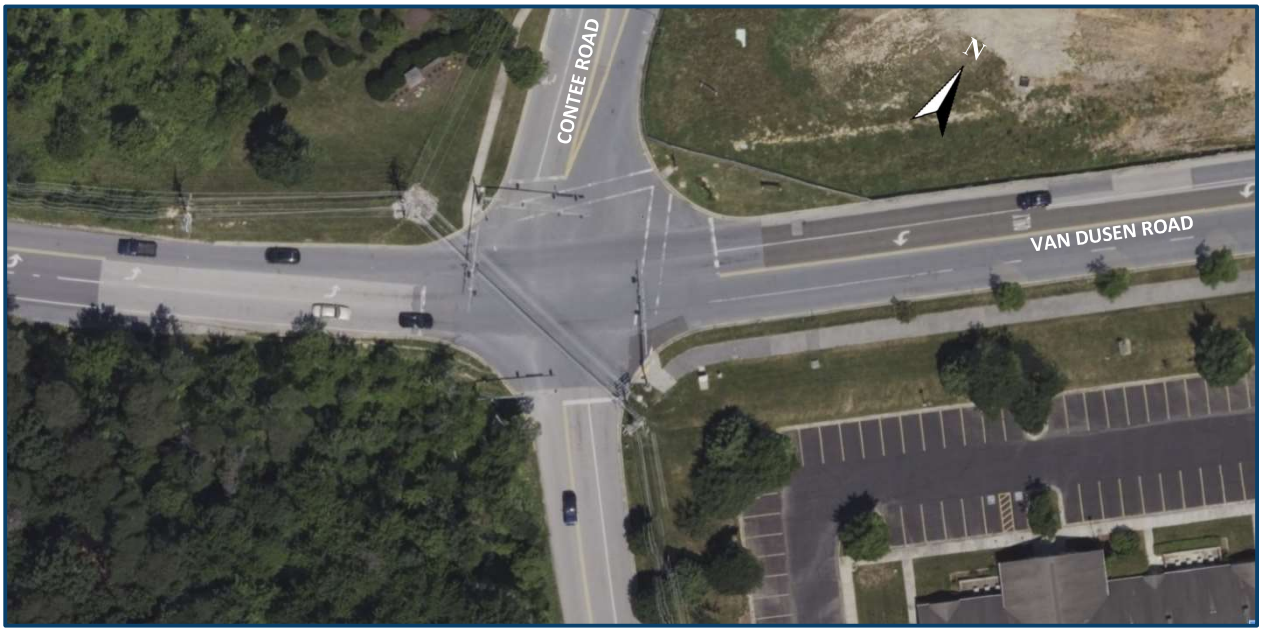
- Century was able to visually assess the condition of most drainage structures. Some structures could not be opened due to traffic and/or fixed covers. Generally, all drainage structures appeared to be in good condition, with a few exceptions listed below.
- Roadside swales along the corridor were visually assessed. Generally, swales appeared to be stable and functioning as designed, with few exceptions listed below.
- Storm drain outfalls were visually assessed and observed to be in stable condition.

4.0 INTERSECTION FIELD REVIEWS

4.1 Contee Road (Signalized)

At this location, Van Dusen Road is a closed-section Major Collector roadway that runs in a north-south direction with a 30 MPH posted speed limit. South of the intersection (and the project limits) the posted speed limit increases to 35 MPH. Northbound and southbound have one (1) left-turn and one (1) through/right-turn lane. The east leg of Contee Road is classified as a Major Collector roadway and the west leg is a Local roadway. Contee Road runs in an east-west direction with a 35 MPH posted speed limit. West of the intersection the posted speed limit decreases to 30 MPH. Eastbound and westbound have one (1) through/left and one (1) right turn lane. Sidewalk runs along both sides of the west leg and along the west side of the north leg. A Hiker-Biker trail begins in the southeast quadrant and runs along east side Van Dusen Road. There are marked crosswalks on the north and west legs of the intersection. No issues were observed for traffic barriers and drainage facilities at this intersection. An image of the intersection is shown in *Figure 2.*

Figure 2
VAN DUSEN ROAD AT CONTEE ROAD



Source: Bing Maps®

<u>Traffic Signal</u>

- Southbound Van Dusen Road exclusive/permissive left-turn and through signal indications were activated concurrently during every signal phase, even when there were no left-turning vehicles.
- Accessible Pedestrian Signal (APS)/Countdown Pedestrian Signal (CPS) are ono-compliant.
- Durations of the pedestrian clearance phases appear to be insufficient. They were observed at 16 seconds on the north leg and 18 seconds on the west leg. They should be 23/24 seconds.
- The signal appears to have been installed more than seventeen (17) years ago. Need to confirm the signal has routine operational and structural inspections.

Signing and Pavement Markings

- Southbound Van Dusen Road left-lane drops does not appear to be necessary.
- The eastbound and westbound Contee Road right turn bays have signing and/or pavement markings for a right lane drop.
- The north and west leg crosswalks are marked with 12 in. transverse pavement markings.

Pedestrian and Bicycle Facilities

- All pedestrian ramps at this location are non-compliant due to 4 ft. ramp widths.
- The pedestrian bus pad along southbound Van Dusen Road is non-compliant due to slope.
- The bus stop along northbound Van Dusen Road is non-compliant due to no bus pad connection from the Hiker-Biker trail to Van Dusen Road.
- The north leg has 5 ft. sidewalk along southbound Van Dusen Road and an approximately 10 ft. Hiker-Biker trail along northbound Van Dusen Road.
- Also, the south leg has a goat path along northbound Van Dusen Road.

4.2 UMD Laurel Medical Center (Signalized)

At this location, Van Dusen Road is a closed section Major Collector that runs in a north-south direction with a 30 MPH posted speed limit. Northbound has one (1) left/through and one (1) through lane. Southbound has one (1) right-turn and one (1) through lane. The UMD Laurel Medical Center access runs in an east-west direction. Eastbound has one (1) left and one (1) right turn lane. Sidewalk runs along the west side of Van Dusen Road from the UMD Medical Center to the bus stop. There is a marked crosswalk on the south leg that connects this sidewalk to the Hiker-Biker trail that runs along the east side of Van Dusen Road. No issues were observed for traffic barriers and drainage facilities at this intersection. An image of the intersection is shown in *Figure 3*.

Figure 3
VAN DUSEN ROAD AT UMD LAUREL MEDICAL CENTER

Source: Bing Maps®

Traffic Signal

- Pedestrian signals and pushbuttons are not APS/CPS-compliant.
- The signal appears to have been installed more than twenty-eight (28) years ago.
- Need to confirm the signal has routine operational and structural inspections.

Signing and Pavement Markings

- The south leg crosswalk is marked with 12 in. transverse pavement markings and additional 12 in. diagonal hatching.
- The diagonal hatching is angled the wrong way.
- The UMD Laurel Medical Center access pavement markings are faded so it is no longer visible.

Pedestrian and Bicycle Facilities

- The pedestrian ramp within the southwest corner of the intersection at the UMD Laurel Medical Center is non-compliant due to a 4 ft. width.
- The bus stop at the southwest corner is compliant but the sidewalk is 4 ft. wide.
- There is an approximate 10 ft. Hiker-Biker trail along northbound Van Dusen Road.
- Additionally, the handrail at the inlet along northbound Van Dusen Road is non-compliant due to insufficient height requirements.

4.3 Olive Branch Way / Killbarron Drive (Signalized)

At this location, Van Dusen Road is a closed section Major Collector that runs in a north-south direction, with a 30 MPH posted speed limit. Northbound and southbound have one (1) left-turn, one (1) through and one (1) right-turn lane. Olive Branch Way and Killbarron Drive are classified as Local roadways that run in an east-west direction with a 25 MPH posted speed limit. Eastbound and westbound have one (1) left-turn and one (1) through/right-turn lane. Sidewalk runs along both sides of Olive Branch Way/Killbarron Drive, and a Hiker-Biker trail runs along the east side Van Dusen Road. There are marked crosswalks on all four (4) legs of the intersection. An image of the intersection is shown in *Figure 4*.

Figure 4
VAN DUSEN ROAD AT OLIVE BRANCH WAY/KILLBARRON DRIVE

Source: Bing Maps

Traffic Signal

- The northbound Van Dusen Road exclusive/permissive left turn phase was not operating correctly. The left turn phase would come up at multiple times during the through phase, when no vehicles were present. In addition, a resident commented that the southbound exclusive/permissive left turn phase is extremely short and only allows for one to two vehicles. This happens at all times of the day. A different resident commented that there is a lot of red light running at the intersection and was concerned about safety. The red-light-running was observed many times during the field observations.
- The pedestrian pushbuttons in the northeast and southwest quadrants were broken and not APS/CPS compliant. The duration of the pedestrian clearance phases appears to be insufficient. They were observed at 16 seconds but should be 20 seconds.
- The signal appears to have been installed more than eighteen (18) years ago. Need to confirm the signal has routine operational and structural inspections.

Signing and Pavement Markings

- The east and west leg crosswalks are marked with 12 in. transverse pavement markings.
- The north and south leg crosswalks are marked with 12 in. transverse pavement markings with additional 12 in. longitudinal lines.

Pedestrian and Bicycle Facilities

- All pedestrian ramps at this location are non-compliant. The pedestrian ramps along the east leg of the intersection are missing detectable warning surfaces; all the other ramps are non-compliant due to 4 ft. width and slope requirements.
- There are non-compliant bus stops in the northwest and southeast corners without pedestrian bus pads.
- The sidewalks along Olive Branch Way are approximately 4 ft. wide.
- The Hiker-Biker trail along northbound of Van Dusen Road is approximately 10 ft. wide and has overhanging tree branches.

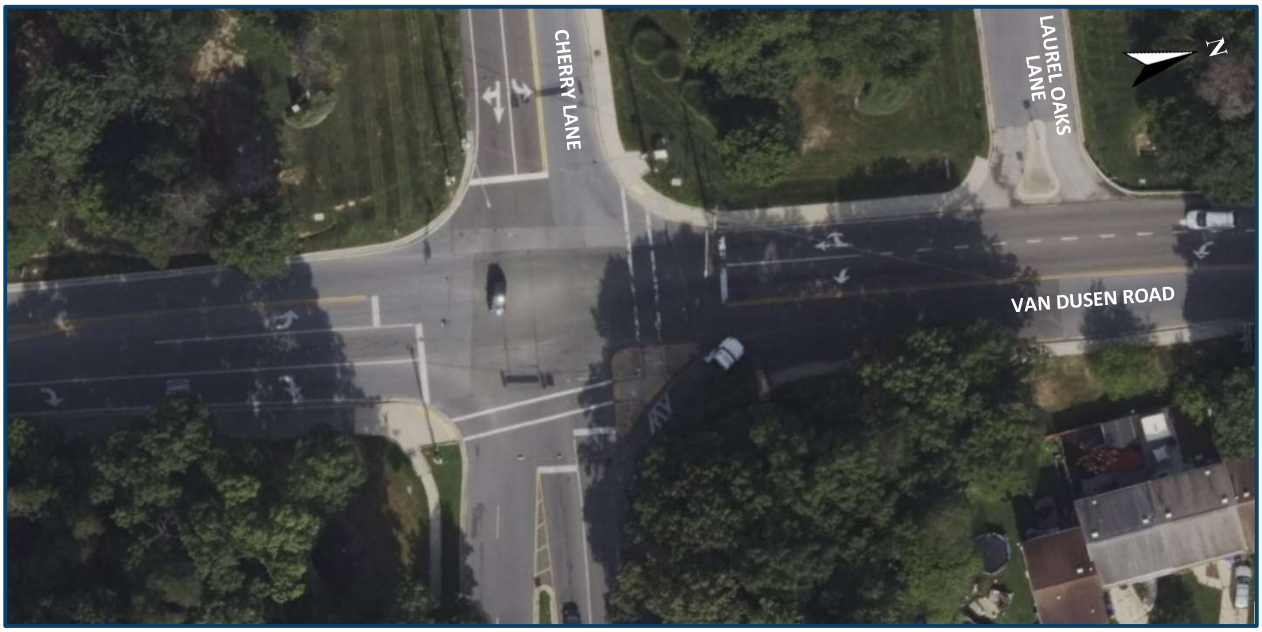
Drainage Facilities

- A roadside swale conveys runoff from the adjacent property from the south towards the intersection. A low spot in topography was observed at the southwest quadrant of the intersection. It is likely during high intensity storm events that runoff will pond at this low spot and spill into the roadway. Runoff will continue to flow north, across the Olive Branch Way intersection towards the next downstream inlet located approximately 260 ft. north of the intersection. Ruoff from these high intensity storm events are likely excessive with the potential to create an adverse safety condition for drivers.

4.4 Cherry Lane (Signalized)

At this location, Van Dusen Road is a closed section Minor Arterial on the north leg and a Major Collector on the south leg. It runs in a north-south direction with a 30 MPH posted speed limit. Northbound has one (1) left-turn, one (1) through and one (1) right-turn lane. Southbound has one (1) left-turn and one (1) through/right-turn lane. Additionally, southbound (south of the intersection) is monitored with a speed enforcement camera. Cherry Lane is a closed section Minor Arterial on the east leg and a Local roadway on the west leg that runs in an east-west direction with a 30 MPH posted speed limit. Eastbound has one (1) left-turn and one (1) through/right-turn lane. Westbound has one (1) left-turn, one (1) through and one (1) right-turn lanes. Sidewalk runs along the north and the south sides of the intersection. A Hiker-Biker trail begins in the southeast quadrant. There are marked crosswalks on the north and east legs of the intersection. No issues were observed with the drainage facilities at this intersection. An image of the intersection is shown in *Figure 5*.

Figure 5
VAN DUSEN ROAD AT CHERRY LANE



Source: Bing Maps ®

Traffic Signal

- The pedestrian pushbuttons are not APS/CPS compliant.
- The durations of the pedestrian clearance phases are insufficient. They were observed at 12 seconds and should be 15 seconds.
- The signal appears to have been installed more than eighteen (18) years ago. Confirm the signal has routine operational and structural inspections.

Signing and Pavement Markings

- The north and east leg crosswalks are marked with 12 in. transverse pavement markings.
- The east leg channelized right turn pedestrian crossing is diagonally hatched.
- Many school children use the crosswalks. All of them used the pushbuttons.
- There are no school crossing or standard school zone signs.
- The pavement markings and signing for the westbound Cherry Lane right and left lane drops are not correct.
- The MD 198 and I-95 trailblazer assemblies along Cherry Lane are not correct.

Pedestrian and Bicycle Facilities

- All pedestrian ramps in the concrete island at Cherry Lane are ADA-compliant, including the ramp in the northeast corner of Van Dusen Road and Cherry Lane.
- The northeast ADA ramp is adjacent to a 4 ft. sidewalk that transitions to 5 ft. just for the ramp.
- The southeast ADA ramp has a detectable warning surface that is too long and there is no connecting ramp in the southwest corner.
- The sidewalk in the northeast corner is 4 ft. wide, the northwest sidewalk along Van Dusen Road is 5 ft. wide, and the Hiker-Biker trail along the southeast leg of Van Dusen Road is approximately 10 ft. wide.
- There is an ADA ramp at Laurel Oaks Lane that leads to a raised island without pedestrian cut-through access.

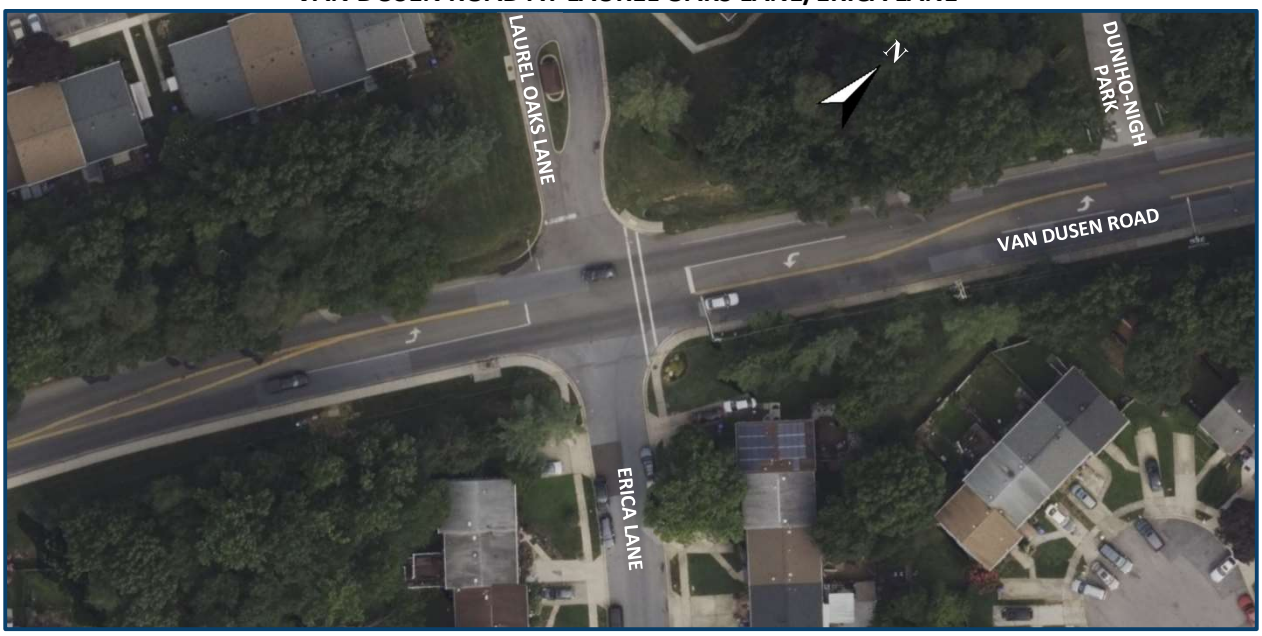
Traffic Barriers

- Traffic barrier at this location is non-compliant due to insufficient height requirements.

4.5 Laurel Oaks Lane / Erica Lane (Unsignalized)

At this location, Van Dusen Road is an open and closed section Minor Arterial that runs in a north-south direction with a 30 MPH posted speed limit. Northbound and southbound have one (1) left-turn and one (1) through/right-turn lane. Laurel Oaks Lane and Erica Lane are classified as Local roadways that runs in an east-west direction with a 25 MPH posted speed limit. Both have one (1) left/through/right turn lane. Sidewalk runs along both sides of Erica Lane and the east side Van Dusen Road. There is a marked unsignalized crosswalk on the north leg. An image of the intersection is shown in *Figure 6*.

Figure 6
VAN DUSEN ROAD AT LAUREL OAKS LANE/ERICA LANE



Source: Bing Maps®

Signing and Pavement Markings

- Northbound and southbound Van Dusen Road are uncontrolled but there are stop lines in the northbound and southbound left turn bays.
- The north leg crosswalk is marked with 12 in. transverse pavement markings.
- There is no stop line for westbound Erica Lane.

Pedestrian and Bicycle Facilities

- There is a school bus stop in the northwest quadrant that served 10-15 students.
- All pedestrian ramps are non-compliant in this location due to 4 ft. ramp widths and the adjacent 4 ft. sidewalk.
- There is a bus stop sign at the north leg but there is no bus pad.
- The bus stop in the south leg is compliant but the sidewalk is 4 ft. wide.
- There is no crosswalk across Erica Lane connecting the ADA ramps.

Drainage Facilities

- The 24 in. concrete culvert located under Laurel Oaks Lane was observed to be clogged with sediment.

4.6 South Arbory Lane (Signalized)

At this location, Van Dusen Road is an open and closed section Minor Arterial that runs in a north-south direction with a 30 MPH posted speed limit. Northbound has one (1) left-turn and one (1) through/right-turn lane. Southbound has one (1) left-turn and one (1) through/right-turn lane. Additionally, southbound (north of the intersection) is monitored with a speed enforcement camera. S. Arbory Lane is classified as a Local roadway that runs in an east-direction. Eastbound has one (1) left/through/right turn lane. The east leg is an entrance only for the Leo E. Wilson Community Park. Sidewalk runs along the north and east side of the intersection and is connected with a marked crosswalk on the north leg. No isues were observed with drainage facilities at this location. An image of the intersection is shown in *Figure 7*.

Figure 7
VAN DUSEN ROAD AT SOUTH ARBORY LANE

Source: Bing Maps®

Traffic Signal

- The presence detection for the northbound Van Dusen Road left turn lane is not working properly. The exclusive/permissive left turn phase came up multiple times during the through phase when no vehicles were in the left turn lane. This causes southbound Van Dusen Road through vehicles to stop and queue unnecessarily.
- The pedestrian pushbuttons are not APS/CPS compliant.
- The signal appears to have been installed more than thirty-three (33) years ago. Need to confirm that the signal undergoes routine operational and structural inspections.

Signing and Pavement Markings

- The north leg crosswalk is marked with 12 in. transverse pavement markings.

Pedestrian and Bicycle Facilities

- All pedestrian ramps at this location are non-complaint. Both pedestrian ramps along the east leg are non-complaint due to slope and adjoining 4 ft. sidewalk on both sides.
- There is no crosswalk connecting the east leg of the intersection.
- The north leg pedestrian ramp is non-complaint due to 4 ft. sidewalk width requirements.
- There is a bus stop sign in the northwest corner but no bus pad.

Traffic Barriers

- The traffic barrier along southbound Van Dusen Road is non-compliant due to insufficient height requirements.

4.7 Arbory Court (Signalized)

At this location, Van Dusen Road is an open and closed section Minor Arterial that runs in a north-south direction with a 30 MPH posted speed limit. Northbound has one (1) left-turn and one (1) through lane. Southbound has one (1) right-turn and one (1) through lane. Arbory Court is classified as a Local roadway that runs in an east direction. Eastbound has one (1) left/through/right turn lane. Sidewalk runs along the north and east side of the intersection and is connected with a marked crosswalk on the north leg. An image of the intersection is shown in *Figure 8*.

Figure 8
VAN DUSEN ROAD AT ARBORY COURT

Source: Bing Maps®

Traffic Signal

- The presence detection for the northbound Van Dusen Road left turn lane is not working properly.
- The exclusive/permissive left turn activates when no vehicles are present in the left turn lane. This causes the southbound Van Dusen Road through vehicles to stop and queue unnecessarily.
- Also, the presence detection for eastbound Arbory Court is not working properly. A resident commented that a vehicle at the stop line does not always send a call. This delay causes some drivers to run the red light or turn right and turn around.
- The pedestrian pushbuttons are not APS/CPS compliant.
- The walk phase (16 seconds) and pedestrian clearance phase (7 seconds) are reversed.
- The signal appears to have been installed more than 24 years ago. Confirm the signal has routine operational and structural inspections.

Signing and Pavement Markings

- The pavement markings and signing for the southbound Van Dusen Road lane-drops are not correct.
- The north leg crosswalk is marked with 12 in. transverse pavement markings.

Pedestrian and Bicycle Facilities

- Both pedestrian ramps at this intersection are non-compliant. The ramp in the northwest corner does not have a detectable warning surface and the ramp in the northeast corner does not meet slope requirements.
- The 8 ft. sidewalk along northbound Van Dusen Road transitions into a 4 ft. non-compliant sidewalk.

Traffic Barriers

- The traffic barrier along southbound of Van Dusen is not the proper height.

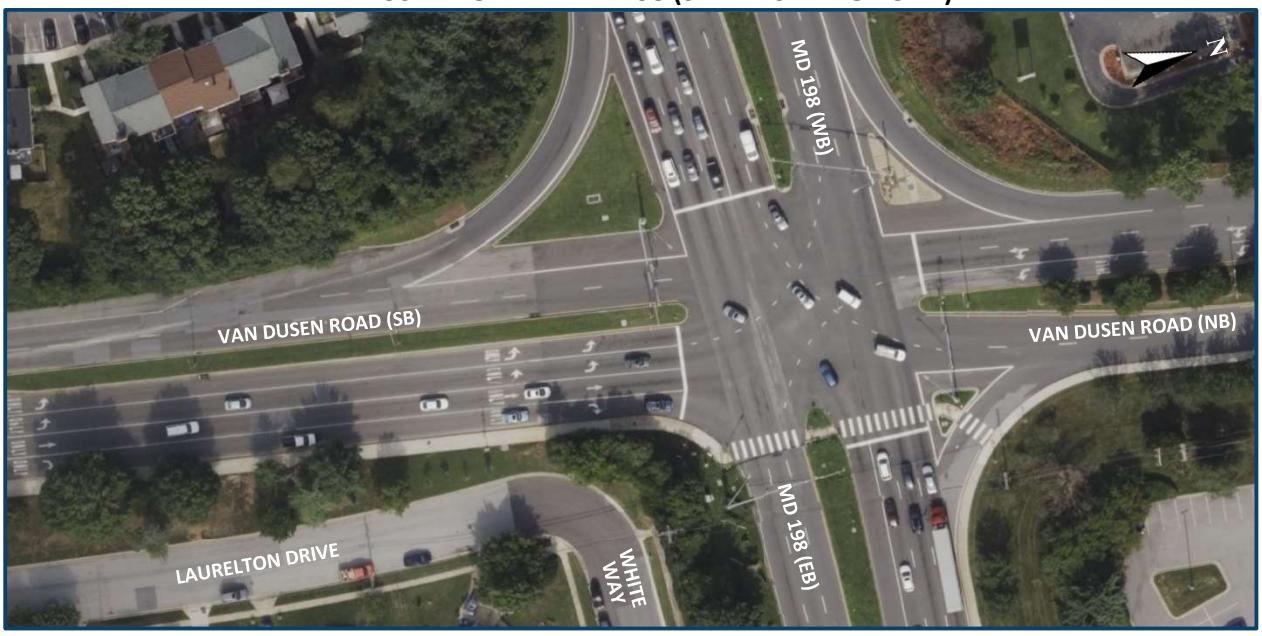
Drainage Facilities

- The 18 in. concrete culvert located under Arbory Court was observed to be clogged with sediment.

4.8 MD 198 (Signalized)

At this location, Van Dusen Road is a divided, closed section Major Collector on the north leg and a Minor Arterial on the south leg. It runs in a north-south direction with a 30 MPH posted speed limit. Northbound has two (2) left-turn, one (1) through and one (1) right-turn lane. Southbound has one (1) left-turn, one (1) through/left, one (1) through, and one (1) channelized right-turn lane. MD 198 is classified as a Principal Arterial-Other roadway that runs in an east-west direction with a 35 MPH posted speed limit. Eastbound has two (2) left-turn lanes, three (3) through lanes and one (1) channelized right-turn lane. Westbound has one (1) left-turn lane, two (2) through lanes and one (1) through/right-turn lane. A sidewalk runs along the east side of the intersection and is connected with a marked crosswalks on the east leg. No traffic signal equipment issues, nor drainage facility issues were observed at this location. An image of the intersection is shown in *Figure 9*.

Figure 9
VAN DUSEN ROAD AT MD 198 (SANDY SPRING ROAD)



Source: Bing Maps®

Signing and Pavement Markings

- The ONLY pavement markings are not necessary in the northbound and southbound Van Dusen Road left turn bay or the northbound right turn bay.
- There are no advanced trailblazer assemblies for MD 198 along southbound Van Dusen Road.
- The northbound Van Dusen Road pavement markings are incorrect.
- The advanced signing along northbound Van Dusen Road is in poor condition and incorrect.
- The W6-1 divided highway sign in the south leg median nose and the southbound W4-2R sign, south of MD 198 are not correct.

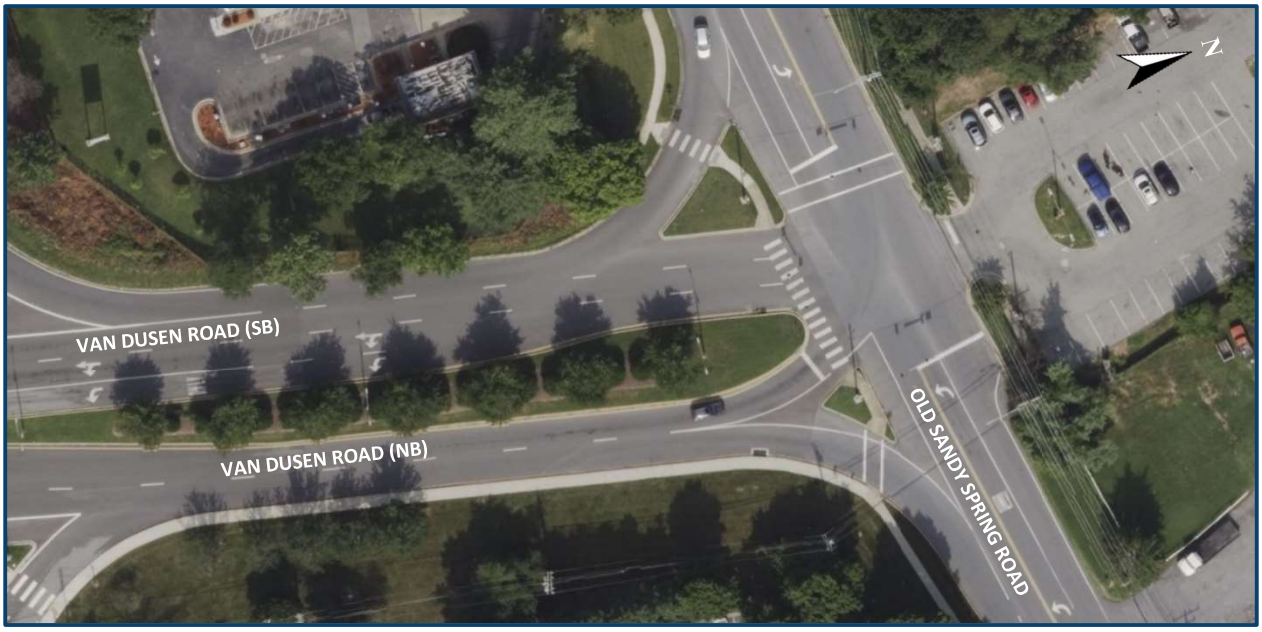
Pedestrian and Bicycle Facilities

- All ramps and sidewalk at this intersection are compliant.
- The sidewalk along northbound of Van Dusen Road is 8 ft. wide.

4.9 Old Sandy Spring Road (Signalized)

At this location, Van Dusen Road is a divided, closed section Major Collector that runs in a north-south direction with a 30 MPH posted speed limit. Northbound has one (1) combined through/left-turn and one (1) channelized right-turn lane. Southbound (Laurel Park and Ride) has one (1) left/through/right lane. Old Sandy Spring Road is classified as a Major Collector on the east leg and a Local roadway on the west leg. It runs in an east-west direction with a 25 MPH posted speed limit. Eastbound has one (1) left-turn, one (1) through and one (1) channelized right-turn lane. Westbound has one (1) left-turn and one (1) through/right-turn lane. Sidewalk runs along both roadways with marked crosswalks on the south and west legs. No issues were observed with the drainage facilities at this location. An image of the intersection is shown in *Figure 10*.

Figure 10
VAN DUSEN ROAD AT OLD SANDY SPRING ROAD



Source: Bing Maps®

Traffic Signal

- Vehicles making a left turn from northbound Van Dusen Road did not yield to pedestrians in the crosswalk during the walk phase.
- The pedestrian signals and pushbuttons are not APS/CPS compliant.
- The signal appears to have been installed more than thirty-two (32) years ago. Need to confirm that the signal has routine operational and structural inspections.

Signing and Pavement Markings

- The west leg and north leg channelized right turn crosswalks are marked with 12 in. transverse pavement markings.
- The existing high visibility continental crosswalk on the south leg does not align with vehicle wheel paths.
- The 5 in. solid white, arrow and ONLY pavement markings for the eastbound and westbound left turn bays are incorrect.
- The location of the north leg stop line encourages vehicles to block the sidewalk path.
- The R4-7a sign in the south leg median nose and yield signs are in poor condition.
- The pedestrian and down arrow signs for the channelized crossings are fluorescent yellow green.

Pedestrian and Bicycle Facilities

- There is an existing crosswalk across the west leg of this intersection but there are no ADA ramps for pedestrians to cross.
- All but one (1) pedestrian ramp is non-compliant due to slope requirements.
- The sidewalk in-front of the Laurel Park and Ride is 4 ft. wide and the sidewalk along northbound Van Dusen Road is 5 ft. wide.

5.0 ENVIRONMENTAL REVIEW

A desktop analysis and visual field investigation were performed by Century on October 11 and 12, 2023 to identify any natural resources, including wetlands, waterways, floodplains, forest, and specimen trees within 50 ft. of Van Dusen Road along the project corridor.

5.1 Wetlands and Waters of the U.S.

The field investigation identified five (5) nontidal wetlands, four (4) perennial waterways, two (2) intermittent waterways, and one 100-year floodplain. The northern most perennial channel is located between Arbory Court and S. Arbory Lane and is culverted under Van Dusen Road, flowing in a southeasterly direction. This perennial stream channel receives flow from one (1) intermittent stream channel beginning at a culvert under Arbory Court flowing south. South of S. Arbory Lane and north of the access drive for tennis courts, one (1) perennial stream channel is culverted eastward under Van Dusen Road. This perennial stream channel receives flow from one (1) intermittent stream channel flowing north from a head cut, west of VanDusen Road. In addition, a palustrine forested (PFO) wetland was identified on the upstream left bank of the perennial stream. Crows Branch is a perennial stream located between the north and south ends of Laurel Oaks Lane and has a culverted flow eastward under Van Dusen Road, the upstream end of this culvert was not found and is assumed to be beyond the road right of way, based on desktop mapping. Bear Branch is the final perennial channel within the study area and is located south of Cherry Lane and north of Olive Branch Way. Bear Branch enters the study area from the west as a two-channel system and is culverted under Van Dusen Road, flowing to the east. Two (2) nontidal wetlands were identified south of Bear Branch on the western side of Van Dusen Road, the northern most wetland was classified as a palustrine emergent (PEM) wetland and southern wetland was classified as a palustrine scrub-shrub and forested (PSS/PFO) wetland. One (1) nontidal wetland was identified north of Bear Branch on the western side of Van Dusen Road and was classified as a PEM wetland. The final wetland identified was located north of Bear Branch on the eastern side of Van Dusen Road, this wetland was classified as PEM within the right of way and extend east transitioning into a PFO wetland. Additionally, there is a Federal Emergency Management Administration (FEMA) mapped 100-year floodplain along Bear Branch.

5.2 Specimen Trees and Potential Forest Stands

The desktop analysis and visual field investigation identified one (1) specimen tree and eight (8) adjacent forested areas.

One (1) 36.1” southern red oak (*Quercus falcata*) specimen tree was located on the east side of Van Dusen Road, south of Erica Lane. Three (3) forested areas were identified on the northern portion of the study corridor along the west side of Van Dusen Road between Cherry Lane and Arbory Court. In addition, one (1) additional forested area was identified on the northern portion of the study corridor, along the east side of Van Dusen Road, between Alan Drive and Carissa Lane. On the central portion of the study corridor, one (1) forested area was identified on the west side of Van Dusen Road along Bear Branch and two (2) forested areas on the east side of Van Dusen Road along Bear Branch. The last area of forest identified is located on the southern portion of the study corridor, east of Laurel Regional Hospital and west of Van Dusen Road.

6.0 DATA COLLECTION AND CONDITIONS ASSESSMENT

6.1 Traffic Data Collection

Five (5) of the traffic counts were obtained from previous City of Laurel traffic studies. Three (3) locations, Van Dusen Road at Arbory Court, Van Dusen Road at S. Arbory Lane and Van Dusen Road at the UMD Laurel Medical Center required AM/PM peak hour counts. These counts were performed by Century under clear weather conditions, and with a dry roadway surface. *Appendix B* contains the detailed traffic count summaries.

The existing traffic signal timing data was provided by the City of Laurel and the Maryland State Highway Administration (SHA). Six (6) of the Van Dusen Road traffic signals are maintained and operated for the City of Laurel by Econolite and run a single timing plan. These timing plans had to be modified based on observed field operations. MD 198 (Sandy Spring Road) is a SHA signal and Contee Road is Prince George's County signal. The signal timing plan for Contee was not provided so it was developed from field observations. The signal timing sheets, and AM/PM *Synchro* model files were provided by SHA for MD 198. *Appendix C* includes the signal timing data and *Appendix D* includes the *Synchro/SimTraffic* reports.

The GIS topography (impervious areas and buildings) and ROW were obtained from the Prince George's County GIS website. The aerial used is the 6 in. imagery provided by SHA. The physical features such as utility poles and electrical boxes were obtained by a combination of the aerial and field verification. The existing signs were obtained from a review of *Google®* aerial imagery and through field verification. The as-built traffic signal plans for the eight (8) signals along Van Dusen Road were provide by the City of Laurel and are included in *Appendix E.*

6.2 Signing and Pavement Marking Deficiencies

The existing signing and pavement markings throughout the corridor do not meet the current MDMUTCD requirements, nor satisfy driver expectation. For example:

- The 5 in. white, ARROW and ONLY pavement markings are incorrectly installed in many of the Van Dusen Road turn bays. ONLYs should be reserved for through lane drops. Upgrade the corridor based on the guidance in the MDMUTCD Section 3B.20.
- Through lane configuration do not meet driver expectations.
  - Southbound Van Dusen Road north of Contee Road is one lane and signed/ marked as a left lane drop. This makes through traffic merge right to stay on Van Dusen Road.
  - Northbound Van Dusen Road at UMD Laurel Medical Center does not have a dedicated left turn lane. There are 98 AM and 24 PM left turns that through traffic must bypass.
  - Southbound Van Dusen Road right lane drops into Arbory Court. There are eighteen (18) right-turns and AM and fifty-two (52) right-turn during the AM and PM Peak Periods, respectively. Also, most of the southbound traffic is directed into the right lane south of MD 198. There are 187 AM and 197 PM trips from the southbound Van Dusen Road through/left turn lane and 438 AM and 758 PM from eastbound MD 198 right turn lane.
  - Northbound Van Dusen Road south of MD 198 widens from one lane to four lanes with minimal guidance.

- Existing signing size, color and design do not meet current MDMUTCD guidance. For example:
  - R3-7, Right Lane Must Turn Right and the Left Lane Must Turn Left signs are not used appropriately along Van Dusen Road. These signs should be reserved for through lane drops. Upgrade the corridor based on the guidance in the MDMUTCD Section 2B.19, paragraph 04c.

- The existing signs below, which are installed along Van Dusen Road.

……should be updated to the MDMUTCD Standard signs shown below:

R8-7(1)

W11-1
(with W16-1P plaque)

R10-6

When the traffic control devices do not meet driver expectations, they can cause confusion and aggressive driving. Both are undesirable. Therefore, we recommend upgrading the signing and pavement markings along the corridor.

6.3 Traffic Signal Equipment and Operational Deficiencies

Our assessments focused on pedestrian and vehicular safety and operations. We applied guidelines from the MUTCD, the MDMUTCD, and District of Columbia Department of Transportation (DDOT) Guidelines on Vertical Traffic Calming Implementation, and the ITE/FHWA *Traffic Calming ePrimer* to determine if the basic traffic controls were being appropriately applied to each location; to consider enhanced measures, where warranted by engineering judgement; and to develop recommendations for safety improvements based on unique site conditions and best practices.

The field observations identified four (4) intersections with (Van Dusen Road (Contee Road, Olive Branch Way/Killbarron Drive, S. Arbory Lane, and Arbory Court) operating with signal equipment malfunctions.

<u>Contee Road</u>

a. The presence detection for the southbound Van Dusen Road protected/permissive left-turn phase is not working properly. The left-turn phase comes up when no vehicles are in the left-turn lane, creating unnecessary northbound delay and queuing.
b. The pedestrian pushbuttons are not APS/CPS compliant. Additionally, the duration of the pedestrian clearance phases appears to be insufficient. The were observed at 16 seconds on the north leg and 18 seconds on the west leg.

<u>Olive Branch Way/Killbarron Drive</u>

a. The presence detection for the northbound Van Dusen Road protected/permissive left-turn phase is not working properly. The left-turn phase comes up when no vehicles are in the left-turn lane,

creating unnecessary southbound delay and queuing. In addition, a resident commented that the southbound exclusive/permissive left turn phase is extremely short and only allows for one to two vehicles. Another resident commented that there is a lot of red light running at the intersection and was concerned about safety. The red light running was observed many times during field observations.

b. The pedestrian pushbuttons in the northeast and southwest quadrants were broken and not APS/CPS compliant. Additionally, the durations of the pedestrian clearance phases appear to be insufficient. They were observed at 16 seconds.

South Arbory Lane

a. The presence detection for the northbound Van Dusen Road protected/permissive left-turn phase is not working properly. The left-turn phase comes up when no vehicles are in the left-turn lane, creating unnecessary southbound delay and queuing.

Arbory Court

a. The pedestrian pushbuttons are not APS/CPS compliant.
b. The presence detection for the northbound Van Dusen Road protected/permissive left-turn phase is not working properly. The left-turn phase comes up when no vehicles are in the left-turn lane, creating unnecessary southbound delay and queuing.
c. The pedestrian pushbuttons are not APS/CPS compliant. Additionally, the walk phase (16 seconds) and pedestrian clearance phase (7 seconds) are reversed.
d. The presence detection for eastbound Arbory Court is not working properly. A resident commented that a vehicle's presence at the stop line does not always send a call causing drivers to run the red light or turn right and turn around.

6.4 Stormwater Management Deficiencies/Impacts

A low spot in topography was observed at the southwest quadrant of the Van Dusen Road and Olive Branch Way/Killbarron Drive intersection. During heavy rainfall events, runoff may pond at this location and spill into the roadway, with the potential to create an unsafe condition for motorists. Drainage computations may be required to demonstrate the existing storm drain system has the capacity to convey the additional runoff. In addition, Utility test pits may be necessary at a later design phase of the project to identify and avoid utility impacts.

6.5 Environmental Resources (Impacts/Permit Requirements)

Should the limit of disturbance encompass or impact wetlands, 25 ft. wetland buffers, perennial/ intermittent waterways, or the 100-year floodplain, a Joint Permit Application may be required to receive authorization from the Maryland Department of the Environmental (MDE) and the United States Army Corps of Engineers (USACE). In addition, if tree clearing or trimming is to occur in State road ROW, a Maryland Department of Natural resources Roadside Tree Permit will be required to account for and mitigate tree impacts.

7.0 TRAFFIC SIGNAL ANALYSIS

The Van Dusen Road signalized intersections Levels of Service (LOS), Delay and queue for each turn bay were analyzed in Synchro/SimTraffic (*Synchro*) software. The turning movement counts were grown to 2024 to represent "Baseline" conditions and the analysis assumed the signal issues listed above were addressed. The LOS grades were assigned based upon guidance from the 6th edition of the Highway Capacity Manual (HCM) shown in *Table 1*.

Table 1
LEVEL OF SERVICE (LOS) THRESHOLDS

SIGNALIZED INTERSECTIONS Average Delay (sec/veh)	LEVEL OF SERVICE (LOS)
≥ 10	**A**
> 10 – 20	**B**
> 20 – 35	**C**
> 35 – 55	**D**
> 55 – 80	**E**
Demand Exceeds Capacity **OR** Delay > 80	**F**

2024 Baseline Analysis (All Intersections)

The Old Sandy Spring Road traffic volumes were significantly lower than the MD 198 volumes. Since there are no traffic generators between these intersections the Old Sandy Spring Road traffic volumes were balanced with the higher MD 198 intersection volumes to analyze a worst-case scenario. This resulted in the Old Sandy Spring Road eastbound right turn and westbound left turn bays exceeding their storage capacity. Note, the Old Sandy Spring Road storage bay issues were not witnessed during the field observation. The eastbound MD 198 left turn bays exceed their storage capacity during the PM peak hour with the existing 2024 volumes. However, all Van Dusen Road turn bay storage was sufficient to contain the modeled 95th Percentile Queue, shown in *Appendix D*. Also, all study intersections operate at acceptable LOS D or better. The Baseline LOS and Delay results are summarized in *Table 2*.

Table 2
2024 (BASELINE) INTERSECTION LEVEL OF SERVICE (LOS)

INTERSECTION (w/ VAN DUSEN ROAD)	WEEKDAY AM PEAK HOUR		WEEKDAY PM PEAK HOUR	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Contee Road	B	10.5 s	B	13.9 s
UMD Laurel Medical Center	A	4.3 s	A	7.1 s
Olive Branch Way / Killbarron Drive	A	5.9 s	A	6.1s
Cherry Lane	C	21.2 s	C	22.1 s
S. Arbory Lane	A	5.6 s	A	4.7 s
Arbory Court	A	9.0 s	A	8.9 s
MD 198 (Sandy Spring Road)	D	37.1 s	D	41.5 s
Old Sandy Spring Road	A	9.7 s	B	11.0 s

MD 198 Intersection Lane-use Reconfiguration

Century analyzed removing the southbound Van Dusen Road right lane drop at Arbory Court. This alternative proposes to reduce southbound Van Dusen Road to one (1) through-lane at MD 198. Currently the southbound Van Dusen Road lane configuration on the approach to MD 198 is one (1) left-turn lane, one (1) shared through/left lane, one (1) through lane, and one (1) channelized right-turn lane. This alternative proposes modifying this configuration to two (2) left-turn lanes, one (1) through-lane, and one (1) channelized right-turn lane. This would result in one (1) southbound lane along Van Dusen Road between Arbory Court and MD 198 and facilitate more efficient traffic flow for vehicles merging onto southbound Van Dusen Road from eastbound MD 198. To analyze this alternative, southbound Van Dusen Road between MD 198 and Arbory Court was modeled to show an acceleration lane for eastbound MD 198 right-turns and a deceleration lane for Arbory Court right-turns. With this alternative, the impacted signalized intersections would continue to operate at an acceptable LOS D or better, with sufficient turn bay storage along Van Dusen Road. The LOS and Delay for this Alternative are summarized in *Table 3*. The 95th Percentile Queue results are shown in *Appendix D*.

Table 3
MD 198 INTERSECTION LANE-USE RECONFIGURATION
ALTERNATIVE – TWO (2) SB LEFT-TURN LANES

INTERSECTION (w/ VAN DUSEN ROAD)	**MD 198 EXISTING LANE-USE (WEEKDAY AM | PM PH)**				**MD 198 ALT. LANE-USE (WEEKDAY AM | PM PH)**			
	LOS		Delay (sec/veh)		LOS		Delay (sec/veh)	
S. Arbory Lane	A	A	5.6 s	4.7 s	A	A	5.7 s	4.4 s
Arbory Court	A	A	9.0 s	8.9 s	A	A	9.0 s	7.5 s
MD 198 (Sandy Spring Road)	***D***	***D***	***37.1 s***	***41.5 s***	***D***	***D***	***36.4 s***	***46.2 s***
Old Sandy Spring Road	A	B	9.7 s /	11.0 s	B	B	10.1 s	12.3 s

8.0 PROPOSED IMPROVEMENTS

8.1 General Traffic Calming/Safety Considerations

The following are some general considerations that were considered/applied when assessing the corridor to determine the application of appropriate operations and safety improvements:

- Raised medians narrow the roadway, provide physical barrier between opposing traffic, and create a closed section feel along the roadway segment. Additionally, they produce an opportunity for green space. This feature could be installed along median section is currently unused pavement, such as near the Bear Branch damn.
- Converting a shoulder to sidewalk narrows the roadway and discourage aggressive driving will creating a dedicated place for pedestrian to walk.
- Raised Crosswalks were considered along Van Dusen Road. Based on DDOT guidelines (see *Appendix F*), Raised Crosswalks can be considered along Local roadways with mostly residential land uses and an Average Daily Traffic (ADT) less than 5,000 veh/day. In special cases they can be considered along Collector roadways with ADTs up to 7,500 veh/day. They are not ideal along roadways with transit routes, fire stations and/or hospitals. This section of Van Dusen Road is classified as a Major Collector and Minor Arterial and maintains an ADT above 12,000 veh/day. Additionally, the UMD Laurel Medical Center and Laurel Volunteer Fire Department access Van Dusen Road. Therefore, we do not recommend raised crosswalks at this time.

The following subsections describe the Van Dusen Road proposed corridor-wide improvements, as well as specific improvements recommended on each Concept Plan sheet. Concept Plans showing the general scope/area of these improvements are included in *Appendix G*.

8.2 Corridor-wide Improvements

- Correct the current signal malfunctions along Van Dusen Road at Contee Road, Olive Branch Way/Killbarron Drive, S. Arbory Lane, and Arbory Court.
- All signals should be routinely inspected. This would include operational reviews every three (3) years and structural inspections every three (3) years. This will address the issues indicated in *Section 7.0, Traffic Signal Analysis*, and minimize future signal timing and operations issues.
- Prepare Signing and Pavement Marking plans to upgrade the TCDs throughout the corridor to meet MDMUTCD guidance, including upgrading all crosswalks to High Visibility Continental Crosswalks. This section of Van Dusen has inconsistent crosswalk pavement markings. Upgrading the crossings to High Visibility Continental Crosswalks will provide a consistent feel and added visibility to alert drivers to where pedestrians are crossing. In addition, they should be installed to avoid vehicle wheel paths which reduces maintenance. These improvements will address the items indicated in *Section 6.2*. This would include upgrading all crosswalks to High Visibility Continental Crosswalks to improve visibility.
- It is anticipated stormwater management will need to be provided at five (5) Points of Investigation (POI). The City is amenable to using permeable pavement for sidewalks to treat stormwater management requirements where feasible.
- Prepare Roadway Design Plans to install the improvements listed below and shown in *Appendix G*. This would include cleaning all accessible drainage structures and storm drains along the corridor.

8.3 TCD Improvements (by Concept Plan Sheets)

Drawing PS-01 (Contee Road Intersection)

- Reconstruct/add ramps at all locations at this intersection due to the revised crosswalks in the north and east legs, additional ramps at the northwest and southeast corners are being proposed. Due to the existing goat path along northbound Van Dusen Road south of Contee Road, install sidewalk from the City limits to Contee Road and roadway widening in order to connect the existing bike lane to the Hiker-Biker trail. The pedestrian bus pad located along southbound Van Dusen Road is being reconstructed due to slope requirements. Additionally, install a pedestrian bus pad connection from the shared use path to northbound Van Dusen Road.
- Upgrade the Van Dusen Road at Contee Road signal to include APS/CPS. Evaluate the pedestrian clearance intervals and correct the southbound exclusive/permissive left turn phasing issues.
- The eastbound and westbound Contee Road right lane drops do not meet MDMUTCD guidance. Upgrade the Contee Road lane-drops signing and pavement markings.

Drawing PS-01 to PS-03

- Remove the southbound Van Dusen Road left lane drop and remark as shown in the Concept Plans.
- The existing inlet at STA 108+00 RT was observed to be completed clogged with sediment. In addition to cleaning out the structure and storm drain system, it is recommended to trim the existing ditch from the existing endwall at STA 109+75 RT to approximately STA 111+50 RT to provide positive drainage and prevent storm drain clogging in the future.

Drawing PS-02

- Remove the detectable warning surfaces at the ramps along northbound Van Dusen Road at the church entrance since this is not a signalized intersection or named roadway.

Drawing PS-03

- Recommend tree trimming along the shared use path.

Drawing PS-04 (Laurel Park Drive)

- Both handrails on this sheet are proposed due to insufficient height requirements.
- The west ramp at Laurel Park Drive is proposed due to slope requirements. The east ramp at Laurel Park Drive is proposed due to extending the detectable warning surface the entire width of the ramp.
- Remove the south leg crosswalk walk since it does not lead to any pedestrian facilities.
- The existing open-back curb opening inlet at STA 116+40 RT is damaged. Replace structure in kind.

Drawing PS-04 to PS-05

- Install Two-Way Left-Turn Lane (TWLTL) between Laurel Park Drive and UMD Laurel Medical Center as shown in the Concept Plans.
- Refresh the pavement markings on the UMD Laurel Medical Center along the intersection approach.

Drawing PS-05 (UMD Laurel Medical Center)

- Install a 5 ft. sidewalk along southbound Van Dusen Road, leading to the UMD Laurel Medical Center entrance.
- The handrail on this sheet is proposed due to insufficient height requirements.
- Remove the detectable warning surfaces at the ramps along northbound Van Dusen Road at the Laurel Park Shopping Center entrance since this is not a signalized intersection or named roadway.
- Upgrade pedestrian signals and pushbuttons to APS/CPS.

Drawing PS-06

- Replace the handrail due to insufficient height requirements.

Drawing PS-07 to 08 (Olive Branch Way/Killbarron Drive)

- Reconstruct all pedestrian ramps on this sheet to meet ADA requirements.
- We are also proposing a pedestrian bus pad connection from the shared use path to northbound Van Dusen Road and to extend the sidewalk and add a pedestrian bus pad at the bus stop at Olive Branch Way.
- Repair the Van Dusen Road at Olive Branch Way/Killbarron Drive pedestrian signal pushbuttons, upgrade to APS/CPS, and evaluate the pedestrian clearance intervals.
- Correct the northbound and southbound left turn phase issues and evaluate the signal timing.

Drawing PS-09 to PS-11 (Proposed Median)

- Replace all traffic barrier on these sheets due to insufficient height requirements. Replace the wooden railing with traffic barrier due to the steep drop-off along northbound Van Dusen Road.
- Install a raised median within the painted median from STA 139+05 to STA 145+20. This will prevent vehicles from making a left turn into the entrance at STA 140+75 LT to access drainage structures. The proposed raised median will end prior to the Laurel Volunteer Fire Department entrance, allowing vehicles to turn left into the entrance.

Drawing PS-11 to PS-12 (Cherry Lane)

- Reconstruct the pedestrian ramps in the northwest and southeast corners of the intersection to meet ADA requirements.
- Upgrade all traffic barrier due to height requirements. The bus stop at STA 147+00 LT is along a ditch with no existing sidewalk or pedestrian bus pad, therefore, relocate the Bus Stop to STA 150+05 LT where there is existing sidewalk.
- Reconstruct the ramp on the south side of Laurel Oaks Lane to sidewalk and add additional 5 ft. sidewalk to connect with the sidewalk behind the parking lot with a ramp leading to the parking lot. This additional ramp will have a fire hydrant impact.
- Upgrade the traffic signal at Cherry Lane to include APS/CPS and evaluate the pedestrian clearance intervals.
- Install School Zone signing (including school crossings at the intersection).
- Upgrade the trailblazer assembly signing along Cherry Lane to properly direct traffic to MD 198 and I-95. The westbound Cherry Lane right and left lane drops do not meet MDMUTCD guidance; consider upgrading the Cherry Lane signing and pavement markings.

Drawing PS-12 to PS-17 (Eastside Sidewalk)

- Install 5 ft. sidewalk along northbound Van Dusen Road from STA 149+75 RT to STA 174+50 RT. This 1 ft. sidewalk widening will have pedestal pole, electrical box, light pole, handbox, pedestrian push button, and wooden fence impacts. Due to the headwall located at approximately STA 174+20 RT, we are proposing traffic barrier that will have headwall, ditch, and wooden fence impacts.
- Replace and extend all traffic barrier due to insufficient height and length-of-need requirements.

Drawing PS-14

- Reconstruct pedestrian ramps on this sheet to meet ADA requirements. The north leg crosswalk will be moved slightly north to minimize the crossing distance, the stop lines for the northbound and southbound left turn bays will be removed, and a stop line will be added to westbound Erica Lane.
- Add a pedestrian bus pad at the Bus Stop at Laurel Oaks Lane.
- The crosswalk signing will be upgraded, including school bus stop ahead signs.

Drawing PS-14 to PS-16 (Eastside Sidewalk)

- Install 5 ft. sidewalk and curb and gutter along southbound Van Dusen Road from STA 160+60 LT to STA 167+00 LT utilizing the 4 ft. shoulder to avoid the existing ditch. The headwalls along both sides of the Duniho-Nigh Community Park entrance warrants traffic barrier that will impact the headwall and handbox.

Drawing PS-15 to PS-16 (S. Arbory Lane)

- Install a raised median within the footprint of the existing flush median north and south of S. Arbory Lane.
- Reconstruct all pedestrian ramps to meet ADA requirements.
- Install a pedestrian bus pad for the existing bus stops at STA 167+85 LT and STA 170+20 RT. The pedestrian bus pad at STA 170+20 RT will require a backer-curb and handrail due to a steep slope.
- Upgrade the Van Dusen Road at S Arbory Lane signal to include APS/CPS.
- Repair the northbound exclusive/permissive left turn presence detection so this phase only comes up when a vehicle is present.

Drawing PS-17 (Arbory Court)

- Reconstruct all pedestrian ramps to meet ADA requirements.
- Upgrade the Van Dusen Road at Arbory Court signal to include APS/CPS and evaluate the pedestrian clearance intervals. Repair the northbound exclusive/ permissive left turn presence detection so this phase only comes up when a vehicle is present. Also repair the eastbound Arbory Court presence detection so it does detect a vehicle on Arbory Court.
- Trim existing ditch from approximately STA 172+00 LT to STA 173+60 LT (at downstream end of culvert under Arbory Court.

Drawing PS-17 to PS-19 (Arbory Court to MD 198)

- Remove the southbound Van Dusen Road right lane drop at Arbory Court by reconfiguring the southbound Van Dusen Road lane configuration north of MD 198. This will require coordination with SHA.
- Modify southbound Van Dusen Road to one through lane from MD 198 to Arbory Court as shown in the Concept Plans. The MD 198 at Van Dusen Road signal modification will require coordination with SHA, see *Section 7.0* for the analysis results.
- Install a raised median within the footprint of the existing flush median north of S. Arbory Lane from STA 174+40 to STA 179+00.
- Modify northbound Van Dusen Road south of MD 198 as shown in the Concept Plans.
- Recommend installing advance trailblazer assembly signs for MD 198.

Drawing PS-20 (Old Sandy Spring Road)

- Widen both islands towards Old Sandy Spring Road to shorten the west leg crosswalk, better channelize right-turns, and discourage aggressive driving.
- Upgrade the sidewalk in front of the Laurel Park and Ride to 5 ft. Install two (2) ramps along the west leg to connect to the existing crosswalk. Reconstruct all pedestrian ramps to be to meet ADA requirements except for 1 ramp located at approximately STA 187+90 LT. The ramp reconstruction at approximately STA 187+60 LT will impact a manhole. The ramp reconstruction at the east island will potentially impact the traffic signal.
- Upgrade the Van Dusen Road at Old Sandy Spring Road signal to include APS/CPS and a Leading Pedestrian Interval (LPI) on the west leg pedestrian signal.

- Relocate the existing stop line on the north leg so stopped vehicles will not block the pedestrian crossing. Upgrade signing within the intersection.
- The eastbound and westbound Old Sandy Spring Road left lane drops do not meet MDMUTCD guidance. Consider upgrading the lane drops signing and pavement markings.

8.4 Stormwater Management Improvements (by Stationing)

The project will comprise of 14 separate Points of Investigation (POIs) and Lines of Investigations (LOIs) where runoff from the project site will leave City right-of-way. Runoff from some of these POIs/LOIs leave the ROW at different locations along the project corridor, but ultimately combine at the same location as other POIs/LOIs downstream of the project site. These POIs/LOIs are indicated with a letter in addition to a POI/LOI number. For example, runoff from POI 6A and LOI 6B will leave the right-of way at different locations but ultimate converge just beyond the ROW.

It is anticipated stormwater management will need to be provided at POIs 1, 4, 5A, 6A and 7A. The City is amenable to using permeable pavement for sidewalks to treat stormwater management requirements where feasible. The permeable pavement proposed on this project will utilize Prince George's County detail and design specifications, meeting all State and County requirements. From the USDA Natural Resources Conservation Services Web Soil Survey, the project area consists of soils within the Hydrologic Soil Groups C and D. Due to the low infiltration rates typically associated with Type D soil, permeable pavement is not a suitable stormwater management practice and will not be proposed on Type D soil. Where permeable pavement is proposed, underdrains will be provided which will either tie into existing drainage structures or outfall into an existing swale.

Throughout the project, impervious area is proposed to be reconstructed and restored to its original function. In is anticipated these reconstructed impervious areas will qualify for an MDE 3.3.A stormwater management waiver and no stormwater management will need to be provided for these areas.

There are some locations where runoff will shift from one drainage area to another from existing to proposed conditions due to the widening of sidewalk (LOI 5A to POI 5, LOI 6A to POI 6, and LOI 7A to POI 7). With the proposed removal of existing impervious area and the installation of permeable pavement, the Runoff Curve Number and peak discharges may decrease in proposed conditions, therefore not requiring quantity stormwater management measures for these POIs. Further analysis will be required at a later design stage to confirm.

<u>POI 1 (STA 101+40 RT) Contee Road</u>

A proposed 5 ft. wide sidewalk, widening of the roadway to accommodate a bike lane, and a proposed pedestrian ramp will introduce approximately 0.02 acres of new imperious area within the drainage area to POI 1. There is limited opportunity to provide the required stormwater management for this POI without impacted the wooded area adjacent to the roadway. Soil information from the USDA Web Soil Survey indicates the drainage area within the project site consists entirely of Type D hydraulic soil, making permeable pavement an unsuitable stormwater management option at this location. **Alternative stormwater management opportunities will be discussed with the City of Laurel after the initial concept submission, such as providing a stormwater management practice currently outside of the project limits**.

<u>Drawing PS-07 (STA 129+80 LT) Olive Branch Way/Killbarron Drive</u>

A low spot in topography was observed at the southwest quadrant of the Van Dusen Road and Olive Branch Way/Killbarron Drive intersection. During heavy rainfall events, runoff may pond at this location and spill into the roadway, with the potential to create an unsafe condition for motorists. **Recommend**

installing a yard inlet at his low spot and connecting to the existing curb opening inlet at STA 129+80 LT with a 15 in. diameter concrete pipe. Utility test pits may be necessary at a later design phase of the project to identify and avoid utility impacts. Drainage computations may be required to demonstrate the existing storm drain system has the capacity to convey the additional runoff.

POI 4 (STA 138+50 RT) 750 ft. North of Olive Branch Way/Killbarron Drive

POI 4 proposes to introduce approximately 0.01 areas of new impervious area and remove approximately 0.08 acres of existing impervious area (existing asphalt median is proposed to be replaced with a grass median). Due to the net decrease in imperious area, **no stormwater management practices are required at this POI**.

POI 5A (STA 153+65 RT) 400 ft. North of Cherry Lane

POI 5A proposes to introduce approximately 0.03 areas of new impervious area. An approximate 260 ft. long section of **permeable pavement is proposed to be used for the sidewalk** from STA 150+30 to 152+90 RT to provide the required stormwater management treatment at this POI.

Recommend **trimming existing ditch** from approximately STA 158+50 LT to STA 160+00 LT (at upstream end of culvert under Laurel Oaks Lane) and from STA 160+30 LT (downstream end of culvert) to STA 162+80 LT.

POI 6A (STA 164+45 RT) 250 ft. South of S. Arbory Lane

POI 6A proposes to introduce approximately 0.08 areas of new impervious area and remove approximately 0.02 acres of existing impervious area (existing asphalt median is proposed to be replaced with a grass median). An approximate 295 ft. and 195 ft. section of **permeable pavement is proposed to be used for the sidewalk** from STA 157+10 to STA 160+05 RT and STA 160+80 to STA 162+75 RT, respectively to provide the required stormwater management treatment at this POI.

POI 7A (STA 169+60 RT) 250 ft. North of S. Arbory Lane

POI 7A proposes to introduce approximately 0.03 areas of new impervious area and remove approximately 0.08 acres of existing impervious area (existing asphalt median is proposed to be replaced with a grass median). Due to the net decrease in imperious area, **no stormwater management practices are required at this POI**.

9.0 RECOMMENDATIONS

Based on the TCD, Stormwater Management, and Environmental assessments performed for this Study; the traffic signal operations analysis performed using Synchro/SimTraffic microsimulation software; and the proposed potential improvements described in *Section 6.0* of this report, Century recommends the maintenance and design activities as a part of a corridor-wide improvement project.

1. Correct the current traffic signal operational malfunctions along Van Dusen Road at Contee Road, Olive Branch Way/Killbarron Drive, S. Arbory Lane, and Arbory Court.
2. Routine inspection and maintenance of all traffic signals. This would include a review of signal operations and structural inspections of the signal infrastructure every three (3) years.
3. Prepare Traffic Signal, Signing and Pavement Markings, and Intersection Lighting plans to upgrade TCDs throughout the corridor to meet the MDMUTCD guidance. This would include upgrading all APS/CPS infrastructure at signalized intersections, upgrading crosswalks to High Visibility Continental Crosswalks, and upgrading intersection lighting to LED luminaires.
4. Clean out all accessible drainage structures and storm drain pipes along the corridor.
5. Prepare Final Roadway Design Plans to install the improvements shown in *Appendix G*.

The OOM Cost Estimate for implementing the improvements recommended in this Study is $4.2M. The cost breakdown by construction Category Code is provided in *Appendix H*.

Appendix A
Van Dusen Road
Existing Conditions

Appendix B
Traffic Counts

Appendix C
Signal Timing Data

Appendix D
Synchro/SimTraffic Reports

Appendix E
Traffic Signal As-Built Plans

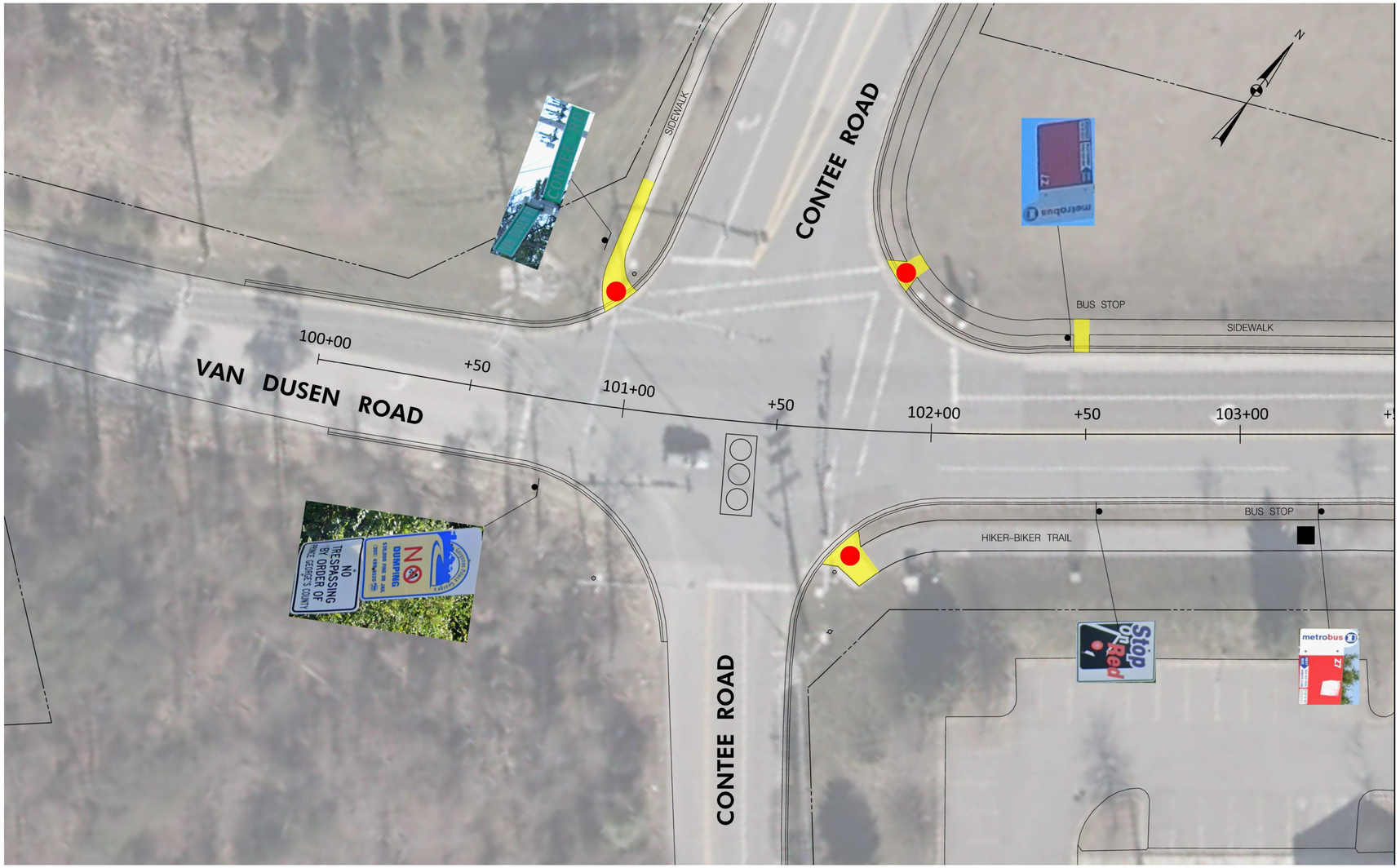
Appendix F
DDOT Vertical Traffic Calming Guidelines

Appendix G
Van Dusen Road Concept Plans

Appendix H
Van Dusen Road Concept Cost Estimate

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 103+50 – SEE DRAWING NO. PS–02

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
- NON–COMPLIANT HAND RAIL
- NON–COMPLIANT TRAFFIC BARRIER
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

CONCEPT STUDY
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EXISTING ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 01 OF 20

SHEET NO. 01 OF 20

BY: dkendal–

PLOTTED: 11/17/2023
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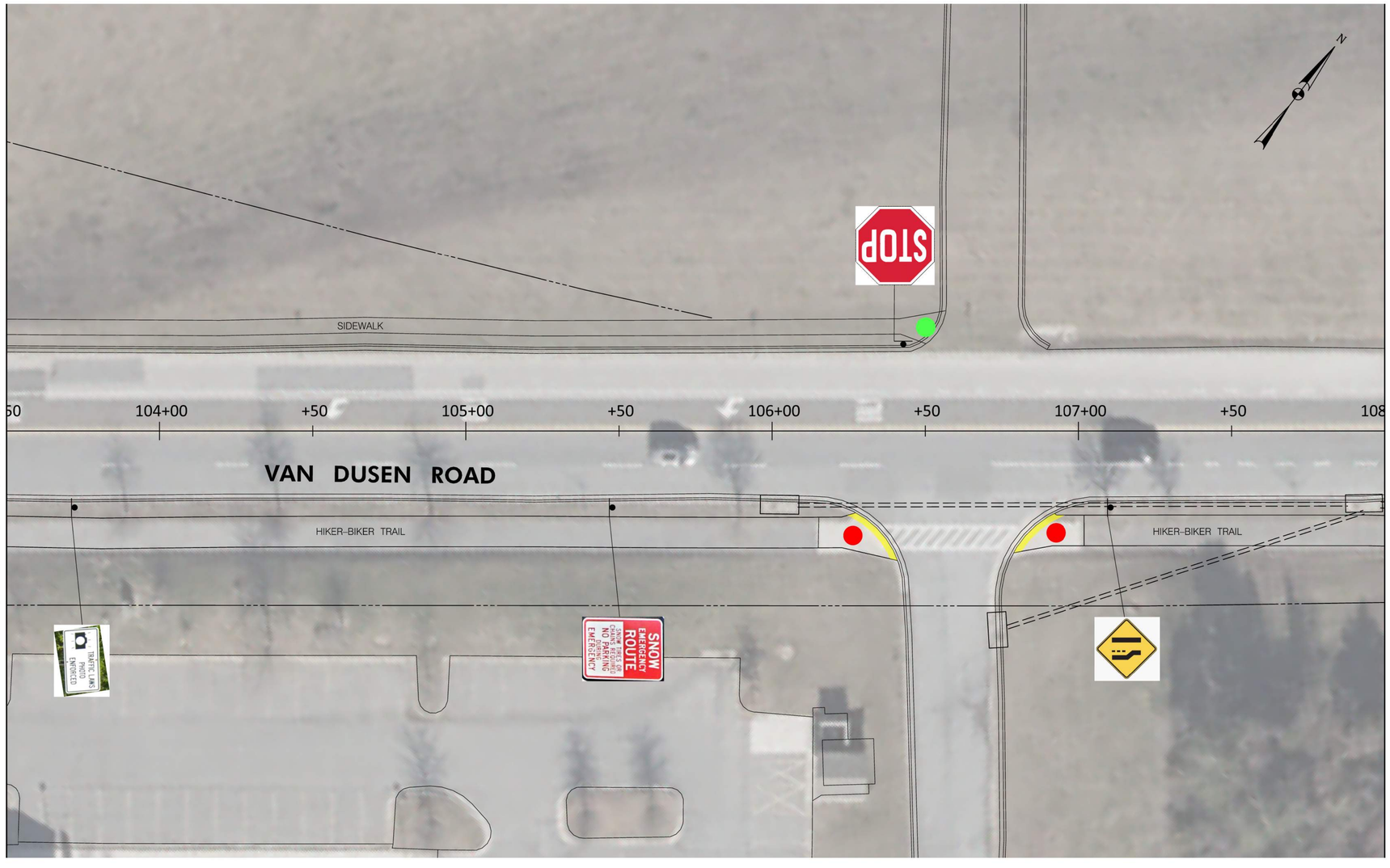
TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 103 + 50 – SEE DRAWING NO. PS–01

MATCH LINE STA. 108 + 00 – SEE DRAWING NO. PS–03

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
- NON–COMPLIANT HAND RAIL
- NON–COMPLIANT TRAFFIC BARRIER
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City of Laurel DPW

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HORIZONTAL SCALE _____
VERTICAL SCALE _____

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TO SANDY SPRING ROAD

MATCH LINE STA. 108+00 – SEE DRAWING NO. PS–02

MATCH LINE STA. 112+50 – SEE DRAWING NO. PS–04

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
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- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
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NAVD 88 Vertical

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COUNTY PRINCE GEORGE'S
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VERTICAL SCALE _____

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TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

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- COMPLIANT ADA RAMP
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HORIZONTAL SCALE _____
VERTICAL SCALE _____

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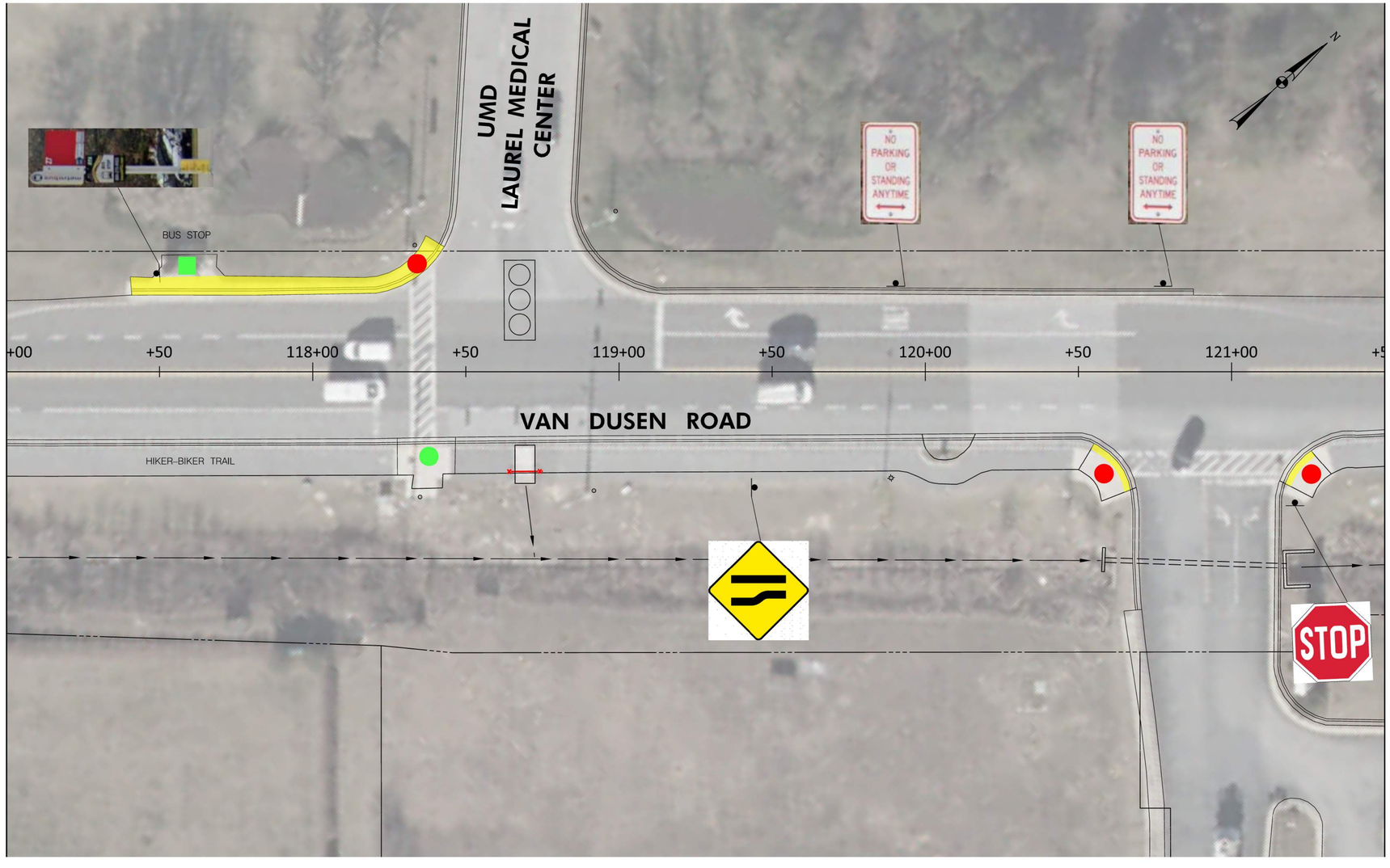

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MATCH LINE STA. 121+50 – SEE DRAWING NO. PS–06

QUANTITY NOTES

LEGEND

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- COMPLIANT PEDESTRIAN BUS PAD
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COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

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MATCH LINE STA. 121+50 – SEE DRAWING NO. PS–05

MATCH LINE STA. 126+00 – SEE DRAWING NO. PS–07

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

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VERTICAL SCALE _____

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QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
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COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

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SHEET NO. 07 OF 20

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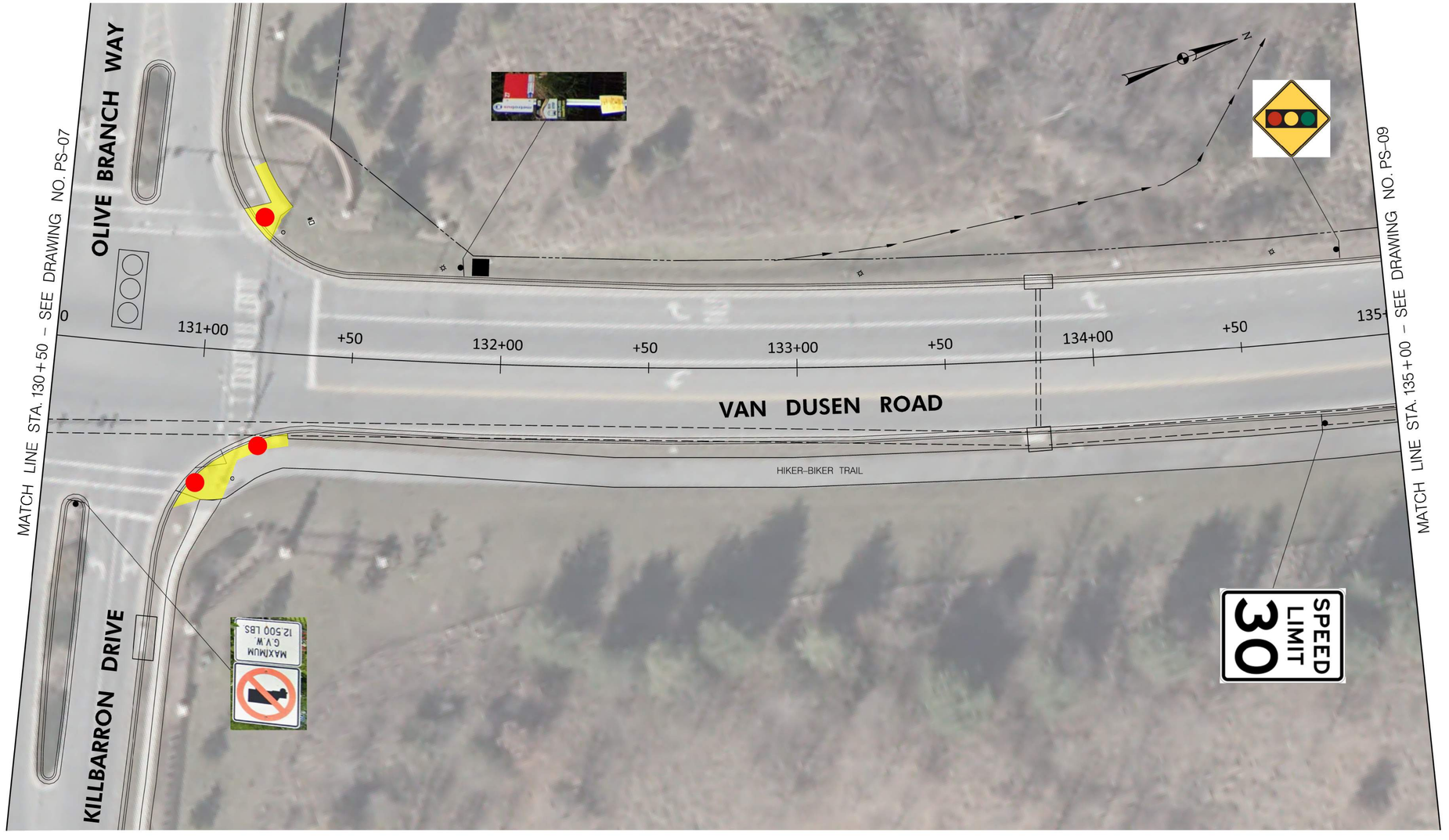

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
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- EXISTING DITCH /SWALE

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
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COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 08 OF 20

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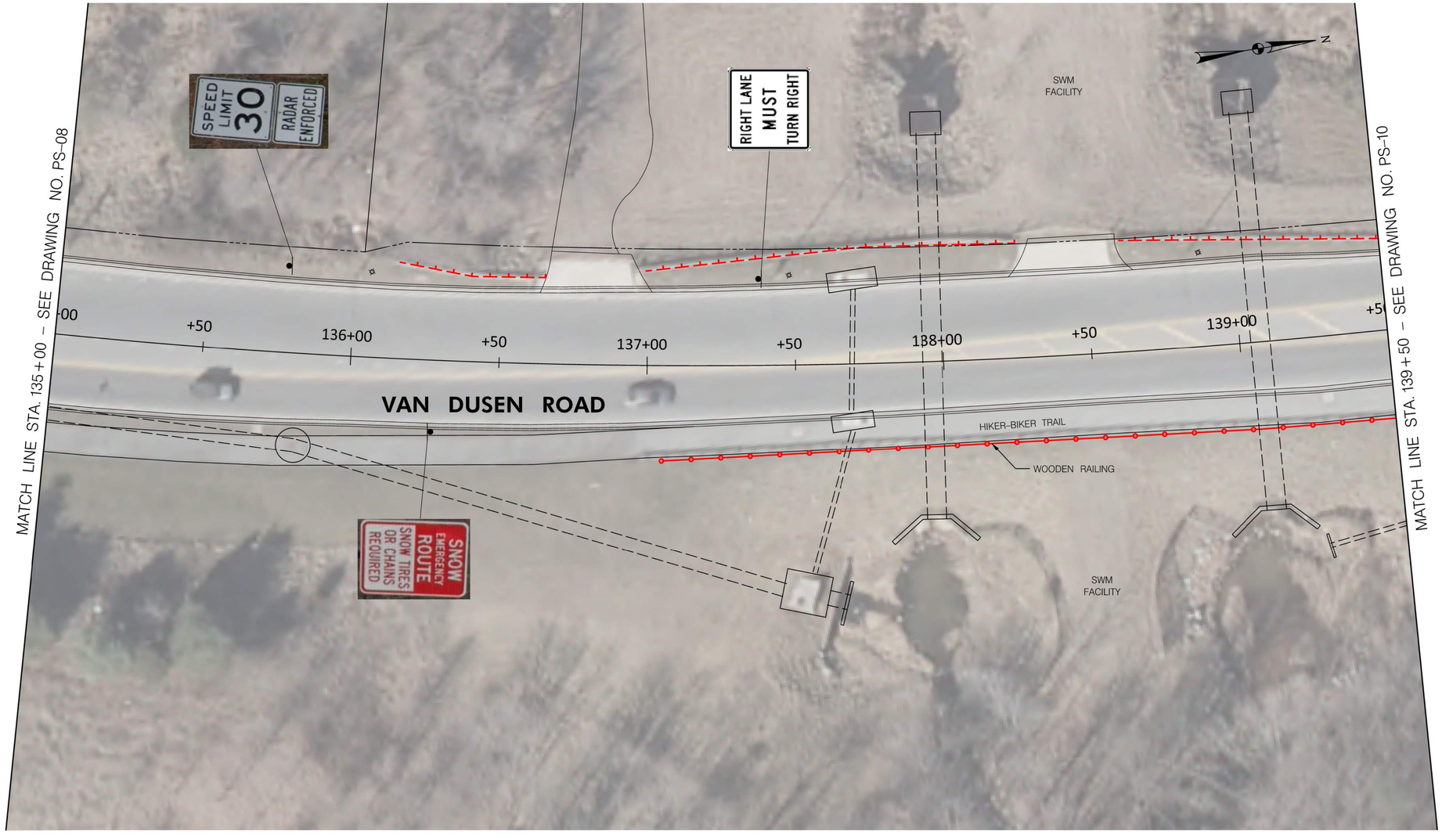

QUANTITY NOTES

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HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 09 OF 20

SHEET NO. 09 OF 20

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TO VIRGINIA MANOR ROAD

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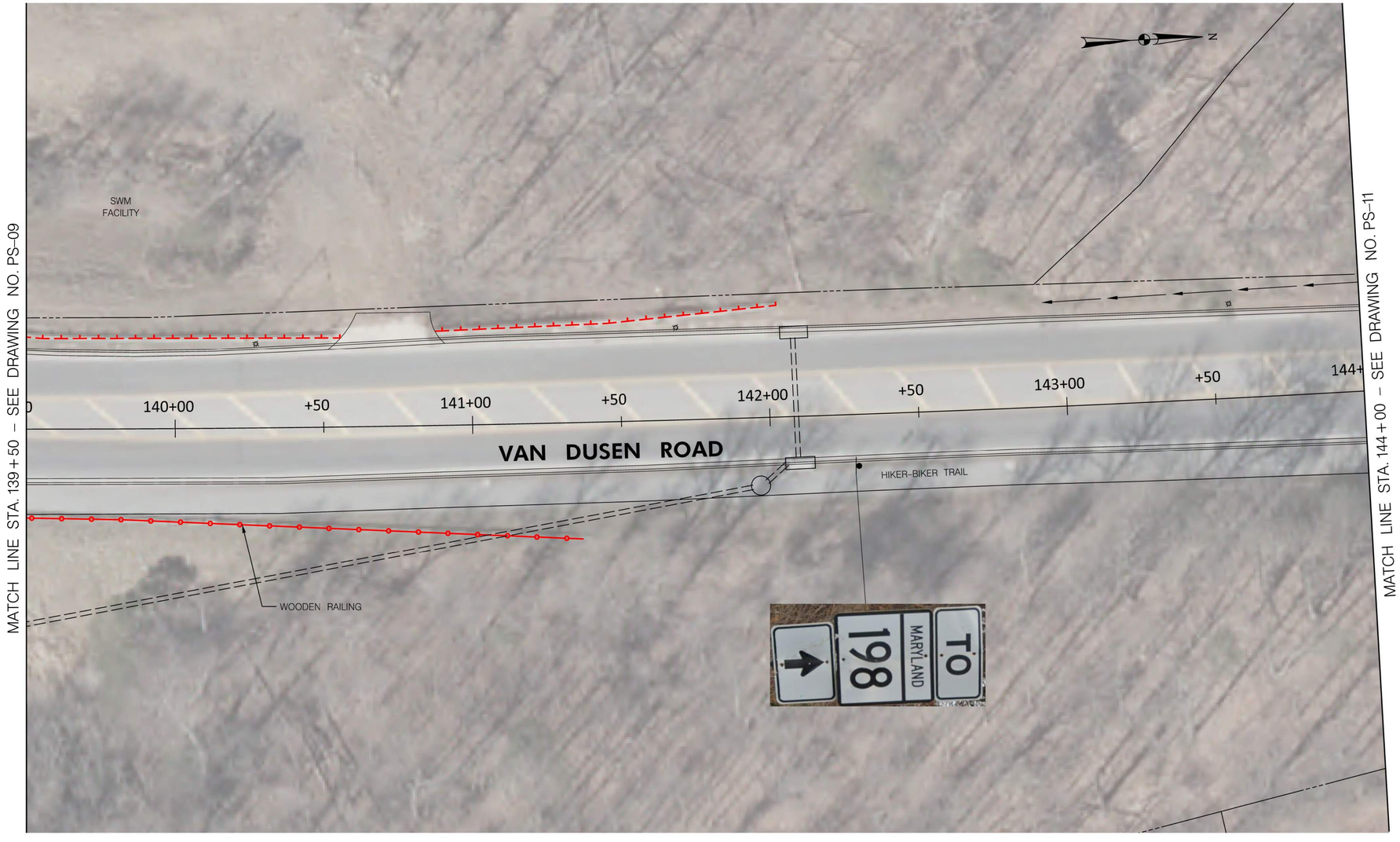

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MATCH LINE STA. 144 + 00 – SEE DRAWING NO. PS–11

QUANTITY NOTES

LEGEND

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City of Laurel DPW

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HORIZONTAL SCALE _____
VERTICAL SCALE _____

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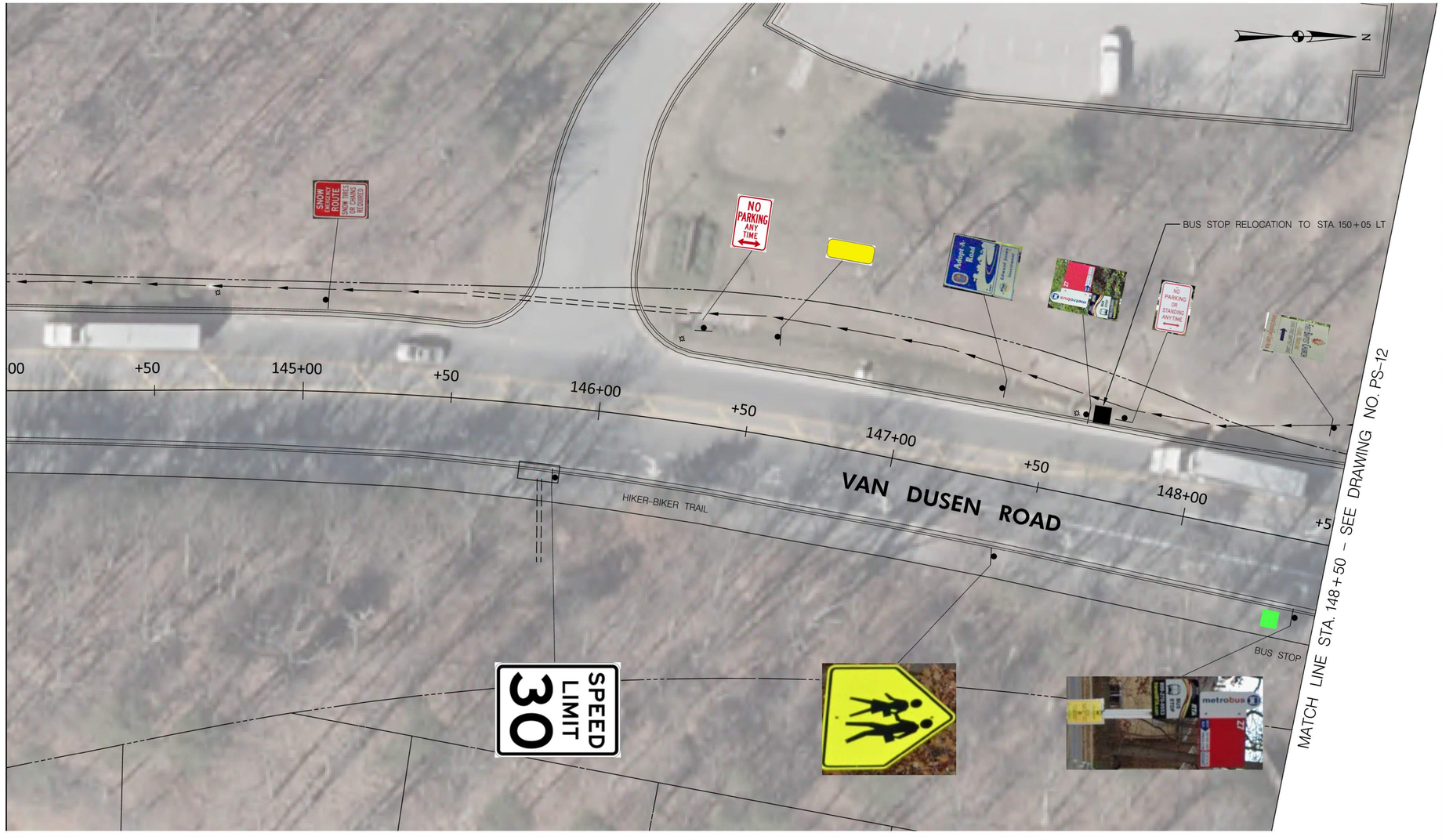
TO SANDY SPRING ROAD



QUANTITY NOTES

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FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

BY: dkendal –

REVISIONS

CONCEPT STUDY
[DUE DATE]

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EXISTING ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

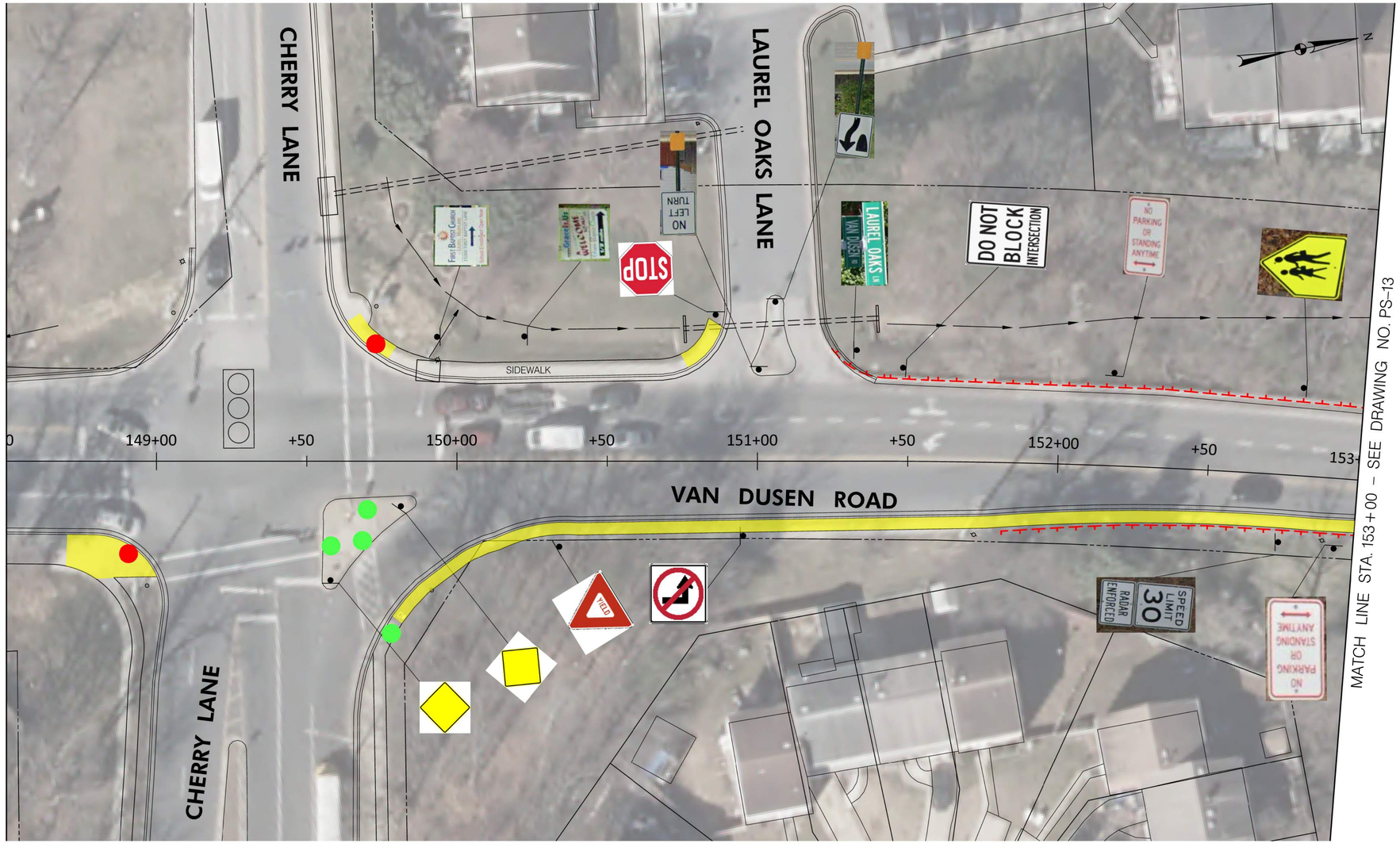
DRAWING NO. PS – 11 OF 20

SHEET NO. 11 OF 20

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E011_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
- NON–COMPLIANT HAND RAIL
- NON–COMPLIANT TRAFFIC BARRIER
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

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DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – OF 20

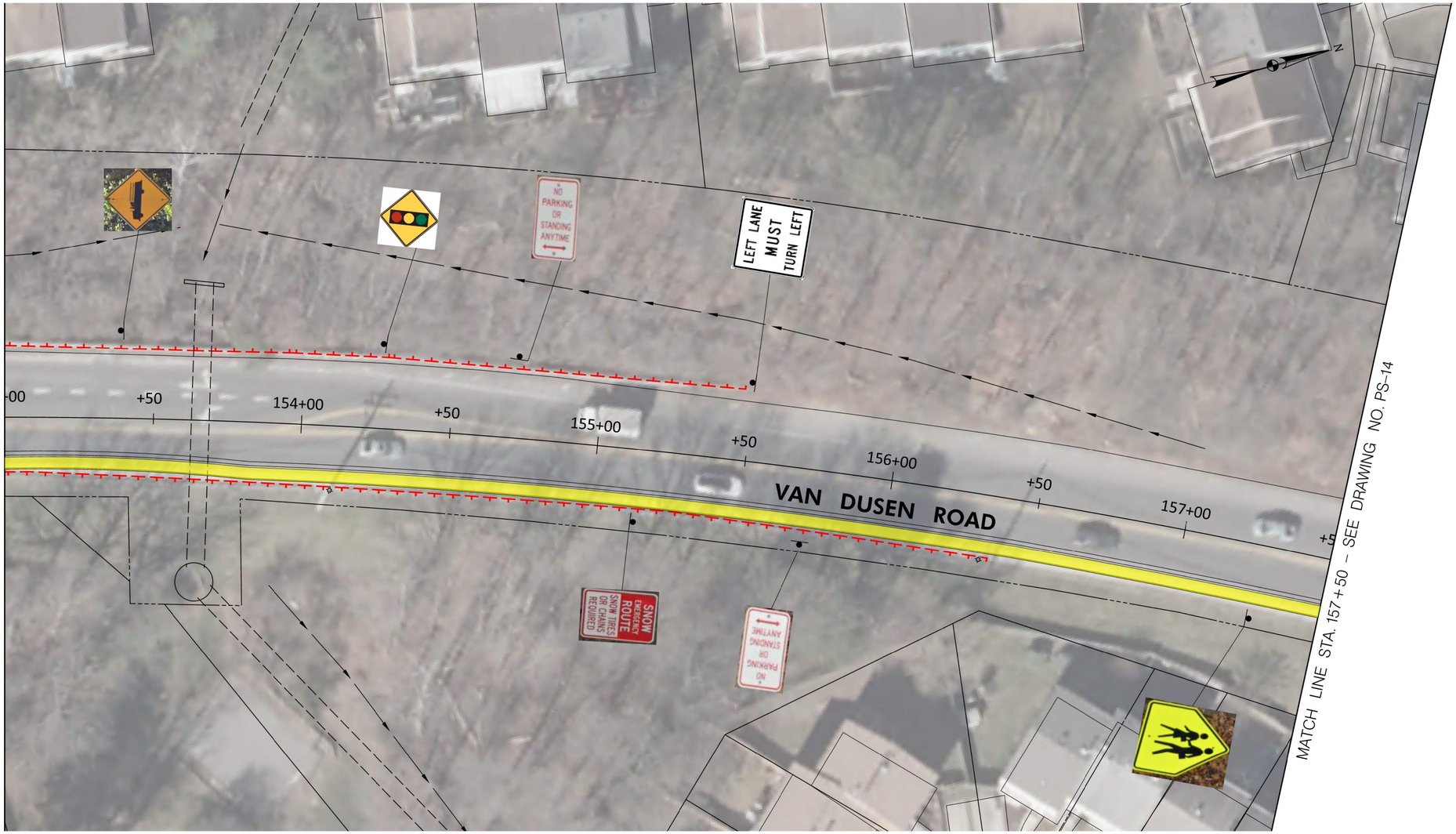
SHEET NO. 12 OF 20

BY: dkendal–

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E012_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 153+00 – SEE DRAWING NO. PS–12

MATCH LINE STA. 157+50 – SEE DRAWING NO. PS–14

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
- NON–COMPLIANT HAND RAIL
- NON–COMPLIANT TRAFFIC BARRIER
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

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[DUE DATE]

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EXISTING ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 13 OF 20

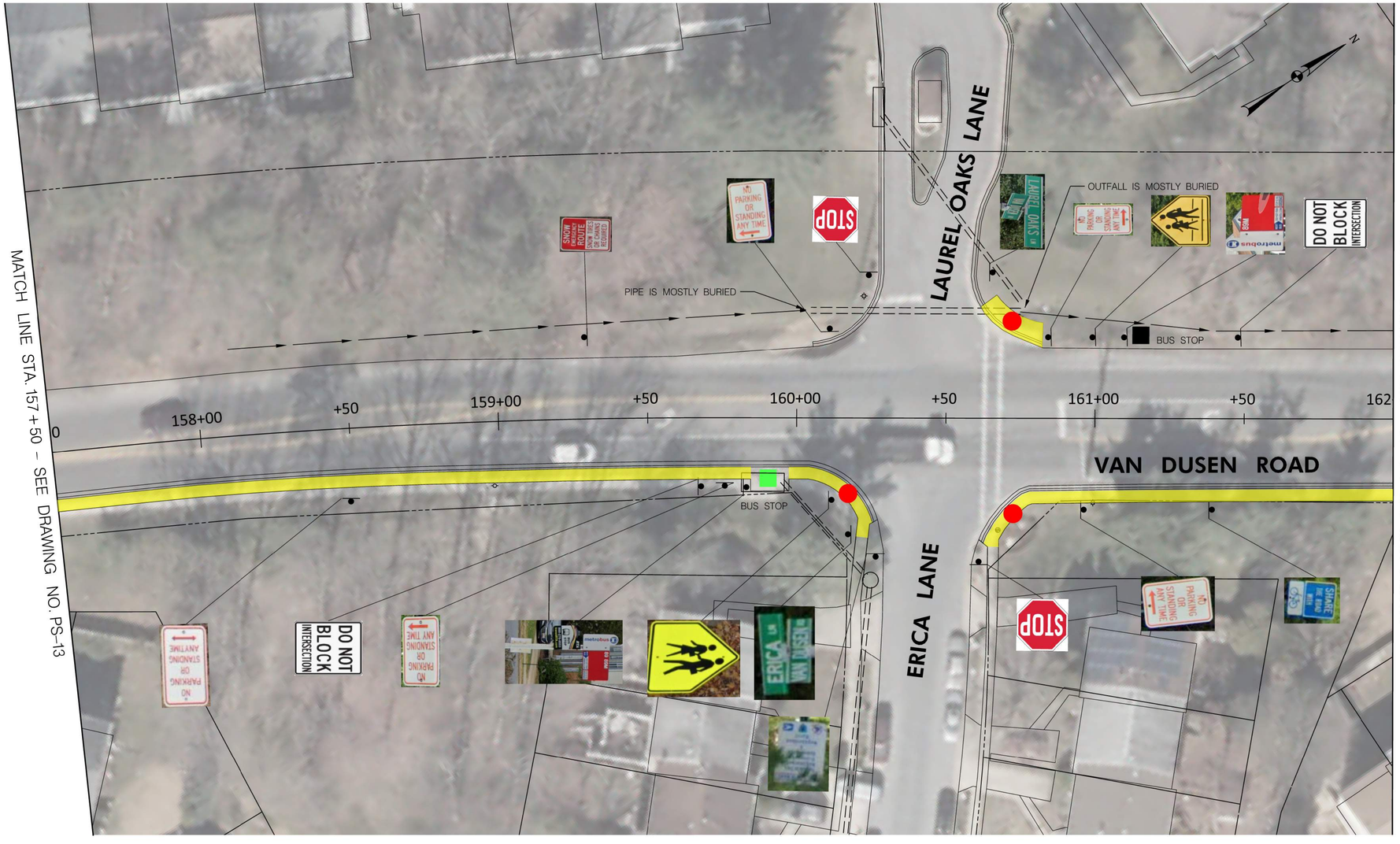
SHEET NO. 13 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E013_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
- NON–COMPLIANT HAND RAIL
- NON–COMPLIANT TRAFFIC BARRIER
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

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EXISTING ROADWAY PLAN

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DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 14 OF 20

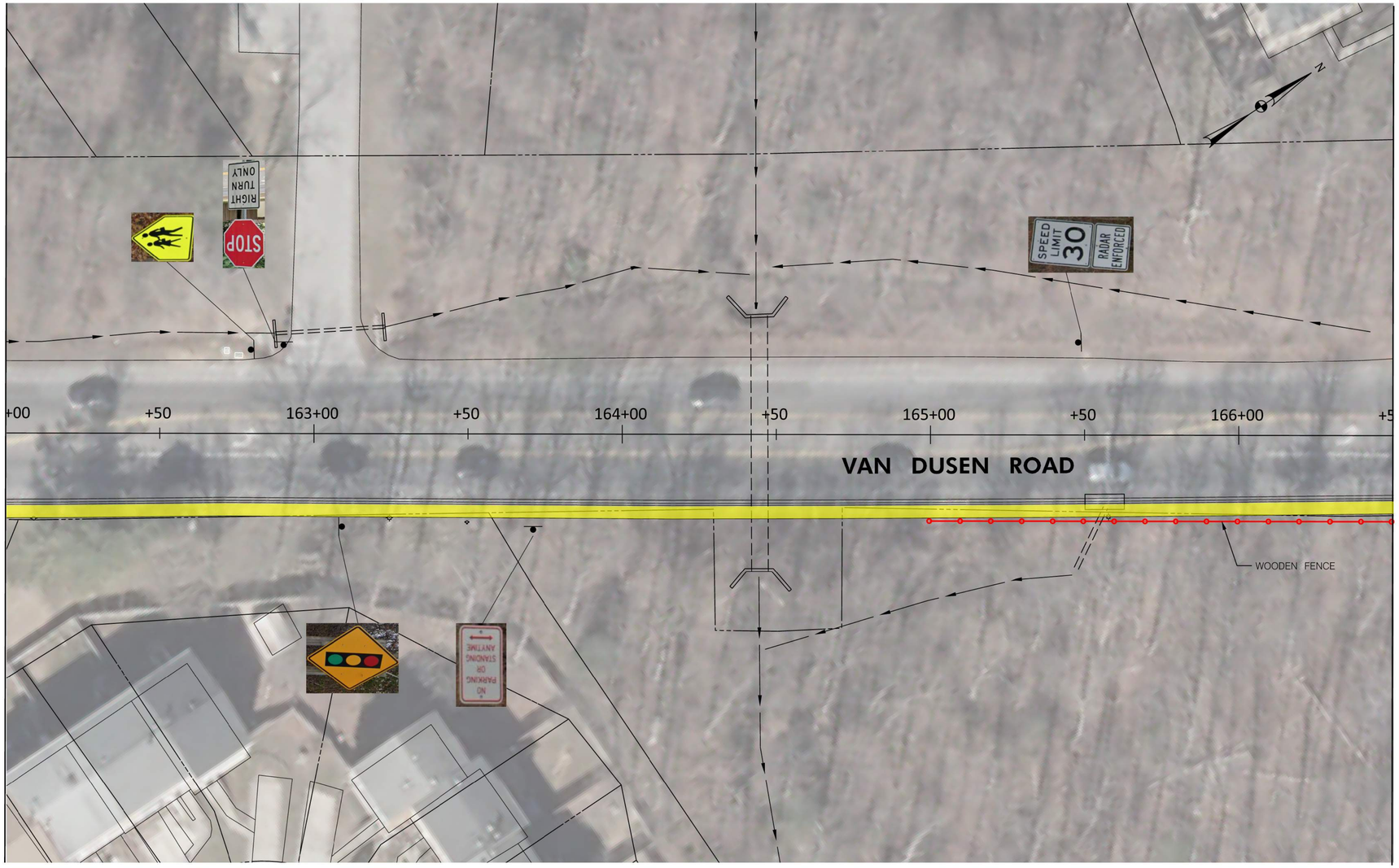
SHEET NO. 14 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E014_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 162+00 – SEE DRAWING NO. PS–14

MATCH LINE STA. 166+50 – SEE DRAWING NO. PS–16

QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

COMPLIANT PEDESTRIAN BUS PAD

COMPLIANT ADA RAMP

NO PEDESTRIAN BUS PAD

NO EXISTING ADA RAMP

NON–COMPLIANT ADA RAMP

NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD

NON–COMPLIANT HAND RAIL

NON–COMPLIANT TRAFFIC BARRIER

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

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HUNT VALLEY , MD 21031

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SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 15 OF 20

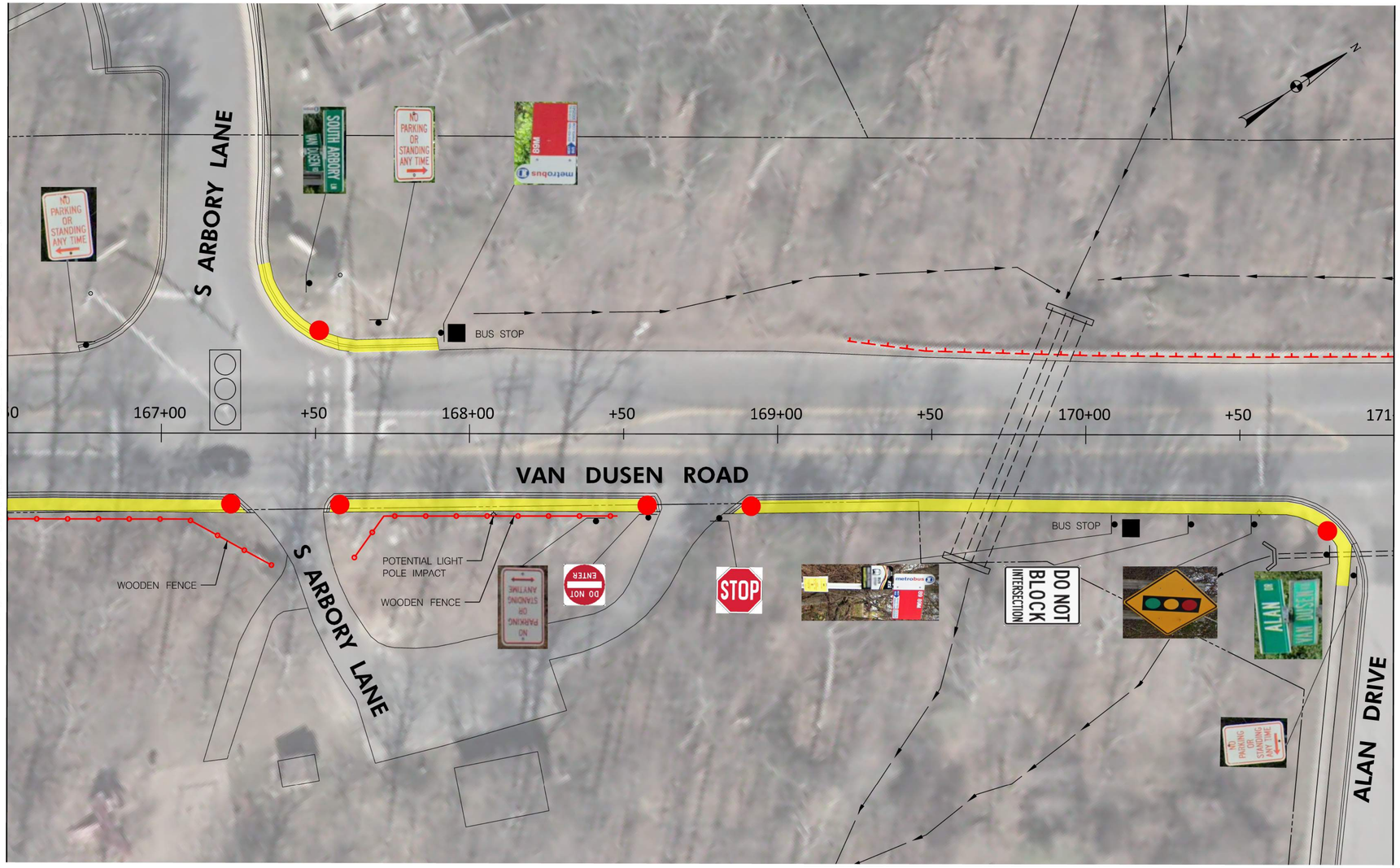
SHEET NO. 15 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E015_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON-COMPLIANT ADA RAMP
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- EXISTING STORM DRAIN /CULVERT
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City of Laurel DPW

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MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

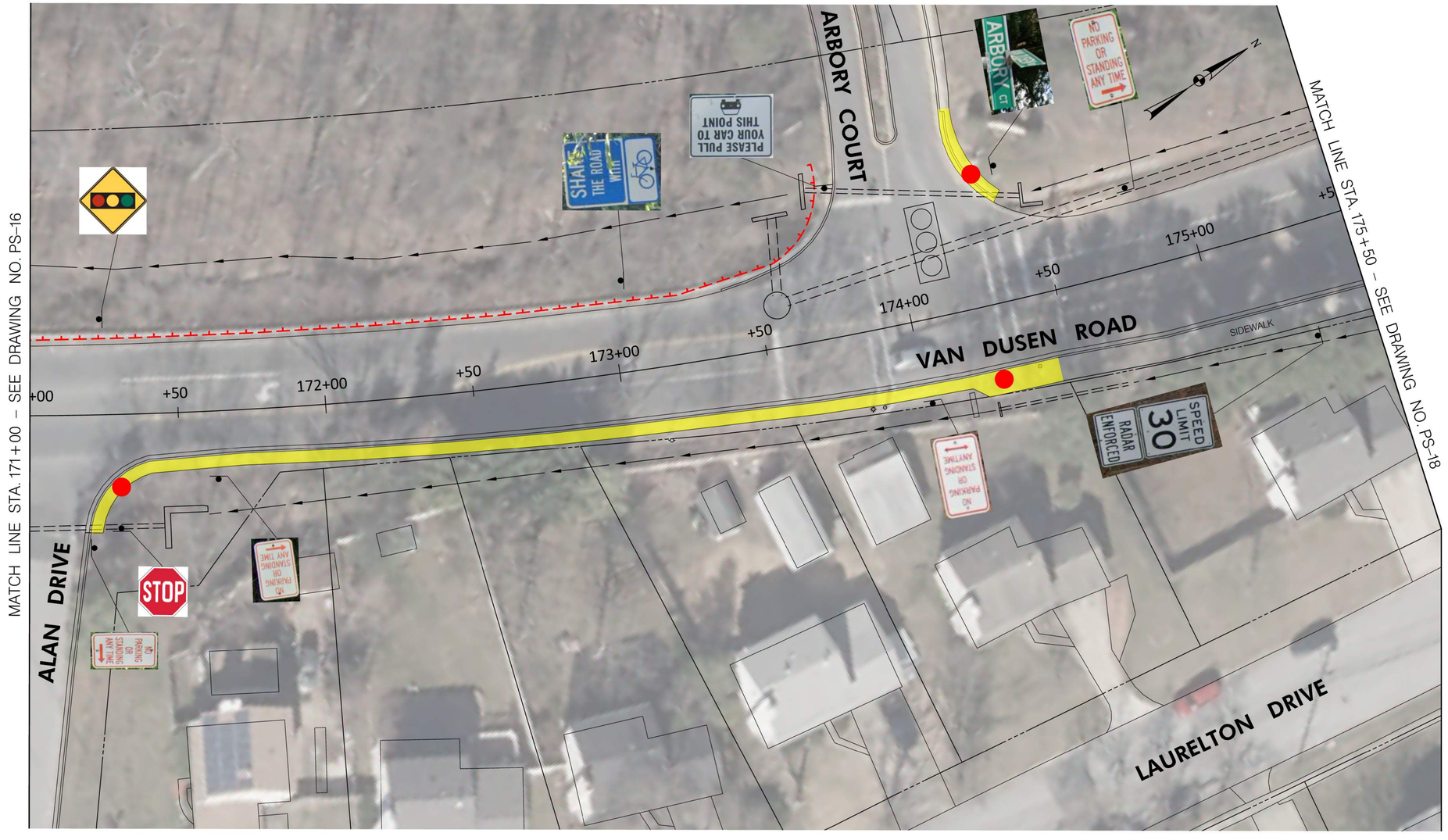
DRAWING NO. PS – 16 OF 20

SHEET NO. 16 OF 20

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E016_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON-COMPLIANT ADA RAMP
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- EXISTING STORM DRAIN /CULVERT
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DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 17 OF 20

SHEET NO. 17 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E017_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD

MATCH LINE STA. 175+50 – SEE DRAWING NO. PS–17

MATCH LINE STA. 180+00 – SEE DRAWING NO. PS–19

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
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- NON–COMPLIANT HAND RAIL
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City of Laurel DPW

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MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 18 OF 20

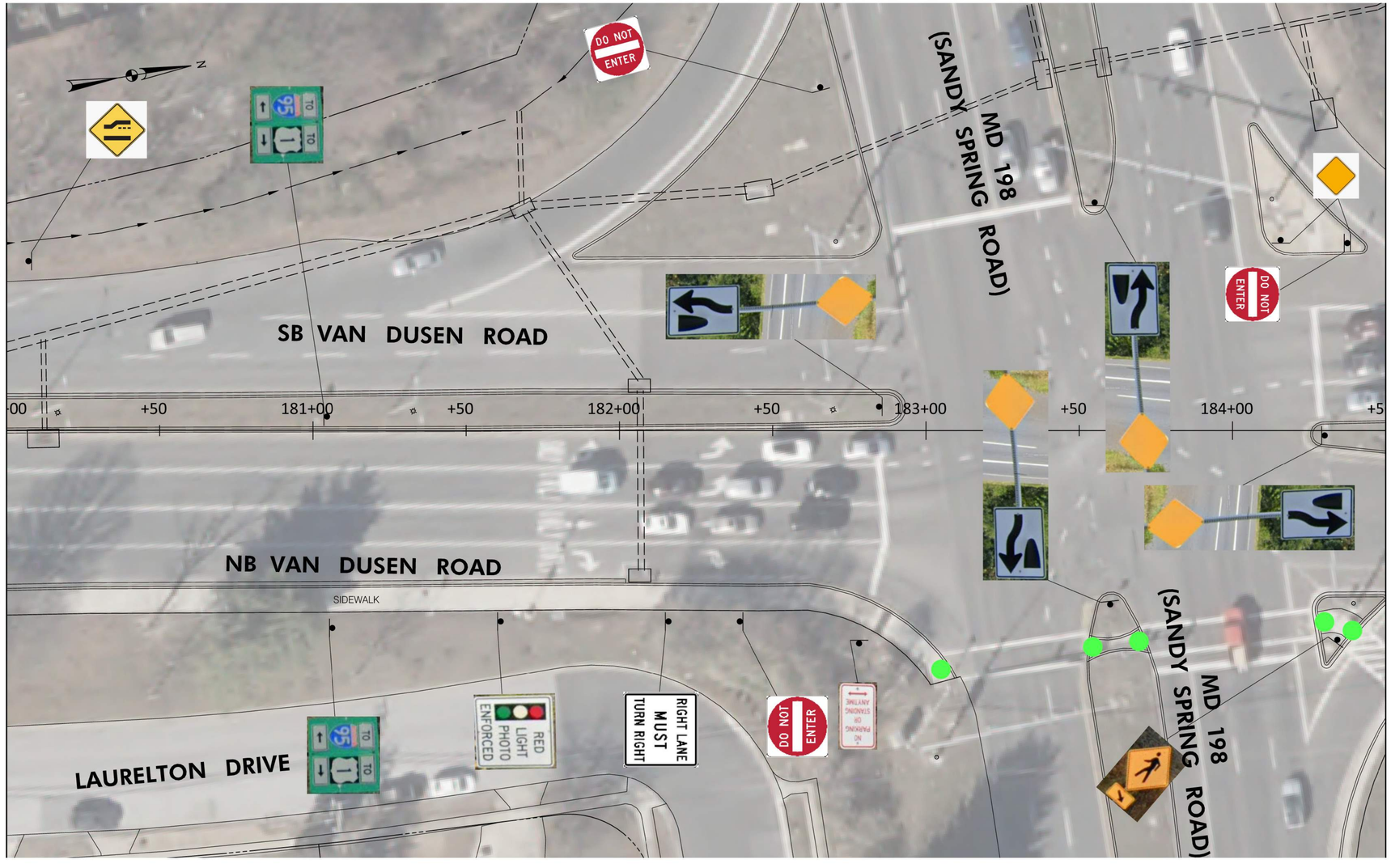
SHEET NO. 18 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E018_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 180+00 – SEE DRAWING NO. PS–18

MATCH LINE STA. 184+50 – SEE DRAWING NO. PS–20

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
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COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

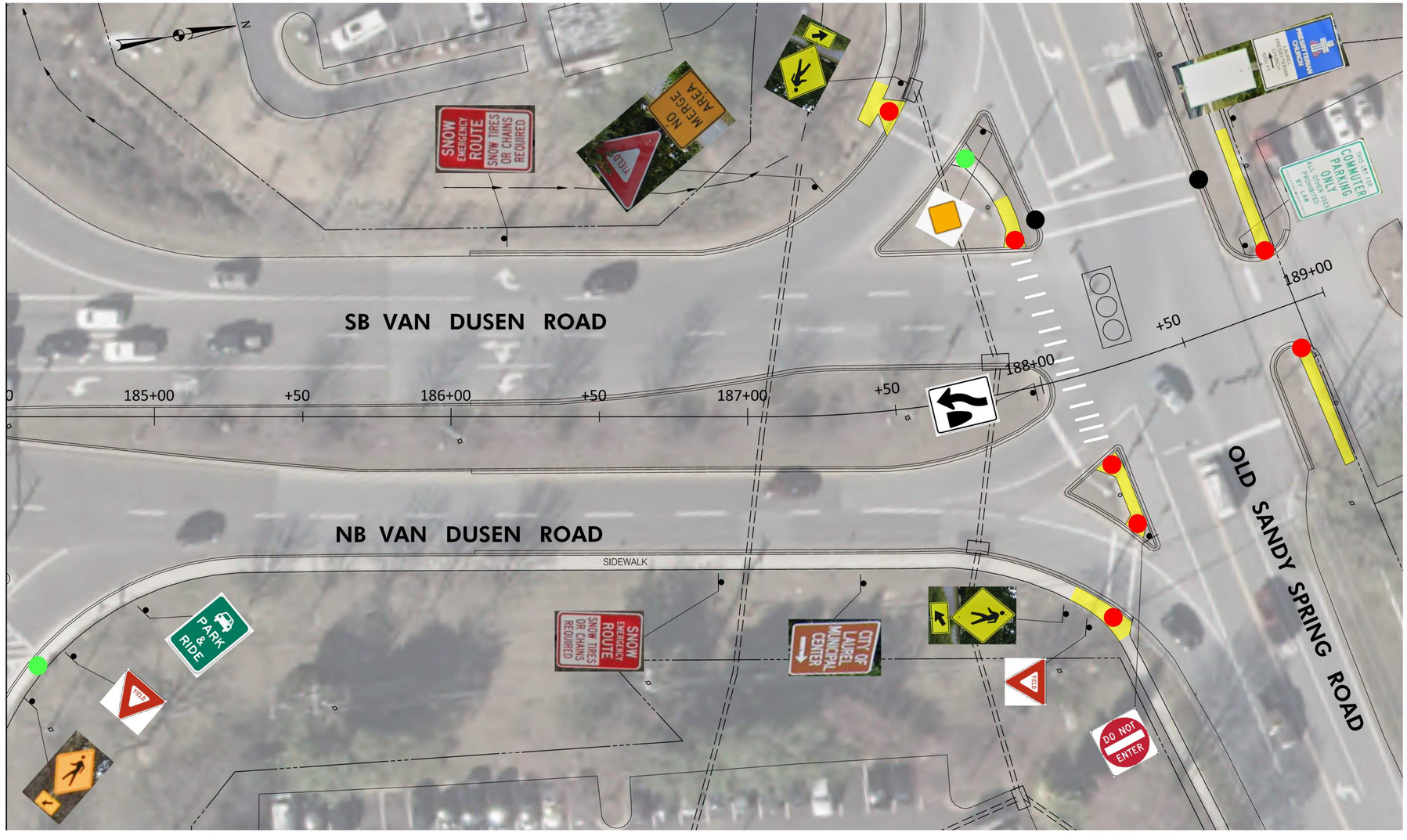
DRAWING NO. PS – 19 OF 20

SHEET NO. 19 OF 20

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E019_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 184+50 – SEE DRAWING NO. PS–19

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- COMPLIANT PEDESTRIAN BUS PAD
- COMPLIANT ADA RAMP
- NO PEDESTRIAN BUS PAD
- NO EXISTING ADA RAMP
- NON–COMPLIANT ADA RAMP
- NON–COMPLIANT SIDEWALK OR PEDESTRIAN BUS PAD
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DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

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SHEET NO. 20 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-E020_VanDusen.dgn

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Contee Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd From North					Van Dusen Rd From South					Contee Rd From East					Contee Rd From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
0:15	3	4	1	0	8	4	11	3	0	18	0	2	2	0	4	1	0	5	0	6	**36**
0:30	3	2	1	0	6	5	3	2	0	10	0	2	1	0	3	0	0	2	0	2	**21**
0:45	3	4	2	0	9	3	3	0	0	6	0	2	1	0	3	0	1	0	0	1	**19**
1:00	0	7	0	0	7	1	7	2	0	10	0	2	1	0	3	0	0	4	0	4	**24**
1:15	3	2	0	0	5	3	1	0	0	4	0	1	1	0	2	0	0	1	0	1	**12**
1:30	1	3	0	0	4	1	7	2	0	10	1	0	0	0	1	0	0	2	0	2	**17**
1:45	0	3	1	0	4	0	3	1	0	4	1	0	0	0	1	0	1	2	0	3	**12**
2:00	1	2	0	0	3	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	**6**
2:15	0	6	0	0	6	0	5	0	0	5	0	1	1	0	2	0	0	0	0	0	**13**
2:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	**4**
2:45	1	2	0	0	3	1	4	0	0	5	1	2	0	0	3	0	0	1	0	1	**12**
3:00	0	0	1	0	1	0	3	0	0	3	0	1	0	0	1	0	0	2	0	2	**7**
3:15	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	**5**
3:30	1	0	0	0	1	5	3	1	0	9	0	0	0	0	0	0	1	1	0	2	**12**
3:45	1	7	0	0	8	1	1	1	0	3	0	0	0	0	0	0	0	2	0	2	**13**
4:00	1	4	0	0	5	2	2	1	0	5	1	0	0	0	1	1	0	2	0	3	**14**
4:15	0	5	0	0	5	1	5	0	0	6	0	0	1	0	1	0	0	3	0	3	**15**
4:30	0	5	0	0	5	2	5	1	0	8	0	0	0	0	0	0	1	3	0	4	**17**
4:45	1	4	0	0	5	0	2	1	0	3	0	1	0	0	1	0	1	2	0	3	**12**
5:00	3	8	0	0	11	2	4	1	0	7	1	1	0	0	2	1	0	3	0	4	**24**
5:15	3	9	0	0	12	1	2	3	0	6	1	0	2	0	3	0	1	4	0	5	**26**
5:30	1	9	0	0	10	1	7	2	0	10	0	0	0	0	0	0	0	11	0	11	**31**
5:45	1	23	1	0	25	1	12	4	0	17	0	2	0	0	2	0	0	7	0	7	**51**
6:00	3	18	1	0	22	10	8	2	0	20	0	1	2	0	3	0	2	5	0	7	**52**
6:15	1	15	0	0	16	15	11	1	0	27	4	0	1	0	5	0	4	15	0	19	**67**
6:30	12	28	1	0	41	20	18	4	0	42	2	3	6	0	11	2	2	12	0	16	**110**
6:45	8	26	1	0	35	7	18	3	0	28	3	7	9	0	19	0	2	17	0	19	**101**
7:00	2	46	2	0	50	18	34	8	0	60	4	8	18	0	30	1	4	16	0	21	**161**
7:15	6	34	0	0	40	17	49	7	0	73	2	1	22	0	25	2	5	22	0	29	**167**
7:30	12	45	3	0	60	11	58	7	0	76	4	7	16	0	27	2	5	18	0	25	**188**
7:45	12	66	1	0	79	14	55	8	0	77	4	4	24	0	32	2	4	29	0	35	**223**
8:00	23	50	3	0	76	17	78	5	0	100	6	5	21	0	32	1	5	21	0	27	**235**
8:15	**22**	**71**	**0**	**0**	**93**	**25**	**55**	**11**	**0**	**91**	**3**	**8**	**30**	**0**	**41**	**2**	**14**	**23**	**0**	**39**	**264**
8:30	**24**	**64**	**4**	**1**	**93**	**14**	**67**	**11**	**0**	**92**	**9**	**7**	**20**	**0**	**36**	**2**	**2**	**25**	**0**	**29**	**250**
8:45	**13**	**58**	**4**	**0**	**75**	**20**	**52**	**5**	**0**	**77**	**4**	**7**	**28**	**0**	**39**	**7**	**6**	**14**	**0**	**27**	**218**
9:00	**17**	**66**	**5**	**0**	**88**	**13**	**69**	**12**	**0**	**94**	**8**	**6**	**31**	**0**	**45**	**2**	**2**	**15**	**0**	**19**	**246**
9:15	16	51	1	0	68	13	55	13	0	81	3	6	25	0	34	2	7	17	0	26	**209**
9:30	19	50	3	0	72	14	52	11	0	77	1	3	18	0	22	4	6	18	0	28	**199**
9:45	25	42	0	0	67	8	49	8	0	65	4	7	22	0	33	5	4	15	0	24	**189**
10:00	20	51	2	0	73	9	59	9	0	77	3	6	26	0	35	3	3	14	0	20	**205**
10:15	24	42	0	0	66	6	39	3	0	48	8	3	23	0	34	2	6	11	0	19	**167**
10:30	14	32	3	0	49	12	40	12	0	64	5	6	17	0	28	3	2	20	0	25	**166**
10:45	24	45	3	0	72	9	47	9	0	65	5	5	14	0	24	5	3	14	0	22	**183**
11:00	24	32	6	0	62	9	58	6	0	73	8	10	30	0	48	1	5	14	0	20	**203**
11:15	24	46	4	0	74	11	58	8	0	77	2	4	20	0	26	5	7	17	0	29	**206**
11:30	14	49	1	0	64	11	56	6	0	73	5	7	21	0	33	3	7	9	0	19	**189**
11:45	22	30	4	0	56	11	54	12	0	77	4	13	26	0	43	4	8	18	0	30	**206**
12:00	28	49	2	0	79	6	44	11	0	61	2	6	25	0	33	1	10	16	0	27	**200**
AM Peak Hour Total	**76**	**259**	**13**	**1**	**349**	**72**	**243**	**39**	**0**	**354**	**24**	**28**	**109**	**0**	**161**	**13**	**24**	**77**	**0**	**114**	**978**
AM Peak PHF	**0.79**	**0.91**	**0.65**	**0.25**	**0.94**	**0.72**	**0.88**	**0.81**	**0.00**	**0.94**	**0.67**	**0.88**	**0.88**	**0.00**	**0.89**	**0.46**	**0.43**	**0.77**	**0.00**	**0.73**	**0.93**
12:15	27	45	1	0	73	14	43	10	0	67	3	8	21	0	32	3	7	18	0	28	**200**
12:30	22	59	8	0	89	7	55	5	0	67	4	7	29	0	40	9	8	13	0	30	**226**
12:45	24	47	5	0	76	15	63	15	0	93	5	8	29	0	42	7	6	18	0	31	**242**
13:00	32	55	4	0	91	18	57	14	0	89	4	10	31	0	45	5	5	10	0	20	**245**
13:15	22	67	3	0	92	12	69	10	0	91	6	6	28	0	40	6	12	15	0	33	**256**
13:30	21	60	2	0	83	10	47	14	0	71	6	8	22	0	36	4	6	13	0	23	**213**
13:45	35	49	1	0	85	14	58	10	0	82	7	7	21	0	35	1	2	11	0	14	**216**
14:00	24	63	5	0	92	16	65	13	0	94	5	5	42	0	52	3	4	17	0	24	**262**
14:15	25	54	3	0	82	13	52	13	0	78	12	4	34	0	50	4	5	14	0	23	**233**
14:30	19	46	1	0	66	11	66	9	0	86	3	8	27	0	38	1	3	12	0	16	**206**
14:45	26	66	1	0	93	8	64	14	0	86	10	11	21	0	42	2	7	27	0	36	**257**
15:00	21	61	1	0	83	12	70	13	0	95	11	14	26	0	51	4	8	14	0	26	**255**
15:15	27	60	5	0	92	20	67	11	0	98	7	6	34	0	47	4	11	28	0	43	**280**
15:30	25	52	4	0	81	18	82	9	0	109	4	6	33	0	43	1	8	18	0	27	**260**
15:45	29	54	4	0	87	17	77	12	0	106	5	9	22	0	36	1	11	22	0	34	**263**
16:00	22	57	2	0	81	11	64	15	0	90	9	7	19	0	35	5	10	14	0	29	**235**
16:15	35	66	1	0	102	24	84	11	0	119	7	7	33	0	47	2	6	20	0	28	**296**
16:30	31	49	0	0	80	19	78	19	0	116	5	9	28	0	42	5	5	9	0	19	**257**
16:45	23	73	1	0	97	22	87	13	0	122	7	4	49	0	60	2	10	23	0	35	**314**
17:00	31	71	2	0	104	19	88	14	1	122	9	7	29	0	45	1	7	17	0	25	**296**
17:15	**31**	**79**	**2**	**0**	**112**	**25**	**98**	**16**	**0**	**139**	**11**	**11**	**30**	**0**	**52**	**5**	**9**	**14**	**0**	**28**	**331**
17:30	**36**	**78**	**6**	**0**	**120**	**19**	**92**	**12**	**0**	**123**	**6**	**6**	**32**	**0**	**44**	**5**	**9**	**17**	**0**	**31**	**318**
17:45	**34**	**70**	**5**	**0**	**109**	**23**	**85**	**25**	**0**	**133**	**10**	**11**	**28**	**0**	**49**	**1**	**8**	**11**	**0**	**20**	**311**
18:00	**37**	**68**	**7**	**0**	**112**	**20**	**80**	**17**	**0**	**117**	**9**	**10**	**41**	**0**	**60**	**8**	**11**	**17**	**0**	**36**	**325**
18:15	26	53	5	0	84	12	75	18	0	105	10	5	24	0	39	4	8	15	0	27	**255**
18:30	22	46	3	0	71	24	63	15	0	102	13	14	19	0	46	5	5	12	0	22	**241**
18:45	20	42	4	0	66	9	50	9	0	68	7	6	21	0	34	7	5	13	0	25	**193**
19:00	13	56	1	0	70	15	60	7	0	82	6	6	24	0	36	2	7	17	0	26	**214**
19:15	15	40	5	0	60	14	59	7	0	80	6	9	17	0	32	4	5	11	0	20	**192**
19:30	18	32	3	0	53	14	57	21	0	92	8	5	19	0	32	2	6	6	0	14	**191**
19:45	17	29	3	0	49	10	32	10	0	52	9	7	15	0	31	1	7	7	0	15	**147**
20:00	12	46	3	0	61	8	40	9	0	57	11	9	14	0	34	0	4	7	0	11	**163**
20:15	13	52	6	0	71	13	35	9	0	57	5	9	10	0	24	1	5	12	0	18	**170**
20:30	17	39	2	0	58	16	27	4	0	47	7	8	20	0	35	4	3	3	0	10	**150**
20:45	8	23	2	0	33	6	21	6	0	33	7	4	14	0	25	2	3	4	0	9	**100**
21:00	7	16	2	0	25	13	22	10	0	45	5	3	9	0	17	1	5	5	0	11	**98**
21:15	10	23	2	0	35	6	33	14	0	53	3	5	13	0	21	2	0	9	0	11	**120**
21:30	7	23	1	0	31	4	21	6	0	31	1	5	9	0	15	1	3	6	0	10	**87**
21:45	1	23	5	0	29	14	21	4	0	39	3	9	9	0	21	2	1	4	0	7	**96**
22:00	8	19	1	0	28	5	13	7	0	25	3	2	9	0	14	1	3	9	0	13	**80**
22:15	3	20	2	0	25	3	22	5	0	30	1	1	10	0	12	0	4	1	0	5	**72**
22:30	5	18	0	0	23	10	15	6	0	31	3	3	5	0	11	2	2	3	0	7	**72**
22:45	4	18	1	0	23	4	12	3	0	19	8	1	4	0	13	0	0	6	0	6	**61**
23:00	4	10	0	0	14	10	16	2	0	28	4	2	5	0	11	0	2	3	0	5	**58**
23:15	4	22	0	0	26	4	15	3	0	22	2	3	5	0	10	0	3	4	0	7	**65**
23:30	0	11	0	0	11	5	8	3	0	16	0	2	2	0	4	1	1	1	0	3	**34**
23:45	1	4	0	0	5	1	12	2	0	15	0	3	0	0	3	0	1	2	0	3	**26**
0:00	2	11	0	0	13	6	7	1	0	14	3	3	0	0	6	0	0	0	0	0	**33**
PM Peak Hour Total	**138**	**295**	**20**	**0**	**453**	**87**	**355**	**70**	**0**	**512**	**36**	**38**	**131**	**0**	**205**	**19**	**37**	**59**	**0**	**115**	**1285**
PM Peak PHF	**0.93**	**0.93**	**0.71**	**0.00**	**0.94**	**0.87**	**0.91**	**0.70**	**0.00**	**0.92**	**0.82**	**0.86**	**0.80**	**0.00**	**0.85**	**0.59**	**0.84**	**0.87**	**0.00**	**0.80**	**0.97**
24-Hour Total	**1332**	**3340**	**186**	**1**	**4859**	**967**	**3705**	**715**	**1**	**5388**	**399**	**470**	**1492**	**0**	**2361**	**195**	**393**	**1026**	**0**	**1614**	**14222**

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Contee Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Contee Rd	Contee Rd	
	Across North	Across South	Across East	Across West	
0:15	0	0	0	0	**0**
0:30	0	0	0	0	**0**
0:45	0	0	0	0	**0**
1:00	0	0	1	0	**1**
1:15	0	0	0	0	**0**
1:30	1	0	0	1	**2**
1:45	0	0	0	0	**0**
2:00	0	1	0	0	**1**
2:15	0	0	0	0	**0**
2:30	0	0	0	0	**0**
2:45	0	0	0	0	**0**
3:00	0	0	0	0	**0**
3:15	0	0	0	0	**0**
3:30	0	0	0	0	**0**
3:45	0	0	0	0	**0**
4:00	1	0	0	0	**1**
4:15	0	0	0	0	**0**
4:30	0	0	0	0	**0**
4:45	0	0	0	0	**0**
5:00	0	0	0	0	**0**
5:15	0	0	0	0	**0**
5:30	0	0	0	0	**0**
5:45	0	0	0	0	**0**
6:00	0	0	0	0	**0**
6:15	0	0	0	0	**0**
6:30	0	0	1	0	**1**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	1	0	0	1	**2**
7:30	0	0	0	0	**0**
7:45	0	0	0	0	**0**
8:00	0	0	0	0	**0**
8:15	**1**	**0**	**0**	**1**	**2**
8:30	**0**	**0**	**0**	**0**	**0**
8:45	**0**	**0**	**0**	**0**	**0**
9:00	**1**	**0**	**0**	**1**	**2**
9:15	0	0	0	0	**0**
9:30	0	0	0	0	**0**
9:45	1	0	0	1	**2**
10:00	0	0	0	0	**0**
10:15	0	0	0	0	**0**
10:30	1	0	0	0	**1**
10:45	0	0	0	0	**0**
11:00	0	0	0	0	**0**
11:15	0	0	0	0	**0**
11:30	0	0	0	0	**0**
11:45	0	0	0	0	**0**
12:00	0	0	0	0	**0**
AM Peak Hour Total	**2**	**0**	**0**	**2**	**4**
12:15	0	0	0	0	**0**
12:30	0	0	0	0	**0**
12:45	0	0	0	0	**0**
13:00	1	0	0	0	**1**
13:15	0	0	0	0	**0**
13:30	0	0	0	0	**0**
13:45	0	0	1	0	**1**
14:00	0	0	0	0	**0**
14:15	0	0	0	0	**0**
14:30	0	0	1	0	**1**
14:45	1	0	0	0	**1**
15:00	0	1	1	0	**2**
15:15	0	0	0	0	**0**
15:30	0	0	1	0	**1**
15:45	0	2	1	0	**3**
16:00	0	0	0	0	**0**
16:15	0	0	0	0	**0**
16:30	0	0	0	0	**0**
16:45	1	0	1	1	**3**
17:00	0	0	0	0	**0**
17:15	**0**	**0**	**0**	**0**	**0**
17:30	**0**	**0**	**0**	**0**	**0**
17:45	**0**	**0**	**0**	**0**	**0**
18:00	**0**	**0**	**0**	**0**	**0**
18:15	0	0	0	0	**0**
18:30	0	0	0	0	**0**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
19:15	0	0	0	0	**0**
19:30	0	0	0	0	**0**
19:45	0	0	0	0	**0**
20:00	0	0	0	0	**0**
20:15	0	0	0	0	**0**
20:30	0	0	0	0	**0**
20:45	0	0	0	0	**0**
21:00	0	0	0	0	**0**
21:15	0	0	0	0	**0**
21:30	0	0	0	0	**0**
21:45	0	0	0	0	**0**
22:00	0	0	0	0	**0**
22:15	0	0	0	0	**0**
22:30	0	0	0	0	**0**
22:45	0	0	0	0	**0**
23:00	0	0	0	0	**0**
23:15	0	0	0	0	**0**
23:30	0	0	0	0	**0**
23:45	0	0	0	0	**0**
0:00	0	1	0	0	**1**
PM Peak Hour Total	**0**	**0**	**0**	**0**	**0**
24-Hour Total	**10**	**5**	**8**	**6**	**29**

Note: Peak hours highlighted correspond with vehicle traffic flow volume

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Contee Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Bicycle Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Contee Rd	Contee Rd	
	Across North	Across South	Across East	Across West	
0:15	0	0	0	0	**0**
0:30	0	0	0	0	**0**
0:45	0	0	0	0	**0**
1:00	0	0	0	0	**0**
1:15	0	0	0	0	**0**
1:30	0	0	0	0	**0**
1:45	0	0	0	0	**0**
2:00	0	0	0	0	**0**
2:15	0	0	0	0	**0**
2:30	0	0	0	0	**0**
2:45	0	0	0	0	**0**
3:00	0	0	0	0	**0**
3:15	0	0	0	0	**0**
3:30	0	0	0	0	**0**
3:45	0	0	0	0	**0**
4:00	0	0	0	0	**0**
4:15	0	0	0	0	**0**
4:30	0	0	0	0	**0**
4:45	0	0	0	0	**0**
5:00	0	0	0	0	**0**
5:15	0	0	0	0	**0**
5:30	0	0	0	0	**0**
5:45	0	0	0	0	**0**
6:00	0	0	0	0	**0**
6:15	0	0	0	0	**0**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	**0**
7:30	0	0	0	0	**0**
7:45	0	0	0	0	**0**
8:00	0	0	0	0	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	**0**	**0**	**0**	**0**	**0**
8:45	**0**	**0**	**0**	**0**	**0**
9:00	**0**	**0**	**1**	**0**	**1**
9:15	0	0	0	0	**0**
9:30	0	0	0	0	**0**
9:45	0	0	0	0	**0**
10:00	0	0	0	0	**0**
10:15	0	0	0	0	**0**
10:30	0	0	0	0	**0**
10:45	0	0	0	0	**0**
11:00	0	0	0	0	**0**
11:15	0	0	0	0	**0**
11:30	0	0	0	0	**0**
11:45	0	0	0	0	**0**
12:00	0	0	0	0	**0**
AM Peak Hour Total	**0**	**0**	**1**	**0**	**1**
12:15	0	0	0	0	**0**
12:30	0	0	0	0	**0**
12:45	0	0	0	0	**0**
13:00	0	0	0	0	**0**
13:15	0	0	0	0	**0**
13:30	0	0	0	0	**0**
13:45	0	0	0	0	**0**
14:00	0	0	0	0	**0**
14:15	0	0	0	0	**0**
14:30	0	0	0	0	**0**
14:45	0	0	0	0	**0**
15:00	0	0	0	0	**0**
15:15	0	0	0	0	**0**
15:30	0	0	0	0	**0**
15:45	0	0	0	0	**0**
16:00	1	0	0	0	**1**
16:15	0	0	0	0	**0**
16:30	0	0	0	0	**0**
16:45	0	0	0	0	**0**
17:00	1	0	0	1	**2**
17:15	**0**	**0**	**0**	**0**	**0**
17:30	**0**	**0**	**0**	**0**	**0**
17:45	**0**	**0**	**0**	**0**	**0**
18:00	**0**	**0**	**0**	**0**	**0**
18:15	0	0	0	0	**0**
18:30	0	0	1	0	**1**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
19:15	0	0	0	0	**0**
19:30	0	0	0	0	**0**
19:45	0	0	0	0	**0**
20:00	0	0	0	0	**0**
20:15	0	0	0	0	**0**
20:30	0	0	0	0	**0**
20:45	0	0	0	0	**0**
21:00	0	0	0	0	**0**
21:15	0	0	0	0	**0**
21:30	0	0	0	0	**0**
21:45	0	0	0	0	**0**
22:00	0	0	0	0	**0**
22:15	0	0	0	0	**0**
22:30	0	0	0	0	**0**
22:45	0	0	0	0	**0**
23:00	0	0	0	0	**0**
23:15	0	0	0	0	**0**
23:30	0	0	0	0	**0**
23:45	0	0	0	0	**0**
0:00	0	0	0	0	**0**
PM Peak Hour Total	**0**	**0**	**0**	**0**	**0**
24-Hour Total	**2**	**0**	**2**	**1**	**5**

Note: Peak hours highlighted correspond with vehicle traffic flow volume

CENTURY ENGINEERING A Kleinfelder Company

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Van Dusen Concept Study (CEI)
Location: Van Dusen Rd @ UMD Laurel Medical Center
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Wednesday (October 11, 2023)

Weather: Sunny, Cool
Field Techs: KH
Reviewed by: JEH

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd					Van Dusen Rd										UMD Laurel Medical Center					
	From North					From South					From East					From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
7:15	0	60	14	0	74	7	46	0	0	53	0	0	0	0	0	1	0	5	0	6	133
7:30	0	79	17	1	97	8	57	0	0	65	0	0	0	0	0	1	0	1	0	2	164
7:45	**0**	**104**	**16**	**0**	**120**	**27**	**62**	**0**	**0**	**89**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**0**	**6**	**215**
8:00	**0**	**103**	**26**	**0**	**129**	**33**	**82**	**0**	**0**	**115**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**3**	**0**	**9**	**253**
8:15	**0**	**113**	**20**	**0**	**133**	**20**	**66**	**0**	**0**	**86**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**3**	**0**	**12**	**231**
8:30	**0**	**81**	**25**	**0**	**106**	**17**	**64**	**0**	**0**	**81**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**6**	**0**	**14**	**201**
8:45	0	83	11	0	94	15	61	0	0	76	0	0	0	0	0	4	0	7	0	11	181
9:00	0	65	21	0	86	21	65	0	0	86	0	0	0	0	0	6	0	11	0	17	189
AM Peak Hour Total	**0**	**401**	**87**	**0**	**488**	**97**	**274**	**0**	**0**	**371**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**15**	**0**	**41**	**900**
AM Peak PHF	**0.00**	**0.89**	**0.84**	**0.00**	**0.92**	**0.73**	**0.84**	**0.00**	**0.00**	**0.81**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.72**	**0.00**	**0.63**	**0.00**	**0.73**	**0.89**
16:15	0	87	4	0	91	7	96	0	0	103	0	0	0	0	0	25	0	21	0	46	**240**
16:30	0	70	4	0	74	14	111	0	0	125	0	0	0	0	0	16	0	23	0	39	**238**
16:45	**0**	**67**	**2**	**0**	**69**	**7**	**132**	**0**	**0**	**139**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**25**	**0**	**52**	**260**
17:00	**0**	**72**	**3**	**0**	**75**	**8**	**136**	**0**	**0**	**144**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**18**	**0**	**29**	**248**
17:15	**0**	**81**	**4**	**0**	**85**	**7**	**137**	**0**	**0**	**144**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**23**	**0**	**39**	**268**
17:30	**0**	**80**	**1**	**0**	**81**	**2**	**144**	**0**	**0**	**146**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**15**	**0**	**24**	**251**
17:45	0	76	2	0	78	2	139	0	0	141	0	0	0	0	0	6	0	12	0	18	**237**
18:00	0	89	1	0	90	4	128	0	0	132	0	0	0	0	0	5	0	10	0	15	**237**
18:15	0	72	1	0	73	0	101	0	0	101	0	0	0	0	0	2	0	6	0	8	**182**
PM Peak Hour Total	**0**	**300**	**10**	**0**	**310**	**24**	**549**	**0**	**0**	**573**	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**81**	**0**	**144**	**1027**
PM Peak PHF	**0.00**	**0.93**	**0.63**	**0.00**	**0.91**	**0.75**	**0.95**	**0.00**	**0.00**	**0.98**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.58**	**0.00**	**0.81**	**0.00**	**0.69**	**0.96**

CENTURY ENGINEERING A Kleinfelder Company

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Van Dusen Concept Study (CEI)
Location: Van Dusen Rd @ UMD Laurel Medical Center
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Wednesday (October 11, 2023)

Weather: Sunny, Cool
Field Techs: KH
Reviewed by: JEH

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd		UMD Laurel Medical Center	
	Across North	Across South	Across East	Across West	
7:15	0	0	0	0	**0**
7:30	0	0	0	0	**0**
7:45	0	0	0	1	**1**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	**0**	**0**	**0**	**1**	**1**
8:45	**0**	**0**	**0**	**0**	**0**
9:00	0	0	1	0	**1**
AM Peak Hour Total	**0**	**0**	**0**	**2**	**2**
16:15	0	0	0	0	**0**
16:30	0	1	0	0	**1**
16:45	**0**	**0**	**0**	**0**	**0**
17:00	**0**	**0**	**0**	**0**	**0**
17:15	**0**	**0**	**0**	**1**	**1**
17:30	**0**	**0**	**0**	**1**	**1**
17:45	0	0	0	0	**0**
18:00	1	0	1	0	**2**
18:15	0	0	0	0	**0**
PM Peak Hour Total	**0**	**0**	**0**	**2**	**2**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Olive Branch Way/ Killbarron Dr
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd					Van Dusen Rd					Killabarron Dr					Olive branch Way					
	From North					From South					From East					From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
6:15	1	9	1	0	11	0	5	0	0	5	4	0	5	0	9	2	0	0	0	2	**27**
6:30	2	30	1	0	33	0	12	1	0	13	3	0	6	0	9	0	0	0	0	0	**55**
6:45	2	27	1	0	30	0	10	0	0	10	3	0	7	0	10	3	0	0	0	3	**53**
7:00	4	50	2	0	56	0	26	2	0	28	7	0	6	0	13	3	1	1	0	5	**102**
7:15	5	42	1	0	48	0	31	1	0	32	4	0	12	0	16	1	0	0	0	1	**97**
7:30	4	62	4	1	71	0	34	1	0	35	5	0	13	0	18	3	2	2	0	7	**131**
7:45	4	61	7	0	72	2	36	1	0	39	6	0	20	0	26	5	0	2	0	7	**144**
8:00	**6**	**74**	**7**	**0**	**87**	**2**	**43**	**3**	**0**	**48**	**2**	**0**	**20**	**0**	**22**	**16**	**2**	**5**	**0**	**23**	**180**
8:15	**5**	**83**	**4**	**0**	**92**	**1**	**48**	**2**	**0**	**51**	**4**	**1**	**9**	**0**	**14**	**4**	**0**	**2**	**0**	**6**	**163**
8:30	**11**	**81**	**4**	**0**	**96**	**0**	**48**	**3**	**0**	**51**	**6**	**1**	**5**	**0**	**12**	**5**	**2**	**1**	**0**	**8**	**167**
8:45	**6**	**73**	**12**	**0**	**91**	**4**	**39**	**3**	**0**	**46**	**6**	**1**	**7**	**0**	**14**	**12**	**0**	**1**	**0**	**13**	**164**
9:00	4	74	6	0	84	1	56	3	0	60	5	2	13	0	20	6	2	6	0	14	**178**
9:15	6	64	6	1	77	1	49	2	0	52	2	0	8	0	10	4	0	3	0	7	**146**
9:30	6	60	5	0	71	0	44	5	0	49	4	0	5	0	9	7	2	1	0	10	**139**
9:45	3	55	2	0	60	3	44	5	0	52	4	1	13	0	18	3	1	2	0	6	**136**
10:00	4	67	4	0	75	2	57	0	0	59	2	0	8	0	10	2	0	2	0	4	**148**
AM Peak Hour Total	**28**	**311**	**27**	**0**	**366**	**7**	**178**	**11**	**0**	**196**	**18**	**3**	**41**	**0**	**62**	**37**	**4**	**9**	**0**	**50**	**674**
AM Peak PHF	**0.64**	**0.94**	**0.56**	**0.00**	**0.95**	**0.44**	**0.93**	**0.92**	**0.00**	**0.96**	**0.75**	**0.75**	**0.51**	**0.00**	**0.70**	**0.58**	**0.50**	**0.45**	**0.00**	**0.54**	**0.94**
15:15	9	63	9	0	81	0	87	6	0	93	5	0	12	0	17	14	1	5	0	20	**211**
15:30	9	58	8	0	75	4	97	5	0	106	3	0	15	0	18	13	0	1	0	14	**213**
15:45	11	58	11	0	80	2	86	6	0	94	4	0	13	0	17	7	1	2	0	10	**201**
16:00	13	55	10	0	78	0	75	4	0	79	3	1	5	0	9	7	0	0	0	7	**173**
16:15	11	68	10	0	89	5	107	8	0	120	3	0	17	0	20	8	1	2	0	11	**240**
16:30	11	56	14	0	81	0	95	6	0	101	1	1	15	0	17	8	1	0	0	9	**208**
16:45	**16**	**59**	**8**	**0**	**83**	**2**	**103**	**7**	**0**	**112**	**3**	**1**	**11**	**2**	**17**	**10**	**2**	**0**	**0**	**12**	**224**
17:00	**10**	**60**	**12**	**0**	**82**	**4**	**108**	**5**	**0**	**117**	**2**	**5**	**12**	**0**	**19**	**11**	**4**	**3**	**0**	**18**	**236**
17:15	**8**	**63**	**15**	**0**	**86**	**5**	**116**	**6**	**0**	**127**	**3**	**2**	**12**	**0**	**17**	**10**	**1**	**2**	**0**	**13**	**243**
17:30	**11**	**69**	**12**	**0**	**92**	**1**	**98**	**7**	**0**	**106**	**3**	**3**	**11**	**0**	**17**	**8**	**1**	**1**	**0**	**10**	**225**
17:45	15	87	3	0	105	1	84	8	0	93	1	0	11	0	12	9	0	3	0	12	**222**
18:00	10	72	11	0	93	2	87	9	0	98	3	2	16	0	21	3	1	3	0	7	**219**
18:15	13	55	8	0	76	1	70	3	0	74	1	1	16	0	18	1	4	1	0	6	**174**
18:30	10	46	7	0	63	0	84	6	0	90	2	1	12	0	15	4	1	1	0	6	**174**
18:45	13	53	6	0	72	1	60	1	0	62	0	0	7	0	7	5	2	2	0	9	**150**
19:00	15	45	4	0	64	0	61	7	0	68	1	1	4	0	6	2	1	0	0	3	**141**
PM Peak Hour Total	**45**	**251**	**47**	**0**	**343**	**12**	**425**	**25**	**0**	**462**	**11**	**11**	**46**	**2**	**70**	**39**	**8**	**6**	**0**	**53**	**928**
PM Peak PHF	**0.70**	**0.91**	**0.78**	**0.00**	**0.93**	**0.60**	**0.92**	**0.89**	**0.00**	**0.91**	**0.92**	**0.55**	**0.96**	**0.25**	**0.92**	**0.89**	**0.50**	**0.50**	**0.00**	**0.74**	**0.95**

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Olive Branch Way/ killabarron Dr
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Killabarron Dr	Olive Branch Way	
	Across North	Across South	Across East	Across West	
6:15	0	0	0	0	**0**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	1	2	1	**4**
7:15	0	0	0	0	**0**
7:30	0	0	0	0	**0**
7:45	1	0	0	0	**1**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**1**	**0**	**1**
8:30	**0**	**0**	**1**	**0**	**1**
8:45	**0**	**0**	**0**	**0**	**0**
9:00	0	0	1	0	**1**
9:15	0	0	0	0	**0**
9:30	0	0	0	0	**0**
9:45	0	1	0	1	**2**
10:00	0	0	0	0	**0**
AM Peak Hour Total	**0**	**0**	**2**	**0**	**2**
15:15	0	0	1	0	**1**
15:30	0	0	1	0	**1**
15:45	0	0	1	0	**1**
16:00	0	0	0	0	**0**
16:15	0	0	0	0	**0**
16:30	0	1	0	0	**1**
16:45	**0**	**0**	**0**	**0**	**0**
17:00	**0**	**0**	**1**	**0**	**1**
17:15	**1**	**0**	**0**	**1**	**2**
17:30	**0**	**0**	**0**	**0**	**0**
17:45	0	0	0	0	**0**
18:00	1	0	1	0	**2**
18:15	0	0	0	0	**0**
18:30	0	0	0	0	**0**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
PM Peak Hour Total	**1**	**0**	**1**	**1**	**3**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

O. R. GEORGE & ASSOCIATES, INC.
Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Olive Branch Way/ Killabarron Dr
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Bicycle Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Killabarron Dr	Olive Branch Way	
	Across North	Across South	Across East	Across West	
6:15	0	0	0	0	**0**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	**0**
7:30	0	0	0	0	**0**
7:45	0	0	0	0	**0**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	**0**	**0**	**0**	**0**	**0**
8:45	**0**	**0**	**0**	**0**	**0**
9:00	0	0	1	0	**1**
9:15	0	0	0	0	**0**
9:30	0	0	0	0	**0**
9:45	0	0	0	0	**0**
10:00	0	0	0	0	**0**
AM Peak Hour Total	**0**	**0**	**0**	**0**	**0**
15:15	0	0	0	0	**0**
15:30	0	0	0	0	**0**
15:45	0	0	0	0	**0**
16:00	0	0	0	0	**0**
16:15	0	0	0	0	**0**
16:30	0	0	0	0	**0**
16:45	**0**	**0**	**0**	**0**	**0**
17:00	**0**	**0**	**0**	**0**	**0**
17:15	**0**	**0**	**0**	**0**	**0**
17:30	**0**	**0**	**0**	**0**	**0**
17:45	0	0	0	0	**0**
18:00	0	0	0	0	**0**
18:15	0	0	0	0	**0**
18:30	1	0	1	0	**2**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
PM Peak Hour Total	**0**	**0**	**0**	**0**	**0**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

Turning Movement Counts - Field Sheet

Job No.: LAUREL 4

Location: Cherry Lane at Van Dusen Road
Date: 5/4/2023 Thursday
Recorder: Video
Interval (dd) : 15 (In Minutes)

County: Prince Georges
Town:
Weather: Clear

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-7:00PM	Start	End	Volume	LOS	V/C
		07:30	08:30	1874				17:00	18:00	2029		

Street Name-->	Van Dusen Road					Van Dusen Road					Cherry Ln					Cherry Ln					GRAND
HOUR	From North					From South					From East					From West					
ENDING	U turn	Left	Through	Right	Total	U turn	Left	Through	Right	Total	U turn	Left	Through	Right	Total	U turn	Left	Through	Right	Total	TOTAL
00:15					0					0					0					0	0
00:30					0					0					0					0	0
00:45					0					0					0					0	0
01:00					0					0					0					0	0
01:15					0					0					0					0	0
01:30					0					0					0					0	0
01:45					0					0					0					0	0
02:00					0					0					0					0	0
02:15					0					0					0					0	0
02:30					0					0					0					0	0
02:45					0					0					0					0	0
03:00					0					0					0					0	0
03:15					0					0					0					0	0
03:30					0					0					0					0	0
03:45					0					0					0					0	0
04:00					0					0					0					0	0
04:15					0					0					0					0	0
04:30					0					0					0					0	0
04:45					0					0					0					0	0
05:00					0					0					0					0	0
05:15					0					0					0					0	0
05:30					0					0					0					0	0
05:45					0					0					0					0	0
06:00					0					0					0					0	0
06:15	0	26	18	6	50	0	0	11	9	20	0	9	2	39	50	0	9	6	2	17	137
06:30	0	30	18	3	51	0	0	13	13	26	0	8	4	47	59	0	10	2	3	15	151
06:45	0	33	28	3	64	0	1	19	8	28	0	8	4	52	64	0	12	6	2	20	176
07:00	0	48	44	2	94	0	1	35	25	61	0	16	6	40	62	0	12	9	5	26	243
07:15	0	64	45	12	121	0	2	31	31	64	0	18	3	78	99	0	15	5	4	24	308
07:30	0	87	50	11	148	0	2	50	27	79	0	31	5	99	135	0	20	12	5	37	399
07:45	**0**	98	62	13	**173**	**0**	1	50	65	**116**	**0**	**45**	**10**	**137**	**192**	**0**	21	14	2	**37**	**518**
08:00	**0**	87	90	28	**205**	**0**	4	48	54	**106**	**0**	**44**	**9**	**90**	**143**	**0**	20	11	3	**34**	**488**
08:15	**0**	65	71	28	**164**	**0**	10	36	39	**85**	**0**	**37**	**15**	**75**	**127**	**0**	36	20	9	**65**	**441**
08:30	**0**	62	70	31	**163**	**0**	10	47	29	**86**	**0**	**32**	**27**	**50**	**109**	**0**	29	27	13	**69**	**427**
08:45	0	55	65	9	129	0	3	58	31	92	0	25	6	83	114	0	25	13	8	46	381
09:00	0	71	70	12	153	0	4	45	42	91	0	25	9	35	69	0	8	7	10	25	338
09:15	0	74	48	12	134	0	5	47	40	92	0	42	8	41	91	0	8	6	3	17	334
09:30	0	72	76	6	154	0	3	35	29	67	0	24	4	49	77	0	5	10	3	18	316
09:45	0	68	38	10	116	0	5	41	42	88	0	26	13	49	88	0	6	5	8	19	311
10:00	0	64	48	9	121	0	3	40	52	95	0	26	9	57	92	0	14	10	6	30	338
10:15	0	57	50	8	115	0	2	52	31	85	0	18	6	55	79	0	6	12	2	20	299
10:30	0	60	45	3	108	0	2	44	27	73	0	23	3	51	77	0	6	4	1	11	269
10:45	0	59	47	4	110	0	3	36	29	68	0	33	8	47	88	0	9	12	3	24	290
11:00	0	56	50	9	115	0	2	36	34	72	0	29	10	61	100	0	14	7	2	23	310
11:15	0	51	43	9	103	0	1	41	36	78	0	21	10	59	90	0	10	10	4	24	295
11:30	0	71	34	6	111	0	0	50	43	93	0	33	5	38	76	0	11	9	2	22	302
11:45	0	61	48	9	118	0	0	43	48	91	0	25	10	62	97	0	6	7	5	18	324
12:00	0	62	43	11	116	0	0	53	43	96	0	35	9	61	105	0	8	12	1	21	338
12:15	0	79	45	8	132	0	4	52	37	93	0	29	15	64	108	0	5	9	5	19	352
12:30	0	65	45	10	120	0	0	39	36	75	0	37	8	67	112	0	9	7	2	18	325
12:45	0	74	43	7	124	0	2	40	40	82	0	29	10	47	86	0	6	12	5	23	315
13:00	0	80	46	10	136	0	1	54	35	90	0	27	7	60	94	0	5	5	2	12	332
13:15	0	80	51	12	143	0	2	48	41	91	0	44	9	71	124	0	10	7	0	17	375
13:30	0	77	36	9	122	0	1	53	45	99	0	33	11	62	106	0	7	11	3	21	348
13:45	0	84	42	5	131	0	1	56	35	92	0	35	8	78	121	0	8	13	2	23	367
14:00	0	67	45	12	124	0	1	61	48	110	0	28	9	72	109	0	7	12	3	22	365
14:15	1	68	45	7	121	0	3	45	42	90	0	44	15	65	124	0	10	9	8	27	362
14:30	0	77	45	21	143	0	7	53	57	117	0	38	16	80	134	0	6	10	4	20	414
14:45	0	74	60	23	157	0	12	43	45	100	0	86	27	118	231	0	20	21	7	48	536
15:00	0	81	55	19	155	0	10	55	50	115	0	34	19	89	142	0	17	20	8	45	457
15:15	0	81	64	17	162	0	6	78	51	135	0	33	18	80	131	0	33	43	13	89	517
15:30	0	100	60	11	171	0	4	48	64	116	0	20	12	64	96	0	20	14	2	36	419
15:45	0	85	46	16	147	0	4	63	60	127	0	31	22	58	111	0	8	9	2	19	404
16:00	0	100	55	13	168	0	1	74	61	136	0	38	3	70	111	0	10	12	4	26	441
16:15	0	96	57	14	167	0	4	67	56	127	0	45	11	82	118	0	10	9	2	21	433
16:30	0	113	65	10	188	0	5	68	53	126	0	35	15	83	133	0	7	10	4	21	468
16:45	0	94	57	20	171	0	2	84	65	151	0	26	11	72	109	0	12	11	2	25	456
17:00	0	110	49	15	174	0	5	58	82	145	0	34	11	72	117	0	12	10	2	24	460
17:15	**0**	107	67	13	**187**	**0**	3	93	69	**165**	**0**	**39**	**11**	**82**	**132**	**0**	9	21	4	**34**	**518**
17:30	**0**	109	68	12	**189**	**0**	4	94	74	**172**	**0**	**52**	**15**	**72**	**139**	**0**	12	10	2	**24**	**524**
17:45	**0**	118	66	27	**211**	**0**	5	66	47	**118**	**0**	**39**	**24**	**66**	**129**	**0**	9	22	4	**35**	**493**
18:00	**0**	104	70	24	**198**	**0**	12	49	53	**114**	**0**	**36**	**28**	**77**	**141**	**0**	15	21	5	**41**	**494**
18:15	0	107	45	17	169	0	6	71	44	121	0	41	11	74	126	0	12	18	6	36	452
18:30	0	83	61	15	159	0	11	59	59	129	0	35	16	82	133	0	13	16	4	33	454
18:45	0	85	33	16	134	0	4	47	50	101	0	48	17	84	149	0	13	11	2	26	410
19:00	0	70	40	19	129	0	7	48	52	107	0	37	25	77	139	0	7	8	2	17	392
19:15					0					0					0					0	0
19:30					0					0					0					0	0
19:45					0					0					0					0	0
20:00					0					0					0					0	0
20:15					0					0					0					0	0
20:30					0					0					0					0	0
20:45					0					0					0					0	0
21:00					0					0					0					0	0
21:15					0					0					0					0	0
21:30					0					0					0					0	0
21:45					0					0					0					0	0
22:00					0					0					0					0	0
22:15					0					0					0					0	0
22:30					0					0					0					0	0
22:45					0					0					0					0	0
23:00					0					0					0					0	0
23:15					0					0					0					0	0
23:30					0					0					0					0	0
23:45					0					0					0					0	0
00:00					0					0					0					0	0
TOTAL	**1**	**3949**	**2662**	**656**	**7268**	**0**	**191**	**2627**	**2278**	**5096**	**0**	**1686**	**599**	**3503**	**5788**	**0**	**632**	**617**	**215**	**1464**	**19616**
AM Peak Vol	0	312	293	100	705	0	25	181	187	393	0	158	61	352	571	0	106	72	27	205	1874
PM Peak Vol	0	438	271	76	785	0	24	302	243	569	0	166	78	297	541	0	45	74	15	134	2029
Midday Peak Vol	0	280	176	36	492	0	6	184	156	346	0	130	42	239	411	0	28	40	13	81	

Turning Movement Counts - Field Sheet

Job No.: LAUREL 4

Location: Cherry Lane at Van Dusen Road
Date: 5/4/2023 Thursday
Recorder: Video
Interval (dd) : 15 (In Minutes)

County: Prince Georges
Town:
Weather: Clear

PEAK HOURS	Start	End	Volume	LOS	V/C
AM PERIOD 6:00AM-12:00PM	07:30	08:30	1874		
PM PERIOD 12:00PM-7:00PM	17:00	18:00	2029		

PEDESTRIANS & BICYCLES

Hour Ending	From North Van Dusen Road		From South Van Dusen Road		From East Cherry Ln		From West Cherry Ln	
	Pedestrians	Bicycles	Pedestrians	Bicycles	Pedestrians	Bicycles	Pedestrians	Bicycles
00:15								
00:30								
00:45								
01:00								
01:15								
01:30								
01:45								
02:00								
02:15								
02:30								
02:45								
03:00								
03:15								
03:30								
03:45								
04:00								
04:15								
04:30								
04:45								
05:00								
05:15								
05:30								
05:45								
06:00								
06:15	0	0	1	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0
07:00	0	0	1	0	0	0	0	0
07:15	1	0	0	0	0	0	1	0
07:30	0	0	3	0	0	0	1	1
07:45	1	0	0	0	0	0	0	0
08:00	3	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	1	0	1	0	0	0	0	0
08:45	0	0	0	0	0	0	1	0
09:00	0	0	0	0	0	0	0	0
09:15	1	0	0	0	0	0	0	0
09:30	1	0	0	0	0	0	0	1
09:45	0	0	0	0	1	0	0	0
10:00	0	0	0	0	1	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	1	0	0	0
10:45	0	0	0	0	0	0	0	0
11:00	1	0	0	0	0	0	0	0
11:15	0	0	1	0	1	0	1	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
12:00	0	0	0	0	1	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	1	0	0	0
13:00	0	0	0	0	1	0	0	0
13:15	1	0	0	0	0	0	0	0
13:30	1	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	11	2	0	0	0	0	0	0
15:00	1	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	1	0	0	0	1	0	0	0
15:45	1	0	0	0	0	0	0	0
16:00	0	0	1	0	0	0	0	0
16:15	2	0	0	0	0	0	0	0
16:30	2	0	0	0	0	0	0	0
16:45	2	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	1	0	0	0	1	0	0	0
18:45	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0
19:15								
19:30								
19:45								
20:00								
20:15								
20:30								
20:45								
21:00								
21:15								
21:30								
21:45								
22:00								
22:15								
22:30								
22:45								
23:00								
23:15								
23:30								
23:45								
00:00								
TOTAL	**0**	**33**	**2**	**0**	**8**	**0**	**0**	**9**	**0**	**0**	**4**	**2**
AM Peak Vol	0	5	0	0	1	0	0	0	0	0	0	0
PM Peak Vol	0	1	0	0	0	0	0	0	0	0	0	0

Turning Movement Counts - Field Sheet

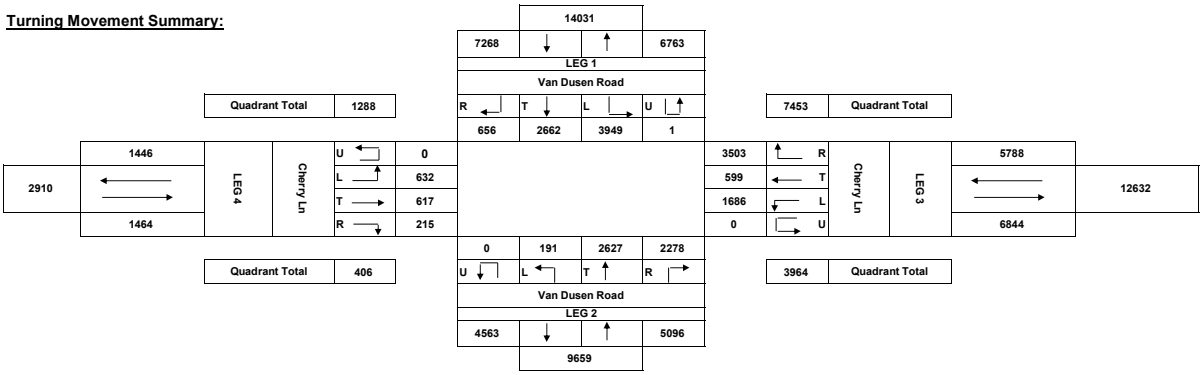
Job No.: LAUREL 4

Location: Cherry Lane at Van Dusen Road
Date: 5/4/2023 Thursday
Recorder: Video
Interval (dd) : 15 (In Minutes)

County: Prince Georges
Town:
Weather: Clear

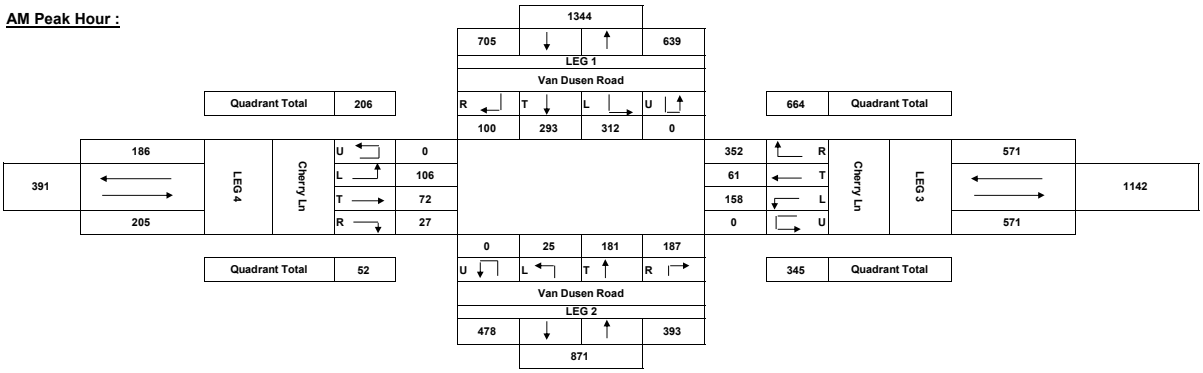
PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-7:00PM	Start	End	Volume	LOS	V/C
		07:30	08:30	1874				17:00	18:00	2029		

Turning Movement Summary:

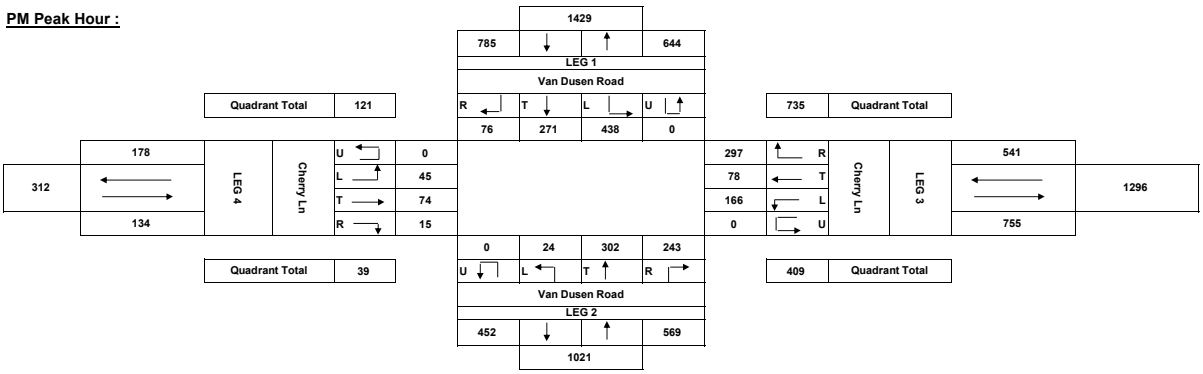


Comments:

AM Peak Hour :



PM Peak Hour :



O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Erica Ln/Laurel Oaks Ln
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (February 1, 2022)

Weather: Cold, Dry
Field Techs: SA/TS
Reviewed by: SAA

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd					Van Dusen Rd					Erica Ln					Laurel Oaks Ln					
	From North					From South					From East					From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
6:15	0	41	0	0	41	1	49	0	0	50	0	0	11	0	11	0	0	0	0	0	102
6:30	1	44	0	0	45	0	57	0	0	57	0	0	8	0	8	2	0	1	0	3	113
6:45	1	61	0	0	62	0	56	0	0	56	1	0	5	0	6	3	0	1	0	4	128
7:00	1	90	0	0	91	0	78	0	0	78	1	0	7	0	8	1	0	1	0	2	179
7:15	4	108	2	0	114	0	101	0	0	101	0	0	11	0	11	1	0	1	0	2	228
7:30	6	152	0	0	158	1	157	1	0	159	1	0	12	0	13	3	0	2	0	5	335
7:45	**4**	**196**	**3**	**0**	**203**	**0**	**226**	**0**	**0**	**226**	**2**	**0**	**15**	**0**	**17**	**3**	**0**	**1**	**0**	**4**	**450**
8:00	**7**	**197**	**2**	**0**	**206**	**3**	**169**	**0**	**0**	**172**	**0**	**0**	**11**	**0**	**11**	**3**	**0**	**1**	**0**	**4**	**393**
8:15	**3**	**200**	**2**	**0**	**205**	**0**	**114**	**1**	**0**	**115**	**1**	**0**	**8**	**0**	**9**	**1**	**0**	**0**	**0**	**1**	**330**
8:30	**2**	**172**	**2**	**0**	**176**	**0**	**144**	**1**	**0**	**145**	**1**	**1**	**13**	**0**	**15**	**1**	**0**	**0**	**0**	**1**	**337**
8:45	3	142	2	0	147	1	126	0	0	127	0	0	8	0	8	2	1	0	0	3	285
9:00	0	143	1	0	144	1	106	1	0	108	0	0	2	0	2	2	0	0	0	2	256
9:15	4	114	1	0	119	0	67	0	0	67	0	0	4	0	4	1	0	1	0	2	192
9:30	5	115	2	1	123	3	99	0	0	102	0	0	8	0	8	0	0	1	0	1	234
9:45	1	102	0	0	103	0	91	0	0	91	0	0	3	0	3	1	0	0	0	1	198
10:00	4	122	1	0	127	1	88	0	0	89	1	0	5	0	6	2	0	2	0	4	226
10:15	3	114	0	0	117	1	88	2	0	91	1	0	5	0	6	3	0	0	0	3	217
10:30	2	106	1	0	109	1	95	2	0	98	0	0	5	0	5	0	0	0	0	0	212
10:45	3	81	2	0	86	0	103	0	0	103	0	0	2	0	2	3	0	0	0	3	194
11:00	3	95	1	0	99	0	78	0	0	78	1	0	4	0	5	2	0	0	0	2	184
11:15	3	94	0	0	97	0	98	0	0	98	0	1	8	1	10	1	0	0	0	1	206
11:30	3	106	2	0	111	2	86	1	0	89	0	0	3	0	3	2	0	2	0	4	207
11:45	3	96	0	0	99	0	97	1	0	98	0	0	5	0	5	1	0	0	0	1	203
12:00	1	112	2	0	115	1	121	0	0	122	1	0	4	0	5	2	0	1	0	3	245
AM Peak Hour Total	**16**	**765**	**9**	**0**	**790**	**3**	**653**	**2**	**0**	**658**	**4**	**1**	**47**	**0**	**52**	**8**	**0**	**2**	**0**	**10**	**1510**
AM Peak PHF	**0.57**	**0.97**	**0.75**	**0.00**	**0.96**	**0.25**	**0.72**	**0.50**	**0.00**	**0.73**	**0.50**	**0.00**	**0.78**	**0.00**	**0.76**	**0.67**	**0.00**	**0.25**	**0.00**	**0.50**	**0.84**
12:15	5	120	2	0	127	1	122	0	1	124	0	0	4	0	4	1	0	1	0	2	257
12:30	1	146	4	0	151	1	132	0	0	133	1	0	3	0	4	3	0	4	0	7	295
12:45	4	118	2	0	124	1	105	1	0	107	0	0	0	0	0	2	0	1	0	3	234
13:00	0	138	3	0	141	3	119	0	0	122	0	0	2	0	2	1	0	0	0	1	266
13:15	6	103	1	0	110	3	101	2	0	106	0	0	3	0	3	1	0	0	0	1	220
13:30	1	116	1	0	118	1	134	1	0	136	0	0	5	0	5	1	0	0	0	1	260
13:45	6	96	0	0	102	1	127	1	0	129	1	0	4	0	5	1	0	1	0	2	238
14:00	1	105	2	0	108	2	127	4	0	133	0	0	4	0	4	1	0	0	0	1	246
14:15	7	144	1	0	152	2	127	1	0	130	1	0	5	0	6	2	0	1	0	3	291
14:30	6	168	3	0	177	0	119	1	0	120	1	0	7	0	8	0	0	1	0	1	306
14:45	4	167	2	0	173	1	197	1	0	199	0	0	12	0	12	1	0	2	0	3	387
15:00	8	165	2	0	175	3	150	3	0	156	2	0	8	0	10	2	1	0	0	3	344
15:15	6	135	0	0	141	2	171	1	0	174	1	0	4	0	5	1	0	0	0	1	321
15:30	6	142	5	0	153	3	166	2	0	171	1	0	4	0	5	5	0	1	0	6	335
15:45	7	144	2	0	153	2	143	0	0	145	0	0	5	0	5	1	0	1	0	2	305
16:00	3	164	5	0	172	0	130	0	0	130	1	0	7	0	8	1	0	2	0	3	313
16:15	6	149	2	0	157	1	160	0	1	162	0	0	1	0	1	1	0	0	0	1	321
16:30	**9**	**183**	**2**	**0**	**194**	**2**	**176**	**3**	**0**	**181**	**2**	**1**	**5**	**0**	**8**	**2**	**0**	**3**	**0**	**5**	**388**
16:45	**12**	**152**	**2**	**0**	**166**	**0**	**155**	**1**	**0**	**156**	**1**	**0**	**4**	**0**	**5**	**2**	**0**	**0**	**0**	**2**	**329**
17:00	**15**	**189**	**2**	**0**	**206**	**3**	**147**	**1**	**0**	**151**	**0**	**0**	**5**	**0**	**5**	**2**	**0**	**3**	**0**	**5**	**367**
17:15	**8**	**154**	**3**	**0**	**165**	**3**	**176**	**0**	**1**	**180**	**2**	**0**	**8**	**0**	**10**	**5**	**0**	**1**	**0**	**6**	**361**
17:30	6	174	4	0	184	4	160	1	0	165	1	0	7	0	8	0	0	1	0	1	358
17:45	8	167	3	0	178	2	148	1	0	151	0	1	7	0	8	1	0	1	0	2	339
18:00	10	149	0	0	159	1	159	2	0	162	2	0	3	0	5	0	1	0	0	1	327
18:15	12	142	3	0	157	1	148	1	0	150	0	0	2	0	2	0	0	0	0	0	309
18:30	5	136	3	0	144	2	140	1	0	143	0	0	5	0	5	1	0	1	0	2	294
18:45	10	108	2	0	120	1	118	2	0	121	1	0	4	0	5	2	0	1	0	3	249
19:00	9	122	1	0	132	3	114	1	0	118	1	0	3	0	4	2	0	0	0	2	256
PM Peak Hour Total	**44**	**678**	**9**	**0**	**731**	**8**	**654**	**5**	**1**	**668**	**5**	**1**	**22**	**0**	**28**	**11**	**0**	**7**	**0**	**18**	**1445**
PM Peak PHF	**0.92**	**0.93**	**0.45**	**0.00**	**0.94**	**1.00**	**0.93**	**0.42**	**0.25**	**0.92**	**0.63**	**0.25**	**0.79**	**0.00**	**0.88**	**1.38**	**0.00**	**0.58**	**0.00**	**0.90**	**0.93**
13-Hour Total	**248**	**6799**	**88**	**1**	**7136**	**65**	**6465**	**42**	**3**	**6575**	**30**	**4**	**298**	**1**	**333**	**82**	**3**	**41**	**0**	**126**	**14170**

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Erica Ln/Laurel Oaks Ln
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (February 1, 2022)

Weather: Cold, Dry
Field Techs: SA/TS
Reviewed by: SAA

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Erica Ln	Laurel Oaks Ln	
	Across North	Across South	Across East	Across West	
6:15	2	0	0	0	**2**
6:30	0	0	1	0	**1**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	**0**
7:30	0	0	0	0	**0**
7:45	**0**	**0**	**0**	**0**	**0**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	**0**	**0**	**1**	**0**	**1**
8:45	0	0	0	0	**0**
9:00	0	0	0	0	**0**
9:15	0	0	1	0	**1**
9:30	0	0	2	0	**2**
9:45	0	0	1	0	**1**
10:00	0	0	0	0	**0**
10:15	0	0	1	0	**1**
10:30	0	0	2	0	**2**
10:45	2	0	0	0	**2**
11:00	0	0	0	0	**0**
11:15	0	0	1	0	**1**
11:30	0	0	0	0	**0**
11:45	0	0	0	0	**0**
12:00	0	0	0	0	**0**
AM Peak Hour Total	**0**	**0**	**1**	**0**	**1**
12:15	0	1	0	0	**1**
12:30	0	0	1	0	**1**
12:45	0	0	0	0	**0**
13:00	0	0	1	0	**1**
13:15	0	0	0	0	**0**
13:30	0	0	1	0	**1**
13:45	0	0	0	0	**0**
14:00	0	0	0	0	**0**
14:15	0	0	1	0	**1**
14:30	0	0	1	0	**1**
14:45	0	0	4	0	**4**
15:00	0	0	4	0	**4**
15:15	0	0	0	0	**0**
15:30	0	0	1	0	**1**
15:45	0	0	0	0	**0**
16:00	2	0	1	0	3
16:15	0	0	0	0	0
16:30	**0**	**0**	**1**	**0**	**1**
16:45	**0**	**1**	**0**	**0**	**1**
17:00	**0**	**0**	**0**	**1**	**1**
17:15	**0**	**0**	**0**	**0**	**0**
17:30	0	0	2	0	**2**
17:45	0	0	1	0	**1**
18:00	0	0	2	0	**2**
18:15	0	0	1	0	**1**
18:30	0	0	1	0	**1**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
PM Peak Hour Total	**0**	**1**	**1**	**1**	**3**
13-Hour Total	**6**	**2**	**33**	**1**	**42**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Erica Ln/Laurel Oaks Ln
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (February 1, 2022)

Weather: Cold, Dry
Field Techs: SA/TS
Reviewed by: SAA

15-Minute Interval (Ending)	Bicycle Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Erica Ln	Laurel Oaks Ln	
	Across North	Across South	Across East	Across West	
6:15	0	0	0	0	**0**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	**0**
7:30	0	0	0	0	**0**
7:45	**0**	**0**	**0**	**0**	**0**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	**0**	**0**	**0**	**0**	**0**
8:45	0	0	0	0	**0**
9:00	0	0	0	0	**0**
9:15	0	0	0	0	**0**
9:30	0	0	0	0	**0**
9:45	0	0	0	0	**0**
10:00	0	0	0	0	**0**
10:15	0	0	0	0	**0**
10:30	0	0	0	0	**0**
10:45	0	0	0	0	**0**
11:00	0	0	0	0	**0**
11:15	0	0	0	0	**0**
11:30	0	0	0	0	**0**
11:45	0	0	0	0	**0**
12:00	0	0	0	0	**0**
AM Peak Hour Total	**0**	**0**	**0**	**0**	**0**
12:15	0	0	0	0	**0**
12:30	0	0	0	0	**0**
12:45	0	0	0	0	**0**
13:00	0	0	0	0	**0**
13:15	0	0	0	0	**0**
13:30	0	0	0	0	**0**
13:45	0	0	0	0	**0**
14:00	0	0	0	0	**0**
14:15	0	0	0	0	**0**
14:30	0	0	0	0	**0**
14:45	0	0	0	0	**0**
15:00	0	0	0	0	**0**
15:15	0	0	0	0	**0**
15:30	0	0	0	0	**0**
15:45	0	0	0	0	**0**
16:00	0	0	0	0	**0**
16:15	0	0	0	0	**0**
16:30	**0**	**0**	**0**	**0**	**0**
16:45	**0**	**0**	**0**	**0**	**0**
17:00	**1**	**0**	**0**	**0**	**1**
17:15	**0**	**0**	**0**	**0**	**0**
17:30	0	0	0	0	**0**
17:45	0	0	0	0	**0**
18:00	0	0	0	0	**0**
18:15	0	0	0	0	**0**
18:30	0	0	0	0	**0**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
PM Peak Hour Total	**1**	**0**	**0**	**0**	**1**
13-Hour Total	**1**	**0**	**0**	**0**	**1**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

CENTURY ENGINEERING A Kleinfelder Company

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Van Dusen Concept Study (CEI)
Location: Van Dusen Rd @ S Arbory Ln
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Wednesday (October 11, 2023)

Weather: Sunny, Cool
Field Techs: DK/EB
Reviewed by: JEH

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd From North					Van Dusen Rd From South					Park Entrance From East					S Arbory Ln From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
7:15	0	116	2	0	118	0	137	0	0	137	0	0	0	0	0	5	0	7	0	12	267
7:30	**0**	**147**	**5**	**0**	**152**	**1**	**194**	**0**	**0**	**195**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**5**	**0**	**16**	**363**
7:45	**0**	**193**	**2**	**0**	**195**	**0**	**219**	**0**	**0**	**219**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**9**	**0**	**17**	**431**
8:00	**0**	**214**	**4**	**0**	**218**	**7**	**152**	**0**	**0**	**159**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**4**	**0**	**12**	**389**
8:15	**0**	**162**	**3**	**0**	**165**	**1**	**133**	**1**	**0**	**135**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**9**	**0**	**21**	**321**
8:30	0	161	3	0	164	3	141	1	0	145	0	0	0	0	0	11	0	5	0	16	325
8:45	0	139	2	0	141	1	146	1	0	148	0	0	0	0	0	8	0	6	0	14	303
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Peak Hour Total	**0**	**716**	**14**	**0**	**730**	**9**	**698**	**1**	**0**	**708**	**0**	**0**	**0**	**0**	**0**	**39**	**0**	**27**	**0**	**66**	**1504**
AM Peak PHF	**0.00**	**0.84**	**0.70**	**0.00**	**0.84**	**0.32**	**0.80**	**0.25**	**0.00**	**0.81**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.81**	**0.00**	**0.75**	**0.00**	**0.79**	**0.87**
16:15	0	178	10	0	188	4	136	0	0	140	0	0	0	0	0	7	1	5	0	13	341
16:30	1	170	4	0	175	4	127	0	0	131	0	0	0	0	0	0	0	8	0	8	314
16:45	0	164	10	0	174	2	164	0	0	166	0	0	0	0	0	6	0	5	0	11	351
17:00	0	168	8	0	176	7	152	0	0	159	0	0	0	0	0	7	0	3	0	10	345
17:15	**0**	**168**	**10**	**0**	**178**	**9**	**164**	**1**	**0**	**174**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**8**	**0**	**14**	**366**
17:30	**0**	**201**	**7**	**0**	**208**	**4**	**162**	**0**	**0**	**166**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**5**	**379**
17:45	**0**	**173**	**10**	**0**	**183**	**9**	**170**	**0**	**0**	**179**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**2**	**0**	**10**	**372**
18:00	**1**	**193**	**12**	**0**	**206**	**6**	**164**	**0**	**0**	**170**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**2**	**0**	**8**	**384**
18:15	1	182	16	0	199	5	144	1	0	150	0	0	0	0	0	6	0	10	0	16	**365**
PM Peak Hour Total	**1**	**735**	**39**	**0**	**775**	**28**	**660**	**1**	**0**	**689**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**15**	**0**	**37**	**1501**
PM Peak PHF	**0.25**	**0.91**	**0.81**	**0.00**	**0.93**	**0.78**	**0.97**	**0.25**	**0.00**	**0.96**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.69**	**0.00**	**0.47**	**0.00**	**0.66**	**0.98**

CENTURY ENGINEERING A Kleinfelder Company

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ S Arbory Lane
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Wednesday (October 11, 2023)

Weather: Sunny, Cool
Field Techs: DK/EB
Reviewed by: JEH

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	Park Entrance	S Arbory Ln	
	Across North	Across South	Across East	Across West	
7:15	1	0	1	0	2
7:30	**5**	**0**	**5**	**0**	**10**
7:45	**4**	**0**	**6**	**0**	**10**
8:00	**1**	**0**	**1**	**0**	**2**
8:15	**1**	**0**	**1**	**0**	**2**
8:30	1	0	2	0	3
8:45	0	0	2	0	2
9:00	0	0	0	0	0
AM Peak Hour Total	**11**	**0**	**13**	**0**	**24**
16:15	2	0	4	0	6
16:30	0	0	1	0	1
16:45	0	0	0	0	0
17:00	1	0	2	0	3
17:15	**3**	**0**	**2**	**0**	**5**
17:30	**1**	**0**	**0**	**0**	**1**
17:45	**0**	**0**	**2**	**0**	**2**
18:00	**2**	**0**	**2**	**0**	**4**
18:15	0	0	0	1	**1**
PM Peak Hour Total	**6**	**0**	**6**	**0**	**12**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

CENTURY ENGINEERING A Kleinfelder Company

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Van Dusen Road Concept Study (CEI)
Location: Van Dusen Rd @ Arbory Ct
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Wednesday (October 11, 2023)

Weather: Sunny, Cool
Field Techs: SS
Reviewed by: JEH

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd					Van Dusen Rd										Arbory Court					
	From North					From South					From East					From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
7:15	0	98	1	0	99	2	140	0	0	142	0	0	0	0	0	7	0	4	0	11	252
7:30	**0**	**149**	**3**	**0**	**152**	**1**	**190**	**0**	**0**	**191**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**8**	**0**	**29**	**372**
7:45	**0**	**171**	**5**	**0**	**176**	**10**	**208**	**0**	**0**	**218**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**8**	**0**	**26**	**420**
8:00	**0**	**211**	**6**	**0**	**217**	**1**	**184**	**0**	**0**	**185**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**6**	**0**	**17**	**419**
8:15	**0**	**177**	**4**	**0**	**181**	**0**	**136**	**0**	**0**	**136**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**1**	**0**	**11**	**328**
8:30	0	163	5	0	168	0	165	0	0	165	0	0	0	0	0	8	0	5	0	13	346
8:45	0	109	25	0	134	0	155	0	0	155	0	0	0	0	0	7	0	2	0	9	298
9:00	0	159	1	0	160	4	106	0	0	110	0	0	0	0	0	3	0	2	0	5	275
AM Peak Hour Total	**0**	**708**	**18**	**0**	**726**	**12**	**718**	**0**	**0**	**730**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**23**	**0**	**83**	**1539**
AM Peak PHF	**0.00**	**0.84**	**0.75**	**0.00**	**0.84**	**0.30**	**0.86**	**0.00**	**0.00**	**0.84**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.71**	**0.00**	**0.72**	**0.00**	**0.72**	**0.92**
16:15	0	198	13	0	211	8	133	0	0	141	0	0	0	0	0	5	0	8	0	13	**365**
16:30	0	158	6	0	164	2	137	0	0	139	0	0	0	0	0	3	0	3	0	6	**309**
16:45	0	171	8	0	179	10	172	0	0	182	0	0	0	0	0	10	0	3	0	13	374
17:00	0	162	7	0	169	4	159	0	0	163	0	0	0	0	0	6	0	5	0	11	343
17:15	**0**	**197**	**12**	**0**	**209**	**11**	**147**	**0**	**0**	**158**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**8**	**0**	**12**	**379**
17:30	**0**	**199**	**12**	**0**	**211**	**7**	**146**	**0**	**0**	**153**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**4**	**0**	**9**	**373**
17:45	**0**	**180**	**15**	**0**	**195**	**7**	**163**	**0**	**0**	**170**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**5**	**0**	**10**	**375**
18:00	**0**	**208**	**12**	**0**	**220**	**7**	**162**	**0**	**0**	**169**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**3**	**0**	**8**	**397**
PM Peak Hour Total	**0**	**784**	**51**	**0**	**835**	**32**	**618**	**0**	**0**	**650**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**20**	**0**	**39**	**1524**
PM Peak PHF	**0.00**	**0.94**	**0.85**	**0.00**	**0.95**	**0.73**	**0.95**	**0.00**	**0.00**	**0.96**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.95**	**0.00**	**0.63**	**0.00**	**0.81**	**0.96**

CENTURY ENGINEERING A Kleinfelder Company

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Van Dusen Road Concept Study (CEI)
Location: Van Dusen Rd @ Arbory Ct
Area/County: Laurel, Prince George's County
Day/Date Surveyed: TWednesday (October 11, 2023)

Weather: Sunny, Cool
Field Techs: SS
Reviewed by: JEH

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd		Arbory Ct	
	Across North	Across South	Across East	Across West	
7:15	0	0	0	0	0
7:30	**0**	**0**	**0**	**0**	**0**
7:45	**1**	**0**	**0**	**0**	**1**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	0	0	0	0	0
8:45	3	0	0	0	3
9:00	1	0	0	0	1
AM Peak Hour Total	**1**	**0**	**0**	**0**	**1**
16:15	0	0	0	0	**0**
16:30	1	1	0	0	2
16:45	0	0	0	0	0
17:00	0	0	0	0	0
17:15	**0**	**0**	**0**	**0**	**0**
17:30	**1**	**0**	**0**	**0**	**1**
17:45	**1**	**0**	**0**	**0**	**1**
18:00	**1**	**0**	**0**	**0**	**1**
PM Peak Hour Total	**3**	**0**	**0**	**0**	**3**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

(Data Source: MDOT SHA I-TMS)

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: MD 198 @ Van Dusen Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (March 05, 2019)

Weather: N/A
Field Techs: N/A
Reviewed by: N/A

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Van Dusen Rd From North					Van Dusen Rd From South					MD 198 From East					MD 198 From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
0:15	2	0	5	0	7	14	8	2	0	24	2	30	5	0	37	17	38	6	1	62	**130**
0:30	5	5	3	0	13	6	1	3	0	10	1	23	8	0	32	10	24	7	0	41	**96**
0:45	1	1	4	0	6	4	1	1	0	6	3	28	1	0	32	7	30	8	0	45	**89**
1:00	1	1	2	0	4	2	2	1	0	5	2	9	3	0	14	3	14	8	0	25	**48**
1:15	0	1	3	0	4	3	1	1	0	5	1	10	1	0	12	6	8	7	0	21	**42**
1:30	1	3	2	0	6	3	5	3	0	11	2	11	1	0	14	5	3	4	1	13	**44**
1:45	0	3	3	0	6	4	2	1	0	7	0	13	1	0	14	3	14	5	1	23	**50**
2:00	0	0	4	0	4	4	1	0	0	5	0	10	0	0	10	1	9	5	0	15	**34**
2:15	1	2	1	0	4	3	1	1	0	5	1	13	0	0	14	1	7	3	0	11	**34**
2:30	1	0	2	0	3	5	1	1	0	7	1	12	1	0	14	2	11	3	0	16	**40**
2:45	1	0	2	0	3	3	0	0	0	3	0	6	3	0	9	3	9	1	0	13	**28**
3:00	1	1	5	0	7	1	0	1	0	2	0	16	1	0	17	5	10	2	0	17	**43**
3:15	1	1	1	0	3	6	1	0	0	7	1	21	1	0	23	2	20	5	1	28	**61**
3:30	1	2	1	0	4	5	0	0	0	5	0	16	2	0	18	3	18	4	0	25	**52**
3:45	1	1	6	0	8	3	0	0	0	3	1	28	1	0	30	2	15	8	0	25	**66**
4:00	2	2	3	0	7	5	0	2	0	7	0	25	1	0	26	0	20	2	0	22	**62**
4:15	1	1	14	0	16	9	1	2	0	12	0	24	1	0	25	1	13	4	0	18	**71**
4:30	0	1	16	0	17	18	2	0	0	20	0	27	0	0	27	3	21	6	0	30	**94**
4:45	1	2	16	0	19	24	2	4	0	30	2	66	3	0	71	3	19	5	0	27	**147**
5:00	1	6	24	0	31	31	2	5	0	38	0	77	3	0	80	6	31	10	2	49	**198**
5:15	8	5	45	0	58	33	5	4	0	42	4	84	5	0	93	8	42	14	0	64	**257**
5:30	5	6	45	0	56	44	6	6	0	56	8	116	2	0	126	1	44	12	0	57	**295**
5:45	11	11	46	0	68	59	4	5	0	68	3	161	3	0	167	3	57	17	0	77	**380**
6:00	8	7	37	0	52	60	9	9	0	78	5	144	9	1	159	8	71	31	1	111	**400**
6:15	5	10	57	0	72	79	16	7	0	102	2	247	8	1	258	10	82	24	0	116	**548**
6:30	10	14	90	0	114	93	13	11	0	117	5	242	7	0	254	10	93	39	0	142	**627**
6:45	12	22	86	0	120	110	21	16	0	147	13	255	9	0	277	28	119	45	2	194	**738**
7:00	13	22	95	0	130	106	18	18	0	142	13	330	16	0	359	19	150	60	2	231	**862**
7:15	19	45	113	0	177	141	35	24	0	200	18	290	28	0	336	30	123	60	1	214	927
7:30	**26**	**43**	**127**	**1**	**197**	**139**	**42**	**27**	**0**	**208**	**27**	**354**	**35**	**0**	**416**	**42**	**174**	**88**	**0**	**304**	**1125**
7:45	**55**	**53**	**149**	**0**	**257**	**187**	**57**	**47**	**1**	**292**	**20**	**367**	**34**	**1**	**422**	**50**	**224**	**107**	**1**	**382**	**1353**
8:00	**42**	**46**	**149**	**0**	**237**	**145**	**48**	**38**	**0**	**231**	**33**	**250**	**22**	**0**	**305**	**60**	**244**	**127**	**1**	**432**	**1205**
8:15	**31**	**32**	**95**	**0**	**158**	**140**	**25**	**24**	**0**	**189**	**38**	**270**	**14**	**0**	**322**	**44**	**195**	**85**	**2**	**326**	**995**
8:30	19	28	91	0	138	114	34	30	1	179	29	251	38	1	319	49	206	84	3	342	978
8:45	17	38	95	0	150	113	21	25	0	159	16	243	27	0	286	44	174	78	2	298	893
9:00	19	29	79	0	127	92	20	15	0	127	31	239	28	2	300	42	204	99	1	346	900
9:15	15	31	60	0	106	67	30	14	0	111	18	225	10	1	254	50	162	105	2	319	**790**
9:30	20	21	57	0	98	68	23	17	0	108	11	199	19	0	229	44	178	92	2	316	**751**
9:45	14	19	42	0	75	91	16	25	0	132	10	142	16	0	168	35	204	93	4	336	**711**
10:00	16	26	49	0	91	81	18	25	0	124	23	158	14	0	195	33	205	94	2	334	**744**
10:15	12	18	42	0	72	73	20	16	0	109	17	143	25	2	187	19	155	82	2	258	**626**
10:30	21	18	42	0	81	62	16	13	0	91	14	164	23	2	203	28	152	77	2	259	**634**
10:45	20	17	40	0	77	61	26	27	1	115	18	124	17	0	159	32	173	91	1	297	**648**
11:00	16	26	45	0	87	74	21	21	0	116	18	148	14	0	180	45	158	92	2	297	**680**
11:15	13	21	42	0	76	64	34	23	0	121	22	133	19	0	174	32	145	78	7	262	**633**
11:30	19	24	39	0	82	65	30	20	0	115	12	167	22	0	201	41	189	82	4	316	**714**
11:45	21	24	39	0	84	85	18	22	0	125	22	158	23	0	203	32	160	95	3	290	**702**
12:00	27	23	33	0	83	67	20	28	0	115	18	152	27	0	197	33	178	74	3	288	**683**
AM Peak Hour Total	**154**	**174**	**520**	**1**	**849**	**611**	**172**	**136**	**1**	**920**	**118**	**1241**	**105**	**1**	**1465**	**196**	**837**	**407**	**4**	**1444**	**4678**
AM Peak PHF	**0.70**	**0.82**	**0.87**	**0.25**	**0.83**	**0.82**	**0.75**	**0.72**	**0.25**	**0.79**	**0.78**	**0.85**	**0.75**	**0.25**	**0.87**	**0.82**	**0.86**	**0.80**	**0.50**	**0.84**	**0.86**
12:15	28	20	51	0	99	94	23	22	0	139	13	147	22	0	182	44	186	88	2	320	**740**
12:30	19	28	85	0	132	66	22	14	0	102	21	163	28	0	212	23	172	77	3	275	**721**
12:45	23	22	42	0	87	74	22	18	0	114	19	167	29	0	215	42	218	84	1	345	**761**
13:00	16	23	44	0	83	71	29	19	0	119	15	181	25	0	221	38	199	77	3	317	**740**
13:15	17	25	31	0	73	97	42	18	0	157	31	188	24	1	244	34	166	92	4	296	**770**
13:30	21	30	43	0	94	61	28	16	0	105	15	186	22	0	223	40	218	79	1	338	**760**
13:45	19	27	44	0	90	81	27	15	0	123	14	191	35	0	240	42	212	88	5	347	**800**
14:00	13	23	43	0	79	95	37	25	0	157	19	193	33	0	245	49	189	89	5	332	**813**
14:15	39	36	56	0	131	102	32	24	1	159	24	216	26	1	267	51	209	81	3	344	**901**
14:30	24	27	48	0	99	103	35	17	0	155	32	196	34	0	262	51	226	100	2	379	**895**
14:45	18	21	59	0	98	107	46	27	0	180	24	216	24	2	266	46	218	85	3	352	**896**
15:00	23	32	64	0	119	108	40	39	0	187	16	164	29	0	209	53	288	92	3	436	**951**
15:15	28	30	50	0	108	85	36	32	0	153	23	195	28	0	246	60	330	115	3	508	**1015**
15:30	21	25	46	0	92	86	37	35	0	158	27	221	16	1	265	71	308	99	2	480	**995**
15:45	13	24	55	0	92	82	23	29	0	134	25	187	27	0	239	67	271	139	1	478	**943**
16:00	35	29	52	0	116	87	40	23	0	150	24	262	43	0	329	87	308	137	5	537	1132
16:15	32	36	54	0	122	92	47	25	0	164	23	187	40	0	250	84	381	160	3	628	1164
16:30	31	33	44	0	108	88	45	22	0	155	24	240	21	1	286	93	373	165	1	632	1181
16:45	31	36	86	0	153	71	50	43	0	164	16	244	28	0	288	91	375	141	2	609	1214
17:00	35	36	66	0	137	90	45	34	0	169	36	203	34	0	273	70	386	177	5	638	**1217**
17:15	**26**	**42**	**58**	**0**	**126**	**111**	**53**	**34**	**0**	**198**	**23**	**244**	**39**	**0**	**306**	**103**	**446**	**156**	**1**	**706**	**1336**
17:30	**22**	**38**	**61**	**0**	**121**	**97**	**51**	**29**	**0**	**177**	**27**	**244**	**35**	**0**	**306**	**116**	**388**	**200**	**3**	**707**	**1311**
17:45	**24**	**59**	**64**	**0**	**147**	**102**	**52**	**29**	**0**	**183**	**21**	**218**	**39**	**0**	**278**	**119**	**412**	**166**	**0**	**697**	**1305**
18:00	**36**	**45**	**67**	**2**	**150**	**105**	**56**	**32**	**0**	**193**	**22**	**258**	**35**	**3**	**318**	**105**	**391**	**185**	**5**	**686**	**1347**
18:15	29	50	43	1	123	127	57	28	0	212	40	237	32	1	310	96	336	145	4	581	**1226**
18:30	36	41	60	0	137	83	41	29	0	153	26	243	35	0	304	83	349	167	2	601	**1195**
18:45	23	22	67	0	112	95	53	29	0	177	26	216	34	1	277	77	351	134	2	564	**1130**
19:00	26	32	62	0	120	64	38	25	0	127	26	211	34	1	272	59	325	128	2	514	**1033**
19:15	15	29	41	1	86	69	34	16	0	119	27	224	35	0	286	67	198	102	4	371	**862**
19:30	22	28	41	0	91	88	27	14	1	130	18	197	36	1	252	56	293	104	3	456	**929**
19:45	17	31	35	1	84	53	25	17	0	95	28	163	31	0	222	64	225	90	4	383	**784**
20:00	20	24	38	0	82	38	29	15	0	82	9	170	20	0	199	59	190	87	4	340	**703**
20:15	17	20	26	0	63	72	33	13	0	118	19	155	24	0	198	39	174	94	2	309	**688**
20:30	13	18	34	0	65	44	15	12	0	71	8	148	19	0	175	46	175	80	2	303	**614**
20:45	11	18	26	0	55	41	16	11	0	68	12	148	25	0	185	36	156	84	5	281	**589**
21:00	9	11	21	0	41	63	31	17	0	111	15	107	15	1	138	30	149	75	3	257	**547**
21:15	11	20	31	0	62	48	21	14	0	83	20	142	21	1	184	19	127	69	3	218	**547**
21:30	9	9	43	0	61	30	13	7	0	50	9	126	21	0	156	35	113	68	1	217	**484**
21:45	12	12	27	0	51	37	11	4	0	52	8	111	18	0	137	37	147	57	2	243	**483**
22:00	8	9	15	0	32	29	11	11	0	51	9	101	13	0	123	25	95	42	0	162	**368**
22:15	17	8	16	0	41	24	11	9	0	44	6	116	19	0	141	31	84	47	1	163	**389**
22:30	8	6	20	0	34	35	8	4	0	47	7	68	18	0	93	29	74	44	1	148	**322**
22:45	8	4	12	0	24	27	5	4	0	36	10	77	8	0	95	20	84	30	0	134	**289**
23:00	3	6	10	0	19	14	8	3	0	25	6	56	9	1	72	16	61	24	1	102	**218**
23:15	2	4	9	0	15	14	12	2	0	28	8	58	3	0	69	16	57	34	1	108	**220**
23:30	2	4	6	0	12	17	2	7	0	26	2	43	12	1	58	17	59	27	0	103	**199**
23:45	2	1	17	0	20	20	9	4	0	33	0	46	8	0	54	10	54	21	1	86	**193**
0:00	3	5	1	0	9	8	2	4	0	14	5	24	3	0	32	16	47	15	0	78	**133**
PM Peak Hour Total	**108**	**184**	**250**	**2**	**544**	**415**	**212**	**124**	**0**	**751**	**93**	**964**	**148**	**3**	**1208**	**443**	**1637**	**707**	**9**	**2796**	**5299**
PM Peak PHF	**0.75**	**0.78**	**0.93**	**0.00**	**0.91**	**0.93**	**0.95**	**0.91**	**0.00**	**0.95**	**0.86**	**0.93**	**0.95**	**0.00**	**0.95**	**0.93**	**0.92**	**0.88**	**0.00**	**0.99**	**0.98**
24-Hour Total	**1453**	**1871**	**4060**	**6**	**7390**	**5961**	**2107**	**1505**	**5**	**9578**	**1363**	**14319**	**1760**	**28**	**17470**	**3517**	**15388**	**6768**	**170**	**25843**	**60281**

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

(Data Source: MDOT SHA I-TMS)

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: MD 198 @ Van Dusen Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (March 05, 2019)

Weather: N/A
Field Techs: N/A
Reviewed by: N/A

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	MD 198	MD 198	
	Across North	Across South	Across East	Across West	
0:15	0	0	2	0	**2**
0:30	0	0	0	0	**0**
0:45	0	0	0	0	**0**
1:00	0	0	0	0	**0**
1:15	0	0	2	0	**2**
1:30	0	0	0	0	**0**
1:45	0	0	0	0	**0**
2:00	0	0	0	0	**0**
2:15	0	0	0	0	**0**
2:30	0	0	0	0	**0**
2:45	0	0	0	0	**0**
3:00	0	0	0	0	**0**
3:15	0	0	0	1	**1**
3:30	0	0	0	0	**0**
3:45	0	0	0	0	**0**
4:00	0	0	0	0	**0**
4:15	0	0	0	0	**0**
4:30	0	0	0	0	**0**
4:45	0	0	0	0	**0**
5:00	0	0	0	0	**0**
5:15	0	0	0	0	**0**
5:30	0	0	0	0	**0**
5:45	0	0	1	0	**1**
6:00	0	0	0	0	**0**
6:15	0	0	0	0	**0**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	0
7:30	**0**	**0**	**5**	**0**	**5**
7:45	**0**	**0**	**1**	**0**	**1**
8:00	**0**	**0**	**1**	**0**	**1**
8:15	**0**	**0**	**1**	**0**	**1**
8:30	0	0	0	0	0
8:45	0	0	2	0	2
9:00	0	0	0	0	0
9:15	0	0	1	0	**1**
9:30	0	0	0	0	**0**
9:45	0	0	1	1	**2**
10:00	0	0	2	0	**2**
10:15	0	0	4	0	**4**
10:30	0	0	3	0	**3**
10:45	0	0	0	0	**0**
11:00	0	0	2	0	**2**
11:15	0	0	0	0	**0**
11:30	0	0	0	0	**0**
11:45	0	0	1	0	**1**
12:00	0	0	1	0	**1**
AM Peak Hour Total	**0**	**0**	**8**	**0**	**8**
12:15	0	0	2	0	**2**
12:30	0	0	3	0	**3**
12:45	0	0	3	0	**3**
13:00	0	0	0	0	**0**
13:15	0	0	2	0	**2**
13:30	0	0	1	0	**1**
13:45	0	0	0	0	**0**
14:00	0	0	1	0	**1**
14:15	1	0	0	0	**1**
14:30	0	0	1	0	**1**
14:45	0	0	2	0	**2**
15:00	0	0	1	0	**1**
15:15	0	0	0	1	**1**
15:30	0	0	0	0	**0**
15:45	0	0	1	0	**1**
16:00	0	0	1	0	1
16:15	0	0	1	0	1
16:30	0	0	0	0	0
16:45	0	0	0	0	0
17:00	0	0	0	0	**0**
17:15	**0**	**0**	**2**	**0**	**2**
17:30	**0**	**0**	**1**	**0**	**1**
17:45	**0**	**0**	**3**	**0**	**3**
18:00	**0**	**0**	**1**	**0**	**1**
18:15	0	0	1	0	1
18:30	0	0	0	0	0
18:45	0	0	0	0	0
19:00	0	0	1	0	1
19:15	0	0	1	0	**1**
19:30	0	0	0	0	**0**
19:45	0	0	0	0	**0**
20:00	0	0	0	0	**0**
20:15	0	0	0	0	**0**
20:30	0	0	0	0	**0**
20:45	0	0	0	0	**0**
21:00	0	0	2	0	**2**
21:15	0	0	1	0	**1**
21:30	0	0	0	0	**0**
21:45	0	0	1	0	**1**
22:00	0	0	0	0	**0**
22:15	0	0	1	0	**1**
22:30	0	0	0	0	**0**
22:45	0	0	0	0	**0**
23:00	0	0	0	0	**0**
23:15	0	0	0	0	**0**
23:30	0	0	0	0	**0**
23:45	0	0	0	0	**0**
0:00	0	0	0	0	**0**
PM Peak Hour Total	**0**	**0**	**7**	**0**	**7**
24-Hour Total	**1**	**0**	**64**	**3**	**68**

Note: Peak hours highlighted correspond with vehicle traffic flow volume

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

(Data Source: MDOT SHA I-TMS)

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: MD 198 @ Van Dusen Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (March 05, 2019)

Weather: N/A
Field Techs: N/A
Reviewed by: N/A

15-Minute Interval (Ending)	Bicycle Volumes				Interval Total
	Van Dusen Rd	Van Dusen Rd	MD 198	MD 198	
	Across North	Across South	Across East	Across West	
0:15	0	0	0	0	**0**
0:30	0	0	0	0	**0**
0:45	0	0	0	0	**0**
1:00	0	0	0	0	**0**
1:15	0	0	0	0	**0**
1:30	0	0	0	0	**0**
1:45	0	0	0	0	**0**
2:00	0	0	0	0	**0**
2:15	0	0	0	0	**0**
2:30	0	0	0	0	**0**
2:45	0	0	0	0	**0**
3:00	0	0	0	0	**0**
3:15	0	0	0	0	**0**
3:30	0	0	0	0	**0**
3:45	0	0	0	0	**0**
4:00	0	0	0	0	**0**
4:15	0	0	0	0	**0**
4:30	0	0	0	0	**0**
4:45	0	0	0	0	**0**
5:00	0	0	0	0	**0**
5:15	0	0	0	0	**0**
5:30	0	0	0	0	**0**
5:45	0	0	0	0	**0**
6:00	0	0	0	0	**0**
6:15	0	0	0	0	**0**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	0
7:30	**0**	**0**	**0**	**0**	**0**
7:45	**0**	**0**	**1**	**0**	**1**
8:00	**0**	**0**	**0**	**0**	**0**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	0	0	0	0	0
8:45	0	0	0	0	0
9:00	1	0	0	0	1
9:15	0	0	0	0	**0**
9:30	0	0	0	0	**0**
9:45	0	0	0	0	**0**
10:00	0	0	0	0	**0**
10:15	0	0	0	0	**0**
10:30	0	0	0	0	**0**
10:45	0	0	0	0	**0**
11:00	0	0	0	0	**0**
11:15	0	0	0	0	**0**
11:30	0	0	0	0	**0**
11:45	0	0	0	0	**0**
12:00	0	0	0	0	**0**
AM Peak Hour Total	**0**	**0**	**1**	**0**	**1**
12:15	0	0	0	0	**0**
12:30	0	0	0	0	**0**
12:45	0	0	0	0	**0**
13:00	0	0	1	0	**1**
13:15	0	0	0	0	**0**
13:30	0	0	0	0	**0**
13:45	0	0	0	0	**0**
14:00	0	0	0	0	**0**
14:15	0	0	0	0	**0**
14:30	0	0	0	0	**0**
14:45	0	0	0	0	**0**
15:00	0	0	0	0	**0**
15:15	0	0	0	0	**0**
15:30	0	0	0	0	**0**
15:45	0	0	1	0	**1**
16:00	0	0	0	0	0
16:15	0	0	0	0	0
16:30	0	0	0	0	0
16:45	1	0	0	0	1
17:00	0	0	0	0	**0**
17:15	**0**	**0**	**0**	**0**	**0**
17:30	**0**	**0**	**0**	**0**	**0**
17:45	**0**	**0**	**0**	**0**	**0**
18:00	**0**	**0**	**0**	**0**	**0**
18:15	0	0	0	0	**0**
18:30	0	0	0	0	**0**
18:45	0	0	0	0	**0**
19:00	0	0	0		**0**
19:15	0	0	0	0	**0**
19:30	0	0	0	0	**0**
19:45	0	0	0	0	**0**
20:00	0	0	0	0	**0**
20:15	0	0	0	0	**0**
20:30	0	0	0	0	**0**
20:45	0	0	0	0	**0**
21:00	0	0	0	0	**0**
21:15	0	0	0	0	**0**
21:30	0	0	0	0	**0**
21:45	0	0	0	0	**0**
22:00	0	0	0	0	**0**
22:15	0	0	0	0	**0**
22:30	0	0	0	0	**0**
22:45	0	0	0	0	**0**
23:00	0	0	0	0	**0**
23:15	0	0	0	0	**0**
23:30	0	0	0	0	**0**
23:45	0	0	0	0	**0**
0:00	0	0	0	0	**0**
PM Peak Hour Total	**0**	**0**	**0**	**0**	**0**
24-Hour Total	**2**	**0**	**3**	**0**	**5**

Note: Peak hours highlighted correspond with vehicle traffic flow volumes.

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Sandy Spring Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Vehicle Volumes																				Interval Total
	Drive Way From North					Van Dusen Rd From South					Sandy Spring Rd From East					Sandy Spring Rd From West					
	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	Left	Thru	Right	U-Turn	Total	
6:15	0	1	0	0	1	6	2	9	1	18	19	3	0	0	22	0	5	29	0	34	**75**
6:30	1	1	0	0	2	6	2	3	0	11	19	5	0	0	24	0	5	35	0	40	**77**
6:45	0	0	0	0	0	9	0	9	0	18	24	8	0	0	32	0	5	56	0	61	**111**
7:00	0	0	0	0	0	14	0	20	1	35	31	9	0	0	40	0	4	67	0	71	**146**
7:15	0	0	0	0	0	22	0	27	0	49	34	7	0	0	41	0	2	66	0	68	**158**
7:30	0	0	0	0	0	24	0	45	0	69	41	4	0	0	45	0	10	72	0	82	**196**
7:45	**0**	**0**	**0**	**0**	**0**	**26**	**1**	**48**	**0**	**75**	**67**	**9**	**0**	**0**	**76**	**0**	**11**	**89**	**0**	**100**	**251**
8:00	**0**	**1**	**0**	**0**	**1**	**27**	**0**	**55**	**0**	**82**	**44**	**9**	**0**	**0**	**53**	**0**	**9**	**81**	**0**	**90**	**226**
8:15	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**38**	**2**	**78**	**56**	**9**	**0**	**0**	**65**	**0**	**10**	**92**	**0**	**102**	**245**
8:30	**0**	**0**	**0**	**0**	**0**	**32**	**0**	**48**	**0**	**80**	**40**	**12**	**0**	**0**	**52**	**0**	**7**	**76**	**0**	**83**	**215**
8:45	0	0	0	0	0	31	0	46	0	77	32	14	0	0	46	0	3	58	0	61	**184**
9:00	0	0	1	0	1	35	0	54	0	89	33	8	0	0	41	3	5	52	0	60	**191**
9:15	0	1	0	0	1	26	0	38	0	64	37	9	0	0	46	0	4	45	0	49	**160**
9:30	0	0	0	0	0	26	0	37	1	64	31	7	0	0	38	0	10	46	0	56	**158**
9:45	0	0	0	0	0	30	0	37	1	68	34	6	0	0	40	0	8	64	0	72	**180**
10:00	0	0	0	0	0	28	0	26	1	55	24	9	0	0	33	0	4	42	0	46	**134**
AM Peak Hour Total	**0**	**1**	**0**	**0**	**1**	**123**	**1**	**189**	**2**	**315**	**207**	**39**	**0**	**0**	**246**	**0**	**37**	**338**	**0**	**375**	**937**
AM Peak PHF	**0.00**	**0.25**	**0.00**	**0.00**	**0.25**	**0.81**	**0.25**	**0.86**	**0.25**	**0.96**	**0.77**	**0.81**	**0.00**	**0.00**	**0.81**	**0.00**	**0.84**	**0.92**	**0.00**	**0.92**	**0.93**
15:15	0	0	0	0	0	57	0	59	0	116	32	25	0	0	57	0	6	43	0	49	**222**
15:30	0	0	0	0	0	69	0	60	1	130	39	20	0	0	59	0	6	44	0	50	**239**
15:45	0	0	0	0	0	54	1	54	1	110	39	11	0	0	50	0	14	54	0	68	**228**
16:00	1	2	0	0	3	61	2	58	0	121	47	15	0	0	62	0	9	46	0	55	**241**
16:15	1	3	0	0	4	67	1	51	1	120	47	13	0	0	60	0	12	32	0	44	**228**
16:30	0	2	0	0	2	62	0	65	0	127	49	13	0	0	62	0	9	56	0	65	**256**
16:45	0	0	0	0	0	71	0	49	2	122	64	23	0	0	87	0	10	41	0	51	**260**
17:00	0	2	0	0	2	64	1	63	1	129	63	10	0	0	73	0	12	50	0	62	**266**
17:15	**0**	**1**	**0**	**0**	**1**	**66**	**1**	**59**	**1**	**127**	**68**	**16**	**1**	**0**	**85**	**0**	**9**	**49**	**0**	**58**	**271**
17:30	**0**	**3**	**0**	**0**	**3**	**88**	**2**	**75**	**0**	**165**	**65**	**22**	**0**	**0**	**87**	**0**	**11**	**52**	**0**	**63**	**318**
17:45	**0**	**1**	**0**	**0**	**1**	**95**	**1**	**71**	**0**	**167**	**58**	**15**	**0**	**0**	**73**	**0**	**8**	**56**	**0**	**64**	**305**
18:00	**0**	**1**	**0**	**0**	**1**	**93**	**0**	**54**	**0**	**147**	**49**	**15**	**0**	**0**	**64**	**0**	**14**	**58**	**0**	**72**	**284**
18:15	0	0	0	0	0	64	0	51	0	115	43	20	0	0	63	0	8	61	0	69	**247**
18:30	0	0	0	0	0	59	0	36	2	97	23	18	0	0	41	0	8	36	0	44	**182**
18:45	0	0	0	0	0	69	0	31	0	100	39	12	0	0	51	0	14	59	0	73	**224**
19:00	0	0	0	0	0	59	0	28	0	87	29	14	0	0	43	0	3	42	0	45	**175**
PM Peak Hour Total	**0**	**6**	**0**	**0**	**6**	**342**	**4**	**259**	**1**	**606**	**240**	**68**	**1**	**0**	**309**	**0**	**42**	**215**	**0**	**257**	**1178**
PM Peak PHF	**0.00**	**0.50**	**0.00**	**0.00**	**0.50**	**0.90**	**0.50**	**0.86**	**0.25**	**0.91**	**0.88**	**0.77**	**0.25**	**0.00**	**0.89**	**0.00**	**0.75**	**0.93**	**0.00**	**0.89**	**0.93**

O. R. GEORGE & ASSOCIATES, INC.

Intersection Turning Movement Count Data Summary

Project: City of Laurel - Citywide Traffic Study (CEI)
Location: Van Dusen Rd @ Sandy Spring Rd
Area/County: Laurel, Prince George's County
Day/Date Surveyed: Tuesday (January 11, 2022)

Weather: Cold, Dry
Field Techs: MD/SA
Reviewed by: SAA

15-Minute Interval (Ending)	Pedestrian Volumes				Interval Total
	Drive Way	Van Dusen Rd	Sandy Spring Rd	Sandy Spring Rd	
	Across North	Across South	Across East	Across West	
6:15	0	0	2	0	**2**
6:30	0	0	0	0	**0**
6:45	0	0	0	0	**0**
7:00	0	0	0	0	**0**
7:15	0	0	0	0	**0**
7:30	2	0	0	0	**2**
7:45	**0**	**1**	**0**	**0**	**1**
8:00	**0**	**1**	**0**	**0**	**1**
8:15	**0**	**0**	**0**	**0**	**0**
8:30	**1**	**1**	**0**	**0**	**2**
8:45	0	0	0	0	**0**
9:00	1	1	0	0	**2**
9:15	2	1	0	0	**3**
9:30	0	1	0	0	**1**
9:45	0	0	0	0	**0**
10:00	0	1	0	0	**1**
AM Peak Hour Total	**1**	**3**	**0**	**0**	**4**
15:15	0	1	0	0	**1**
15:30	1	1	1	0	**3**
15:45	0	2	0	0	**2**
16:00	1	1	0	1	**3**
16:15	0	0	0	0	**0**
16:30	0	2	0	0	**2**
16:45	1	1	0	0	**2**
17:00	0	1	0	0	**1**
17:15	**0**	**2**	**0**	**0**	**2**
17:30	**0**	**0**	**0**	**0**	**0**
17:45	**0**	**1**	**0**	**0**	**1**
18:00	**0**	**0**	**0**	**0**	**0**
18:15	0	0	0	0	**0**
18:30	0	0	0	0	**0**
18:45	0	0	0	0	**0**
19:00	0	0	0	0	**0**
PM Peak Hour Total	**0**	**3**	**0**	**0**	**3**

```
**************************************
*   ECONOLITE CONTROL PRODUCTS, INC.   *
*                                      *
*              COBALT-2100             *
*       Copyright (C)  2012-2019       *
*                                      *
*           VanDusen & Hospital        *
*                                      *
*  CITY....   0  INTERSECTION..     0  *
*                                      *
* SOFTWARE.................. 32.67.20 *
*                                      *
*                                      *
*                                      *
* CONFIG.......................L3000 *
**************************************
```

TIMING PLAN [1] PHASE DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	35	35	35	15	35	35	35	35	35	35	35	35	35	35	35	35
MAX2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
**************************************
*   ECONOLITE CONTROL PRODUCTS, INC.   *
*                                      *
*               COBALT-2100            *
*       Copyright (C)  2012-2019       *
*                                      *
*         VanDusen & Killbarron        *
*                                      *
*  CITY....   0  INTERSECTION..     0  *
*                                      *
* SOFTWARE.................. 32.67.20 *
*                                      *
*                                      *
*                                      *
* CONFIG.........................L3000 *
**************************************
```

TIMING PLAN [1] PHASE DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	25	0	5	5	25	5	10	5	5	5	5	5	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	0	0	7	0	0	0	7	0	10	0	10	0	10	0	10
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
MAX2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
**************************************
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*                                      *
*               COBALT-2100            *
*       Copyright (C)  2012-2019       *
*                                      *
*          VanDusen & Cherry Ln        *
*                                      *
*  CITY....   0  INTERSECTION..     0  *
*                                      *
* SOFTWARE.................. 32.67.20 *
*                                      *
*                                      *
*                                      *
* CONFIG.........................L3000 *
**************************************
```

TIMING PLAN [1] PHASE DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	20	5	5	10	20	0	5	5	5	5	5	5	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	0	0	0	0	7	0	7	0	10	0	10	0	10	0	10
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	0	0	0	0	16	0	12	0	16	0	16	0	16	0	16
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	0.0	5.0	3.0	3.0	3.0	5.0	0.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	0	50	15	20	30	50	10	15	35	35	35	35	35	35	35	35
MAX2	0	70	30	40	40	60	0	20	40	40	40	40	40	40	40	40
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
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*                                      *
*        VanDusen & South Arbory       *
*                                      *
*  CITY....   0  INTERSECTION..     0  *
*                                      *
* SOFTWARE.................. 32.67.20 *
*                                      *
*                                      *
*                                      *
* CONFIG.......................L3000 *
**************************************
```

TIMING PLAN [1] PHASE DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	30	0	5	0	30	0	0	5	5	5	5	0	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	0	0	6	0	0	0	0	0	10	0	10	0	10	0	10
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	0	0	14	0	0	0	0	0	16	0	16	0	16	0	16
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	6.0	0.0	3.0	0.0	6.0	0.0	0.0	5.0	5.0	5.0	5.0	0.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	50	0	22	0	50	0	0	35	35	35	35	0	35	35	35
MAX2	20	70	0	22	0	70	0	0	40	40	40	40	0	40	40	40
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	4.0	4.0	0.0	4.0	0.0	4.0	0.0	0.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	30	30	0	30	0	30	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

```
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*               COBALT-2100            *
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*            VanDusen & Arbory         *
*  Maryland State Highway Administratio*
*                                      *
*  CITY....   0  INTERSECTION..     0  *
*                                      *
* SOFTWARE.................. 32.67.20 *
*                                      *
*                                      *
*                                      *
* CONFIG.........................L3202 *
**************************************
```

TIMING PLAN [1] PHASE DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	10	25	0	8	0	25	0	0	5	5	5	5	5	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	0	0	16	0	0	0	0	0	10	0	10	0	10	0	10
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	0	0	7	0	0	0	0	0	16	0	16	0	16	0	16
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	6.0	0.0	3.0	0.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	50	20	20	0	50	35	35	35	35	35	35	35	35	35	35
MAX2	20	50	20	20	0	50	40	40	40	40	40	40	40	40	40	40
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Item 2.

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Configuration Controller Sequence

Phase Ring Sequence and Assignment (MM) 1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B		B		B		B		B							
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	1	2	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 13																
Ring 1	1	2	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 14																

Item 2.

Ring 1	2	1	4	3	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 15																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 16																
Ring 1	2	1	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	11	12	15	16	.	.	.	.	.	.	.	.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X	X	X	X	X										
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	EBLT	WB	NB	SB	WBLT	EB										
Overlap	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet Interlock CRC	No
CRC (16 bit)	6AB5
Enable Automatic Backup to Datakey	Yes

Item 2.

Backup Prevent (MM) 1-1-3

Timing Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.		.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.
7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Simultaneous Gap (MM) 1-1-4

Phase Must Gap With Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.		.	.	.	X	.	.	.	.	.	.	.	.	.	.
3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
6	.	X	.	.	.		.	.	.	.	.	.	.	.	.	.
7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MM) 1-3

	Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
			Red	Yellow	Green	Dark		Red	Yellow	
1	1	O				-	Auto	X		
2	2	O				-	Auto		X	X
3	0	O				-	Auto	X		
4	4	O				-	Auto	X		X
5	5	O				-	Auto	X		
6	6	O				-	Auto		X	X
7	0	O				-	Auto	X		
8	8	O				-	Auto	X		X
9	0	P				-	Auto			
10	0	P				-	Auto			
11	0	P				-	Auto			
12	3	P				-	Auto			

95

13	13	O				-	Auto	X		
14	0	O				+	Auto	X		X
15	15	O				-	Auto	X		
16	0	O				+	Auto	X		X

Item 2.

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Controller Timing Plan (MM) 2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	EBLT	WB	NB	SB	WBLT	EB										
Min Green	8	30	8	8	8	30	0	0	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	7	0	0	0	0	0	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	7	30	7	0	7	0	7	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	2.0	7.0	2.0	2.0	2.0	7.0	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	30	50	40	20	20	50	0	0	35	35	35	35	35	35	35	35
Max2	25	50	45	20	20	50	0	0	40	40	40	40	40	40	40	40
Max3	35	45	40	20	20	45	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.0	5.0	4.0	4.0	4.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	30	30	30	30	30	30	30	30	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Item 2.

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Controller Overlaps

Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	1	Yes	No	No	No		No	No	.
B	2	Yes	No	No	No		No	No	.
D	4	Yes	No	No	No		No	No	.
E	5	Yes	No	No	No		No	No	.
F	6	Yes	No	No	No		No	No	.
G	7	Yes	No	No	No		No	No	.
H	3	Yes	No	No	No		No	No	.
I	9	Yes	No	No	No		No	No	.
J	10	Yes	No	No	No		No	No	.
K	11	Yes	No	No	No		No	No	.
L	12	Yes	No	No	No		No	No	.
M	3	Yes	No	No	No		No	No	.
O	6	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5

P16	5	0	7	3.0	0.0	5

Item 2.

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Controller Options

Controller Options (MM) 2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I		X				X										
Non-Act II																
Dual Entry		X				X										
Cond Service																
Cond Reservice																
Ped Re-Service																
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8

Plan # 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector	X			X	X											
Vehicle Recall		X				X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Coordination Pattern Data
Coordinator Pattern Data (MM) 3-2

Item 2.

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Time Base Action Plan
Action Plan (MM) 5-2

Action Plan - 1

Pattern	1	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 2

Pattern	2	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 3

Pattern	3	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2	X	X	X	X	X	X										
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 4

Pattern	4	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 5

Pattern	5	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3	X	X	X	X	X	X										
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 6

Pattern	6	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Action Plan - 99

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.					

Item 2.

Maryland State Highway Administration

ECONOLITE

MOVING TRAFFIC FORWARD

(1) MD 198 @ Van Dusen - Local - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Day Plan #1

Event	Action Plan	Start Time
1	99	00:00

Day Plan #2

Event	Action Plan	Start Time
1	99	00:00
2	3	06:00
3	99	09:00
4	5	15:00
5	99	19:00

Item 2.

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

```
****************************************
*   ECONOLITE CONTROL PRODUCTS, INC.   *
*                                      *
*               COBALT-2100            *
*       Copyright (C)  2012-2019       *
*                                      *
*    VanDusen & Old Sandy Spring Rd    *
*                                      *
*  CITY....   0  INTERSECTION..     0  *
*                                      *
* SOFTWARE.................. 32.67.20 *
*                                      *
*                                      *
*                                      *
* CONFIG.........................L3000 *
****************************************
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TIMING PLAN [1] PHASE DATA

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	10	5	5	5	10	5	5	5	5	5	5	5	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	10	0	10	0	10	0	10
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	15	0	20	0	15	0	15	0	16	0	16	0	16	0	16
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	5.0	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	35	30	35	15	35	30	35	20	35	35	35	35	35	35	35	35
MAX2	40	40	40	20	40	40	40	30	40	40	40	40	40	40	40	40
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Van Dusen Road / Cross Street(s)	Weekday AM Peak Hour	Weekday PM Peak Hour	Available Storage (feet)
Existing Conditions	95th% Queue Length (feet)	95th% Queue Length (feet)	
Old Sandy Springs Road			
NB Left/Through Lane	120 feet	256 feet	360 feet
NB Right-turn Lane	0 feet	52 feet	360 feet
EB Left-turn Lane	0 feet	0 feet	140 feet
EB Right-turn Lane	191 feet	57 feet	160 feet
WB Left-turn Lane	207 feet	188 feet	130 feet
MD 198 (Sandy Springs Road)			
NB Left-turn Lanes	362 feet	235 feet	400 feet
	379 feet	256 feet	400 feet
NB Right-turn Lane	111 feet	127 feet	400 feet
SB Left-turn Lane	194 feet	158 feet	220 feet
SB Left/Through Lane	217 feet	192 feet	360 feet
SB Through Lane	191 feet	180 feet	360 feet
SB Right-turn Lane	131 feet	102 feet	360 feet
EB Left-turn Lane	126 feet	422 feet	350 feet
	163 feet	540 feet	350 feet
EB Right-turn Lane	46 feet	184 feet	450 feet
WB Left-turn Lane	294 feet	138 feet	315 feet
Arbory Court			
NB Left-turn Lane	32 feet	58 feet	75 feet
SB Right Lane Drop	82 feet	238 feet	840 feet
S Arbory Lane			
NB Left-turn Lane	20 feet	57 feet	80 feet
SB Left-turn Lane	0 feet	10 feet	50 feet
Laurel Oaks Lane/Erica Lane			
NB Left-turn Lane	10 feet	15 feet	100 feet
SB Left-turn Lane	31 feet	50 feet	75 feet
Cherry Lane			
NB Left-turn Lane	41 feet	80 feet	90 feet
NB Right-turn Lane	69 feet	150 feet	250 feet
SB Left-turn Lane	230 feet	252 feet	400 feet
EB Left-turn Lane	203 feet	86 feet	270 feet
WB Left Lane Drop	183 feet	204 feet	>1000 feet
WB Right Lane Drop	167 feet	152 feet	>1000 feet
Olive Branch Way/Killbarron Drive			
NB Left-turn Lane	19 feet	22 feet	125 feet
NB Right-turn Lane	8 feet	19 feet	150 feet
SB Left-turn Lane	29 feet	49 feet	315 feet
SB Right-turn Lane	22 feet	28 feet	270 feet
EB Left-turn Lane	61 feet	64 feet	250 feet
WB Left-turn Lane	36 feet	27 feet	100 feet
UMD Laurel Medical Center			
SB Right-turn Lane	38 feet	13 feet	150 feet
EB Right-turn Lane	22 feet	42 feet	90 feet
Contee Road			
NB Left Lane Drop	63 feet	67 feet	>1000 feet
SB Left Lane Drop	65 feet	96 feet	>1000 feet
EB Right Lane Drop	29 feet	30 feet	>1000 feet
WB Right-turn Lane	54 feet	57 feet	300 feet

Van Dusen Road / Cross Street(s)	Weekday AM Peak Hour	Weekday PM Peak Hour	Available Storage (feet)
MD 198 Southbound (2-left-turn Lanes/1-through/1-right turn lane)	95th% Queue Length (feet)	95th% Queue Length (feet)	
Old Sandy Springs Road			
NB Left/Through Lane	108 feet	294 feet	360 feet
NB Right-turn Lane	20 feet	133 feet	360 feet
EB Left-turn Lane	0 feet	0 feet	140 feet
EB Right-turn Lane	198 feet	131 feet	160 feet
WB Left-turn Lane	207 feet	198 feet	130 feet
MD 198 (Sandy Springs Road)			
NB Left-turn Lanes	337 feet	231 feet	400 feet
	365 feet	255 feet	400 feet
NB Right-turn Lane	82 feet	111 feet	400 feet
SB Left-turn Lane	124 feet	105 feet	220 feet
SB Left-turn Lane	225 feet	253 feet	360 feet
SB Through Lane	275 feet	324 feet	360 feet
SB Right-turn Lane	217 feet	317 feet	360 feet
EB Left-turn Lane	147 feet	452 feet	350 feet
	184 feet	573 feet	350 feet
EB Right-turn Lane	157 feet	406 feet	450 feet
WB Left-turn Lane	263 feet	158 feet	315 feet
Arbory Court			
NB Left-turn Lane	38 feet	52 feet	75 feet
SB Right Lane Drop	29 feet	39 feet	75 feet
S Arbory Lane			
NB Left-turn Lane	35 feet	40 feet	80 feet
SB Left-turn Lane	0 feet	4 feet	50 feet

2: Van Dusen Rd & Old Sandy Spring Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	All
Denied Del/Veh (s)	1.6	3.4	0.0	0.0	0.0	0.0	0.0	0.1	1.3
Total Del/Veh (s)	12.7	4.3	22.5	14.7	10.4	3.3	3.3	16.6	9.7

6: Van Dusen Rd & Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	39.5	22.5	19.2	4.6	10.6	6.6	9.0

8: Van Dusen Rd & S Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	38.4	19.9	13.8	3.8	3.0	5.3	5.1	5.6

11: Van Dusen Rd & Erica/Laurel Oaks Performance by movement

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SER	NWL	NWT	NWR	All
Denied Del/Veh (s)	0.4	0.0	0.0	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	6.1	2.2	2.1	7.2	2.1	1.7	22.3	7.8	21.5	42.0	8.7	2.6

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.9	0.5	0.4	0.3	0.2	0.4	1.5	0.2	1.4	0.1	0.0	0.0
Total Del/Veh (s)	73.7	48.4	22.8	37.6	32.9	10.7	26.6	24.7	5.4	19.9	11.8	12.7

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	21.2

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.2	0.1	3.9	0.2	4.2	0.0	0.0	0.0
Total Del/Veh (s)	29.5	34.9	6.0	27.8	25.3	5.9	6.9	2.6	0.9	6.6	4.3	3.6

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	5.9

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.2	0.1	0.1	0.1
Total Del/Veh (s)	10.3	11.5	8.3	10.3	10.5	8.7	23.3	20.2	4.4	23.1	22.0	5.1

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	10.5

28: Van Dusen Rd & Medical Cntr Performance by movement

Movement	SEL	SER	NEL	NET	SWT	SWR	All
Denied Del/Veh (s)	0.1	4.2	0.2	0.2	0.9	0.4	0.6
Total Del/Veh (s)	26.1	6.4	8.0	2.7	3.5	1.0	4.3

30: Van Dusen Rd & Laurel Park Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.7	0.5

32: Van Dusen Rd Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.4	0.9	0.7

301: Van Dusen Rd & MD 198 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.3	2.3	2.2	0.2	2.1	0.9	0.3	1.0	0.0	0.0	0.0
Total Del/Veh (s)	57.4	33.4	4.8	66.8	45.5	23.9	52.5	47.8	7.7	65.7	59.5	5.8

301: Van Dusen Rd & MD 198 Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	37.1

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	39.1

Intersection: 2: Van Dusen Rd & Old Sandy Spring

Movement	EB	EB	WB	WB	B5	NB	SB
Directions Served	T	R	L	TR	T	LT	LTR
Maximum Queue (ft)	162	241	223	246	4	169	15
Average Queue (ft)	23	53	137	43	0	49	0
95th Queue (ft)	82	191	207	141	3	120	5
Link Distance (ft)	684			241	261	358	70
Upstream Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			
Storage Bay Dist (ft)		160	130				
Storage Blk Time (%)		3	10	0			
Queuing Penalty (veh)		1	4	0			

Intersection: 6: Van Dusen Rd & Arbory

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	134	48	246	403	158
Average Queue (ft)	48	7	86	99	7
95th Queue (ft)	100	32	194	271	82
Link Distance (ft)	214		635	863	863
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	5		
Queuing Penalty (veh)		1	1		

Intersection: 8: Van Dusen Rd & S Arbory

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	TR
Maximum Queue (ft)	116	34	264	310
Average Queue (ft)	40	3	73	79
95th Queue (ft)	90	20	198	229
Link Distance (ft)	131		611	635
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		80		
Storage Blk Time (%)			4	6
Queuing Penalty (veh)			1	0

Intersection: 11: Van Dusen Rd & Erica/Laurel Oaks

Movement	NB	SB	SE	NW
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	17	30	34	64
Average Queue (ft)	1	9	8	28
95th Queue (ft)	10	31	31	54
Link Distance (ft)			82	138
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	75		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Van Dusen Rd & Cherry Ln

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	272	204	223	94	260	67	240	134	285	328
Average Queue (ft)	98	71	102	32	81	12	81	40	118	119
95th Queue (ft)	203	146	183	74	167	41	178	69	230	258
Link Distance (ft)		394	387	387	387		1784			1032
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	270					90		250	400	
Storage Blk Time (%)	1	0					11			0
Queuing Penalty (veh)	2	0					27			0

Intersection: 17: Van Dusen Rd & Olive Branch/Killbarron

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	78	34	51	54	29	82	20	40	142	29
Average Queue (ft)	26	8	12	18	4	21	1	7	36	5
95th Queue (ft)	61	28	36	43	19	63	8	29	101	22
Link Distance (ft)	294	294	295	295					1784	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					125		150	315		270
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 20: Contee Rd & Van Dusen Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	85	189	82	181	80	64	74	50
Average Queue (ft)	29	80	30	80	23	32	15	11
95th Queue (ft)	63	159	65	150	54	54	47	29
Link Distance (ft)	1178	1178			317	317	446	446
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 28: Van Dusen Rd & Medical Cntr

Movement	SE	SE	NE	NE	SW	SW
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	55	20	99	155	103	57
Average Queue (ft)	18	7	30	36	45	10
95th Queue (ft)	42	22	74	105	111	38
Link Distance (ft)	215					
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		90				150
Storage Blk Time (%)	0				0	
Queuing Penalty (veh)	0				0	

Intersection: 30: Van Dusen Rd & Laurel Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 32: Van Dusen Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 301: Van Dusen Rd & MD 198

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	153	189	326	309	244	87	413	580	547	529	100	422
Average Queue (ft)	69	93	206	185	127	3	127	326	300	264	40	231
95th Queue (ft)	126	163	302	280	234	46	294	525	497	461	119	362
Link Distance (ft)			1243	1243	1243			1430	1430	1430		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350				450	315				75	400
Storage Blk Time (%)			0					10		36	0	1
Queuing Penalty (veh)			0					15		43	0	4

Intersection: 301: Van Dusen Rd & MD 198

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	LT	T	R
Maximum Queue (ft)	442	342	154	241	254	279	245
Average Queue (ft)	249	137	45	99	140	83	14
95th Queue (ft)	379	265	111	194	217	191	131
Link Distance (ft)		863			358	358	358
Upstream Blk Time (%)							0
Queuing Penalty (veh)							1
Storage Bay Dist (ft)	400		400	220			
Storage Blk Time (%)	2	1		0	1		
Queuing Penalty (veh)	6	6		1	1		

Network Summary

Network wide Queuing Penalty: 114

2: Van Dusen Rd & Old Sandy Spring Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.8	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7
Total Del/Veh (s)	16.0	1.7	22.8	15.7	1.0	13.2	5.1	3.8	10.3	11.0

6: Van Dusen Rd & Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	47.7	18.5	14.7	2.7	11.9	7.2	8.9

8: Van Dusen Rd & S Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	43.0	15.8	10.5	3.2	0.6	14.0	4.5	3.5	4.7

11: Van Dusen Rd & Erica/Laurel Oaks Performance by movement

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SER	NWL	NWT	NWR	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	7.8	2.6	2.8	7.9	1.9	1.3	28.3	14.3	20.3	20.3	8.8	2.8

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	0.3	0.3	0.2	0.3	0.5	0.1	0.5	0.6	0.2	0.1
Total Del/Veh (s)	57.2	54.5	28.5	43.1	38.6	12.1	29.1	28.8	7.8	19.3	12.8	9.1

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	22.1

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.4	0.4	3.4	0.0	0.0	0.0
Total Del/Veh (s)	31.6	27.8	5.9	28.2	30.5	8.0	6.9	4.4	1.3	9.1	4.2	3.7

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	6.1

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	0.3	0.2	0.3	0.3	0.1	0.1	0.2	0.1	0.1	0.1
Total Del/Veh (s)	12.0	16.9	14.4	13.0	12.9	10.1	25.8	25.1	4.4	20.8	22.1	5.4

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.9

28: Van Dusen Rd & Medical Cntr Performance by movement

Movement	SEL	SER	NEL	NET	SWT	SWR	All
Denied Del/Veh (s)	0.4	4.0	0.2	0.9	0.9	0.7	1.1
Total Del/Veh (s)	22.8	5.4	11.0	6.3	5.8	1.1	7.1

30: Van Dusen Rd & Laurel Park Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.4	1.0	0.6

32: Van Dusen Rd Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.9	0.7

301: Van Dusen Rd & MD 198 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	1.1	2.2	2.3	0.2	2.4	0.8	0.1	0.9	0.0	0.0	0.0
Total Del/Veh (s)	114.6	41.1	9.1	60.8	36.6	9.1	51.4	54.1	17.3	60.2	57.2	4.7

301: Van Dusen Rd & MD 198 Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	41.5

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	41.6

Intersection: 2: Van Dusen Rd & Old Sandy Spring

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	72	96	211	219	272	127	30
Average Queue (ft)	20	8	125	51	121	6	3
95th Queue (ft)	54	57	188	131	256	52	18
Link Distance (ft)	684			241	358	358	70
Upstream Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			
Storage Bay Dist (ft)		160	130				
Storage Blk Time (%)		0	8	0			
Queuing Penalty (veh)		0	5	0			

Intersection: 5: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	11
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	241
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Van Dusen Rd & Arbory

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	74	74	162	571	448
Average Queue (ft)	23	21	34	114	28
95th Queue (ft)	54	58	113	377	238
Link Distance (ft)	214		635	863	863
Upstream Blk Time (%)					0
Queuing Penalty (veh)					1
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	2		
Queuing Penalty (veh)		4	1		

Intersection: 8: Van Dusen Rd & S Arbory

Movement	EB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR
Maximum Queue (ft)	86	98	206	20	307
Average Queue (ft)	30	16	53	1	66
95th Queue (ft)	69	57	159	10	195
Link Distance (ft)	131		611		635
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		80		50	
Storage Blk Time (%)		0	3	0	6
Queuing Penalty (veh)		0	1	1	0

Intersection: 11: Van Dusen Rd & Erica/Laurel Oaks

Movement	NB	NB	SB	SB	SE	NW
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	29	48	61	50	55	45
Average Queue (ft)	2	2	19	2	14	14
95th Queue (ft)	15	18	50	23	42	39
Link Distance (ft)		1032		611	82	138
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	100		75			
Storage Blk Time (%)		0	0	0		
Queuing Penalty (veh)		0	1	0		

Intersection: 14: Van Dusen Rd & Cherry Ln

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	91	177	252	130	188	140	322	206	275	262
Average Queue (ft)	41	76	112	48	75	19	151	59	149	104
95th Queue (ft)	86	146	204	106	152	80	278	150	252	223
Link Distance (ft)		394	387	387	387		1784			1032
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	270					90		250	400	
Storage Blk Time (%)							24			
Queuing Penalty (veh)							66			

Intersection: 17: Van Dusen Rd & Olive Branch/Killbarron

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	78	30	35	59	33	183	30	65	117	33
Average Queue (ft)	27	9	7	23	4	63	4	19	34	7
95th Queue (ft)	64	29	27	49	22	139	19	49	95	28
Link Distance (ft)	294	294	295	295					1784	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					125		150	315		270
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Intersection: 20: Contee Rd & Van Dusen Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	89	274	116	241	114	61	79	52
Average Queue (ft)	32	140	54	99	37	35	22	11
95th Queue (ft)	67	249	96	194	85	57	56	30
Link Distance (ft)	1178	1178			317	317	446	446
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 28: Van Dusen Rd & Medical Cntr

Movement	SE	SE	NE	NE	SW	SW
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	113	50	40	188	115	30
Average Queue (ft)	32	21	11	110	61	2
95th Queue (ft)	73	42	37	218	122	13
Link Distance (ft)	215					
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		90				150
Storage Blk Time (%)	1				0	
Queuing Penalty (veh)	1				0	

Intersection: 30: Van Dusen Rd & Laurel Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 32: Van Dusen Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 301: Van Dusen Rd & MD 198

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	375	531	789	710	553	423	172	383	348	326	100	276
Average Queue (ft)	256	305	422	382	283	26	77	243	219	176	35	154
95th Queue (ft)	422	540	726	649	444	184	138	329	301	279	112	235
Link Distance (ft)			1243	1243	1243			1430	1430	1430		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350				450	315				75	400
Storage Blk Time (%)	10	13	12		1	0		1		20	0	
Queuing Penalty (veh)	60	74	56		8	0		1		32	0	

Intersection: 301: Van Dusen Rd & MD 198

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	LT	T	R
Maximum Queue (ft)	282	311	176	186	208	210	83
Average Queue (ft)	176	171	63	74	131	88	8
95th Queue (ft)	256	273	127	158	192	180	102
Link Distance (ft)		863			358	358	358
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)	400		400	220			
Storage Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		

Network Summary

Network wide Queuing Penalty: 314

2: Van Dusen Rd & Old Sandy Spring Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	All
Denied Del/Veh (s)	1.4	3.4	0.0	0.0	0.0	0.0	0.0	0.1	1.3
Total Del/Veh (s)	16.1	5.3	23.3	12.0	9.8	3.3	3.4	8.0	10.1

6: Van Dusen Rd & Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	41.9	23.3	14.0	4.6	10.3	9.2	9.0

8: Van Dusen Rd & S Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	37.7	16.5	12.0	3.9	3.4	5.4	4.8	5.7

11: Van Dusen Rd & Erica/Laurel Oaks Performance by movement

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SER	NWL	NWT	NWR	All
Denied Del/Veh (s)	0.6	0.0	0.0	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	7.9	2.1	2.0	7.5	2.1	1.5	21.4	22.7	18.8	43.7	8.9	2.5

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.8	0.5	0.6	0.2	0.2	0.4	1.8	0.2	1.4	0.1	0.0	0.0
Total Del/Veh (s)	65.9	42.1	23.1	37.8	30.4	9.7	28.2	24.8	5.9	19.5	11.5	12.0

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	20.2

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	3.6	0.3	3.9	0.0	0.0	0.0
Total Del/Veh (s)	28.7	20.4	6.5	29.8	22.2	6.1	5.9	3.1	2.1	7.8	4.4	3.6

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	6.2

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.2	0.2	0.2	0.1
Total Del/Veh (s)	10.5	11.2	9.3	10.4	10.7	9.6	27.8	23.0	4.7	24.2	19.9	5.8

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	10.8

28: Van Dusen Rd & Medical Cntr Performance by movement

Movement	SEL	SER	NEL	NET	SWT	SWR	All
Denied Del/Veh (s)	0.1	4.0	0.2	0.2	0.7	0.3	0.5
Total Del/Veh (s)	27.0	5.9	8.5	2.2	3.0	0.8	3.8

30: Van Dusen Rd & Laurel Park Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.7	0.5

32: Van Dusen Rd Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	1.0	0.7

301: Van Dusen Rd & MD 198 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.3	2.3	2.2	0.2	2.0	0.8	0.1	0.8	0.0	0.2	0.1
Total Del/Veh (s)	61.3	33.1	6.0	64.6	40.8	17.1	51.4	48.1	8.8	63.9	74.3	6.3

301: Van Dusen Rd & MD 198 Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	36.4

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	38.3

Intersection: 2: Van Dusen Rd & Old Sandy Spring

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	317	243	224	230	134	38	20
Average Queue (ft)	35	58	137	38	46	3	1
95th Queue (ft)	167	198	207	130	108	20	9
Link Distance (ft)	696			237	361	361	70
Upstream Blk Time (%)	0		0	0			
Queuing Penalty (veh)	0		0	0			
Storage Bay Dist (ft)		160	130				
Storage Blk Time (%)		3	10	0			
Queuing Penalty (veh)		1	4	0			

Intersection: 5: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	11
Average Queue (ft)	0
95th Queue (ft)	8
Link Distance (ft)	237
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Van Dusen Rd & Arbory

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	113	54	268	307	71
Average Queue (ft)	49	7	84	80	4
95th Queue (ft)	97	38	198	222	29
Link Distance (ft)	214		635	864	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75			75
Storage Blk Time (%)			5	5	0
Queuing Penalty (veh)			1	1	0

Intersection: 8: Van Dusen Rd & S Arbory

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	TR
Maximum Queue (ft)	105	70	224	319
Average Queue (ft)	45	6	79	92
95th Queue (ft)	85	35	188	245
Link Distance (ft)	131		611	635
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		80		
Storage Blk Time (%)			4	7
Queuing Penalty (veh)			1	0

Intersection: 11: Van Dusen Rd & Erica/Laurel Oaks

Movement	NB	SB	SB	SE	NW
Directions Served	L	L	TR	LTR	LTR
Maximum Queue (ft)	17	38	4	38	75
Average Queue (ft)	1	9	0	8	28
95th Queue (ft)	11	33	3	31	57
Link Distance (ft)			611	82	138
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	75			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 14: Van Dusen Rd & Cherry Ln

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	217	209	192	103	230	76	207	96	294	322
Average Queue (ft)	100	71	100	31	76	14	79	44	115	112
95th Queue (ft)	192	149	164	77	159	48	170	79	235	259
Link Distance (ft)		394	387	387	387		1784			1032
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	270					90		250	400	
Storage Blk Time (%)	0	0				0	10		0	
Queuing Penalty (veh)	1	0				2	24		1	

Intersection: 17: Van Dusen Rd & Olive Branch/Killbarron

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	72	38	62	67	29	93	25	39	139	37
Average Queue (ft)	27	7	13	19	3	26	3	7	41	4
95th Queue (ft)	59	27	40	48	16	67	17	28	101	19
Link Distance (ft)	294	294	295	295					1784	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					125		150	315		270
Storage Blk Time (%)						0				
Queuing Penalty (veh)						0				

Intersection: 20: Contee Rd & Van Dusen Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	76	211	74	201	100	73	82	50
Average Queue (ft)	30	81	32	78	29	36	19	14
95th Queue (ft)	62	165	64	162	70	62	57	35
Link Distance (ft)	1178	1178			317	317	446	446
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 28: Van Dusen Rd & Medical Cntr

Movement	SE	SE	NE	NE	SW	SW
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	62	24	125	118	102	45
Average Queue (ft)	15	6	31	26	37	10
95th Queue (ft)	43	21	80	86	106	37
Link Distance (ft)	215					
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		90				150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 30: Van Dusen Rd & Laurel Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 32: Van Dusen Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 301: Van Dusen Rd & MD 198

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	190	225	346	315	257	264	342	505	488	441	100	361
Average Queue (ft)	71	102	209	184	131	28	122	301	281	239	35	229
95th Queue (ft)	147	184	304	273	243	157	263	446	426	383	111	337
Link Distance (ft)			1255	1255	1255			1430	1430	1430		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350				450	315				75	400
Storage Blk Time (%)			0					7		35	0	
Queuing Penalty (veh)			0					11		41	0	

Intersection: 301: Van Dusen Rd & MD 198

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R
Maximum Queue (ft)	397	268	93	152	275	305	410
Average Queue (ft)	252	129	47	59	109	167	35
95th Queue (ft)	365	230	82	124	225	275	217
Link Distance (ft)		864				361	361
Upstream Blk Time (%)							2
Queuing Penalty (veh)							8
Storage Bay Dist (ft)	400		400	220	220		
Storage Blk Time (%)	0				0	7	
Queuing Penalty (veh)	1				0	14	

Network Summary

Network wide Queuing Penalty: 110

2: Van Dusen Rd & Old Sandy Spring Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.8	3.6	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.7
Total Del/Veh (s)	13.6	5.3	23.6	15.3	4.2	15.3	4.9	4.1	8.5	12.3

6: Van Dusen Rd & Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	49.5	16.8	9.6	2.9	9.5	9.4	7.5

8: Van Dusen Rd & S Arbory Performance by movement

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0		0.0	0.0	0.0
Total Del/Veh (s)	44.0	16.6	9.1	3.0	2.8		4.2	2.9	4.4

11: Van Dusen Rd & Erica/Laurel Oaks Performance by movement

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SER	NWL	NWT	NWR	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.0
Total Del/Veh (s)	6.9	2.5	1.9	7.0	1.8	1.5	16.9	9.1	26.0	55.4	10.0	2.7

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.9	0.4	0.3	0.2	0.2	0.3	0.4	0.1	0.5	0.6	0.2	0.2
Total Del/Veh (s)	59.3	52.1	25.4	44.6	39.2	11.8	30.6	27.0	7.6	18.8	11.0	7.4

14: Van Dusen Rd & Cherry Ln Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	21.2

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.2	0.1	3.1	0.5	3.1	0.0	0.0	0.0
Total Del/Veh (s)	31.6	33.2	5.0	27.8	24.3	7.6	7.1	4.2	1.4	8.9	3.7	4.0

17: Van Dusen Rd & Olive Branch/Killbarron Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	5.7

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1
Total Del/Veh (s)	10.7	15.6	11.9	12.7	12.7	7.3	28.5	26.0	4.9	24.2	22.8	5.8

20: Contee Rd & Van Dusen Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.4

28: Van Dusen Rd & Medical Cntr Performance by movement

Movement	SEL	SER	NEL	NET	SWT	SWR	All
Denied Del/Veh (s)	0.4	3.9	0.2	0.6	0.8	0.1	0.9
Total Del/Veh (s)	21.9	5.5	9.5	6.0	5.7	1.1	6.8

30: Van Dusen Rd & Laurel Park Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	1.0	0.6

32: Van Dusen Rd Performance by movement

Movement	NET	SWT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.8	0.7

301: Van Dusen Rd & MD 198 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.1	0.9	2.1	2.3	0.2	2.3	0.9	0.2	0.8	0.3	0.6	0.3
Total Del/Veh (s)	125.1	45.7	11.8	66.4	38.2	10.1	50.6	52.4	18.3	69.5	85.9	8.2

301: Van Dusen Rd & MD 198 Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	46.2

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	44.0

Intersection: 2: Van Dusen Rd & Old Sandy Spring

Movement	EB	EB	WB	WB	B5	NB	NB	SB
Directions Served	T	R	L	TR	T	LT	R	LTR
Maximum Queue (ft)	223	189	221	225	22	294	247	30
Average Queue (ft)	36	24	129	54	1	140	18	4
95th Queue (ft)	153	131	198	150	21	294	133	19
Link Distance (ft)	696			237	261	361	361	70
Upstream Blk Time (%)			1	1			0	
Queuing Penalty (veh)			0	0			0	
Storage Bay Dist (ft)		160	130					
Storage Blk Time (%)	0	3	8	0				
Queuing Penalty (veh)	1	1	6	0				

Intersection: 6: Van Dusen Rd & Arbory

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	71	73	192	266	72
Average Queue (ft)	24	19	41	54	7
95th Queue (ft)	55	52	132	170	39
Link Distance (ft)	214		635	864	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75			75
Storage Blk Time (%)		0	2	4	0
Queuing Penalty (veh)		1	1	2	0

Intersection: 8: Van Dusen Rd & S Arbory

Movement	EB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR
Maximum Queue (ft)	91	50	201	5	294
Average Queue (ft)	31	11	49	0	66
95th Queue (ft)	70	40	153	4	203
Link Distance (ft)	131		611		635
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)		80		50	
Storage Blk Time (%)		0	3		6
Queuing Penalty (veh)		0	1		0

Intersection: 11: Van Dusen Rd & Erica/Laurel Oaks

Movement	NB	NB	SB	SB	SE	NW
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	29	16	56	24	46	71
Average Queue (ft)	3	1	18	1	13	21
95th Queue (ft)	18	9	45	14	40	53
Link Distance (ft)		1032		611	82	138
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	100		75			
Storage Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		

Intersection: 14: Van Dusen Rd & Cherry Ln

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	103	147	211	126	194	120	364	255	301	230
Average Queue (ft)	39	68	106	46	72	21	150	61	144	87
95th Queue (ft)	87	129	182	100	144	81	281	152	242	184
Link Distance (ft)		394	387	387	387		1784			1032
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	270					90		250	400	
Storage Blk Time (%)							23			
Queuing Penalty (veh)							64			

Intersection: 17: Van Dusen Rd & Olive Branch/Killbarron

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	84	26	44	55	29	171	25	51	88	45
Average Queue (ft)	24	7	10	21	6	56	3	18	27	8
95th Queue (ft)	58	26	32	48	24	132	17	46	72	31
Link Distance (ft)	294	294	295	295					1784	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					125		150	315		270
Storage Blk Time (%)						1				
Queuing Penalty (veh)						0				

Intersection: 20: Contee Rd & Van Dusen Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	LT	R
Maximum Queue (ft)	93	276	108	251	91	76	74	44
Average Queue (ft)	32	130	51	96	40	39	23	10
95th Queue (ft)	67	229	92	194	76	67	58	29
Link Distance (ft)	1178	1178			317	317	446	446
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 28: Van Dusen Rd & Medical Cntr

Movement	SE	SE	NE	NE	SW	SW
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	97	52	49	178	111	18
Average Queue (ft)	31	23	14	113	62	2
95th Queue (ft)	69	44	40	202	120	15
Link Distance (ft)	215					
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)		90				150
Storage Blk Time (%)	0				0	
Queuing Penalty (veh)	0				0	

Intersection: 30: Van Dusen Rd & Laurel Park

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 32: Van Dusen Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 301: Van Dusen Rd & MD 198

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	L
Maximum Queue (ft)	404	543	903	799	557	525	186	355	343	289	100	254
Average Queue (ft)	268	331	479	436	317	135	88	243	224	178	43	157
95th Queue (ft)	452	573	829	740	479	406	158	322	306	271	123	231
Link Distance (ft)			1255	1255	1255			1430	1430	1430		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350				450	315				75	400
Storage Blk Time (%)	14	18	16		1	0		1		23	0	
Queuing Penalty (veh)	77	102	78		5	3		1		37	0	

Intersection: 301: Van Dusen Rd & MD 198

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	R	L	L	T	R
Maximum Queue (ft)	276	372	131	146	266	330	338
Average Queue (ft)	180	173	61	44	103	195	68
95th Queue (ft)	255	293	111	105	253	324	317
Link Distance (ft)		864				361	361
Upstream Blk Time (%)						1	6
Queuing Penalty (veh)						4	17
Storage Bay Dist (ft)	400		400	220	220		
Storage Blk Time (%)		0		0	0	16	
Queuing Penalty (veh)		2		0	0	21	

Network Summary

Network wide Queuing Penalty: 424

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of Van Dusen Road and Contee Road in Prince George's County, Maryland. Van Dusen Road is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection will operate in a NEMA six (6) phase, full traffic actuated mode. There will be an exclusive/permissive left turn phase for both the east and westbound movements of Van Dusen Road. The Van Dusen Road through movements will operate concurrently with an actuated pedestrian phase across the north leg of the intersection. The Contee Road through movements will operate concurrently with an actuated pedestrian phase across the east leg of the intersection.

An eight phase full traffic actuated, solid state digital controller with intersection monitor, video camera equipment and harness battery back up housed in a base mounted cabinet are to be installed at this location.

III. SPECIAL NOTES

1) All traffic signal equipment shall be located in anticipation of future roadway widening.

2) Maintenance of the traffic will be handled by the contractor utilizing the following standard plates for traffic control: 104.00, 104.00-30, 104.38-02, 104.30-02, 104.40-02, 104.43-02.

3) The Signal Contractor shall be required to contact the County signal shop (Mr. Stan Wasilewski, (301) 499-8579) at least 72 hours in advance of any on site construction.

4) Materials to be furnished and installed by the contractor shall require catalog cuts submitted to the County for approval prior to purchasing.

5) All signal heads, luminaires, and cameras location/placement shall be verified or changed as necessary by the signal shop inspector.

EQUIPMENT LIST

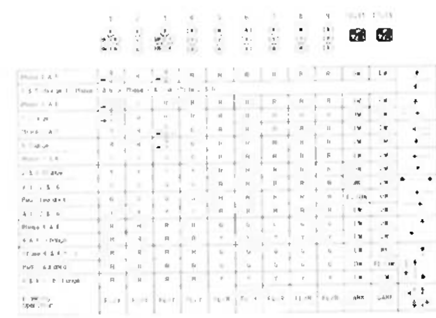
Equipment to be furnished and/or installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	EA Units	MD Specification Section	Description
1	EA	818	27 ft. steel mast arm pole with a 38 ft. mast arm
1	EA	818	27 ft. steel mast arm pole with a 50 ft. mast arm
1	EA	818	27 ft. steel twin mast arm pole with two 50 ft. mast arms
1	EA	818	10 ft. steel pedestal pole with transformer breakaway base
1	EA	818	Naztec eight phase controller and cabinet per Prince George's specs) Model* TS2 PLA 2V with intersection monitor and video detection equipment base mounted UPS by Clary Corp. Continuous Power Supply Model* SP1000 with power interface module 30A
8	EA		Traficon video detection camera system
3	EA		Traficon VIP 3.2 module
1	EA		Traficon Viewcom IP module
7	EA	814	12 in. one way three section (R,Y,G) signal head - mast arm mount (Naztec black glass filled polycarbonate heads with "LED" Dialight 433 series lenses and stainless steel hardware)
2	EA	814	12 in. one way five section (R,Y,YA,G,GA) signal head - mast arm mount (Naztec black glass filled polycarbonate heads with "LED" Dialight 433 series lenses and stainless steel hardware)
2	EA	814	16 in. one way, one section aluminum (symbolic LED Dialight glass DW/WK) pedestrian signal head Right... with pole mounting hardware and 2 grate visors
2	EA	814	16 in. one way one section aluminum (symbolic LED Dialight glass DW/WK) pedestrian signal head with post top mounting hardware and 2 grate visors
2	EA	813	30 in. x 36 in. R 3-5(R) sign (Diamond Grade) - mast arm mount
★ 4	EA	813	18 in. x Var. D 3 (sign) mast arm mount (Diamond Grade) (Contractor to furnish appropriate hardware)
4	EA	813	36 in. x 36 in. W 3-3 "NEW" sign for ground mounting
1	EA	813	30 in. x 36 in. R 3-5(L) mast arm mount (Diamond Grade)
4	EA	816	Pedestrian sign (R 10-3r) pole mounted
4	EA	816	Pedestrian pushbutton assembly (Polara SF2005 07 PCN)
2	EA	806	20 ft. luminaire arm
2	EA	806	250 W H.P.S. lamp and luminaire

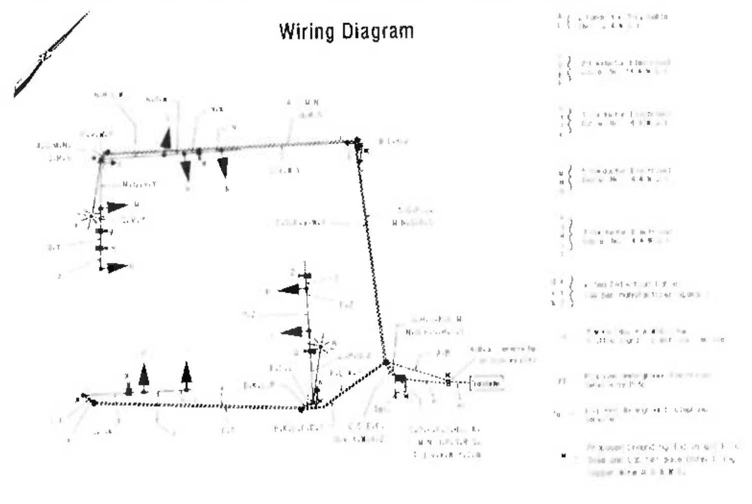
Quantity	Units	MD Specification Section	Description
Lump Sum	LS	102	Mobilization
Lump Sum	LS	104	Maintenance of traffic
5	CY	205	Test pit excavation
5	EA	811	Heavy duty handhole
425	LF	810	2 conductor electrical cable (No. 12 A.W.G.) IMSA 20-1
580	LF	810	2 conductor electrical cable (No. 14 A.W.G.) IMSA 20-1
580	LF	810	3 conductor electrical cable (No. 14 A.W.G.) IMSA 20-1
875	LF	810	5 conductor electrical cable (No. 14 A.W.G.) IMSA 20-1
1200	LF	810	7 conductor electrical cable (No. 14 A.W.G.) IMSA 20-1
25	LF	810	3 wire (No. 4 A.W.G.) electrical cable
40	LF	810	Bare stranded copper wire # 6 A.W.G.
1300	LF	804	Belden #5346667 00 cable with single crimp 2 PC connectors
28	LF	805	2 in. polyvinylchloride (Schedule 80) electrical conduit - trenched
20	LF	805	2.5 in. polyvinylchloride (Schedule 80) electrical conduit - trenched
40	LF	805	3 in. polyvinylchloride (Schedule 80) electrical conduit - trenched
530	LF	805	4 in. polyvinylchloride (Schedule 80) electrical conduit - bored
250	LF	805	4 in. polyvinylchloride (Schedule 80) electrical conduit - trenched
17.5	CY	801	Concrete foundation for traffic signal equipment
6	LF	804	Ground rod 3/4 in. diameter x 10 ft. length
1	EA	807	Electrical utility service equipment (120/240 V one phase, three wire system) for an underground electrical service per Prince George's County 15.16 C and 15.02
125	EA	558	24 in. wide Heat Applied Thermoplastic Pavement Marking - white for stop line
375	LF	558	12 in. wide Heat Applied Thermoplastic Pavement Marking - white for crosswalk
36	LF	812	Galvanized steel U channel sign post
Lump Sum	LS		As built for Prince George's County for CADD

★ Furnished by the County

Phase Chart



Wiring Diagram



The Traffic Group

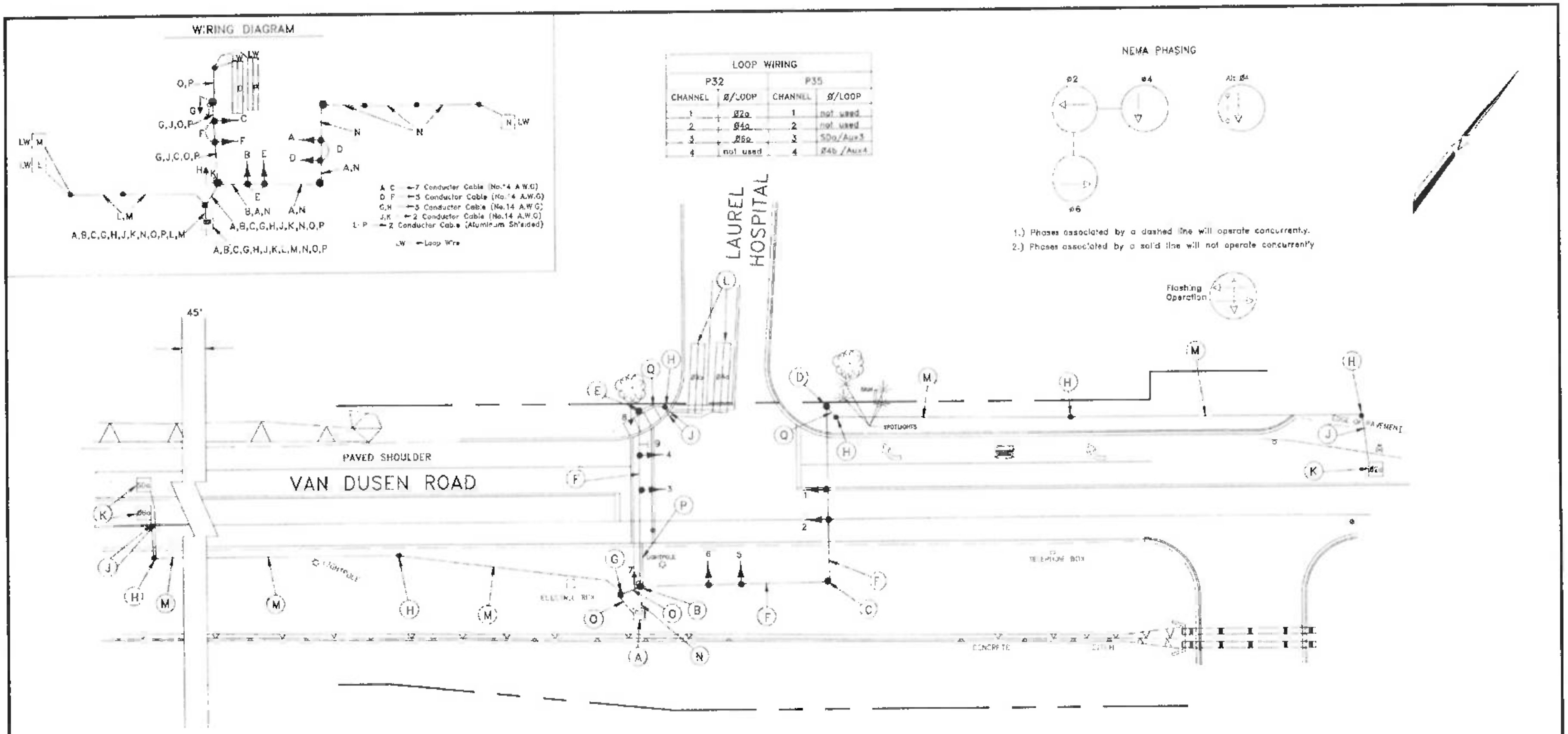
The Traffic Group, Inc.
Suite 11
9900 Franklin Square Drive
Baltimore, Maryland 21236
410 931-6600
1-800 583-8411
Fax 410 931-6601
Job No. 2004-0027

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
PRINCE GEORGE'S COUNTY, MARYLAND

(General Information Plan)

Van Dusen Road at Contee Road

REVISIONS	
Scale: N/A	DWG. 2 of 2
APPROVED:	10/26/05
DESIGNED: F. Hoeckel October 12, 2005	CONTRACTOR NO.
DRAWN: F. Hoeckel October 12, 2005	
CHECKED:	LOCATION NO. L61271 / JOB NO.
APPROVED:	FILE NO.



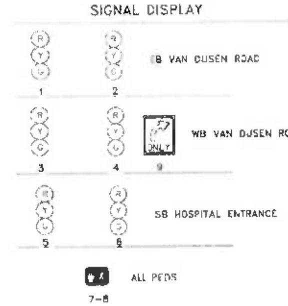
LOOP WIRING

P32		P35	
CHANNEL	Ø/LOOP	CHANNEL	Ø/LOOP
1	Ø2a	1	not used
2	Ø4a	2	not used
3	Ø6a	3	5Øa/Aux3
4	not used	4	Ø4b / Aux4

CONSTRUCTION NOTES

A. INSTALL BASE-MOUNTED CABINET AND CONTROLLER, METER SOCKET, DISCONNECT SWITCH AND ALL THE NECESSARY EQUIPMENT FOR AN UNDERGROUND ELECTRICAL AND TELEPHONE SERVICE. (NOTE: 1PC-4" PVC ELBOW)
B. INSTALL 30' STEEL STRAIN POLE, PEDESTRIAN SIGNAL HEAD PUSHBUTTON AND SIGN. (NOTE: 1PC-4" PVC ELBOW)
C. INSTALL 30' STEEL STRAIN POLE. (NOTE: 1PC-3" PVC ELBOW)
D. INSTALL 30' STEEL STRAIN POLE. (NOTE: 1PC-3" PVC ELBOW)
E. INSTALL 30' STEEL STRAIN POLE, PEDESTRIAN SIGNAL HEAD, PUSHBUTTON AND SIGN. (NOTE: 1PC-3" PVC ELBOW)
F. INSTALL SPANWIRE, SIGNAL HEADS AND ALL NECESSARY WIRING.
G. INSTALL HANDBOX.
H. INSTALL SPLICEBOX.
J. INSTALL 1" SLEEVE FOR DETECTOR FOR LEAD-IN. (ONE PER LOOP)
K. INSTALL 6' X 6' VEHICLE LOOP DETECTOR. (3 TURNS)
L. INSTALL 6' X 30' QUADRUPOLE VEHICLE LOOP DETECTOR. (2-4-2 TURNS)
M. INSTALL 2" PVC CONDUIT-TRENCHED.
N. BG&E UNDERGROUND ELECTRICAL SERVICE.
O. INSTALL 4" PVC CONDUIT-TRENCHED.
P. INSTALL SIDEWALK AS NEEDED
Q. INSTALL 3" PVC CONDUIT-TRENCHED.

SIGNAL DISPLAY

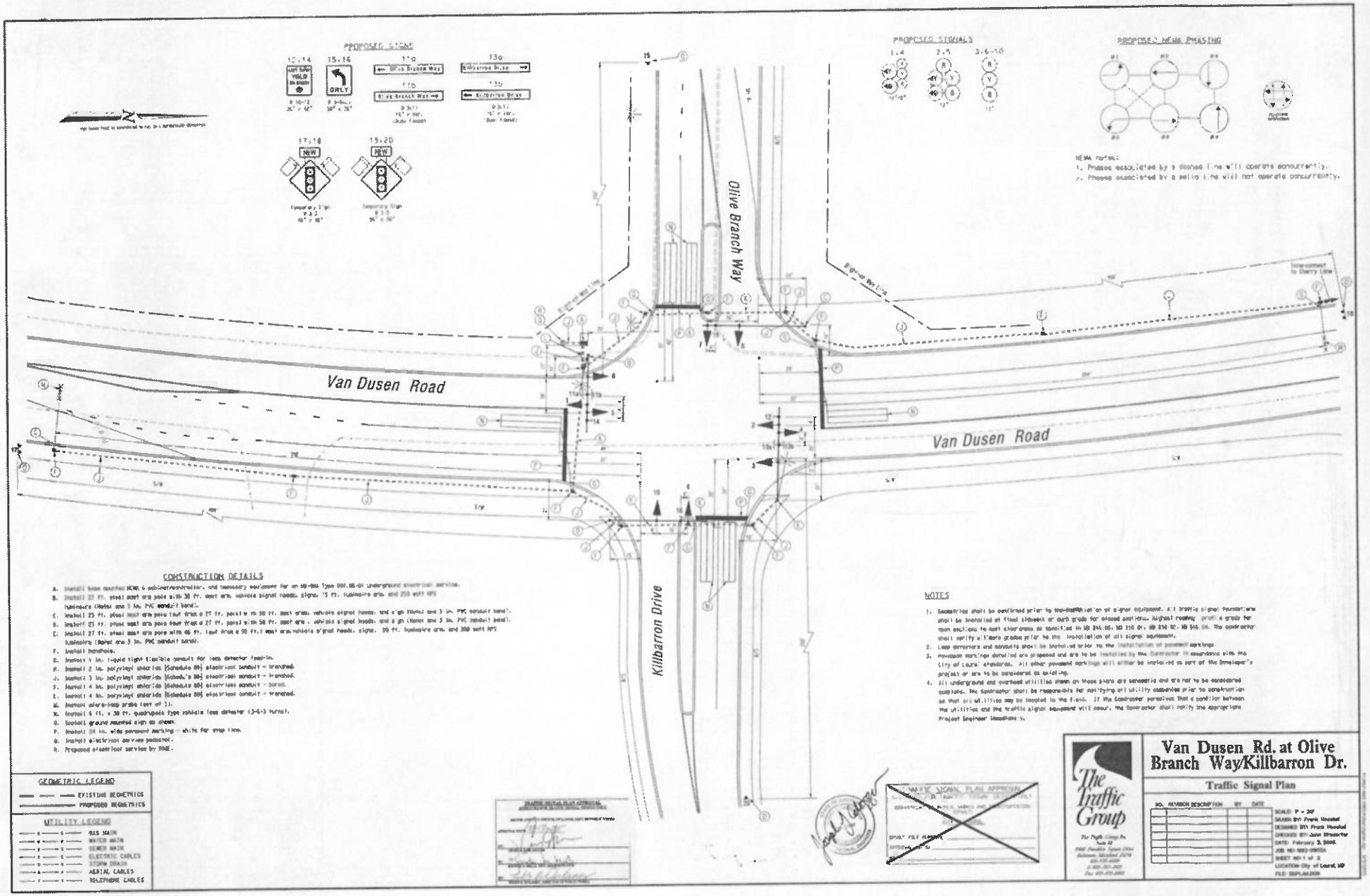


REVISIONS

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
PRINCE GEORGE'S COUNTY, MARYLAND

VAN DUSEN ROAD AND LAUREL HOSPITAL ENTRANCE

SCALE: 1"=20' DWG. OF
APPROVED
DESIGNED S. BROWN 03 31 95
DRAWN S. BROWN 03 31 95
CHECKED 12/12/95
APPROVED 12/13/95
CONTRACTOR NO. S96-028
LOCATION NO. JOB NO.
6'158 895150
FILE NO.


PROPOSED SIGNS
PROPOSED SIGNALS
PROPOSED NEMA PHASING
Olive Branch Way
Van Dusen Road
Van Dusen Road
Killbarron Drive
CONSTRUCTION DETAILS
NOTES
GEOMETRIC LEGEND
EXISTING GEOMETRICS
PROPOSED GEOMETRICS
UTILITY LEGEND
GAS MAIN
WATER MAIN
SEWER MAIN
ELECTRIC CABLES
STORM DRAIN
AERIAL CABLES
TELEPHONE CABLES
The Traffic Group
Van Dusen Rd. at Olive Branch Way/Killbarron Dr.
Traffic Signal Plan

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of Van Dusen Road and Olive Branch Way/Killbarron Drive in the City of Laurel, Maryland. Van Dusen Road is maintained by the State Highway Administration (SHA) and runs in a north-south direction.

II. INTERSECTION OPERATION

The intersection is to operate as a NEMA two phase full traffic actuated mode. There will be no pedestrian movements left turn phases for both the north and southbound movements of Van Dusen Road. The Van Dusen Road through movements will operate concurrently. The Olive Branch Way/Killbarron Drive through movements will operate concurrently.

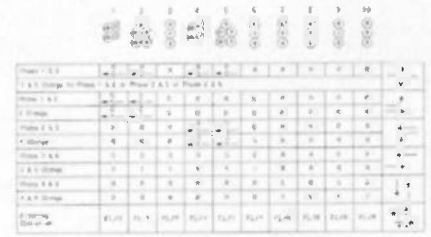
An aerial phase, full traffic actuated, solid state digital controller with volume/density and harness, battery back up, and 24 hour tamper-proof mounted loop delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

EQUIPMENT LIST

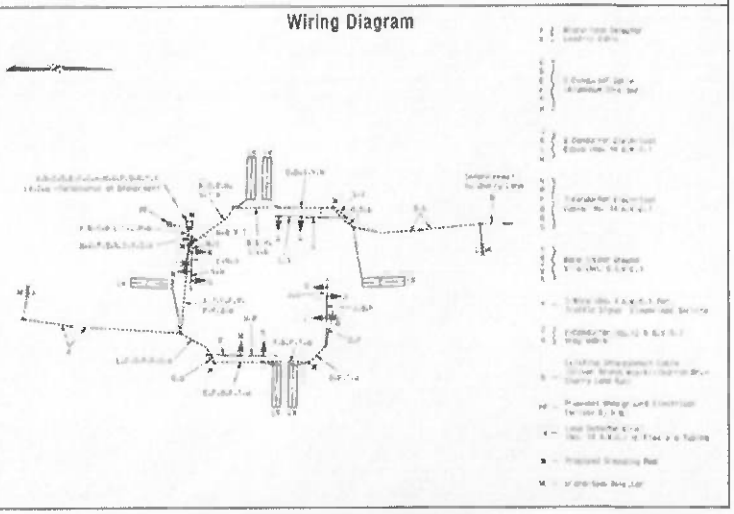
Equipment to be furnished and/or installed by the Contractor.
All equipment in the list mentioned hereby was submitted to the City of Laurel for approval prior to ordering or installation.

Quantity	Units	MD State Specification Section	Description
1	EA	638	37 ft aluminum arm pole with a 30 ft mast arm
1	EA	638	27 ft aluminum arm pole with a 20 ft mast arm
1	EA	646	Model 170 NEMA traffic signal controller, base mounted cabinet, and two (2) Four channel loop detector amplifiers (Note: Controller and cabinet shall be purchased from Econolite and delivered to the City of Laurel for setup and testing. Contact Mr. Ted Sweeney (301) 725-5490).
6	EA	804	12 in. one way three section R.Y.G. aluminum black housed traffic signal case with mast arm mounting hardware and tunnel visors
2	EA	804	12 in. one way ped. section PEDESTRIAN aluminum black housed traffic signal case with mast arm mounting hardware and tunnel visors
2	EA	804	12 in./8 in. one way five section RED in YARD/BLACK & RED/YELLOW combination three round traffic signal head with mast arm mounting hardware and tunnel visors
2	EA	805	36 in. x 42 in. R 30 in. sign with mast arm mounting hardware
2	EA	805	48 in x 48 in W 3.5 "NEW" sign for ground mounting
2	EA	805	24 in x 30 in. W 3-2 "NEW" sign for ground mounting
2	EA	805	18 in. x Var D 3-4 Westbound sign mast arm mounting
2	EA	805	30 in x 36 in R 3 SALE sign mast arm mounting
2	EA	---	Micro-loop probe test of 2 with 200 ft each in cable
1	EA	806	15 ft luminaire arm
1	EA	806	20 ft luminaire arm
2	EA	806	250 W HPS lamp and luminaire.
Lump Sum	LS	---	Maintenance of traffic
1	EA	---	Mobilization
Lump Sum	LS	---	Test pit excavation
10	EA	---	Handhole
700	LF	816	Conduit for signal/loop detector
2450	LF	816	Loop detector wire No. 14 AWG) encased in flexible tubing
140	LF	816	2-conductor shielded tray cable #14 AWG
100	LF	816	5 conductor shielded cable #14 AWG
1000	LF	816	7 conductor shielded cable #14 AWG)
35	LF	816	3 wire #6 (AWG) electrical cable
70	LF	816	3 wire #6 (AWG) electrical cable
1000	LF	816	Bare copper stranded ground wire #6 (AWG)
1000	LF	816	1 in Rigid Light Duty non-metallic conduit for loop detector wires
4000	LF	816	2 in polyvinyl chloride (Schedule 80) electrical conduit - trenched.
200	LF	816	4 in polyvinyl chloride (Schedule 80) shortened conduit - bored
20	LF	816	4 in. polyvinyl chloride (Schedule 80) encased conduit - trenched
1.5	SY	816	Concrete foundation for traffic signal equipment
5	EA	816	Ground rod #8 diameter x 10 ft length
1	EA	817	Uninterruptible service equipment (800/240 2 one phase, three wire system) for an underground distribution service as per MD SHA Specification 817.05.01
100	LF	956	24 in. wide wet applied Thermoplastic Pavement Marking - white for stop line
30	LF	962	6 in. x 6 in. wood sign support
30	LF	962	4 in x 6 in wood sign support
1	EA	---	Cut, clean, galvanize and cap mast arm/pole
Lump Sum	LS	---	As built for City of Laurel per CADD

Phase Chart



Wiring Diagram



PLANS PREPARED FOR THE CITY OF LAUREL

TRAFFIC SIGNAL PLAN APPROVAL

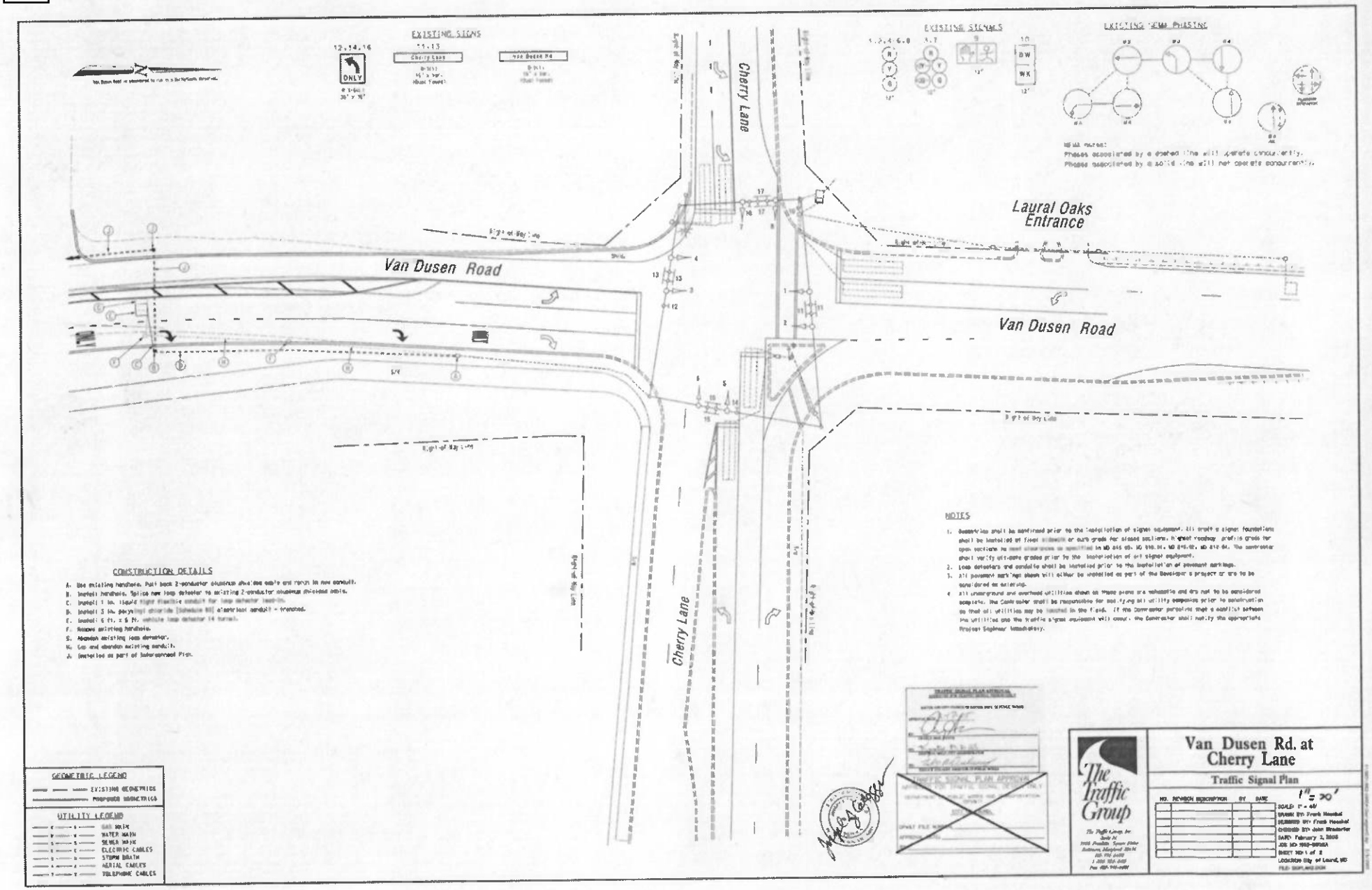
The Traffic Group, Inc.
Suite M
9900 Franklin Square Drive
Baltimore, Maryland 21236
(410) 931-6600
FAX (410) 931-6601

Van Dusen Rd. at Olive Branch Way/Killbarron Dr.

Traffic Signal Plan

NO.	REVISION DESCRIPTION	BY	DATE

SCALE: N/A
DRAWN BY: Frank Hanekat
DESIGNED BY: Frank Hanekat
CHECKED BY: John Streicher
DATE: February 2, 2005
JOB NO: 1602-0002A
SHEET NO: 2 of 2
LOCATION: City of Laurel, MD
FILE: SP4A.DGN


EXISTING SIGNS
EXISTING SIGNALS
EXISTING TEMS PHASING
Van Dusen Road
Cherry Lane
Laural Oaks Entrance
Van Dusen Road
Cherry Lane
CONSTRUCTION DETAILS
NOTES
GEOMETRIC LEGEND
EXISTING GEOMETRICS
PROPOSED GEOMETRICS
UTILITY LEGEND
GAS MAIN
WATER MAIN
SEWER MAIN
ELECTRIC CABLES
STORM DRAIN
AERIAL CABLES
TELEPHONE CABLES
TRAFFIC SIGNAL PLAN APPROVAL
The Traffic Group
Van Dusen Rd. at Cherry Lane
Traffic Signal Plan
1" = 20'

PROJECT DESCRIPTION

I. GENERAL

[illegible]

II. INTERSECTION OPERATION

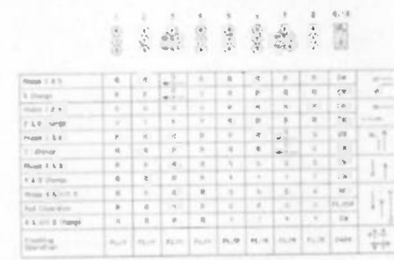
[illegible]

EQUIPMENT LIST

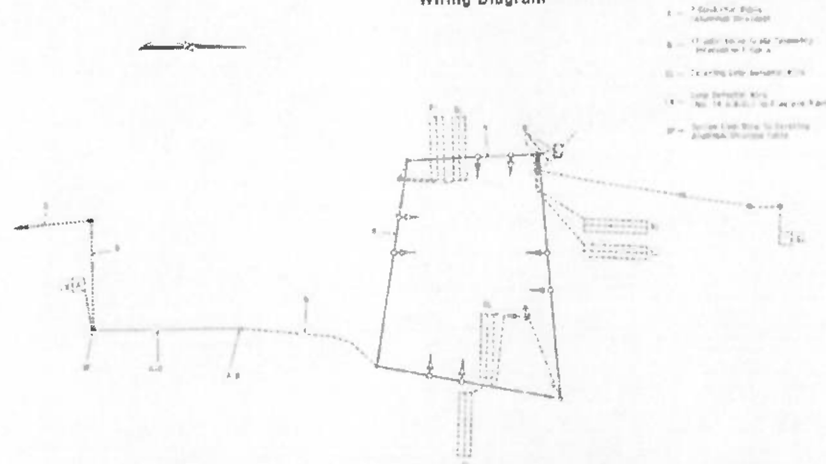
[illegible]

Quantity	Units	Specification Section	Description
Lump Sum	LS	[illegible]	Modification
Lump Sum	LS	[illegible]	Maintenance of traffic
[illegible]	EA	[illegible]	[illegible]
[illegible]	LF	[illegible]	[illegible]
[illegible]	LF	[illegible]	Loop detector wire [illegible]
[illegible]	LF	[illegible]	[illegible]
[illegible]	LF	[illegible]	[illegible]
Lump Sum	LS	—	Removal of existing traffic signal equipment
Lump Sum	LS	—	As built for City of [illegible]

Phase Chart



Wiring Diagram



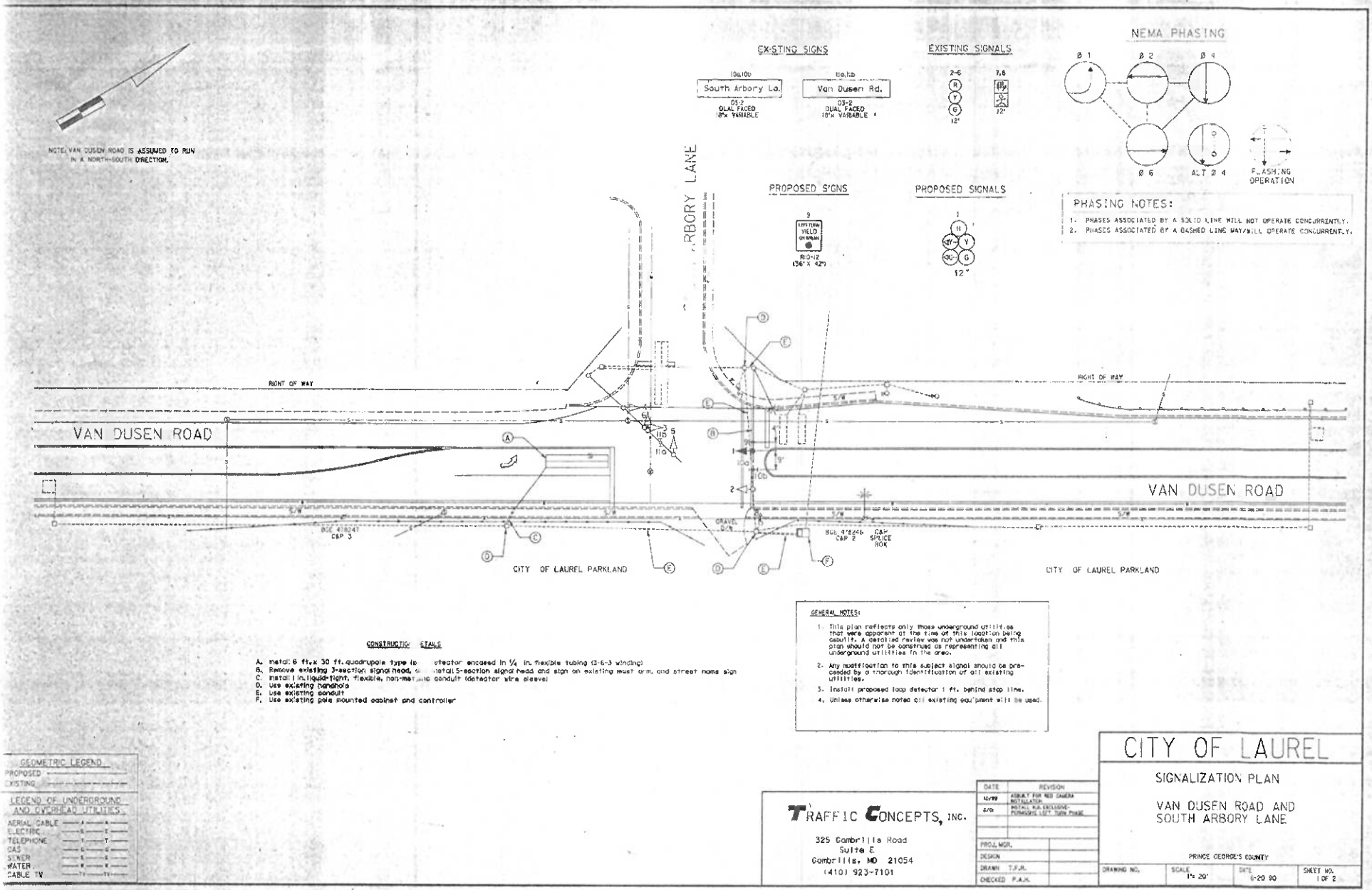
The Traffic Group

Van Dusen Rd. at Cherry Lane

Traffic Signal Plan

NO.	REVISION DESCRIPTION	BY	DATE

SCALE: N/A


NOTE: VAN DUSEN ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.
EXISTING SIGNS
South Arbory Ln.
D3-2
DUAL FACED
18"x VARIABLE
Van Dusen Rd.
D3-2
DUAL FACED
18"x VARIABLE
EXISTING SIGNALS
2-6
7,8
12"
NEMA PHASING
Ø 1
Ø 2
Ø 4
Ø 6
ALT 2 4
FLASHING OPERATION
PROPOSED SIGNS
R10-12
(36" X 42")
PROPOSED SIGNALS
12"
PHASING NOTES:
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE MAY/WILL OPERATE CONCURRENTLY.
ARBORY LANE
RIGHT OF WAY
VAN DUSEN ROAD
VAN DUSEN ROAD
CITY OF LAUREL PARKLAND
CITY OF LAUREL PARKLAND
GRAVEL DRIVE
CONSTRUCTION DETAILS
A. Install 6 ft. x 30 ft. quadrupole type loop detector encased in ¼ in. flexible tubing (3-6-3 winding)
B. Remove existing 3-section signal head, install 5-section signal heads and sign on existing mast arm, and street name sign
C. Install in liquid-tight, flexible, non-metallic conduit (detector wire sleeve)
D. Use existing handhole
E. Use existing conduit
F. Use existing pole mounted cabinet and controller
GENERAL NOTES:
1. This plan reflects only those underground utilities that were apparent at the time of this location being casuilt. A detailed review was not undertaken and this plan should not be construed as representing all underground utilities in the area.
2. Any modification to this subject signal should be preceded by a thorough identification of all existing utilities.
3. Install proposed loop detector 1 ft. behind stop line.
4. Unless otherwise noted all existing equipment will be used.
GEOMETRIC LEGEND
PROPOSED
EXISTING
LEGEND OF UNDERGROUND AND OVERHEAD UTILITIES
AERIAL CABLE
ELECTRIC
TELEPHONE
GAS
SEWER
WATER
CABLE TV
TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite E
Gambrills, MD 21054
(410) 923-7101
DATE REVISION
10/99 ADDAT FOR RED CAMERA INSTALLATION
6/01 INSTALL MUL EXCLUSIVE-PERMISSIVE LEFT TURN PHASE
PROJ. MGR.
DESIGN
DRAWN T.F.R.
CHECKED P.A.K.
CITY OF LAUREL
SIGNALIZATION PLAN
VAN DUSEN ROAD AND SOUTH ARBORY LANE
PRINCE GEORGE'S COUNTY
DRAWING NO.
SCALE 1"= 20'
DATE 6-20 90
SHEET NO. 1 OF 2

NOTE: VAN DUSEN ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF VAN DUSEN ROAD AND SOUTH ARBORY LANE IN PRINCE GEORGE'S COUNTY. VAN DUSEN ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

CONTROLLER OPERATION

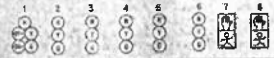
THE EXISTING EIGHT-PHASE, FULLY ACTUATED NEMA CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED. THE INTERSECTION OPERATION WILL BE CHANGED TO PROVIDE AN EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR NORTHBOUND VAN DUSEN ROAD.

EQUIPMENT LIST

• ITEM NO.	QUANTITY	DESCRIPTION
8021	130 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL LOOP DETECTOR
8023	10 LF	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8040	470 LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN ¼ IN. FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	160 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR ALUMINUM SHIELDED
8044	20 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8045	190 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
---	1 EA	FURNISH AND INSTALL 12" ONE-WAY, FIVE-SECTION SIGNAL HEAD MAST ARM MOUNT
---	11 SF	FURNISH AND INSTALL R10-12 SIGN (36" X 42") MAST ARM MOUNT
---	1 EA	REMOVE EXISTING TRAFFIC SIGNAL
---	1 EA	RELOCATE EXISTING OVERHEAD SIGN

• ITEM NO. CORRESPOND TO THE SHA AREAWIDE CONTRACT.

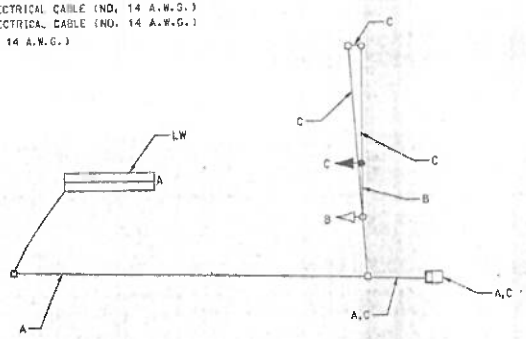
PHASE CHART



PHASE 1 + 5	↑	G	R	R	R	R	DW	DW	
1 + 6 CHANGE	↑	G	I	R	R	R	DW	DW	
PHASE 2 + 6	G	G	G	G	R	R	DW	DW	
2 + 6 CHANGE	Y	Y	Y	Y	R	R	DW	DW	
PHASE 4	R	R	R	R	G	G	DW	DW	
4 CHANGE	R	R	R	R	Y	Y	DW	DW	
PHASE 4 ALT.	R	R	R	R	G	G	WK	WK	
PED. CLEAR	R	R	R	R	G	G	FL/DW	FL/DW	
4 ALT. CHANGE	R	R	R	R	Y	Y	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DK	DK	

WIRE KEY

A 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
B 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
C 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
LW LOOP WIRE (NO. 14 A.W.G.)



TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite E
Gambrills, MD 21054
(410) 923-7101

DATE	REVISION
10/99	ADD KIT FOR RED CAMERA INSTALLATION
6/01	INSTALL M/S EXCLUSIVE-PERMISSIVE LEFT TURN PHASE

PROJ. MGR.
DESIGN
DRAWN T.F.R.
CHECKED P.A.R.

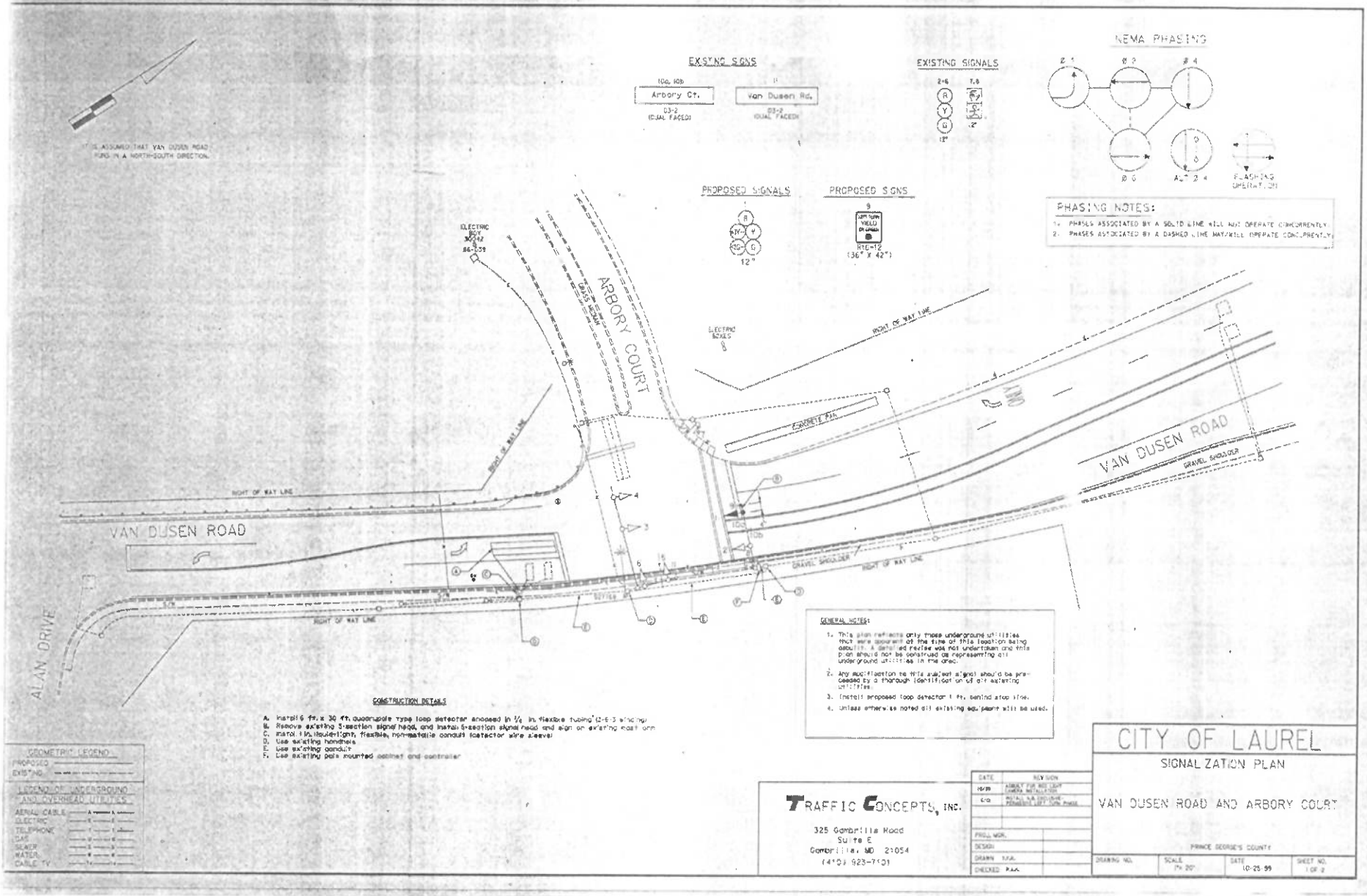
CITY OF LAUREL

GENERAL NFORMATION SHEET

VAN DUSEN ROAD AND SOUTH ARBORY LANE

PRINCE GEORGE'S COUNTY

DRAWING NO.	SCALE	DATE	SHEET NO.
	1" = 20'	6-20-90	2 OF 2


IT IS ASSUMED THAT VAN DUSEN ROAD RUNS IN A NORTH-SOUTH DIRECTION.
EXISTING SIGNS
Arbory Ct.
Van Dusen Rd.
D3-2 (EQUAL FACES)
EXISTING SIGNALS
NEMA PHASING
PROPOSED SIGNALS
PROPOSED SIGNS
R1-2 (36" X 42")
PHASING NOTES:
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.
2. PHASES ASSOCIATED BY A DASHED LINE MAY/WILL OPERATE CONCURRENTLY.
ELECTRIC BOX 30"x42"
ARBORY COURT
VAN DUSEN ROAD
ALAN DRIVE
RIGHT OF WAY LINE
GRAVEL SHOULDER
CONCRETE PAD
CONSTRUCTION DETAILS
A. Install 6 ft. x 30 ft. quadrupole type loop detector encased in ½ in. flexible tubing (2-6-3 winding)
B. Remove existing 3-section signal head, and install 5-section signal head and sign on existing mast arm
C. Install 1 in. (rigid-light, flexible, non-metallic conduit (detector wire sleeve)
D. Use existing handhole
E. Use existing conduit
F. Use existing pole mounted cabinet and controller
GENERAL NOTES:
1. This plan reflects only those underground utilities that were apparent at the time of this location being made. A detailed review was not undertaken and this plan should not be construed as representing all underground utilities in the area.
2. Any modification to this pavement signal should be preceded by a thorough identification of all existing utilities.
3. Install proposed loop detector 1 ft. behind stop line.
4. Unless otherwise noted all existing equipment will be used.
GEOMETRIC LEGEND
PROPOSED
EXISTING
LEGEND OF UNDERGROUND AND OVERHEAD UTILITIES
AERIAL CABLE
ELECTRIC
TELEPHONE
GAS
SEWER
WATER
CABLE TV
TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite E
Gambrills, MD 21054
(410) 923-7101
DATE
REVISION
INITIAL SUBMISSION
PROJ. MGR.
DESIGN
DRAWN
CHECKED
CITY OF LAUREL
SIGNALIZATION PLAN
VAN DUSEN ROAD AND ARBORY COURT
PRINCE GEORGE'S COUNTY
DRAWING NO.
SCALE 1"= 20'
DATE 10-25-99
SHEET NO. 1 OF 2

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF VAN DUSEN ROAD AND ARBORY COURT IN PRINCE GEORGE'S COUNTY. VAN DUSEN ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

CONTROLLER OPERATION

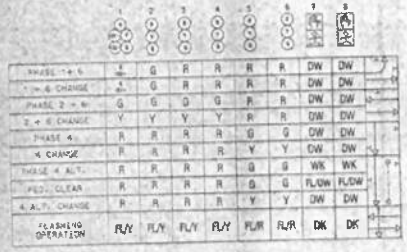
THE EXISTING EIGHT-PHASE, FULLY ACTUATED NEMA CONTROLLER HOUSED IN A POLE MOUNTED CABINET WILL BE USED. THE INTERSECTION OPERATION WILL BE CHANGED TO PROVIDE AN EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR NORTHBOUND VAN DUSEN ROAD.

EQUIPMENT LIST

* ITEM NO.	QUANTITY	DESCRIPTION
8021	125 LF	FURNISH AND INSTALL SAW CUT FOR SIGNAL LOOP DETECTOR
8023	10 LF	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8040	425 LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN ¼ IN. FLEXIBLE TUBING (NO. 14 A.W.G.)
8041	160 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR ALUMINUM SHIELDED
8044	20 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8045	70 LF	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
---	1 EA	FURNISH AND INSTALL 12" ONE-WAY, FIVE-SECTION SIGNAL HEAD MAST ARM MOUNT
---	11 SF	FURNISH AND INSTALL R10-12 SIGN (36" X 42") MAST ARM MOUNT
---	1 EA	FURNISH AND INSTALL LOOP DETECTOR AMPLIFIER

* ITEM NO. CORRESPOND TO THE SHA AREAWIDE CONTRACT.

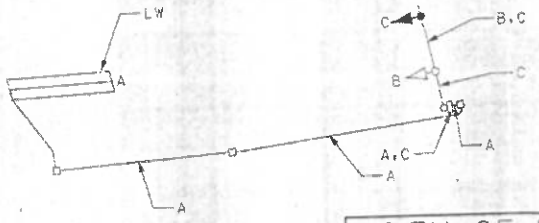
PHASE CHART



	1	2	3	4	5	6	7	8
PHASE 1 → 6	↓	G	R	R	R	R	DW	DW
1 → 6 CHANGE	↓	G	R	R	R	R	DW	DW
PHASE 2 → 6	G	G	G	G	R	R	DW	DW
2 → 6 CHANGE	Y	Y	Y	Y	R	R	DW	DW
PHASE 4 →	R	R	R	R	G	G	DW	DW
4 CHANGE	R	R	R	R	Y	Y	DW	DW
PHASE 4 ALT.	R	R	R	R	G	G	WK	WK
PED. CLEAR	R	R	R	R	G	G	FLDW	FLDW
4 ALT. CHANGE	R	R	R	R	Y	Y	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLR	FLR	DK	DK

WIRE KEY

A 2-CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED)
B 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
C 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
LW LOOP WIRE (NO. 14 A.W.G.)



TRAFFIC CONCEPTS, INC.
325 Gambrills Road
Suite E
Gambrills, MD 21054
(410) 923-7101

DATE	REVISION
10/99	ADDED FOR RED LIGHT CAMERA INSTALLATION
4/00	INSTALL NA ENCLOSURE REVISED LEFT TURN PHASE

PROJ. MGR.	
DESIGN	
DRAWN T.F.A.	
CHECKED P.A.A.	

CITY OF LAUREL

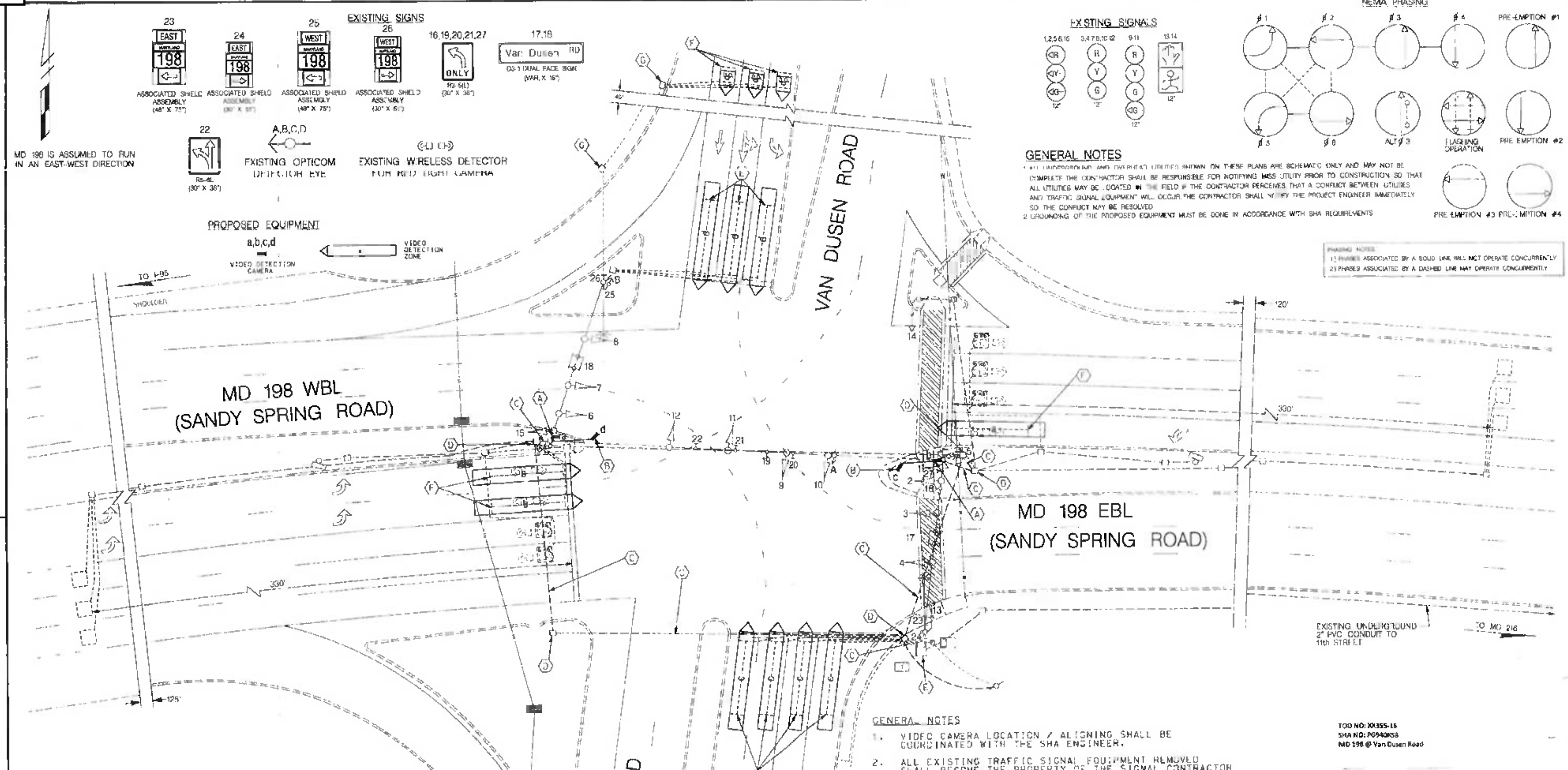
GENERAL INFORMATION SHEET

VAN DUSEN ROAD AND ARBORY COURT

PRINCE GEORGE'S COUNTY

DRAWING NO.	SCALE	DATE	SHEET NO.
	1" = 20'	9-25-99	2 OF 2

151



GENERAL NOTES

1. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND TRAFFIC SIGNAL EQUIPMENT WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THE CONFLICT MAY BE RESOLVED.
2. GROUNDING OF THE PROPOSED EQUIPMENT MUST BE DONE IN ACCORDANCE WITH SHA REQUIREMENTS.

PHASING NOTES:
1) PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY
2) PHASES ASSOCIATED BY A DASHED LINE MAY OPERATE CONCURRENTLY

CONSTRUCTION DETAILS

A. INSTALL VIDEO DETECTION CAMERA ON EXISTING SIGNAL POLE.
B. INSTALL VIDEO DETECTION CAMERA ON 15' CAMERA ARM ON EXISTING SIGNAL POLE. USE STANDARD MD 818.2C.
C. USE EXISTING CONDUIT.
D. USE EXISTING HANDHOLE.
E. USE EXISTING CONTROLLER CABINET.
F. DISCONNECT AND ABANDON EXISTING LOOP DETECTORS.
G. REMOVE EXISTING HANDHOLE. CAP AND ABANDON EXISTING CONDUIT.

GENERAL NOTES

1. VIDEO CAMERA LOCATION / ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER.
2. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE SIGNAL MODIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE UNUSED CABLES FROM EXISTING HANDHOLES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SIGNAL OPERATION DURING THE COMPLETE CONSTRUCTION PERIOD.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
6. ALL MODIFICATIONS TO THE CONTROLLER CABINET WILL BE DONE BY THE SHA SIGNAL OPERATIONS.

TOD NO: XX355-16
SHA NO: PG940K58
MD 198 @ Van Dusen Road

GEOMETRIC LEGEND
EXISTING
PROPOSED

UTILITY LEGEND
SD — STORM DRAIN
G — GAS MAIN
W — WATER MAIN
S — SEWER MAIN
E — ELECTRIC CABLES
A — AERIAL CABLES
T — TELEPHONE CABLES
F — FIBER OPTIC

APPROVALS

ORIGINAL ON FILE

REVISIONS

SHA
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 198 (SANDY SPRING ROAD) AT VAN DUSEN ROAD

TRAFFIC SIGNAL PLAN

SCALE 1" = 20'
CONTRACT NO. P 224X-375
DESIGNED BY
DRAWN BY M. SCHNEIDER
CHECKED BY
F.A.P. NO.
COUNTY PRINCE GEORGE'S
LOGMILE 160-9802.19
T.M.S. NO. X474
TCD NO.
TS NO. TS-242
DRAWING NO. OF
SHEET NO. 1 OF 2

T3 DESIGN, PC
3927 OLD LEE HWY
SUITE 101-C
FAIRFAX, VA 22030
PHONE: 703-268-6861
www.t3design.us

BY: AMYM

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 198 AND VAN DUSEN ROAD IN PRINCE GEORGE'S COUNTY. EXISTING LOOP DETECTION ON THE SIDE STREETS AND MAIN LINE LEFT TURNS ARE TO BE REPLACED WITH VIDEO DETECTION EQUIPMENT AND RELATED ZONES. LOOP DETECTION ON MD 198 MAIN LINES IS TO REMAIN.

MD 198 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A SIX PHASE FULLY-ACTUATED MODE WITH EXCLUSIVE LEFT TURN PHASES FOR E.B. AND W.B. MD 198 AND SPLIT SIDE STREET PHASING. AN ALTERNATE PEDESTRIAN PHASE EXISTS ACROSS THE EAST LEG OF MD 198 AND PRE-EMPTION PHASING FOR ALL APPROACHES.

PROJECT CONTACTS

CONTACT PERSONS FOR SHA DISTRICT 3:

MS. FELECIA MURPHY
ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: 301-513-7318

MR. VERNON STINNETT
ASSISTANT DISTRICT ENGINEER-MAINTENANCE
PHONE: 301-513-7304

MR. VICTOR GRAFTON
UTILITY ENGINEER
PHONE: 301-513-7350

CONTACT PERSONS FOR SHA OFFICE OF TRAFFIC AND SAFETY:

MR. RICHARD DAFF SR.
CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS
410-787-7630

MR. ED RODENHIZER
MANAGER, SIGNAL OPERATIONS
410-787-7650

MS. DARLENE EIDE
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)
PHONE: 410-787-7668

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PHASE 1 AND 5	←G	←G	R	R	←G	←G	R	R	R	R	R	R	DW	DW	←G
1 AND 5 CHANGE TO PHASES 1 AND 6 OR 2 AND 5 OR 2 AND 6															
PHASE 1 AND 6	←G	←G	G	G	←R	←R	R	R	R	R	R	R	DW	DW	←G
1 AND 6 CHANGE	←Y	←Y	G	G	←R	←R	R	R	R	R	R	R	DW	DW	←Y
PHASE 2 AND 5	←R	←R	R	R	←G	←G	G	G	R	R	R	R	DW	DW	←R
2 AND 5 CHANGE	←R	←R	R	R	←Y	←Y	G	G	R	R	R	R	DW	DW	←R
PHASE 2 AND 6	←R	←R	G	G	←R	←R	G	G	R	R	R	R	DW	DW	←R
2 AND 6 CHANGE	←R	←R	Y	Y	←R	←R	Y	Y	R	R	R	R	DW	DW	←R
PHASE 3	←R	←R	R	R	←R	←R	R	R	G ←G	G	R	R	DW	DW	←R
3 CHANGE	←R	←R	R	R	←R	←R	R	R	Y	Y	R	R	DW	DW	←R
PHASE 3 ALT	←R	←R	R	R	←R	←R	R	R	G ←G	G	R	R	WK	WK	←R
PED CLEARANCE	←R	←R	R	R	←R	←R	R	R	G ←G	G	R	R	FL/DW	FL/DW	←R
PHASE 3 ALT	←R	←R	R	R	←R	←R	R	R	Y	Y	R	R	DW	DW	←R
PHASE 4	←R	←R	R	R	←R	←R	R	R	R	R	G ←G	G	DW	DW	←R
4 CHANGE	←R	←R	R	R	←R	←R	R	R	R	R	Y	Y	DW	DW	←R
PREMPTION 1	←R	←R	R	R	←R	←R	R	R	G ←G	G	R	R	DW	DW	←R
PREMPTION 2	←R	←R	R	R	←R	←R	R	R	R	R	G ←G	G	DW	DW	←R
PREMPTION 3	←R	←R	R	R	←G	←G	G	G	R	R	R	R	DW	DW	←R
PREMPTION 4	←G	←G	G	G	←R	←R	R	R	R	R	R	R	DW	DW	←G
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	FL/R

T3 DESIGN, P.C.
3027 OLD LEE HWY
SUITE 101-C
FAIRFAX, VA 22030
PHONE 703-385-5861
www.t3design.us

BY: AMYM

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

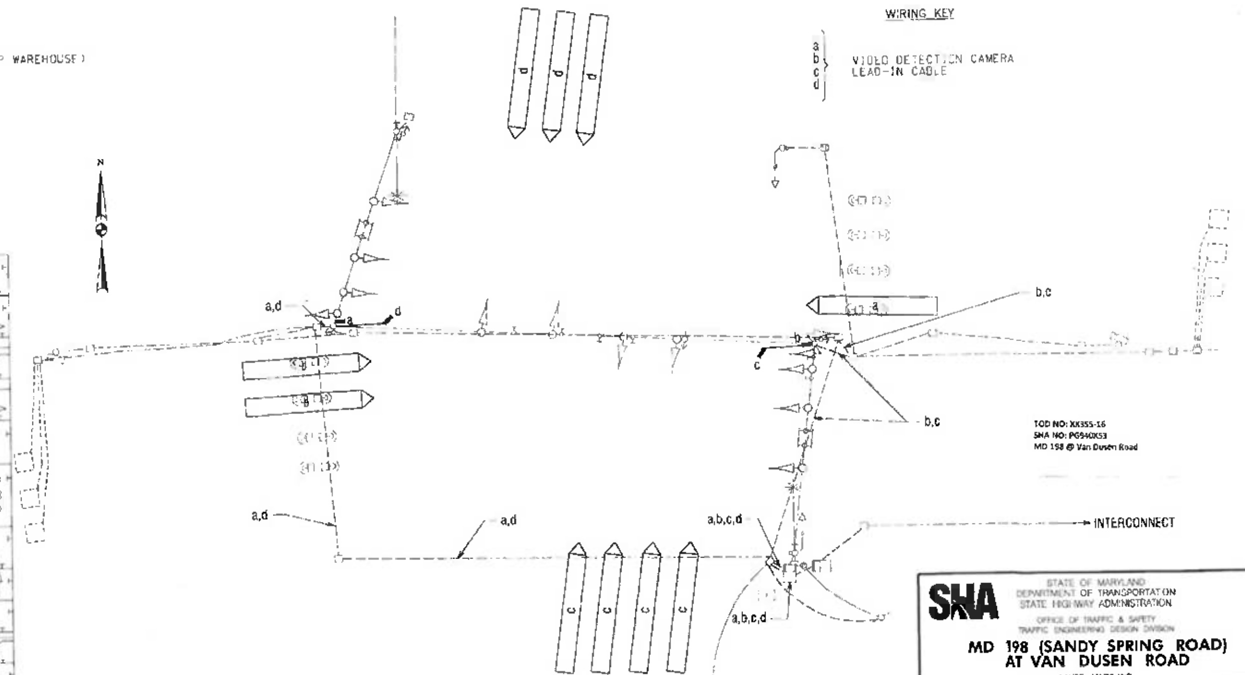
ITEM CODE	QTY	UNITS	DESCRIPTION
9086	1	EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM CODE	QTY	UNITS	DESCRIPTION
1003	1	EA	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
8003	2	EA	CLAMP ON VIDEO CAMERA ARM
8006	1	EA	REMOVE & DISPOSE OF MATERIAL & EQUIPMENT PER ASSIGNMENT
8007	4	EA	VIDEO DETECTION CAMERA & CABLE

C. ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

WIRING DIAGRAM



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 198 (SANDY SPRING ROAD) AT VAN DUSEN ROAD

LAUREL, MARYLAND

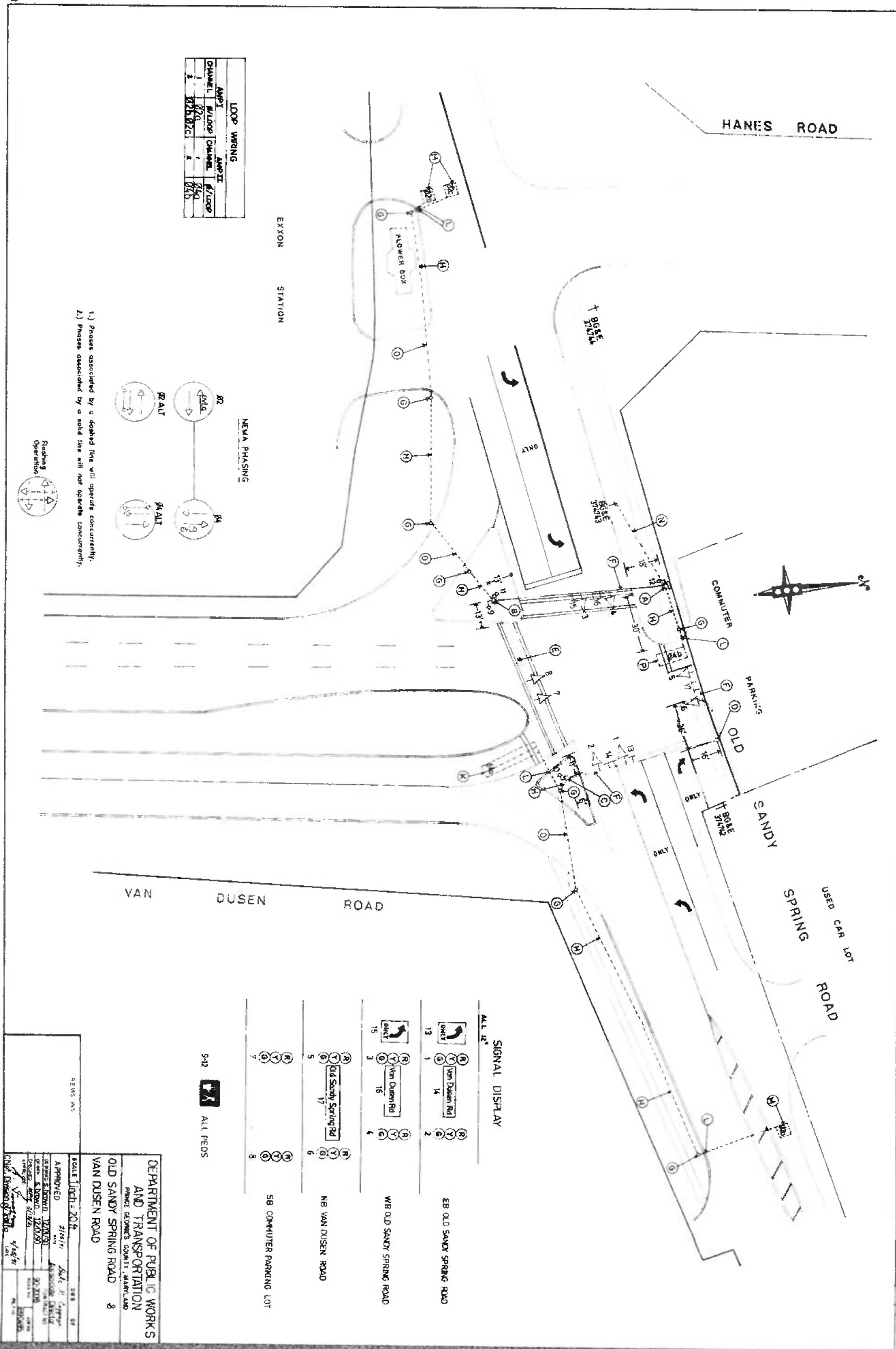
GENERAL INFORMATION SHEET

SCALE 1"=20' DATE 11/1/19 CONTRACT NO. XX3565108

DESIGNED BY S. WILKENING
DRAWN BY D. SCHEEL
CHECKED BY A. NORRIS
F.A.P. NO

COUNTY PRINCE GEORGE'S
LOGMILE 160:9802.19
T.I.M.S. NO K474
TOD NO

TS NO TS 2421 DRAWING NO OF SHEET NO 2 OF 2


HANES ROAD
EXXON STATION
FLOWER BOX
LOOP WIRING
NEMA PHASING
Flashing Operation
1.) Phases associated by a dashed line will operate concurrently.
2.) Phases associated by a solid line will not operate concurrently.
COMMUTER PARKING
OLD SANDY SPRING ROAD
USED CAR LOT
VAN DUSEN ROAD
ONLY
BG&E
SIGNAL DISPLAY
ALL 12"
Van Dusen Rd
Old Sandy Spring Rd
ALL PEDS
EB OLD SANDY SPRING ROAD
WB OLD SANDY SPRING ROAD
NB VAN DUSEN ROAD
SB COMMUTER PARKING LOT
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
PRINCE GEORGE'S COUNTY, MARYLAND
OLD SANDY SPRING ROAD
VAN DUSEN ROAD
APPROVED
Chief, Division of Traffic

District Department of Transportation

DDOT Guidelines on Vertical Traffic Calming Implementation

INTRODUCTION

The purpose of this memo is to detail the criteria used to evaluate implementation of vertical traffic calming infrastructure on roadways within the District. Vertical traffic calming devices including speed humps, speed tables, and raised crosswalks are typically used to maintain travel speeds at or below the posted speed limit. These devices are most widely applied along local and collector neighborhood/residential streets but may be applied to certain minor arterials in unique circumstances, per these guidelines. Vertical traffic calming devices shall not be placed on roads classified as Principal Arterials or higher. **The criteria detailed in this document supersedes all previous DDOT guidance on vertical traffic calming, including *DDOT Speed Hump Request Procedures and Engineering Guidelines* (2010) and *DDOT Traffic Calming Assessment Application* (2012). The criteria and applicability for other non-vertical traffic calming remains unchanged.**

Generally, vertical traffic calming devices can result in both positive and negative impacts to the transportation network. Implementation of these devices can help maintain travel speeds at or below the posted speed limit and help manage aggressive driving behavior. The United States Federal Highway Administration's (FHWA) Traffic Calming ePrimer states that "*speed effects of a single or series of speed humps are greater than for any other traffic calming measure with the exception of route diversions that eliminate a particular traffic movement.*" However, in some cases they can increase emergency response time, and may lead to an increase in noise or physical vibration in cases where trucks and transit vehicles are frequent. Another common concern with vertical traffic calming is the potential for traffic diversion to adjacent streets. However, FHWA's Traffic Calming ePrimer states "*As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed*." Given the benefits identified by FHWA, and the relatively minor and manageable drawbacks, speed humps and similar vertical traffic calming measures shall be the preferred method for speed-related neighborhood traffic calming in the District, when feasible.

Implementation of vertical traffic calming is considered following a Traffic Safety Investigation (TSI) request from a resident. Any requests for vertical traffic calming that are received outside of the TSI process will be denied with instructions for the requester to resubmit the request via the TSI process. When considering vertical traffic calming requests, DDOT reviews whether certain eligibility and feasibility criteria are met for the roadway in question. Satisfaction of all these criteria indicates that a street is eligible for speed hump installation. Following a determination of eligibility, a set of design criteria is provided that shall be followed for all vertical traffic calming installations. Exceptions to these eligibility and feasibility criteria require written approval of Traffic Safety Branch Manager prior to installation. DDOT may also consider vertical traffic calming as part of other on-going projects with or without a corresponding TSI.

ELIGBILITY CRITERIA

The following criteria must be met for a street to be eligible for vertical traffic calming installation.

Roadway Classification, Traffic Volume and Speed

Local Roads

Speed humps and/or raised crosswalks may be installed on streets classified as local roads with predominantly residential land uses, provided that all other eligibility and design criteria are met. While DDOT may choose to collect traffic data on a case-by-case basis, it is not a requirement for implementation of vertical traffic calming devices on local roads.

Collector Roads

Installation of speed tables and/or raised crosswalks on collectors with ADT (Average Daily Traffic) less than 5,000 vehicles per day can be considered following the collection of volume and speed data. Speed data should be evaluated in the context of Vision Zero based on the known dangers of increased travel speeds on safety, and particularly the safety of vulnerable users as the risk of fatality or serious injury increases exponentially with vehicle travel speed. Engineering judgement shall govern the final decision in all cases.

Installation of raised crosswalks can be considered on collectors with ADT between 5,000 and 7,500 vehicles per day in unique circumstances following an engineering assessment. Vertical traffic calming devices shall not be installed on collectors with ADT higher than 7,500 vehicles per day.

Other Classifications

In general, for speed management on minor arterials or roads with higher classifications, alternative countermeasures such as Automated Traffic Enforcement (ATE), Driver Feedback Signs (DFB), flashing speed limit signs, as well as corridor-level treatments including road diet projects are preferred and should be considered before vertical traffic calming. Additional proven traffic control devices to specifically address pedestrian crossing safety issues on arterial that can be considered include but are not limited to flashing pedestrian signs, Rectangular Rapid Flashing Beacons (RRFB), and depending on deployment criteria and availability of funding and resources, High-Intensity Activated CrossWalK (HAWK).

Vertical traffic calming devices shall not be placed on roads classified as minor arterials with ADT higher than 7,500 vehicles per day or on higher classification roads. Speed tables and/or raised crosswalks may be considered on minor arterials with ADT lower than 5,000 vehicles per day, following an engineering assessment. Additionally, installation of raised crosswalks can be considered on minor arterials with ADT between 5,000 and 7,500 vehicles per day in unique circumstances following an engineering assessment with special considerations given to proximity to schools and higher concentration of vulnerable road users at uncontrolled crossings along these arterials.

The functional classification of streets in the District can be found in the 2016 Functional Classification Map:

https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/FunctionalClass_2016.pdf

The approximate ADT of streets in the District can be found in the 2018 Traffic Volume Map:

https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/TrafficVolumes_2018.pdf

Roadway Grade

Vertical traffic calming shall not be installed on roadways where the grade exceeds eight percent (8%). Roadway grade can be determined by field survey when collecting existing site conditions or can be estimated using Google Earth. If grades measured using Google Earth are within one percent (1%) of this threshold, a field survey using an inclinometer shall be performed to confirm the roadway grade.

Roadway Speed Limit

Vertical traffic calming shall not be installed on roads where the posted speed limit is greater than 30 miles per hour. Where no speed limit is posted and on all local roads, the default speed limit is assumed to be 20 miles per hour.

Emergency Access Route

Vertical traffic calming shall not be installed on any roadway that serves as a primary route for emergency vehicles, such as the main approaches to hospitals or fire stations.

Truck or Transit Route

Speed humps shall not be installed on streets that are designated as transit or truck routes. Consideration should be given to installation of speed tables and/or raised crosswalks if vertical traffic calming is desired on such roadways, if heavy vehicle (i.e., trucks and buses) percentage does not exceed 5%. Determination of heavy vehicle percentage along higher-volume collectors should be made based on vehicle classification counts.

A map of WMATA transit routes can be found here:
https://www.wmata.com/schedules/maps/upload/WEB_WMA_MAG_DC_21x34_210305.pdf

A map of DDOT-designated truck routes can be found here:
https://ddot.dc.gov/sites/default/files/dc/sites/ddot/service_content/attachments/DC%20Truck%20Map%20Brochure_12.10.20_web.pdf

DESIGN CRITERIA

If a street is found to be eligible for vertical traffic calming installation, the following design specifications should be used to determine the exact location of vertical traffic calming devices in the field.

- Devices shall be placed in locations where drivers have adequate sight distance to see vertical deflection on the roadway surface, preferably from a distance of at least 250 feet on uninterrupted segments of road for drivers traveling at the design speed;
- Placement of devices must avoid conflicts with other transportation and utility infrastructure;
- Devices should be located near a streetlight to ensure nighttime illumination;
- Devices shall be installed at least 200 feet apart but not greater than 500 feet apart on road segments bounded by two intersections;
- Devices shall be placed at least 5 feet from a driveway, and 20 feet from an alley;
- Devices should be placed at least 150' from STOP or YIELD-controlled intersection approaches. However, where other constraints exist (e.g., short block spacing or presence of driveways) a distance of at least 100' may be used provided that proper spacing and placement of warning signs can be maintained;
- Devices should be placed at least 250’ from a traffic signal (shorter spacing may be considered on a case-by-case basis);
- Devices should NOT be installed on horizontal or vertical curves if avoidable. If placement on a curve is unavoidable, advanced warning signs and markings shall be designed to provide satisfactory notice to drivers;
- Devices shall NOT be installed in the path of a pedestrian crossing or curb ramp, unless the device installed is a raised crosswalk;
- Devices shall NOT be installed over manholes or water valves;
- Devices shall NOT be installed adjacent to fire hydrants;
- Devices installed near drainage inlets should be installed on the downslope side of the inlet as to not impact drainage flow; and
- Devices may be installed on concrete roadways using either asphalt or concrete construction.

If it is determined during design that one or more of the above criteria would be violated, the Traffic Safety Branch Manager shall make a final determination on whether it is still feasible and safe to install vertical traffic calming devices and where the devices shall be installed. Locations of vertical traffic calming devices proposed under a Safe Routes to School assessment shall comply with all design criteria.

Raised Crosswalks

Additional design criteria are required for the installation of raised crosswalks, as outlined below. Raised crosswalks installed at an intersection shall require a full engineering design plan that is designed by a licensed professional engineer.

- Raised Crosswalks, including their flares or pitch, should not be installed in conflict with water, sewer, gas, telecom, Pepco, or DDOT-owned signal/streetlight manholes;
- Raised Crosswalks shall not be installed such that the flares extend into any conflicting travel lanes when installed at intersections;

- Raised Crosswalks shall not be installed at intersections such that any relocation of the stop bar that may be required to install the raised crosswalk violates minimum intersection sight distances. Raised crosswalks are most preferred at uncontrolled and/or midblock crossings, where vehicular traffic flow is not controlled by a traffic control device such as a stop sign or a traffic light;
- Raised Crosswalks shall not be installed if proper alignment of ADA ramps with the proposed crosswalk cannot be maintained; and
- Raised Crosswalks shall not be installed such that they will impact drainage flow.

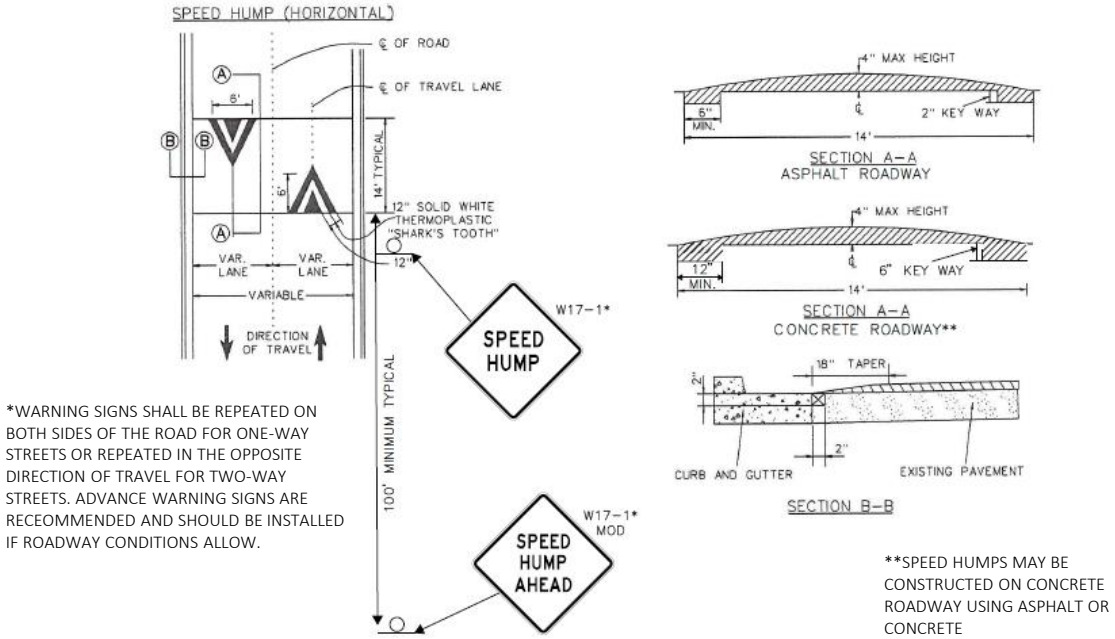
EXCEPTIONS

Any exceptions to the guidelines outlined in this document shall require written approval from the Traffic Safety Branch Manager of the Traffic Engineering and Safety Division.

DESIGN STANDARDS

Design specifications for vertical traffic calming devices and the associated warning signs, as installed by DDOT, are provided in the following sections.

Speed Hump Design Specifications

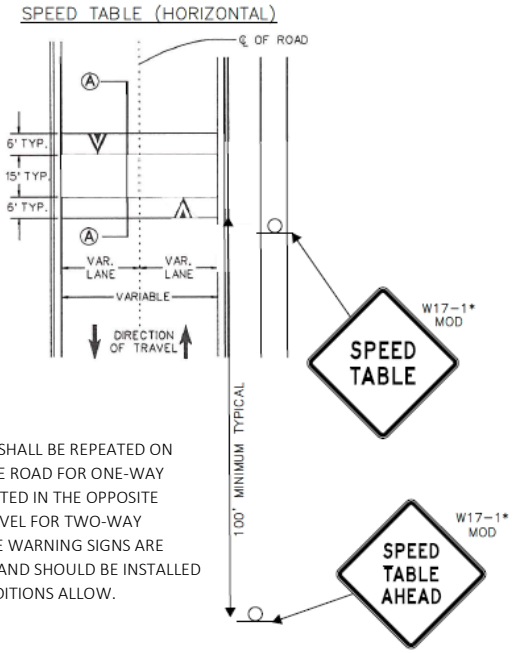


*WARNING SIGNS SHALL BE REPEATED ON BOTH SIDES OF THE ROAD FOR ONE-WAY STREETS OR REPEATED IN THE OPPOSITE DIRECTION OF TRAVEL FOR TWO-WAY STREETS. ADVANCE WARNING SIGNS ARE RECEOMMENDED AND SHOULD BE INSTALLED IF ROADWAY CONDITIONS ALLOW.

**SPEED HUMPS MAY BE CONSTRUCTED ON CONCRETE ROADWAY USING ASPHALT OR CONCRETE

NOTES:
TYPICALLY, A SPEED HUMP IS 14 FEET LONG BUT CAN BE BETWEEN 10 FEET AND 14 FEET IN LENGTH, AND HIEGHT CAN BE BETWEEN 3 INCHES AND 4 INCHES. TYPICAL HEIGHT IS 4 INCHES.

Speed Table Design Specifications



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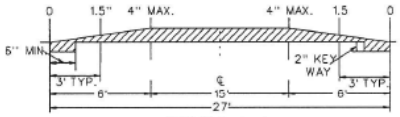
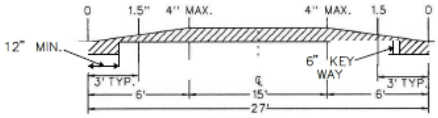


SECTION A–A
ASPHALT ROADWAY



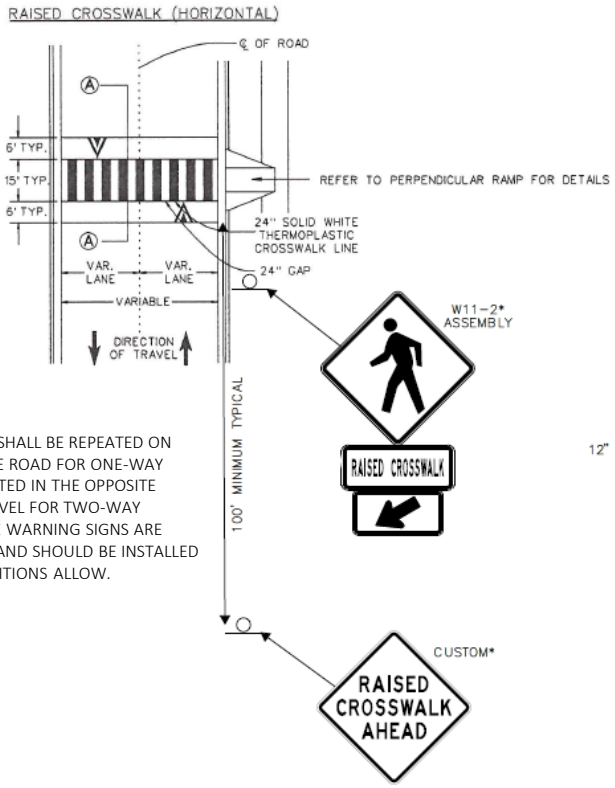
SECTION A–A
CONCRETE ROADWAY**

**SPEED TABLES MAY BE CONSTRUCTED ON CONCRETE ROADWAY USING ASPHALT OR CONCRETE

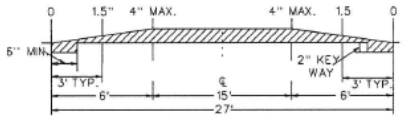
NOTES:

TYPICALLY, A SPEED TABLE IS 27 FEET LONG BUT CAN BE BETWEEN 22 FEET AND 27FEET IN LENGTH. HIEGHT CAN BE BETWEEN 3 INCHES AND 4 INCHES. TYPICAL HEIGHT IS 4 INCHES.

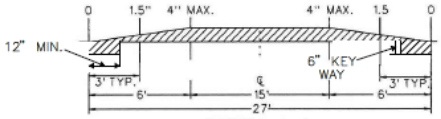
Raised Crosswalk Design Specifications



*WARNING SIGNS SHALL BE REPEATED ON BOTH SIDES OF THE ROAD FOR ONE-WAY STREETS OR REPEATED IN THE OPPOSITE DIRECTION OF TRAVEL FOR TWO-WAY STREETS. ADVANCE WARNING SIGNS ARE RECEOMMENDED AND SHOULD BE INSTALLED IF ROADWAYCONDITIONS ALLOW.



SECTION A–A
ASPHALT ROADWAY



SECTION A–A
CONCRETE ROADWAY**

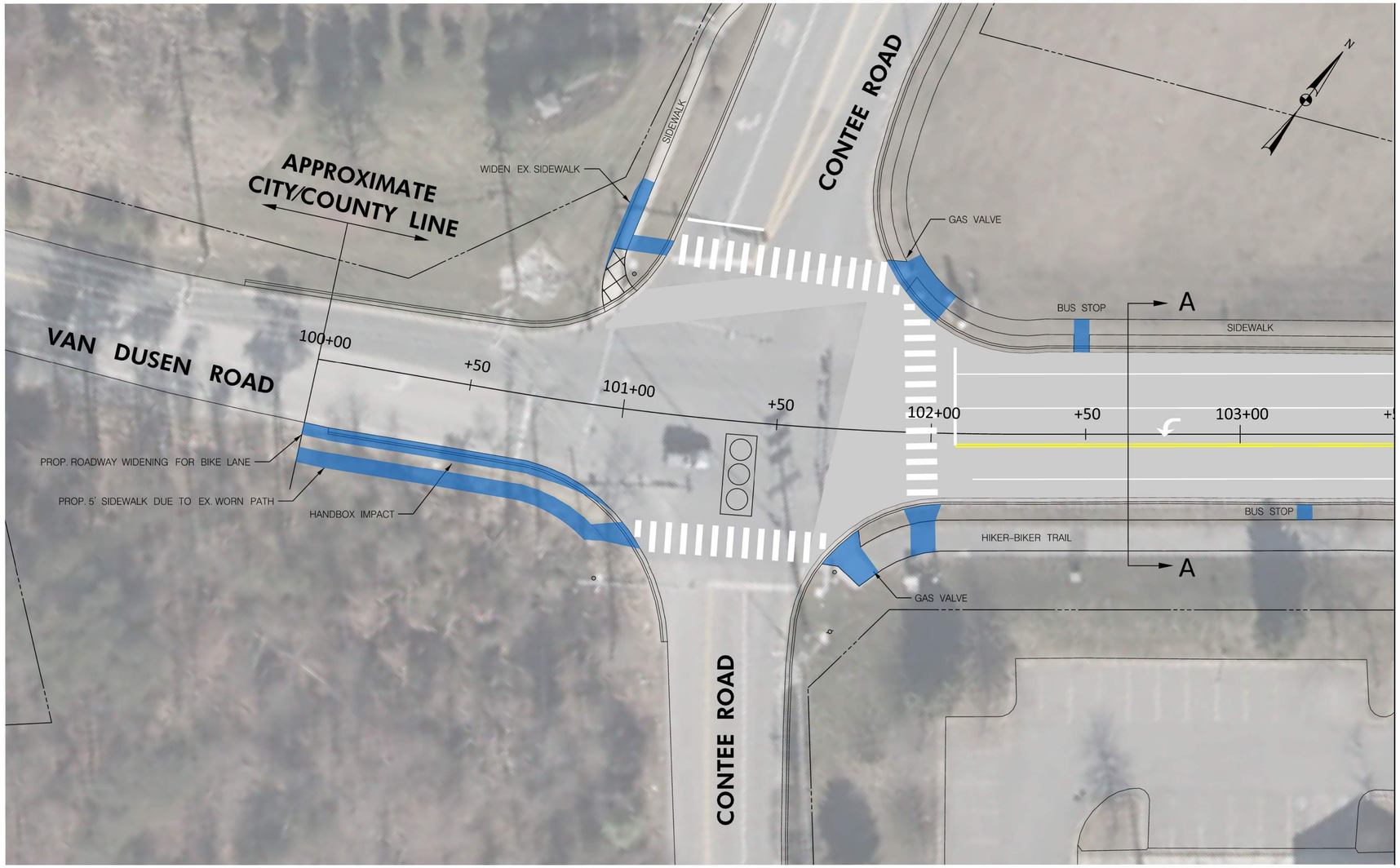
**RAISED CROSSWALKS MAY BE CONSTRUCTED ON CONCRETE ROADWAY USING ASPHALT OR CONCRETE

NOTES:

1. THE WIDTH FOR RAISED CROSSWALKS WILL BE 22 FEET FOR LOCAL ROADS AND 27 FEET FOR COLLECTOR ROADS. HIEGHT CAN BE BETWEEN 3 INCHES AND 4 INCHES. TYPICAL HEIGHT IS 4 INCHES.
2. IF INSTALLATION OF PERPENDICULAR RAMP IS NOT FEASIBLE THEN REFER TO OTHER RAMP DETAILS.

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



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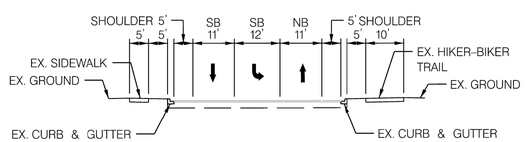

SECTION A-A
VAN DUSEN ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
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CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
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HUNT VALLEY , MD 21031

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 01 OF 20

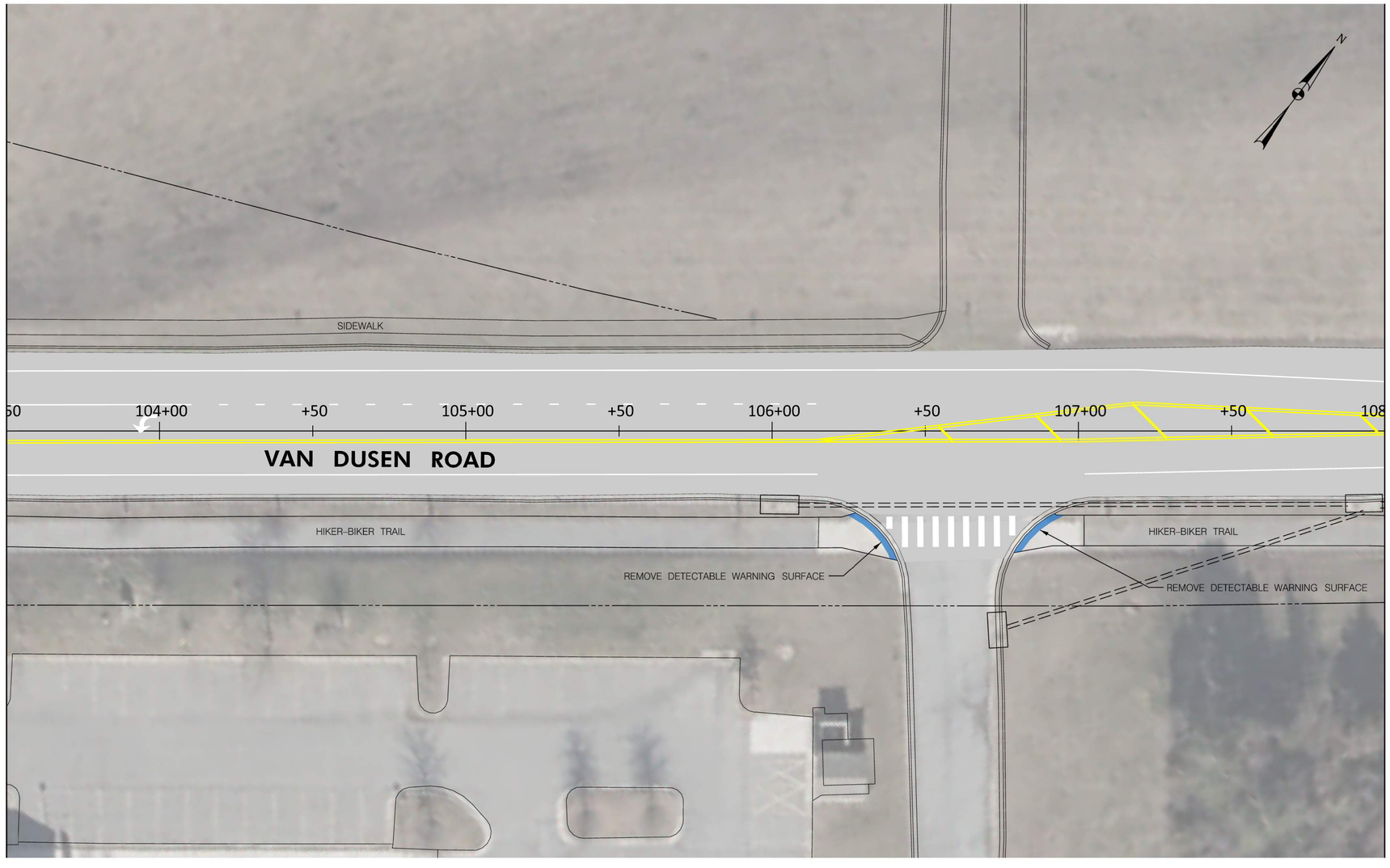
SHEET NO. 01 OF 20

BY: dkendal–

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P001_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 103+50 – SEE DRAWING NO. PS–01

MATCH LINE STA. 108+00 – SEE DRAWING NO. PS–03

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

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- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
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TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD

MATCH LINE STA. 108+00 – SEE DRAWING NO. PS–02

MATCH LINE STA. 112+50 – SEE DRAWING NO. PS–04

QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

PROPOSED HAND RAIL

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NAVD 88 Vertical

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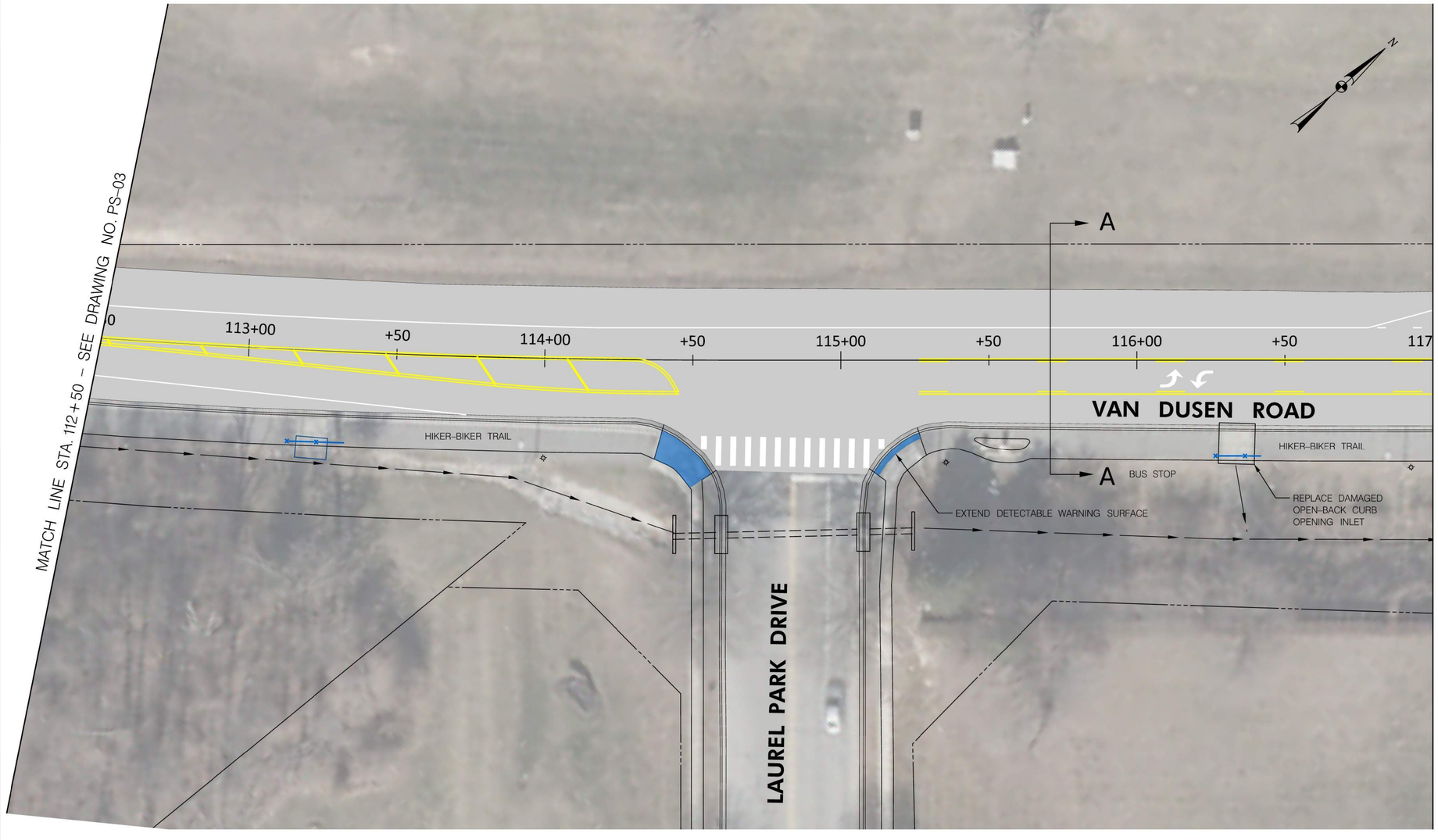
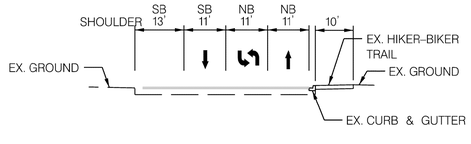
TO SANDY SPRING ROAD





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VAN DUSEN ROAD

DATUM: NAD 83/91 Horizontal
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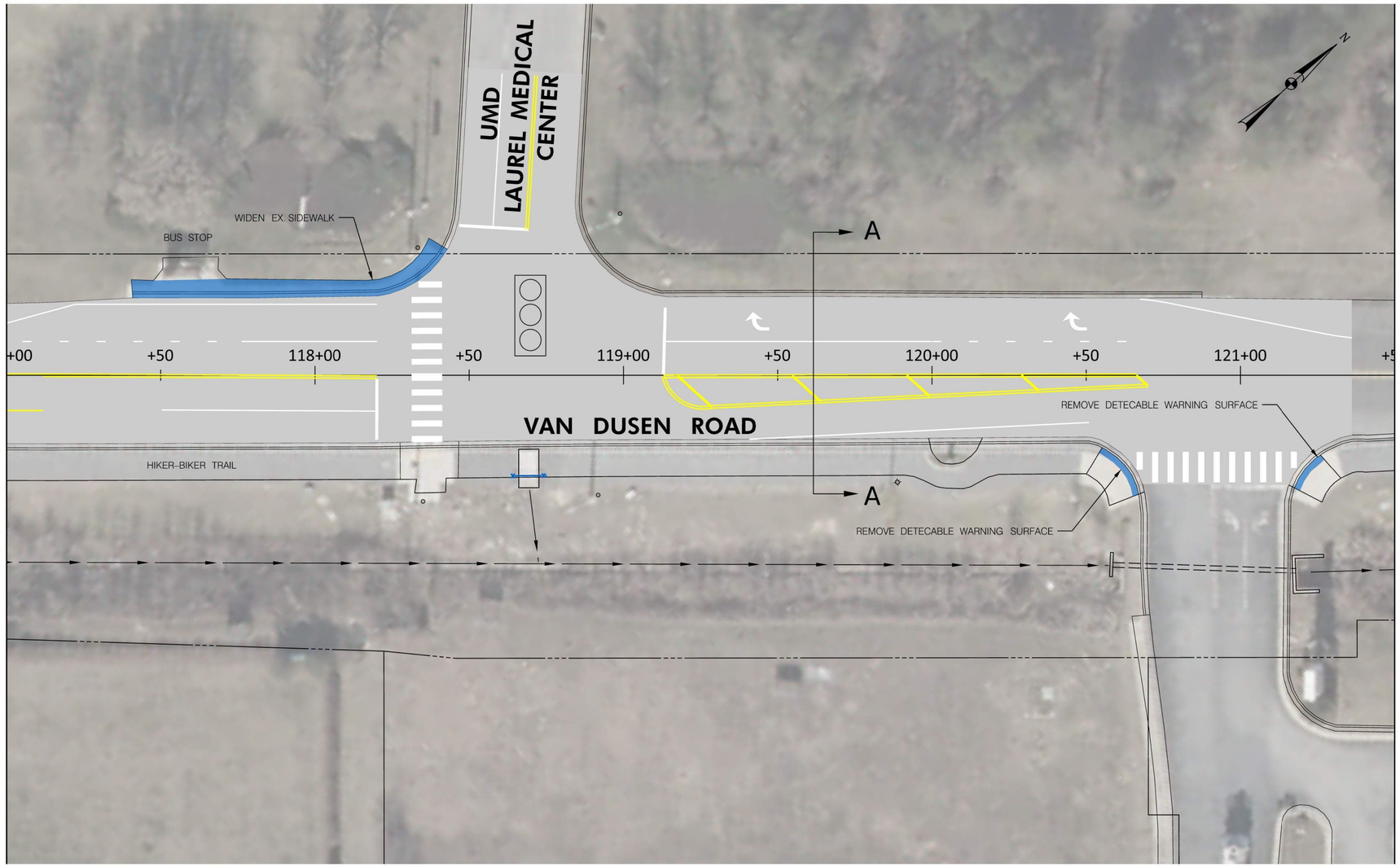

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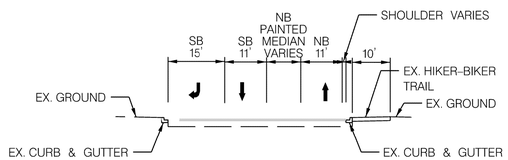
MATCH LINE STA. 121+50 – SEE DRAWING NO. PS-06



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VAN DUSEN ROAD

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TO VIRGINIA MANOR ROAD

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MATCH LINE STA. 121+50 – SEE DRAWING NO. PS–05

MATCH LINE STA. 126+00 – SEE DRAWING NO. PS–07

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ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

CONCEPT STUDY
[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A
COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 06 OF 20

SHEET NO. 06 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P006_VanDusen.dgn

RGINIA MANOR ROAD

TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
- PROPOSED PERMEABLE PAVEMENT
- REMOVAL

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

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HUNT VALLEY , MD 21031

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 07 OF 20

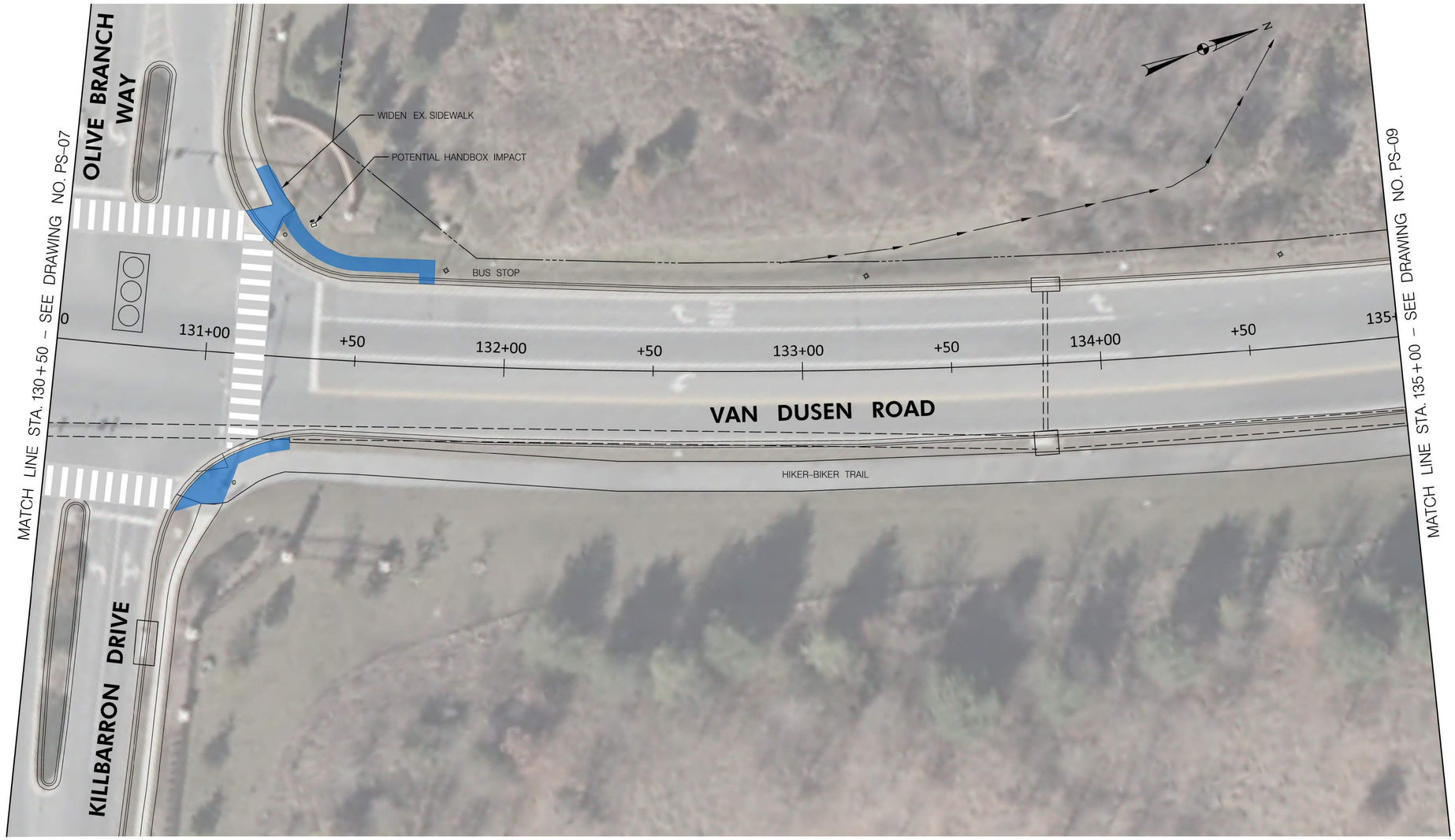
SHEET NO. 07 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P007_VanDusen.dgn

TO **VIRGINIA MANOR ROAD**

TO SANDY SPRING ROAD



QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
- PROPOSED PERMEABLE PAVEMENT
- REMOVAL

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
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HUNT VALLEY , MD 21031

REVISIONS

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 08 OF 20

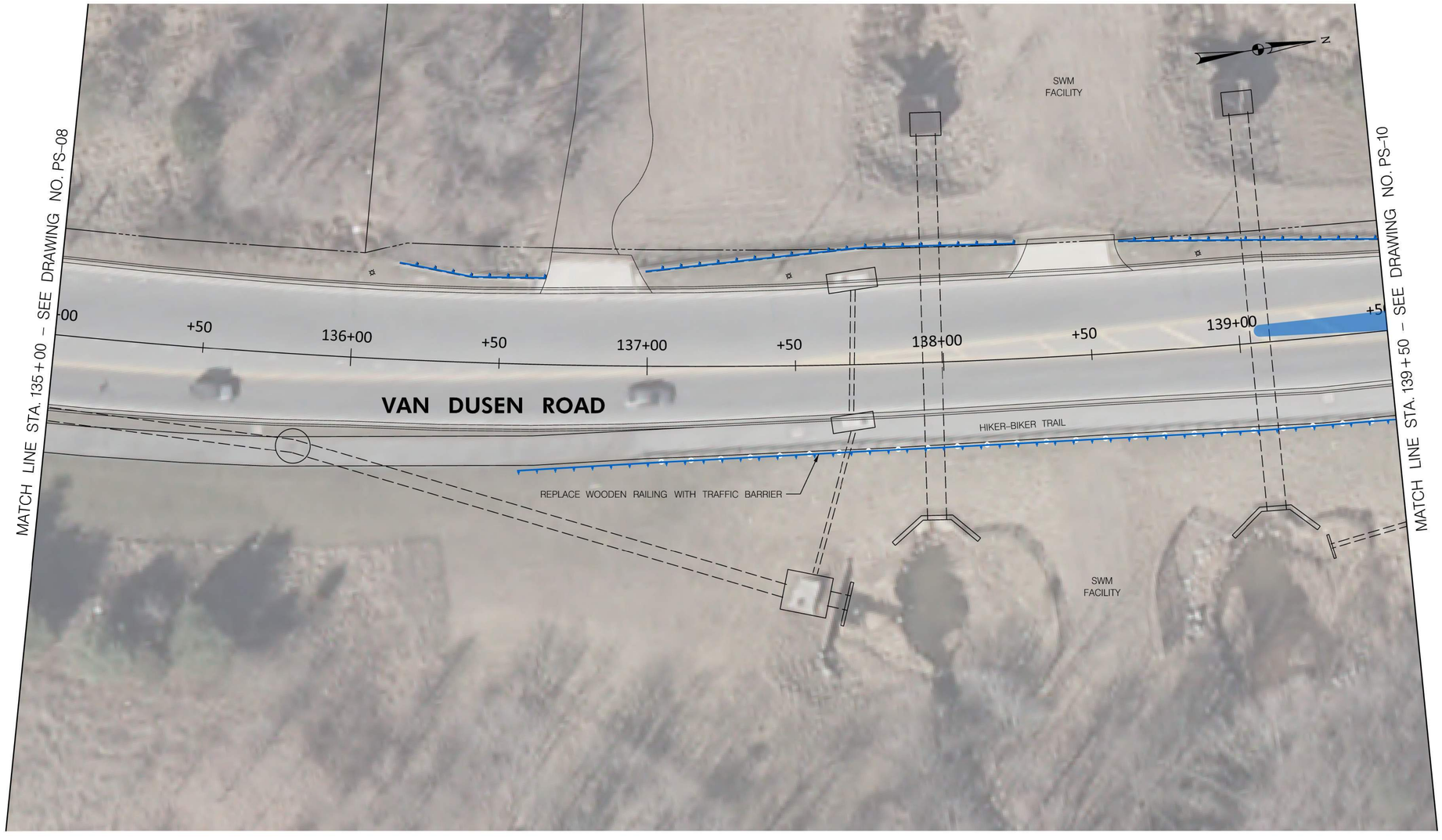
SHEET NO. 08 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P008_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
- PROPOSED PERMEABLE PAVEMENT
- REMOVAL

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

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A Kleinfelder Company
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HUNT VALLEY , MD 21031

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[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 09 OF 20

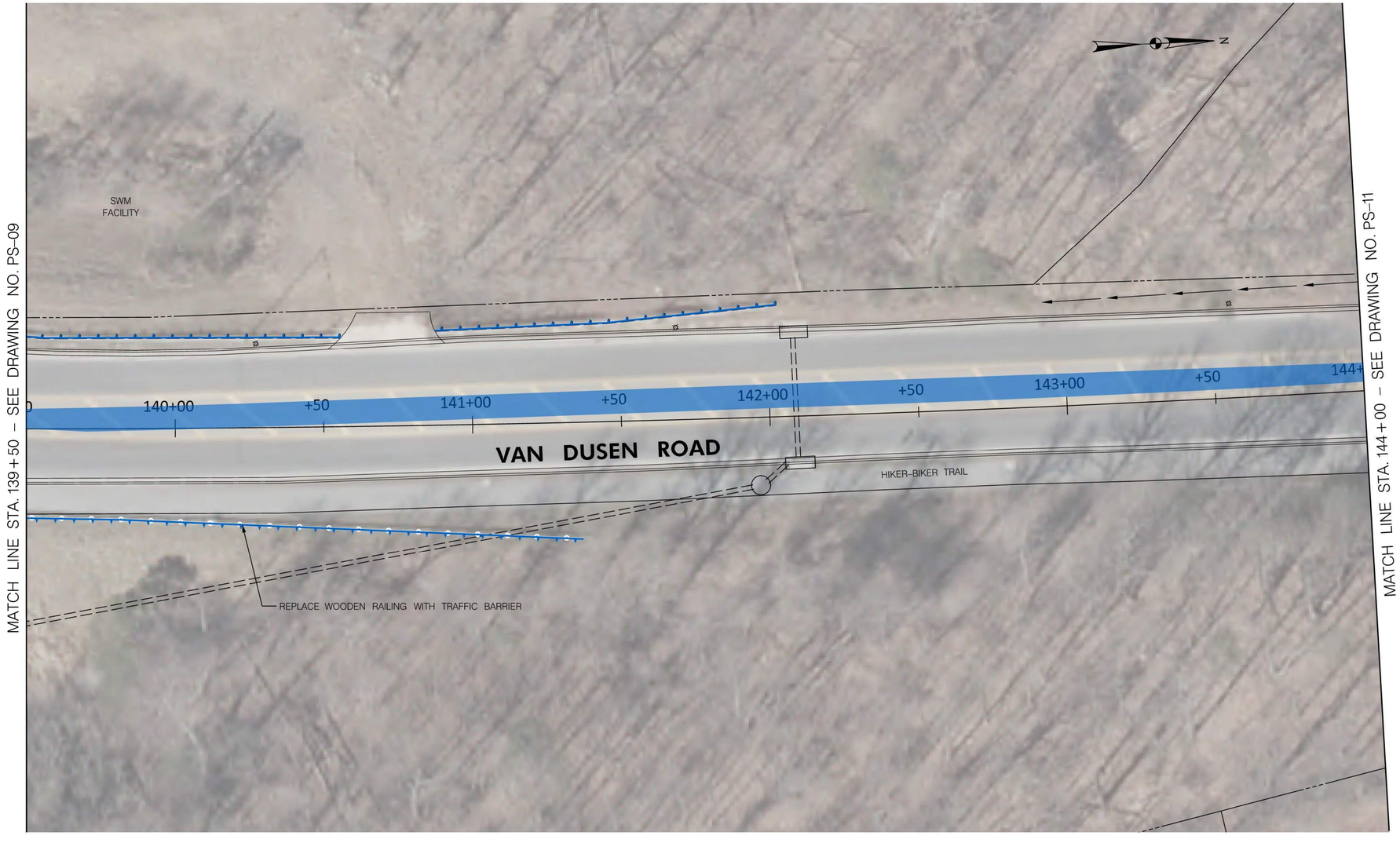
SHEET NO. 09 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P009_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
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- REMOVAL

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

CONCEPT STUDY
[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 10 OF 20

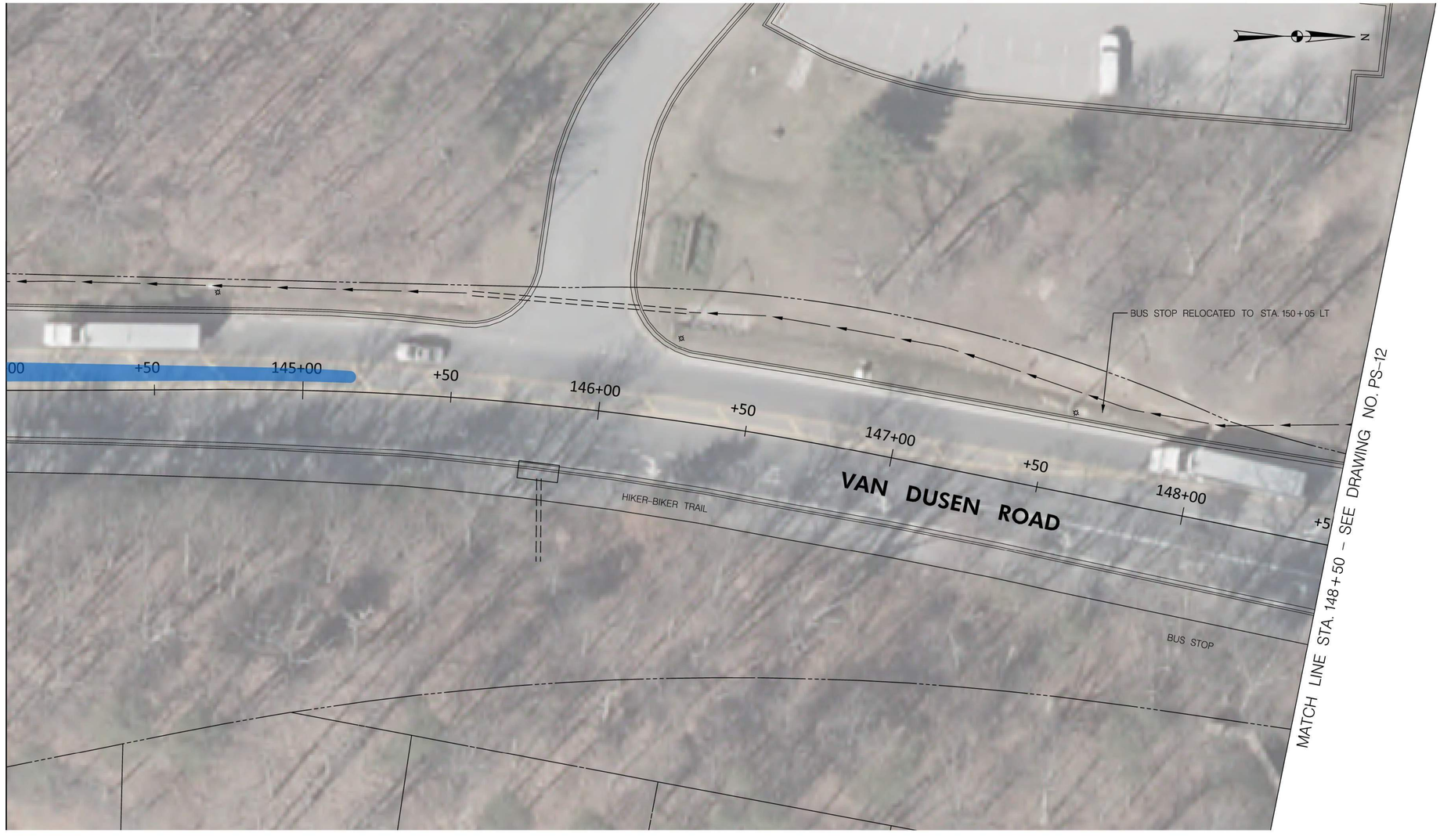
SHEET NO. 10 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P010_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
- PROPOSED PERMEABLE PAVEMENT
- REMOVAL

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

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[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 11 OF 20

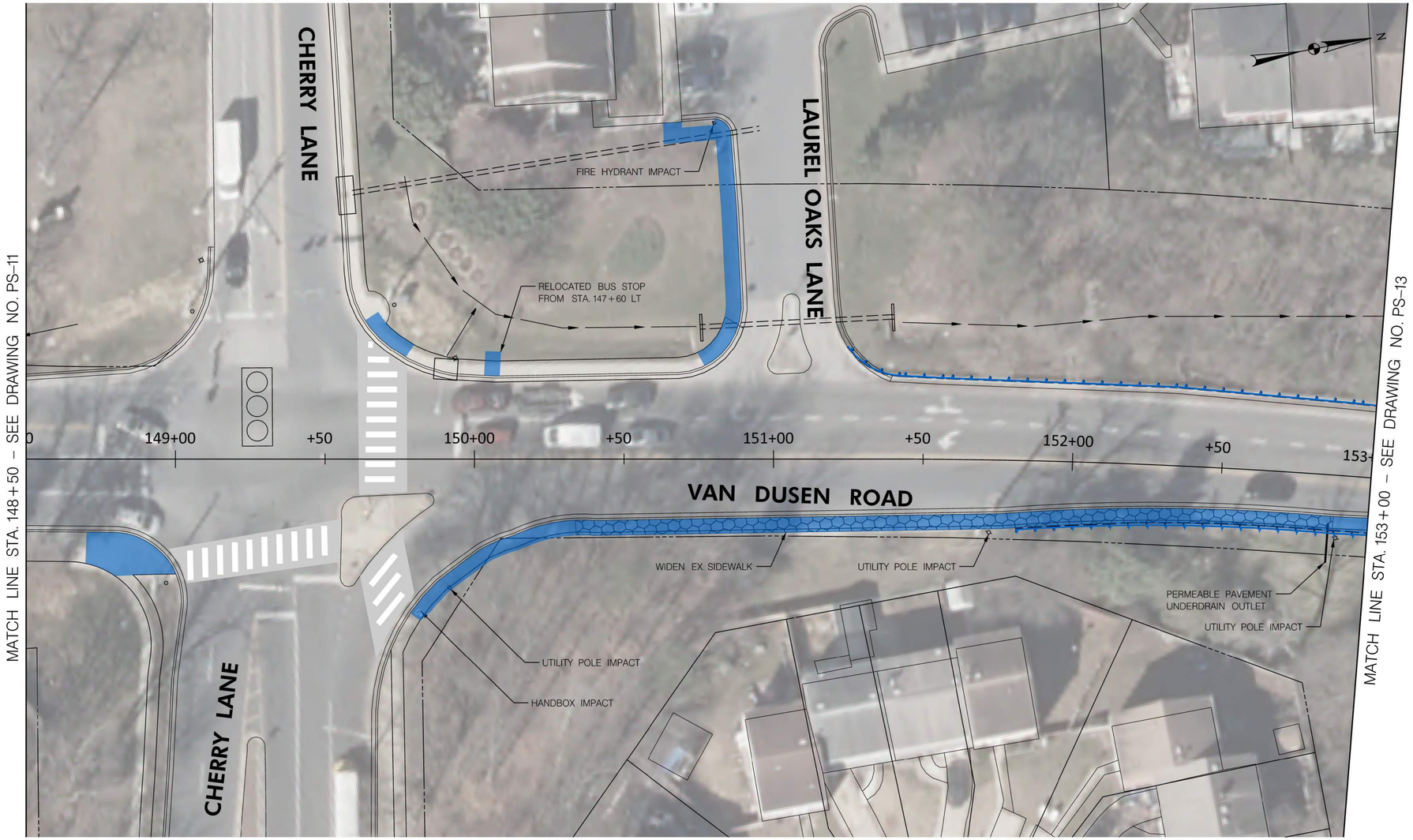
SHEET NO. 11 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P011_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 148+50 – SEE DRAWING NO. PS–11

MATCH LINE STA. 153+00 – SEE DRAWING NO. PS–13

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
- PROPOSED PERMEABLE PAVEMENT
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City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

BY: dkendal–

REVISIONS

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

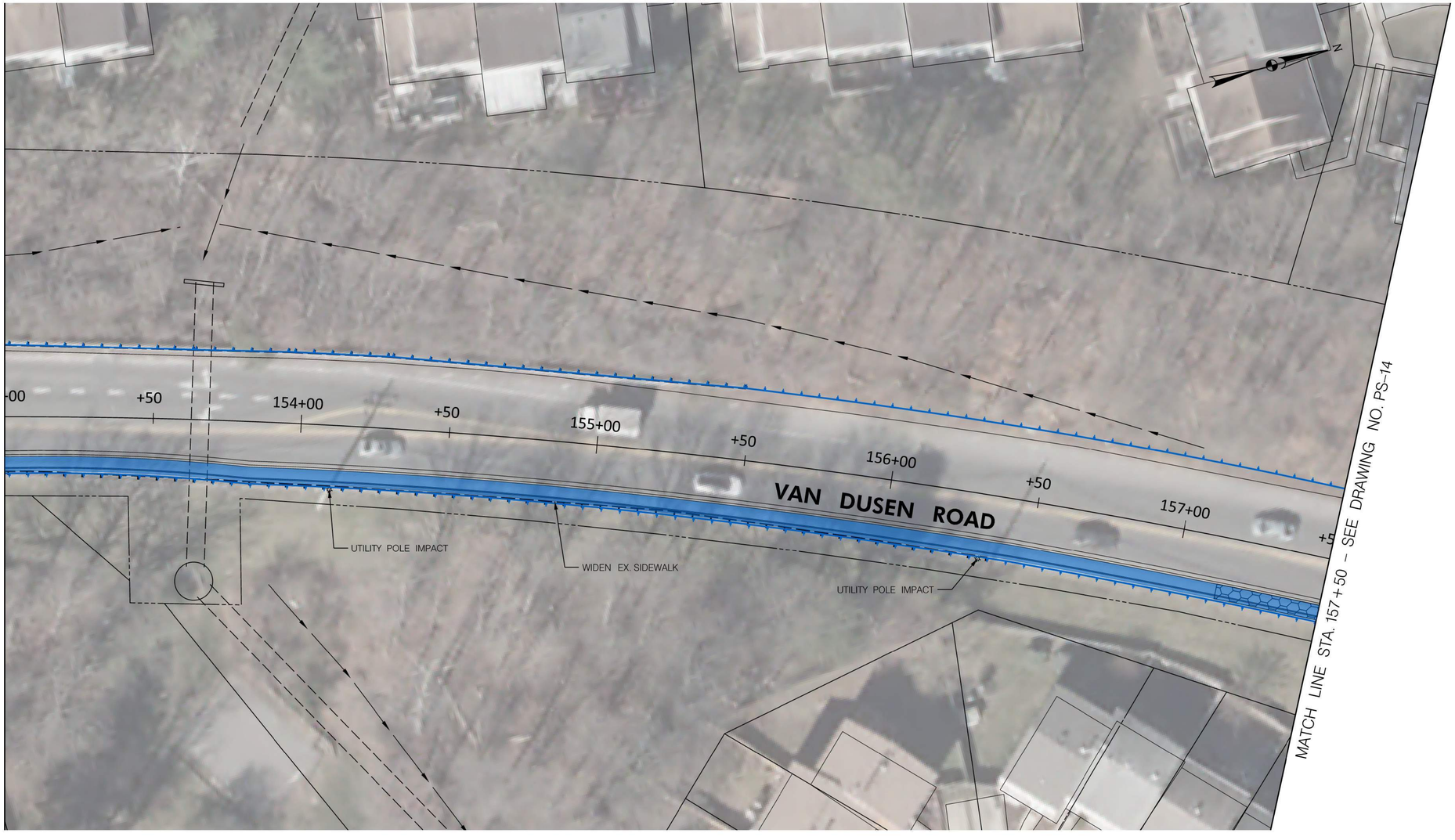
DRAWING NO. PS – 12 OF 20

SHEET NO. 12 OF 20

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P012_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

PROPOSED HAND RAIL

PROPOSED TRAFFIC BARRIER

PROPOSED DITCH TRIMMING

PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES

PROPOSED PERMEABLE PAVEMENT

REMOVAL

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

BY: dkendal –

REVISIONS

CONCEPT STUDY
[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 13 OF 20

SHEET NO. 13 OF 20

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P013_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD

MATCH LINE STA. 157+50 – SEE DRAWING NO. PS–13

MATCH LINE STA. 162+00 – SEE DRAWING NO. PS–15

QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

PROPOSED HAND RAIL

PROPOSED TRAFFIC BARRIER

PROPOSED DITCH TRIMMING

PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES

PROPOSED PERMEABLE PAVEMENT

REMOVAL

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 14 OF 20

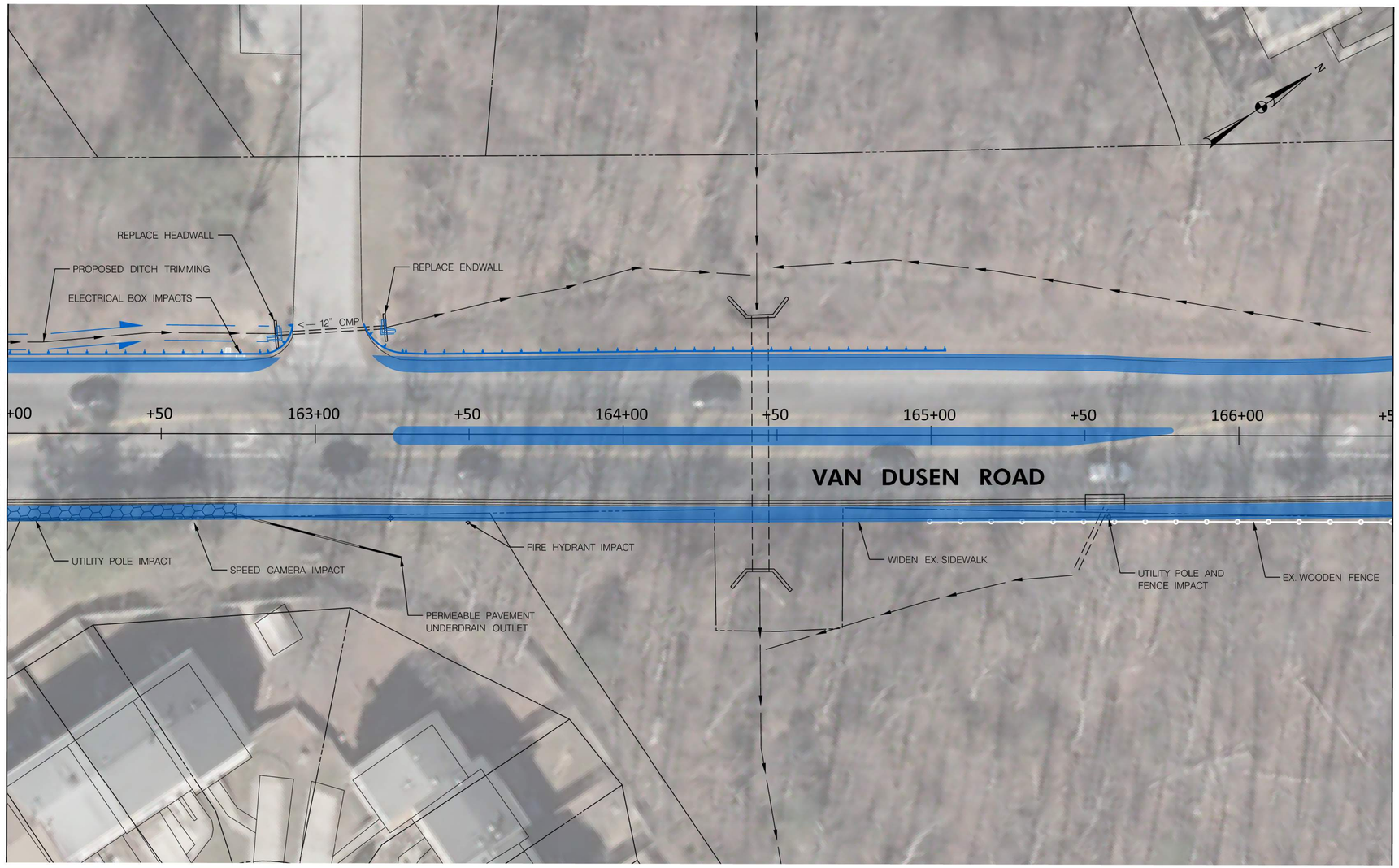
SHEET NO. 14 OF 20

BY: dkendal –

PLOTTED: 11/22/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P014_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 162+00 – SEE DRAWING NO. PS–14

MATCH LINE STA. 166+50 – SEE DRAWING NO. PS–16

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

PROPOSED HAND RAIL

PROPOSED TRAFFIC BARRIER

PROPOSED DITCH TRIMMING

PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES

PROPOSED PERMEABLE PAVEMENT

REMOVAL

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 15 OF 20

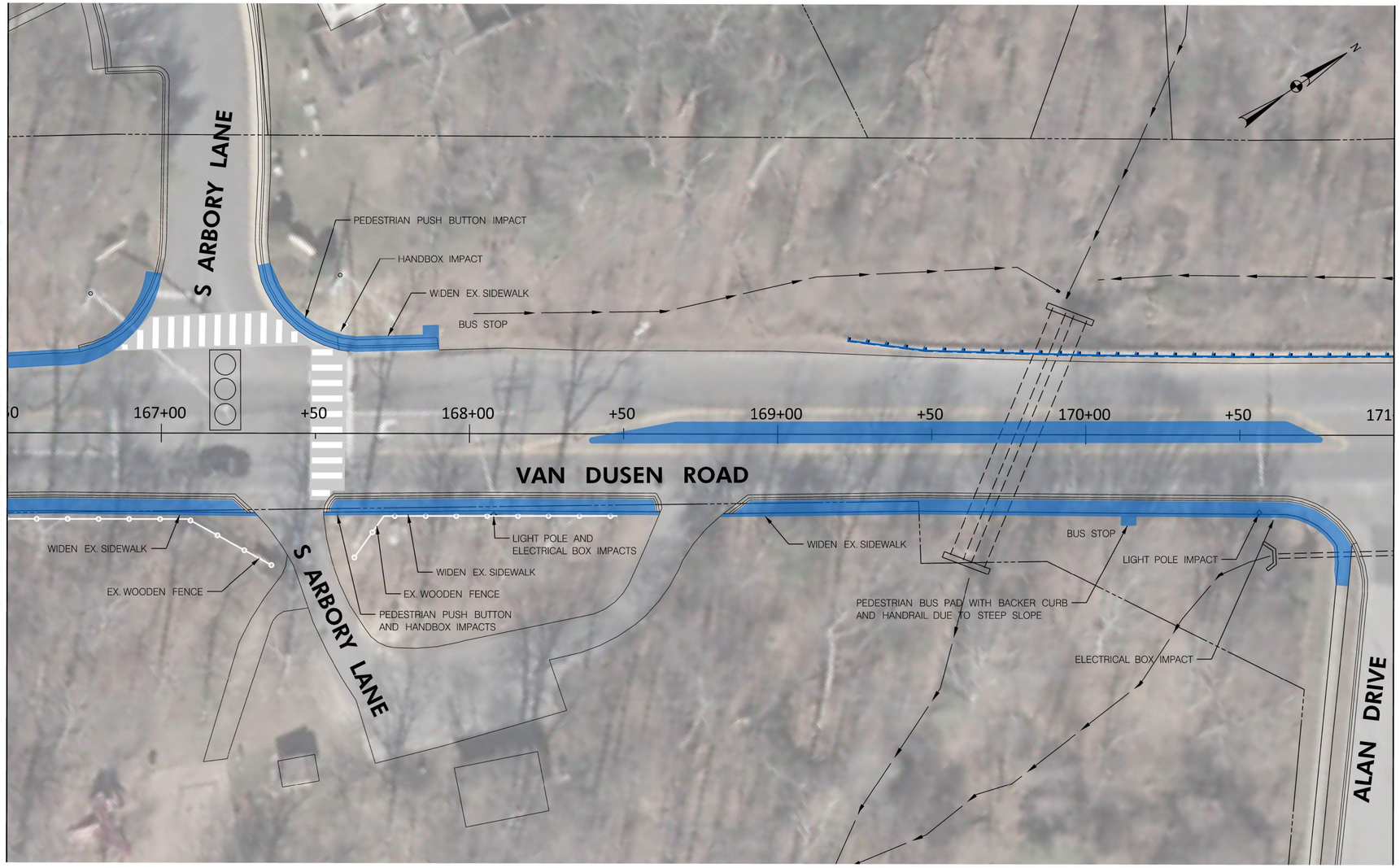
SHEET NO. 15 OF 20

BY: dkendal –

PLOTTED: 11/22/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P015_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
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City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
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CENTURY ENGINEERING
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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 16 OF 20

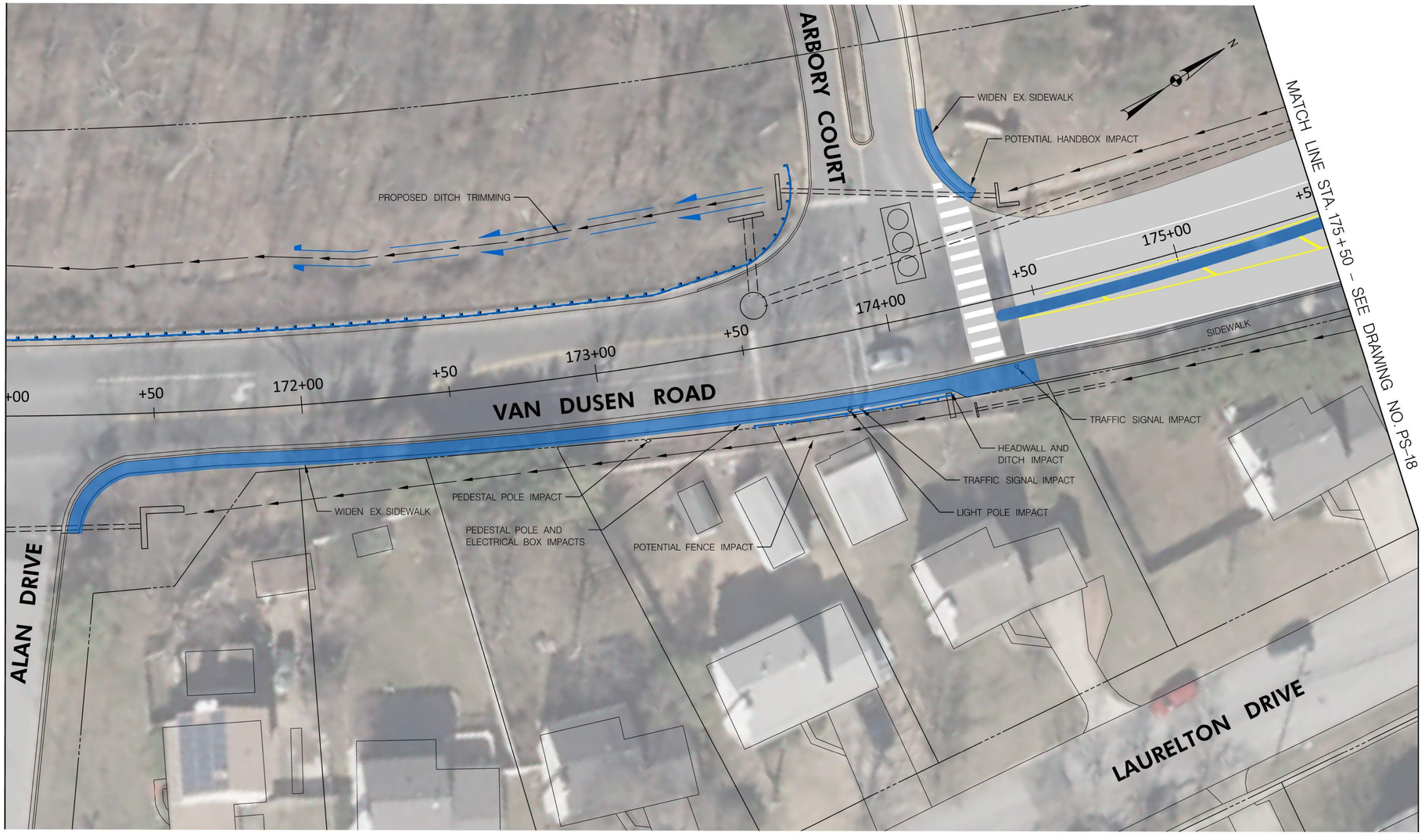
SHEET NO. 16 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P016_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

PROPOSED HAND RAIL

PROPOSED TRAFFIC BARRIER

PROPOSED DITCH TRIMMING

PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES

PROPOSED PERMEABLE PAVEMENT

REMOVAL

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
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10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

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[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 17 OF 20

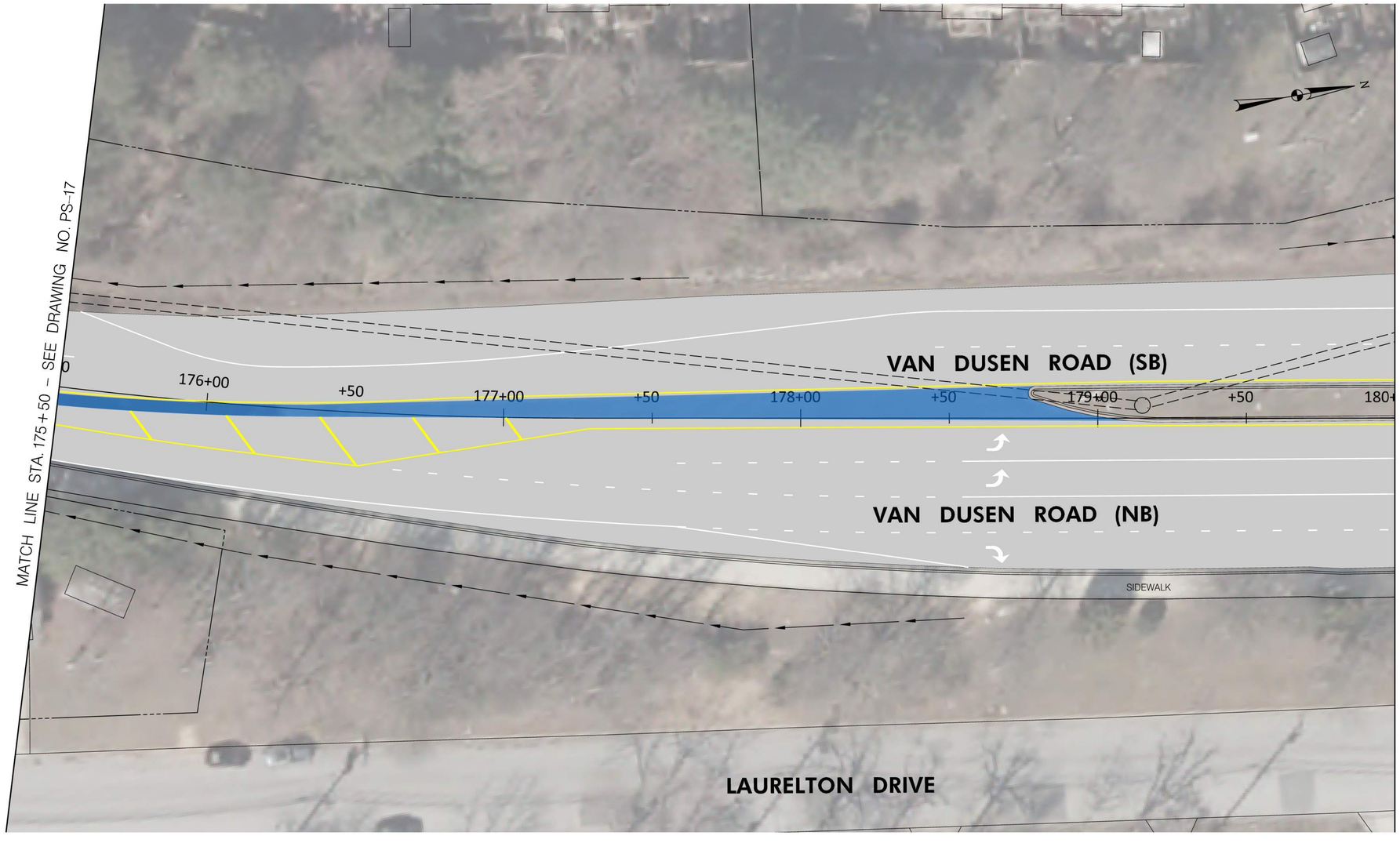
SHEET NO. 17 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P017_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
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DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

CONCEPT STUDY
[DUE DATE]

THIS DOCUMENT/PLAN IS DRAFT AND SUBJECT TO CHANGE. IT IS AN INTERAGENCY/INTRA-AGENCY DELIBERATIVE COMMUNICATION THAT IS NOT FOR PUBLIC DISCLOSURE UNDER MD. GENERAL PROVISIONS CODE ANN. § 4-344 (MARYLAND PUBLIC INFORMATION ACT).

CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 18 OF 20

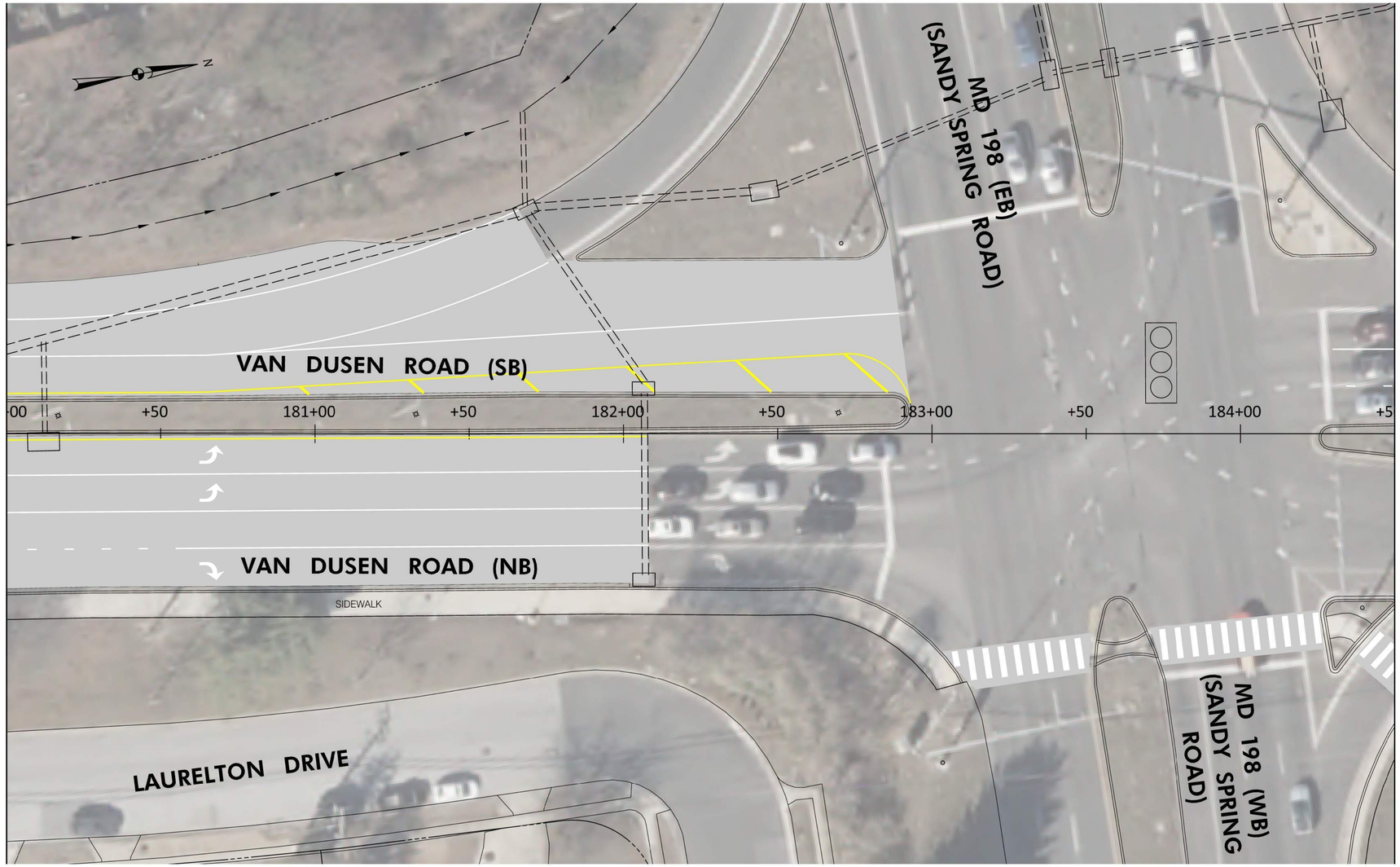
SHEET NO. 18 OF 20

BY: dkendal –

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P018_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 180+00 – SEE DRAWING NO. PS–18

MATCH LINE STA. 184+50 – SEE DRAWING NO. PS–20

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

QUANTITY NOTES

LEGEND

- EXISTING SIGNALIZED INTERSECTION
- EXISTING STORM DRAIN /CULVERT
- EXISTING DITCH /SWALE
- PROPOSED HAND RAIL
- PROPOSED TRAFFIC BARRIER
- PROPOSED DITCH TRIMMING
- PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES
- PROPOSED PERMEABLE PAVEMENT
- REMOVAL

City of Laurel DPW

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

REVISIONS

CONCEPT STUDY
[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 19 OF 20

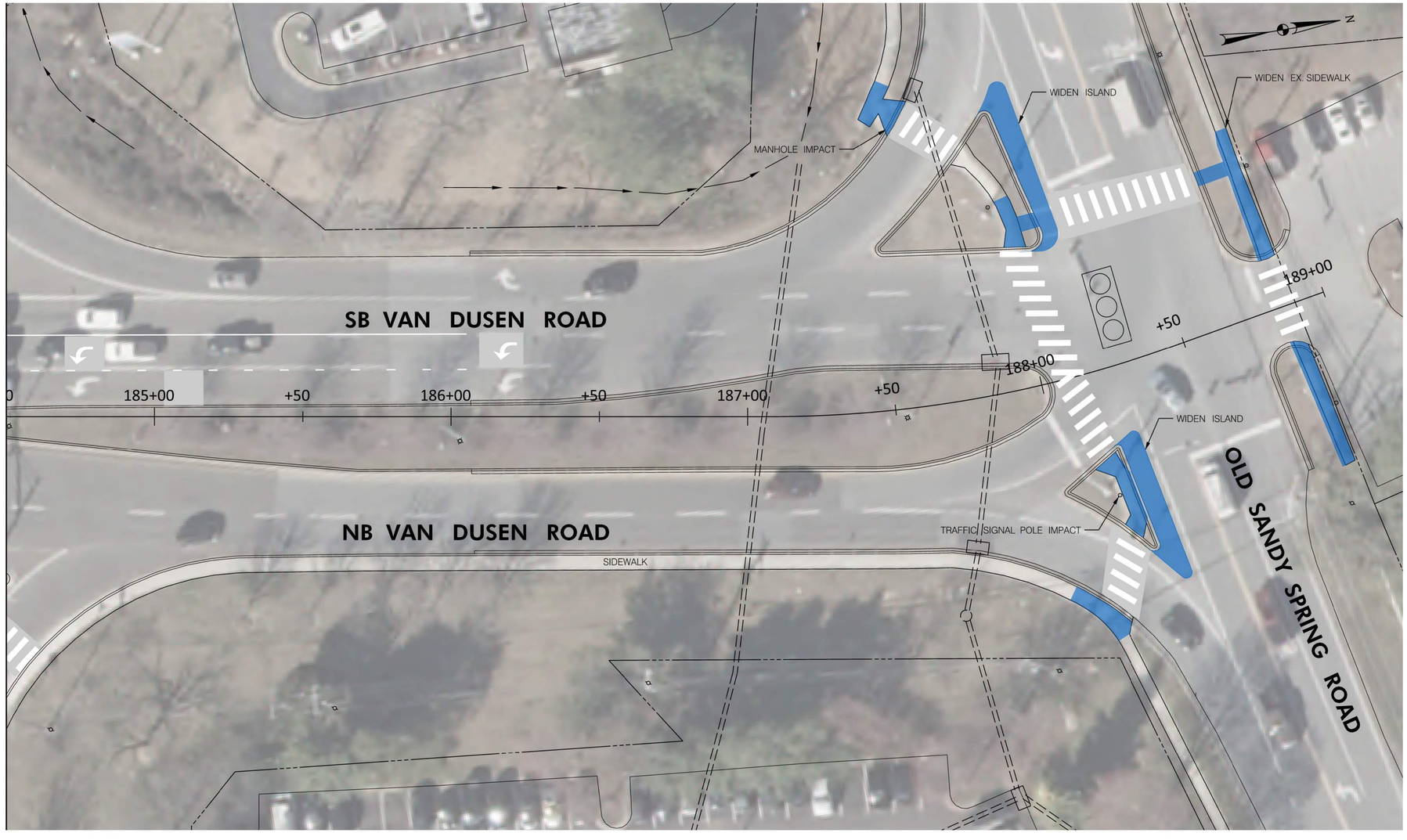
SHEET NO. 19 OF 20

BY: dkendal –

PLOTTED: 11/17/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P019_VanDusen.dgn

TO VIRGINIA MANOR ROAD

TO SANDY SPRING ROAD



MATCH LINE STA. 184+50 – SEE DRAWING NO. PS–19

QUANTITY NOTES

LEGEND

EXISTING SIGNALIZED INTERSECTION

EXISTING STORM DRAIN /CULVERT

EXISTING DITCH /SWALE

PROPOSED HAND RAIL

PROPOSED TRAFFIC BARRIER

PROPOSED DITCH TRIMMING

PROPOSED MEDIAN /SIDEWALK /PEDESTRIAN BUS PAD / ADA RAMP /DRAINAGE STRUCTURES

PROPOSED PERMEABLE PAVEMENT

REMOVAL

DEPARTMENT OF PUBLIC WORKS

CITY OF LAUREL
ROAD SAFETY IMPROVEMENTS CONCEPT STUDY

VAN DUSEN ROAD
FROM CONTEE ROAD TO SANDY SPRING ROAD

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CENTURY ENGINEERING
A Kleinfelder Company
CONSULTING ENGINEERS
10710 GILROY ROAD
HUNT VALLEY , MD 21031

BY: dkendal –

REVISIONS

CONCEPT STUDY
[DUE DATE]

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CONCEPT ROADWAY PLAN

SCALE 1" = 20' ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY DK
DRAWN BY DK
CHECKED BY MM
MDE/PRD N/A

COUNTY PRINCE GEORGE'S
LOGMILE _____
HORIZONTAL SCALE _____
VERTICAL SCALE _____

DRAWING NO. PS – 20 OF 20

SHEET NO. 20 OF 20

PLOTTED: 11/16/2023
FILE: T:\2021\Transportation\201207.OE City of Laurel AE Services\201207.15 Van Dusen Road Concept Study\CADD\pHD-P020_VanDusen.dgn

CONT. NO: 201207.15

QUANTITY & COST BREAKDOWN

SHEET 1 OF 1

EST.
TYPE: Major Qnty

PROJECT: Van Dusen Rd Concept
CLIENT: City of Laurel MD

	BY	DATE
COMPUTED	CEI	16-Nov-23
CHECKED		

CATEGORY 1 - PRELIMINARY	18,300.00
CATEGORY 2 - GRADING	87,720.00
CATEGORY 3 - DRAINGE	131,950.00
CATEGORY 4 - STRUCTURES	0.00
CATEGORY 5 - PAVING	1,149,219.22
CATEGORY 6 - SHOULDERS	592,036.00
CATEGORY 7 - LANDSCAPING	274,400.00
CATEGORY 8 - TRAFFIC	1,130,770.00
CATEGORY 9 - MISCELLANEOUS	0.00
SUB-TOTAL:	**3,384,395.22**
DESIGN (20%)	**676,879.04**
SUB-TOTAL INCL. 20% FOR DESIGN:	**4,061,274.26**
PLUS 20% CONTINGENCY	**812,254.85**
TOTAL	**4,196,650.07**

CONT. NO: 201207.15

SHEET 1 OF 1

QUANTITY & COST BREAKDOWN

			BY	DATE
EST. TYPE: Major Qnty	PROJECT: Van Dusen Rd Concept CLIENT: City of Laurel MD	COMPUTED	CEI	16-Nov-23
		CHECKED		

ITEM NO	CCN	ITEM DESCRIPTION Category 1 - Preliminary	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		CATEGORY 1 (% OF CAT. 2, 4, 5, & 6)	%	1	18300.00	18,300.00
		NEED TO DETERMINE % AND ADJUST FORMULA				0.00
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Category 1 - Preliminary					**TOTAL:**	**18,300.00**

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Item 2.

CONT. NO: 201207.15
SHEET 1 OF 1

QUANTITY & COST BREAKDOWN

			BY	DATE
EST. TYPE: Major Qnty	PROJECT: Van Dusen Rd Concept CLIENT: City of Laurel MD	COMPUTED	CEI	16-Nov-23
		CHECKED		

ITEM NO	CCN	ITEM DESCRIPTION Category 2 - Grading	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		CLASS 1 EXCAVATION	CY			0.00
		CLASS 1-A EXCAVATION	CY			0.00
		CLASS 2 EXCAVATION	CY	42	75.00	3,135.00
		SELECT BORROW	CY			0.00
		MODIFIED BORROW	CY			0.00
		COMMON BORROW	CY			0.00
		REMOVAL OF EXISTING CURB AND GUTER	LF	876	18.00	15,768.00
		REMOVAL OF EXISTING PAVEMENT	CY			0.00
		REMOVAL OF EXISTING SIDEWALK	CY	2,373	29.00	68,817.00
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Category 2 - Grading					**TOTAL:**	**87,720.00**

CONT. NO: 201207.15

QUANTITY & COST BREAKDOWN

SHEET 1 OF 1

EST. TYPE: Major Qnty

PROJECT: Van Dusen Rd Concept

CLIENT: City of Laurel MD

	BY	DATE
COMPUTED	CEI	16-Nov-23
CHECKED		

ITEM NO	CCN	ITEM DESCRIPTION Category 3 - Drainage	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		15 INCH REINFORCED CONCRETE PIPE, CLASS IV	LF	6	300.00	1,800.00
		STANDARD YARD INLET - MINIMUM DEPTH	EA	1	3,500.00	3,500.00
		STANDARD TYPE E ENDWALL FOR 12 INCH PIPE	EA	2	2,750.00	5,500.00
		CLEAN EXISING PIPE ANY SIZE	LF	3,950	5.00	19,750.00
		CLEAN EXISTING DRAINAGE STRUCTURES	EA	50	350.00	17,500.00
		TRIMMING EXISTING DITCHES	LF	750	40.00	30,000.00
		PERMEABLE PAVEMENT	SY	84	225.00	18,900.00
		EROSION & SEDIMENT CONTROL	LS	1	25,000.00	25,000.00
		SWM AS-BUILT CERITIFICATION	LS	1	10,000.00	10,000.00
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Category 3 - Drainage					**TOTAL:**	**131,950.00**

CONT. NO: 201207.15

SHEET 1 OF 1

QUANTITY & COST BREAKDOWN

	BY	DATE
COMPUTED	CEI	
CHECKED		

EST. TYPE: Major Qnty

PROJECT: Van Dusen Rd Concept

CLIENT: City of Laurel MD

ITEM NO	CCN	ITEM DESCRIPTION Category 4 - Structures	UNIT	QUANTITY	UNIT PRICE	AMOUNT
Category 5 - Paving					TOTAL:	0.00

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CONT. NO: 201207.15
SHEET 1 OF 1

QUANTITY & COST BREAKDOWN

			BY	DATE
EST.	PROJECT: Van Dusen Rd Concept	COMPUTED	CEI	16-Nov-23
TYPE: Major Qnty	CLIENT: City of Laurel MD	CHECKED		

ITEM NO	CCN	ITEM DESCRIPTION Category 5 - Paving	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		GAP GRADED SURFACE - 2" DEPTH	TONS			0.00
		HMA SURFACE COURSE 9.5MM, PG 70-22 - 2" DEPTH RESURFACE	TONS	5,589	150.00	838,291.37
		HMA SURFACE COURSE 9.5MM, PG 70-22 - 2" DEPTH	TONS	16	150.00	2,434.24
		HMA INT. SURFACE COURSE 12.5MM, PG 70-22 - 2" DEPTH	TONS	16	164.00	2,661.43
		HMA BASE 25MM, PG 64-22 - 4.5" DEPTH STD. 100.04	TONS	36	150.00	5,445.00
		6 IN. GRADED AGGREGATE BASE STD. 100.04	SY	125	18.00	2,257.20
		5 IN. GRADED AGGREGATE BASE	SY			0.00
		4 IN. GRADED AGGREGATE BASE FOR SIDEWALK STD. 300.06	SY	2,373	9.00	21,359.00
		GRINDING EXISTING PAVEMENT - 0 IN. TO 2 IN.	SY	47,503	3.00	142,509.53
		PORTLAND CEMENT CONCRETE PAVEMENT (FOR DWYS)	SY			0.00
		PARTIAL DEPTH PATCHING	SY			0.00
		FULL DEPTH PATCHING	SY			0.00
		WEDGE AND LEVEL, HMA SURFACE MIX	TONS			0.00
		SAWCUT	LF	1,515	5.00	7,573.45
		PAVEMENT MARKING (LANE LINES)	LS	60,588	1.00	60,588.00
		PAVEMENT MARKING (CROSSWALKS) SHA Item	LF	2,644	25.00	66,100.00
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Category 5 - Paving					**TOTAL:**	**1,149,219.22**

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Item 2.

CONT. NO: 201207.15

QUANTITY & COST BREAKDOWN

SHEET 1 OF 1

	BY	DATE
COMPUTED	CEI	16-Nov-23
CHECKED		

EST. TYPE: Major Qnty

PROJECT: Van Dusen Rd Concept

CLIENT: City of Laurel MD

ITEM NO	CCN	ITEM DESCRIPTION Category 6 - Shoulders	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		CONCRETE CURB AND GUTTER STD. 300.01	LF	876	48.00	42,048.00
		5 IN. CONCRETE SIDEWALK STD. 300.06	SF	21,359	7.00	149,513.00
		BRICK PAVERS	SF			0.00
		TYPE C W BEAM END TREATMENT	EA	22	3,175.00	69,850.00
		TRAFFIC BARRIER W BEAM END TREATMENT (DOUBLE FACE)	EA			0.00
		TRAFFIC BARRIER W BEAM STD. 400.04 MD 605.22	LF	3,580	25.00	89,500.00
		TRAFFIC BARRIER W BEAM DOUBLE FACE	LF			0.00
		MEDIAN W BEAM BARRIER ANCHORAGE AT STRUCTURE	EA			0.00
		SINGLE FACE F SHAPE CONCRETE BARRIER	LF			0.00
		DOUBLE FACE F SHAPE CONCRETE BARRIER	LF			0.00
		2 FT. MONOLITHIC CONCRETE MEDIAN	LF			0.00
		4 FT. MONOLITHIC CONCRETE MEDIAN	LF	210	120.00	25,200.00
		6 FT. MONOLITHIC CONCRETE MEDIAN	LF	480	150.00	72,000.00
		8 FT. MONOLITHIC CONCRETE MEDIAN	LF	615	150.00	92,250.00
		6 FT. CHAIN LINK FENCE	LF			0.00
		HAND RAIL	LF	81	175.00	14,175.00
		VARIABLE WIDTH CONCRETE MEDIAN	LF	250	150.00	37,500.00
		42 IN. F SHAPED CONCRETE MEDIAN BARRIER	LF			0.00
		TYPE K W BEAM END TREATMENT	EA			0.00
		GRAVEL/ STONE FOR DRIVES	SY			0.00
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Category 6 - Shoulders					TOTAL:	**592,036.00**

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Item 2.

CONT. NO: 201207.15

SHEET 1 OF 1

QUANTITY & COST BREAKDOWN

		BY	DATE
	COMPUTED	CEI	16-Nov-23
	CHECKED		

EST. TYPE: Major Qnty

PROJECT: Van Dusen Rd Concept

CLIENT: City of Laurel MD

ITEM NO	CCN	ITEM DESCRIPTION Category 7 - Landscaping	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		CATEGORY 7 (% OF CAT. 2, 4, 5, & 6)	%	1	274,400.00	274,400.00
		ROADWAY COORIDOR PLANTINGS	LF			0.00
		INTERCHANGE PLANTINGS/QUADRANT	EA			0.00
		ROUNDABOUT PLANTINGS	EA		50,000.00	0.00
		NOISE BARRIER PLANTINGS	LF			0.00
		VEGETATIVE SCREEN PLANTINGS	LF		20.00	0.00
		SWM FACILITY PLANTINGS	SF		1.00	0.00
		CHESAPEAKE BAY CRITICAL AREA PLANTINGS	SF		3.00	0.00
		MARYLAND REFORESTATION LAW COMPLIANCE PLANTINGS	AC		10,000.00	0.00
		FOREST CONSERVATION ACT COMPLIANCE PLANTINGS	AC		13,100.00	0.00
		HEADLIGHT GLARE CONTROL PLANTINGS	LF		10.00	0.00
		SNOW DRIFT CONTROL PLANTINGS	LF		10.00	0.00
		HARDSCAPE TREATMENTS	LF		30.00	0.00
		SPECIAL DESIGN CONSIDERATIONS & COMMITMENTS	LS			0.00
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Category 7 - Landscaping					**TOTAL:**	**274,400.00**

Item 2.

CONT. NO: 201207.15
SHEET 1 OF 1

QUANTITY & COST BREAKDOWN

EST. Van Dusen Rd Concept
TYPE: Major Qnty CLIENT: City of Laurel MD

	BY	DATE
COMPUTED	CEI	16-Nov-23
CHECKED		

ITEM NO	CCN	ITEM DESCRIPTION Category 8 - Signing & Lighting	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		SIGNAL - T INTERSECTION FULLY ACTUATED-MAST ARM	EA	1	150,000.00	150,000.00
		SIGNAL - T INTERSECTION FULLY ACTUATED-STRAIN POLES	EA		135,000.00	0.00
		SIGNAL - 4 LEG INTERSECTION FULLY ACTUATED - MAST ARM	EA	2	250,000.00	500,000.00
		SIGNAL - 4 LEG INTERSECTION FULLY ACTUATED - STRAIN POLE	EA		235,000.00	0.00
		SIGNING	LS	2	17,600.00	29,920.00
		LIGHTING	LS			0.00
		UTILITY POLES	LS	1	195,000.00	195,000.00
		MISC ITEMS	LS	1	55,850.00	55,850.00
		APS/CPS (T-INTERSECTION)	EA	2	40,000.00	80,000.00
		APS/CPS (4-LEG INTERSECTION)	EA	2	60,000.00	120,000.00
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Category 8 - Signing & Lighting					TOTAL:	**1,130,770.00**

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CITY OF LAUREL, MARYLAND

ORDINANCE NO. 2029

AN ORDINANCE AMENDING THE GENERAL OPERATING BUDGET AND CAPITAL IMPROVEMENT PROGRAM OF THE MAYOR AND CITY COUNCIL OF LAUREL, MARYLAND, FOR THE FISCAL YEAR JULY 1, 2024 THROUGH JUNE 30, 2025 AND TO PROVIDE AN EFFECTIVE DATE

Sponsored by the City Council President at the request of the Administration.

WHEREAS, the FY2025 General Operating Budget and Capital Improvement Program (CIP) was adopted on May 28, 2024 through Ordinance No. 2026, and

WHEREAS, there are savings realized in certain CIP projects which are proposed to be allocated to other projects, and

WHEREAS, the Mayor and City Council of Laurel, Maryland are required to amend the FY2025 General Operating Budget and CIP to reflect these changes.

NOW, THEREFORE, BE IT ENACTED AND ORDAINED, by the Mayor and City Council of Laurel, Maryland that the General Operating Budget and CIP for the Fiscal Year July 1, 2024 through June 30, 2025 is hereby amended.

GENERAL OPERATING BUDGET

REVENUES REVENUE SUB-CATEGORY	FY2025 ADOPTED
4010 - R/E TAX REVENUE	$27,384,119
4030 - PERSONAL PROP TAX	1,385,868
4040 - PERSONAL PROP-INT/PENTALTY	40,000
4050 - LOCAL TAXES	4,650,000
4060 - OTHER LOCAL TAXES	2,047,576
4110 - LICENSES	734,850
4130 - PERMITS	505,445
4210 - FEDERAL GRANTS	162,980
4230 - STATE GRANTS	737,825
4250 - COUNTY GRANTS	286,642
4310 - GENERAL GOV'T SERVICE CH	169,797
4340 - SANITATION SERVICE CHGS	176,000
4350 - SERVICE CHARGE-HEALTH	10,000
4370 - FACILITY RENTALS	163,890
4411 - SWIMMING POOL FEES	124,510
4413 - RECREATION PROGRAM FEES	82,500
4415 - P&R ACTIVITY FEES	89,800
4417 - P&R CONCESSION FEES	22,000
4430 - SENIOR PROGRAM FEES	15,300
4620 - POLICE FINES	2,780,600
4630 - CODE ENFORCEMENT FINES	3,250
4710 - INVESTMENT INTEREST	117,000
4720 - RENTAL INCOME	18,963

4730 - CONTRIBUTIONS/DONATIONS	600
4740 - SALE OF PROPERTY	14,500
4750 - MISC REFUNDS AND REBATES	86,780
4761 - POLICE ACCT RECEIPTS	45,000
4790 - OTHER MISC REVENUES	453,203
4840 - FUND TRANSFER	988,247
TOTAL REVENUE	**$43,297,245**

EXPENDITURES **DEPARTMENT**	**FY2025 ADOPTED**
201 - CITY COUNCIL	$122,513
205 - CLERK TO THE COUNCIL	243,333
210 - MAYOR	649,079
215 - CITY ADMINISTRATOR	679,268
220 - ELECTIONS	17,445
225 - BUDGET & PERSONNEL SVCS	1,230,403
235 - COMMUNICATIONS	701,304
240 - ECONOMIC & COMMUNITY DEV	1,032,943
244 - SUSTAINABILITY PROGRAMS	62,532
250 - INFORMATION TECHNOLOGY	2,860,863
270 - COMMUNITY PROMOTION	158,787
280 - GROUNDS MAINTENANCE	945,518
281 - JOSEPH R. ROBISON - LAUREL MUNICIPAL CENTER	177,616
284 - PUBLIC WORKS FACILITY	128,126
285 - ROBERT J. DIPIETRO COMMUNITY CENTER	168,869
286 - ARMORY COMMUNITY CENTER	104,561
287 - LAUREL MUSEUM	13,000
288 - GUDE LAKEHOUSE	31,000
289 - MAIN ST. POOL MAINTENANC	82,670
290 - LPD FACILITY	312,121
291 - GREENVIEW DR REC COMPLEX	47,180
292 - P&R MAINTENANCE FACILITY	47,750
293 - GUDE HOUSE	73,841
294 - CRAIG A. MOE LAUREL MULITSERVICE CENTER MAINT.	262,371
301 - POLICE	13,069,424
320 - FIRE MARSHAL & PERMIT SV	861,358
325 - OFFICE OF EMERGENCY MGT	728,452
326 - CRAIG A. MOE LAUREL MULTISERVICE CENTER PROGRAMS	463,417
401 - PUBLIC WORKS ADMIN	691,207
410 - AUTOMOTIVE MAINTENANCE	1,180,819
415 - WASTE COLLECTION	1,196,135
420 - RECYCLING	353,009
425 - HIGHWAYS & STREETS MAINT	1,272,735
430 - SNOW REMOVAL	198,155
435 - STREET LIGHTING	268,970
440 - ENGINEERING&TECH SERVICES	253,898
445 - TRAFFIC ENGINEERING	156,637
450 - TREE MANAGEMENT	99,781
501 - PARKS & RECREATION ADMIN	877,205

Underlining indicates new language added.
~~Strikethroughs~~ indicate language deleted.
** * * Asterisks indicate intervening language and section unchanged.*

505 - RECREATION	525,256
510 - MAIN ST POOL PROGRAMS	287,053
515 - ROBERT J. DIPIETRO COMMUNITY CENTER	328,708
520 - GREENVIEW DR PROGRAMS	129,133
525 - ARMORY COMMUNITY CTR PROG	214,021
530 - YOUTH SERVICES BUREAU	256,996
535 - GUDE LAKEHOUSE PROGRAMS	25,598
550 - SENIOR SERVICES	275,021
650 - PRINCIPAL	1,895,527
651 - INTEREST	93,227
652 - RETIREMENT	2,369,530
654 - PROPERTY INSURANCE	526,251
655 - BONDING INSURANCE	27,000
656 - EMPLOYEE INSURANCE	4,018,467
657 - MISC FINANCIAL USES	0
658 - SPECIAL TAXING DISTRICT	300,000
659 - AMERICAN RESCUE PLAN PROG	0
810 - EMPLOYEE TRAINING	194,591
820 - EMPLOYEE TUITION	6,571
TOTAL EXPENDITURES	**$43,297,245**

	ADOPTED ORD2026	CHANGE	AMENDED ORD
CAPITAL IMPROVEMENT PROGRAM			
TOTAL FUNDING - OTHER PROJECTS	$29,924,486		$29,924,486
EMERGENCY REPAIRS	71,300	(12,000)	59,300
VIRGINIA MANOR CT	122,000	12,000	134,000
TOTAL AMENDED FUNDING	**$30,117,786**	**$0**	**$30,117,786**

AND, BE IT FURTHER ENACTED AND ORDAINED, that this Ordinance shall take effect on the date of its passage.

PASSED this _____ day of _____, 2024.

___Underlining indicates new language added.
~~Strikethroughs~~ indicate language deleted.
** * * Asterisks indicate intervening language and section unchanged.*

ATTEST:

_____	_____
SARA A. GREEN, CPM, CMC	**JAMES KOLE**
City Clerk	**President of the City Council**

APPROVED this _____ day of _____, 2024.

_____
KEITH R. SYDNOR
Mayor

___Underlining indicates new language added.
~~Strikethroughs~~ indicate language deleted.
** * * Asterisks indicate intervening language and section unchanged.*

MAYOR AND CITY COUNCIL OF LAUREL

DEPARTMENT OF PUBLIC WORKS

305-307 First Street • Laurel, Maryland 20707 (301) 725-0088

http://www.cityoflaurel.org • email – dpw@laurel.md.us Fax (301) 498-5266

August 5, 2024

MEMORANDUM

To: Mayor Keith R. Sydnor
Council President James Kole
Laurel City Councilmembers

Thru: Joanne Hall Barr, Deputy City Administrator JHB
From: Tim Miller, Director of Public Works
Subject: Bid Recommendation - 4th and 5th Street Improvements

The Department of Public Works is requesting approval for Construction Project LA 24-004, 4th and 5th Street Improvements.

Project Scope

This project includes the milling and overlay, repair of concrete sidewalk, pedestrian ramps, concrete curbing, and striping and roadway signage of 4th Street from Main Street to Montgomery Street and 5th Street from Main Street to Gorman Avenue in the City of Laurel, Maryland.

Bid Results

At a sealed bid opening at 10:00 AM, on July 31, 2024, the City received a total of six (6) bids for this project. The bids received ranging from lowest to highest are as follows as were read aloud:

1.	E & R Services	$191,269.25
2.	Ross Contracting	$226,274.00
3.	Espina Paving, Inc.	$237,865.25
4.	American Asphalt Paving Co.	$241,868.75
5.	ECM Corp.	$281,105.00
6.	Vino Construction, LLC	$373,786.59

Funding

Funding for this project is provided in the Adopted FY2025 CIP, 4th Street Improvement Project and 5th Street Improvement Project.

Recommendation

It is recommended that the contract for this project be awarded to E & R Services, Inc. a Minority Business Enterprise (MBE), Disadvantaged Business Enterprise (DBE), and Small Business Enterprise (SBE), from Lanham, MD, 20706, for their bid of $191,269.25, with an additional contingency of $18,730.75, for a total of $210,000.00. E & R Services, Inc. has previously completed projects for the city.

Should you have any questions or desire further information, please contact Timothy Miller, Director at 301-725-0088, extension 3206.

Financial Review:

Michele Saylor
S. Michele Saylor, Director
Department of Budget and Personnel Services

8/16/2024
Date

cc: Christian L. Pulley, CPM, City Administrator

MAYOR AND CITY COUNCIL OF LAUREL

DEPARTMENT OF PUBLIC WORKS

305-307 First Street • Laurel, Maryland 20707 (301) 725-0088

http://www.cityoflaurel.org • email – dpw@laurel.md.us Fax (301) 498-5266

August 6, 2024

MEMORANDUM

To: Mayor Keith R. Sydnor
Council President James Kole
Laurel City Councilmembers

Thru: Joanne Hall Barr, Deputy City Administrator JHB
From: Tim Miller, Director of Public Works
Subject: Bid Recommendation - Compton Alley

The Department of Public Works is requesting approval for Construction Project LA 25-001, Compton Alley Street Improvements.

Project Scope

This project includes the construction of new concrete aprons, sidewalks, curbing and 8" and 12" thick reinforced concrete alley, 10' wide, with a portion being of stamped concrete. The work will take place between Compton Avenue and Talbott Avenue, running in the rear of 600-608 4th Street in the City of Laurel, Maryland.

Bid Results

At a sealed bid opening at 10:00 AM, on August 1, 2024, the City received a total of six (6) bids for this project. The bids received ranging from lowest to highest are as follows as were read aloud:

1.	SFMS, LLC	$72,550.75
2.	E & R Services, Inc.	$77,717.00
3.	Olney Masonry Corp.	$92,445.00
4.	Espina Paving, Inc.	$116,696.25
5.	INL Construction, LLC	$149,084.00
6.	Patton Construction, Co.	$175,878.00

Funding

Funding for this project is provided for in the Adopted FY2025 CIP, Compton Alley Improvement Project.

Recommendation

It is recommended that the contract for this project be awarded to SFMA, LLC a Minority Business Enterprise (MBE), Disadvantaged Business Enterprise (DBE), and Small Business Enterprise (SBE), from Beechcraft Avenue, Gaithersburg, Maryland., for their bid of $72,550.75, with an additional contingency of $7,449.25, for a total of $80,000.00. SFMS, LLC. has previously completed projects for the City.

Should you have any questions or desire further information, please contact Timothy Miller, Director at 301-725-0088, extension 3206.

Financial Review:

Michele Saylor

S. Michele Saylor, Director
Department of Budget and Personnel Services

Date

cc: Christian L. Pulley, CPM, City Administrator

MAYOR AND CITY COUNCIL OF LAUREL

DEPARTMENT OF PUBLIC WORKS

305-307 First Street • Laurel, Maryland 20707 (301) 725-0088

http://www.cityoflaurel.org • email – dpw@laurel.md.us Fax (301) 498-5266

August 6, 2024

MEMORANDUM

To: Mayor Keith Sydnor
Council President James Kole
Laurel City Councilmembers

Thru: Joanne Hall Barr, Deputy City Administrator JHB
From: Tim Miller, Director of Public Works
Subject: Bid Recommendations for Virginia Manor Court

The Department of Public Works is requesting approval for Construction Project LA 24-005, Viginia Manor Court Street Improvements.

Project Scope

This project includes the milling and overlay, placement of a Geotextile fabric, repair of concrete sidewalk, pedestrian ramps, concrete curbing, and striping for Virginia Manor Court in the City of Laurel, Maryland.

Bid Results

At a sealed bid opening at 10:00 AM, on July 31, 2024, the City received a total of six (6) bids for this project. The bids received ranging from lowest to highest are as follows as were read aloud:

1.	E & R Services	$119,367.50
2.	SFMS, LLC	$121,845.00
3.	American Asphalt Paving Co.	$132,202.25
4.	Espina Paving, Inc.	$145,585.00
5.	Ross Contracting, Inc.	$151,045.00
6.	ECM Corp.	$177,725.00

Funding

Funding for this project is provided in the Amended FY2025 CIP, Virginia Manor Court Street Improvement Project.

Recommendation

It is recommended that the contract for this project be awarded to E & R Services, Inc. a Minority Business Enterprise (MBE), Disadvantaged Business Enterprise (DBE), and Small Business Enterprise (SBE), from Lanham, MD, 20706, for their bid of $119,367.50, with an additional contingency of $11,632.50, for a total of $131,000. E & R Services, Inc. has previously completed projects for the city.

Should you have any questions or desire further information, please contact Timothy Miller, Director at 301-725-0088, extension 3206.

Financial Review:

S. Michele Saylor, Director
Department of Budget and Personnel Services

8/21/2024
Date

cc: Christian L. Pulley, CPM, City Administrator

MAYOR AND CITY COUNCIL OF LAUREL
OFFICE OF THE CITY ADMINISTRATOR
ENVIRONMENTAL PROGRAMS

8103 Sandy Spring Road • Laurel, Maryland 20707 (301) 725-5300 extension 2203
www.cityoflaurel.org • email – GREENLIVING@LAUREL.MD.US Fax (301) 490-5068

August 19, 2024

MEMORANDUM

TO: Mayor Keith R. Sydnor
Council President James Kole
Laurel City Councilmembers

THRU: Joanne Hall Barr, Deputy City Administrator JHB

FROM: Michele Blair, Sustainability Manager MB

SUBJ: Purchase – Rehrig Vision Service Verification Hardware/Software

As part of the City's commitment to long-term sustainability, the Mayor and City Council passed Ordinance No. 2010, which established the organics composting program and defined compliance of collection and provided an effective date.

Education and Outreach as well as compliance is based on accurate reporting of collections and areas of compliance that need to be addressed. The Rehrig Vision Service Verification Hardware and Software is an addition to the existing Vision Inventory Software and will enable the City to gather data on city-wide collections, provide the collection crews with a means to safely and effectively report such issues, accurately manage the City's assets (trash/recycling and composting carts) and enable the Sustainability Division to provide focused educational information to residents.

Background:

The vendor for this purchase is Rehrig Pacific Company, under **Omina/US Communities contract pricing (Contract #00254)**. Rehrig Pacific is a sole source vendor for the vision-based service verification platform supporting the current inventory system used by the City – Vision Software. The hardware can be mounted on multiple vehicles to accommodate new vehicles or vehicles that are out of service as necessary.

Specifications:

One-time cost $99,300.00

a. Vision RFID Reader – quantity 8 units for all trash/recycling and composting vehicles. Verifies location and type of collection using the built-in RFID tags on the collection carts.
b. Observation Panel Kit – quantity 8 for all trash/recycling and composting vehicles. Allows the driver to report issues and flags them for staff review.
c. RFID Reader Camera – quantity 8 – allows for picture of the address and allows staff to customize outreach and education.

Software cost for 8 trucks -- $14,400/year.

a. Web-based collection data tracking, service verification reporting, live vehicle location, truck and route details in map center.

Funding:

Funding for this purchase is provided in the Adopted FY2025 CIP - Environmental Programs Project.

Recommendation:

It is recommended that the City approve one-time purchase of the Rehrig Vision Service Verification Hardware ($99,300) and provide for one year of the software costs ($14,400) for a total purchase of $113,700.

Should you have any questions or desire further information, please contact Michele Blair at 301-725-5300 extension 2203.

Reviewed for funding:

Michele Saylor — 8/19/2024

S. Michele Saylor, Director — **Date**
Department of Budget and Personnel Services

MAYOR AND CITY COUNCIL OF LAUREL
DEPARTMENT OF COMMUNITY RESOURCES & EMERGENCY MANAGEMENT
8103 Sandy Spring Road • Laurel, Maryland 20707 (301) 725-5300 x2232
http://www.cityoflaurel.org • ccornwell@laurel.md.us

August 15, 2024

MEMORANDUM

TO: Honorable Keith R. Sydnor
Mayor

Honorable James Kole
Council President

Laurel City Councilmembers

THRU: Joanne Barr
Deputy City Administrator

FROM: Christina L. Cornwell, CPM, CEM
Director/Emergency Manager

SUBJ: Subaward Agreement for Hazard Mitigation Grant

The Department of Community Resources and Emergency Management (CREM) is requesting approval of a subaward agreement between the City of Laurel and the Maryland Department of Emergency Management (MDEM) regarding a reimbursable hazard mitigation grant for emergency back-up generators.

Background:

The emergency back-up generator project will consist of replacing aging diesel-powered generators with high efficiency state-of-the-art natural gas-powered generators at five (5) critical facilities.

Joseph R. Robinson Laurel Municipal Center
8103 Sandy Spring Road
Laurel, MD 20707

Barkman-Kaiser Public Safety Complex (Police Department)
3811 Fifth Street
Laurel, MD 20707

Fairall Foundry Public Works Complex
305-307 1st Street
Laurel, MD 20707

Parks & Recreation Maintenance Facility
7705 Old Sandy Spring Road
Laurel, MD 20707

Laurel Armory Anderson & Murphy Community Center
422 Montgomery Street
Laurel, MD 20707

MAYOR AND CITY COUNCIL OF LAUREL
DEPARTMENT OF COMMUNITY RESOURCES & EMERGENCY MANAGEMENT
8103 Sandy Spring Road • Laurel, Maryland 20707 (301) 725-5300 x2232
http://www.cityoflaurel.org • ccornwell@laurel.md.us

This project will be completed in two (2) phases. Phase 1 will consist of an electrical assessment and coordination with Baltimore Gas and Electric on any required gas service upgrades. Phase 2 is slated for the construction and installation of the generators.

Funding:

Funding for this project has been approved in the FY2025 Capital Improvement Projects (CIP) – Hazard Mitigation Project. The Federal Emergency Management Agency (FEMA) has approved phase 1 of this project at $245,399.25. This grant is a 90% Federal share and 10% non-Federal share. Therefore, the City's cost share for phase 1 of the project is $25,831.50.

	Federal Share	Non- Federal Share	Total Share
Project Costs	$232,483.50(90%)	$25,831.50(10%)	$258,315.00
Subrecipient Management Costs	$12,915.75(100%)	$0.00 (0 %)	$12,915.75
Total	$245,399.25	$25,831.50	$271,230.75

Recommendation:

It is recommended that the City Council and Mayor approve this subaward to proceed with phase 1 of the back-up generator project.

Should you have any questions, please contact Christina Cornwell at 301-725-5300 x2232 or ccornwell@laurel.md.us.

Reviewed for funding:

Michele Saylor
S. Michele Saylor, Director
Department of Budget and Personnel Services

8/19/2024
Date

cc: Christian L. Pulley, CPM
City Administrator

Michele Saylor
Director – Budget and Personnel Services

Bill Bailey
Director – Parks and Recreation

James Cornwell-Shiel
Director – Information Technology

Pat Haag
Risk Manager

Attachment