AGENDA

Joint Meeting of the Warren County Planning Commission and the Warren County Board of Supervisors

February 10, 2021

6:00 PM

Welcome by Planning Commission Chairman and Board of Supervisors Chair

A. Call to Order and Pledge of Allegiance of the United States of America

B. Joint Public Hearing – R2020-10-01, Request of Dudding Commercial Development, LLC to Rezone a Portion of Land Identified on Tax Map 31 as Parcel 39 from Agricultural (A) to Commercial (C) – Taryn Logan

   1. Statement of Justification, Rezoning Application, PowerPoint Presentation
   2. Agency/Department Comments and Reports/Assessments
   3. Public Comments

C. Discussion and Recommendation by the Warren County Planning Commission

D. Discussion and Motion by the Warren County Board of Supervisors

E. Adjournment

STATEMENT OF JUSTIFICATION

Dudding Commercial Development LLC, a West Virginia limited liability company ("Dudding") has a contractual right to purchase a fifteen (15) acre tract or parcel located in Happy Creek Magisterial District, Warren County, Virginia, identified as part of Tax Map/Parcel 31 39, and being more particularly described as Tract A in that certain Deed from Paul O. Lanier and Zaida A. Lanier to Four-L Corporation, a Virginia corporation, dated February 8, 1982 and recorded in Book 291, Page 159 (the "Subject Property"). The Subject Property is currently zoned as Agricultural (A). Dudding seeks to have 6.45 acres, more or less, of the Subject Property rezoned as Commercial (C) to facilitate the development of a convenience store.

Specifically, Dudding intends to lease a portion of the Subject Property to Sheetz, Inc., a Pennsylvania corporation ("Sheetz"), for the development and construction of a new Convenience Store with approximately forty-eight (48) parking spaces, and a Drive-Thru lane. In addition to the new Convenience Store, Sheetz has agreed to construct a paved cul-de-sac for use as a public school bus turnaround and a student shelter area serving school-aged children residing in the nearby Apple Mountain subdivision, along with approximately thirty (30) parking spaces for parent pick up / drop off. Ingress, egress and regress to and from the Subject Property will be provided via Apple Mountain Road.

The use of the Subject Property as a Convenience Store is consistent with the Warren County Comprehensive Plan and is an appropriate use given the proximity of the Subject Property to Interstate 66. Rezoning the Subject Property from Agricultural (A) to Commercial (C) is desirable to allow for commercial and retail development along the existing exit off of Interstate 66. A convenience store is a permitted use in a Commercial (c) zone under and pursuant to the Zoning Ordinance of Warren County, Virginia. The Convenience Store and school bus stop located on the Subject Property will be complimentary to the residential use of the adjacent properties located in Apple Mountain residential subdivision.

WCREZ-000004-2020

REZONING APPLICATION

APPLICATION NO. R2020-10-01
DATE RECEIVED: 9/22/2020 revised acreage on 11/6/2020
FEE AMOUNT: $ 2000.00
DATE PAID: 9/22/2020

Applicant:

Name:	Dudding Commercial Development LLC
Address:	101 Old Carriage Lane
	Daniels, West Virginia 25832
Telephone: (304) 237-8574	Email: jerime@duddingcommercial.com

Owner of Record: (if different than above; if more than one owner provide information for each on a separate page).

Name:	Four-L Corporation
Address:	2801 Chapel Hill Road, Goochland, Virginia 23063
Telephone :	(804) 240-9394

Respectfully (name above) request that a determination be made by the Warren County Planning Commission and Board of Supervisors on the following request for a rezoning for the property described below.

Property Information:

A. Location of Property:

Election District:	Happy Creek Magisterial District
Tax Map No.:	31 39 (part of)
Section:	Current Deed: Book 291, Page 160 (Tract A)
Block:	
Lot(s):	
Subdivision Name:	Adjacent to Apple Mountain Subdivision
Area of Property (acres):	6.45 acres out of existing 15 acre tract or parcel

B. Current land use and condition of site: Agricultural/Unimproved/Undeveloped

C. Zoning of surrounding land and property: R-1 (Residential - 1) to the North of the property
Interstate 66 and Commercial (C) to the South

Zoning Classification and Request:

A. Present Zoning of property: Agricultural (A)

B. Proposed Zoning requested: Commercial (C)

Proposed Use of Property:

A. Describe the proposed use of the property, including primary and secondary uses.
2.35 acres - Convenience Store - Primary Use
1.15 acres - Bus Stop/School Bus Pick Up/Drop Off - Secondary Use
11 acres - Undeveloped/Unimproved

Plans Prepared by:

Name: Bohler Engineering VA, LLC
Address: 28 Blackwell Park Lane, Suite 201
Warrenton, VA 20186
Telephone :(540) 349-4500

I/we the undersigned, do hereby respectfully agree to comply with any conditions required by the Board of Supervisors of the County of Warren, Virginia, and authorize the County personnel to go upon the property for the purpose of making site inspections. Expenses incurred in securing professional assistance in connection with the review of this application for Rezoning, shall be charged to the applicant. **If the set of required documents is incomplete, your application will not be placed on the Planning Commission's agenda.**

Signature of Owner:	Date:
Signature of Applicant:	Date: 9-16-20
Signature of Co-Applicant(s):	Date:

Zoning Classification and Request:

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B. Proposed Zoning requested: Commercial (C)

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FOUR L CORPORATION

Signature of Owner: P.D. Hanna, PRES	Date: 9/16/2020
Signature of Applicant:	Date:
Signature of Co-Applicant(s):	Date:

BOOK 291
PAGE 159

THIS DEED, made this 8th day of February, 1982, by and between PAUL O. LANIER and ZAIDA A. LANIER, his wife, parties of the first part; and FOUR-L CORPORATION, a Virginia corporation, party of the second part;

W I T N E S S E T H:

That for and in consideration of the sum of Ten Dollars ($10.00), and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties of the first part do hereby grant and convey with General Warranty and English Covenants of Title, with the exceptions hereinafter stated, unto the party of the second part, all of the right, title and interest of Paul O. Lanier in and to the real estate described on Schedule A attached hereto.

This conveyance is made subject to all existing easements, conditions and agreements of record applicable thereto. Mrs. Zaida A. Lanier joins in this deed to release her dower interest.

WITNESS the following signatures and seals:

Paul O. Lanier [SEAL]

Zaida A. Lanier [SEAL]

STATE OF VIRGINIA)
) to-wit:
County of Stockland)

The foregoing Deed was acknowledged before me this 12th day of February, 1982, by Paul O. Lanier and Zaida A. Lanier, his wife.

Notary Public

[SEAL]

My Commission expires:
PUBLIC 4-24-82

SCHEDULE A

ALL of that certain real estate with all improvements thereon and all rights, easements and appurtenances thereunto belonging, lying and being situate north of Virginia Route #55, approximately one mile west of Linden, in Shenandoah Magisterial District of Warren County, Virginia, and bounded and described according to the surveys and plats made by R. M. Bartenstein, C.L.S., attached to the hereinafter mentioned deed, as follows, to-wit:

(1) TRACT A: "BEGINNING at (F), a point corner to the residue of Prieto and in the northern right of way line of the proposed I-Rt. 66, thence with the said proposed I-Rt. 66 as follows: S. 14° 03' 13" W. 167.89 feet to (A), a point, thence N. 86° 43' 18" W. 583.71 feet to (B), a point, thence with a curve to the right having a radius of 2768.79 feet, a delta angle of 09° 20' 30", and an arc length of 451.44 feet to (C), an iron pipe to be set corner to the Apple Mountain Subdivision, thence leaving the said proposed I-Rt. 66 and with the Apple Mountain Subdivision as follows: N. 16° 57' 42" E. 769.08 feet to (D), an iron pipe to be set, thence S. 73° 02' 18" E. 977.10 feet to (E), an iron pipe to be set, thence first with the Apple Mountain Subdivision then the residue of Prieto (Tract C), S. 13° 33' 47" W. 366.00 feet to (F), the point of beginning, the said tract of land containing 15.0000 Acres; and

(2) TRACT B: BEGINNING at (J), a point in the right of way line of the proposed I-Rt. 66 and corner to the residue of Prieto (Tract C), thence leaving the proposed I-Rt. 66 and first with the residue of Prieto and then Apple Mountain Subdivision N. 13° 33' 47" E. 352.94 feet to (K), an iron pipe to be set corner to Apple Mountain Subdivision, thence with said subdivision as follows: S. 73° 02' 18" E. 1123.23 feet to (L), an iron pipe to be set, thence S. 16° 57' 42" W. 659.75 feet to (M), an iron pipe to be set, in the northern right of way line of the proposed I-Rt. 66, thence with the said right of way line with a curve to the right having a radius of 1833.86 feet, a delta angle

of 25° 24' 45", and an arc length of 749.36 feet to (N), a point, thence N. 52° 46' 44" W. 41.61 feet to (O), a point, thence N. 63° 03' 56" W. 319.45 feet to (P), a point, thence N. 11° 13' 29" E. 127.67 feet to (J), the point of beginning, the said tract of land containing 15.0000 Acres; and

(3) TRACT D: BEGINNING at (A), an iron pipe set in the southern right of way line of the proposed Interstate Route 66 and corner to White, thence leaving the proposed Interstate Route 66 and with White S. 42° 32' 45" W. 75.75 feet to (B), an iron pipe set on the north side of an old abandoned road corner to Heflin, thence with Heflin N. 69° 15' 58" W. 231.00 feet to (C), an iron pipe set, thence S 87° 44' 05" W. 206.51 feet to (D), an iron pipe set in the center of said road and corner to Martin, thence first with Martin, then an unknown tract, and the center of the said old road as follows: S. 85° 04' 49" W. 234.50 feet to (E), an iron pipe set, thence S. 88° 29' 51" W. 220.48 feet to (F), an iron pipe set in the northern right of way line of Virginia Route 55, thence with the said right of way line as follows: With a curve to the left having a radius of 5779.58 feet, a delta angle of 01° 12' 00" and an arc length of 121.05 feet to (G), an iron pipe set, thence N. 79° 03' 25" W. 101.29 feet to (H), a point located S. 60° 54' 07" E. 0.97 feet from a Virginia Department of Highways monument, thence with a curve to the left having a radius of 5769.58 feet, a delta angle of 03° 29' 02", and an arc length of 350.82 feet to (I), an iron pipe set, thence N. 77° 22' 31" W. 551.60 feet to (J), a point located N. 44° 13' 23" W. 1.46 feet from a Virginia Department of Highways monument, thence N. 68° 50' 40" W. 101.12 feet to (K), an iron pipe set, thence N. 77° 22' 31" W. 150.00 feet to (L), a point located N. 09° 04' 39" W. 0.53 feet from a Virginia Department of Highways monument, thence N. 85° 54' 22" W. 101.12 feet to (M), a point located N. 83° 14' 24" W. 1.03 feet from a Virginia Department of Highways monument, thence N. 77° 22' 31" W. 369.67 feet to (N), an iron pipe set in the right of way line of the proposed Interstate Route 66, thence with the said right of way line as follows: N. 45° 01' 42" W. 108.78 feet to (O), an iron pipe set, thence N. 13° 33' 47" E. 159.51 feet to (P), an iron pipe set, thence N. 48° 07' 19" E. 141.88 feet to (Q), an iron pipe set, thence N. 84° 00' 01" E. 670.46 feet to (R), an iron pipe set, the beginning of

a curve to the right having a radius of 1833.86 feet, a delta angle of 19° 00' 36", and an arc length of 608.45 feet to (S), an iron pipe set, thence S. 62° 26' 23" E. 812.64 feet to (T), an iron pipe set, thence S. 57° 00' 25" E. 440.2[illegible] feet to (U), an iron pipe set, thence S. 62° 03' 21" E. 334.73 feet to (A), the point of beginning, the said tract of land containing 28.2397 Acres; and

(4). TRACT E: BEGINNING at (A), a point in the center of Virginia Route 647 and corner to the parcel previously acquired by the Virginia Department of Highways referred to in Deed Book 149, Page 496, thence leaving the said road and with the above mentioned parcel N. 13° 33' 47" E. passing through an iron pipe to be set at 25.00 feet, 290.14 feet in all to (B), an iron pipe to be set in the southern right of way line of the proposed Interstate Route 66, thence with the said right of way line as follows: S. 76° 26' 13" E. 510.00 feet to (C), a point, thence S. 67° 24' 19" E. 817.44 feet to (D), a point, thence S. 68° 14' 09" E. 561.67 feet to (E), a point, thence S 27° 10' 40" E. 71.67 feet to (F), a point, thence S. 13° 33' 47" W. 350.00 feet to (G), a point, thence S. 78° 47' 12" W. 65.81 feet to (H), an iron pipe or spike to be set in the center of Virginia Route 647, thence with the center of the said route N. 56° 58' 43" W. 716.33 feet to (J), a point in the eastern right of way line of the proposed relocated Virginia Route 647, thence with the said right of way line with a curve to the left having a radius of 411.97 feet, a delta angle of 19° 36' 46", and an arc length of 141.02 feet to (K), a point, thence S. 35° 32' 48" W. 30.00 feet to (L), a point in the center of Virginia Route 647, thence with the center of the said route N. 56° 11' 35" W. 25.93 feet to (M), a point, thence leaving the center of Virginia Route 647 and with the center of an old abandoned road N. 21° 06' 22" W. 26.10 feet to (N), a point 15.00 feet from the center of Virginia Route 647, thence with a line 15.00 feet from the said center of Virginia Route 647 and parallel to same, the general courses of which are as follows: N. 56° 11' 35" W. 245.25 feet to (O), a point, thence N. 60° 58' 03" W. 99.19 feet to (P), a point, thence N. 72° 51' 02" W. 95.92 feet to (Q), a point, thence N. 83° 02' 05" W. 58.04 feet to (R), a point in the center of the aforementioned abandoned road, thence with the center of the said road S. 84° 56' 52" W. 72.04 feet to (S), a point in the center of Virginia

Route 647, thence with the center of the said route, the general courses of which are as follows: N. 89° 51' 34" W. 137.20 feet to (T), a point, thence N. 85° 29' 32" W. 87.01 feet to (U), a point, thence N. 79° 34' 05" W. 137.96 feet to (V), a point, thence N. 76° 12' 26" W. 110.65 feet to (A), the point of beginning, the said tract of land containing 12.7861 Acres," and being a part of the real estate which was conveyed to Serafin G. Prieto by C. W. Keyser and Mary H. Keyser, his wife, by deed dated January 20, 1948, and recorded in the Clerk's Office of Warren County, Virginia, in Deed Book #68, at Page 471, to which said deed reference is hereby made for a further description of the real estate herein and hereby conveyed.

BEING the same real estate conveyed to Paul O. Lanier by two Deeds, one Deed dated May 29, 1975, from William P. Clarke and Emma C. Clarke, recorded in the Circuit Court of Warren County, Virginia, on June 17, 1976, in Deed Book 233, page 163, and another Deed dated May 29, 1976, from J. Goodwin Moore and Barbara H. Moore, recorded in the above-mentioned Clerk's Office on June 17, 1976, in Deed Book 233, page 155.

Tax Paid
Sec 58-54 440.30
Sec 58-54.1 16.50

In the Clerk's Office of the Circuit Court of Warren County, Virginia, July 23, 1982 at 1:22 P.M. This instrument was received and, with the certificate annexed, admitted to record.

Teste: William R. Hell Clerk
William R. Hell

REZONING REQUEST PROFFERS
02/4/2021

Rezoning:	Agricultural to Commercial ("C")
Property:	6.45, more or less, in Happy Creek Magisterial District, being part of Tax Map No. 31 39, and being identified as Tract A in Deed Book 291, Page 160 (the "Property")
Record Owner:	Four-L Corporation
Applicant:	Dudding Commercial Development, LLC

I. General Statement

Dudding Commercial Development LLC, a West Virginia limited liability company ("Dudding"), on behalf of itself and Sheetz, Inc., and their respective successors and assigns, proffers and agrees to develop the subject property, and to build and construct certain improvement thereon including, without limitation, a convenience store and school bus stop, in accordance with (a) the final plans and specifications prepared by the project engineer and approved by all required Federal, State, County and Municipal government agencies or quasi-governmental agencies having jurisdiction over the subject property, which plans and specifications shall be consistent with the site plan submitted with this application in all material respects, (b) all applicable Federal, State, County and Municipal government or quasi-governmental laws, statutes, ordinances and/or codes, together with any rules and/or regulations promulgated thereunder or adopted in connection therewith, and (c) any permits, consents or approvals issued in connection with Dudding's proposed project on the subject property

II. Explanation of Applicability

A. The undersigned hereby voluntarily proffers that the use and development of the Property shall be in strict conformance with the following conditions, which shall supersede all other proffers that may have been made prior hereto. In the event the above referenced rezoning is not granted as applied for by the Applicant, these proffers shall be withdrawn and shall be null and void. If this application is denied by the Warren County Board of Supervisors (the "Board"), but in the event an appeal is for any reason thereafter remanded to the Board for reconsideration by a court of competent jurisdiction, then these proffers shall be deemed withdrawn unless the Applicant shall affirmatively readopt all or any portion hereof, in a writing specifically for that purpose.

B. The headings of the proffers set forth below have been prepared for convenience or reference only and shall not control or affect the meaning or be taken as an interpretation of any provision of the proffers. The improvements proffered herein shall be provided at the time of development of that portion of the Property to be served by the improvement or other proffered requirement, unless otherwise specified herein.

C. All land use plans, surveys, reports and similar documents submitted as part of the application by Applicant are for demonstrative purposes only and do not constitute any type of proffer by or on behalf of the Applicant or the owner of the Property. However it is understood that if the application is approved the development will substantially conform with the conception plans.

D. The proffers set forth in these Amended Proffers shall supersede any other proffers made prior to these Amended Proffers.

III. Proffers

A. Land Use

1. Development of the Property shall be developed in accordance with the regulations of the Commercial ("C") zoning district as are set forth in the Warren County Code or as may otherwise be approved by the Warren County Board of Supervisors in conformance therewith.

2. The following uses shall be prohibited in the above-referenced Property:

A. Auction houses

B. Bulk gasoline and petroleum storage

C. Fairgrounds or racetrack

D. Amusement Park

E. Commercial Campground

F. Auto Sales

G. Commercial (repair) garage or wrecking service

3. Applicant shall comply with all local, state, and federal regulations applicable to the development of the Property, including those laws, statutes, and regulations pertaining to environmental quality and wetlands.

4. Applicant proffers that Applicant provide water service by private well and shall design, construct and install a private septic system, all in accordance with the minimum standards and specifications of the Commonwealth of Virginia Department of Health. The water well and septic system will be owned and maintained by the Applicant.

Applicant proffers to leave the residual property less a small buffer around the proposed development to an Open Space Easement. Therefore, restricting all future development on said residual property.

B. Architectural/Building Materials

1. Materials used for the facades of the buildings may include but not be limited to concrete masonry units (CMU), brick, architectural block, wood siding, metal, fluted block, tile, concrete tile, dryvit or other simulated stucco (EFIS), real or simulated wood and/or glass.

2. Applicant proffers that all building facades on the Property shall be compatible in architectural style, materials, colors, and details.

3. Applicant proffers that in the event there is a gasoline service station developed onsite, then the fuel storage tanks and appurtenances shall be installed in accordance with the standards of the National Fire Protection Association and the Virginia Uniform Statewide Building Code; further, such development and operation thereof will be performed under strict observation and compliance with 40 CFR 112 for Spill Prevention Control and Countermeasures.

C. Landscaping, Grading, and Erosion and Siltation Control

1. The Applicant shall comply with the landscaping, grading, and erosion and siltation control requirements of the Warren County Code and Virginia erosion and sediment control law.

D. Business Identification Signs

2. The Applicant hereby proffers that, for that portion of the Property to be rezoned to the Commercial C District, all business identification signs will conform to a comprehensive signage program to be approved by the Applicant and shall be in compliance with the applicable provisions of the Warren County Code, as amended.

E. Public Use Dedication

1. In connection with its intended project, Applicant shall build and construct a school bus turnaround with a designated parking and pick up / drop area on and about a portion of land within the Property mutually agreeable to the County of Warren and the Applicant and shall dedicate and/or transfer such portion of the land to Warren County Public Schools. Provided, however, that such dedication of public park land shall take place only upon (i) the final approval of Applicant's subdivision application by the County of Warren, (ii) recordation of such finally approved subdivision plat among the land records of the Warren County Circuit Court Clerk's Office, and (iii) acceptance by the Warren County Public Schools.

F. Transportation

1. Applicant proffers that Applicant will cause to be prepared, at its sole expense, a revised Traffic Impact Assessment (the "TIA") for the Property based upon the final site plans. The Study shall include the off-ramps from I-66 and Apple Mountain Road. The TIA described in this Paragraph was submitted along with Applicant's initial site plan for commercial retail development on the Property. This TIA was deemed complete and approved by VDOT on January 29th, 2021.

2. In addition to any other conditions imposed upon Applicant's proffers set forth in this Section F, Applicant's duties, obligations, and responsibilities set forth in this Section F are expressly conditioned upon written confirmation by VDOT.

3. Applicant further proffers the following highway improvements will be constructed in conjunction with the revised TIA which is dated January 13th, 2020.:

4. All Roadway improvements and site access shall be designed and constructed in accordance with all current VDOT Regulations, Standards, and Specifications.

(a) Apple Mountain Road at Proposed Site Driveway:

- Applicant will provide one inbound lane and two outbound lanes on the site driveway; and

- Applicant will construct a northbound left-turn lane on Apple Mountain Road with 100 feet of storage and a 100-foot taper.

(b) Route 79 at I-66 Eastbound Ramps:

- Applicant will construct a southbound left-turn lane on Route 79 with 175 feet of storage and a 100-foot taper; and
- Applicant will widen and restripe the I-66 eastbound off-ramp to create a left-turn lane with 200 feet of storage.

(c) I-66 West Bound off Ramp:

- Applicant will construct an improved turning radius on the I-66 West bound off ramp. Turning radius will accommodate a WB-67 truck making the westbound right-turn from the I-66 West Bound Off Ramp.
- The existing right turn lane of the I-66 West Bound Ramp will be tested to ensure pavement adequacy.

G. Compliance with Laws

1. The Applicant hereby agrees that these proffers submitted with this Application shall comply with all applicable local, state, and federal laws and regulations.

Respectfully Submitted,
Dudding Commercial Development, LLC

By: _____
Jerime Dudding, its Member

Borrowers' Certification and Authorization to Release Loan Information

CERTIFICATION

I/We certify the following:

1. I/We have applied for a mortgage loan from AmeriSave Mortgage Corporation ("Lender").
2. First American Title Insurance Company-Mortgage Services Division ("First American") will be handling the settlement and/or title insurance on the Loan with Lender.

AUTHORIZATION TO RELEASE INFORMATION

Property Address: 101 OLD CARRIAGE LN, DANIELS, WV 25832

A. I/We hereby authorize you to release to First American its employees, agents and assigns, any and all information regarding the above referenced lien/loan above that First American, its employees, agents and assigns may request.

B. I/We hereby indemnify and hold you harmless by reason of your compliance with this Authorization to Release Information.

C. A copy of this authorization may be accepted as an original.

Michelle L. Dudding

Borrower Signature
Michelle L Dudding

Date: 2-4-21

Borrower Signature
Jerime K Dudding

Date: 2-4-21

Direction – Front Royal to Apple Mountain property.

1. Start out going **west** on E 6th St/VA-647 toward Belair Ave. Continue to follow E 6th St.

Then 0.34 miles

2. Turn **left** onto N Commerce Ave/US-522 S.
    1. Angel's Korner is on the corner

Then 1.19 miles

3. Turn **left** onto John Marshall Hwy/VA-55.
    1. John Marshall Hwy is 0.1 miles past Partsmouth Rd
    2. BB&T is on the corner

Then 4.71 miles

4. Turn **left** onto Apple Mountain Rd.
    1. Apple Mountain Rd is 0.1 miles past Dismal Hollow Rd

Then 0.16 miles

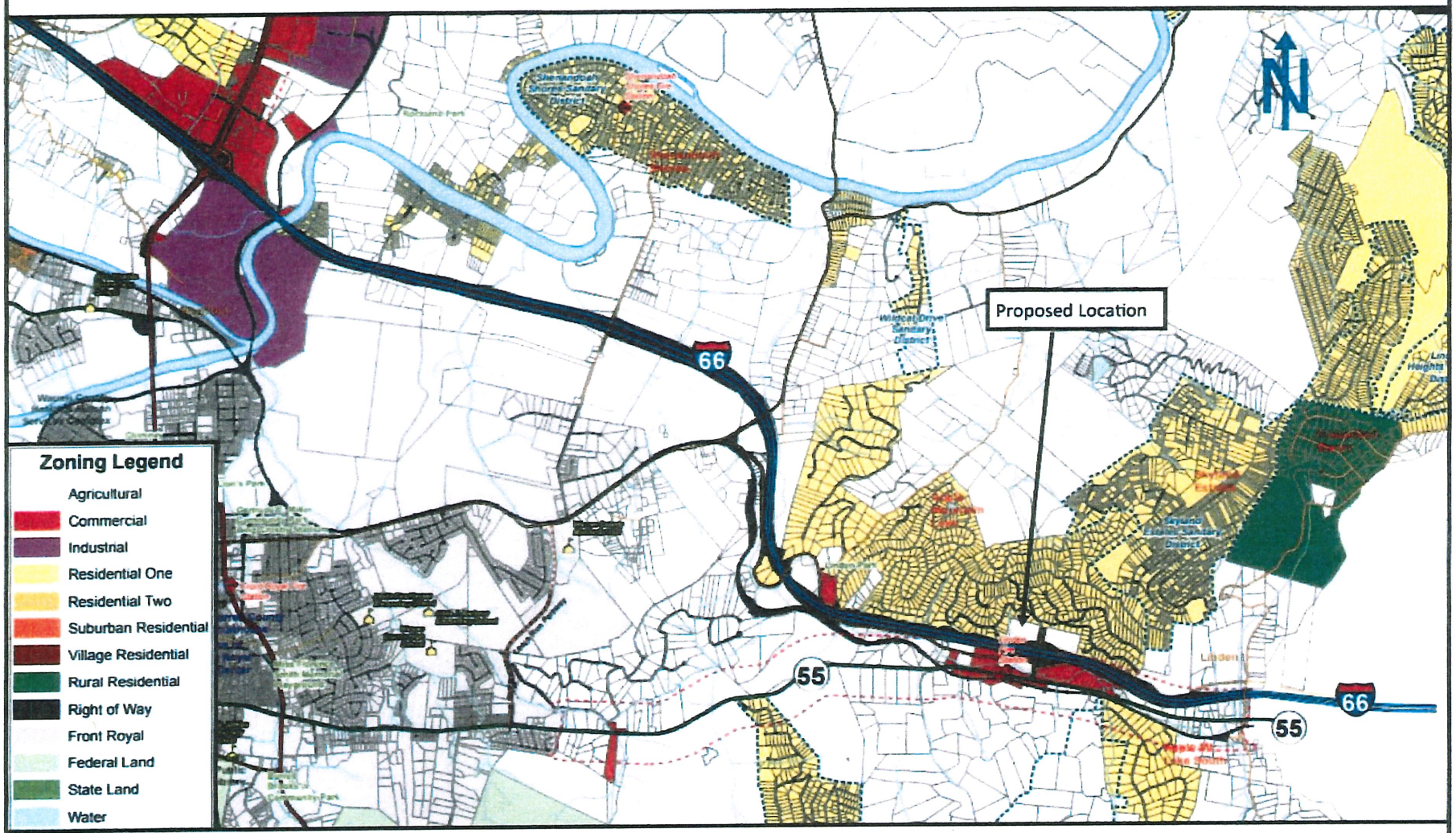
Cross under I-66, Property is on Left



Warren County, Virginia

Proposed Rezone Map

I-66 and Apple Mountain Rd. (Northwest Quadrant)



Deed—Book 291:Page 160 Tract A

15 Acres

Sheetz: Linden, VA (Apple Mountain Rd.)

Development Team:

Jerime Dudding – Dudding Commercial

Sheetz Project Team:

Bob Franks – Permitting/Engineering Manager

Hank Slicker – Real Estate Site Selector

Mike LaCesa – Real Estate Director

John Sieger – Environmental Compliance Manager

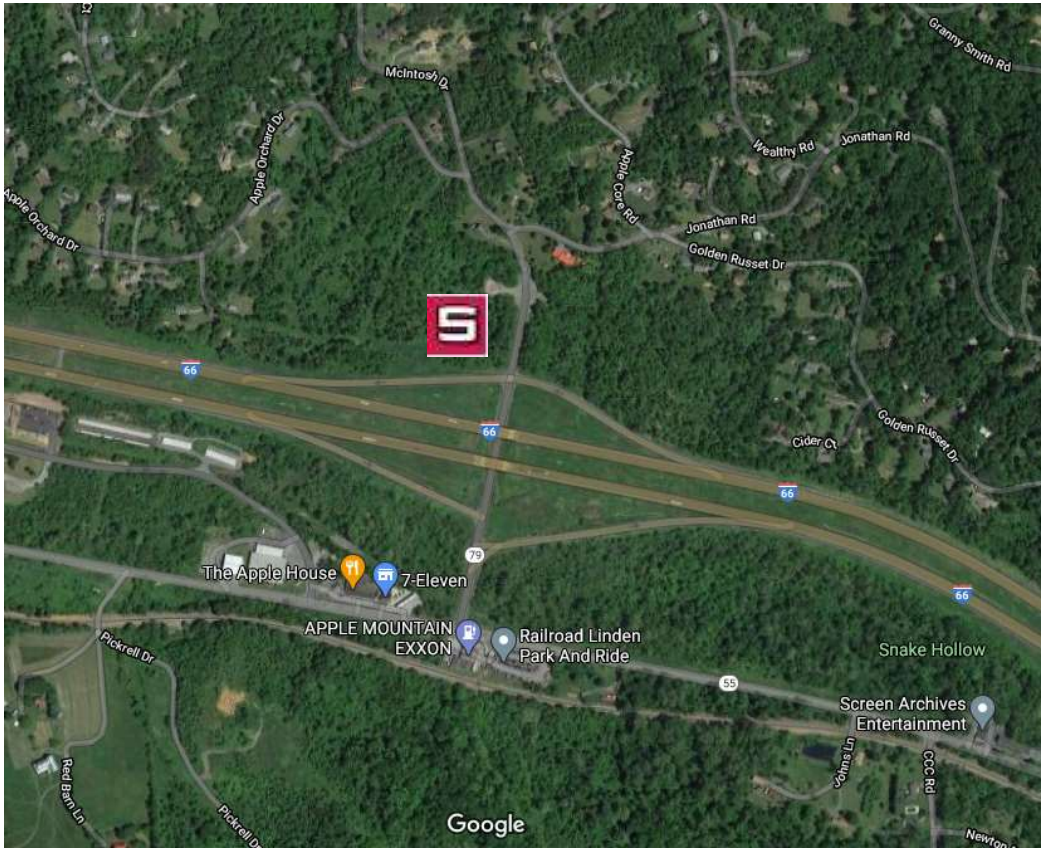
Consultants:

John Wright – Bohler

Carl Hultgren – Ramey-Kemp

Vincent Day – Cardno

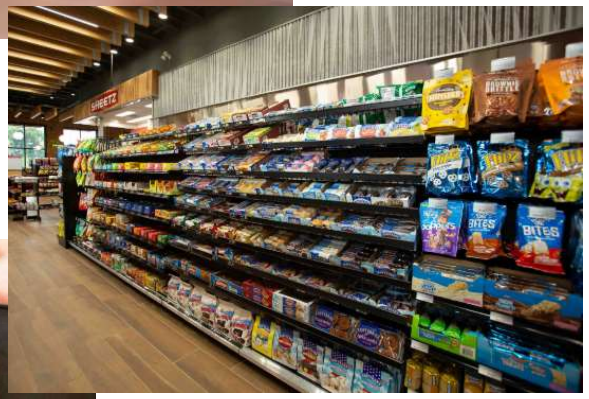
Joseph Silek – Legal Counsel



What's A Sheetz?









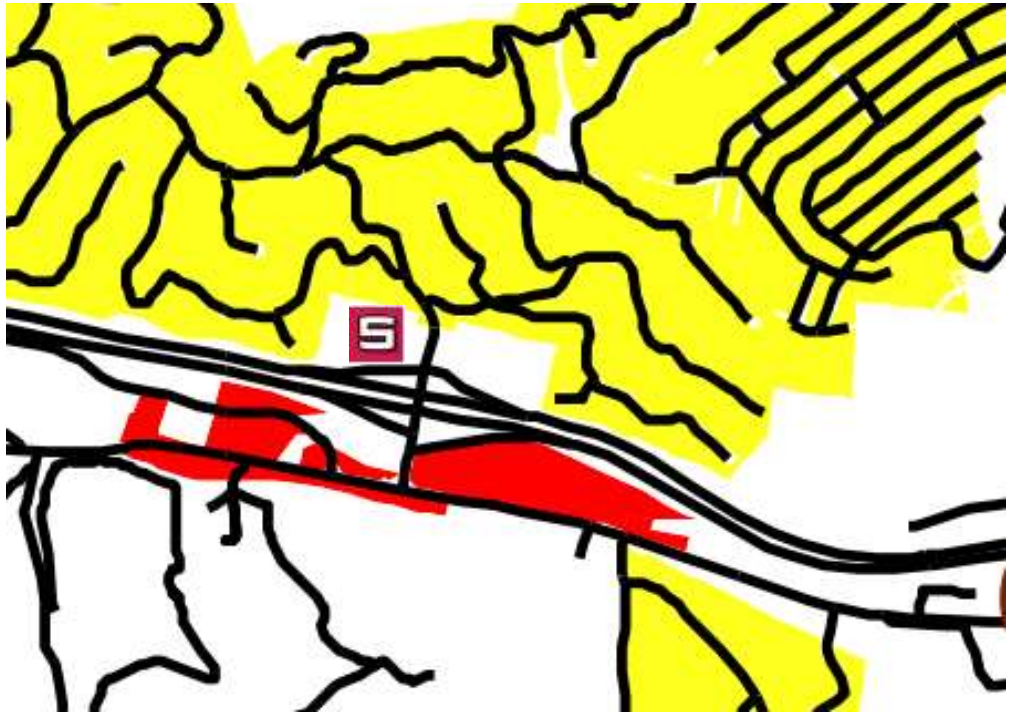
Sheetz is a Good Fit

- Good neighbor:
  - Sheetz has worked with the county school and HOA
  - Sheetz has listened to HOA and county staff to update/edit site plan
  - Sheetz is only rezoning appropriate land necessary for store/bus turnaround
  - Sheetz will provide great economic benefits to the county
- Committed to safety:
  - Construction of bus turnaround and shelter for county school
  - Providing a parking area that is well lit and has video surveillance
- Committed to environmental safety:
  - Installing state-of-the-art petroleum equipment

Warren County Comprehensive Plan

- Chapter 4 – Section 8:

"There are already several commercial and industrial uses located near the interchange of I-66 and U.S. Route 55, near the Village of Linden. Continued light commercial and industrial uses should continue to be permitted in this area, within the environment's limits to support such uses."



Timeline of Events

- June 11, 2020 – Met HOA representative at site
- June 11, 2020 – Met school representative at site
- June 20, 2020 – Met with HOA board (virtual meeting), presented old site plan
- August 19, 2020 – Met with HOA board (in person), presented updated site plan
- October 15, 2020 – Warren County Schools provides letter of acceptability
- November 12, 2020 – Presented to Planning Commission



BOHLER™

PROPOSED SHEETZ - LINDEN, VIRGINIA

PROPOSED CONCEPT PLAN - C

011.11.2020


SHEETZ
SHEETZ

Sheetz is Committed to Safety

- Good neighbor who is committed to safety of staff, patrons, and community
- Bus Turnaround:
  - Safely relocating bus turnaround from Apple Mountain Road
  - Specifications were provided from Warren County Transportation
  - Including shelter for students waiting for bus/ride
  - 30 parking spots
  - Lit for added safety
- Excellent relationship with police



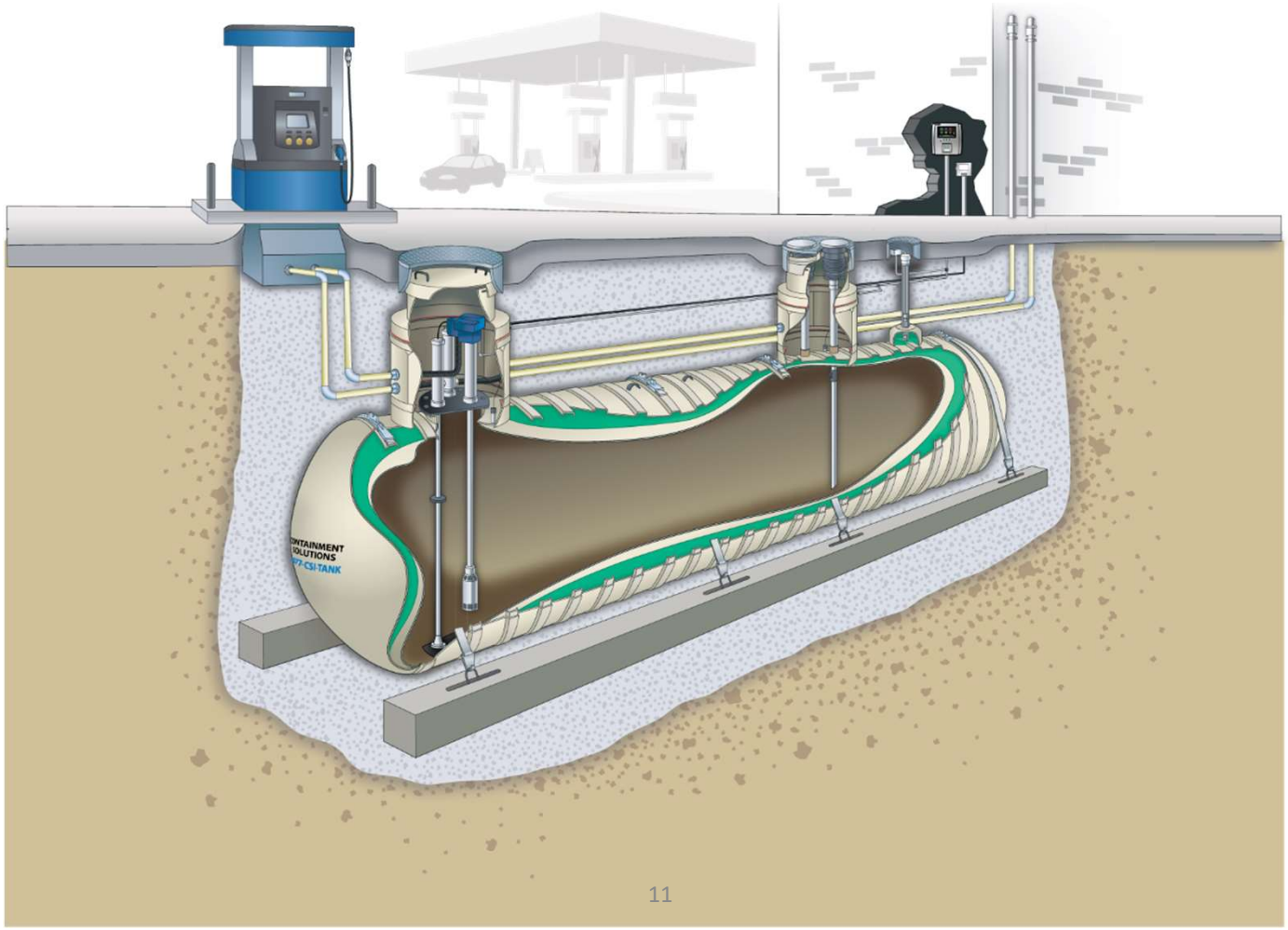
Sheetz is Committed to Safety

- Security Operations Center
  - 24/7/365 manned center for Sheetz stores
  - Respond to all Sheetz panic alarms (emergency pendants) – Dispatch as necessary
  - Voice down to all stores 3 to 4 times a day
- Comprehensive video surveillance with at least 48 cameras
  - Inside: most of store area
  - Outside: Pumps, most parking, dumpster area
  - The bus turnaround will also be included

Sheetz is Committed to Water Supply

- Cardno's Hydrogeological Report (Vincent Day, Senior Hydrogeologist) Findings:
  - Water recharge rates within the boundaries of the site appear more than adequate to supply water for proposed use.
  - A query of 40 well records within 1000 feet of the site revealed that the average yield is about 13 gpm; this statistic compared favorably with a study conducted by USGS.
  - Water usage for proposed use is relatively modest; requiring a well that can produce less than 2 gallons per minute (gpm).
  - Given the estimated recharge rate, the average yield of wells and the modest groundwater requirements, it is thought that adequate groundwater resources can be developed on the site.
  - It is Cardno's professional opinion that the proposed groundwater withdrawals would not be expected to interfere with the production of offsite supplies.

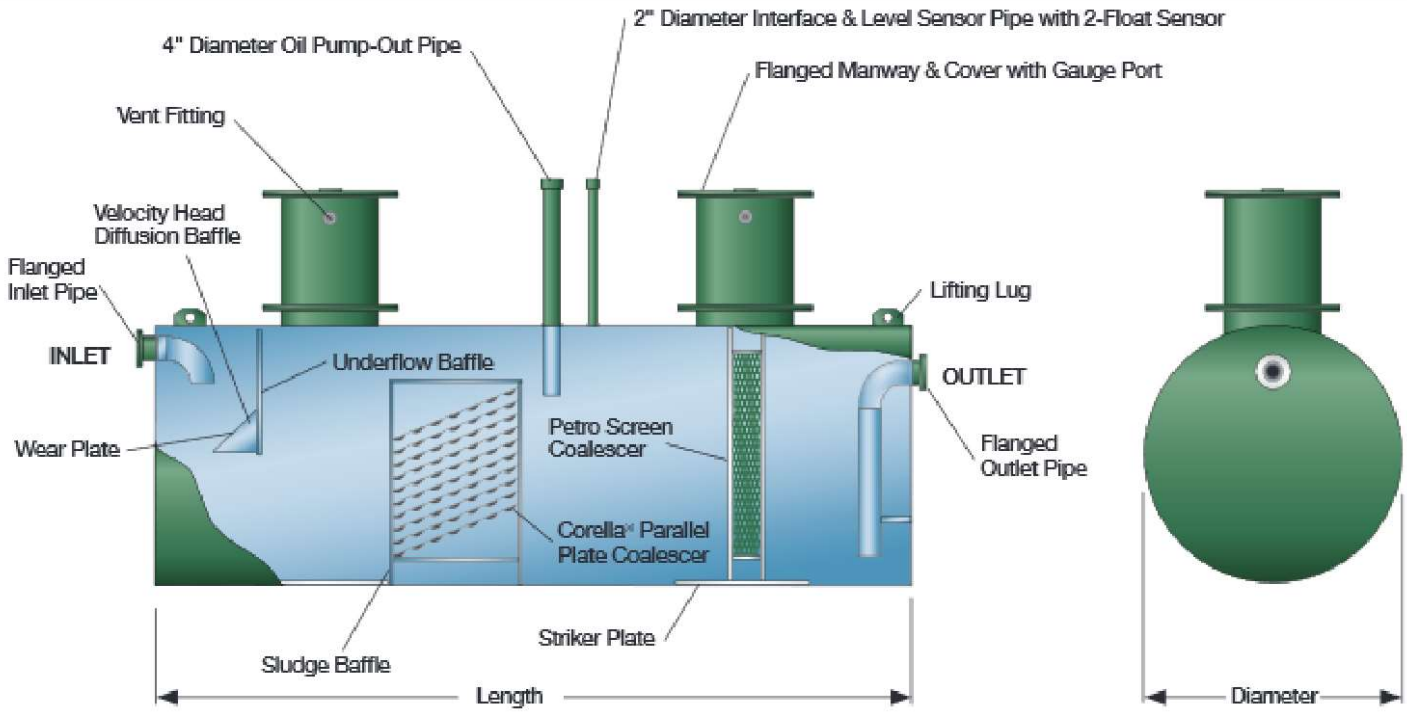
Sheetz is Committed to Environmental Safety

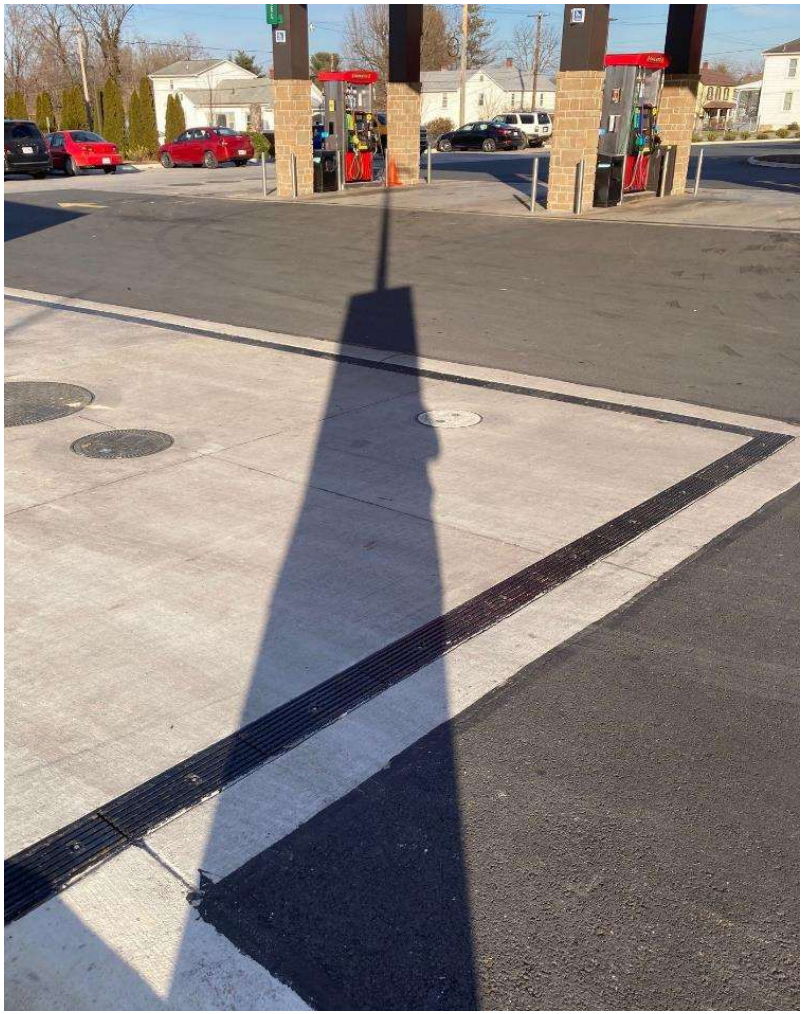


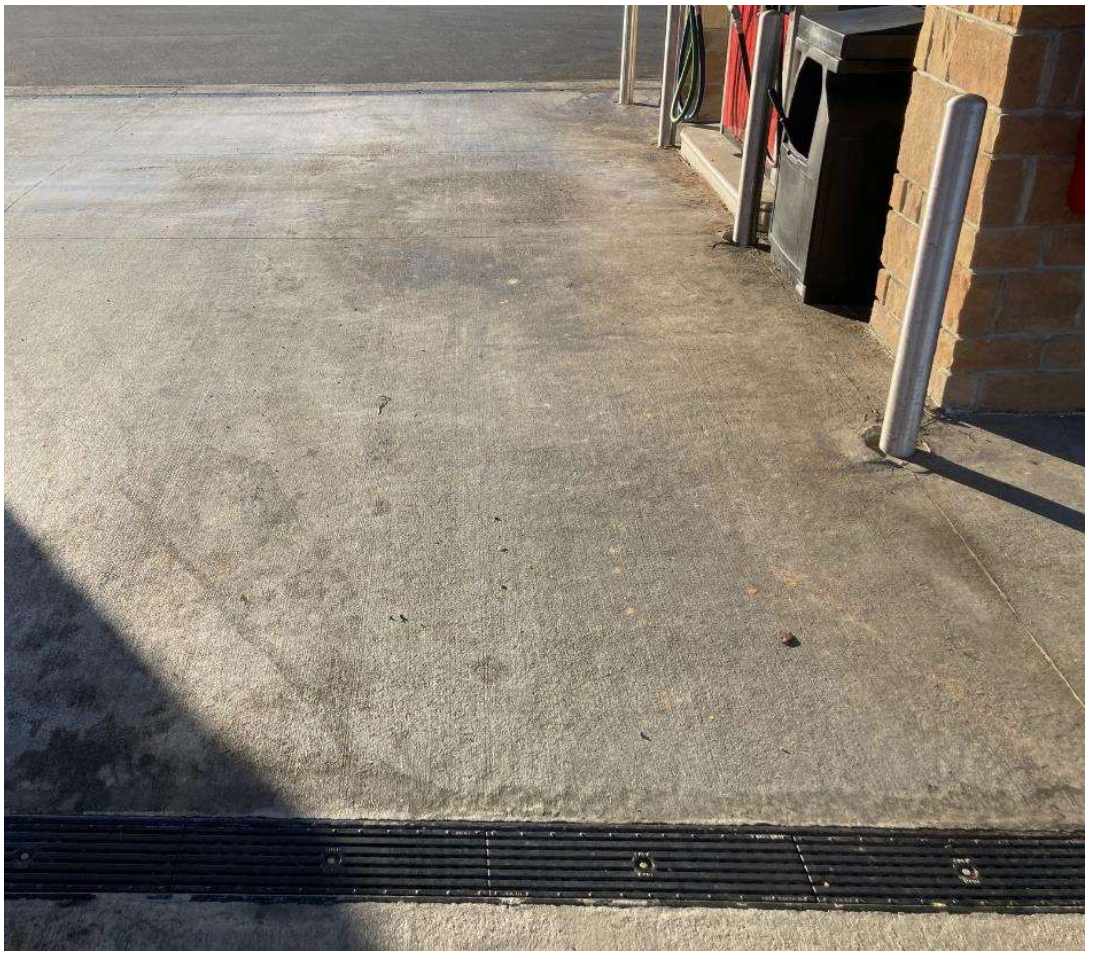
Sheetz is Committed to Environmental Safety

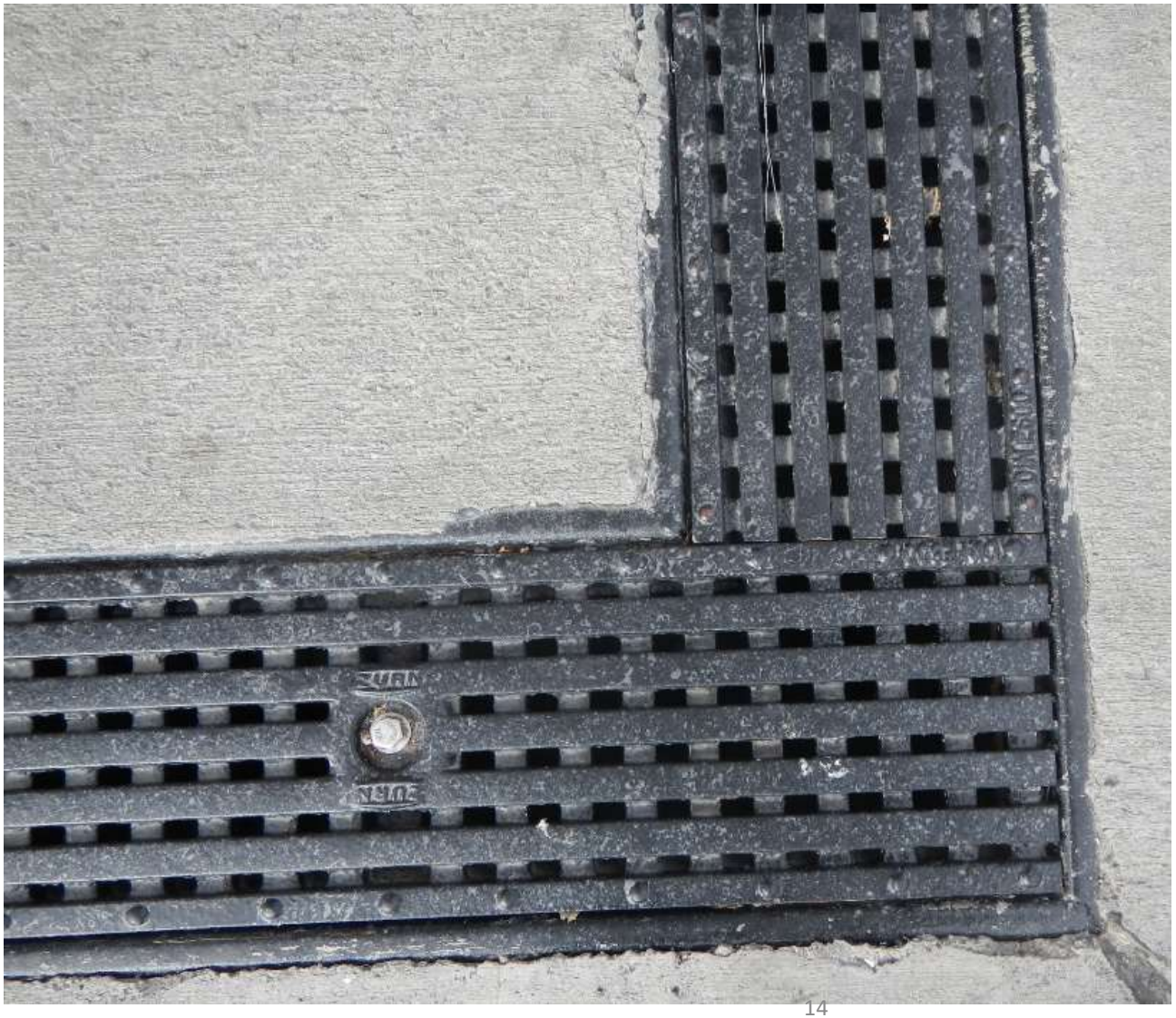
cylindrical separator sizing guide

HT-2040









SPILL RESPONSE PROCEDURES

In the event of a gasoline, kerosene, diesel and/or another hazardous substance spill please follow the procedures below.

911 EMERGENCY NUMBER
STORE SUPPORT: 800-280-4357

1 STOP THE FLOW OF FUEL





Stop the flow of fuel by activating the shut off switch/button located behind the register and, possibly, outside the store.

Notify 911 immediately if there is a fire, health/safety concern, or if the spill cannot be contained or stopped with the materials on hand.

2 IMMEDIATELY CONTAIN THE SPILL & BARRICADE THE AREA

1. Put on appropriate PPE including safety vest/reflective jacket, nitrile gloves, and safety glasses/goggles.
2. At leading edge of spill or in front of any storm drains, pour loose absorbent in a "U" shape along the spills edge to stop the spread of fuel.
3. Use white absorbent pads or, if necessary, spread loose absorbent over the spill to soak it up.
4. Use caution tape and/or cones to ensure the safety of our customers and employees and to prevent vehicles from driving through the spill area.





3 CLEAN UP THE SPILL

1. Sweep up the spill absorbent, pick up the pads and place into the disposable bags provided in your spill kit.
2. Tie off the bags with the zip ties provided.
3. Place all the bagged spill materials in the correct drum located in the hazardous material storage shed at your site for pick up.
4. If fuel contacts the skin or eyes, flush with water immediately for 15 minutes. If symptoms continue, seek medical attention.



1/14/2021

4 REPORT THE SPILL TO STORE SOLUTIONS

1. Investigate if any fuel or hazardous substances have entered any drains, catch basins, or grassy areas of the roadway.
2. Call Store Solutions to report the spill and obtain additional help.

5 BAG OFF THE PUMP

In the event that the spill was caused by a faulty dispenser or defective nozzle, bag-off the nozzle and enter a service desk ticket to have a gas technician replace the nozzle.



6 ALWAYS KEEP YOUR SPILL KIT FULLY STOCKED

Log a Service Desk ticket to have your spill kit supplies replenished after every spill to ensure that you have the minimum supply of spill materials noted below.

THINGS YOU CAN DO TO HELP :

- If you observe a customer that is NOT tending the pump, turn that pump off at the POS (NOT the E-Stop) immediately until the customer returns to their vehicle.
- Always keep your spill kit fully stocked.
- Routinely check the onsite storm water drains for fuel, hazardous substance or pooled products.
- Bag off faulty nozzles.
- Place a service call for anything that looks out of the ordinary.

If you have any questions on the spill procedures or would like any further information, please contact Store Solutions and ask for the Environmental Compliance Department.

EACH RED SPILL CONTAINMENT CENTER AT THE GASOLINE PUMPS MUST CONTAIN THE FOLLOWING MINIMUM QUANTITIES:


2 Pairs Nitrile Gloves



2—50ft Rolls of Caution Tape



5 Polyethylene Disposal Bags


20lbs Loose Absorbent


15 Absorbent Pads


1 Plastic Broom & Dust Pan


SHEETZ
SPILL RESPONSE PROCEDURES
911 EMERGENCY NUMBER
pig
Spill Kit
OIL-ONLY LIQUIDS
NOT FOR WATER-BASED

Traffic Study

- Ramey Kemp & Associates performed the TIA
- Coordinated closely with Warren County and VDOT
- Study intersections
  - 1 – Apple Mtn. / Sheetz Access
  - 2 – VA 79 / Westbound Ramps
  - 3 – VA 79 / Eastbound Off Ramp
  - 4 – VA 79 / Eastbound On Ramp
  - 5 – VA 55 / VA 79



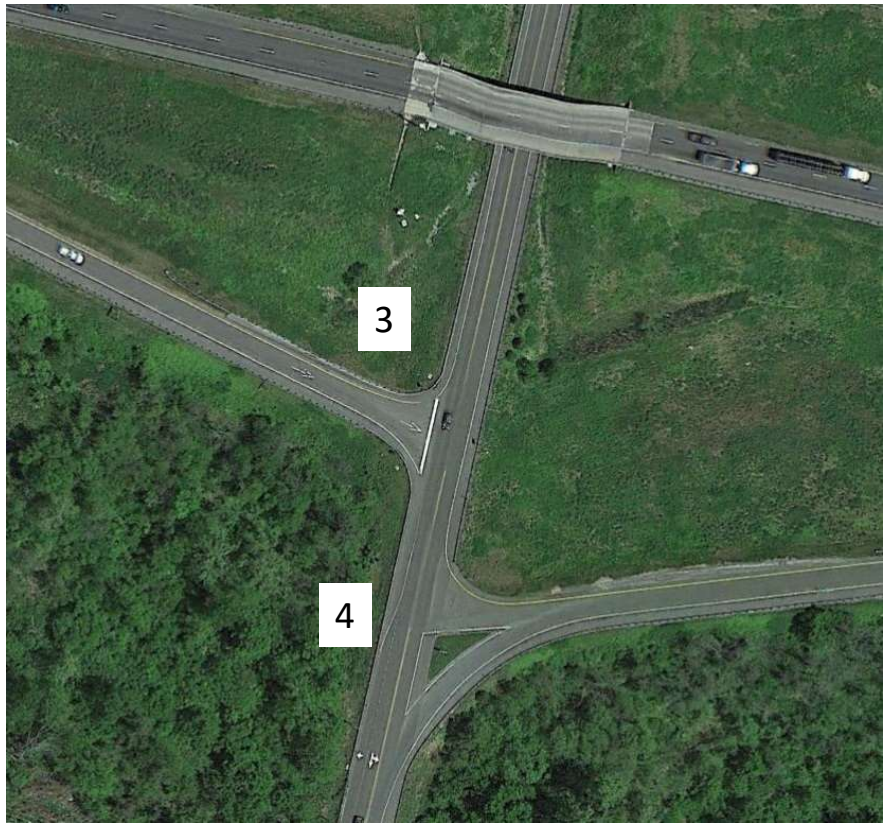
Proposed Roadway Improvements

- #1 - Apple Mtn / Sheetz Access
  - Construct a northbound left-turn lane on Apple Mountain Road
- #2 - VA 79 at Westbound Off Ramp
  - Pull back stop-bar on southbound Apple Mountain Road
  - Add pavement to the radius in northeast quadrant to accommodate truck turns



Proposed Roadway Improvements

- #3 - VA 79 at Eastbound Off Ramp
  - Widen and restripe ramp to add a left-turn lane
- #4 - VA 79 at Eastbound On Ramp
  - Construct a southbound left-turn lane on VA 79, which is already warranted today



Sheetz is Important to the Community

- Sheetz Employee Overview:
  - About 30 to 35 employees
  - 12 to 15 (maybe more) are full time employees
  - Full Time employees are eligible for benefits such as medical, 401k, ESOP
  - Part Time employees are eligible for certain benefits but work at least 16 hrs.
- Economic Benefits to Warren County estimated of $400,000

Sheetz is a Good Fit

- Good neighbor:
  - Sheetz has worked with the county school and HOA
  - Sheetz has listened to HOA and county staff to update/edit site plan
  - Sheetz is only rezoning appropriate land necessary for store/bus turnaround
  - Sheetz will provide great economic benefits to the county
- Committed to safety:
  - Construction of bus turnaround and shelter for county school
  - Providing a parking area that is well lit and has video surveillance
- Committed to environmental safety:
  - Installing state-of-the-art petroleum equipment

Thank you for your time

We are happy to answer any questions that you may have



GENERAL NOTES:

1. THIS PLAN IS BASED ON THE FOLLOWING:

   BOUNDARY & TOPOGRAPHIC SURVEY - "SHEETZ, INC."
   I-66 & APPLE MOUNTAIN ROAD
   HAPPY CREEK MAGISTERIAL DISTRICT
   WARREN COUNTY, VIRGINIA
   PREPARED BY: BOHLER
   BE# 5V208400
   DATED: 6/2/2020

2. DEVELOPER:

   SHEETZ, INC.
   351 SHEETZ WAY
   CLAYSBURG, PENNSYLVANIA 16625
   CONTACT: JOHN MAXWELL
   PHONE: (814)239-6021

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
LAND PLANNING DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

THE WORK CIVIL DESIGN AND CONTENT OF THIS PLAN ARE PROPRIETARY AND SHALL NOT BE EXPOSED OR USED FOR ANY PURPOSE, WITHOUT PRIOR WRITTEN AUTHORIZATION FROM BOHLER. ONLY APPROVED AND SEALED PLANS SHALL BE UTILIZED FOR CONSTRUCTION PURPOSES.
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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

811 Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

FOR CONCEPT PURPOSES ONLY

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	V208400
DRAWN BY:	MEG
CHECKED BY:	JCW
DATE:	10/30/2020
CAD I.D.:	CPC-2

PROJECT:

REZONING EXHIBIT

FOR

SHEETZ

PROPOSED DEVELOPMENT

I-66 & APPLE MOUNTAIN ROAD
HAPPY CREEK MAGISTERIAL DISTRICT
WARREN COUNTY, VIRGINIA

BOHLER
28 BLACKWELL PARK LANE, SUITE 201
WARRENTON, VIRGINIA 20186
Phone: (540) 349-4500
Fax: (540) 349-0321
VA@BohlerEng.com

SHEET TITLE:

EXHIBIT C-2

SHEET NUMBER:

1

ORG. DATE - 10/30/2020

Oct 30, 2020
H:\20\V208400\DRAWINGS\CONCEPTS\AREA CONCEPTS\V208400-CPC-2---LAYOUT 1- CONCEPT
MCG

Staff Report

To: Warren County Planning Commission/ Warren County Board of Supervisors

From: Taryn Logan, Deputy County Administrator/Planning Director TBL

Date: February 10, 2021

Re: **Rezoning** – Agricultural (A) to Commercial (C)

APPLICATION INFORMATION

APPLICANT	Dudding Commercial Development, LLC 101 Old Carriage Lane Daniels, West Virginia 25832
OWNER	Four-L Corporation 2801 Chapel Hill Road Goochland, Virginia 23063
APPLICATION NUMBER	R2020-10-01
REPRESENTATIVE	Joseph F. Silek, Jr., P.C. 43 Chester Street Front Royal, VA 22630 540-635-3415 jsilek@silekpc.com
APPLICANT'S PROPOSAL	A request to amend the Warren County Zoning Map and rezone approximately six and forty-five hundredths (6.45) +/- acres from Agricultural (A) to Commercial (C).
LOCATION	Route 79 (Apple Mountain Road) Northwest corner of Apple Mountain Road and Interstate 66
TAX MAP	Portion of Tax Map 31, Parcel 39
CURRENT ZONING	Agricultural (A)
REQUESTED ZONING	Commercial (C)
PROPOSED USE	Retail Store with Gas Pumps (Sheetz) Use permitted by-right in the Commercial zoning district - code sections 180-28(B)(3) and (14)

REQUEST

The applicant is requesting to rezone approximately 6.45+/- acres from Agricultural (A) to Commercial (C) for a Sheetz store with gas pumps. The property is currently a 30 acre parcel, which is split by Apple Mountain Road. The applicant has a contract on the 15 acres located west of Apple Mountain Road. The original application was to rezone the entire 15 acres, but

they have since revised their request to rezone only the area that they will need to build the Sheetz development. The property is identified on tax map 31, as a portion of parcel 39. It is located on Apple Mountain Road on the northwest corner of Interstate 66 and Apple Mountain Road.

The proposed use of the property will be for a Sheetz store with a drive thru and gas pumps for automobiles. General retailing is permitted as a use by-right in the Commercial zoning district, as well as an automobile filling station. A convenience store is also permitted by-right, but we have classified similar operations under the general retailing use (Royal Farms and 7-Eleven).

The site is currently being used as a school bus stop/turn around, although there is no formal agreement with the property owner. The applicant is proposing to construct a paved cul-de-sac for use as a public school bus turnaround and a student shelter area, along with approximately 30 parking spaces for parent pick up/drop off. An easement area over this site will be dedicated to Warren County Public Schools and constructed by the applicant in connection with the construction of the Sheetz store.

Sheetz is proposing to have 30-35 employees, 12 to 15 of them as full time employees that are eligible for benefits. They have stated their part-time employees are also eligible for certain benefits as well.

In your packets, you have a statement of justification, application, a parcel map, a conceptual development layout, community and environmental impact statements, a hydrological report, proffer statement, and a copy of the latest revision to the traffic impact analysis. There is an approval letter from VDOT for the latest TIA. There are also letters and emails the County has received from citizens in reference to the rezoning application.

The Commercial (C) district is intended, "for areas suitable for the conduct of general business not characterized by either constant heavy trucking or nuisance factors and to which the public requires direct and frequent access."

SURROUNDING USES

North:	Zoned Residential-One (R-1)	Use:	Apple Mountain Lake Subdivision
South:	Interstate 66	Use:	Highway
East:	Zoned Agricultural (A)	Use:	The parcel is split by Apple Mountain Road
West:	Zoned Residential-One (R-1)	Use:	Apple Mountain Lake Subdivision - Single Family Dwellings

COMPREHENSIVE PLAN

The Future Land Use Map in the existing Comprehensive Plan identifies this area as Agricultural (A).

Staff has reviewed the County's current Comprehensive Plan approved by the Board of Supervisors on July 16, 2013 in relation to this request.

Chapter 4, Section 1 of the Comprehensive Plan (Growth Management and Land Use Issues) states as a goal, "To direct future development into an efficient and serviceable form that will

preserve the County's predominately rural character." (4-5). Specific objectives stated to meet this goal include:

- Direct County development to areas contiguous with Front Royal or rural villages that are served or will be served with adequate public facilities such as roads, sewer, and water. ***(The proposed development does not have public water and sewer located at the site. They plan to service the development by a private well and septic. The applicant has had a hydrogeological report prepared for the site. That report is included in your packet. The well would be reviewed and approved by the VDH-Office of Drinking Water. The septic system would be approved by our local Health Department.)***
- Discourage growth in environmentally sensitive areas that have natural development constraints, such as wetlands, steep slopes, karst terrain, and flood plains. ***(The site will be reviewed and approved by the Department of Environmental Quality in regards to stormwater. Specific performance objectives regarding stormwater, transportation improvements, aesthetic controls, and downward facing lighting are essential in helping to mitigate the impact of the proposed development.)***

The County adopted a Strategic Vision on February 19, 2019 after conducting a citizen survey and working with a consultant to draft the vision. In the Economic Development strategies, a high priority was listed to focus on industrial and commercial development on Route 340/522 and at the Linden Interchange. Commercial has previously been focused on the John Marshall Highway side of I-66 to the south of the Interstate and the southeast corner was rezoned to Commercial in 2005.

Chapter 4, Section 8 of the Comprehensive Plan addresses commercial development. The introduction states that, "There are already several commercial and industrial uses located near the interchange of I-66 and U.S. Route 55, near the Village of Linden. Continued light commercial and industrial uses should continue to be permitted in this area, within the environment's limits to support such uses."

This section states as a goal to, "Encourage orderly growth of commercial and industrial development relative to environmental and economic impacts along the Route 340/522 Corridor and at Route 55 East (Linden)." Specific objectives stated to meet this goal include:

A. Provide land areas with adequate services in place or planned for balanced future commercial and industrial development. ***(The proposed development is in the Linden area. The Linden area is one of two main areas in the County planned for commercial development. The other area is the Route 340/522 North Corridor.)***

B. Encourage the location of clean industry and commercial activities through the development of performance standards that ensure the activity would be compatible with the community's goals. ***(Specific performance objectives regarding stormwater, transportation improvements, aesthetic controls, and lighting requirements will be required to mitigate impact of the proposed development.)***

POTENTIAL IMPACTS

a) *Transportation System:*

The site is situated off of Route 79. The rezoning request was sent to VDOT. They have reviewed the traffic impact analysis. VDOT copied our department on their comments to the applicant on November 9th. The TIA was revised by the applicant's traffic engineer, Carl Hultgren, and resubmitted to VDOT on December 10th. VDOT again

issued comments on the TIA on December 22nd. The TIA was resubmitted to VDOT on January 13th. VDOT submitted comments to our office on this submittal on January 29th. Their comments state that the TIA is acceptable and complete and all of their prior comments have been addressed. They did have comments on the proffers which have been incorporated into the latest draft.

The applicant is proposing to construct the following roadway improvements:

- Constructing a northbound left-turn lane on Apple Mountain Road into the proposed Sheetz site.
- Improvements at Apple Mountain Road and the Westbound Off-Ramp at I-66 to include: pulling back the stop-bar on the southbound land of Apple Mountain Road and adding pavement to the radius in the northeast quadrant to accommodate truck turns.
- Improvements at Apple Mountain Road and the Eastbound Off-Ramp at I-66 to include widening and restriping the ramp to add a left-turn lane.
- Improvements at Apple Mountain Road and the Eastbound On-Ramp at I-66 to include constructing a southbound left-turn lane on Apple Mountain Road, which is warranted today.

b) *Adjoining Properties:*

The use of the surrounding properties is residential and agricultural. The property adjoins Interstate 66 to the east. The closest residential subdivision is Apple Mountain Lake Subdivision which is situated to the north of this property. Our GIS records indicate that this subdivision has a total of 655 lots, 523 of which are built and 123 of which are still vacant. Of the vacant lots, our records show 8 of these to be recreation /POA lots. Our department has sent letters to all of the adjoining property owners that directly adjoin this property. We have also sent the rezoning request to the Apple Mountain Lake Property Owners Association for their comments which are included in your packets. The southwest and southeast quadrants of I-66 are currently zoned Commercial. The northwest and northeast quadrants of I-66 are currently zoned Agricultural (which includes this property).

c) *Historic Resources:*

The Warren County Historic Survey does not identify any historic resources on the site or on adjacent properties.

d) *Environmental Impact:*

The applicant prepared an environmental impact statement as part of the application packet. The report is included in your packet.

e) *Community Impact:*

A community impact statement was submitted with this request. The report is included in your packet.

f) *Outdoor lighting:*

All lighting will need to meet the Warren County Zoning Ordinance requirements in Section 180-49.2. The ordinance requires all lighting fixtures to be full cut-off fixtures. The fixtures must be fully shielded and pointed downward to prevent glare on public roadways and protect the privacy or residents and reduce atmospheric light pollution.

g) *Signage:*

All signs must comply with the Warren County Zoning Ordinance requirements in Section 180-14.

HYDROGEOLOGIC INFORMATION

The applicant has submitted a hydrogeological assessment of the proposed site. They state that the proposed Sheetz store will have an estimated water demand of 2500 gallons per day. This report is included in your packets.

PROFFER STATEMENT

The applicant has submitted a proffer statement. The proffers include information on limiting the future uses on the property, transportation, and aesthetic controls. They have also proffered to construct a school bus turnaround, shelter and parking spaces and dedicate this as an easement to Warren County Public Schools. Sheetz will be constructing this school bus turnaround in connection with their store as stated in the proffers. Sheetz will be maintaining the asphalt area and WCPS will be responsible for maintaining the shelter.

OUTSIDE AGENCIES

This request has been sent to the Virginia Department of Transportation, the Warren County Health Department, Warren County Building Inspections Department, Warren County Public Schools, Rappahannock Electric Company, the Virginia Department of Environmental Quality, and the Apple Mountain Lake Subdivision POA for their review and comment.

All comments received are included in your packets. VDOT has provided several rounds of comments on the traffic impacts. Also, we have received letters from the POA.

Our office has received letters and emails regarding this rezoning application and they are all included in your packets.

TGL
Attachments

Taryn Logan

From: David Beahm
Sent: Thursday, November 12, 2020 8:45 AM
To: Taryn Logan
Cc: Paula Fristoe
Subject: RE: Emailing: R2020-10-02_Request for Comments
Attachments: R2020-10-02_Request for Comments.pdf

Comments – R2020-10-02 – Dubbing Commercial Development, LLC – Rezoning Application – Agricultural to Commercial:

- Erosion and Sediment Control (ESC) Items:
  - Application and permits are required for ESC permit, which would be a normal submission including a full plan review application.
  - The area of disturbance exceeds one (1) acre which would additionally require a Stormwater permit through the Department of Environmental Quality (DEQ). Approval by DEQ would be required prior to anything being issued by Warren County.

- Building Inspections Items:
  - If or when any building construction related activity (structure, electrical, plumbing, mechanical, etc.) were to start, it would be subject to the normal requirements of application, review and approval prior to work beginning.

If anything should change in the scope, additional requirements may be required.

Respectfully,

David C. Beahm, CBO
Building Official
County of Warren
540-636-9973
Fax 540-636-4698
dbeahm@warrencountyva.net
www.warrencountyva.net

THIS MESSAGE IS INTENDED SOLELY FOR THE INDIVIDUAL(S) NAMED IN THE HEADER. THIS MESSAGE MAY CONTAIN MATERIAL THAT IS PRIVILEGED OR CONFIDENTIAL. IF YOU ARE NOT ONE OF THE INTENDED RECIPIENTS, PLEASE DO NOT READ, COPY, USE, OR DISCLOSE THIS MESSAGE TO OTHERS; PLEASE NOTIFY THE SENDER BY REPLYING TO THIS MESSAGE; AND THEN PLEASE DELETE THIS MESSAGE FROM YOUR SYSTEM. THANK YOU.

-----Original Message-----
From: Taryn Logan <Tlogan@warrencountyva.net>
Sent: Tuesday, November 10, 2020 10:25 AM
To: David Beahm <Dbeahm@warrencountyva.net>
Subject: FW: Emailing: R2020-10-02_Request for Comments

Hi David,
Here is the request for comments for the rezoning for the Sheetz store in Linden. Thank you!
Taryn

Taryn Logan

From: Davis, Walter <jim.davis@vdh.virginia.gov>
Sent: Friday, February 5, 2021 10:38 AM
To: Taryn Logan
Subject: Re: FW: Emailing: R2020-10-02_Request for Comments

Good Morning Taryn,

Here is my email response to your request for comments dated 11.09.20. I may have been mistaken that my email response on 11.10.20 was sufficient regarding our office has no objections to the rezoning request thus I did not provide further written response. If you need something, let me know. Yes, our office will review the plans for the proposed onsite sewage system. I have also spoken with Mr. Carter about this and Greg and I will conduct a Level II review of the site which means we will be evaluating the soils, topo and etc. rather than just a paperwork review (Level I). The project will involve a public water well approved by ODW - Culpeper Field Office.

I hope all is well.

Thanks!

Jim Davis, REHS, MAOSE

Environmental Health Supervisor

Clarke, Frederick/Winchester & Warren Offices

Direct Line: 540.551.8434

jim.davis@vdh.virginia.gov

On Tue, Nov 10, 2020 at 3:14 PM Taryn Logan <Tlogan@warrencountyva.net> wrote:

> Yes, that works. Thank you.
>
> ---
> Taryn G. Logan, AICP

Director of Planning

County of Warren

From: Davis, Walter [mailto:jim.davis@vdh.virginia.gov]
Sent: Tuesday, November 10, 2020 3:10 PM
To: Taryn Logan
Subject: Re: FW: Emailing: R2020-10-02_Request for Comments

Hi Taryn,

Are you simply asking for comments regarding the rezoning request at this time? Obviously, our dept. would have no objections to the rezoning request but there are too many unknown factors for us to provide comments on the well and septic at this time. I'm guessing that will come later.

Thanks

Jim

Jim Davis, REHS

Environmental Health Supervisor

Clarke, Frederick/Winchester & Warren Offices

Direct Line: 540.551.8434

jim.davis@vdh.virginia.gov

On Tue, Nov 10, 2020 at 10:19 AM Taryn Logan <Tlogan@warrencountyva.net> wrote:

Hi Jim,
Please see the attached request for comments for the rezoning for a Sheetz store in Linden. Let me know if you have any questions. Thank you. Taryn

Taryn G. Logan, AICP
Director of Planning
County of Warren

-----Original Message-----
From: Joe Petty
Sent: Monday, November 9, 2020 11:42 AM
To: Taryn Logan
Subject: Emailing: R2020-10-02_Request for Comments

Your message is ready to be sent with the following file or link attachments:

R2020-10-02_Request for Comments

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

Total Control Panel Login

To: tlogan@warrencountyva.net Remove this sender from my allow list
From: jim.davis@vdh.virginia.gov

You received this message because the sender is on your allow list.

December 22, 2020

John Wright, PE
Bohler Engineering
28 Blackwell Lane, Suite 201
Warrenton, Virginia

Cardno

10988 Richardson Road
Ashland, VA 23005
USA
Phone 804 798-6525
Fax 804 798-5907

www.cardno.com

RE: Hydrogeological Assessment –

Dear Mr. Wright,

Please find the following hydrogeological assessment of the proposed Sheetz Station and Market near Linden, Virginia.

Purpose

Cardno, Inc. (Cardno) was contracted by Bohler Engineering to conduct a hydrogeological assessment for the following purposes:

1. To provide a professional opinion regarding the potential for developing an adequate resource of groundwater for the proposed Sheetz at the Route 66 Linden Exit in Warren County, VA.
2. To determine, in or best professional opinion, whether the proposed withdrawals might cause adverse impacts to neighboring groundwater supplies. An adverse impact, in this case, is defined as one that would reduce the water levels in offsite wells to the point where they would cause a decline in production of those wells.

Scope

Cardno has designed the following scope of work in order to complete the tasks described above:

- Review of published studies and maps regarding soils, geology, topography and hydrogeology
- Conduct a fracture trace analysis by stereoscopically analyzing public domain stereo aerial photographs in an effort to identify a precise drilling locations and potential groundwater zones
- Conduct a groundwater availability and recharge analysis of the site and site vicinity
- Obtain and analyze well records of parcels within the 1000 feet of the site regarding, depth to bedrock, depth of well and yields.

Background

The site is an approximately 15-acre parcel located on the northwest side of the intersection of the west bound entrance ramp of US State Route 66 and Apple Mountain Road and situated approximately 1.35 miles west of Linden, Virginia. It is understood that the developers plan to develop a Sheetz Station and Market at the site. Water will be derived from a private well (groundwater) and wastewater will be treated and disposed of on-site via a waste disposal system into the soil. The average daily consumption of water is estimated at approximately 2500 gallons per day (gpd) requiring a groundwater resource that produces about 1.75 gallons per minute (gpm).

Hydrogeology

The site is located within the Blue Ridge Physiographic Province of Virginia, an area characterized by steep slopes and well developed drainage networks underlain by igneous and metamorphic rocks. Groundwater is derived from a fractured bedrock aquifer.

The overlying material of weathered rock (saprolite) and soil is typically relatively granular and porous; it may house a shallow water-table aquifer separate from, but hydraulically connected to and interacting with, the underlying

fractured bedrock aquifer. The water table in shallow aquifers is often a subdued replica of topography, in which groundwater flow is generally from areas of higher elevation (recharge zones) toward areas of lower elevation (discharge zones). The source of groundwater in both aquifers is ultimately from precipitation (recharge) that infiltrates through the soil and weathered rock.

Bedrock wells in this region of Virginia derive water from a fractured bedrock aquifer in which groundwater occurrence and movement are controlled primarily by fractures and joints within the rock. Groundwater flow patterns in the bedrock can be very complex, depending upon the geologic and topographic setting and upon fracture frequency, size, geometry, and degree of interconnectedness. The characteristics of these fractures determine a wells' yield. A high-yielding well is likely connected to large, and/or many fractures which are connected to a recharge zone (often overlying saprolite). On the other hand, low-yielding wells typically intersect few, and/or small fractures which are connected to a limited recharge zone (water bearing fractures).

Geology

According to the United States Geological Service (USGS), the site is underlain by the Catoctin Formation which is a metabasalt (Zcm) consisting of dark-green, amygdaloidal metabasalt (greenstone) and chlorite schist interlayered with thin, discontinuous, finely laminated phyllitic metasiltstone and thin metasandstone and dark, variegated, vesicular tuffaceous phyllite and mud-lump (rip-up) breccias (Reed, 1955). USGS determined a rubidium-strontium (Rb/Sr) age of 570 ± 36 million years (Ma) for the metabasalt of the Catoctin Formation in Virginia. (Nelms, D.L., and Moberg, R.M., Jr., 2010, Preliminary assessment of the hydrogeology and groundwater availability in the metamorphic and siliciclastic fractured-rock aquifer systems of Warren County, Virginia: U.S. Geological Survey Scientific Investigations Report 2010–5190, 74 p.) Within the same publication, the USGS reported in Table 1 that the average yield of wells found in the Catoctin Formation was 13.6 gpm.

Fracture Trace Analysis and Groundwater Potential

Based upon the analysis of the fracture network within the site and site vicinity, it appears that the site possesses at least one moderately well-expressed fracture and that numerous fractured areas are present within 4000 feet of the property. This suggests that the bedrock may be fairly well broken up by joints, fissures, fractures and possibly faults which increases the potential of developing adequate groundwater resources.

Recharge Analysis

In assessing a proposed groundwater withdrawal, it is common practice to compare the proposed withdrawal rate to the rate of groundwater recharge at the withdrawal location. Warren County receives about 41.2 inches of precipitation per year (USGS). Nelms and Moberg in their work, *"Preliminary assessment of the hydrogeology and groundwater availability in the metamorphic and siliciclastic fractured-rock aquifer systems of Warren County, Virginia: U.S. Geological Survey Scientific Investigations Report 2010–5190, 74 p.")*, quantified the recharge of the Manassas Run watershed (where the site is situated). This work estimates that between the years of 2001 and 2007 the effective recharge of the aquifer within boundaries of the Manassas Run watershed was about 14.2 inches per year.

After impervious areas, runoff and transpiration are considered, Cardno estimates that average daily recharge rate to the aquifer from within the boundaries of the site is about 4,777,850 gallons of water per year (GPY) or 13,090 gallons per day (gpd). Furthermore, given that the market will treat their waste on site, Cardno has estimated the consumptive use of water will be about 300 gpd. The attached Chart 1 compares, in graphic form, the relative groundwater recharge to consumption, under average rainfall conditions.

Well Records

Well completion reports (GW-2 Forms) were requested from the County Health Department for all parcels within 1,000 feet of the site (90 parcels in total). Of these parcels, 71 well and/or septic system records were obtained, including 40 well completion reports (GW-2 Forms). Data from these GW-2 Forms is reported in **Attachment I** and summarized in **Table 1** below.

Table 1: Well Data Summary

Statistic	Depth (ft)	Yield Gallons per minute	Depth Rock (ft)	Water Bearing Zone (ft)
Minimum	105	3	10	65
Average	342	13	42	
Median	333	8	38	
Maximum	580	40	135	565

Reported well yields ranged between 3 and 40 gallons per minute (gpm), with a median yield of 8 gpm and an average yield of 13 gpm. Bedrock was reported at a depth ranging from 10 to 135 feet below land surface (ft-bls), with a median depth of 38 ft-bls and an average depth of 42 ft-bls.

Water-bearing zones were reported from 65 to 565 ft-bls. The most commonly-reported water-bearing zones in order of most frequent were within: 200-220 ft-bls (8 reports), 120-140 ft-bls (7 reports), 100-120 ft-bls (6 reports), and 180-200 ft-bls (6 reports). Reference Figure 2 for details on reported water-bearing zones. Finally, total depth of well ranged from 105 ft-bls, with a median depth of 333 ft-bls and a mean well depth of 342 ft-bls.

Discussion/ Conclusion

The estimated water demand of 2500 gpd would require a well(s) to produce about 2 gpm. This report has found that the average yield of wells within 1000 feet of the site is about 13 gpm and compares favorably with the average yield reported by the USGS Scientific Investigation 2010-5190 referenced earlier. Given the geology, the presence of apparent fractures in vicinity of the site, the relatively large size of the parcel where multiple drilling opportunities exist and the average yields in the neighborhood, Cardno believes that it is reasonable to expect that adequate groundwater resources can be developed on and for the site.

The work to date indicates that the theoretical recharge within the boundaries of the site is more than adequate to supply water for the proposed uses.

In or best professional opinion, the proposed withdrawal volumes of water are relatively modest and would not be expected to interfere adversely with offsite supplies. At this time the exact location of a well has not been determined; however, the size of the parcel (~15 acres) makes it possible to position a well in such a way that would reduce the potential of interference with off-site wells further.

Finally, once a well is drilled and developed, aquifer testing will be required by the Virginia Department of Health, Office of Drinking Water (VHD-ODW). This testing will collect and analyze empirical data regarding the characteristics of the aquifer. Pertinent offsite wells could be monitored during the test to determine the degree (if any) of impact to offsite wells.

Limitations

The work performed in conjunction with this project, and the data developed, are intended as a description of available information. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a specific location not investigated.

Generally accepted industry standards were used in the preparation of this report. Stated opinions and conclusions are not intended as a guarantee. The only reliable way to confirm that a sustainable groundwater resource is present is to drill a well and test it for quantity and quality.

Cardno appreciates the opportunity to provide hydrogeological consulting services to Bohler Engineering. Please contact us if you have any questions.

Sincerely,

Vincent Day, PG
Senior Hydrogeologist, Principal – Water Supply -
Direct Line +1 804-368-1003
Mobile: 434-923-0888
Email: vincent.day@cardno.com

Figures
Attachment I- GW2 Well Data
Chart 1 - Comparison of Groundwater Usage Estimates

FIGURES



Fig. 1 - Site Location Map

Proposed Sheetz Market
Linden, Virginia

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Cardno

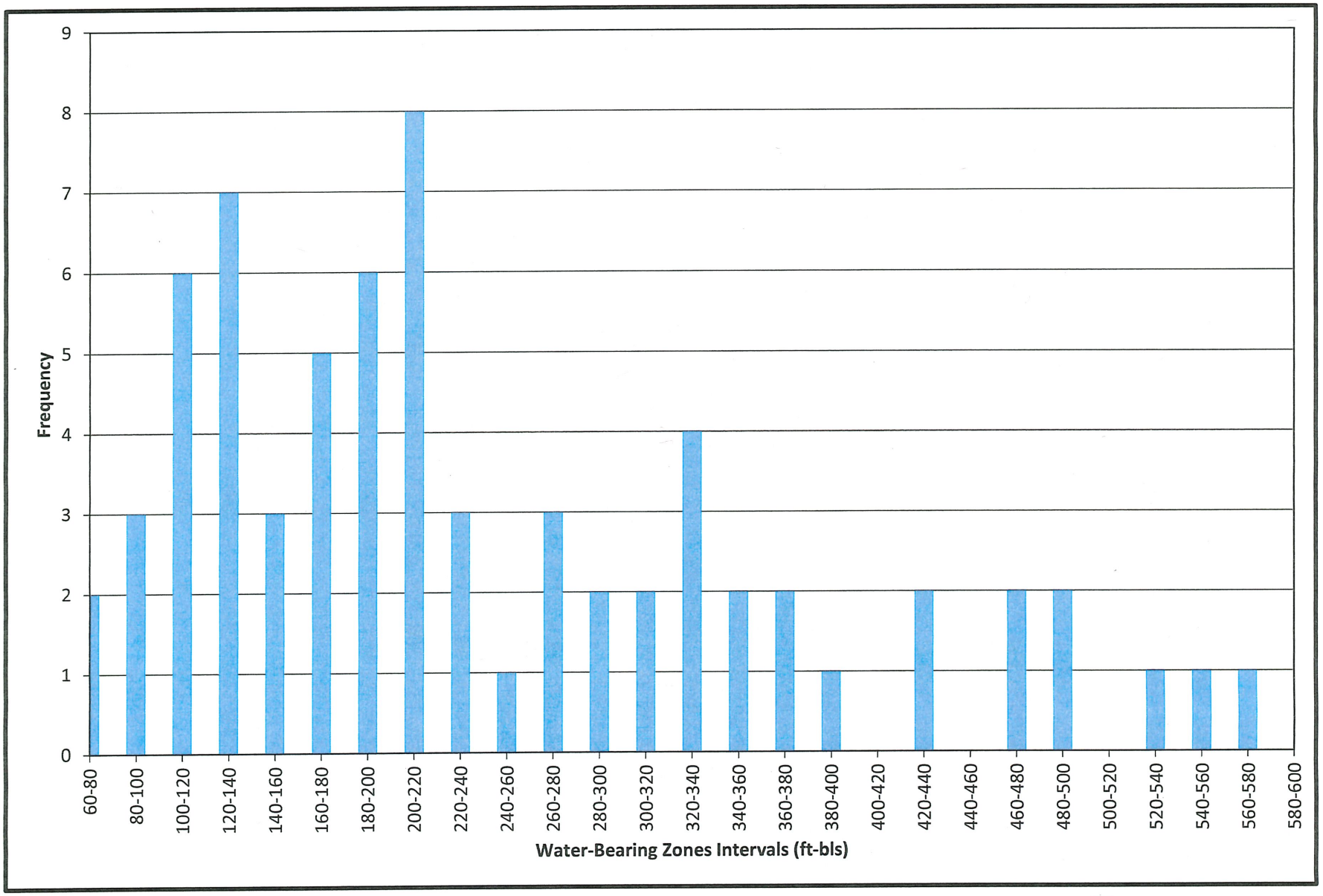
Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere | Drawn by: BDM | 12/22/2020

N

0 0.2 0.4 Mi

0 0.4 0.8 Km

FIGURE 2 - WATER BEARING ZONE HISTOGRAM
WELLS WITHIN 1,000 FEET OF SITE
PROPOSED SHEETZ - LINDEN, VA



Cardno

ATTACHMENT I

GW-2 WELL DATA

WELL COMPLETION REPORT SUMMARY
PARCELS WITHIN 1,000 FEET OF SITE
PROPOSED SHEETZ - LINDEN, VA

PARCEL	YEAR DRILLED	WELL DEPTH (FT)	WELL DIAMETER (IN)	DEPTH TO BEDROCK (FT)	YIELD (GPM)	STATIC WATER LEVEL (FT)	PUMPING WATER LEVEL (FT)	DEPTH OF CASING (FT)	DEPTH OF GROUT (FT)	WATER-BEARING ZONES (FT)
22B-N-8	No construction information available									
22B-N-10	2020	460	6	10	20	60	NA	72	50	440
22B-N-15	No construction information available									
22B-N-27	No construction information available									
22B-N-28	No construction information available									
22B-N-38	2020	580	6	45	3	50	NA	82	75	265, 565
22B-P-2	2019	500	6	20	5	5	NA	61	50	470
22B-P-13	2016	230	6	25	30	60	180	55	50	125, 200
22B-T-5	No construction information available									
22B-P-12	2016	290	6	40	12	50	240	77	75	180, 265
22B-P-29	2004	400	6	38	8	90	NA	108	60	210, 240, 370
22B-P-43	1989	240	6	62	15	80	200	79	50	120, 140, 220
22B-P-31	No construction information available									
22B-P-32	1987	440	6	60	15	100	380	22	20	210, 425
22B-P-42	1986	250	6	14	8	NA	NA	53	50	220, 235
22B-P-15	No construction information available									
22B-P-30	No construction information available									
22B-N-2	2006	440	6	20	4	75	NA	84	50	376-378
22B-N-16	1987	345	6	70	8	70	300	84	20	210, 330
22B-N-29	1988	300	6	135	5	70	225	139	50	NA
22B-N-3	1990	520	6	50	15	200	470	76	50	190, 490
22B-N-4	1999	380	NA	15	6	80	310	55	50	220, 340
22B-N-6	1993	400	6	30	7	75	NA	55	55	320-325
22B-N-7	No construction information available									
22B-N-11	1994	300	6	40	5	60	NA	65	65	150-155
22B-P-14	No construction information available									
22B-P-11	No construction information available									
22B-N-30	No construction information available									
22B-P-38	No construction information available									
22B-P-37	No construction information available									
22B-P-35	No construction information available									
22B-T-6	No construction information available									
22B-N-23	1983	310	6	35	20	50	NA	48	48	295-300
22B-P-36	1985	240	6	24	8	NA	NA	34	34	128, 205
22B-P-8	No construction information available									
22B-T-3	No construction information available									
22B-N-35	1986	190	6	70	30	40	160	81	20	110, 180
22B-N-34	1984	170	6	88	10	60	130	98	20	110, 150
22B-N-36	No construction information available									
22B-N-33	2001	360	6	25	6	70	NA	113	50	140, 345
22B-N-14	1986	190	6	15	25	40	150	55	50	90, 180
22B-N-32-1	1994	210	6	65	40	65	170	81	50	120, 150, 195
22B-N-31	1998	420	6	40	4	50	NA	60	50	65, 390
22B-N-32-2	1988	565	6	25	12	200	525	56	50	140, 550
22B-N-12	1988	225	6	35	7	75	NA	80	65	165, 185
31-18-D	1995	105	6	40	35	10	NA	75	50	85
22B-N-37	No construction information available									
22B-P-33	No construction information available									
22B-T-18	1984	370	6	59	5	100	350	69	20	NA
22B-T-19	1984	290	6	94	5	120	250	104	20	NA
22B-P-6	2015	500	6	16	7	45	NA	63	50	223, 474

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WELL COMPLETION REPORT SUMMARY
PARCELS WITHIN 1,000 FEET OF SITE
PROPOSED SHEETZ - LINDEN, VA

PARCEL	YEAR DRILLED	WELL DEPTH (FT)	WELL DIAMETER (IN)	DEPTH TO BEDROCK (FT)	YIELD (GPM)	STATIC WATER LEVEL (FT)	PUMPING WATER LEVEL (FT)	DEPTH OF CASING (FT)	DEPTH OF GROUT (FT)	WATER-BEARING ZONES (FT)
22B-N-25	1988	325	6	50	10	70	NA	101	60	300
22B-N-44	No construction information available									
22B-P-1	1994	225	6	25	10	90	190	52	50	90, 210
22B-P-5	No construction information available									
22B-N-22	1986	230	6	93	6	25	NA	103	50	180-185, 200-215
22B-N-43	1993	380	6	10	5	12	NA	55	52	189, 359
22B-N-21	No construction information available									
22B-N-17	1994	150	6	30	40	60	120	63	50	70, 120, 140
31-18	No construction information available									
22B-T-1	2013	505	6	40	25	150	NA	70	70	485-490
22B-T-2	No construction information available									
22B-T-17	No construction information available									
22B-P-39	No construction information available									
22B-P-40	1999	420	6	55	7	60	310	72	50	140, 340
22B-P-41	1987	300	6	38	8	35	225	40	20	120, 267
22B-N-5	2019	340	6	20	20	45	NA	82	50	260, 320
22B-P-10	No construction information available									
22B-P-34	No construction information available									
22B-T-11	No construction information available									
22B-T-4	2004	565	6	20	8	100	NA	51	50	329, 530-535

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CHART 1

AVERAGE GROUNDWATER RECHARGE

V

PROPOSED CONSUMPTIVE USE IN GALLONS PER DAY

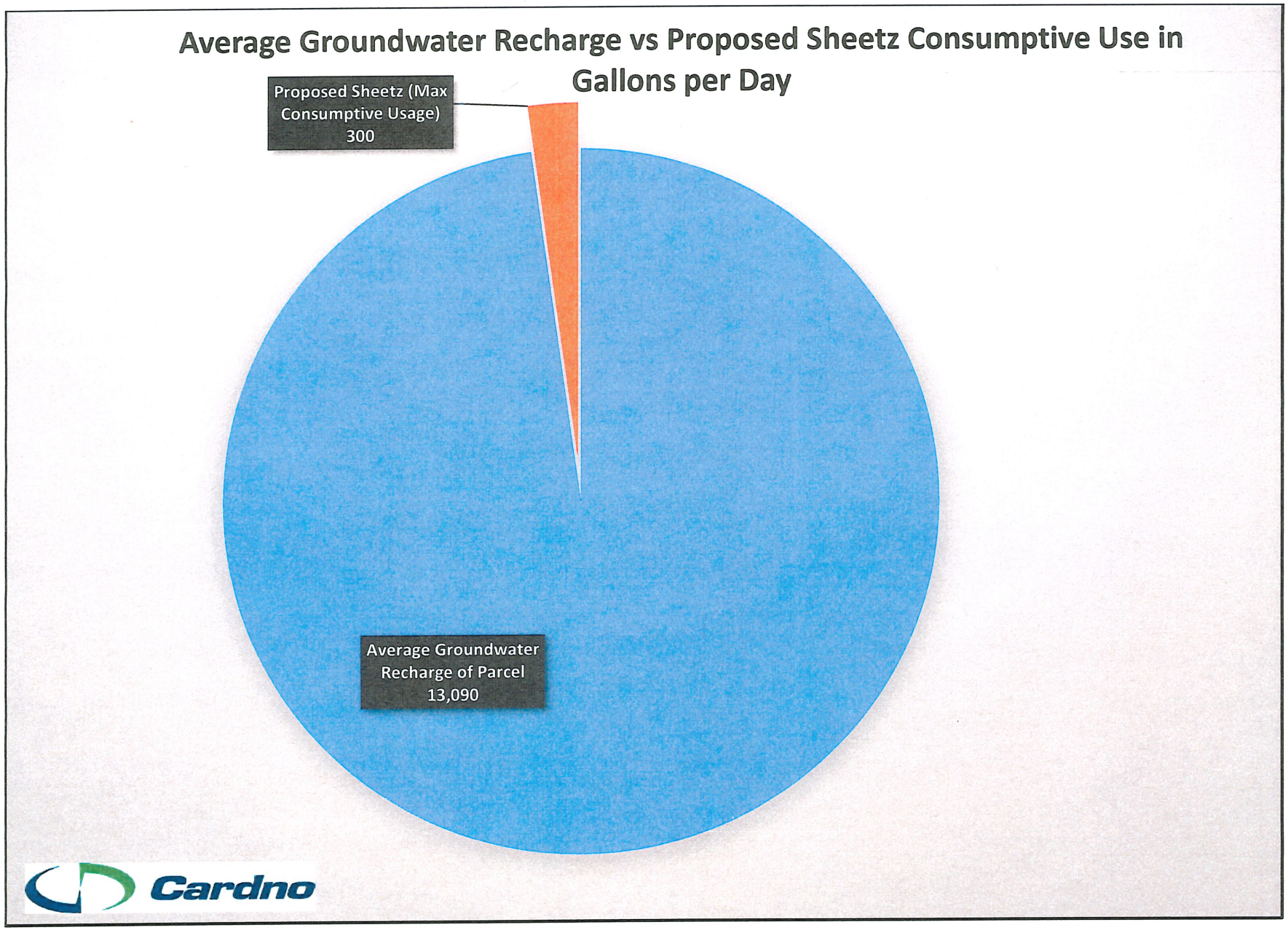


Chart 1: Comparison Analysis of Average Daily Groundwater Recharge to Consumptive Usage

ENVIRONMENTAL IMPACT STATEMENT

PREPARED FOR

Sheetz, Inc.
Apple Mountain Drive & I-66
Warren County, Virginia
BE #V208400

BY

BOHLER

28 BLACKWELL PARK LANE
SUITE 201
WARRENTON, VA 20186
(540) 349-4500

October 8, 2020

Site Inventory

Background

The subject site is a vacant 15.00 acre parcel located at the corner of Apple Mountain Rd and Interstate 66. The site is bounded by single-family residential to the north and west, Apple Mountain Rd to the east, and Interstate 66 to the south. There is existing access to the site via a paved entrance from Apple Mountain Rd.

This project proposes to construct a ±6,077 SF Sheetz convenience store with a drive-thru, 12 fuel stations, 48 parking spaces and associated utilities and infrastructure improvements, as well as a public bus drop-off with bus shelter and 28 parking spaces. The owner will provide landscaping to meet buffer and coverage requirements per the Warren County Zoning Ordinance. Stormwater requirements will be met with a proposed stormwater conveyance system and BMP measures per State requirements. Water and sewer will be provided via on-site well and septic systems.

Earth

The subject site is currently a vacant, wooded parcel with a paved cul-de-sac and existing entrance to Apple Mountain Rd. The site topography, per the Boundary & Topographic Survey, consists of 5% - 30% slopes leading from high elevations of 855' – 875' at the north end of the site to low points of 810' – 830' at the south end of the site. Per the Web Soil Survey, site soils are predominantly Myersville and Montalto Soils, which are stony soils with silt and clay loams at the surface over a bedrock foundation.

This development will maintain the existing entrance location and general runoff characteristics. Stormwater runoff will be routed through a proposed conveyance system and BMPs to the existing outfall points at the 54" CMP culvert under I-66 at the southeast corner of the site and the 66" CPP culvert under I-66 at the southwest corner of the site.

Water

The existing topography shows a ridge in the center of the site with depressions conveying from north to south on the east and west sides of the site. Stormwater flows on the west side of the site have created a measurable swale, however there is no perennial streams located on-site per FEMA FIRM maps. All runoff currently conveys to the 54" CMP and 66" CPP culverts under I-66.

Atmosphere

No negative air quality indicators around the subject site were identified with EPA Air Quality Maps.

Natural Process

The subject site is located in Zone X, outside the 0.2% annual chance flood, per FEMA FIRM Map Number 51187C0150C. Erosion on-site is anticipated to be minor to moderate due to the mountain slopes landform and dense tree cover. This development is not anticipated to generate any negative impact as all graded tie-out slopes will be fully stabilized.

Flora

The site is currently forested with clearings for the existing cul-de-sac and overhead utility poles running through the site. The are no critical habitats identified within the site per the U.S. Fish and Wildlife Service online resources.

Fauna

Fauna may consist of deer, squirrels, and other small mammals. There are two endangered and one threatened species of bat in this region. The Indiana Bat and Virginia Big-eared Bat are endangered, and the Northern Long-eared Bat is threatened. The subject site is located outside the final critical habitat identified for the two endangered species and no critical habitat has been identified for the threatened species.

Land Use

The subject site is an undeveloped, vacant parcel zoned for Agricultural use, with the existing paved entrance and cul-de-sac currently being used as a bus drop-off location. This development proposes to rezone the site for commercial use and to improve the existing entrance and construct the proposed Sheetz store and fuel station as well as the public bus drop-off area.

Recreation

There are no existing or proposed recreational uses on the subject site.

Aesthetics and Human Interests

No historically or archaeologically significant features have been identified to exist on site. The site does not provide significant aesthetic value due to the proximity to the interstate and the existing overhead utility lines. The primary interest for the site is commercial use.

Cultural Status

This undeveloped site adjacent to the interstate does not have any known cultural status.

Man-made Facilities and Activities

The site contains an existing paved entrance and cul-de-sac as well as overhead utility lines. The cul-de-sac is currently used as a school bus drop-off and turnaround with signage for "Authorized Personnel and Equipment Only" and "Limit One Hour Parking."

IMPACT OF PROJECT

Modification of Natural Environment

The natural environment will be modified with this development to include the clearing of trees and flattening of grade in the store and parking area, as well as additional clearing for utility and infrastructure improvements. Existing drainage patters at the southern end of the site will be maintained. Interior landscaping will be provided within the development in addition to undisturbed perimeter buffers to minimize any impact to the neighboring residential uses.

Land Transformation and Construction

The vacant, forested parcel will be modified to contain the Sheetz convenience store with drive-thru, fueling station, and public bus drop-off. Construction shall be performed in accordance with County regulations and standards.

Resource Extraction

There is no resource extraction associated with this development.

Processing

There is no heavy or industrial processing associated with this development.

Land Alteration

The existing topography will be modified to provide a flat building area in the vicinity of the ridge and depression in the center to east side of the site. The existing swale identified at the western edge of the site is not anticipated to be impacted with the development. The development will be localized to the southeast portion of the site, nearest the intersection of Apple Mountain Rd and I-66, and will minimize impact to the northern and western boundaries nearest the adjacent residential uses.

Resource Renewal

There are no resource renewal activities associated with this development.

Changes in Traffic

Apple Mountain Rd from the I-66 off-ramp to the intersection with McIntosh Dr and Jonathan Rd would see a slight increase in traffic associated with this development, which would be controlled at the existing signal on Apple Mountain Road and the westbound I-66 on-ramp.

A Traffic Impact Analysis completed by Ramey Kemp Associates, dated September 22, 2020, found that the proposed development will generate minor increases in traffic and will not have a negative impact on safety or commute times given some minor entrance and road improvements are completed with the development. The recommended improvements include constructing a left-turn lane on Route 79 at the I-66 eastbound ramp with 100 feet of storage, restriping the I-66 eastbound off-ramp to create a left-turn lane with 200 feet of storage, and providing one inbound and two outbound lanes with the proposed site entrance.

Waste Storage and Treatment

Sanitary waste will be conveyed to an on-site septic drain field in accordance with a feasibility report prepared by SES Mid-Atlantic, LLC. The feasibility report identified three areas, at the northwest corner, the center north, and the center south, as potential drain field locations. Any grease from the food preparation activities will be collected in a grease interceptor and disposed of in accordance with County and State regulations.

Water Service

Water for the proposed development will be provided by an on-site well. A feasibility report for the well is currently in production by Cardno, Inc.

Chemical Treatment

Chemical treatments will involve deicing operations during winter months. Any chemical treatments required due to a potential spill in the fueling area shall be treated and disposed of in accordance with all County and State regulations.

Accidents

Access to the site will be provided in the current location of the existing paved entrance and cul-de-sac. This location provides good visibility to the south, towards I-66, and limited visibility to the north, along Apple Mountain Rd, due to grade change and road curvature. However, the speed limit north on Apple Mountain Rd is reduced to 15 mph for the residential area and an existing speed bump is located approximately ±170' from the proposed entrance, therefore no increase in accidents is anticipated with the development.

References

- **Traffic Impact Analysis**
  "Sheetz – I-66 at Route 79 Interchange – Revised Traffic Impact Analysis (TIA) Warren County, Virginia"
  Prepared by: Ramey Kemp & Associates, Inc.
  Dated: September 22, 2020

- **Boundary and Topographic Survey**
  "Boundary and Topographic Survey Sheetz, Inc."
  Prepared by: Bohler
  Project #: SV208400
  Dated: 06/02/2020

- **Septic Feasibility Study**
  "Initial Consult for Onsite Sewage System, Route 66 & Apple Mountain Road, Linden, Virginia"
  Prepared by: SES Mid-Atlantic, LLC
  Dated: 05/28/2020

- **Web Soil Survey**
  Custom Soil Resource Report
  Generated by the USDA and NRCS

- **FEMA FIRM Map**
  FIRM Flood Insurance Rate Map, Warren County, Virginia
  Map Number: 51187C0150C
  Effective Date: 06/03/2008

- **Air Quality Map**
  Outdoor Air Quality Data – Interactive Map of Air Quality Monitors
  Generated by the EPA

- **Endangered Species**
  Information for Planning and Consultation – Resources
  Generated by the U.S. Fish & Wildlife Service

COMMUNITY IMPACT STATEMENT

PREPARED FOR

Sheetz, Inc.
Apple Mountain Drive & I-66
Warren County, Virginia
BE #V208400

BY

BOHLER

28 BLACKWELL PARK LANE
SUITE 201
WARRENTON, VA 20186
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October 8, 2020

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This project proposes to construct a ±6,077 SF Sheetz convenience store with a drive-thru, 12 fuel stations, 48 parking spaces and associated utilities and infrastructure improvements, as well as a public bus drop-off with bus shelter and 28 parking spaces. The owner will provide landscaping to meet buffer and coverage requirements per the Warren County Zoning Ordinance. Stormwater requirements will be met with a proposed stormwater conveyance system and BMP measures per State requirements. Water and sewer will be provided via on-site well and septic systems.

Law Enforcement

The Warren County Sheriff's Department is ±7 miles away and would take 10-15 minutes for response time per Google Maps. The surrounding area is single-family residential uses and this development is not anticipated to generate an increase in overall service demand.

Fire and Rescue Services

The Linden Volunteer Fire Department is ±0.5 miles away per Google Maps.

Educational Facilities and Services

The existing paved entrance and cul-de-sac on-site serve as a school bus drop-off and pick-up location. This development will provide an improved bus drop-off location with shelter and parking spaces.

Parks and Recreation

These services are not applicable for this proposed development.

Library

These services are not applicable for this proposed development.

Solid Waste Facilities

Warren County Refuse Collection and Disposal is ±0.9 miles away per Google Maps. The proposed development will be served by private trash collection.

Water and Sanitary Sewer Service

Sanitary waste will be conveyed to an on-site septic drain field in accordance with a feasibility report prepared by SES Mid-Atlantic, LLC. The feasibility report identified three areas, at the northwest corner, the center north, and the center south, as potential drain field locations. Water for the proposed development will be provided by an on-site well. A feasibility report for the well is currently in production by Cardno, Inc.

County Administrative Services

The proposed development will require County services for the review and approval of the civil site plan, including any applicable subcontractor designs such as well and septic, during site design and construction.

Transportation

Apple Mountain Rd from the I-66 off-ramp to the intersection with McIntosh Dr and Jonathan Rd would see a slight increase in traffic associated with this development, which would be controlled at the existing signal on Apple Mountain Road and the westbound I-66 on-ramp.

A Traffic Impact Analysis completed by Ramey Kemp Associates, dated September 22, 2020, found that the proposed development will generate minor increases in traffic and will not have a negative impact on safety or commute times given some minor entrance and road improvements are completed with the development. The recommended improvements include constructing a left-turn lane on Route 79 at the I-66 eastbound ramp with 100 feet of storage, restriping the I-66 eastbound off-ramp to create a left-turn lane with 200 feet of storage, and providing one inbound and two outbound lanes with the proposed site entrance.

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  Prepared by: SES Mid-Atlantic, LLC
  Dated: 05/28/2020

VDOT
Virginia Department of Transportation

EDINBURG RESIDENCY
LAND USE MEMORANDUM

DATE: January 29, 2021

TO: Taryn Logan, AICP, Warren County Planning Director

FROM: Bradley S. Riggleman, P.E., Area Land Use Engineer

RE: TIA & Rezoning Comments – Linen Sheetz Rezoning

Ms. Logan,

Staunton District Planning, Traffic Engineering, and the Edinburg Residency have completed a review of the most recent revision of the Linden Sheetz TIA that was submitted to this office via email on January 13, 2021, along with a revised proffer letter dated December 14, 2020. This comment letter is divided into two sections. First will be comments related to the Traffic Impact Analysis, and second will be comments for the rezoning application and revised proffers. Following are comments for the TIA:

1. Previous comments for the TIA have been addressed. The TIA is acceptable and complete.

The following comments are for the rezoning application and revised proffers:

1. The subject rezoning will have a measurable impact to the roadway network. In an effort to mitigate these impacts, the proffer letter includes a number of off-site roadway improvements that are intended to minimizing impacts. However, there are a couple additional concerns that have been communicated in previous comment letters that the proffers do not appear to address. One is the turning radius at the westbound I-66 off ramp. Previous turning movement templates show that the right turn radius is not large enough to accommodate a WB-67 (73.5' semi-truck). This radius needs to be improved to allow these large commercial vehicles to make this turning maneuver without encroaching into the southbound Rt. 79 travel lane. Also, core samples need to be taken in the right turn lane of the I-66 westbound exit ramp to ensure pavement adequacy. While VDOT recently re-striped the exit ramp to include both a right and left turn lane, it was done without an evaluation of the pavement layers. The plans for the ramp indicate that the main line pavement is 16' wide, with a paved shoulder width of 6' on the right. The plans also indicate that the paved shoulder has a significantly reduced pavement section. With the increase in proposed traffic volume, the pavement structure will need to be evaluated, and if needs be, improved to support the anticipated traffic loading.
2. As noted in previous comment letters, the site entrance on Rt. 79 does not meet current Access Management spacing requirements for the distance between an interchange ramp and a commercial entrance. In an effort to mitigate this reduced spacing, the proffers include the construction of a left turn lane on Apple Mountain Road serving the site entrance. As the TIA indicates, this left turn lane is not warranted, but is included to improve intersection operation and to minimize delay to main line traffic. With this proposed mitigation, the TIA shows that the site entrance will operate with minimum delay, and VDOT could support an Access Management Exception for a reduced entrance spacing.
3. Transportation proffer statement #1 adds some ambiguity to the status of the Traffic Impact Analysis. It is noted that a TIA has been completed and approved by VDOT. We are not

opposed to the proffer for another TIA to be submitted based on the actual use of the site as outlined in future site plans, however, care needs to be taken to differentiate between the proffered improvements that are outlined in the current TIA, as opposed to improvements that could be necessary in a future TIA. This could be addressed in Transportation Proffer #3. The proffered improvements here are based on the completed TIA and would be considered to be minimum improvements. Should a future TIA indicate that additional improvements are necessary, then the verbiage should indicate a commitment on the part of the developer to complete these future needed improvements.

4. VDOT does not support Transportation Proffer #2. The FHWA has authority over the Interstate System. With that said, it is not uncommon for VDOT to work alongside the FHWA on these types of projects, and does not anticipate that the FHWA would fail to support these proposed ramp and Rt. 79 improvements.
5. Transportation Proffer #3 speaks of a revised TIA, along with "necessary and reasonable exceptions and/or waivers from minimum front and rear yard building setback requirements in the Highway Corridor Overlay District..." While setbacks are not under the purview of VDOT, this could lead to an expectation of a reduction to County setback requirements. Consideration should be given to the intention of this language and its implications to any potential development and land divisions.
6. Roadway improvements and site access shall be designed and constructed in accordance with all current VDOT Regulations, Standards, and Specifications.

Please feel free to contact me if you have any questions.

Sincerely,

Bradley S. Riggleman, P.E.
Area Land Use Engineer – Edinburg Residency

Cc: Carl Hultgren, P.E., PTOE, Ramey Kemp Associates
Robert Franks, Sheetz
John Wright, P.E., Bohler Engineering
Jeff Lineberry, P.E. – VDOT Transportation and Land Use Director
Terry Short, AICP, VDOT District Planning Manager
Matt Bond, P.E., VDOT District Traffic Engineer

VDOT
Virginia Department of Transportation

EDINBURG RESIDENCY
LAND USE MEMORANDUM

DATE: December 22, 2020

TO: Carl Hultgren, P.E., PTOE, Ramey Kemp Associates

FROM: Bradley S. Riggleman, P.E., Area Land Use Engineer

RE: TIA Comments – Linen Sheetz Rezoning

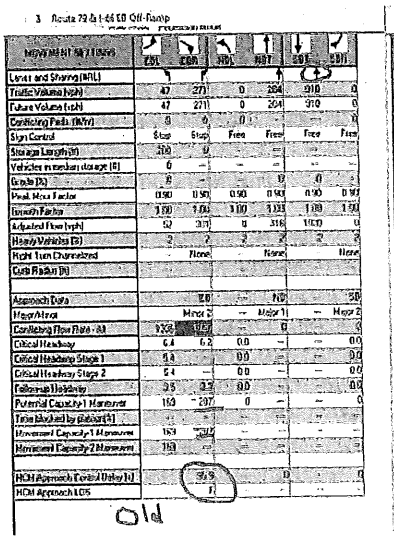
Mr. Hultgren,

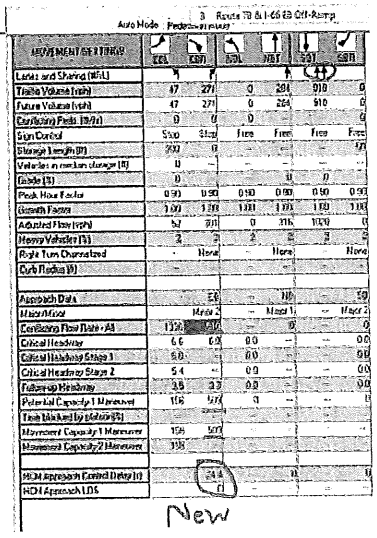
The Residency has completed a review of the most recent revision of the Linden Sheetz TIA that was submitted to this office on December 10, 2020. VDOT has noted one additional comment that is a result of a change to the model at the Rt. 79 & I-66 EB on ramp:

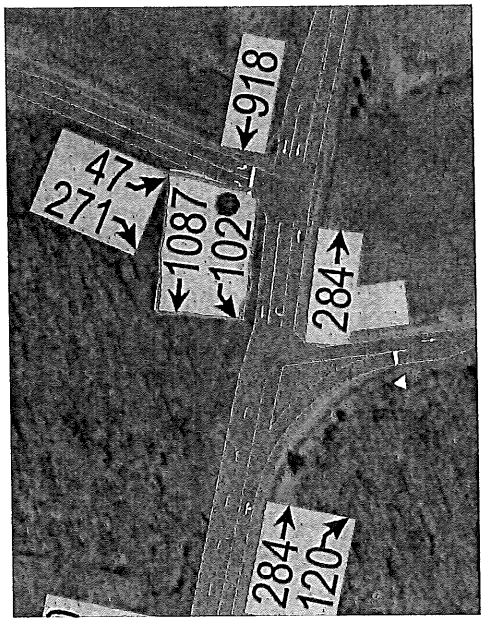
At the Route 79 & I-66 EB Ramps, the December TIA extends the SB left turn lane to the EB on-ramp through the intersection with the EB off-ramp, as seen in the Synchro screenshot below. This turn lane was extended based on our comment that the warrant calls for 175 ft. of storage, but the October TIA only proposed a 100 ft. turn lane to fit in the space between the off-ramp and on-ramp. This new configuration, with two SB approach lanes to the EB off-ramp, changes the HCM calculation significantly, with the EB right turn from the off-ramp (the most delayed movement at the intersection) showing a drop from 106.4 to 21.8 sec in the "PM with Improvements" scenario for the December TIA.

As seen in the HCM 6th Edition table below, it appears that HCM simply cuts the SB lanes (through and left) where they conflict with the EB off ramp. This creates a scenario where the model thinks there are two through lanes through this intersection, greatly reducing the delay for the EB off ramp. This is not a realistic outcome since the downstream demand heavily favors the near-side lane for the SB thru (1087 vehicles) vs. the far lane for the SB left (102 vehicles). We expect that the 106.4 second delay from the previous TIA would be much closer to reality than the 21.8 seconds reported in the December submittal.

We suggest to remove the additional SB thru lane from model and, if desired, note in Table 4 that the delay may be slightly lower given the lengthened added approach lane.







Please feel free to contact me if you have any questions.

Sincerely,

Bradley S. Riggleman, P.E.
Area Land Use Engineer – Edinburg Residency

Cc: Taryn Logan, AICP, Warren County Planning Director
Robert Franks, Sheetz
John Wright, P.E., Bohler Engineering
Jeff Lineberry, P.E. – VDOT Transportation and Land Use Director
Brad Reed, AICP, VDOT Staunton District Planning

VDOT
Virginia Department of Transportation

EDINBURG RESIDENCY
LAND USE MEMORANDUM

DATE: November 9, 2020

TO: Carl Hultgren, P.E., PTOE, Ramey Kemp Associates

FROM: Bradley S. Riggleman, P.E., Area Land Use Engineer

RE: TIA Comments – Linen Sheetz Rezoning

Mr. Hultgren,

The Residency has completed a review of the second submittal of the Linden Sheetz TIA that was submitted to this office on September 30, 2020. VDOT offers the following comments:

1. The entrance location onto Rt. 79 (Apple Mountain Road) does not meet Access Management Spacing Regulations. While the TIA demonstrates that the 95th percentile queue does not back up to the proposed entrance, the TIA does not offer any type mitigation for the reduced spacing. It is suggested for the Engineer to contact the Residency to discuss possible mitigative measures that would protect the roadway network and reduce inconvenience to the existing users of Apple Mountain Road.
2. While the truck fueling positions are no longer included in the proposed use, right turning heavy vehicles (tanker and delivery trucks) continue to be a concern at the I-66 Westbound off-ramp. It is the expectation that improvements for right turning WB-67's be fully evaluated. It continues to be a concern that the radius is not sufficient and that relocating the stop bar for Southbound Rt. 79 farther north will back the queue up closer to the proposed site entrance.
3. Regarding first submittal Comment #6 & #7: Because this development is proposing a significant increase to right turn volume at this intersection and on Rt. 79, we maintain that core samples need to be obtained to verify pavement adequacy for the proposed traffic volume.
4. The TIA states that a left turn lane onto the I-66 Eastbound on-ramp is warranted based on existing traffic volumes. While this appears to be the case, it should be noted that this development is adding significant traffic volume to this movement, which increases the need for the turn lane. The TIA is recommending the construction of a 100' turn lane. Why does the TIA recommend a 100' turn lane when a 175' turn lane is warranted? The TIA should also make clear what the taper length should be.
5. The TIA recommends restriping the I-66 Eastbound off-ramp to provide a designated left turn lane, and the comment response letter acknowledges that the geometry for this new left turn lanes needs to be confirmed to ensure adequate lane and shoulder widths. However, the TIA recommends re-striping only. The TIA needs to show all necessary measures to ensure that adequate turn lane and shoulder widths can be achieved.
6. Table 3 (Rt. 79/I-66 Westbound Ramp) shows that the queue for NBL/T increase 95' while the lane delay decreases by 0.7 seconds. How can this increase in queue result in a decrease in delay?

Please feel free to contact me if you have any questions.

Sincerely,

Bradley S. Riggleman, P.E.
Area Land Use Engineer – Edinburg Residency

Cc: Taryn Logan, AICP, Warren County Planning Director
Robert Franks, Sheetz
John Wright, P.E., Bohler Engineering
Jeff Lineberry, P.E. – VDOT Transportation and Land Use Director
Brad Reed, AICP, VDOT Staunton District Planning

RAMEY KEMP ASSOCIATES
Mount Pleasant

T 804 [illegible]

4343 Cox Road
Glen Allen, VA 23060

January 13, 2021

Mr. Bradley Riggleman, P.E.
Area Land Use Engineer
Virginia Department of Transportation
14031 Old Valley Pike
Edinburg, Virginia 22824
Phone: (540) 984-5615

Reference: **Sheetz** – I-66 at Route 79 Interchange – Revised Traffic Impact Analysis (TIA)
Warren County, Virginia

Dear Mr. Riggleman,

Ramey Kemp & Associates, Inc. (RKA) has performed a Traffic Impact Analysis (TIA) for the proposed convenience store in the northwest quadrant of the I-66 at Route 79 interchange. The development plan includes a convenience store with 12 fueling positions and one full-movement driveway on Apple Mountain Road. The development plan also includes relocating and improving the existing school bus stop on the property. If approved, the convenience store is expected to be built-out in 2022. Figure 1 shows the site location and study intersections, and Figure 2 shows the preliminary site plan.

Based on conference calls with you and the County on May 5 and July 14, the purpose of this report is to provide the following:

- Trip generation calculations
- Evaluation of turn lane warrants for the proposed site driveway
- Capacity and queueing analysis of the study intersections

The Revised TIA was dated December 7, and VDOT provided one review comment in a memo dated December 22. Following is the comment related to the Route 79 at I-66 eastbound ramps and our response:

1. We suggest to remove the additional SB thru lane from the model (due to the proposed southbound left-turn lane on Route 79) and, if desired, note in Table 4 that the delay may be slightly lower given the lengthened added approach lane.

    - The Synchro models have been revised as requested so there is only one southbound through lane at the I-66 eastbound off-ramp, and the results have been updated in Table 4.

Existing Roadway Conditions
I-66 is a four-lane divided Interstate with a current average daily traffic (ADT) volume of approximately 40,000 vehicles per day (vpd), and a posted speed limit of 70 miles per hour (mph) in the vicinity of the site.

Route 79 (Apple Mountain Road) is a two-lane Principal Arterial with a current ADT volume of approximately 8,000 vpd, and a posted speed limit of 35 mph in the vicinity of the site north of I-66. Apple Mountain Road is a two-lane residential collector south od I-66, with a current ADT volume of approximately 2,500 vpd, and a posted speed limit of 15 mph.

Route 55 is a two-lane Principal Arterial with a current ADT volume of approximately 13,000 vpd west of Route 79, and a Major Collector with a current ADT volume of approximately 4,500 vpd east of Route 79. Route 55 has a posted speed limit of 45 mph in the vicinity of Route 79.

The existing roadway configuration is shown in Figure 3.

Existing Traffic Volumes
VDOT provided AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM) turning movement counts at the following intersections:

- Route 79 at I-66 Westbound Ramps – performed by The Traffic Group in November 2016
- Route 79 at Route 55 – performed by Peggy Malone & Associates in May 2016

VDOT also performed tube counts on Route 79 at the I-66 Eastbound off-ramp in May 2017. For the purpose of this study, it was assumed that 10% of drivers on the I-66 Eastbound off-ramp turn left, and 90% turn right on Route 79.

The 2016 and 2017 traffic volumes were grown by 2.0% per year to estimate the existing 2020 traffic volumes at the study intersections. The traffic count data are enclosed.

School Bus Stop Trips
The applicant is proposing to construct a school bus stop on the west side of the proposed store for the County's use. To estimate the trip potential of the bus stop, it was assumed that 3 buses and 27 passenger cars arrive during the AM peak hour, and no trips during the PM peak hour. Figures 4 and 5 show the estimated school bus stop site trip distribution and assignment, and Figure 6 shows the existing 2020 peak hour traffic volumes.

Background Traffic Growth
The existing 2020 peak hour traffic volumes were grown by an annual rate of 2.0% for two years to estimate the 2022 peak hour traffic volumes. The estimated no-build 2022 volumes are shown in Figure 7.

Truck Percentage
The existing truck percentage at the intersection of Route 79 at I-66 Westbound Ramps is approximately 4% in the AM peak hour and 2% in the PM peak hour. These percentages were applied to all movements in the existing and no-build traffic conditions. For the build conditions, the truck percentages for the individual movements that the school buses will use were calculated and entered into the Synchro models.

Approved Developments
Based on discussion with VDOT, there are no approved developments in the vicinity of the site that will generate a significant amount of traffic.

Trip Generation
The trip generation potential of the proposed convenience store during a typical weekday, AM peak hour, and PM peak hour was estimated using the methodologies published by the ITE *Trip Generation Manual – 10th Edition*. Table 1 summarizes the trip generation calculations.

Table 1: ITE Trip Generation – Weekday – 10th Edition

Land Use (ITE Land Use Code)	Size	Weekday Daily Traffic (vpd)		AM Peak Hour (vph)		PM Peak Hour (vph)	
		Enter	Exit	Enter	Exit	Enter	Exit
Super Convenience Market / Gas Station (960)	12 f.p.	1,383	1,383	168	169	138	138
Estimated School Bus Stop Trips		60[2]	60[2]	30[1]	30[1]	0	0

1 – Assumes 3 buses and 27 passenger cars in and out
2 – Assumes 3 buses and 27 passenger cars in and out during the AM and mid-afternoon peak hours

Convenience stores attract pass-by trips, which are made by drivers who are already driving past the site today. In this study, it was assumed that the proposed store will divert trips from I-66 instead of attracting pass-by trips from Apple Mountain Road. There will be some internal capture between the proposed store and the school bus stop, but that was ignored to be conservative.

Site Trip Distribution
Based on discussion with VDOT, the following site trip distribution was applied to the Sheetz customers:

- 30% to / from I-66 westbound
- 25% to / from the west on Route 55
- 20% to / from I-66 eastbound
- 15% to / from the east on Route 55
- 10% to / from the north on Apple Mountain Road

Figure 8 shows the site trip distribution for Sheetz customers, and Figure 9 shows the site trip assignment. Figure 10 shows the projected 2022 build-out peak hour traffic volumes.

VDOT Turn Lane Warrant Analysis
The existing AM and PM peak hour traffic volumes at the intersection of Route 79 at I-66 eastbound ramps were compared to the turn lane warrants in the Virginia Department of Transportation (VDOT) *Access Management Design Standards for Entrances and Intersections.* Based on the turn lane warrant charts:

Route 79 at I-66 Eastbound Ramps:

- The existing volumes warrant a southbound left-turn lane on Route 79 during both peak hours

The existing AM and PM peak hour traffic volumes are well above the VDOT threshold for a southbound left-turn lane on Route 79. This turn lane is needed with or without the proposed Sheetz trips.

Traffic Capacity Analysis
Traffic capacity analysis for the study intersections was performed using Synchro 10, which is a comprehensive software package that allows the user to model signalized and unsignalized intersections to determine levels-of-service based on the thresholds specified in the Highway Capacity Manual (HCM) – 6th Edition.

Table 2 summarizes the capacity analysis results for the intersection of Apple Mountain Road at Proposed Site Driveway, and the HCM 6th Edition Synchro outputs are enclosed for reference.

Table 2: Level-of-Service Summary for Apple Mountain Road at Proposed Site Driveway

CONDITION	LANE GROUP	AM PEAK HOUR				PM PEAK HOUR			
		Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)[3]	Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)[3]
Existing (2020) Traffic Conditions	EBL/R[1]	A	9.9	3	N/A	A	9.8	0	N/A
	NBL/T[2]	A	7.7	0		A	7.5	0	
	SBT/R	-	-	-		-	-	-	
No-Build (2022) Traffic Conditions	EBL/R[1]	A	9.9	3	N/A	A	9.6	0	N/A
	NBL/T[2]	A	7.8	0		A	7.5	0	
	SBT/R	-	-	-		-	-	-	
Build (2022) Traffic Conditions *With Improvement*	EBL[1]	C	15.4	8	N/A	B	13.9	3	N/A
	EBR[1]	B	10.8	23		A	9.7	13	
	NBL[2]	A	8.2	13		A	7.8	8	
	NBT	-	-	-		-	-	-	
	SBT/R	-	-	-		-	-	-	

1. Level of service for minor-street approach
2. Level of service for major street left-turn movement
3. HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections.

Capacity analysis indicates that the minor street left-turn movement currently operates with short delays (less than 25 seconds) during the AM and PM peak hours. Under no-build conditions, the minor street left-turn movement is expected to continue to continue to operate with short delays (less than 25 seconds) during the AM and PM peak hours.

Under build conditions, capacity analysis indicates that the eastbound left-turn movement is projected to continue to operate with short delays (less than 25 seconds) during the weekday AM and PM peak hours with one inbound lane and two outbound lanes on the site driveway and the following improvement:

- Construct a northbound left-turn lane on Apple Mountain Road with 100 feet of storage and a 100 foot taper

Table 3 summarizes the capacity analysis results for the signalized intersection of Route 79 at I-66 Westbound Ramps, and the HCM 2000 Signalized outputs and Synchro outputs (for queues only) are enclosed for reference.

Table 3: Level-of-Service Summary for Route 79 at I-66 Westbound Ramps

CONDITION	LANE GROUP	AM PEAK HOUR				PM PEAK HOUR			
		Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)	Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)
Existing (2020) Traffic Conditions	WBL/T	B	11.7	74	A (9.2 sec)	C	21.8	574	C (22.4 sec)
	WBR	A	9.9	0		A	8.2	0	
	NBL/T	A	8.2	59		C	26.0	225	
	SBT/R	A	7.7	60		C	24.6	75	
No-Build (2022) Traffic Conditions	WBL/T	B	11.8	79	A (9.4 sec)	C	21.8	574	C (22.4 sec)
	WBR	A	9.9	0		A	8.2	0	
	NBL/T	A	8.3	62		C	26.0	225	
	SBT/R	A	7.8	62		C	24.6	75	
Build (2022) Traffic Conditions	WBL/T	B	14.8	112	B (10.1 sec)	C	25.9	629	C (28.9 sec)
	WBR	B	12.6	11		A	9.4	9	
	NBL/T	A	8.7	110		D	43.2	334	
	SBT/R	A	8.2	122		C	25.1	165	

Capacity analysis indicates that the intersection currently operates at LOS A during the AM peak hour and LOS C during the PM peak hour. Under no-build conditions, the intersection is expected to continue to operate at LOS A during the AM peak hour and LOS C during the PM peak hour.

With the addition of the proposed site traffic, the intersection is expected to operate at LOS B during the AM peak hour and LOS C during the PM peak hour. No improvements are warranted or recommended at build-out of the site.

Table 4 summarizes the capacity analysis results for the unsignalized intersection of Route 79 at I-66 Eastbound Ramps, and the HCM 6th Edition and HCM 2000 Unsignalized Synchro outputs are enclosed for reference.

Table 4: Level-of-Service Summary for Route 79 at I-66 Eastbound Ramps

CONDITION	LANE GROUP	AM PEAK HOUR				PM PEAK HOUR			
		Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)[3]	Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)[3]
Existing (2020) Traffic Conditions	EBL/R[1] NBT/R SBL/T[2]	B - A	11.7 - 1.9	15 - 5	N/A	F - A	71.5 - 1.8	240 - 5	N/A
No-Build (2022) Traffic Conditions	EBL/R[1] NBT/R SBL/T[2]	B - A	11.9 - 1.9	18 - 5	N/A	F - A	95.4 - 1.9	288 - 5	N/A
Build (2022) Traffic Conditions	EBL/R[1] NBT/R SBL/T[2]	C - A	15.6 - 2.5	35 - 8	N/A	F - A	222.1 - 3.0	468 - 7	N/A
Build (2022) Traffic Conditions *With Improvements**	EBL[1] EBR[1] NBT/R SBL[2] SBT	C B - A -	15.8 12.8 - 8.0 -	10 18 - 8 -	N/A	E F - A -	35.6 106.4 - 8.2 -	30 288 - 7 -	N/A

1. Level of service for minor-street approach
2. Level of service for major street left-turn movement
3. HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections.

Capacity analysis indicates that the eastbound left-turn movement currently operates with short delays (less than 25 seconds) during the AM peak hour and with long delays (more than 50 seconds) during the PM peak hour. Under no-build and build conditions, the eastbound left-turn movement is projected to continue to operate with short delays (less than 25 seconds) during the AM peak hour and with long delays (more than 50 seconds) during the PM peak hour.

The existing AM and PM peak hour traffic volumes warrant a southbound left-turn lane on Route 79 with 175 feet of storage, but the applicant is willing to build this turn lane. The following improvement is also recommended to mitigate the proposed site trips:

- Widen and restripe the I-66 eastbound off-ramp to create an eastbound left-turn lane with 200 feet of storage

The eastbound left-turn movement is projected to operate with short delays (less than 25 seconds) during the AM peak hour, and with long delays (greater than 50 seconds) during the PM peak hour, with significantly shorter queues on the off-ramp.

Table 5 summarizes the capacity analysis results for the signalized intersection of Route 79 at Route 55 / Exxon Driveway, and the HCM 2000 Signalized outputs and Synchro outputs (for queues only) are enclosed for reference.

Table 5: Level-of-Service Summary for Route 79 at Route 55 / Exxon Driveway

CONDITION	LANE GROUP	AM PEAK HOUR				PM PEAK HOUR			
		Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)	Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS (Delay)
Existing (2020) Traffic Conditions	EBL	B	10.9	184	B (16.8 sec)	C	26.9	175	D (37.0 sec)
	EBT/R	A	5.1	31		C	20.9	114	
	WBL	B	18.8	4		C	33.6	7	
	WBT	C	22.1	154		D	48.5	197	
	WBT/R	B	19.1	21		C	33.9	3	
	NBL	C	22.9	11		B	12.9	25	
	NBT/R	C	23.8	52		B	12.7	25	
	SBL/T	C	24.6	65		B	11.9	58	
	SBR	C	23.9	67		D	45.9	536	
No-Build (2022) Traffic Conditions	EBL	B	11.2	196	B (17.3 sec)	C	27.1	171	D (39.8 sec)
	EBT/R	A	5.0	33		C	20.4	113	
	WBL	B	19.3	4		C	32.7	7	
	WBT	C	23.0	161		D	44.8	178	
	WBT/R	B	19.6	23		C	32.9	5	
	NBL	C	23.5	11		B	13.4	27	
	NBT/R	C	24.5	55		B	13.2	27	
	SBL/T	C	25.3	67		B	12.5	60	
	SBR	C	24.6	68		D	52.0	597	
Build (2022) Traffic Conditions	EBL	B	12.8	237	B (19.1 sec)	C	33.3	228	D (40.5 sec)
	EBT/R	A	5.4	34		C	20.5	113	
	WBL	C	21.2	5		C	32.7	7	
	WBT	C	25.2	182		D	44.8	178	
	WBT/R	C	21.6	42		C	33.0	20	
	NBL	C	24.6	13		B	13.3	27	
	NBT/R	C	25.5	61		B	13.1	27	
	SBL/T	C	27.4	99		B	12.7	71	
	SBR	C	25.9	79		D	52.3	616	

Capacity analysis indicates that the intersection currently operates at LOS B during the AM peak hour and LOS D during PM peak hour. Under no-build and build conditions, the intersection is expected to continue to operate at LOS B during the AM peak hour and LOS D during the PM peak hour. No improvements are warranted or recommended at build-out of the site.

Recommendations
Based on the trip generation potential of the proposed convenience store, the following roadway improvements are warranted or recommended:

Apple Mountain Road at Proposed Site Driveway:

- Provide one inbound lane and two outbound lanes on the site driveway
- Construct a northbound left-turn lane on Apple Mountain Road with 100 feet of storage and a 100 foot taper

Route 79 at I-66 Eastbound Ramps:

- Construct a southbound left-turn lane on Route 79 with 175 feet of storage and a 100 foot taper
- Widen and restripe the I-66 eastbound off-ramp to create a left-turn lane with 200 feet of storage

Figure 11 shows the recommended roadway laneage.

We appreciate your attention to this matter. Please contact me at (804) 217-8560 if you have any questions about this report.

Sincerely yours,
Ramey Kemp & Associates, Inc.



Carl Hultgren, P.E., PTOE
State Traffic Engineering Lead

Enclosures: Figures, Traffic count data, Synchro output, VDOT turn lane warrant diagrams

Copy to: Mr. Robert Franks, Sheetz
Mr. John Wright, P.E., Bohler Engineering
Mr. Jeffrey Lineberry, P.E., VDOT
Mr. Brad Reed, AICP, VDOT

FIGURES



Inset



Overview

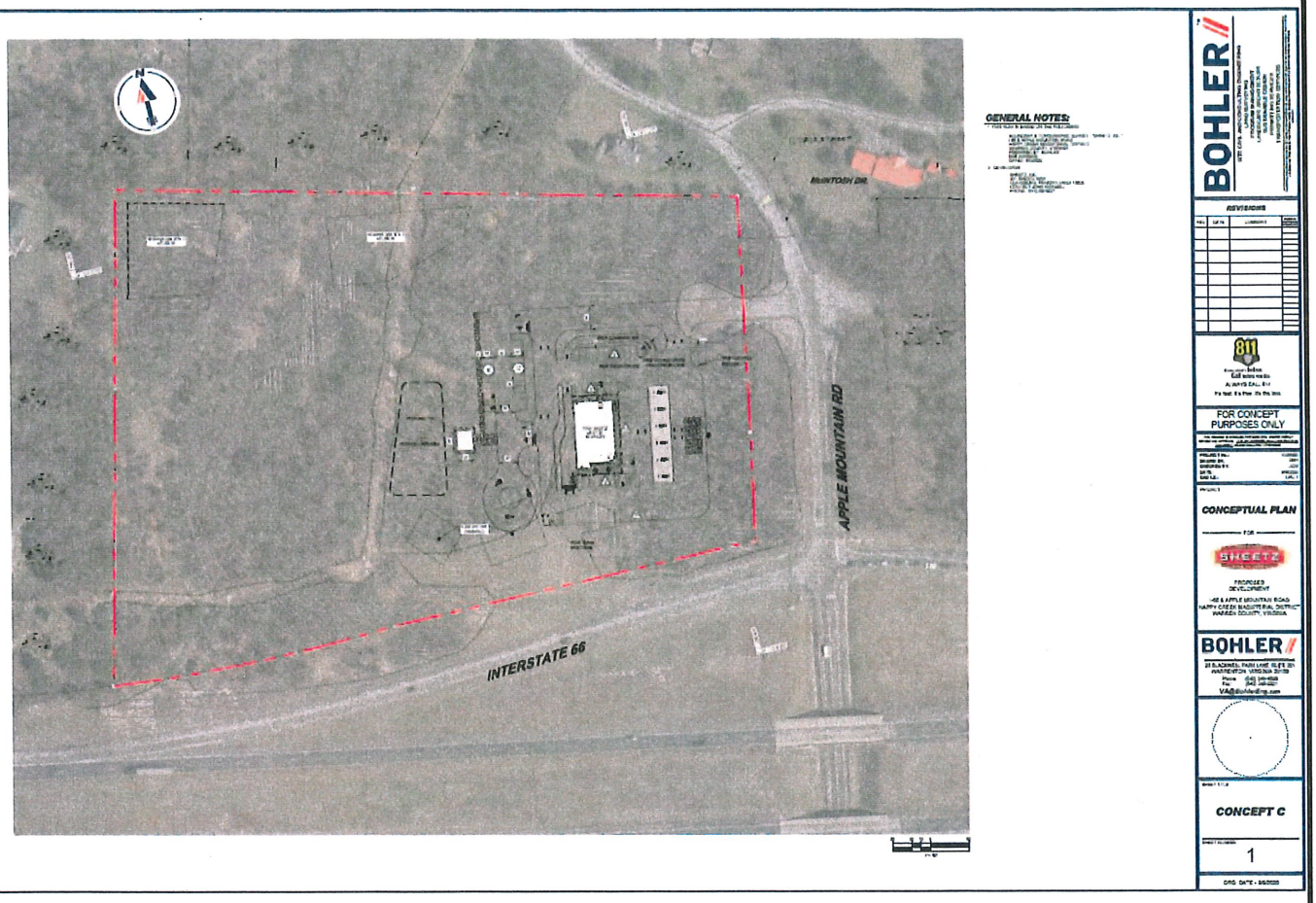
LEGEND

N

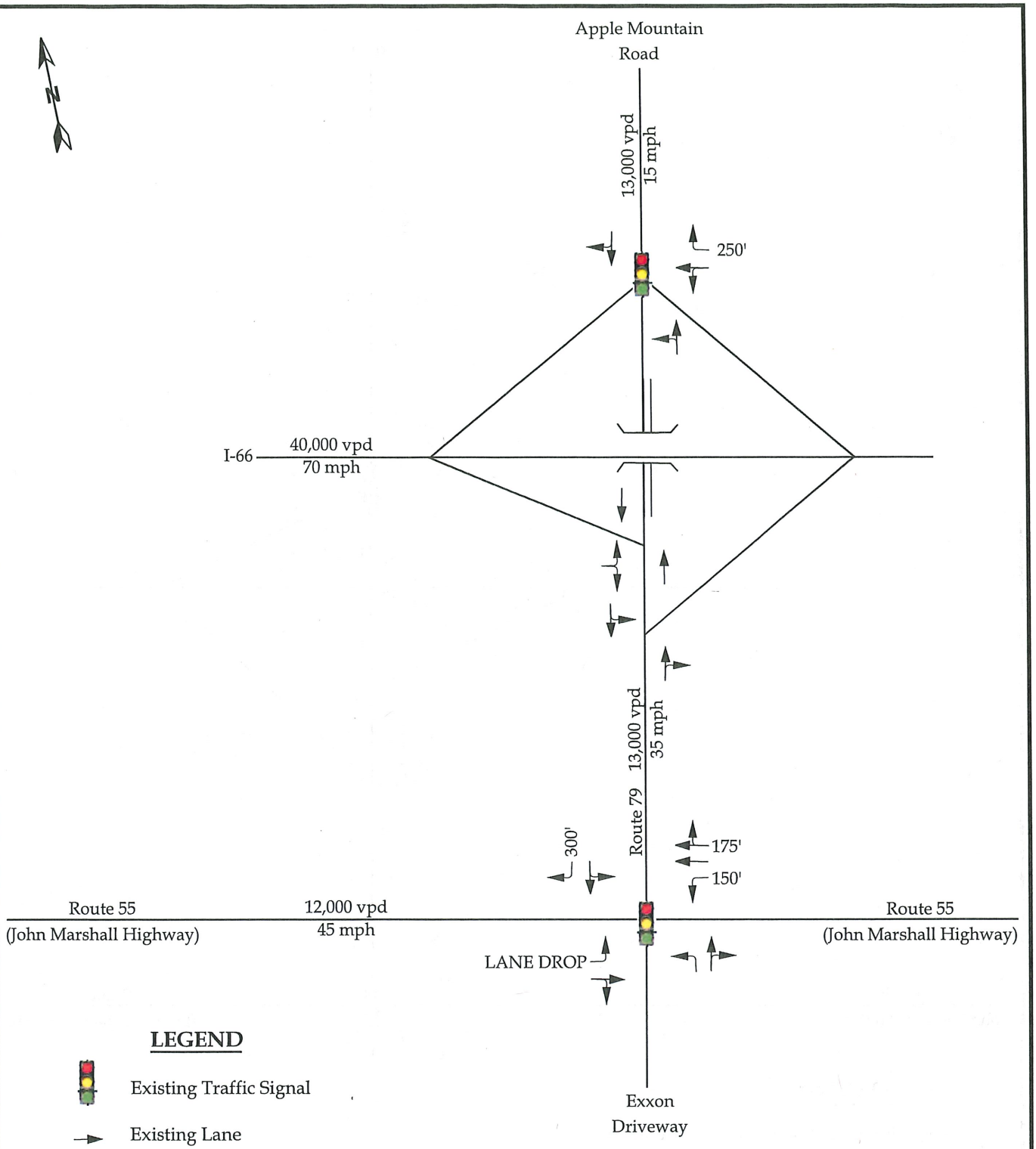
Study Intersection

Site Boundary

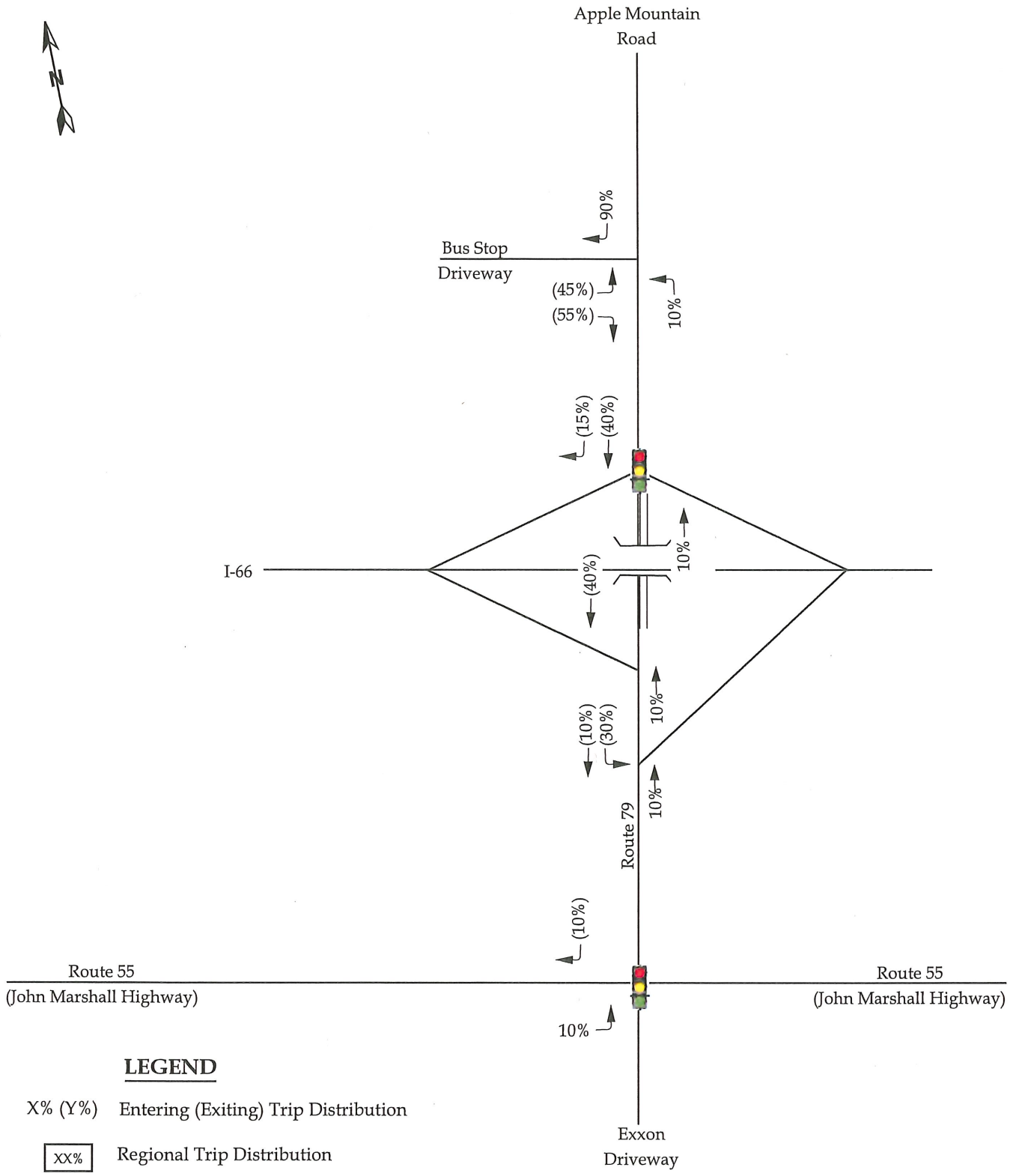
Moving forward. RKA RAMEY KEMP ASSOCIATES	Sheetz Route 79 Warren County, Virginia	Site Location and Study Intersections Scale: Not to Scale | Figure 1



Moving forward. RKA RAMEY KEMP ASSOCIATES	Sheetz Route 79 Warren County, Virginia	Preliminary Site Plan Scale: Not to Scale | Figure 2



Moving forward. RKA RAMEY KEMP ASSOCIATES	Sheetz Route 79 Warren County, Virginia	Existing Lane Configuration Scale: Not to Scale | Figure 3



LEGEND

X% (Y%) Entering (Exiting) Trip Distribution

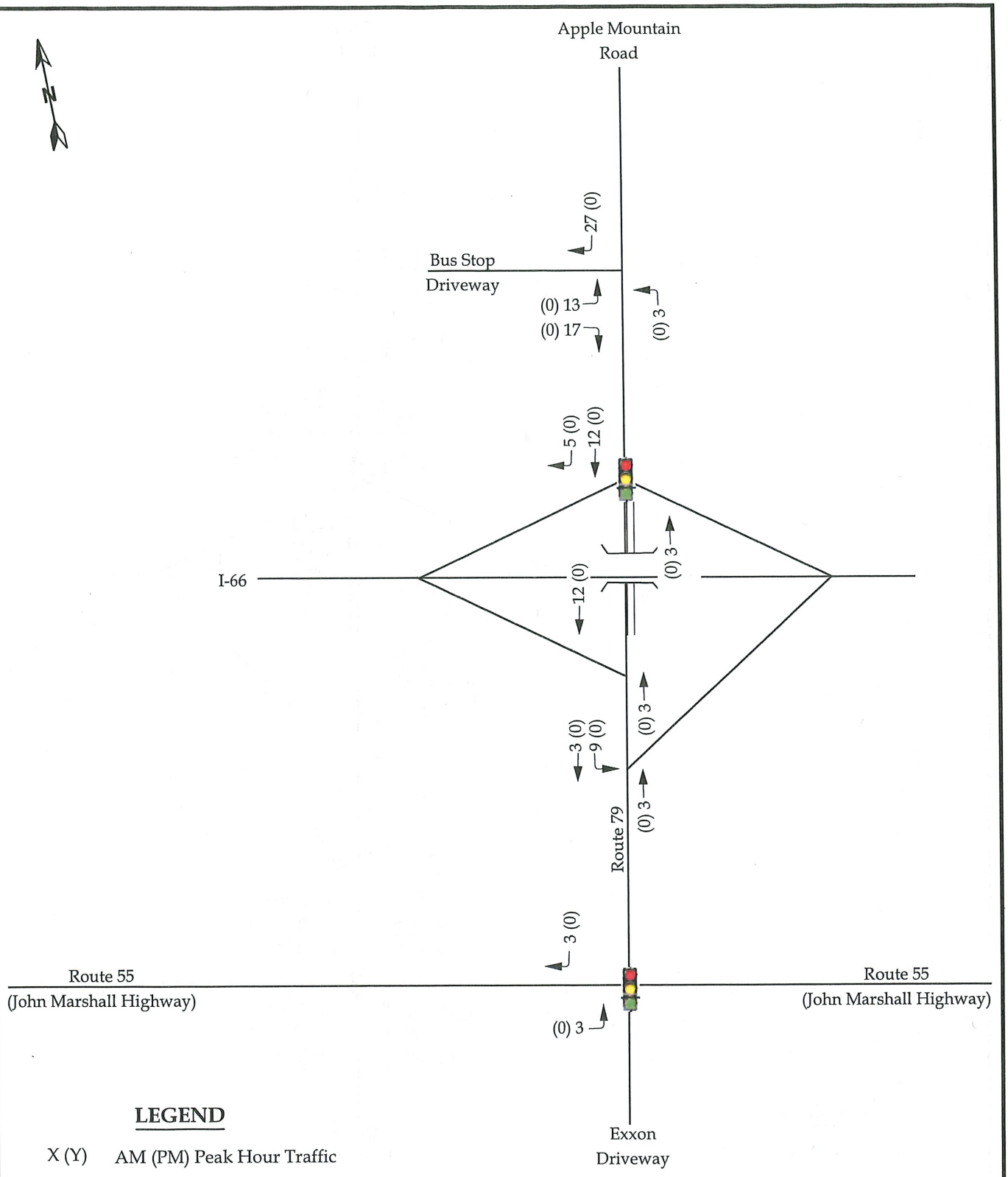
XX% Regional Trip Distribution

Moving forward. RKA RAMEY KEMP ASSOCIATES

Sheetz
Route 79
Warren County, Virginia

School Bus Stop Trip Distribution

Scale: Not to Scale | Figure 4



LEGEND

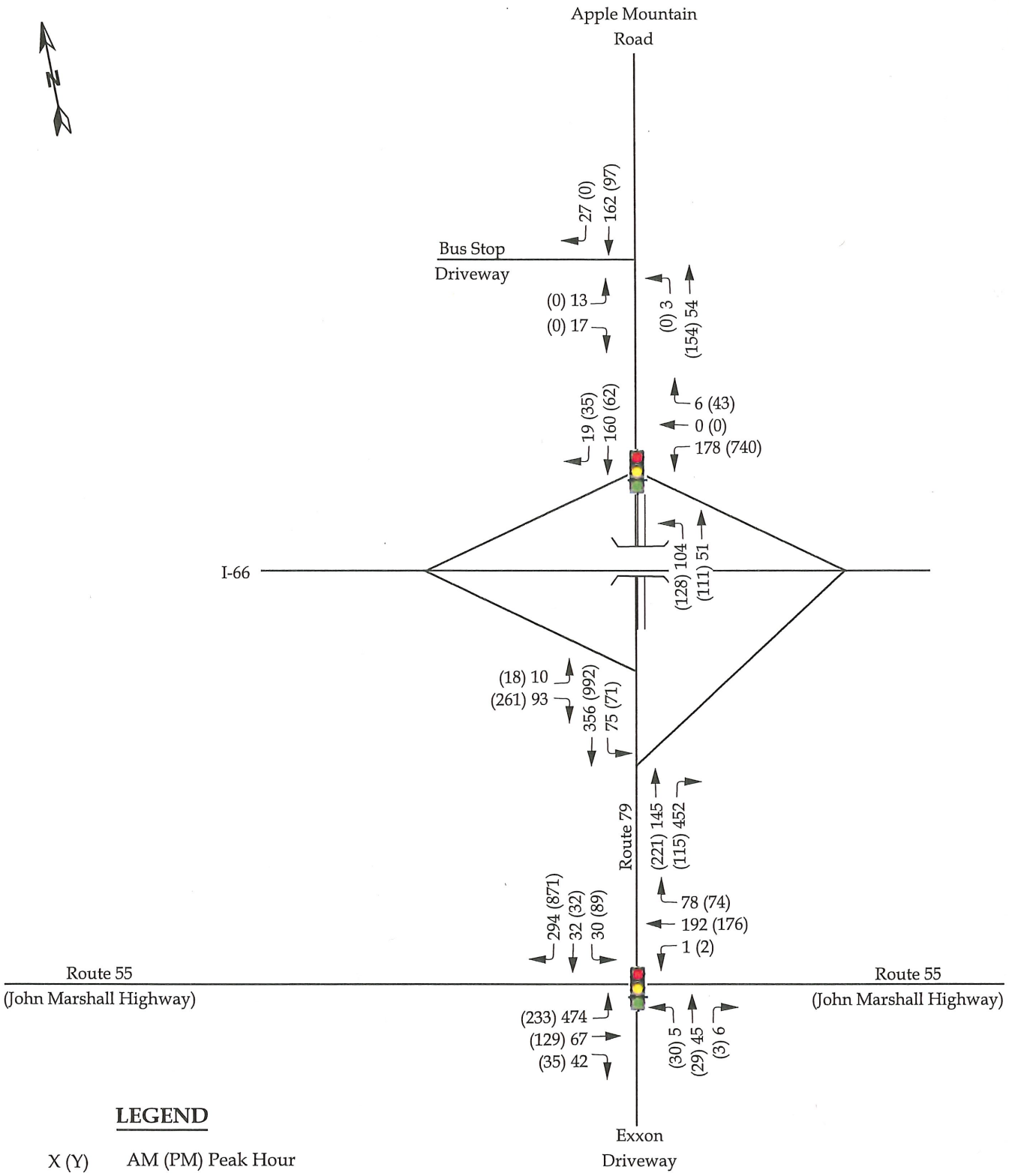
X (Y) AM (PM) Peak Hour Traffic

Moving forward.
RKA
RAMEY KEMP ASSOCIATES

Sheetz
Route 79
Warren County, Virginia

School Bus Stop
Trip Assignment

Scale: Not to Scale | Figure 5



LEGEND

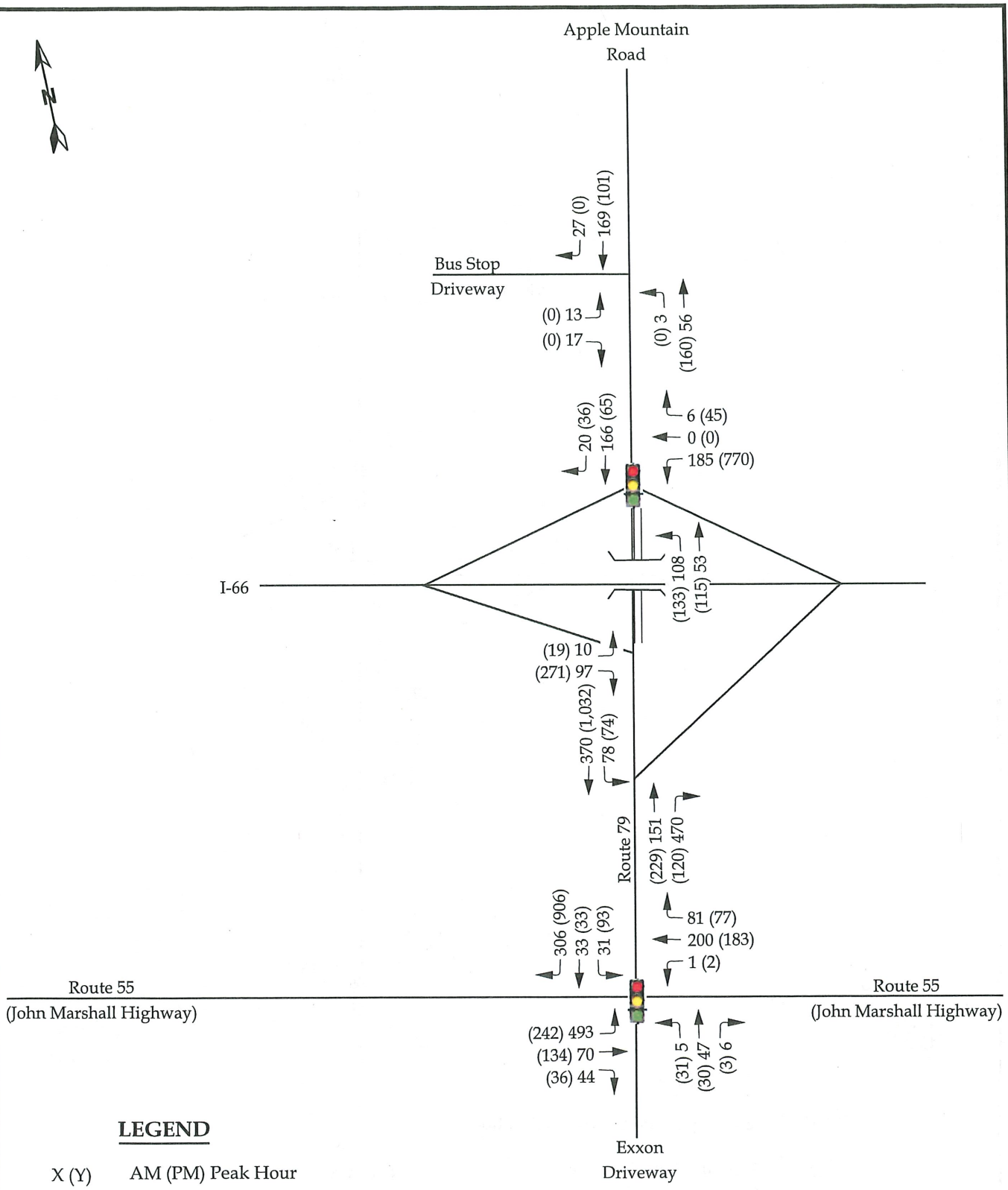
X (Y) AM (PM) Peak Hour

Moving forward.
RKA
RAMEY KEMP ASSOCIATES

Sheetz
Route 79
Warren County, Virginia

Existing (2020) Peak Hour Traffic Volumes

Scale: Not to Scale | Figure 6



LEGEND

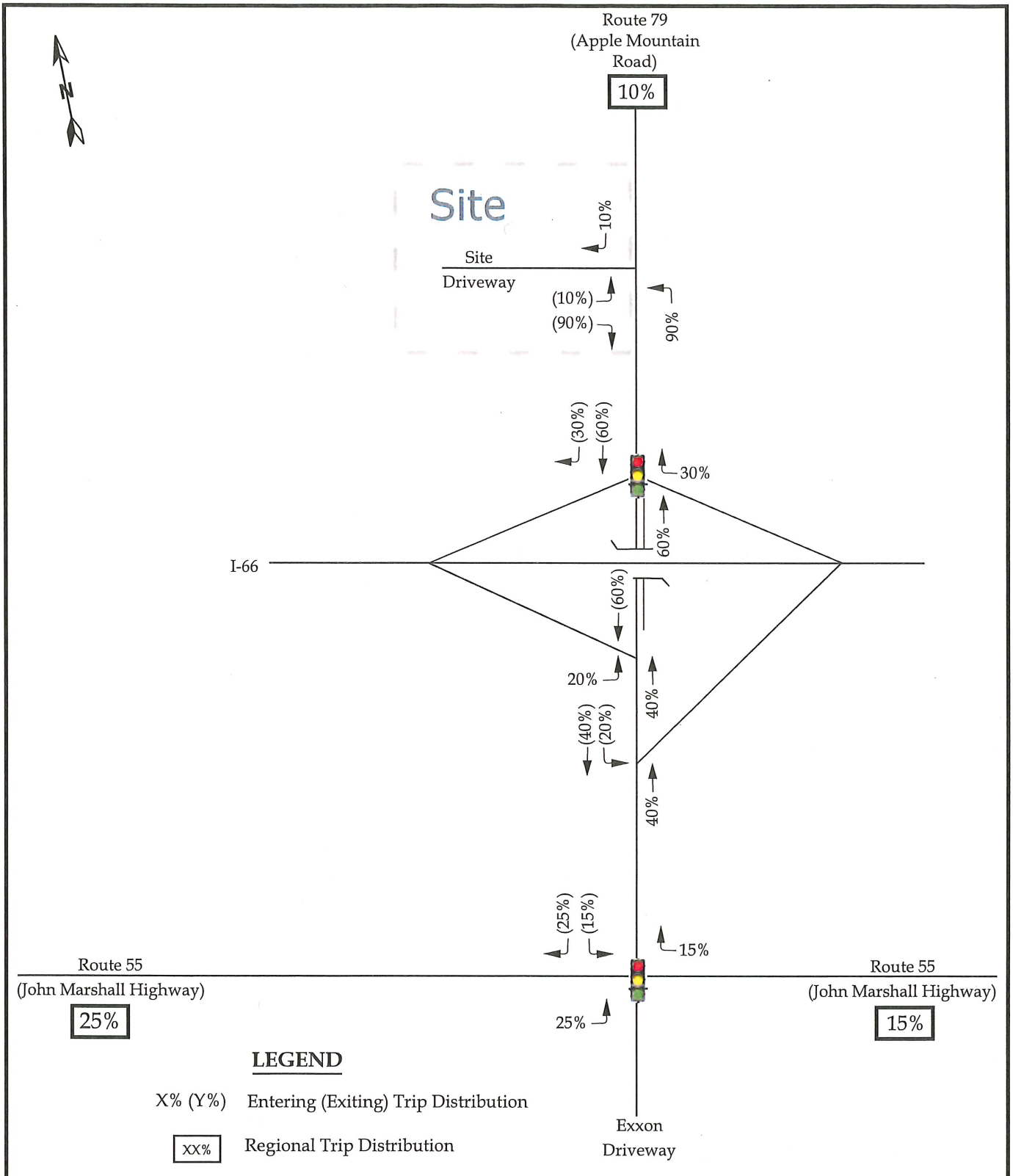
X (Y) AM (PM) Peak Hour

Moving forward. RKA RAMEY KEMP ASSOCIATES

Sheetz
Route 79
Warren County, Virginia

No-Build (2022) Peak Hour Traffic Volumes

Scale: Not to Scale | Figure 7

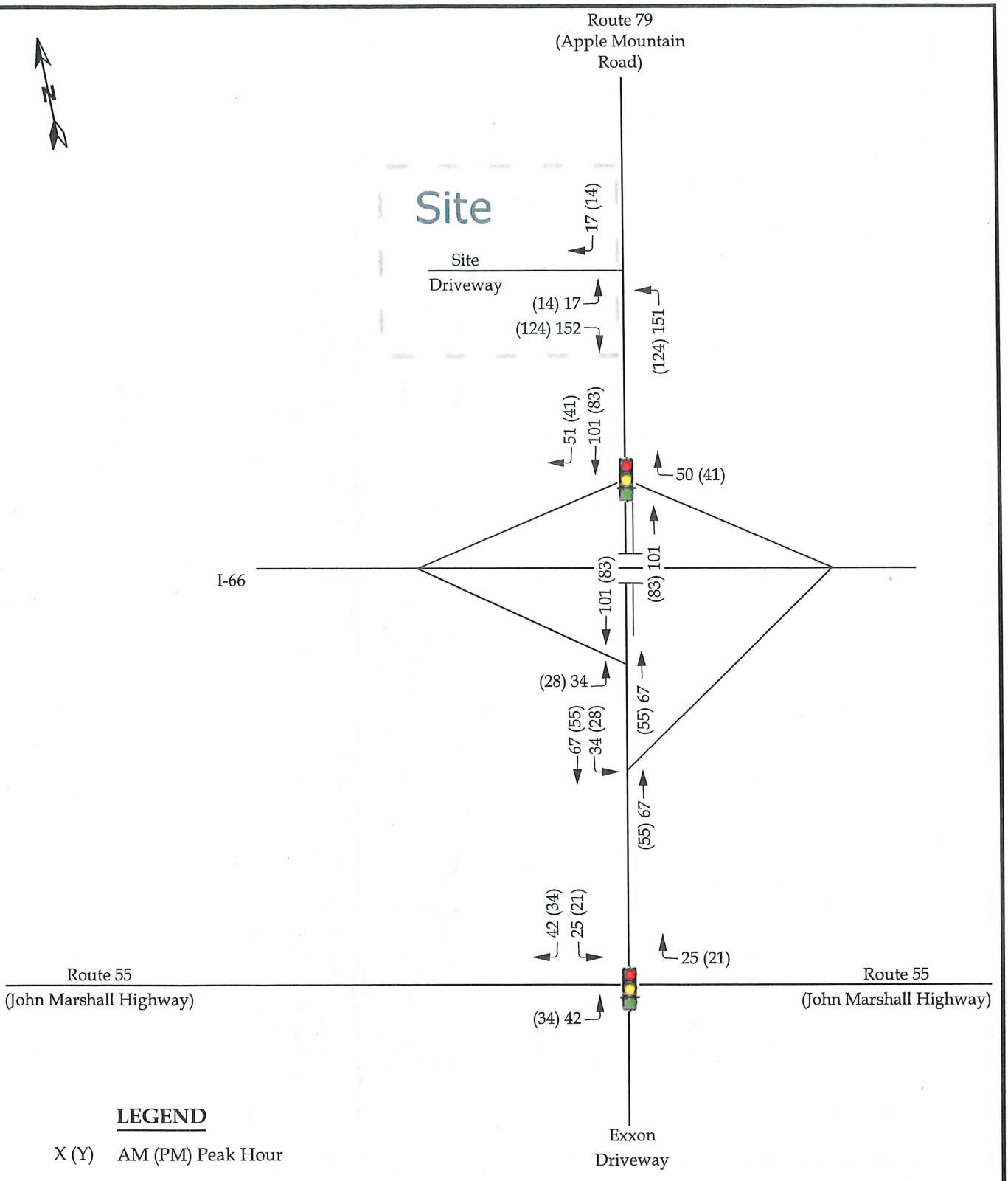


Moving forward.
RKA
RAMEY KEMP ASSOCIATES

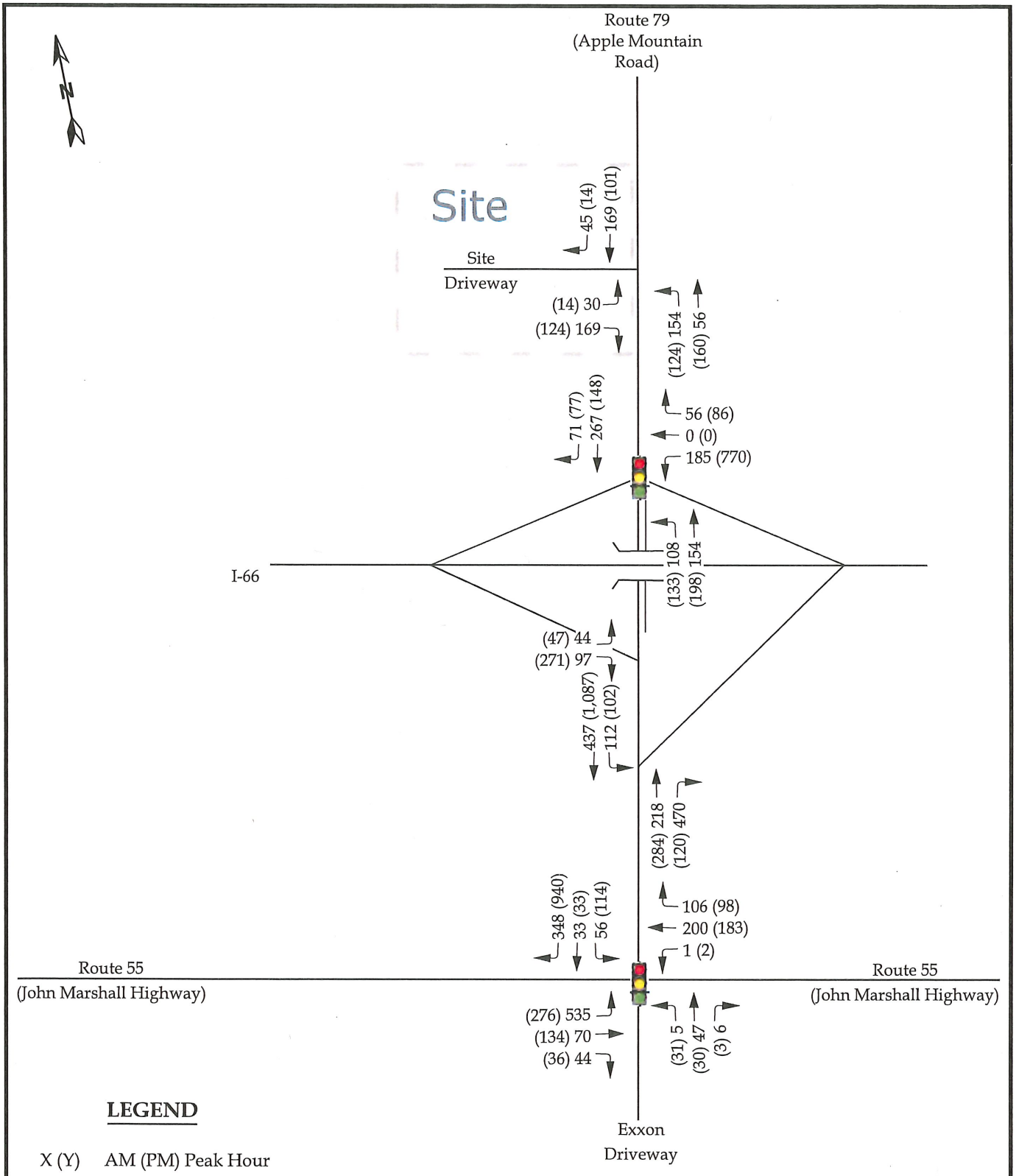
Sheetz
Route 79
Warren County, Virginia

Primary
Site Trip Distribution

Scale: Not to Scale | Figure 8



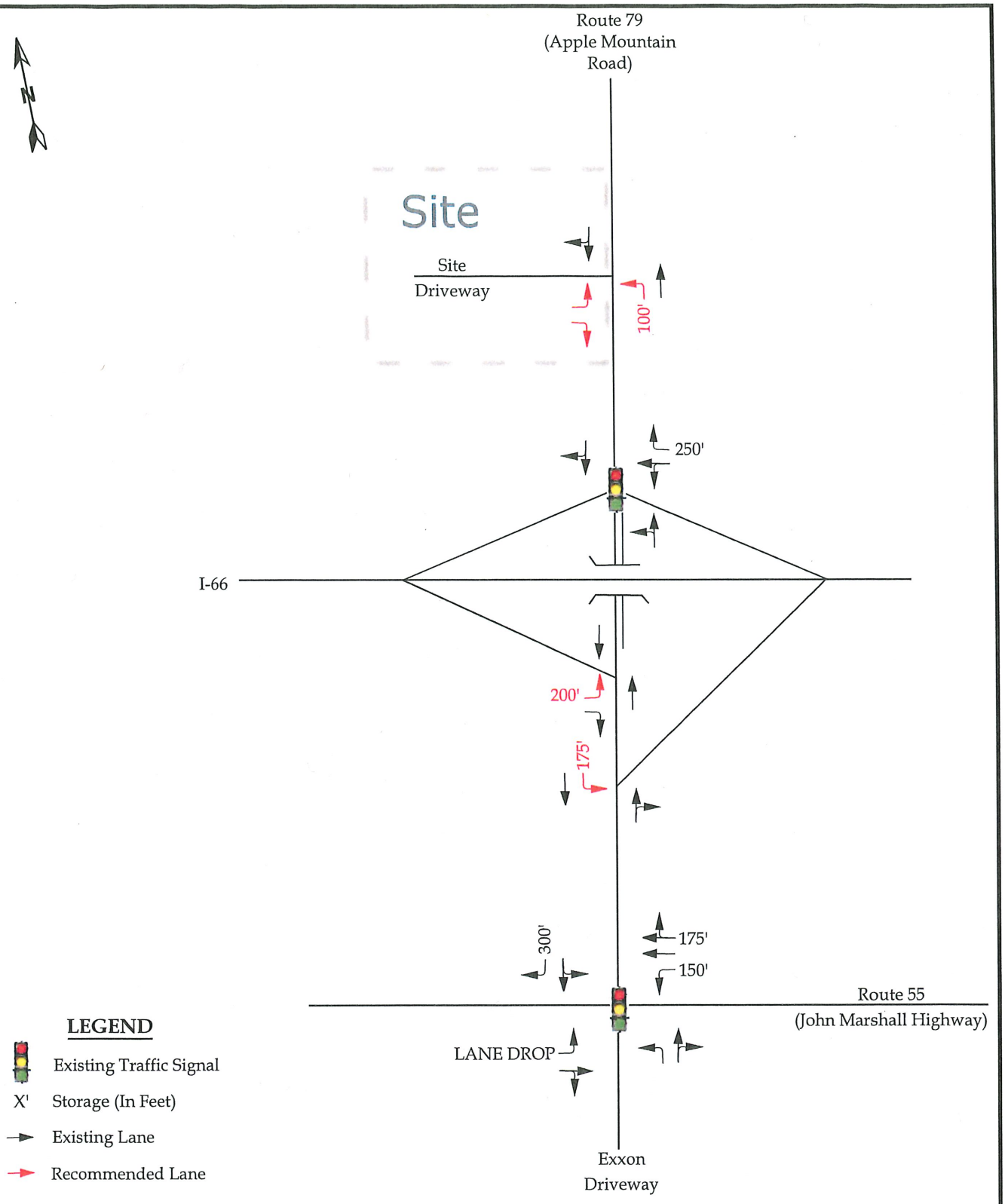
Moving forward. RKA RAMEY KEMP ASSOCIATES	Sheetz Route 79 Warren County, Virginia	Primary Site Trip Assignment Scale: Not to Scale | Figure 9



LEGEND

X (Y) AM (PM) Peak Hour

Moving forward. RKA RAMEY KEMP ASSOCIATES	Sheetz Route 79 Warren County, Virginia	Build (2022) Peak Hour Traffic Volumes Scale: Not to Scale | Figure 10



Moving forward.
RKA
RAMEY KEMP ASSOCIATES

Sheetz
Route 79
Warren County, Virginia

Recommended Lane Configuration

Scale: Not to Scale | Figure 11

COUNT DATA

Peggy Malone & Associates, Inc.
(888) 247-8602

File Name : 7-Rt. 79 and Rt. 55 AM
Site Code :
Start Date : 5/10/2016
Page No : 1

Groups Printed- Car

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	16	2	7	0	25	23	14	0	0	37	0	13	2	0	15	12	8	154	0	174	251
06:15 AM	14	3	3	0	20	18	9	2	0	29	0	10	1	0	11	7	10	160	0	177	237
06:30 AM	23	4	7	0	34	15	15	1	0	31	3	15	1	0	19	11	10	155	0	176	260
06:45 AM	27	1	6	0	34	15	15	0	0	30	0	7	1	0	8	10	13	131	0	154	226
Total	80	10	23	0	113	71	53	3	0	127	3	45	5	0	53	40	41	600	0	681	974
07:00 AM	31	6	5	0	42	24	11	1	0	36	0	7	2	0	9	5	12	124	0	141	228
07:15 AM	31	4	5	0	40	23	20	0	0	43	1	5	1	0	7	11	12	108	0	131	221
07:30 AM	68	8	2	0	78	20	35	0	0	55	0	13	0	0	13	9	13	115	0	137	283
07:45 AM	65	5	7	0	77	16	63	0	0	79	3	8	2	0	13	7	13	112	0	132	301
Total	195	23	19	0	237	83	129	1	0	213	4	33	5	0	42	32	50	459	0	541	1033
08:00 AM	69	10	9	0	88	18	36	0	0	54	3	7	1	0	11	8	11	83	0	102	255
08:15 AM	47	7	8	0	62	15	38	1	0	54	0	13	1	0	14	14	21	114	0	149	279
08:30 AM	35	2	3	0	40	14	15	0	0	29	3	10	0	0	13	5	20	90	0	115	197
08:45 AM	35	2	8	0	45	10	21	1	0	32	2	5	3	0	10	3	20	76	0	99	186
Total	186	21	28	0	235	57	110	2	0	169	8	35	5	0	48	30	72	363	0	465	917
09:00 AM	34	6	6	0	46	9	20	1	0	30	1	7	3	0	11	4	19	68	0	91	178
09:15 AM	25	5	9	0	39	6	19	1	0	26	1	8	3	0	12	6	6	57	0	69	146
09:30 AM	30	7	3	0	40	6	23	2	0	31	0	8	5	0	13	5	16	64	0	85	169
09:45 AM	33	4	4	0	41	5	19	2	0	26	1	6	2	0	9	7	12	52	0	71	147
Total	122	22	22	0	166	26	81	6	0	113	3	29	13	0	45	22	53	241	0	316	640
Grand Total	583	76	92	0	751	237	373	12	0	622	18	142	28	0	188	124	216	1663	0	2003	3564
Apprch %	77.6	10.1	12.3	0		38.1	60	1.9	0		9.6	75.5	14.9	0		6.2	10.8	83	0		
Total %	16.4	2.1	2.6	0	21.1	6.6	10.5	0.3	0	17.5	0.5	4	0.8	0	5.3	3.5	6.1	46.7	0	56.2	

	Rt. 79 Southbound				Rt. 55 Westbound				Exxon Entrance/Exit Northbound				Rt. 55 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	68	8	2	78	**20**	35	0	55	0	**13**	0	13	9	13	**115**	137	283
07:45 AM	65	5	7	77	16	**63**	0	**79**	**3**	8	**2**	13	7	13	112	132	**301**
08:00 AM	**69**	**10**	**9**	**88**	18	36	0	54	3	7	1	11	8	11	83	102	255
08:15 AM	47	7	8	62	15	38	**1**	54	0	13	1	**14**	**14**	**21**	114	**149**	279
Total Volume	249	30	26	305	69	172	1	242	6	41	4	51	38	58	424	520	1118
% App. Total	81.6	9.8	8.5		28.5	71.1	0.4		11.8	80.4	7.8		7.3	11.2	81.5		
PHF	.902	.750	.722	.866	.863	.683	.250	.766	.500	.788	.500	.911	.679	.690	.922	.872	.929

Peggy Malone & Associates, Inc.
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File Name : 7-Rt. 79 and Rt. 55 AM
Site Code :
Start Date : 5/10/2016
Page No : 1

Groups Printed- Truck

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	4	0	4	7
06:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
06:30 AM	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	3	0	3	6
06:45 AM	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	5	0	5	8
Total	7	0	0	0	7	1	1	1	0	3	0	0	0	0	0	0	1	12	0	13	23
07:00 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	8
07:15 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	9
07:30 AM	3	0	1	0	4	2	3	0	0	5	0	0	0	0	0	0	1	3	0	4	13
07:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3
Total	10	0	1	0	11	2	4	0	0	6	0	0	0	0	0	0	8	8	0	16	33
08:00 AM	1	0	1	0	2	0	1	0	0	1	0	1	1	0	2	1	2	6	0	9	14
08:15 AM	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0	0	1	4	0	5	10
08:30 AM	2	1	2	0	5	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	7
08:45 AM	4	1	0	0	5	0	1	0	0	1	0	1	0	0	1	0	0	4	0	4	11
Total	11	2	3	0	16	1	2	0	0	3	0	2	1	0	3	2	3	15	0	20	42
09:00 AM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	7
09:15 AM	1	0	1	0	2	1	2	1	0	4	1	0	0	0	1	0	1	3	0	4	11
09:30 AM	6	0	1	0	7	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	10
09:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2	0	1	0	3	5
Total	11	0	3	0	14	2	2	1	0	5	1	0	1	0	2	2	2	8	0	12	33
Grand Total	39	2	7	0	48	6	9	2	0	17	1	2	2	0	5	4	14	43	0	61	131
Apprch %	81.2	4.2	14.6	0		35.3	52.9	11.8	0		20	40	40	0		6.6	23	70.5	0		
Total %	29.8	1.5	5.3	0	36.6	4.6	6.9	1.5	0	13	0.8	1.5	1.5	0	3.8	3.1	10.7	32.8	0	46.6	

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Right	Thru	Left	App. Total		Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	1	0	1	2		0	1	0	1		0	1	1	2		1	2	6	9		14
08:15 AM	4	0	0	4		1	0	0	1		0	0	0	0		0	1	4	5		10
08:30 AM	2	1	2	5		0	0	0	0		0	0	0	0		1	0	1	2		7
08:45 AM	4	1	0	5		0	1	0	1		0	1	0	1		0	0	4	4		11
Total Volume	11	2	3	16		1	2	0	3		0	2	1	3		2	3	15	20		42
% App. Total	68.8	12.5	18.8			33.3	66.7	0			0	66.7	33.3			10	15	75			
PHF	.688	.500	.375	.800		.250	.500	.000	.750		.000	.500	.250	.375		.500	.375	.625	.556		.750

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File Name : 7-Rt. 79 and Rt. 55 AM
Site Code :
Start Date : 5/10/2016
Page No : 1

Groups Printed- Combined

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	18	2	7	0	27	23	15	0	0	38	0	13	2	0	15	12	8	158	0	178	258
06:15 AM	15	3	3	0	21	18	9	2	0	29	0	10	1	0	11	7	11	160	0	178	239
06:30 AM	25	4	7	0	36	16	15	1	0	32	3	15	1	0	19	11	10	158	0	179	266
06:45 AM	29	1	6	0	36	15	15	1	0	31	0	7	1	0	8	10	13	136	0	159	234
Total	87	10	23	0	120	72	54	4	0	130	3	45	5	0	53	40	42	612	0	694	997
07:00 AM	34	6	5	0	45	24	11	1	0	36	0	7	2	0	9	5	15	126	0	146	236
07:15 AM	34	4	5	0	43	23	20	0	0	43	1	5	1	0	7	11	16	110	0	137	230
07:30 AM	71	8	3	0	82	22	38	0	0	60	0	13	0	0	13	9	14	118	0	141	296
07:45 AM	66	5	7	0	78	16	64	0	0	80	3	8	2	0	13	7	13	113	0	133	304
Total	205	23	20	0	248	85	133	1	0	219	4	33	5	0	42	32	58	467	0	557	1066
08:00 AM	70	10	10	0	90	18	37	0	0	55	3	8	2	0	13	9	13	89	0	111	269
08:15 AM	51	7	8	0	66	16	38	1	0	55	0	13	1	0	14	14	22	118	0	154	289
08:30 AM	37	3	5	0	45	14	15	0	0	29	3	10	0	0	13	6	20	91	0	117	204
08:45 AM	39	3	8	0	50	10	22	1	0	33	2	6	3	0	11	3	20	80	0	103	197
Total	197	23	31	0	251	58	112	2	0	172	8	37	6	0	51	32	75	378	0	485	959
09:00 AM	37	6	7	0	50	9	20	1	0	30	1	7	3	0	11	4	20	70	0	94	185
09:15 AM	26	5	10	0	41	7	21	2	0	30	2	8	3	0	13	6	7	60	0	73	157
09:30 AM	36	7	4	0	47	7	23	2	0	32	0	8	5	0	13	5	16	66	0	87	179
09:45 AM	34	4	4	0	42	5	19	2	0	26	1	6	3	0	10	9	12	53	0	74	152
Total	133	22	25	0	180	28	83	7	0	118	4	29	14	0	47	24	55	249	0	328	673
Grand Total	622	78	99	0	799	243	382	14	0	639	19	144	30	0	193	128	230	1706	0	2064	3695
Apprch %	77.8	9.8	12.4	0		38	59.8	2.2	0		9.8	74.6	15.5	0		6.2	11.1	82.7	0		
Total %	16.8	2.1	2.7	0	21.6	6.6	10.3	0.4	0	17.3	0.5	3.9	0.8	0	5.2	3.5	6.2	46.2	0	55.9	

	Rt. 79 Southbound				Rt. 55 Westbound				Exxon Entrance/Exit Northbound				Rt. 55 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**71**	8	3	82	**22**	38	0	60	0	**13**	0	13	9	14	**118**	141	296
07:45 AM	66	5	7	78	16	**64**	0	**80**	**3**	8	**2**	13	7	13	113	133	**304**
08:00 AM	70	**10**	**10**	**90**	18	37	0	55	3	8	2	13	9	13	89	111	269
08:15 AM	51	7	8	66	16	38	**1**	55	0	13	1	**14**	**14**	**22**	118	**154**	289
Total Volume	258	30	28	316	72	177	1	250	6	42	5	53	39	62	438	539	1158
% App. Total	81.6	9.5	8.9		28.8	70.8	0.4		11.3	79.2	9.4		7.2	11.5	81.3		
PHF	.908	.750	.700	.878	.818	.691	.250	.781	.500	.808	.625	.946	.696	.705	.928	.875	.952

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File Name : 7-Rt. 79 and Rt. 55 PM
Site Code :
Start Date : 5/10/2016
Page No : 1

Groups Printed- Car

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	137	8	14	0	159	17	38	4	0	59	0	8	3	0	11	8	30	63	0	101	330
03:15 PM	161	7	21	0	189	17	36	1	0	54	2	9	7	0	18	7	29	48	0	84	345
03:30 PM	134	8	17	0	159	11	30	3	0	44	2	4	3	0	9	5	27	58	0	90	302
03:45 PM	151	12	16	0	179	15	28	2	0	45	1	6	4	0	11	6	37	49	0	92	327
Total	583	35	68	0	686	60	132	10	0	202	5	27	17	0	49	26	123	218	0	367	1304
04:00 PM	163	10	19	0	192	12	40	3	0	55	1	4	1	0	6	5	22	56	0	83	336
04:15 PM	154	5	22	0	181	17	21	1	0	39	1	5	4	0	10	8	34	67	0	109	339
04:30 PM	181	7	18	0	206	17	49	3	0	69	2	2	5	0	9	10	28	45	0	83	367
04:45 PM	194	5	26	0	225	18	41	0	0	59	0	8	10	0	18	11	28	50	0	89	391
Total	692	27	85	0	804	64	151	7	0	222	4	19	20	0	43	34	112	218	0	364	1433
05:00 PM	215	10	17	0	242	11	41	0	0	52	2	7	7	0	16	5	26	59	0	90	400
05:15 PM	192	5	19	0	216	18	42	2	0	62	1	5	7	0	13	4	30	51	0	85	376
05:30 PM	196	9	19	0	224	18	34	0	0	52	0	6	4	0	10	11	35	50	0	96	382
05:45 PM	162	4	17	0	183	21	33	1	0	55	0	8	4	0	12	10	16	44	0	70	320
Total	765	28	72	0	865	68	150	3	0	221	3	26	22	0	51	30	107	204	0	341	1478
06:00 PM	158	8	17	0	183	11	28	0	0	39	3	2	9	0	14	4	24	55	0	83	319
06:15 PM	119	10	21	0	150	8	29	0	0	37	1	7	2	0	10	11	22	40	0	73	270
06:30 PM	124	10	14	0	148	16	30	2	0	48	2	3	4	0	9	9	22	45	0	76	281
06:45 PM	115	9	12	0	136	9	19	0	0	28	2	4	2	0	8	7	13	30	0	50	222
Total	516	37	64	0	617	44	106	2	0	152	8	16	17	0	41	31	81	170	0	282	1092
Grand Total	2556	127	289	0	2972	236	539	22	0	797	20	88	76	0	184	121	423	810	0	1354	5307
Apprch %	86	4.3	9.7	0		29.6	67.6	2.8	0		10.9	47.8	41.3	0		8.9	31.2	59.8	0		
Total %	48.2	2.4	5.4	0	56	4.4	10.2	0.4	0	15	0.4	1.7	1.4	0	3.5	2.3	8	15.3	0	25.5	

	Rt. 79 Southbound				Rt. 55 Westbound				Exxon Entrance/Exit Northbound				Rt. 55 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	194	5	**26**	225	**18**	41	0	59	0	**8**	**10**	**18**	**11**	28	50	89	391
05:00 PM	**215**	**10**	17	**242**	11	41	0	52	**2**	7	7	16	5	26	**59**	90	**400**
05:15 PM	192	5	19	216	18	**42**	**2**	**62**	1	5	7	13	4	30	51	85	376
05:30 PM	196	9	19	224	18	34	0	52	0	6	4	10	11	**35**	50	**96**	382
Total Volume	797	29	81	907	65	158	2	225	3	26	28	57	31	119	210	360	1549
% App. Total	87.9	3.2	8.9		28.9	70.2	0.9		5.3	45.6	49.1		8.6	33.1	58.3		
PHF	.927	.725	.779	.937	.903	.940	.250	.907	.375	.813	.700	.792	.705	.850	.890	.938	.968

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File Name : 7-Rt. 79 and Rt. 55 PM
Site Code :
Start Date : 5/10/2016
Page No : 1

Groups Printed- Truck

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	8	0	0	0	8	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	10
03:15 PM	4	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	1	7	0	8	13
03:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	1	0	4	6
03:45 PM	1	0	1	0	2	0	1	0	0	1	0	0	0	0	0	0	2	4	0	6	9
Total	13	0	1	0	14	1	4	0	0	5	0	0	0	0	0	0	6	13	0	19	38
04:00 PM	4	0	1	0	5	0	6	0	0	6	0	0	0	0	0	0	1	5	0	6	17
04:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
04:30 PM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	1	0	1	0	2	6
Total	8	0	1	0	9	1	10	0	0	11	0	0	0	0	0	1	1	7	0	9	29
05:00 PM	3	1	1	0	5	1	2	0	0	3	0	1	0	0	1	0	0	2	0	2	11
05:15 PM	2	0	0	0	2	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	4
05:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
05:45 PM	5	0	1	0	6	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7
Total	12	1	2	0	15	3	3	0	0	6	0	1	0	0	1	0	0	4	0	4	26
06:00 PM	2	0	0	0	2	1	0	0	0	1	0	0	1	0	1	0	0	2	0	2	6
06:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
06:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	2	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	6
Total	7	0	2	0	9	1	0	0	0	1	0	0	1	0	1	0	0	5	0	5	16
Grand Total	40	1	6	0	47	6	17	0	0	23	0	1	1	0	2	1	7	29	0	37	109
Apprch %	85.1	2.1	12.8	0		26.1	73.9	0	0		0	50	50	0		2.7	18.9	78.4	0		
Total %	36.7	0.9	5.5	0	43.1	5.5	15.6	0	0	21.1	0	0.9	0.9	0	1.8	0.9	6.4	26.6	0	33.9	

	Rt. 79 Southbound				Rt. 55 Westbound				Exxon Entrance/Exit Northbound				Rt. 55 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:15 PM																	
03:15 PM	**4**	0	0	4	0	1	0	1	0	0	0	0	0	1	**7**	**8**	13
03:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**3**	1	4	6
03:45 PM	1	0	**1**	2	0	1	0	1	0	0	0	0	0	2	4	6	9
04:00 PM	4	0	1	**5**	0	**6**	0	**6**	0	0	0	0	0	1	5	6	**17**
Total Volume	9	0	2	11	0	10	0	10	0	0	0	0	0	7	17	24	45
% App. Total	81.8	0	18.2		0	100	0		0	0	0		0	29.2	70.8		
PHF	.563	.000	.500	.550	.000	.417	.000	.417	.000	.000	.000	.000	.000	.583	.607	.750	.662

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File Name : 7-Rt. 79 and Rt. 55 PM
Site Code :
Start Date : 5/10/2016
Page No : 1

Groups Printed- Combined

	Rt. 79 Southbound					Rt. 55 Westbound					Exxon Entrance/Exit Northbound					Rt. 55 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	145	8	14	0	167	18	38	4	0	60	0	8	3	0	11	8	30	64	0	102	340
03:15 PM	165	7	21	0	193	17	37	1	0	55	2	9	7	0	18	7	30	55	0	92	358
03:30 PM	134	8	17	0	159	11	32	3	0	46	2	4	3	0	9	5	30	59	0	94	308
03:45 PM	152	12	17	0	181	15	29	2	0	46	1	6	4	0	11	6	39	53	0	98	336
Total	596	35	69	0	700	61	136	10	0	207	5	27	17	0	49	26	129	231	0	386	1342
04:00 PM	167	10	20	0	197	12	46	3	0	61	1	4	1	0	6	5	23	61	0	89	353
04:15 PM	154	5	22	0	181	17	23	1	0	41	1	5	4	0	10	8	34	68	0	110	342
04:30 PM	184	7	18	0	209	17	49	3	0	69	2	2	5	0	9	10	28	45	0	83	370
04:45 PM	195	5	26	0	226	19	43	0	0	62	0	8	10	0	18	12	28	51	0	91	397
Total	700	27	86	0	813	65	161	7	0	233	4	19	20	0	43	35	113	225	0	373	1462
05:00 PM	218	11	18	0	247	12	43	0	0	55	2	8	7	0	17	5	26	61	0	92	411
05:15 PM	194	5	19	0	218	19	43	2	0	64	1	5	7	0	13	4	30	51	0	85	380
05:30 PM	198	9	19	0	226	18	34	0	0	52	0	6	4	0	10	11	35	52	0	98	386
05:45 PM	167	4	18	0	189	22	33	1	0	56	0	8	4	0	12	10	16	44	0	70	327
Total	777	29	74	0	880	71	153	3	0	227	3	27	22	0	52	30	107	208	0	345	1504
06:00 PM	160	8	17	0	185	12	28	0	0	40	3	2	10	0	15	4	24	57	0	85	325
06:15 PM	120	10	21	0	151	8	29	0	0	37	1	7	2	0	10	11	22	41	0	74	272
06:30 PM	126	10	14	0	150	16	30	2	0	48	2	3	4	0	9	9	22	45	0	76	283
06:45 PM	117	9	14	0	140	9	19	0	0	28	2	4	2	0	8	7	13	32	0	52	228
Total	523	37	66	0	626	45	106	2	0	153	8	16	18	0	42	31	81	175	0	287	1108
Grand Total	2596	128	295	0	3019	242	556	22	0	820	20	89	77	0	186	122	430	839	0	1391	5416
Apprch %	86	4.2	9.8	0		29.5	67.8	2.7	0		10.8	47.8	41.4	0		8.8	30.9	60.3	0		
Total %	47.9	2.4	5.4	0	55.7	4.5	10.3	0.4	0	15.1	0.4	1.6	1.4	0	3.4	2.3	7.9	15.5	0	25.7	

	Rt. 79 Southbound				Rt. 55 Westbound				Exxon Entrance/Exit Northbound				Rt. 55 Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	195	5	**26**	226	**19**	**43**	0	62	0	**8**	**10**	**18**	**12**	28	51	91	397
05:00 PM	**218**	**11**	18	**247**	12	43	0	55	**2**	8	7	17	5	26	**61**	92	**411**
05:15 PM	194	5	19	218	19	43	**2**	**64**	1	5	7	13	4	30	51	85	380
05:30 PM	198	9	19	226	18	34	0	52	0	6	4	10	11	**35**	52	**98**	386
Total Volume	805	30	82	917	68	163	2	233	3	27	28	58	32	119	215	366	1574
% App. Total	87.8	3.3	8.9		29.2	70	0.9		5.2	46.6	48.3		8.7	32.5	58.7		
PHF	.923	.682	.788	.928	.895	.948	.250	.910	.375	.844	.700	.806	.667	.850	.881	.934	.957

SYNCHRO OUTPUT REPORTS

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	17	3	54	162	27
Future Vol, veh/h	13	17	3	54	162	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	14	19	3	60	180	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	261	195	210	0	-	0
Stage 1	195	-	-	-	-	-
Stage 2	66	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	711	826	1314	-	-	-
Stage 1	819	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	710	826	1314	-	-	-
Mov Cap-2 Maneuver	710	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1314	-	771	-	-
HCM Lane V/C Ratio	0.003	-	0.043	-	-
HCM Control Delay (s)	7.7	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	178	1	6	104	51	0	0	160	19
Future Volume (vph)	0	0	0	178	1	6	104	51	0	0	160	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.3	5.3		7.2			7.2	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.95	1.00		0.97			1.00	
Satd. Flow (prot)					1774	1583		1802			1836	
Flt Permitted					0.95	1.00		0.68			1.00	
Satd. Flow (perm)					1774	1583		1272			1836	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	196	1	7	114	56	0	0	176	21
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	197	2	0	170	0	0	193	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					9.6	9.6		14.3			14.3	
Effective Green, g (s)					9.6	9.6		14.3			14.3	
Actuated g/C Ratio					0.26	0.26		0.39			0.39	
Clearance Time (s)					5.3	5.3		7.2			7.2	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					467	417		499			721	
v/s Ratio Prot											0.10	
v/s Ratio Perm					0.11	0.00		c0.13				
v/c Ratio					0.42	0.00		0.34			0.27	
Uniform Delay, d1					11.1	9.9		7.7			7.5	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					0.6	0.0		0.4			0.2	
Delay (s)					11.7	9.9		8.2			7.7	
Level of Service					B	A		A			A	
Approach Delay (s)		0.0			11.7			8.2			7.7	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	36.4	Sum of lost time (s)	19.7
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

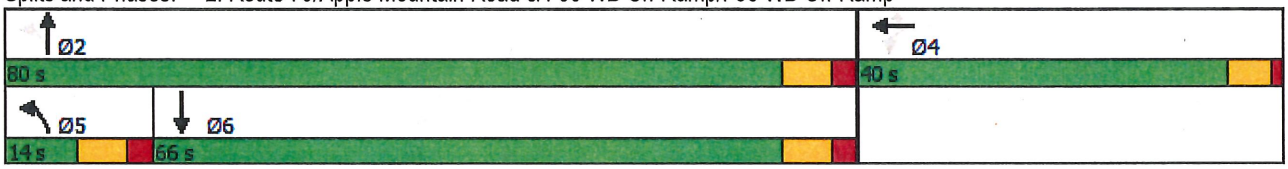
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	178	1	6	104	51	0	0	160	19
Future Volume (vph)	0	0	0	178	1	6	104	51	0	0	160	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	1775	1583	0	1803	0	0	1837	0
Flt Permitted					0.953			0.683				
Satd. Flow (perm)	0	0	0	0	1775	1583	0	1272	0	0	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						104					7	
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		1108			857			695			405	
Travel Time (s)		21.6			14.6			13.5			7.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	197	7	0	170	0	0	197	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Detector Phase				4	4	4	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0	8.0	8.0	6.0	6.0			6.0	
Minimum Split (s)				18.0	18.0	18.0	14.0	18.0			15.0	
Total Split (s)				40.0	40.0	40.0	14.0	80.0			66.0	
Total Split (%)				33.3%	33.3%	33.3%	11.7%	66.7%			55.0%	
Yellow Time (s)				4.0	4.0	4.0	4.7	4.7			4.7	
All-Red Time (s)				1.3	1.3	1.3	2.5	2.5			2.5	
Lost Time Adjust (s)					0.0	0.0		0.0			0.0	
Total Lost Time (s)					5.3	5.3		7.2			7.2	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	Min			Min	
Act Effct Green (s)					9.6	9.6		14.3			14.3	
Actuated g/C Ratio					0.26	0.26		0.39			0.39	
v/c Ratio					0.42	0.01		0.34			0.27	
Control Delay					13.8	0.0		10.9			9.1	
Queue Delay					0.0	0.0		0.0			0.0	
Total Delay					13.8	0.0		10.9			9.1	
LOS					B	A		B			A	
Approach Delay					13.3			10.9			9.1	
Approach LOS					B			B			A	
Queue Length 50th (ft)					26	0		21			23	
Queue Length 95th (ft)					74	0		59			60	
Internal Link Dist (ft)		1028			777			615			325	
Turn Bay Length (ft)						300						
Base Capacity (vph)					1663	1490		1272			1837	
Starvation Cap Reductn					0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn					0	0		0			0	
Storage Cap Reductn					0	0		0			0	
Reduced v/c Ratio					0.12	0.00		0.13			0.11	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 36.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 11.1 Intersection LOS: B
Intersection Capacity Utilization 44.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Route 79/Apple Mountain Road & I-66 WB On-Ramp/I-66 WB Off-Ramp



Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	93	0	145	338	0
Future Vol, veh/h	10	93	0	145	338	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	103	0	161	376	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	537	376	-	0	-	0
Stage 1	376	-	-	-	-	-
Stage 2	161	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	505	670	0	-	-	0
Stage 1	694	-	0	-	-	0
Stage 2	868	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	505	670	-	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	868	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	649	-
HCM Lane V/C Ratio	-	0.176	-
HCM Control Delay (s)	-	11.7	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.6	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	145	452	75	356
Future Volume (Veh/h)	0	0	145	452	75	356
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	161	502	83	396
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.84	0.84			0.84	
vC, conflicting volume	974	412			161	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	873	202			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			94	
cM capacity (veh/h)	253	703			1361	

Direction, Lane #	NB 1	SB 1
Volume Total	663	479
Volume Left	0	83
Volume Right	502	0
cSH	1700	1361
Volume to Capacity	0.39	0.06
Queue Length 95th (ft)	0	5
Control Delay (s)	0.0	1.9
Lane LOS		A
Approach Delay (s)	0.0	1.9
Approach LOS		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	474	67	42	1	192	78	5	45	6	30	32	294
Future Volume (vph)	474	67	42	1	192	78	5	45	6	30	32	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1755		1770	1863	1583	1770	1832			1819	1583
Flt Permitted	0.40	1.00		0.68	1.00	1.00	0.71	1.00			0.82	1.00
Satd. Flow (perm)	739	1755		1270	1863	1583	1330	1832			1525	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	510	72	45	1	206	84	5	48	6	32	34	316
RTOR Reduction (vph)	0	16	0	0	0	65	0	4	0	0	0	271
Lane Group Flow (vph)	510	101	0	1	206	19	5	50	0	0	66	45
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Actuated Green, G (s)	37.7	37.7		13.7	13.7	13.7	8.8	8.8			8.8	8.8
Effective Green, g (s)	37.7	37.7		13.7	13.7	13.7	8.8	8.8			8.8	8.8
Actuated g/C Ratio	0.61	0.61		0.22	0.22	0.22	0.14	0.14			0.14	0.14
Clearance Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	716	1068		281	412	350	189	260			216	225
v/s Ratio Prot	c0.18	0.06			0.11			0.03				
v/s Ratio Perm	c0.25			0.00		0.01	0.00				c0.04	0.03
v/c Ratio	0.71	0.09		0.00	0.50	0.05	0.03	0.19			0.31	0.20
Uniform Delay, d1	7.6	5.0		18.8	21.1	19.0	22.9	23.4			23.8	23.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.4	0.0		0.0	1.0	0.1	0.1	0.4			0.8	0.4
Delay (s)	10.9	5.1		18.8	22.1	19.1	22.9	23.8			24.6	23.9
Level of Service	B	A		B	C	B	C	C			C	C
Approach Delay (s)		9.8			21.2			23.7			24.0	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	61.9	Sum of lost time (s)	23.4
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	474	67	42	1	192	78	5	45	6	30	32	294
Future Volume (vph)	474	67	42	1	192	78	5	45	6	30	32	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		250	0		0	0		300
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1755	0	1770	1863	1583	1770	1831	0	0	1818	1583
Flt Permitted	0.397			0.682			0.714				0.819	
Satd. Flow (perm)	740	1755	0	1270	1863	1583	1330	1831	0	0	1526	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42				113		5				316
Link Speed (mph)		55			55			35			35	
Link Distance (ft)		724			777			182			399	
Travel Time (s)		9.0			9.6			3.5			7.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	510	117	0	1	206	84	5	54	0	0	66	316
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Detector Phase	1	6		2	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	14.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Total Split (s)	32.0	75.0		43.0	43.0	43.0	45.0	45.0		45.0	45.0	45.0
Total Split (%)	26.7%	62.5%		35.8%	35.8%	35.8%	37.5%	37.5%		37.5%	37.5%	37.5%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	3.2	3.2		3.2	3.2	3.2	3.3	3.3		3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Min		Min	Min	Min	None	None		None	None	None
Act Effct Green (s)	37.6	37.6		13.4	13.4	13.4	8.8	8.8			8.8	8.8
Actuated g/C Ratio	0.60	0.60		0.22	0.22	0.22	0.14	0.14			0.14	0.14
v/c Ratio	0.72	0.11		0.00	0.51	0.20	0.03	0.21			0.31	0.64
Control Delay	13.3	4.0		22.0	28.1	4.3	26.4	26.0			30.2	10.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	13.3	4.0		22.0	28.1	4.3	26.4	26.0			30.2	10.4
LOS	B	A		C	C	A	C	C			C	B
Approach Delay		11.6			21.2			26.1			13.8	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	88	10		0	66	0	2	16			22	0
Queue Length 95th (ft)	184	31		4	154	21	11	52			65	67
Internal Link Dist (ft)		644			697			102			319	
Turn Bay Length (ft)				175		250						300
Base Capacity (vph)	854	1695		733	1075	961	824	1137			946	1101
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0

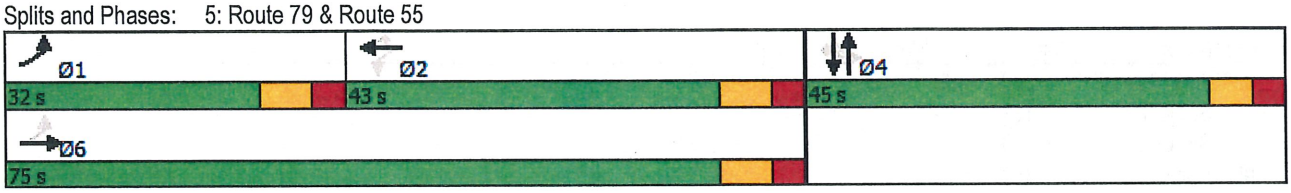
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.60	0.07		0.00	0.19	0.09	0.01	0.05			0.07	0.29

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 62.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.9
Intersection Capacity Utilization 65.9%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service C

Splits and Phases: 5: Route 79 & Route 55



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	154	97	1
Future Vol, veh/h	1	1	1	154	97	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	1	1	1	171	108	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	282	109	109	0	-	0
Stage 1	109	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	691	923	1433	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	690	923	1433	-	-	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1433	-	790	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	740	1	43	128	111	0	0	62	35
Future Volume (vph)	0	0	0	740	1	43	128	111	0	0	62	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.3	5.3		7.2			7.2	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.95	
Flt Protected					0.95	1.00		0.97			1.00	
Satd. Flow (prot)					1774	1583		1814			1772	
Flt Permitted					0.95	1.00		0.78			1.00	
Satd. Flow (perm)					1774	1583		1445			1772	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	796	1	46	138	119	0	0	67	38
RTOR Reduction (vph)	0	0	0	0	0	20	0	0	0	0	18	0
Lane Group Flow (vph)	0	0	0	0	797	26	0	257	0	0	87	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					51.1	51.1		26.4			26.4	
Effective Green, g (s)					51.1	51.1		26.4			26.4	
Actuated g/C Ratio					0.57	0.57		0.29			0.29	
Clearance Time (s)					5.3	5.3		7.2			7.2	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1007	898		423			519	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.45	0.02		c0.18				
v/c Ratio					0.79	0.03		0.61			0.17	
Uniform Delay, d1					15.3	8.5		27.3			23.6	
Progression Factor					1.00	1.00		0.79			1.00	
Incremental Delay, d2					6.4	0.1		2.2			0.2	
Delay (s)					21.6	8.6		23.9			23.8	
Level of Service					C	A		C			C	
Approach Delay (s)		0.0			20.9			23.9			23.8	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

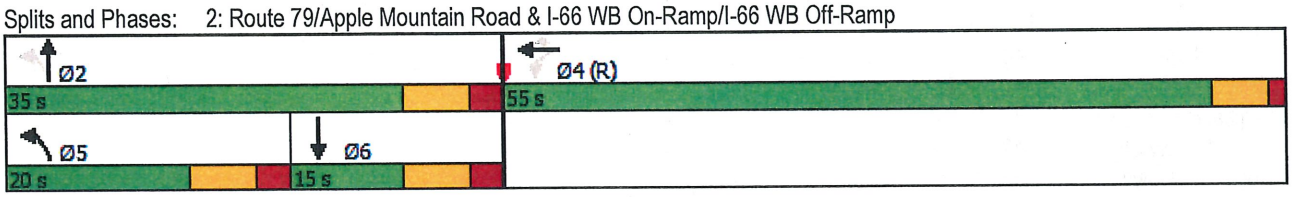
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	740	1	43	128	111	0	0	62	35
Future Volume (vph)	0	0	0	740	1	43	128	111	0	0	62	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	1773	1583	0	1814	0	0	1771	0
Flt Permitted					0.952			0.776				
Satd. Flow (perm)	0	0	0	0	1773	1583	0	1445	0	0	1771	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						138					25	
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		1108			857			695			393	
Travel Time (s)		21.6			14.6			13.5			7.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	797	46	0	257	0	0	105	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Detector Phase				4	4	4	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0	8.0	8.0	6.0	6.0			6.0	
Minimum Split (s)				18.0	18.0	18.0	14.0	18.0			15.0	
Total Split (s)				55.0	55.0	55.0	20.0	35.0			15.0	
Total Split (%)				61.1%	61.1%	61.1%	22.2%	38.9%			16.7%	
Yellow Time (s)				4.0	4.0	4.0	4.7	4.7			4.7	
All-Red Time (s)				1.3	1.3	1.3	2.5	2.5			2.5	
Lost Time Adjust (s)					0.0	0.0		0.0			0.0	
Total Lost Time (s)					5.3	5.3		7.2			7.2	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				C-Min	C-Min	C-Min	None	None			None	
Act Effct Green (s)					51.1	51.1		26.4			23.4	
Actuated g/C Ratio					0.57	0.57		0.29			0.26	
v/c Ratio					0.79	0.05		0.61			0.22	
Control Delay					23.3	0.1		27.5			18.8	
Queue Delay					0.0	0.0		0.0			0.0	
Total Delay					23.3	0.1		27.5			18.8	
LOS					C	A		C			B	
Approach Delay					22.1			27.5			18.8	
Approach LOS					C			C			B	
Queue Length 50th (ft)					346	0		131			33	
Queue Length 95th (ft)					#528	0		219			72	
Internal Link Dist (ft)		1028			777			615			313	
Turn Bay Length (ft)						300						
Base Capacity (vph)					1006	957		446			486	
Starvation Cap Reductn					0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn					0	0		0			0	
Storage Cap Reductn					0	0		0			0	
Reduced v/c Ratio					0.79	0.05		0.58			0.22	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 40 (44%), Referenced to phase 4:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 22.9 Intersection LOS: C
Intersection Capacity Utilization 71.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Route 79/Apple Mountain Road & I-66 WB On-Ramp/I-66 WB Off-Ramp



Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	261	0	221	802	0
Future Vol, veh/h	18	261	0	221	802	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	290	0	246	891	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1137	891	-	0	-	0
Stage 1	891	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	223	341	0	-	-	0
Stage 1	401	-	0	-	-	0
Stage 2	795	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	223	341	-	-	-	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	71.5	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	330	-
HCM Lane V/C Ratio	-	0.939	-
HCM Control Delay (s)	-	71.5	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	9.6	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	221	115	71	992
Future Volume (Veh/h)	0	0	221	115	71	992
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	246	128	79	1102
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	1570	310			246	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1578	175			104	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			94	
cM capacity (veh/h)	102	780			1336	

Direction, Lane #	NB 1	SB 1
Volume Total	374	1181
Volume Left	0	79
Volume Right	128	0
cSH	1700	1336
Volume to Capacity	0.22	0.06
Queue Length 95th (ft)	0	5
Control Delay (s)	0.0	1.8
Lane LOS		A
Approach Delay (s)	0.0	1.8
Approach LOS		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	129	35	2	176	74	30	29	3	89	32	871
Future Volume (vph)	233	129	35	2	176	74	30	29	3	89	32	871
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1803		1770	1863	1583	1770	1838			1796	1583
Flt Permitted	0.35	1.00		0.65	1.00	1.00	0.67	1.00			0.77	1.00
Satd. Flow (perm)	655	1803		1203	1863	1583	1255	1838			1440	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	251	139	38	2	189	80	32	31	3	96	34	937
RTOR Reduction (vph)	0	11	0	0	0	69	0	2	0	0	0	318
Lane Group Flow (vph)	251	166	0	2	189	11	32	32	0	0	130	619
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Actuated Green, G (s)	31.9	31.9		12.3	12.3	12.3	42.7	42.7			42.7	42.7
Effective Green, g (s)	31.9	31.9		12.3	12.3	12.3	42.7	42.7			42.7	42.7
Actuated g/C Ratio	0.35	0.35		0.14	0.14	0.14	0.47	0.47			0.47	0.47
Clearance Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	375	639		164	254	216	595	872			683	751
v/s Ratio Prot	c0.09	0.09			0.10			0.02				
v/s Ratio Perm	c0.15			0.00		0.01	0.03				0.09	c0.39
v/c Ratio	0.67	0.26		0.01	0.74	0.05	0.05	0.04			0.19	0.82
Uniform Delay, d1	22.4	20.7		33.6	37.3	33.8	12.8	12.7			13.7	20.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			0.83	1.83
Incremental Delay, d2	4.5	0.2		0.0	11.2	0.1	0.2	0.1			0.5	8.6
Delay (s)	26.9	20.9		33.6	48.5	33.9	12.9	12.7			11.9	45.9
Level of Service	C	C		C	D	C	B	B			B	D
Approach Delay (s)		24.4			44.1			12.8			41.8	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.4
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

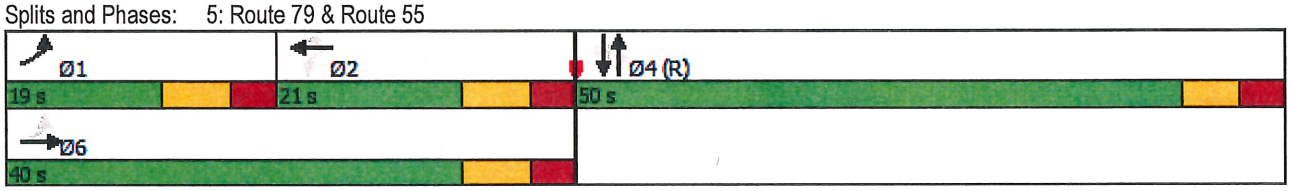
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	129	35	2	176	74	30	29	3	89	32	871
Future Volume (vph)	233	129	35	2	176	74	30	29	3	89	32	871
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		250	0		0	0		300
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1803	0	1770	1863	1583	1770	1839	0	0	1796	1583
Flt Permitted	0.352			0.646			0.674				0.773	
Satd. Flow (perm)	656	1803	0	1203	1863	1583	1255	1839	0	0	1440	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				150		3				606
Link Speed (mph)		45			45			25			35	
Link Distance (ft)		728			663			182			399	
Travel Time (s)		11.0			10.0			5.0			7.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	177	0	2	189	80	32	34	0	0	130	937
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Detector Phase	1	6		2	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	9.9		9.9	9.9	9.9	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	14.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Total Split (s)	19.0	40.0		21.0	21.0	21.0	50.0	50.0		50.0	50.0	50.0
Total Split (%)	21.1%	44.4%		23.3%	23.3%	23.3%	55.6%	55.6%		55.6%	55.6%	55.6%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	3.2	3.2		3.2	3.2	3.2	3.3	3.3		3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	None		None	None	None	C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	31.9	31.9		12.3	12.3	12.3	42.7	42.7			42.7	42.7
Actuated g/C Ratio	0.35	0.35		0.14	0.14	0.14	0.47	0.47			0.47	0.47
v/c Ratio	0.67	0.27		0.01	0.74	0.23	0.05	0.04			0.19	0.88
Control Delay	32.0	19.8		33.5	56.0	1.8	13.5	12.3			12.4	22.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	32.0	19.8		33.5	56.0	1.8	13.5	12.3			12.4	22.8
LOS	C	B		C	E	A	B	B			B	C
Approach Delay		26.9			39.9			12.9			21.6	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	102	61		1	104	0	10	10			57	391
Queue Length 95th (ft)	#175	114		7	#197	3	25	25			m58	#536
Internal Link Dist (ft)		648			583			102			319	
Turn Bay Length (ft)				175		250						300
Base Capacity (vph)	377	664		173	269	356	605	887			693	1076
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.67	0.27		0.01	0.70	0.22	0.05	0.04			0.19	0.87

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 90.5% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Route 79 & Route 55



Intersection						
Int Delay, s/veh	1.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	17	3	56	169	27
Future Vol, veh/h	13	17	3	56	169	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	14	19	3	62	188	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	271	203	218	0	-	0
Stage 1	203	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	702	818	1305	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	701	818	1305	-	-	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1305	-	763	-	-
HCM Lane V/C Ratio	0.003	-	0.044	-	-
HCM Control Delay (s)	7.8	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	185	1	6	108	53	0	0	166	20
Future Volume (vph)	0	0	0	185	1	6	108	53	0	0	166	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.3	5.3		7.2			7.2	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					0.95	1.00		0.97			1.00	
Satd. Flow (prot)					1774	1583		1802			1836	
Flt Permitted					0.95	1.00		0.68			1.00	
Satd. Flow (perm)					1774	1583		1264			1836	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	203	1	7	119	58	0	0	182	22
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	0	204	2	0	177	0	0	200	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					9.8	9.8		14.4			14.4	
Effective Green, g (s)					9.8	9.8		14.4			14.4	
Actuated g/C Ratio					0.27	0.27		0.39			0.39	
Clearance Time (s)					5.3	5.3		7.2			7.2	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					473	422		495			720	
v/s Ratio Prot											0.11	
v/s Ratio Perm					0.11	0.00		c0.14				
v/c Ratio					0.43	0.00		0.36			0.28	
Uniform Delay, d1					11.1	9.9		7.9			7.6	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					0.6	0.0		0.4			0.2	
Delay (s)					11.8	9.9		8.3			7.8	
Level of Service					B	A		A			A	
Approach Delay (s)		0.0			11.7			8.3			7.8	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	36.7	Sum of lost time (s)	19.7
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

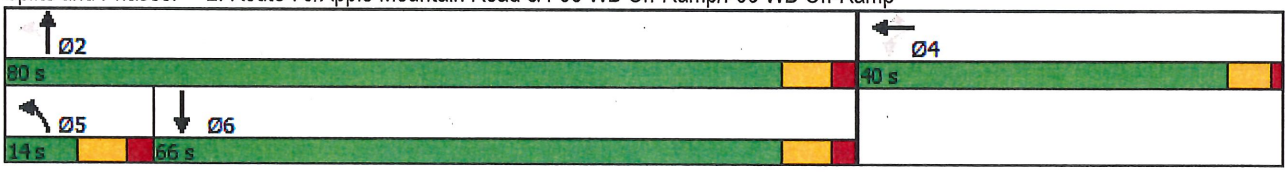
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	185	1	6	108	53	0	0	166	20
Future Volume (vph)	0	0	0	185	1	6	108	53	0	0	166	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	1775	1583	0	1801	0	0	1835	0
Flt Permitted					0.953			0.678				
Satd. Flow (perm)	0	0	0	0	1775	1583	0	1263	0	0	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						104					7	
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		1108			857			695			405	
Travel Time (s)		21.6			14.6			13.5			7.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	204	7	0	177	0	0	204	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Detector Phase				4	4	4	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0	8.0	8.0	6.0	6.0			6.0	
Minimum Split (s)				18.0	18.0	18.0	14.0	18.0			15.0	
Total Split (s)				40.0	40.0	40.0	14.0	80.0			66.0	
Total Split (%)				33.3%	33.3%	33.3%	11.7%	66.7%			55.0%	
Yellow Time (s)				4.0	4.0	4.0	4.7	4.7			4.7	
All-Red Time (s)				1.3	1.3	1.3	2.5	2.5			2.5	
Lost Time Adjust (s)					0.0	0.0		0.0			0.0	
Total Lost Time (s)					5.3	5.3		7.2			7.2	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	Min			Min	
Act Effct Green (s)					9.8	9.8		14.4			14.4	
Actuated g/C Ratio					0.27	0.27		0.39			0.39	
v/c Ratio					0.43	0.01		0.36			0.28	
Control Delay					14.2	0.0		11.1			9.2	
Queue Delay					0.0	0.0		0.0			0.0	
Total Delay					14.2	0.0		11.1			9.2	
LOS					B	A		B			A	
Approach Delay					13.7			11.1			9.2	
Approach LOS					B			B			A	
Queue Length 50th (ft)					28	0		23			24	
Queue Length 95th (ft)					79	0		62			62	
Internal Link Dist (ft)		1028			777			615			325	
Turn Bay Length (ft)						300						
Base Capacity (vph)					1654	1482		1263			1835	
Starvation Cap Reductn					0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn					0	0		0			0	
Storage Cap Reductn					0	0		0			0	
Reduced v/c Ratio					0.12	0.00		0.14			0.11	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 36.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 11.4 Intersection LOS: B
Intersection Capacity Utilization 45.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Route 79/Apple Mountain Road & I-66 WB On-Ramp/I-66 WB Off-Ramp



Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	97	0	151	351	0
Future Vol, veh/h	10	97	0	151	351	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	108	0	168	390	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	558	390	-	0	-	0
Stage 1	390	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	491	658	0	-	-	0
Stage 1	684	-	0	-	-	0
Stage 2	862	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	491	658	-	-	-	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	684	-	-	-	-	-
Stage 2	862	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	638	-
HCM Lane V/C Ratio	-	0.186	-
HCM Control Delay (s)	-	11.9	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.7	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	151	470	78	370
Future Volume (Veh/h)	0	0	151	470	78	370
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	168	522	87	411
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.83	0.83			0.83	
vC, conflicting volume	1014	429			168	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915	212			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			94	
cM capacity (veh/h)	235	689			1349	

Direction, Lane #	NB 1	SB 1
Volume Total	690	498
Volume Left	0	87
Volume Right	522	0
cSH	1700	1349
Volume to Capacity	0.41	0.06
Queue Length 95th (ft)	0	5
Control Delay (s)	0.0	1.9
Lane LOS		A
Approach Delay (s)	0.0	1.9
Approach LOS		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	493	70	44	1	200	81	5	47	6	31	33	306
Future Volume (vph)	493	70	44	1	200	81	5	47	6	31	33	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1755		1770	1863	1583	1770	1833			1819	1583
Flt Permitted	0.40	1.00		0.68	1.00	1.00	0.71	1.00			0.82	1.00
Satd. Flow (perm)	739	1755		1264	1863	1583	1328	1833			1522	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	530	75	47	1	215	87	5	51	6	33	35	329
RTOR Reduction (vph)	0	17	0	0	0	68	0	4	0	0	0	282
Lane Group Flow (vph)	530	105	0	1	215	19	5	53	0	0	68	47
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Actuated Green, G (s)	39.1	39.1		14.0	14.0	14.0	9.0	9.0			9.0	9.0
Effective Green, g (s)	39.1	39.1		14.0	14.0	14.0	9.0	9.0			9.0	9.0
Actuated g/C Ratio	0.62	0.62		0.22	0.22	0.22	0.14	0.14			0.14	0.14
Clearance Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	732	1080		278	410	349	188	259			215	224
v/s Ratio Prot	c0.19	0.06			0.12			0.03				
v/s Ratio Perm	c0.25			0.00		0.01	0.00				c0.04	0.03
v/c Ratio	0.72	0.10		0.00	0.52	0.05	0.03	0.20			0.32	0.21
Uniform Delay, d1	7.6	5.0		19.3	21.8	19.5	23.5	24.1			24.5	24.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	3.6	0.0		0.0	1.2	0.1	0.1	0.4			0.8	0.5
Delay (s)	11.2	5.0		19.3	23.0	19.6	23.5	24.5			25.3	24.6
Level of Service	B	A		B	C	B	C	C			C	C
Approach Delay (s)		10.0			22.0			24.4			24.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	23.4
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	493	70	44	1	200	81	5	47	6	31	33	306
Future Volume (vph)	493	70	44	1	200	81	5	47	6	31	33	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		250	0		0	0		300
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1755	0	1770	1863	1583	1770	1833	0	0	1818	1583
Flt Permitted	0.397			0.679			0.713				0.817	
Satd. Flow (perm)	740	1755	0	1265	1863	1583	1328	1833	0	0	1522	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43				113		5				329
Link Speed (mph)		55			55			35			35	
Link Distance (ft)		724			777			182			399	
Travel Time (s)		9.0			9.6			3.5			7.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	530	122	0	1	215	87	5	57	0	0	68	329
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Detector Phase	1	6		2	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	14.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Total Split (s)	32.0	75.0		43.0	43.0	43.0	45.0	45.0		45.0	45.0	45.0
Total Split (%)	26.7%	62.5%		35.8%	35.8%	35.8%	37.5%	37.5%		37.5%	37.5%	37.5%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	3.2	3.2		3.2	3.2	3.2	3.3	3.3		3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Min		Min	Min	Min	None	None		None	None	None
Act Effct Green (s)	39.1	39.1		13.8	13.8	13.8	9.0	9.0			9.0	9.0
Actuated g/C Ratio	0.61	0.61		0.22	0.22	0.22	0.14	0.14			0.14	0.14
v/c Ratio	0.73	0.11		0.00	0.54	0.20	0.03	0.22			0.32	0.65
Control Delay	13.5	4.0		22.0	29.1	4.6	26.8	26.8			31.1	10.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	13.5	4.0		22.0	29.1	4.6	26.8	26.8			31.1	10.6
LOS	B	A		C	C	A	C	C			C	B
Approach Delay		11.7			22.0			26.8			14.1	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	94	10		0	72	0	2	18			23	0
Queue Length 95th (ft)	196	33		4	161	23	11	55			67	68
Internal Link Dist (ft)		644			697			102			319	
Turn Bay Length (ft)				175		250						300
Base Capacity (vph)	850	1687		711	1048	939	802	1109			920	1086
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.62	0.07		0.00	0.21	0.09	0.01	0.05			0.07	0.30

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 63.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 15.3
Intersection Capacity Utilization 67.5%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service C

Splits and Phases: 5: Route 79 & Route 55



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	160	101	1
Future Vol, veh/h	1	1	1	160	101	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	1	1	1	178	112	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	293	113	113	0	-	0
Stage 1	113	-	-	-	-	-
Stage 2	180	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	681	919	1428	-	-	-
Stage 1	892	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	680	919	1428	-	-	-
Mov Cap-2 Maneuver	680	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	832	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1428	-	782	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	770	1	45	133	115	0	0	65	36
Future Volume (vph)	0	0	0	770	1	45	133	115	0	0	65	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.3	5.3		7.2			7.2	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.95	
Flt Protected					0.95	1.00		0.97			1.00	
Satd. Flow (prot)					1774	1583		1814			1773	
Flt Permitted					0.95	1.00		0.77			1.00	
Satd. Flow (perm)					1774	1583		1442			1773	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	828	1	48	143	124	0	0	70	39
RTOR Reduction (vph)	0	0	0	0	0	20	0	0	0	0	19	0
Lane Group Flow (vph)	0	0	0	0	829	28	0	267	0	0	90	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					52.1	52.1		25.4			25.4	
Effective Green, g (s)					52.1	52.1		25.4			25.4	
Actuated g/C Ratio					0.58	0.58		0.28			0.28	
Clearance Time (s)					5.3	5.3		7.2			7.2	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1026	916		406			500	
v/s Ratio Prot											0.05	
v/s Ratio Perm					0.47	0.02		c0.19				
v/c Ratio					0.81	0.03		0.66			0.18	
Uniform Delay, d1					15.0	8.1		28.5			24.4	
Progression Factor					1.00	1.00		0.79			1.00	
Incremental Delay, d2					6.8	0.1		3.4			0.2	
Delay (s)					21.8	8.2		26.0			24.6	
Level of Service					C	A		C			C	
Approach Delay (s)		0.0			21.1			26.0			24.6	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

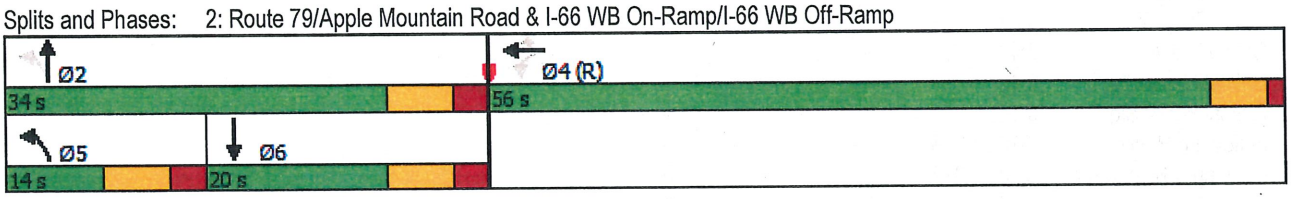
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	770	1	45	133	115	0	0	65	36
Future Volume (vph)	0	0	0	770	1	45	133	115	0	0	65	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	1773	1583	0	1814	0	0	1773	0
Flt Permitted					0.952			0.774				
Satd. Flow (perm)	0	0	0	0	1773	1583	0	1442	0	0	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						138					26	
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		1108			857			695			393	
Travel Time (s)		21.6			14.6			13.5			7.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	829	48	0	267	0	0	109	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Detector Phase				4	4	4	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0	8.0	8.0	6.0	6.0			6.0	
Minimum Split (s)				18.0	18.0	18.0	14.0	18.0			15.0	
Total Split (s)				56.0	56.0	56.0	14.0	34.0			20.0	
Total Split (%)				62.2%	62.2%	62.2%	15.6%	37.8%			22.2%	
Yellow Time (s)				4.0	4.0	4.0	4.7	4.7			4.7	
All-Red Time (s)				1.3	1.3	1.3	2.5	2.5			2.5	
Lost Time Adjust (s)					0.0	0.0		0.0			0.0	
Total Lost Time (s)					5.3	5.3		7.2			7.2	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				C-Min	C-Min	C-Min	None	None			None	
Act Effct Green (s)					52.1	52.1		25.4			22.6	
Actuated g/C Ratio					0.58	0.58		0.28			0.25	
v/c Ratio					0.81	0.05		0.66			0.23	
Control Delay					23.6	0.1		30.0			19.4	
Queue Delay					0.0	0.0		0.0			0.0	
Total Delay					23.6	0.1		30.0			19.4	
LOS					C	A		C			B	
Approach Delay					22.3			30.0			19.4	
Approach LOS					C			C			B	
Queue Length 50th (ft)					361	0		142			35	
Queue Length 95th (ft)					#574	0		m225			75	
Internal Link Dist (ft)		1028			777			615			313	
Turn Bay Length (ft)						300						
Base Capacity (vph)					1025	974		429			492	
Starvation Cap Reductn					0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn					0	0		0			0	
Storage Cap Reductn					0	0		0			0	
Reduced v/c Ratio					0.81	0.05		0.62			0.22	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 40 (44%), Referenced to phase 4:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 23.7 Intersection LOS: C
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 79/Apple Mountain Road & I-66 WB On-Ramp/I-66 WB Off-Ramp



Intersection	
Int Delay, s/veh	20.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	271	0	229	835	0
Future Vol, veh/h	19	271	0	229	835	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	301	0	254	928	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1182	928	-	0	-	0
Stage 1	928	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	210	325	0	-	-	0
Stage 1	385	-	0	-	-	0
Stage 2	788	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	210	325	-	-	-	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	95.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	314	-
HCM Lane V/C Ratio	-	1.026	-
HCM Control Delay (s)	-	95.4	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	11.5	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	229	120	74	1032
Future Volume (Veh/h)	0	0	229	120	74	1032
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	254	133	82	1147
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1632	320			254	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1647	182			108	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			94	
cM capacity (veh/h)	92	770			1327	

Direction, Lane #	NB 1	SB 1
Volume Total	387	1229
Volume Left	0	82
Volume Right	133	0
cSH	1700	1327
Volume to Capacity	0.23	0.06
Queue Length 95th (ft)	0	5
Control Delay (s)	0.0	1.9
Lane LOS		A
Approach Delay (s)	0.0	1.9
Approach LOS		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	134	36	2	183	77	31	30	3	93	33	906
Future Volume (vph)	242	134	36	2	183	77	31	30	3	93	33	906
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1803		1770	1863	1583	1770	1839			1796	1583
Flt Permitted	0.36	1.00		0.64	1.00	1.00	0.67	1.00			0.77	1.00
Satd. Flow (perm)	661	1803		1196	1863	1583	1249	1839			1432	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	260	144	39	2	197	83	33	32	3	100	35	974
RTOR Reduction (vph)	0	11	0	0	0	71	0	2	0	0	0	319
Lane Group Flow (vph)	260	172	0	2	197	12	33	33	0	0	135	655
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Actuated Green, G (s)	32.7	32.7		13.4	13.4	13.4	41.9	41.9			41.9	41.9
Effective Green, g (s)	32.7	32.7		13.4	13.4	13.4	41.9	41.9			41.9	41.9
Actuated g/C Ratio	0.36	0.36		0.15	0.15	0.15	0.47	0.47			0.47	0.47
Clearance Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	379	655		178	277	235	581	856			666	736
v/s Ratio Prot	c0.09	0.10			0.11			0.02				
v/s Ratio Perm	c0.16			0.00		0.01	0.03				0.09	c0.41
v/c Ratio	0.69	0.26		0.01	0.71	0.05	0.06	0.04			0.20	0.89
Uniform Delay, d1	22.0	20.2		32.7	36.5	32.9	13.2	13.1			14.2	22.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			0.84	1.77
Incremental Delay, d2	5.1	0.2		0.0	8.3	0.1	0.2	0.1			0.6	13.2
Delay (s)	27.1	20.4		32.7	44.8	32.9	13.4	13.2			12.5	52.0
Level of Service	C	C		C	D	C	B	B			B	D
Approach Delay (s)		24.3			41.2			13.3			47.2	
Approach LOS		C			D			B			D	

Intersection Summary

HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.4
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

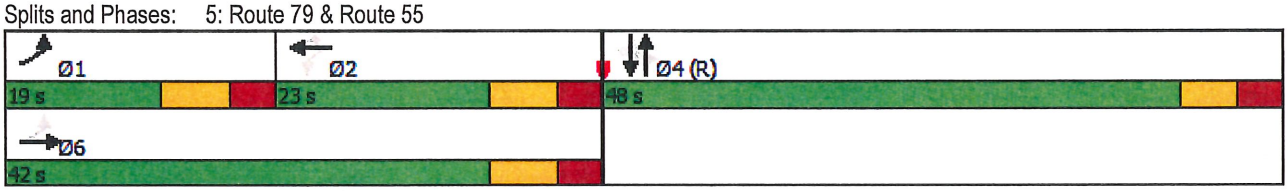
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	134	36	2	183	77	31	30	3	93	33	906
Future Volume (vph)	242	134	36	2	183	77	31	30	3	93	33	906
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		250	0		0	0		300
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1803	0	1770	1863	1583	1770	1839	0	0	1796	1583
Flt Permitted	0.355			0.642			0.671				0.769	
Satd. Flow (perm)	661	1803	0	1196	1863	1583	1250	1839	0	0	1432	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				150		3				596
Link Speed (mph)		45			45			25			35	
Link Distance (ft)		728			663			182			399	
Travel Time (s)		11.0			10.0			5.0			7.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	183	0	2	197	83	33	35	0	0	135	974
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Detector Phase	1	6		2	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	9.9		9.9	9.9	9.9	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	14.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Total Split (s)	19.0	42.0		23.0	23.0	23.0	48.0	48.0		48.0	48.0	48.0
Total Split (%)	21.1%	46.7%		25.6%	25.6%	25.6%	53.3%	53.3%		53.3%	53.3%	53.3%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	3.2	3.2		3.2	3.2	3.2	3.3	3.3		3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	None		None	None	None	C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	32.7	32.7		13.4	13.4	13.4	41.9	41.9			41.9	41.9
Actuated g/C Ratio	0.36	0.36		0.15	0.15	0.15	0.47	0.47			0.47	0.47
v/c Ratio	0.69	0.28		0.01	0.71	0.23	0.06	0.04			0.20	0.92
Control Delay	31.8	19.2		31.5	50.8	2.0	14.3	13.2			13.2	28.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	31.8	19.2		31.5	50.8	2.0	14.3	13.2			13.2	28.7
LOS	C	B		C	D	A	B	B			B	C
Approach Delay		26.6			36.3			13.7			26.8	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	106	64		1	106	0	10	10			54	425
Queue Length 95th (ft)	171	113		7	178	5	27	27			m60	#597
Internal Link Dist (ft)		648			583			102			319	
Turn Bay Length (ft)				175		250						300
Base Capacity (vph)	380	691		199	310	388	582	858			666	1055
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.68	0.26		0.01	0.64	0.21	0.06	0.04			0.20	0.92

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 27.7 Intersection LOS: C
Intersection Capacity Utilization 93.1% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Route 79 & Route 55



Intersection						
Int Delay, s/veh	5.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	169	154	56	169	45
Future Vol, veh/h	30	169	154	56	169	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	33	188	171	62	188	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	617	213	238	0	-	0
Stage 1	213	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	441	807	1283	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	380	807	1283	-	-	-
Mov Cap-2 Maneuver	380	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1283	-	380	807	-	-
HCM Lane V/C Ratio	0.133	-	0.088	0.233	-	-
HCM Control Delay (s)	8.2	0	15.4	10.8	-	-
HCM Lane LOS	A	A	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.3	0.9	-	-

Intersection						
Int Delay, s/veh	5.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	169	154	56	169	45
Future Vol, veh/h	30	169	154	56	169	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	33	188	171	62	188	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	617	213	238	0	-	0
Stage 1	213	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	441	807	1283	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	382	807	1283	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1283	-	382	807	-	-
HCM Lane V/C Ratio	0.133	-	0.087	0.233	-	-
HCM Control Delay (s)	8.2	-	15.3	10.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.3	0.9	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	185	1	56	108	154	0	0	267	71
Future Volume (vph)	0	0	0	185	1	56	108	154	0	0	267	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.3	5.3		7.2			7.2	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.97	
Flt Protected					0.95	1.00		0.98			1.00	
Satd. Flow (prot)					1774	1583		1825			1810	
Flt Permitted					0.95	1.00		0.70			1.00	
Satd. Flow (perm)					1774	1583		1310			1810	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	203	1	62	119	169	0	0	293	78
RTOR Reduction (vph)	0	0	0	0	0	46	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	0	0	204	16	0	288	0	0	362	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					11.1	11.1		20.6			20.6	
Effective Green, g (s)					11.1	11.1		20.6			20.6	
Actuated g/C Ratio					0.25	0.25		0.47			0.47	
Clearance Time (s)					5.3	5.3		7.2			7.2	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					445	397		610			843	
v/s Ratio Prot											0.20	
v/s Ratio Perm					0.11	0.01		c0.22				
v/c Ratio					0.46	0.04		0.47			0.43	
Uniform Delay, d1					14.0	12.5		8.1			7.9	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					0.8	0.0		0.6			0.4	
Delay (s)					14.8	12.6		8.7			8.2	
Level of Service					B	B		A			A	
Approach Delay (s)		0.0			14.2			8.7			8.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	19.7
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	185	1	56	108	154	0	0	267	71
Future Volume (vph)	0	0	0	185	1	56	108	154	0	0	267	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	1775	1583	0	1825	0	0	1811	0
Flt Permitted					0.953			0.703				
Satd. Flow (perm)	0	0	0	0	1775	1583	0	1310	0	0	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						104					16	
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		1108			857			695			405	
Travel Time (s)		21.6			14.6			13.5			7.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	204	62	0	288	0	0	371	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Detector Phase				4	4	4	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0	8.0	8.0	6.0	6.0			6.0	
Minimum Split (s)				18.0	18.0	18.0	14.0	18.0			15.0	
Total Split (s)				40.0	40.0	40.0	14.0	80.0			66.0	
Total Split (%)				33.3%	33.3%	33.3%	11.7%	66.7%			55.0%	
Yellow Time (s)				4.0	4.0	4.0	4.7	4.7			4.7	
All-Red Time (s)				1.3	1.3	1.3	2.5	2.5			2.5	
Lost Time Adjust (s)					0.0	0.0		0.0			0.0	
Total Lost Time (s)					5.3	5.3		7.2			7.2	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	Min			Min	
Act Effct Green (s)					11.1	11.1		20.6			20.6	
Actuated g/C Ratio					0.25	0.25		0.46			0.46	
v/c Ratio					0.46	0.13		0.48			0.44	
Control Delay					18.8	2.4		11.8			9.9	
Queue Delay					0.0	0.0		0.0			0.0	
Total Delay					18.8	2.4		11.8			9.9	
LOS					B	A		B			A	
Approach Delay					14.9			11.8			9.9	
Approach LOS					B			B			A	
Queue Length 50th (ft)					38	0		44			52	
Queue Length 95th (ft)					112	11		110			122	
Internal Link Dist (ft)		1028			777			615			325	
Turn Bay Length (ft)						300						
Base Capacity (vph)					1424	1290		1310			1807	
Starvation Cap Reductn					0	0		0			0	

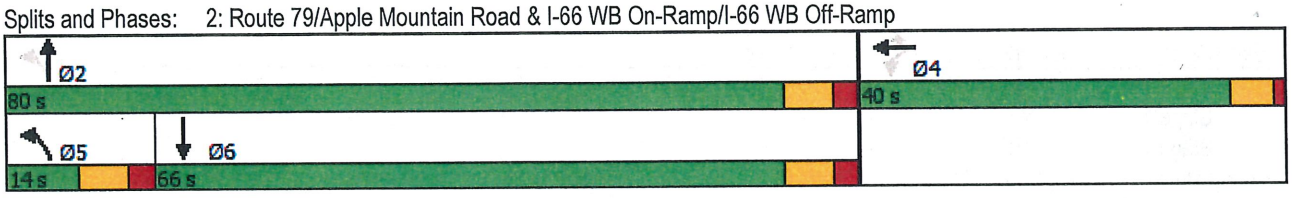
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn					0	0		0			0	
Storage Cap Reductn					0	0		0			0	
Reduced v/c Ratio					0.14	0.05		0.22			0.21	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 44.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 11.9
Intersection Capacity Utilization 59.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service B

Splits and Phases: 2: Route 79/Apple Mountain Road & I-66 WB On-Ramp/I-66 WB Off-Ramp



Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	97	0	218	452	0
Future Vol, veh/h	44	97	0	218	452	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	108	0	242	502	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	744	502	-	0	-	0
Stage 1	502	-	-	-	-	-
Stage 2	242	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	382	569	0	-	-	0
Stage 1	608	-	0	-	-	0
Stage 2	798	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	382	569	-	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	494	-
HCM Lane V/C Ratio	-	0.317	-
HCM Control Delay (s)	-	15.6	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	1.4	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	97	0	218	452	0
Future Vol, veh/h	44	97	0	218	452	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	108	0	242	502	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	744	502	-	0	-	0
Stage 1	502	-	-	-	-	-
Stage 2	242	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	382	569	0	-	-	0
Stage 1	608	-	0	-	-	0
Stage 2	798	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	382	569	-	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	382	569	-
HCM Lane V/C Ratio	-	0.128	0.189	-
HCM Control Delay (s)	-	15.8	12.8	-
HCM Lane LOS	-	C	B	-
HCM 95th %tile Q(veh)	-	0.4	0.7	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	218	470	112	437
Future Volume (Veh/h)	0	0	218	470	112	437
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	242	522	124	486
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1237	503			242	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1176	270			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	155	623			1316	

Direction, Lane #	NB 1	SB 1
Volume Total	764	610
Volume Left	0	124
Volume Right	522	0
cSH	1700	1316
Volume to Capacity	0.45	0.09
Queue Length 95th (ft)	0	8
Control Delay (s)	0.0	2.5
Lane LOS		A
Approach Delay (s)	0.0	2.5
Approach LOS		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	218	470	112	437
Future Volume (Veh/h)	0	0	218	470	112	437
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	242	522	124	486
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.81	0.81			0.81	
vC, conflicting volume	1237	503			242	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1175	268			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	155	624			1313	

Direction, Lane #	NB 1	SB 1	SB 2
Volume Total	764	124	486
Volume Left	0	124	0
Volume Right	522	0	0
cSH	1700	1313	1700
Volume to Capacity	0.45	0.09	0.29
Queue Length 95th (ft)	0	8	0
Control Delay (s)	0.0	8.0	0.0
Lane LOS		A	
Approach Delay (s)	0.0	1.6	
Approach LOS			

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	535	70	44	1	200	106	5	47	6	56	33	348
Future Volume (vph)	535	70	44	1	200	106	5	47	6	56	33	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	1755		1770	1863	1583	1770	1833			1806	1583
Flt Permitted	0.41	1.00		0.68	1.00	1.00	0.70	1.00			0.77	1.00
Satd. Flow (perm)	759	1755		1264	1863	1583	1295	1833			1442	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	575	75	47	1	215	114	5	51	6	60	35	374
RTOR Reduction (vph)	0	18	0	0	0	89	0	4	0	0	0	315
Lane Group Flow (vph)	575	104	0	1	215	25	5	53	0	0	95	59
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Actuated Green, G (s)	42.8	42.8		15.1	15.1	15.1	11.0	11.0			11.0	11.0
Effective Green, g (s)	42.8	42.8		15.1	15.1	15.1	11.0	11.0			11.0	11.0
Actuated g/C Ratio	0.62	0.62		0.22	0.22	0.22	0.16	0.16			0.16	0.16
Clearance Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	757	1085		275	406	345	205	291			229	251
v/s Ratio Prot	c0.22	0.06			0.12			0.03				
v/s Ratio Perm	c0.25			0.00		0.02	0.00				c0.07	0.04
v/c Ratio	0.76	0.10		0.00	0.53	0.07	0.02	0.18			0.41	0.24
Uniform Delay, d1	8.4	5.4		21.2	23.9	21.5	24.6	25.2			26.2	25.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	4.4	0.0		0.0	1.3	0.1	0.0	0.3			1.2	0.5
Delay (s)	12.8	5.4		21.2	25.2	21.6	24.6	25.5			27.4	25.9
Level of Service	B	A		C	C	C	C	C			C	C
Approach Delay (s)		11.5			23.9			25.4			26.2	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	23.4
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	535	70	44	1	200	106	5	47	6	56	33	348
Future Volume (vph)	535	70	44	1	200	106	5	47	6	56	33	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		250	0		0	0		300
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1755	0	1770	1863	1583	1770	1833	0	0	1805	1583
Flt Permitted	0.408			0.679			0.695				0.774	
Satd. Flow (perm)	760	1755	0	1265	1863	1583	1295	1833	0	0	1442	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47				114		5				374
Link Speed (mph)		55			55			35			35	
Link Distance (ft)		724			777			182			399	
Travel Time (s)		9.0			9.6			3.5			7.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	575	122	0	1	215	114	5	57	0	0	95	374
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Detector Phase	1	6		2	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	14.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Total Split (s)	49.0	86.0		37.0	37.0	37.0	34.0	34.0		34.0	34.0	34.0
Total Split (%)	40.8%	71.7%		30.8%	30.8%	30.8%	28.3%	28.3%		28.3%	28.3%	28.3%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	3.2	3.2		3.2	3.2	3.2	3.3	3.3		3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Min		Min	Min	Min	None	None		None	None	None
Act Effct Green (s)	42.8	42.8		14.8	14.8	14.8	11.0	11.0			11.0	11.0
Actuated g/C Ratio	0.61	0.61		0.21	0.21	0.21	0.16	0.16			0.16	0.16
v/c Ratio	0.77	0.11		0.00	0.55	0.27	0.02	0.20			0.42	0.66
Control Delay	15.5	4.1		26.0	32.3	7.8	29.6	28.4			35.6	10.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	15.5	4.1		26.0	32.3	7.8	29.6	28.4			35.6	10.2
LOS	B	A		C	C	A	C	C			D	B
Approach Delay		13.5			23.8			28.5			15.3	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	117	11		0	78	0	2	19			35	0
Queue Length 95th (ft)	237	34		5	182	42	13	61			99	79
Internal Link Dist (ft)		644			697			102			319	
Turn Bay Length (ft)				175		250						300
Base Capacity (vph)	1132	1693		548	807	750	515	732			573	854
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0

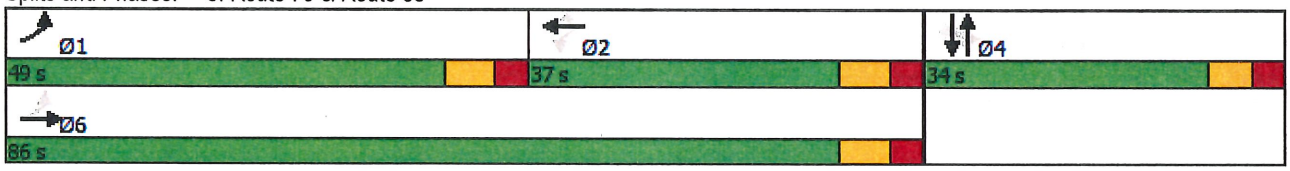
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.51	0.07		0.00	0.27	0.15	0.01	0.08			0.17	0.44

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 69.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 16.8
Intersection Capacity Utilization 71.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service C

Splits and Phases: 5: Route 79 & Route 55



Intersection						
Int Delay, s/veh	4.4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	124	124	160	101	14
Future Vol, veh/h	14	124	124	160	101	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	16	138	138	178	112	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	574	120	128	0	-	0
Stage 1	120	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	467	910	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	416	910	1410	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	3.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1410	-	416	910	-	-
HCM Lane V/C Ratio	0.098	-	0.037	0.151	-	-
HCM Control Delay (s)	7.8	0	14	9.7	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	0.5	-	-

Intersection						
Int Delay, s/veh	4.4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	124	124	160	101	14
Future Vol, veh/h	14	124	124	160	101	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	2	2	10
Mvmt Flow	16	138	138	178	112	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	574	120	128	0	-	0
Stage 1	120	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.2	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.29	-	-	-
Pot Cap-1 Maneuver	467	910	1410	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	421	910	1410	-	-	-
Mov Cap-2 Maneuver	421	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	3.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1410	-	421	910	-	-
HCM Lane V/C Ratio	0.098	-	0.037	0.151	-	-
HCM Control Delay (s)	7.8	-	13.9	9.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	0.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	770	1	86	133	198	0	0	148	77
Future Volume (vph)	0	0	0	770	1	86	133	198	0	0	148	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.3	5.3		7.2			7.2	
Lane Util. Factor					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.95	
Flt Protected					0.95	1.00		0.98			1.00	
Satd. Flow (prot)					1774	1583		1826			1776	
Flt Permitted					0.95	1.00		0.70			1.00	
Satd. Flow (perm)					1774	1583		1295			1776	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	828	1	92	143	213	0	0	159	83
RTOR Reduction (vph)	0	0	0	0	0	41	0	0	0	0	17	0
Lane Group Flow (vph)	0	0	0	0	829	51	0	356	0	0	225	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Actuated Green, G (s)					49.7	49.7		27.8			27.8	
Effective Green, g (s)					49.7	49.7		27.8			27.8	
Actuated g/C Ratio					0.55	0.55		0.31			0.31	
Clearance Time (s)					5.3	5.3		7.2			7.2	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					979	874		400			548	
v/s Ratio Prot											0.13	
v/s Ratio Perm					0.47	0.03		c0.27				
v/c Ratio					0.85	0.06		0.89			0.41	
Uniform Delay, d1					16.9	9.3		29.6			24.6	
Progression Factor					1.00	1.00		0.82			1.00	
Incremental Delay, d2					9.0	0.1		19.0			0.5	
Delay (s)					25.9	9.4		43.2			25.1	
Level of Service					C	A		D			C	
Approach Delay (s)		0.0			24.3			43.2			25.1	
Approach LOS		A			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

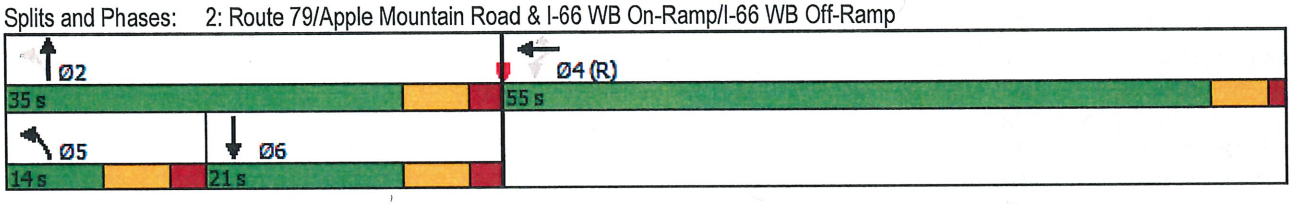
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	770	1	86	133	198	0	0	148	77
Future Volume (vph)	0	0	0	770	1	86	133	198	0	0	148	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	1773	1583	0	1825	0	0	1777	0
Flt Permitted					0.952			0.695				
Satd. Flow (perm)	0	0	0	0	1773	1583	0	1295	0	0	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						138					25	
Link Speed (mph)		35			40			35			35	
Link Distance (ft)		1108			857			695			393	
Travel Time (s)		21.6			14.6			13.5			7.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	829	92	0	356	0	0	242	0
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases					4		5	2			6	
Permitted Phases				4		4	2					
Detector Phase				4	4	4	5	2			6	
Switch Phase												
Minimum Initial (s)				8.0	8.0	8.0	6.0	6.0			6.0	
Minimum Split (s)				18.0	18.0	18.0	14.0	18.0			15.0	
Total Split (s)				55.0	55.0	55.0	14.0	35.0			21.0	
Total Split (%)				61.1%	61.1%	61.1%	15.6%	38.9%			23.3%	
Yellow Time (s)				4.0	4.0	4.0	4.7	4.7			4.7	
All-Red Time (s)				1.3	1.3	1.3	2.5	2.5			2.5	
Lost Time Adjust (s)					0.0	0.0		0.0			0.0	
Total Lost Time (s)					5.3	5.3		7.2			7.2	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				C-Min	C-Min	C-Min	None	None			None	
Act Effct Green (s)					49.7	49.7		27.8			27.8	
Actuated g/C Ratio					0.55	0.55		0.31			0.31	
v/c Ratio					0.85	0.10		0.89			0.43	
Control Delay					27.2	0.8		48.8			24.9	
Queue Delay					0.0	0.0		0.0			0.0	
Total Delay					27.2	0.8		48.8			24.9	
LOS					C	A		D			C	
Approach Delay					24.6			48.8			24.9	
Approach LOS					C			D			C	
Queue Length 50th (ft)					371	0		205			97	
Queue Length 95th (ft)					#629	9		m#334			165	
Internal Link Dist (ft)		1028			777			615			313	
Turn Bay Length (ft)						300						
Base Capacity (vph)					979	935		400			566	
Starvation Cap Reductn					0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn					0	0		0			0	
Storage Cap Reductn					0	0		0			0	
Reduced v/c Ratio					0.85	0.10		0.89			0.43	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 40 (44%), Referenced to phase 4:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 30.3 Intersection LOS: C
Intersection Capacity Utilization 89.4% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Route 79/Apple Mountain Road & I-66 WB On-Ramp/I-66 WB Off-Ramp



Intersection	
Int Delay, s/veh	46.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	271	0	284	918	0
Future Vol, veh/h	47	271	0	284	918	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	301	0	316	1020	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1336	1020	-	0	-	0
Stage 1	1020	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	169	~ 287	0	-	-	0
Stage 1	348	-	0	-	-	0
Stage 2	739	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	169	~ 287	-	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	348	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	222.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	260	-
HCM Lane V/C Ratio	-	1.359	-
HCM Control Delay (s)	-	222.1	-
HCM Lane LOS	-	F	-
HCM 95th %tile Q(veh)	-	18.7	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	20.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	271	0	284	918	0
Future Vol, veh/h	47	271	0	284	918	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	301	0	316	1020	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1336	1020	-	0	-	0
Stage 1	1020	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	169	~ 287	0	-	-	0
Stage 1	348	-	0	-	-	0
Stage 2	739	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	169	~ 287	-	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	348	-	-	-	-	-
Stage 2	739	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	95.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	169	287	-
HCM Lane V/C Ratio	-	0.309	1.049	-
HCM Control Delay (s)	-	35.6	106.4	-
HCM Lane LOS	-	E	F	-
HCM 95th %tile Q(veh)	-	1.2	11.5	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	284	120	102	1087
Future Volume (Veh/h)	0	0	284	120	102	1087
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	316	133	113	1208
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1816	382			316	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1862	222			146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	64	715			1256	

Direction, Lane #	NB 1	SB 1
Volume Total	449	1321
Volume Left	0	113
Volume Right	133	0
cSH	1700	1256
Volume to Capacity	0.26	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	3.0
Lane LOS		A
Approach Delay (s)	0.0	3.0
Approach LOS		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	284	120	102	1087
Future Volume (Veh/h)	0	0	284	120	102	1087
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	316	133	113	1208
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			399			839
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1816	382			316	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1862	222			146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			91	
cM capacity (veh/h)	64	715			1256	

Direction, Lane #	NB 1	SB 1	SB 2
Volume Total	449	113	1208
Volume Left	0	113	0
Volume Right	133	0	0
cSH	1700	1256	1700
Volume to Capacity	0.26	0.09	0.71
Queue Length 95th (ft)	0	7	0
Control Delay (s)	0.0	8.2	0.0
Lane LOS		A	
Approach Delay (s)	0.0	0.7	
Approach LOS			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	134	36	2	183	98	31	30	3	114	33	940
Future Volume (vph)	276	134	36	2	183	98	31	30	3	114	33	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1803		1770	1863	1583	1770	1839			1793	1583
Flt Permitted	0.36	1.00		0.64	1.00	1.00	0.66	1.00			0.75	1.00
Satd. Flow (perm)	661	1803		1196	1863	1583	1223	1839			1397	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	297	144	39	2	197	105	33	32	3	123	35	1011
RTOR Reduction (vph)	0	11	0	0	0	89	0	2	0	0	0	318
Lane Group Flow (vph)	297	172	0	2	197	16	33	33	0	0	158	693
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Actuated Green, G (s)	32.6	32.6		13.4	13.4	13.4	42.0	42.0			42.0	42.0
Effective Green, g (s)	32.6	32.6		13.4	13.4	13.4	42.0	42.0			42.0	42.0
Actuated g/C Ratio	0.36	0.36		0.15	0.15	0.15	0.47	0.47			0.47	0.47
Clearance Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	377	653		178	277	235	570	858			651	738
v/s Ratio Prot	c0.10	0.10			0.11			0.02				
v/s Ratio Perm	c0.19			0.00		0.01	0.03				0.11	c0.44
v/c Ratio	0.79	0.26		0.01	0.71	0.07	0.06	0.04			0.24	0.94
Uniform Delay, d1	22.9	20.2		32.7	36.5	32.9	13.2	13.0			14.4	22.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00			0.83	1.49
Incremental Delay, d2	10.4	0.2		0.0	8.3	0.1	0.2	0.1			0.7	18.4
Delay (s)	33.3	20.5		32.7	44.8	33.0	13.3	13.1			12.7	52.3
Level of Service	C	C		C	D	C	B	B			B	D
Approach Delay (s)		28.4			40.7			13.2			46.9	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.4
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

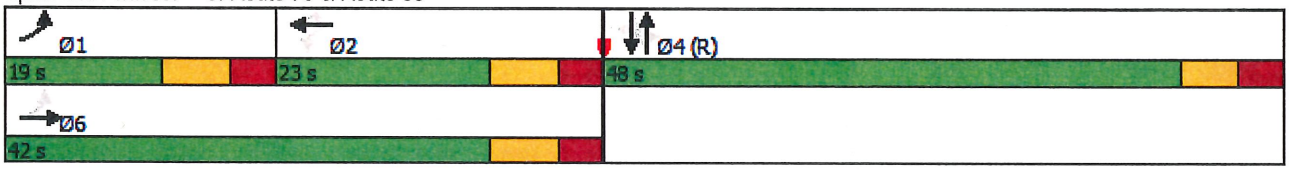
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	134	36	2	183	98	31	30	3	114	33	940
Future Volume (vph)	276	134	36	2	183	98	31	30	3	114	33	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	175		250	0		0	0		300
Storage Lanes	1		0	1		1	1		0	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	1770	1803	0	1770	1863	1583	1770	1839	0	0	1794	1583
Flt Permitted	0.355			0.642			0.657				0.750	
Satd. Flow (perm)	661	1803	0	1196	1863	1583	1224	1839	0	0	1397	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				150		3				596
Link Speed (mph)		45			45			25			35	
Link Distance (ft)		728			663			182			399	
Travel Time (s)		11.0			10.0			5.0			7.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	297	183	0	2	197	105	33	35	0	0	158	1011
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6			2			4			4	
Permitted Phases	6			2		2	4			4		4
Detector Phase	1	6		2	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	9.9		9.9	9.9	9.9	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	14.0	18.0		18.0	18.0	18.0	18.0	18.0		18.0	18.0	18.0
Total Split (s)	19.0	42.0		23.0	23.0	23.0	48.0	48.0		48.0	48.0	48.0
Total Split (%)	21.1%	46.7%		25.6%	25.6%	25.6%	53.3%	53.3%		53.3%	53.3%	53.3%
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.1	4.1		4.1	4.1	4.1
All-Red Time (s)	3.2	3.2		3.2	3.2	3.2	3.3	3.3		3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0	8.0	7.4	7.4			7.4	7.4
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Min		None	None	None	C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	32.6	32.6		13.4	13.4	13.4	42.0	42.0			42.0	42.0
Actuated g/C Ratio	0.36	0.36		0.15	0.15	0.15	0.47	0.47			0.47	0.47
v/c Ratio	0.79	0.28		0.01	0.71	0.29	0.06	0.04			0.24	0.96
Control Delay	39.1	19.3		31.5	50.8	4.3	14.3	13.1			13.4	31.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	39.1	19.3		31.5	50.8	4.3	14.3	13.1			13.4	31.8
LOS	D	B		C	D	A	B	B			B	C
Approach Delay		31.5			34.6			13.7			29.3	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	125	64		1	106	0	10	10			58	443
Queue Length 95th (ft)	#228	113		7	178	20	27	27			m71	m#616
Internal Link Dist (ft)		648			583			102			319	
Turn Bay Length (ft)				175		250						300
Base Capacity (vph)	377	691		199	310	388	571	859			652	1056
Starvation Cap Reductn	0	0		0	0	0	0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0			0	0
Storage Cap Reductn	0	0		0	0	0	0	0			0	0
Reduced v/c Ratio	0.79	0.26		0.01	0.64	0.27	0.06	0.04			0.24	0.96

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:NBSB, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 30.1 Intersection LOS: C
Intersection Capacity Utilization 95.2% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Route 79 & Route 55



VDOT TURN LANE WARRANT DIAGRAMS

Route 79 at I-66 Eastbound Ramps
Southbound Left-Turn Lane Warrant
Existing (2020) Volumes

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

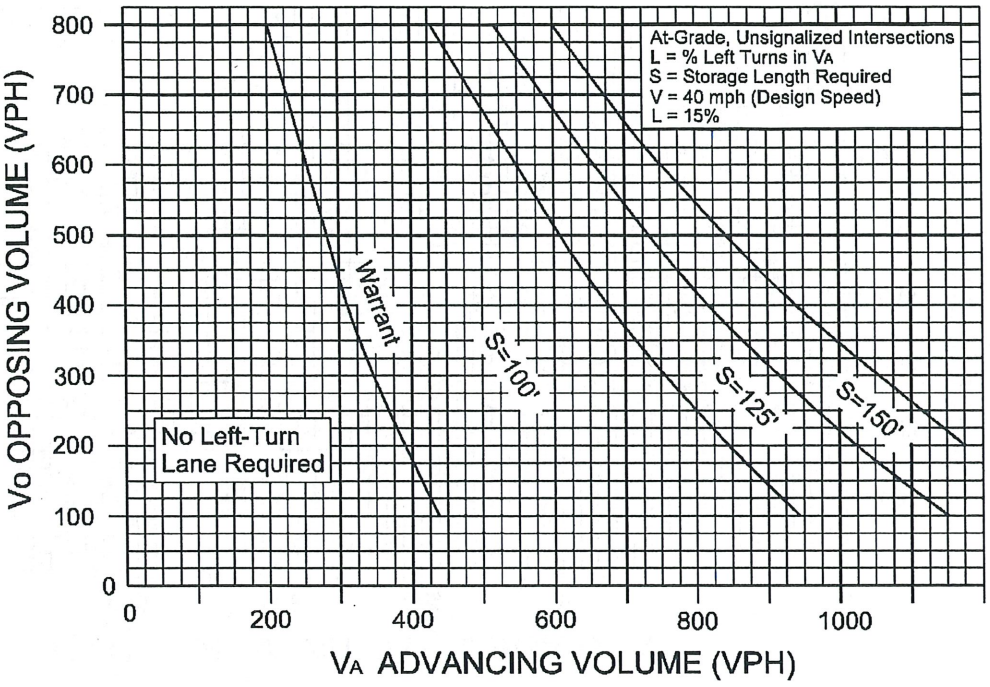
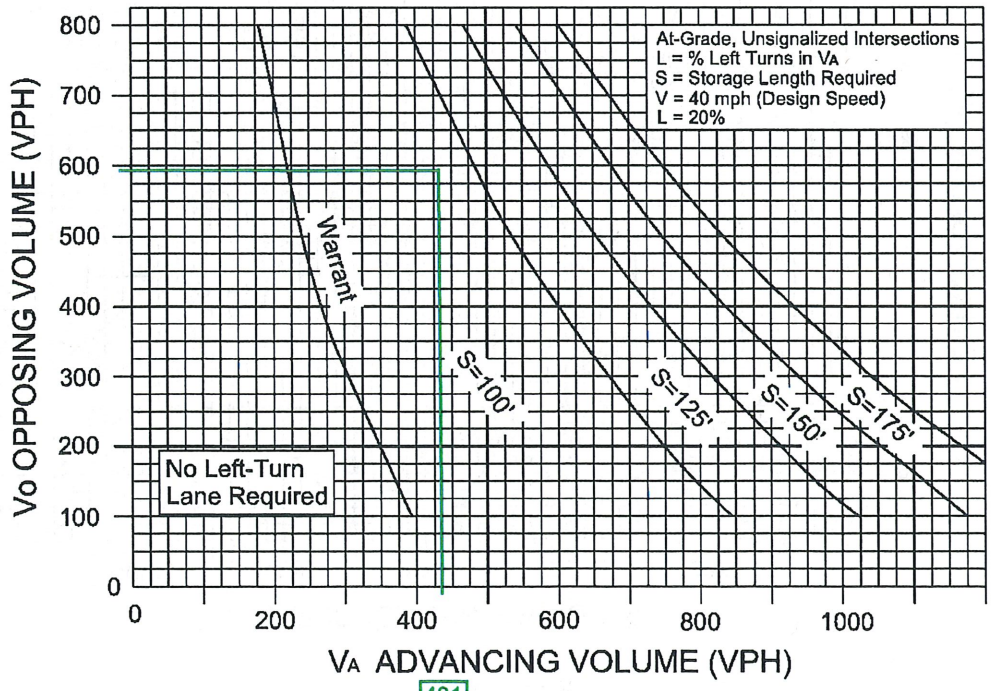


FIGURE 3-7

AM Peak 597



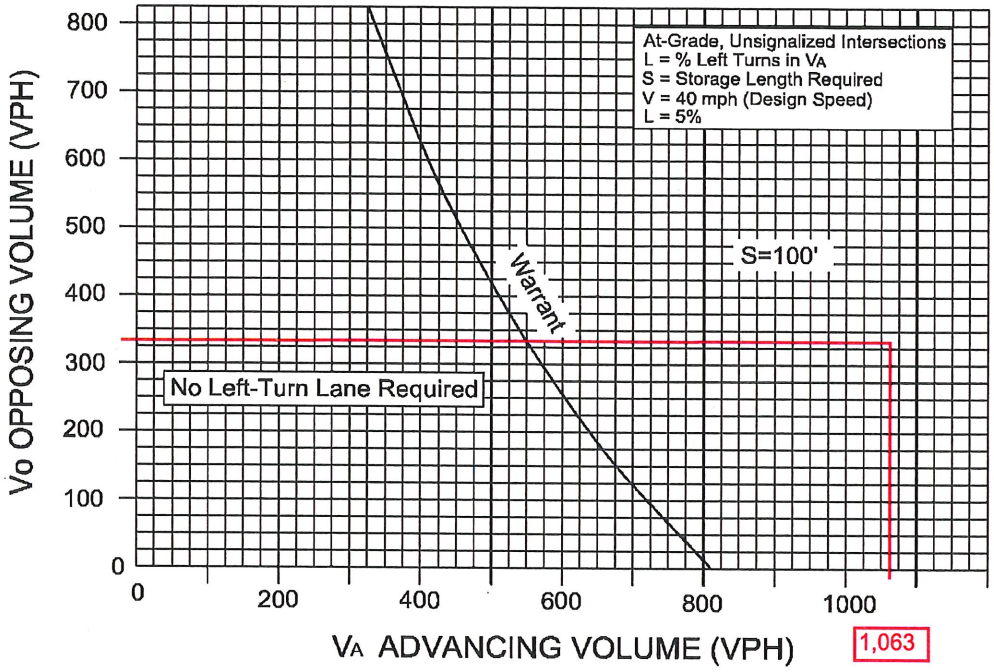
431

FIGURE 3-8

Route 79 at I-66 Eastbound Ramps
Southbound Left-Turn Lane Warrant
Existing (2022) Volumes

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

PM Peak 336



1,063

FIGURE 3-5

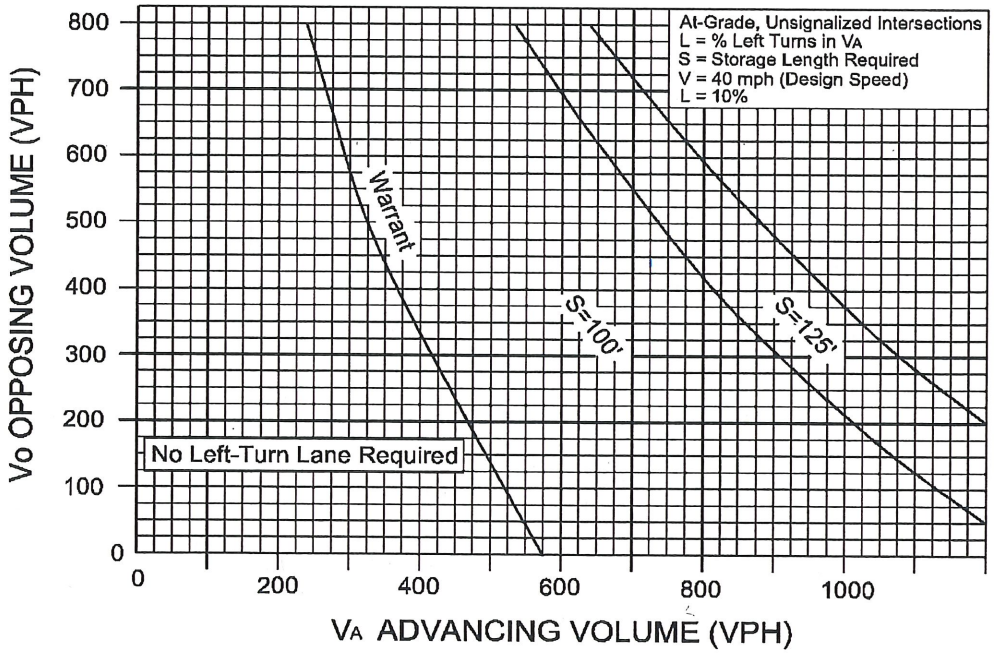
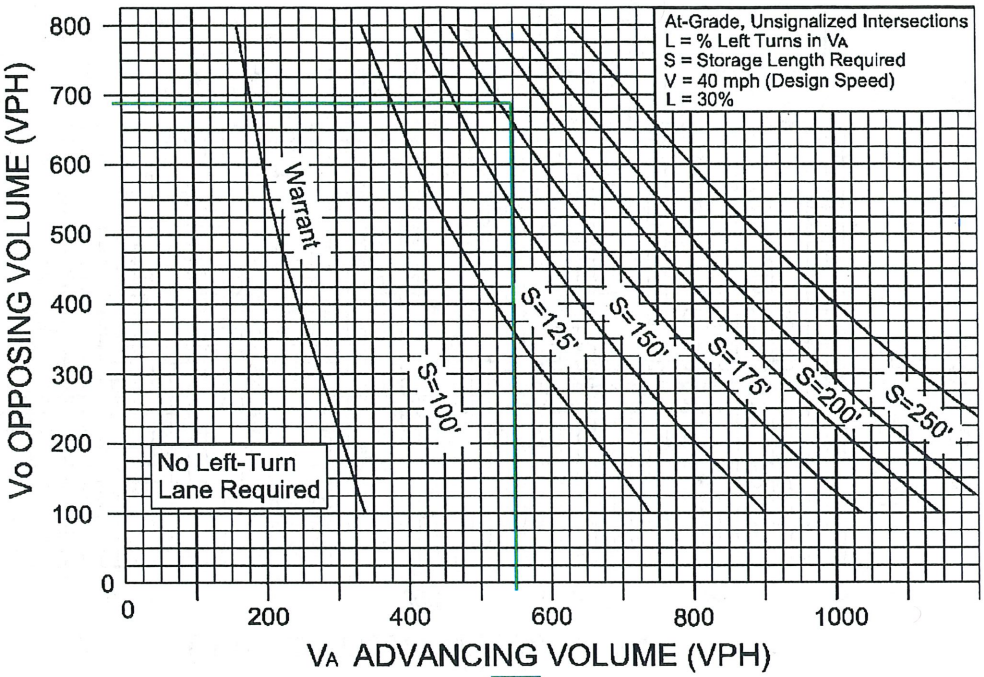


FIGURE 3-6

Route 79 at I-66 Eastbound Ramps
Southbound Left-Turn Lane Warrant
Build (2022) Volumes

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

AM Peak 688



549

FIGURE 3-9

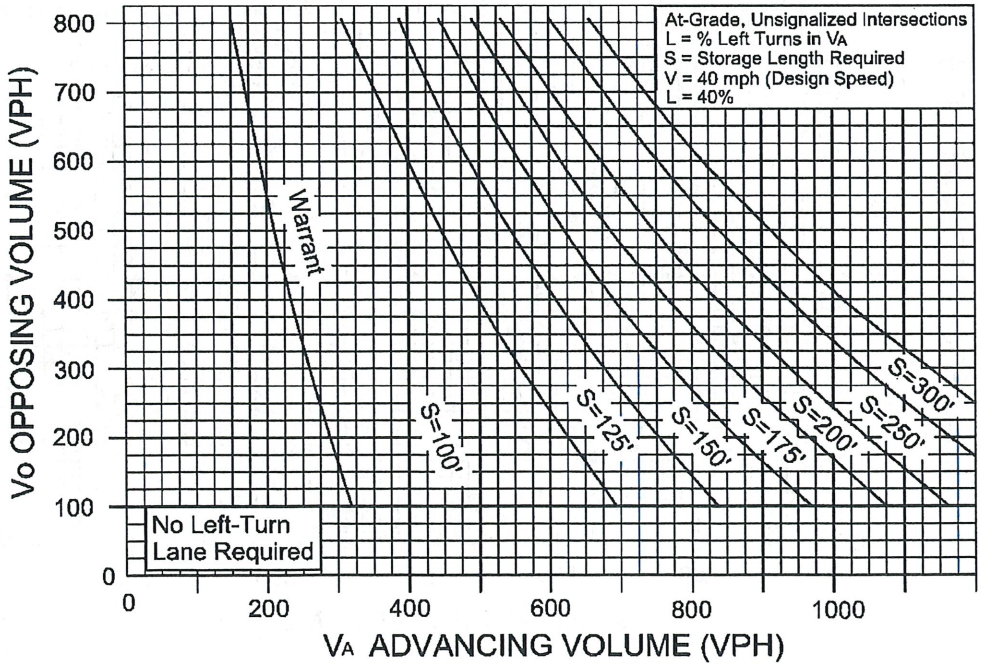


FIGURE 3-10

Route 79 at I-66 Eastbound Ramps
Southbound Left-Turn Lane Warrant
Build (2022) Volumes

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

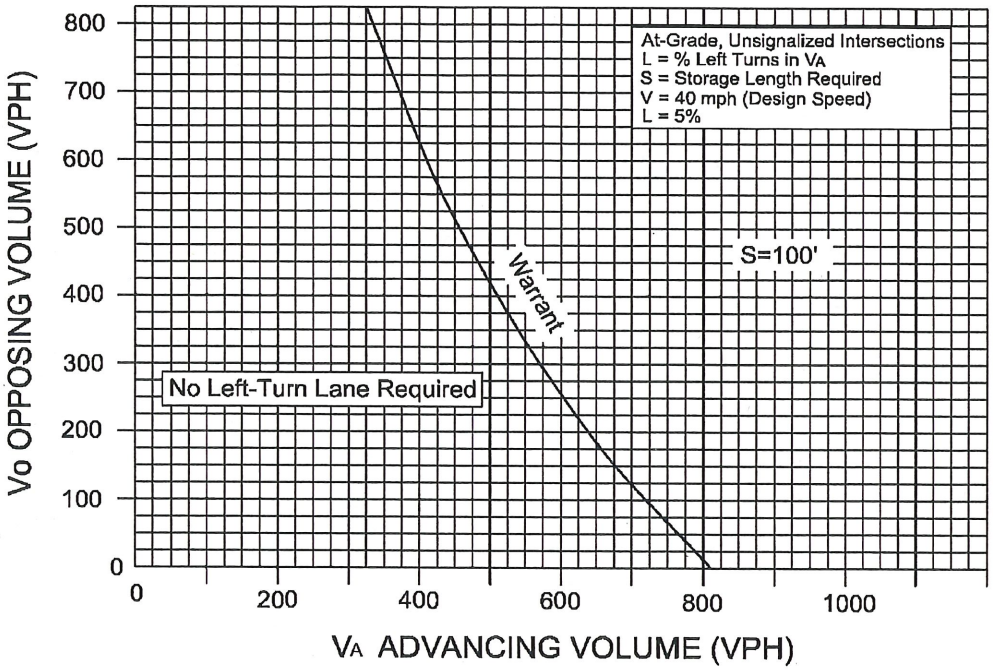
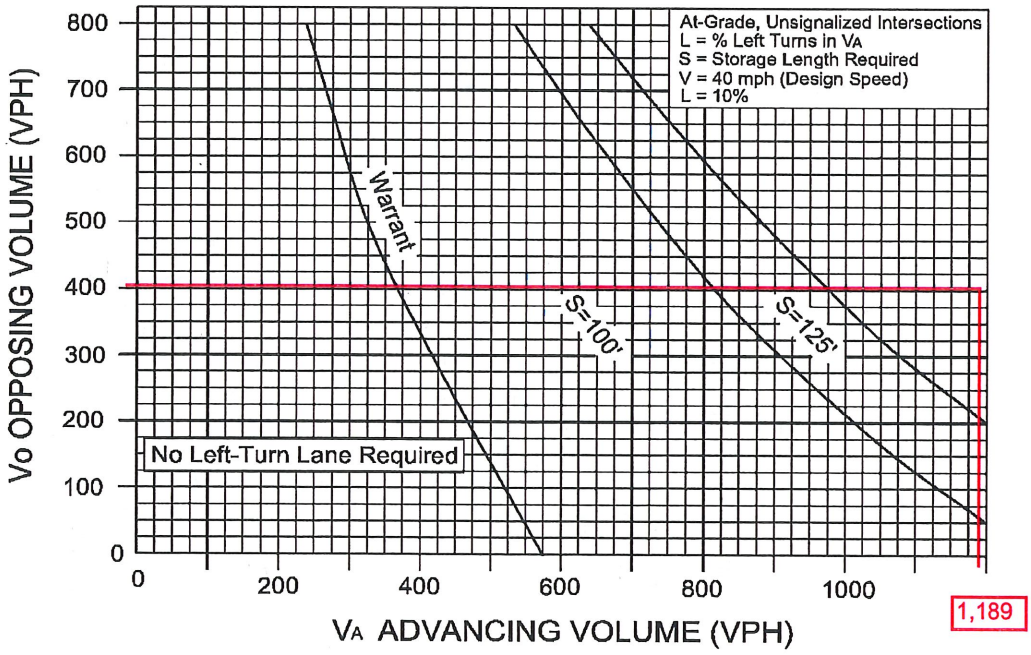


FIGURE 3-5

PM Peak 404



1,189

FIGURE 3-6

Apple Mountain Road at Proposed Site Driveway
Northbound Left-Turn Lane Warrant
Build (2022) Volumes

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

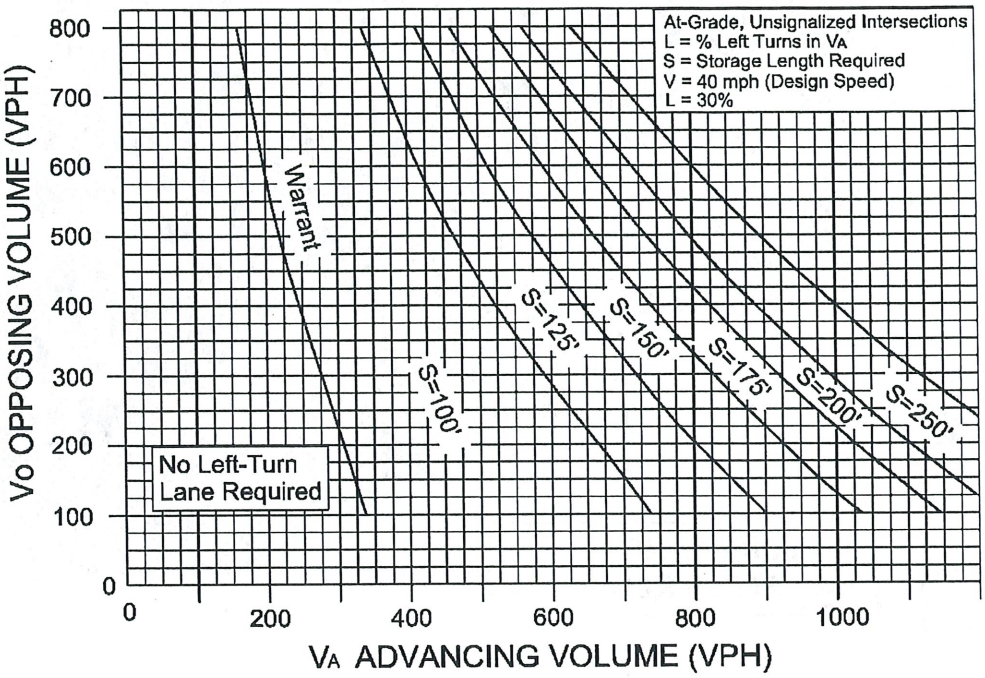
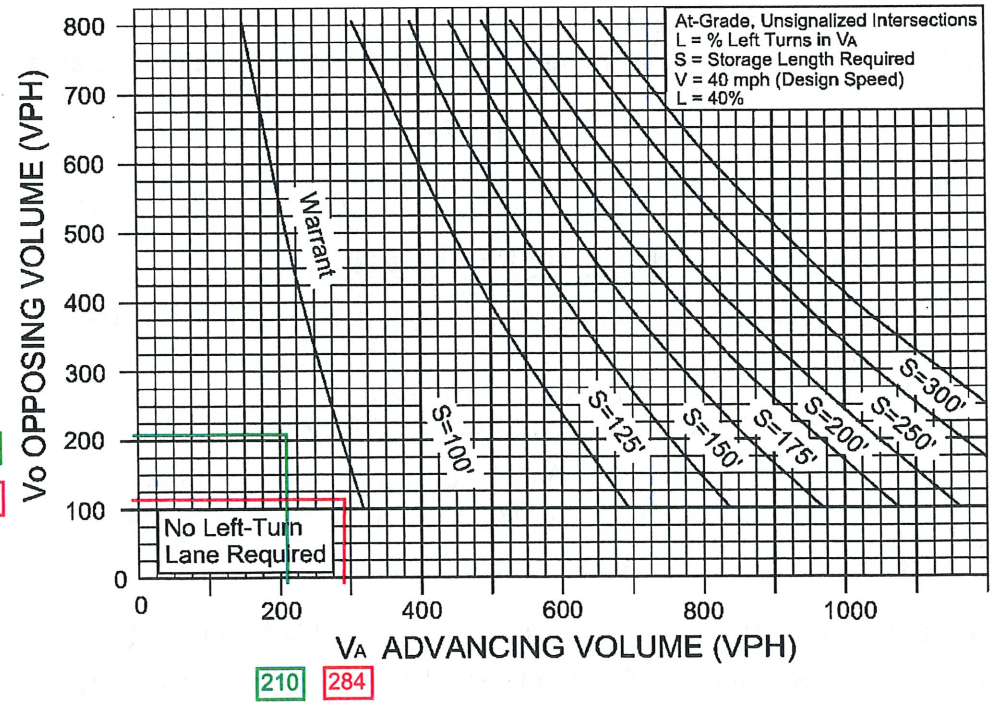


FIGURE 3-9

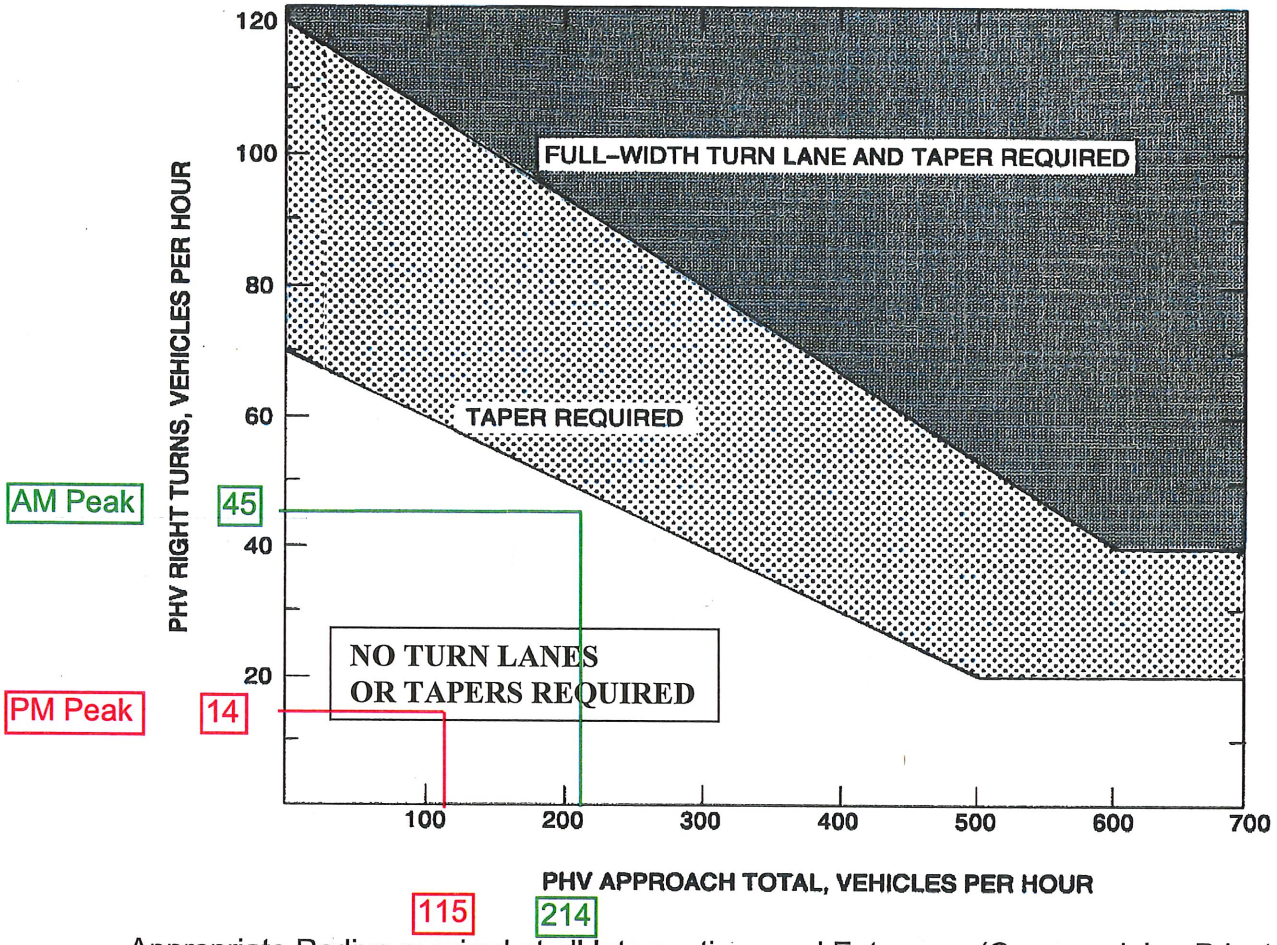


AM Peak 214
PM Peak 115

210 284

FIGURE 3-10

Apple Mountain Road at Proposed Site Driveway
Southbound Right-Turn Lane Warrant
Build (2022) Volumes



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

LEGEND

PHV - Peak Hour Volume (also Design Hourly Volume equivalent)

Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.
Adjusted right turns = PHV Right Turns - 20
If PHV is not known use formula: PHV = ADT x K x D

K = the percent of AADT occurring in the peak hour
D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.*

FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)

* Rev. 1/15

Taryn Logan

From: Bonnie Hicks <eggplant@wehicks.com>
Sent: Tuesday, November 24, 2020 11:54 AM
To: remyers20@gmail.com
Cc: Taryn Logan
Subject: Proposed Rezoning for Sheetz in Linden, Virginia

Dear Mr. Myers,

My name is Bonnie Hicks and I have lived in Apple Mountain Lake subdivision for 26 years. We were almost neighbors! You mentioned at the November 12 hearing that you had been a resident over 30 years ago. I am glad that someone on the Planning Commission is so familiar with our location. I think it is wonderfully distinct in its rural setting paired with convenience for commuting. Those were certainly major factors when my husband and I relocated here from Fairfax County.

My commute in the last ten years has kept me current with developments at the exits in Marshall and Haymarket. Apple Mountain Lake is unique in the number of homes (600) to the proximity of the highway. While there are some homes close to the extremely busy Marshall exit, they were at one time "in town" homes, and some of them have been abandoned. Additionally, the large development of rental townhouses is set farther back from the gas station and shopping center. Getting off of the highway on this exit is a test of patience and driving skills to avoid getting hit and it does not appear that the current design for highway access is a good fit for the amount of traffic currently flowing through the area. The other Marshall exit and the Markham exit are even less congested and developed than Linden. Haymarket and Front Royal both have very commercialized and busy exits but no large communities impacted by the traffic.

While I-66 is a connector to I-81, there are distinct differences between the two. There are no telescoping signs, and nowhere near the level of truck traffic and corresponding accidents and miles-long backups that are synonymous with travelling on I-81.

It is fair to say that we don't have any precedent for this type of development in our part of the Commonwealth, and for good reason. The risks far outweigh the benefits. I know you are in possession of the packet prepared by Sarah Lhymn stating specific objections to the Sheetz development. I also know that the Sheetz team has a "Letter of Neutrality" from the Board members of Apple Mountain Lake Property Owners' Association. I think it is significant to point out that the Board members did not notify nor poll the membership before writing this letter. As a matter of fact, on October 18, 2020 there was an annual membership meeting where a majority of members voted to rescind that letter and replace it with a letter objecting to the development. The Board members wrote a lackluster replacement letter that makes it clear that they are in favor of the rezoning even if the membership is not. After being part of the team that went door to door and collected petition signatures from a majority of homeowners who are against the rezoning, I can state with confidence that the Board's opinion does not represent the desires of the community at large. Unfortunately the process of replacing those Board members will take too long to be effective in our efforts to block the rezoning.

I was present at the November 12 presentation to the Planning Commission. At times it was hard to hear everything that was being said, but I do want to point out that Sheetz has a heavy burden to sufficiently address concerns over traffic, water use, and the effects of pollution (exhaust, light and noise).

It will take significant and expensive reconstruction of Exit 13 to allow for the access that we currently enjoy. And as you may be aware, that access is severely impacted during the weekends of peak leaf-peeping and

during times of heavy snowfall. Please hold Sheetz accountable and require that they will not harm our community by restricting access.

A member of the Sheetz team stated "there are already two gas stations in this location." The gas stations currently in Linden are much farther away from the community. There are four lanes of highway and a lot of land buffering the noise, lights and smells coming from those gas stations. There will be little to no buffer for some of the homes here (mine included). Please do not let Sheetz minimize the impact that their business will have on the quality of life for families living here (not to mention their home values).

Last but not least, there are major concerns about water access. Sheetz will have the money and technology to drill their wells very deep, and there is no possible way that anyone can know what impact that will have on water access to homes here. Our family experienced severe drought in the early 2000s, to the point where we had silt coming out of our faucets. The implications of losing water in your home are frightening, but at least then we knew that once it started raining, things would go back to normal. If we lose our water when Sheetz drills for theirs, we have essentially lost our home, and will be forced to recover it at great expense. Please insist that Sheetz guarantee continuous access to water for the families of Apple Mountain Lake.

Thank you for taking the time to read and consider these issues. My family and my community appreciate the Planning Commission's careful consideration of the issues at stake with this proposed rezoning.

Sincerely,

Bonnie Hicks
795 Apple Orchard Drive
Linden, Virginia

Total Control Panel Login

To: tlogan@warrencountyva.net
From: eggplant@wehicks.com

Message Score: 25
My Spam Blocking Level: Medium

Block this sender
Block wehicks.com

High (60): Pass
Medium (75): Pass
Low (90): Pass

This message was delivered because the content filter score did not exceed your filter level.

ALLIANCE
FOR THE SHENANDOAH VALLEY

Board

Christine Andreae
Warren County

Seth Coffman
Shenandoah County

Joan Comanor
Shenandoah County

Sarah Francisco
Augusta County

Dolly Frazier
Rockingham County

Lee Good
Rockingham County

Rod Graves
Page County

Cory Guilliams
Rockingham County

Lisa Anne Hawkins
Rockingham County

Joe Lehnen
Shenandoah County

Carolyn Long
Shenandoah County

Robert Whitescarver
Augusta County

Warren County Planning Department
220 N Commerce Ave # 400
Front Royal, VA 22630

November 11, 2020

Dear Ms. Logan,

The Alliance for the Shenandoah Valley is concerned about the proposed Sheetz gas station at Exit 13, Interstate 66 in Linden.

As a local organization encouraging good land-use decisions, we support the community's vision included in the comprehensive plan. A stated goal of the Warren County comprehensive plan is to preserve the County's rural character by preserving open space, as well as agricultural and forest lands. The location where the gas station is proposed is zoned for agricultural use, requiring a rezoning to accommodate the gas station and therefore removing land from potential farming operations and impacting the rural character.

The infrastructure needed to build the gas station would increase the likelihood of additional commercial development in that area. The current zoning maps show that the commercial zone is designated for the eastbound side of I-66 and not the westbound side where the Sheetz is proposed.

In addition, a gas station in that area could negatively impact sensitive wetlands and water quality, resulting in pollution entering Manassas Run and the Shenandoah River.

We urge careful consideration of this rezoning request for a Sheetz gas station at the proposed site. The Alliance for the Shenandoah Valley advocates, educates, and connects people to conserve the natural resources, cultural heritage, and rural character of our region.

Thank you for your consideration.

Chris Anderson

Chris Anderson
Page and Warren County Coordinator
Alliance for the Shenandoah Valley

Joe Petty

From: John Hoody <jhoody01@msn.com>
Sent: Thursday, January 28, 2021 2:34 PM
To: Joe Petty
Subject: Re: PUBLIC NOTICE: R2020-10-01 – Dudding Commercial Development, LLC

Please build
Sent from my iPhone

On Jan 28, 2021, at 2:31 PM, Joe Petty <jpetty@warrencountyva.net> wrote:

PUBLIC NOTICE

Notice is hereby given that the Warren County Planning Commission intends to consider whether to recommend, and the Warren County Board of Supervisors intends to consider whether to adopt, the below-listed item. The Board of Supervisors and Planning Commission will hold a Joint Public Hearing in the Board Meeting Room of the Warren County Government Center, 220 North Commerce Avenue, Front Royal, on Wednesday, February 10, 2021, at 6:00 PM, during which the Board of Supervisors and Planning Commission will receive comments from persons affected with respect to the following:

R2020-10-01 – Dudding Commercial Development, LLC - A request to amend the Warren County Zoning Map to rezone approximately six and forty-five hundredths (6.45) +/- acres from Agricultural (A) to Commercial (C). The property is located on Route 79 (Apple Mountain Road) at the northwest corner of Apple Mountain Road and Interstate I-66. The property is identified on tax map 31, as a portion of parcel 39. The future land use map in the Comprehensive Plan identifies this property as Agricultural (A) zoning, which has a density (minimum lot size) of 2.0 acres. If the zoning map amendment is approved, the general usage of the property would be for commercial land uses and the density (minimum lot size) in the Commercial (C) zoning district is 0.50 acres.

Additional information about the item listed above, including copies of the application and a map showing the land to be rezoned, is available for inspection by the public in the Warren County Planning Department, 220 North Commerce Avenue, Suite 400.

Although the Board Meeting Room will be open to the public, occupancy will be limited due to the ongoing Coronavirus (COVID-19) pandemic. Citizens are invited and encouraged to submit comments on this matter to depclerk@warrencountyva.net or by mail to the Warren County Board of Supervisors, 220 North Commerce Avenue, Suite 100, prior to the public hearing. All submitted comments will be read in their entirety to the Board of Supervisors and the Planning Commission during the public hearing.

In-person attendance at this Joint Public Hearing requires that a face mask be worn while in the Warren County Government Center and social distancing be practiced in accordance with the Governor's current Executive Order.

Please utilize the County Live Stream to watch this meeting online:
https://www.warrencountyva.net/live-video-stream

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

November 29, 2020

An Open Letter To The Warren County Planning Commission

The Warren County Planning Commission
Robert E. Myers *Hugh B. Henry*
Joseph Longo *Scott Kersjes*
Crystal Beall
220 North Commerce Avenue
Front Royal, Virginia 22630

Sent via: ***hand-delivery to The Planning and Zoning Office and U.S. mail***

Dear Members of the Warren County Planning Commission:

We respectfully write to you regarding the re-zoning application of Dudding Commercial Development, for a parcel of land at Exit 13, off of Interstate-66 and at the entrance to Apple Mountain Lake, a residential neighborhood of about 600 homes. The intent behind the re-zoning application is to build a Sheetz gas station with convenience store, at the entrance to Apple Mountain Lake. This, or any commercial business, will compete traffic-wise with the only main entrance to Apple Mountain Lake.

As you are aware, you have already received several dozen letters from residents, and one large certified mail package on or about November 4, 2020. The November 4 package included one letter that documented and outlined (with a Table of Contents) many of the reasons we are opposed to re-zoning. The package also contained 63 personal statements, including one from a business owner, and several dozen opposition comments from residents of Apple Mountain Lake and Warren County. It was important for us to send the November 4 package as soon as we could, to give this Commission as much time as possible to hear our reasons for opposition.

However, we have recently been made aware that there may be some uncertainty as to the exact reasons for why we are opposed to the re-zoning. This letter's purpose is to respectfully provide you with a transparent summary of these reasons, the reasons why we are strongly opposed to this re-zoning effort. In no special order, here are our numbered reasons.

1. **The Warren County Comprehensive Plan designates for this land to remain zoned agricultural into the future.**
    a. Any approval for re-zoning would be against the Comprehensive Plan, and would also be against many aspects of the "Warren County Strategic Vision" as set forth in the Comprehensive Plan.
    b. The Comprehensive Plan exists for a reason.
    c. Ignoring this Plan would send a message to Apple Mountain Lake and Warren County that the Plan is nothing more than a blank sheet of paper that can be ultimately ignored, modified or discarded when it suits business.

2. **Dudding filed this re-zoning application for a Sheetz gas station. This is a *<u>prohibited use</u>* of this land.**
    a. See "REZONING REQUEST PROFFERS", Section III(A)(2)(B), which states that **"Bulk gasoline and petroleum storage" is a prohibited use of the land.**
    b. Sheetz gas stations will have "**underground storage tanks**" or USTs, which store upwards of 60,000 to 100,000 of gasoline and petroleum products. This is bulk storage of gasoline and petroleum.
    c. To address the argument that Warren County presumably meant long-term gasoline storage (such as terminals that can house 70 million gallons), this argument cannot stand.
    d. Underground storage tanks (like those at Sheetz gas stations) store gasoline, in bulk. Bulk storage of gasoline is what underground storage tanks are for.
    e. Not allowing bulk gasoline and petroleum storage is likely motivated by public safety, i.e. to prevent the bulk storage of a highly toxic, cancer-causing and flammable substance, from being **this close to residential homes.**

f. The EPA (Environmental Protection Agency) has reported **2,635 confirmed releases or leaks from underground storage tanks, from October 2019 – March 2020 alone.**

g. And **63,677 releases (leaks) remain to be cleaned up (as of March 2020)**. Source: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf.

h. Interpreting the prohibited use of "bulk gasoline and petroleum storage" to *not* include the underground storage tanks of Sheetz (which are bulk storage of gasoline and petroleum), and basically exempt Sheetz from this prohibited use, **sends a very strong message to Apple Mountain Lake and Warren County that the public safety of its residents is far less important than the interests of one business**, a business that can find other locations upon which to build that would ***not immediately endanger the lives of more than 600 families.***

III. Proffers

A. Land Use

1. Development of the Property shall be developed in accordance with the regulations of the Commercial ("C") zoning district as are set forth in the Warren County Code or as may otherwise be approved by the Warren County Board of Supervisors in conformance therewith.

2. The following uses shall be prohibited in the above-referenced Property:

A. Auction houses

B. Bulk gasoline and petroleum storage

C. Fairgrounds or racetrack

D. Amusement Park

E. Commercial Campground

F. Auto Sales

G. Commercial (repair) garage or wrecking service

3. **Unsustainable Traffic.** There is only one main entrance to Apple Mountain Lake and there is already a LOT of traffic at that intersection. This intersection is shared by drivers coming off 66-W and heading into town.
    a. Ask anyone who lives here - we have to wait sometimes 5-6 lights just to get in or out of our neighborhood!
    b. And now someone wants to zone this commercial and put a business there??!
    c. The traffic infrastructure cannot handle this. It is the residents who can provide you with the "real" traffic data. Ask us. Listen to Us. We are trying to tell you this.

4. **Traffic: impact on Emergency Response Time.** **seconds** matter when it comes to emergencies. We all know this. If this land is allowed to be rezoned for commercial use, now emergency response vehicles will have to compete with not only existing traffic, but new commercial traffic to reach the residents of Apple Mountain Lake.
    a. Not long ago there was a fire at a house in Apple Mountain Lake.
    b. If emergency vehicles were not able to arrive when they did, the fire might not have been contained like it was, and more houses and people would have been injured or died.

5. **Safety of Our Children.** No parent wants to live in fear of their child becoming the next victim or child trafficking, kidnapping or other unthinkable crime.
    a. Allowing the Sheetz to be put here will move the children's bus stop to behind a gas station, on an interstate highway.
    b. Many children have to walk to and from a bus stop. Alone.
    c. Allowing this re-zoning places these children's lives at risk by giving child predators a public place from where they can select their next victim.
    d. Seconds matter. Milliseconds, sometimes. No amount of cameras can guarantee the safety of children. We all know that.
    e. Allowing this land to be rezoned sends a strong message to the parents of Apple Mountain Lake that your children's safety is less of a concern than the profit for a large corporation.

6. **Pollution**. An increase in air, noise, water, sound, light and other forms of environmental pollution is inevitable.

7. **There are already two gas stations about ¼ mile away.** There is no business need for a third gas station.
    c. Doing so would likely put one of the existing two out of business, or severely impact their ability to continue.
    d. Warren County should remain loyal to their existing small businesses. See November 4 package, which contains a letter from one of these businesses.

8. **Our wells will run dry.** Many families here have wells that have already run dry and some more than once.
    a. We don't have enough water on this mountain.
    b. **We know you've received letters telling you this. Please don't ignore us.**
    c. We do not and will likely never have access to city or county water. We need water to live. Sheetz has already admitted they will tap into our water supply, with much more powerful pumps, and the ability to dig deeper and access our water.
    d. Of course Sheetz will have a generic report that says, in general, unspecific terms that our water will be fine.
    e. If/when our homes run dry, is Warren County and Sheetz ready to take responsibility? Talk to us. Listen to us. What we are telling you is true and what we have to live with every single day.

9. **Toxic Groundwater Contamination.** If you allow this land to be rezoned, there will be a gas station. With lots of underground storage tanks filled with gasoline. There will be leaks. This will go into our groundwater and make our water toxic.
    a. Is the County ready to take responsibility for when this happens???
    b. Is Sheetz willing to take responsibility?
    c. The builder claims that the tanks are so "perfect" that they won't leak.

d. Can we get that in writing??
e. We would rather not risk our lives, our families' lives, our homes, our livelihood, and our future on empty promises.
f. This is our health and our safety. Gasoline causes cancer. This is proven.
g. Tanks leak. This is proven and continues (see above EPA report). Tanks will continue to leak. No machine is foolproof.
h. Allowing a Sheetz gas station to be built, immediately next to 600 houses, after being made aware of these risks from residents, sends a very strong message that the public safety of the residents is far less important than the needs of one gas station.

If there is still doubt, we direct your attention to: **https://www.epa.gov/ust** which states, in part:

> **"Approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances.**
>
> **The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans."**

- Underground storage tanks (USTs) are the bulk storage tanks at Sheetz gas stations.
- Groundwater is the source of drinking water for Apple Mountain Lake.

If the Sheetz underground storage tanks are in fact fool-proof and leak-free, then there are at least 2,365 sites across the United States that had confirmed releases/leaks, in a 6-month period alone between 2019 to 2020, and over 63,000 sites total remaining to be cleaned, who would probably *welcome* the chance to speak with Sheetz about their perfectly leak-free tanks. However, we know this leak-free claim is not true and cannot/will not be guaranteed.

Finally, please know that there is widespread community support ***against*** this re-zoning. The previous "Letter of Neutrality" from the Apple Mountain POA **has been officially rescinded by the POA.** This is because a motion was made at the September 2020 Semi-annual meeting to rescind the letter, and **every single resident who was there (in person and online) voted in favor of the motion to rescind**. Only 3 original POA Board members voted against the motion.

When Sheetz approached the POA, they knowingly did ***not*** approach the 600+ property owners. The POA also chose not to inform the 600+ property owners until after they had already written this "Neutrality Letter". Aside from the POA (a max. of 9 property owners), no one had the opportunity to weigh-in, or vote on the "Neutrality Letter", so it was rescinded by motion at the September 2020 Semi-annual property owners meeting.

If this Planning Commission *needs* proof of a majority of residents at Apple Mountain Lake who are against this re-zoning, depending on how one defines majority (i.e. by lot, by address?), we have petition signatures that are close to a majority (approx.. 290) and we are confident we can obtain a majority if given more time. We paused our petition efforts once we obtained a rescinding of the POA neutrality letter to focus on other items.

Most of us only found out about the proposed Sheetz in September 2020. So it is remarkable that in only 2 months, we were able to mobilize and achieve as much as we have in such a short amount of time. **If this Commission would like proof of a majority, please communicate that to us and grant us time to provide you with that information, which we will.** Just as the builder is given time to provide information, we ask for the same if necessary.

At the November 12 Planning Commission meeting, approx. 80-90 residents showed up, who are opposed to this rezoning. We expect to have many more at the December 9 Public Hearing.

In summary, we ask that you:

Do not rezone this land.

Don't rezone because of the Warren County Comprehensive Plan.

Don't rezone because the traffic infrastructure cannot handle it.

Don't rezone because emergency response time matters to you for the residents of Warren County.

Don't rezone because you care about our children and their safety.

Don't rezone because you care if we run out of water.

Don't rezone because you care about existing businesses.

Don't rezone because you want to protect us from toxic groundwater contamination from inevitable leaks.

Don't rezone because the builder is asking you to do this for a PROHIBITED USE!!!!

Don't rezone because you care about the rural character of Warren County.

Don't rezone because you want to listen to the residents of Warren County.

Signed,

/Sarah Lhymn/
752 Apple Orchard Drive
Linden, Virginia 262642

/Steve Myers/
/Cathy Myers/
177 Jonathan Road
Linden, Virginia 262642

/Ryan Legg/
188 Rome Beauty Drive
Linden, Virginia 262642

/Pat Payne/
/Ronald Fenimore/
196 Jonathan Road
Linden, Virginia 22642

/Judith D. Pribish/
/Thomas DePyper/
/Deanne E. DePyper/
/Josh DePyper/
424 King David Drive
Linden, Virginia 22642

/Jacqueline Miller/
/Benjamin Miller/
/Daniel Miller/
/Jessica Brogan/
452 King David Drive
Linden, Virginia 22642

/Robert Hicks/
/Bonnie Hicks/
/Grace Hicks/
/Ethan Hicks/
/Haddon Hicks/
795 Apple Orchard Drive
Linden, Virginia 22642

/Paul Girard/
/Lori Girard/
/Gehrig Girard/
/Madison Girard/
/Cameron Girard/
67 Granny Smith Road
Linden, Virginia 22642

/Lauren Baio/
/Salvatore Baio/
309 Faith Way
Front Royal, Virginia 22630

/Scott Hunter/
/Jessica Hunter/
837 Apple Orchard Drive
Linden, Virginia 22642

/Iris Mensing/
852 King David Drive
Linden, Virginia 22642

/Mark Sweberg/
/Nancy Sweberg/
519 Delicious Road
Linden, Virginia 22642

/Bryan Wright/
/Lisa Wright/
/Emily Wright/
8 Granny Smith Road
Linden, Virginia 22642

/Beverly Rumpf/
/Even Rumpf/
/Kevin Fox/
191 Crab Apple Court
Linden, Virginia 22642

/Angel Blevins /
/Steven Blevins/
Austin Blevins/
/Coleton Blevins/
645 Granny Smith Road
Linden, Virginia 22642

/Michael Middleton/
/Jenna Middleton/
/Trent Wert/
/Troy Middleton/
/Braxton Middleton/
620 Golden Russet Drive
Linden, Virginia 22642

/Jennifer Proffitt/
456 Freezeland Manor Drive
Linden, Virginia 22642

/Suzanna Jones/
74 King David Drive
Linden, Virginia 22642

/Lisa Ferrando/
824 Rocky Spring Lane
Linden, Virginia 22642

/Li Yin/
38 Rome Beauty Drive
Linden, Virginia 22642

/Christopher Hiner/
/Tracy Oestreich/
497 Delicious Road
Linden, Virginia 22642

/Mark Neubert/
/Kathy Demus/
89 Harrison Lane
Linden, Virginia 22642

/Marilyn Coffron/
/Wayne Coffron/
644 Rome Beauty Drive
Linden, Virginia 22642

/Patrick Barber/
/Robin Barber/
359 McIntosh Drive
Linden, Virginia 22642

/Pamela Davis/
/John Davis/
/Greg Davis/
90 Starr Court
Linden, Virginia 22642

/Robert N. McClung/
/Pamela M. McClung/
/Robert N. McClung Jr./
611 Newton Drive
Linden, Virginia 22642

/Kirsten Lasley/
126 Big Oak Drive
Linden, Virginia 22642

/Richard Mirkay/
411 King David Drive
Linden, Virginia 22642

/Mark Parretti/
/Vera Parretti/
225 Granny Smith Road
Linden, Virginia 22642

/Kate Frazier/
/Richard Frazier/
/Noah Frazier/
90 Rambo Court
Linden, Virginia 22642

/J.T. Smoot/
/Felicity Smoot/
/Rory Smoot/
/Liam Smoot/
/Maddie Smoot/
698 Apple Orchard Drive
Linden, Virginia 22642

/Steven Ontiveros/
/Tina Ontiveros/
/Bailey Ontiveros/
/Heather Bryant/
/Jacob Norris/
314 Jonathan Road
Linden, Virginia 22642

/Rocio J. Meza and Family/
463 Jonathan Road
Linden, Virginia 22642

/Michie Miley/
Lot N26, Apple Mountain Lake
Linden, Virginia 22642

/Aaron Keller/
/Kathryn Keller/
532 Apple Orchard Drive
Linden, Virginia 22642

/Lisa Lord/
/Emma Lord/
350 Black Twig Road
Linden, Virginia 22642

/Brian Mirkay/
/Tammie Mirkay/
/Erika Mirkay
/Deric Mirkay/
127 Stayman Turn Court
Linden, Virginia 22642

/Brenda Stewart Khan/
/Noor Khan/
/Omar Khan/
/Osman Khan/
/Anisa Khan/
5740 John Marshall Hwy
Linden, Virginia 226421

/Rich Lancaster/
/Katie Lancaster/
65 Ben David Drive
Linden, Virginia 22642

/Dale Mayes/
/Suzy Mayes/
640 McIntosh Drive
Linden, Virginia 22642

/Jeffrey Smith/
/Christine Smith/
/Zackary Smith/
/Zander Smith/
/Leeya Smith/
/Guinevere Smith/
/Ty Smith/
23 Northern Spy Drive
Linden, Virginia 22642

/Phillip Bender/
/Jeanie Bender/
/Phillip Bender, III/
/Ethan Bender/
20 York Court
Linden, Virginia 22642

/Peyton Kearns/
/Joseph Hensley/
11 Lodi Court
Linden, Virginia 22642

/John O'Connor/
/Clarice O'Connor/
3114 Tuckers Lane
Linden, Virginia 22642

/Laurel O'Connor/
/Claire O'Connor/
387 Jonathan Road
Linden, Virginia 22642

/Linda Williamson/
/L. David Williamson/
60 Redmile Court
Linden, Virginia 22642

/Felicia Warner/
/Jacob Warner/
84 Grimes Golden Road
Linden, Virginia 22642

/Greg Keys/
/Julie Keys/
/Jessica Keys/
583 Golden Russet Drive
Linden, Virginia 22642

/Susan Moore/
/Chris Moore/
/Matthew Moore/
/Michael Moore/
139 Rambo Court
Linden, Virginia 22642

/Anthony Karashowsky/
/Carrie Karashowsky/
/Austin Karashowsky/
/Emma Karashowsky/
365 Golden Russet Drive
Linden, Virginia 22642

/Barbara Mooney/
24 Apple Jack Road
Linden, Virginia 22642

/Andrew Podolak/
244 Delicious Road
Linden, Virginia 22642

/Ashley Mullinax/
/Michael Larson/
42 Lodi Court
Linden, Virginia 22642

/Pernille Brandt/
/Elizabeth Pinner/
/William Brandt/
588 Jonathan Road
Linden, Virginia 22642

/Allen Thrasher/
15 Greenfield Court
Front Royal, Virginia 226330

/Geoffrey Kohl/
/Lottie Kohl/
1245 Granny Smith Road
Linden, Virginia 22642

/Lisa Haring/
/Jeffrey Walters/
245 Wealthy Road
Linden, Virginia 22642

/Bette Priestley/
/Robert Priestley, Jr./
808 Granny Smith Road
Linden, Virginia 22642

/David Nadzam/
/Dawn Grist/
/Marcus Nadzam/
988 Granny Smith Road
Linden, Virginia 22642

/Dennis Badgley/
/Kitty Badgley/
33 Apple Core Road
Linden, Virginia 22642

/Brian Grupac/
/Camille Grupac/
/Isabelle Grupac/
/Aidan Grupac/
/Olivia Grupac/
227 Northern Spy Drive
Linden, Virginia 22642

/Shawn Cripps/
/Desiree Cripps/
/Selah Cripps/
/Brodie Cripps/
467 Delicious Road
Linden, Virginia 22642

/April Gray/
/Alexander Gray/
/Mason Gray/
/Levi Gray/
/Brianna Cockerill/
104 Crab Apple Court
Linden, Virginia 22642

/Erica Gates/
/Michael Gates/
/Aiden Gates/
/Dylan Gates/
249 Northern Spy Drive
Linden, Virginia 22642

/David Morales/
/Brynn Morales/
101 Rambo Court
Linden, Virginia 22642

/Jeremy Keckley/
/Kasey Keckley/
81 Rome Beauty Drive
Linden, Virginia 22642

/David Wilhide/
/Sheryl Wilhide/
/Brian Wilhide/
238 Grimes Golden Road
Linden, Virginia 22642

/Brandon Buchanan/
/Brooke Buchanan/
/Gillian Buchanan/
344 King David Drive
Linden, Virginia 22642

/Joseph Nunes/
1165 Granny Smith Road
Linden, Virginia 22642

/Matt Cekala/
/Sherry Cekala/
131 Broadway Court
Linden, Virginia 22642

/Francis Williams/
/Catalina Visoreanu/
/Arnold Williams/
382 McIntosh Drive
Linden, Virginia 22642

/Leigh Nickerson/
/Brian Nickerson/
/Shannon Reilly/
/Brandin Sutton/
226 Apple Core Road
Linden, Virginia 22642

/James Roberts/
75 Grimes Golden Road
Linden, Virginia 22642

/Kenneth Jenkins, Sr./
196 Granny Smith Road
Linden, Virginia 22642

/Paul Martin/
/Joanna McCue-Martin/
/Griffin Martin/
/Ella Martin/
264 Jonathan Road
Linden, Virginia 22642

/Jacob Wagler/
/Kathleen Wagler/
/Aidan Owen/
/Avery Wagler/
24 Apple Jack Road
Linden, Virginia 22642

/Catherine Avery/
/John K. Avery, Sr./
/Jeremy M. Avery/
239 Dungadin Road
Front Royal, Virginia 22630

/Hope Payne/
/Robert Payne/
/Charles Payne/
781 King David Drive
Linden, Virginia 22642

/Dan Martin/
/Linda Martin/
605 Apple Orchard Drive
Linden, Virginia 22642

/Steven Brough/
/Marilyn Brainard/
259 Cashmere Court
Linden, Virginia 22642

/Thomas Frush/
/Stephanie Frush/
627 Apple Orchard Drive
Linden, Virginia 22642

/Jim Boissonnault/
/Kate Watters/
23 Warbler Way
Linden, Virginia 22642

/Glen Acord/
/Janet Acord/
506 McIntosh Drive
Linden, Virginia 22642

/Maryl Quinney/
/E. Leonard Quinney/
558 Split Rail Road
Front Royal, Virginia 22630

/Trina A. Currier/
/Mary E.E. Currier/
221 Wealthy Road
Linden, Virginia 22642

/James L'Amoreaux/
/Debra L'Amoreaux/
64 Black Twig Road
Linden, Virginia 22642

/Stacey Hawkey/
72 Rome Beauty Drive
Linden, Virginia 22642

/Cynthia J. Rogers/
748 Rome Beauty Drive
Linden, Virginia 22642

/Leslie Land Johnson/
392 Rome Beauty Drive
Linden, Virginia 22642

/Richard L. Fravel/
8745 Rudderow Avenue
Pennsauken, New Jersey 08109

/Amanda F. Brumbaugh/
410 North Pleasant Valley Road
Winchester, Virginia 22601

/Barbara Way/
/Robert Way/
Lot N-25, 174 Rambo Court
Linden, Virginia 22642

SKYLAND COMMUNITY CORPORATION

P.O. Box 154, Linden, VA 22642

RECEIVED

DEC 28 2020

WARREN COUNTY
PLANNING DEPARTMENT

Planning Commission
220 North Commerce Avenue
Suite 400
Front Royal, Virginia 22630

Re: Re-zoning Application from Dudding Commercial Development for land at Exit 13, at the entrance of Apple Mountain Lake

To: Warren County Planning Commission

The Skyland Community Corporation's Board of Directors requests the Warren County Planning Commission reject the re-zoning application submitted by Dudding Commercial Development, LLC for the property at the base of Apple Mountain, such application being a precursor to the establishment of a Sheetz convenience store & fuel station at that location.

Skyland Community Corporation is the managing contractor for the Skyland Estates Sanitary District, located on Blue Mountain in Linden, Virginia. The Skyland Estates community neighbors the Apple Mountain community adjacent to the property being considered for rezoning; therefore, our community also has a vested interest in the future use of this land.

The SCC's Board of Directors has discussed the likely impacts of the rezoning and the developer's stated plans for the property, and it cannot identify any tangible benefit to our community from such plans. We have also identified a number of negative consequences that approving this application would cause, enumerated below.

1) **Dramatically increased traffic and resultant congestion in the area**, which will
    a. Decrease the quality of life for those who routinely use the Linden exit to get to/from work and home;
    b. Reduce the ability of emergency services to respond quickly in and around the area (this is already an issue with regard to fire and ambulance services because of the county's difficulty with attracting and retaining adequately trained personnel thanks to budget constraints that keep staffing numbers low and pay comparatively low to neighboring counties).

2) **Risk to groundwater quality and water supply for the wells for nearby residents.**
    a. Even the best-designed underground fuel tanks can leak, risking contamination of nearby wells with chemicals that are proven to cause a variety of diseases and medical conditions, many of which are statistically more common in children.
    b. With so many homes so close to the site that rely on wells because of a lack of public water/sewer infrastructure, the risk to the water supply itself a major concern. Sheetz is an attraction to travelers because it's known for spacious facilities that provide services; those services, by their very nature, use a lot of water (food preparation and public restrooms). That water will come from the same source from which nearby residents' wells draw, and there will

be more people from outside this area stopping just to use those facilities, thus increasing the overall burden on the water supply.

c. In Skyland Estates (and likely in the Apple Mountain community too) there have already been instances of residents' wells going dry. This requires the homeowner to either find an alternative water source at great inconvenience or to have a new well drilled, which is quite expensive and does not guarantee success. An increase in dry wells reduces property values, which negatively impacts not only the homeowner but also property values and attractiveness of the nearby properties, and thus, tax revenue for the county.
d. Accumulated runoff from even minor fuel spills on the surface of the developed site adds up and ends up in the groundwater; therefore, it will end up in residents' wells.
e. Runoff from snow clearing and de-icing chemicals is also a very real threat to the groundwater's quality.

3) **Security** is a major concern.
   a. Large gas stations near highways, rest areas, truck stops, and service plazas attract the criminal element; they are attractive because a high volume of traffic, proximity to the highway, and the inability of law enforcement to adequately patrol these areas are ideal conditions for selling illegal materials and human trafficking.
   b. The point above would be a negative impact even without the nearby bus stop (whether it would remain in its current location or move to the proposed site closer to the proposed service station), but putting children in close proximity to this criminal element is irresponsible and shows a callous disregard for the health and safety of our youth.

4) **Negative impact on existing local businesses** (Apple House, 7-11 franchise, Apple Mountain Exxon, and tourism in general)
   a. There are already two gas stations at this exit, and they serve the existing traffic in the area adequately. Both of these establishments would see reduced revenue as a result of this rezoning and development plan, and would, with time, likely go out of business.
   b. The Apple House, a fixture since the sixties, and a landmark and attractant for people well outside this area, would suffer as travelers would likely gravitate to Sheetz's food offerings because of their proximity to the on and off ramps. They might not even be aware that the Apple House is there. And it's unlikely that Sheetz will have information on local tourist attractions or merchandise from local vendors as the Apple House currently does, both of which assist with bringing tourism into Front Royal and Warren County.

5) **Air, sound, water, and light pollution**. None of these are beneficial, and they all will inevitably increase if this application is approved and developed. This detracts from residents' enjoyment of their own properties and takes away from the rural charm feeling when exiting the interstate.

In addition to these detractions from the safety and enjoyment of area residences enumerated above, the Warren County Comprehensive Plan designated this land for future use as agricultural. And while it is within the purview of the Planning Commission and Board of Supervisors to consider deviations from that plan, it is simply irresponsible to allow the proposed commercial development to move forward without the support of public utilities and infrastructure. Doing so implies that Warren County values commercial development of that

property over the safety and health of nearby Warren County residents. It also demonstrates an insulting lack of support for local tourism and locally owned small businesses.

The builder's proposal (Section III, A, 2, B) states that "bulk gasoline and petroleum storage" would be a prohibited use of this property; however, Sheetz convenience stores always have fuel pumps, which means they also have fuel tanks.

In conclusion, the Skyland Community Corporation's Board of Directors strongly opposes rezoning the area in question from Agricultural to Commercial and opposes the development plan put forth by the applicant, Dudding Commercial Development, LLC. We ask that the Planning Commission members respect the wishes of residents near the site who will be impacted the most by the proposed rezoning and development plan and deny the application.

Signed,

Board of Directors, Skyland Community Corporation

Gary Smullen, President

Don Broadway, Vice President

Mary Ann Smullen, Treasurer

Sherry Cekala, Secretary

~~Sandy Broadway~~ Ralph Jacquess

Matt Cekala, Jr

Maureen Diaz

Andrew Due

~~Ralph Jacquess~~ Sandra Broadway

J.P. Jones

Chester Kreitzer

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Board of Directors, Skyland Community Corporation

Gary Smullen, President

Don Broadway, Vice President

Mary Ann Smullen, Treasurer

Sherry Cekala, Secretary

Sandy Broadway

Matt Cekala, Jr

Maureen Diaz

Maureen Diaz

Andrew Due

Andrew Due

Ralph Jacquess

J.P. Jones

Chester Kreitzer

Signature: Andrew Due (Dec 3, 2020 11:50 EST)

Email: andrew.due@hotmail.com

Signature: Maureen Diaz (Dec 11, 2020 13:54 EST)

Email: motherhenof9@comcast.net

Electronic Signature for SCC Opposition to Sheetz

Final Audit Report 2020-12-11

Created:	2020-12-03
By:	Sherry Cekala (slcekala@yahoo.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAHnk6EEttUOdSvBgRi8WjXHxC8FsxGu-u

RECEIVED
DEC 28 2020
WARREN COUNTY
PLANNING DEPARTMENT

"Electronic Signature for SCC Opposition to Sheetz" History

Document created by Sherry Cekala (slcekala@yahoo.com)
2020-12-03 - 4:38:23 PM GMT- IP address: 73.251.206.72

Document emailed to Andrew Due (andrew.due@hotmail.com) for signature
2020-12-03 - 4:39:37 PM GMT

Email viewed by Andrew Due (andrew.due@hotmail.com)
2020-12-03 - 4:48:14 PM GMT- IP address: 174.196.140.107

Document e-signed by Andrew Due (andrew.due@hotmail.com)
Signature Date: 2020-12-03 - 4:50:30 PM GMT - Time Source: server- IP address: 174.196.140.107

Document emailed to Maureen Diaz (motherhenof9@comcast.net) for signature
2020-12-03 - 4:50:32 PM GMT

Email viewed by Maureen Diaz (motherhenof9@comcast.net)
2020-12-11 - 6:51:45 PM GMT- IP address: 73.216.104.91

Document e-signed by Maureen Diaz (motherhenof9@comcast.net)
Signature Date: 2020-12-11 - 6:54:03 PM GMT - Time Source: server- IP address: 73.216.104.91

Agreement completed.
2020-12-11 - 6:54:03 PM GMT

RECEIVED
DEC 02 2020
WARREN COUNTY
PLANNING DEPARTMENT

DATE: *December 1, 2020*

TO: *Warren County Planning Commission*

FROM: *Michelina Miley, AML Lot Owner*

SUBJECT: *For Inclusion in Planning Commission 12/9/2020 Meeting Minutes*

Information: Mailed on 12.1.2020 by Priority Mail/Registered Receipt to Warren County Planning & Zoning Division—

I am unable to attend the December 9, 2020, Planning Commission Meeting and therefore I am submitting the following for inclusion in the 12/9/2020 Planning Commission Meeting Minutes:

1) *Emails with USGS Hydrologist. An Attachment is entitled "Preliminary Assessment of the Hydrogeology and Groundwater Availability in the Metamorphic and Siliciclastic Fractured-Rock Aquifer Systems of Warren County, Virginia" prepared in 2010... Because this attachment is 88 pages long, upon request, I can email the Attachment)*

2) *Excerpt from My Email dated 11.27.2020 to Warren County Board Supervisor (Duplication and Spelling Errors corrected 11.30.2020, minor text revision); Subject: RE: RE Sheetz & AML Community, with some of the attachments.*

3) *Email with Attachments dated 11.15.2020, From Michelina S. Miley to Sarah.Lhymn, Warren County Board of Supervisors, JMartin, Coventry Group, and AMLPOA BOD, and others; Subject: RE Sheetz & AML Community*

4) *Memorandum For Record from AMLPOA, BOD, to Sheetz, Inc., dated 11.01.2020; This memorandum illustrates that 70 plus members voted in opposition to a rezone to commercial and to build a Sheetz Convenience Store/Fueling Station on Land abutting Apple Mountain Lake Residential Community*

Emails : US Geological Survey

Michelina S. Miley

From: Kozar, Mark D <mdkozar@usgs.gov>
Sent: Monday, November 30, 2020 3:12 PM
To: Michelina S. Miley
Cc: Moyer, Douglas L; McCoy, Kurt J
Subject: Re: [EXTERNAL] RE: Linden, Virginia Aquifer Status
Attachments: sir2010-5190.pdf

RECEIVED
DEC 02 2020
WARREN COUNTY
PLANNING DEPARTMENT

Ms. Miley,

Since my initial response to your inquiry, I made a few additional inquiries with our staff in our office in Richmond, Virginia to determine whether there were any studies specific to the Linden area, and expanded that inquiry to determine if the USGS has a published study for Warren County. As stated in my previous email response, we have no published studies specific to the Linden area, but there was a county-wide hydrogeologic assessment conducted for Warren County; I have attached a copy of that report for your reference.

As I stated in my previous email, groundwater storage and movement are all controlled by the type of bedrock (sandstone, shale, granite, schist etc.), the structural geologic controls (folds, faults, joints, and fractures), and groundwater recharge over time. Data collected for a specific site would not be applicable to a site a few miles distant. Obtaining such data for every community or site-specific facility in the United States is not possible due to the limited funds and staff available to the USGS.

Finally, USGS policy limits USGS staff from commenting or offering opinions on issues for which the USGS has no published studies or data, and from becoming involved with an issue that is within the purview of a state, county, or local regulatory agency. As a result, I am not able to comment on your concern related to the construction of a commercial facility in the Linden area, and the potential effects or lack thereof on groundwater quality and storage.

What I can discuss are the peer reviewed data and findings in the report published for Warren County (attached to this email). Please review the attached report, or if you have a consulting geologist or engineer that is representing you or your group, have them review the report. Should you or any professional geologist or engineer that may be representing you or your group, or working on behalf of the Warren County Planning Commission, have specific questions with respect to the USGS Warren County county-wide groundwater study, feel free to contact me or have their consultants contact me, and I will do my best to address any questions they have related to the study.

Best regards,
Mark D. Kozar
Hydrologist - USGS

From: Michelina S. Miley <pgmsbm3@gmail.com>
Sent: Friday, November 27, 2020 8:02 AM
To: Kozar, Mark D <mdkozar@usgs.gov>
Subject: [EXTERNAL] RE: Linden, Virginia Aquifer Status

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Thank you for your reply. I am understanding that USGS has no information about the hydro-geological constitution of the Linden/Apple Mountain Lake subdivision area and the abutting parcel in question which also abuts Route 66, Exit 13 ramps. I am not quite sure what you mean by site specific h/g variables. If site specific h/g variables are so important, then, it would seem that someone should be responsible for making sure that this type data is ascertained/provided so as not to compromise the water supply and quality, especially because AML homes are on well water and septic fields—there is not I believe any municipal water/sewer available in the area. I do have a flood zone map for the area. I don't know the source of data for this map.

I went to the NWIS database and I don't have the knowledge required to formulate an inquiry on well monitoring data closest to the Linden, Exit 13, area. If you could make an appropriate inquiry and email me the link to the data that shows up, perhaps, there would be a trend as to there being less water due to deforestation, development, weather, and Route 66. If you could summarize that data, it would be helpful.

I would think a 30 (?) year trend might show less water replenishment. The reason I suspect this is because many years ago I spoke with a scientist who resided in the locality and he told me that water supply in the region was important to protect from over development. I am not sure but I think he was very concerned about a proposal to build a ski area on the mountain opposite Apple Mountain Lake. I believe he told me he was instrumental in arguing that a ski area would put too much demand on water supply.

There are many other reasons why I do not think a convenience store/gas station would be suitable to the area but they would be of less relevance to your expertise.

Still, any science that reveals facts to aid in decision making would be great to have.

I have attached most of the content from my reply to the Warren County Planning Commission if you choose to read some of it. The Planning Commission did send a letter to Virginia Department of Transportation and Virginia Department of Environmental Quality (not sure of name).

I hope you can make that inquiry for me and perhaps summarize what the data indicates, especially as to water replenishment changes over the years and if there is less water at the closest well station, would it be fair to extrapolate that this could be

true for the area I am concerned about? Are reasons for less water, if such is the case, available for that monitoring station?

May I also provide your response to my emails to all concerned?

Thank you for your time.

Michie Miley

From: Kozar, Mark D [mailto:mdkozar@usgs.gov]
Sent: Wednesday, November 25, 2020 2:04 PM
To: Hodges, Amanda L <ahodges@usgs.gov>; pgmsbm3@gmail.com; GS-W-VA NWISWeb Data Inquiries <gs-w-va_nwisweb_data_inquiries@usgs.gov>
Cc: gs-w archive_ask <archive_ask@usgs.gov>
Subject: Re: Linden, Virginia Aquifer Status

Michie,

Unfortunately, the USGS has little data available that would be of use in addressing your question, as any effects or the lack thereof on the groundwater table, aquifers, and Manassas Creek as a result of construction of a gas station or other commercial facility are all dependent on site specific hydrogeologic variables. The USGS does operate several long-term groundwater monitoring wells in the region, but none specifically in the Linden area. What data we have available for monitoring wells, streams, or water-quality sampling sites can be accessed via the internet free of charge through the public available link to our National Water Information System (NWIS) database. Data can be downloaded sat the following website, and the mapper function is a useful way of locating data collection points for streams, wells, and water-quality sampling sites nationwide.

https://waterdata.usgs.gov/nwis

USGS Water Data for the Nation

These pages provide access to water-resources data collected at approximately 1.9 million sites in all 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands.

waterdata.usgs.gov

Feel free to call me at 304-542-2594 if you have specific questions.

Best regards,

Mark D. Kozar,
Hydrologist - USGS

From: Hodges, Amanda L <ahodges@usgs.gov>
Sent: Monday, November 23, 2020 8:47 AM
To: pgmsbm3@gmail.com <pgmsbm3@gmail.com>; GS-W-VA NWISWeb Data Inquiries <gs-w-va_nwisweb_data_inquiries@usgs.gov>; Kozar, Mark D <mdkozar@usgs.gov>
Cc: gs-w archive_ask <archive_ask@usgs.gov>
Subject: Re: Linden, Virginia Aquifer Status

Hello Michie,

I'm forwarding you inquiry to our Groundwater Specialist, Mark Kozar. He may be able to provide some insight or at least point you in the right direction.

Thank you for your interest in USGS Waterdata and have a Happy Thanksgiving.

Have a great day,
Amanda

Amanda Hodges
U.S. Geological Survey
Virginia and West Virginia Water Science Center
1730 E. Parham Road
Richmond, VA 23228
Office: 804-261-2649
Fax: 804-261-2657

From: pgmsbm3@gmail.com <pgmsbm3@gmail.com>
Sent: Sunday, November 22, 2020 6:24 AM
To: GS-W-VA NWISWeb Data Inquiries <gs-w-va_nwisweb_data_inquiries@usgs.gov>
Cc: gs-w archive_ask <archive_ask@usgs.gov>
Subject: Linden, Virginia Aquifer Status

Transaction=GSFK4CHW [22NOV2020 11:23:58UTC]
Customer email: pgmsbm3@gmail.com
Customer: Michie Miley
Customer phone: 703 830 5863
Customer address:
N/a
Subject: Linden, Virginia Aquifer Status
Originating page: https://groundwaterwatch.usgs.gov/AWLSites.asp?mt=g&S=384957077481701&ncd=awl
Primary response: gs-w-va_NWISWeb_Data_Inquiries@usgs.gov
Tracking info: tmplt=1|webchat=no|time=UTC11:19|time=UTC11:23|recipient=gs-w-va_NWISWeb_Data_Inquiries@usgs.gov|sender=pgmsbm3@gmail.com

If you are experiencing problems with this email application, please send your feedback to h2oteam@usgs.gov

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Hi. I am very interested in the water dynamics near the exit off Route 66 into Linden, Virginia. The Route 66 exit ramps... are near a parcel of land being considered for a rezoning to commercial and a build/lease of a Sheetz Gas Station and Convenience Store. A swm pond will also be built. I am trying to understand what this may do to the water tables, aquifer, Manassas Creek, and so on. Any help or guidance w/b appreciated.

EXCERPT from 11.27.2020 Email to Warren County Board Supervisor – + others

(Duplication and Spelling Errors corrected 11.30.2020, minor text revision)

Because I am not an expert nor able to amass expert analyses in a variety of fields which cover all my concerns, some shared by many others, I can only offer my limited research and raise questions in the hope that the Planning Commission and the Warren County Board of Supervisors can rightly expand by considering or acquiring more facts especially as related to pertinent concerns. Perhaps these concerns and facts will also guide Four L, Dudding, and Sheetz to review their proposals.

Time is usually the element there is not enough provision for. Time to carefully review and understand data, formulate good questions and time to make well considered decisions based on reliable, unbiased and comprehensive facts. Securing unbiased facts can be costly and time consuming. Each geographical region presents its own set of particulars that cannot be addressed by generalized data.

There follows more of my thoughts, concerns, observations, questions.

I do realize that Dudding, et. al., have invested a lot of resources and time into preparing for rezoning and development; however, I would point out that there is also a lot of investment on the part of all Linden homeowners, local realtors, local home builders, local wineries, existent nearby stations/convenience stores and the Apple House, local bed and breakfasts, a Catholic Monastery and probably more.

I read that in the 80's Warren County's tourism industry created a large service sector and related employment growth. This connection or economic driver is still very viable. https://www.discoverfrontroyal.com/ -- a reminder. Other types of industry have also created employment and consequent service sector and residential and employment needs. Smithsonian Conservation Biology Institute and Christendom College come to mind. I understand there are other types of businesses that have recently moved to the Front Royal area. Medium income figures were amazing and hopefully, Warren County, Front Royal, schools will rise up to the challenge of inspiring and educating local youth to matriculate and thereby not import so much labor without giving priority to employing locals. Which brings me back to the question—will a Sheetz be a safe place for families and their children, especially teens? What kind of development, if no other options are to be considered, would support families and retirees living in Linden residential communities? At the semi annual meeting, a retired couple somewhat new to AML said something like "we thought we had found our forever home." I believe they may now contemplate moving.

Four L bought several tracts a long time ago, A is 15 acres ($10), B is 15 acres, D is 28.24 acres and E is 12.79 acres; almost 70 acres. I think I am inferring that part of at least Tract E was used for Route 66. I suppose there were considerable earnings for Four L from a sale for the build of Route 66.

Four L, Dudding, Sheetz are not locals and therefore their personal investment in Linden is limited. Dudding's website illustrates that the company's focus and expertise is to facilitate commercialization, manage, etcetera. Quality of life for Linden's neighboring residential communities is not on their website.

https://duddingcommercial.com/services/ 11.25.2020

"Development has been an integral part of Dudding Commercial's growth since our founding. It will continue to be the focus of our business. Our relationship with national and regional tenants has led to successful developments throughout the United States. Dudding Commercial provides a full complement of leasing, tenant representation and property management services to national, regional and local shopping center owners, developers and retailers. Our success today is primarily due to the close relationships we have earned with our clients, professional associates, and fellow brokers. It is these relationships, combined with our commitment to service and complementary skills that have allowed us to become one of the most respected and effective retail real estate service providers in West Virginia."

Are estimates on anticipated customer traffic calculated for Sheetz at this location? I discovered that these kinds of statistics can be provided, I deduce, in order to help sell commercial properties and determine enterprise success.

Sheetz would be a lessee in this case. What would be the details on the lease agreement and their potential impacts on AML and Linden?

Isn't the Dudding rezoning request more a boiler plate of minimum commitment leaving much uncertainty because the final plans are to be determined at a later point? Why didn't zoning address this at the zoning review?

If I understood this correctly, why does a convenience store/fueling island on 2.35 acres, and "...secondary use of a school bus stop/pick up..." on 1.15 acres need 48 parking spaces and 36 parking spaces? That's a lot of hard top surface and space for other than purchasing—potential loitering and crime.

What happens to the remaining 11 undeveloped/unimproved acres—would the rezoning request allow development of these 11 acres without any approval process or restrictions?

Are the big trucks/trailers going to use this station also?

The zoning request in its general statement states that Dudding, Sheetz, "...respective successors and assigns, proffers and agrees to develop the subject property, and to build and construct certain improvement thereon including, without limitation, a convenience store and school bus stop." What does "without limitation" refer to? Why is the language so generalized and does not reflect the specific build?

I am concerned about some of the proffers and surrounding language in Dudding/Sheetz rezoning request—(Section F, 1-3) like preparing at its own expense a "revised Traffic Impact Assessment based upon final site plans." Shouldn't the Planning Commission be working with final site plans and a final Traffic Impact Assessments provided by an unbiased agency, that is, VDOT? Why isn't this information provided before it is presented for review by all the Government agencies involved?

Also, why is VDOT asked to confirm in writing "...that neither the property nor any of the improvements proffered by applicant herein are subject to the jurisdiction of the FHA."? What constitutes Federal Agencies' due oversight with these properties?

What will happen to the remaining tracts owned by Four L? Will there be a McDonald's next? Will congestion increase again? Once again, Linden in this area is not a proper town. Commercial development needs to be tempered and focused and not sprawling into residential backyards.

I am concerned about Sheetz/Dudding contacting AMLBOD in person and not in writing and I am concluding based on what I heard the AMLBOD President say at the Semi Annual meeting that there was a sense of urgency and not enough time to review and consider the rezoning/development request. I am assuming the urgency felt by the AML BOD was because of the date of the zoning review meeting. I myself did not understand the process or the implications of the government processes. Had Dudding presented to Zoning without AML input, zoning review might have been extended and there would have been a delay or contingency added. I believe AMLBOD did not understand that its input did not have to have time constraints and that AML BOD had the time to properly consider, properly represent, and communicate with residents of AML. Thereafter, AML Board initially communicated with Sheetz without referring to AML residents because of their sense of time constraints. The result was an initial memorandum to Sheetz which may have somewhat given the impression that AMLBOD/community was appeased; that residents were formally informed and formally accepted a rezone and Sheetz build. In communications with Sheetz, AMLBOD initially stated that a truck stop would not be acceptable and the provision for a school bus drop off/pick up spot was also added. The AML Board took a position of "neutrality" in that initial letter to Sheetz and did not interface with the community.

After community input at the Semi Annual Meeting in October, a new AML BOD letter to Sheetz (attached) expresses opposition and rescinded the prior letter. Neither the AMLBOD nor the 70 plus members at the semiannual meeting who opposed the Sheetz build constitute full community voice (and other communities as well) but at least the AML Board gave voice to some of the community and has adopted a more "transparent" communication platform. However, I believe more action is needed. (Reference Revised Letter from AMLBOD to Sheetz)

I have read and attach the Commercial and R1 Warren County zoning regulations. The R1 zoning contradicts most types of allowed commercial type developments. See

As to Dudding's reference to the comprehensive plan, I offer this quote from the Comprehensive Plan: "Important to carefully manage growth in order to preserve character and quality of life for its residents."

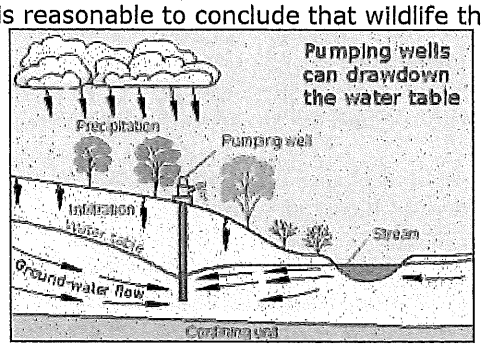
I personally do not understand how adding commercial activity to land which literally sits alongside exit ramps off/onto Route 66 is even feasible (or desirable) without creating significant increase in vehicle traffic and impedances. I have not been able to find the VDOT analysis/traffic impact study for the proposed rezoning/Sheetz build/lease. I will be looking into this matter when I can. It would be incredulous to me that VDOT would not indicate that there would be increased traffic issues on these Route 66 ramps, impedances, et.al. It would be interesting to see their analyses. This of course is in addition to all other concerns. Notably, a convenience store in this location does not support any already existing commercial activity as many consumers will drive in off Route 66 and drive back onto Route 66. Residents of AML will end up using the gas station as it will be more convenient to gas up for their commutes.

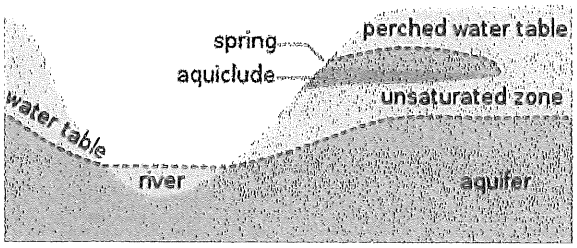
Upon rereading the rezoning request, I do not see anything about a fully considered environmental impact analysis. An SWM and the engineering anti leak construction of gas tanks/lines, if Dudding and Sheetz are

regulated to do so, water usage and sewer impact (no finalized details provided), setbacks required, aesthetics and design of the convenience store, tasteful signage, swm design, and so on.

Reading the November 9 Planning Commission letter to state agencies only requests health and safety environmental impact analyses. There is nothing about wildlife, ecologic disruption and aquifer and other hydrologic impacts; neighborhood peace and quiet and so on; preservation of forests and AML's much needed buffer from Route 66. "Environment" is a word that includes many dynamics.

I am very concerned about environmental impacts—the Sheetz design shows a stormwater drainage system but does not mention what type of swm they are considering. I believe their design shows an swm dry pond. I happen to know a little about SWM ponds because my husband had worked as an SWM inspector for Fairfax County Government and I learned a lot from him. I have seen how local swm ponds work and they are in my opinion not optimum. The greatest threat I see from ponds is that both settled exhaust and hardtop surface runoff pollutants still will seep into the swm ponds base soil and that soil will become more and more toxic and probably will be absorbed into subsurface hydrologic layers. When the pond is filled with hard top surface runoff, this water slowly drains from the pond giving a chance for the "pollutants" to settle in the pond's natural ground base and the so called "cleaner" water slowly re-enters a stream with its attendant hydrologic systems. I suggest that a USGS hydrologist present a particular analysis of the hydrogeologic water situation in Linden, in addition to the particular site which is located near the base of the mountain. Another problem with so called swm ponds is that they should be fenced because water rises quickly and if a wet pond (an swm that often is considered a lake in developments but are in effect holding ponds for polluted water), is even more dangerous to children. Finally, an swm pond attracts wildlife ((ducks, beaver (who are known to build ways to stop the water from draining), snakes, toads/frogs, insects, and so on)). I often wonder what cancers occur in wildlife populations because of their use of ponds. I do not know if any science has been done but I believe it is reasonable to conclude that wildlife that use the ponds will not suffer a good fate and neither will their progeny.





Impact on well water availability--I can't remember who the local area scientist was that I happen to speak with many years ago. I believe the subject or perhaps the time period was when the building of a ski run on the mountain across from Apple Mountain Lake was being considered. I believe he told me that the water supply in the area was limited and in danger from overdevelopment. This is all I remember. I do not know about the hydrological nature of the area but I am suspect about it. Overdevelopment and consequent increased draws of water might be an issue for the water replenishment cycles that exist. Locations and types of development can be critical. I've seen on maps that there are known flooding areas in the vicinity, Manassas Run stream, is nearby, and if it is polluted, I would think it would affect nearby well users. I believe that most people in Linden developments have wells and not municipal water which makes this a critical issue for which unbiased facts should be obtained.

I would suggest that at some time in the future, the zoning, planning and Warren County BOD, have speakers present an educational seminar on hydrologic and geologic character of Warren County. An invitation to the community would also be great.

I am not sure I understand how Sheetz intends to work with sewage and water needs. Why isn't this specified in the engineering drawings? There are set backs to watch for. I assume that appropriate permits, oversight, and governances are ensured before any decisions are made. If a final plan is not expected prior to approvals by Warren County in the rezoning and development request process, is this not like putting the cart before the horse?

The design of the Sheetz store and gas pumps and canopy are not finalized. The language on the rezoning request does not pin down its design. But, if you consider some of the images I included of Sheetz stores in my prior attachments, there are nicer designs, brick, subdued lighting, and so on. There are also designs which are reminiscent of 1950's McDonald's type building materials and lighting. Once again, the rezoning requests leaves that up to Dudding and Sheetz. Based on cash flow and investment risk, the impetus may result in unfavorable design. Also, will this development have large truck fueling bays? Big trucks rolling in and out does not seem like a good idea for AML homeowners. Trucks do need places to gas up but these places should not be near residential developments especially as situated at this location.

I present the link from the State of Minnesota on the subject of distance/set back requirements for a variety of land uses and the building of wells:

See pages 8 and 9--
https://www.health.state.mn.us/communities/environment/water/docs/wells/construction/handbook.pdf 11.23.20 20

There are many options for this land such as what I have learned from the Virginia Department of Forestry website. This agency lists a variety of conservation methods, one being easements. There are also tax credits and other types of monetary incentives to further conservation of forested areas as provided by the State of Virginia.

I read in the Sunday Washington Post, 11.22.2020, in the Business Section, an article entitled "How investors are providing the green to save the ocean blue." "He is a dealmaker trying to persuade small countries to protect their seas in a novel way—partnering with big banks and international financial institutions." Mr. Weary works for the Nature Conservancy. One small island nation got an opportunity to refinance debt, improve tourism and fishing industries decimated by global warming, with 2 conditions—specific commitments for environmental restorations and clean ups and dedication to special ocean preservation zones.... "Now some of the giants in the financial world are realizing there could be profits in ocean conservation." Mr. Rob Weary lives in Virginia.

Another option would be to start a fundraiser or some other creative financial scenario to contribute toward Warren County purchase of the land so that it remains a kind of greenway, a buffer to Route 66. All forested land no matter where located mitigates noise, sustains desirable living environments including water preservation, filters carbon dioxide/producing oxygen which helps with Route 66 traffic pollution, and all forested land are places for people to get healthful and soulful respite and refreshment.

In my eyes, losing forested land/ecosystems is always tragic. Reasons should be obvious. I will bring to light the human need for spiritual and psychological and physical restoration that only the natural world can give. There is more to a forest than just trees.

Front Royal needs to continue to improve its existing commercial districts. There are many dilapidated structures and public gathering areas (flea market on Commerce Street needs aesthetic and green improvements).

I read the letter dated November 9, 2020, prepared by Planning Commission to various Virginia agencies. The last paragraph concerns me:

> "Please review this request and the site, if necessary, and make any appropriate comments as to the effects [sic] health on [sic] the public and safety. This would also be the appropriate time to suggest any conditions that should be attached by the Board of Supervisors. If you feel that there will be no adverse effects or that no additional conditions should be met, please state this. I have enclosed copies of the applicant's application and statement of justification. Your response as soon as possible will be greatly appreciated."

I would have to ask why does the Planning Commission letter includes "as soon as possible" to their request. Where is this sense of urgency and pressure coming from? Why isn't the Planning Commission conveying a tone of consideration and care for thorough health and safety and environmental impacts? Why is the Planning Commission asking for a brief statement if no health and safety issues exist? There are health and safety issues—what degree are we talking about?

Considering COVID and newest numbers/trends, the holidays, and a December 9 planning commission meeting, it would seem rather demanding to ask Virginia State agencies to turn around analyses asap.

Finally, because of the Governor's new mandates (I believe these were implemented on 11/15) regarding COVID precautions, meetings during this critical time are compromised. There is an attendee limit for public meetings and comment and this concerns me because many people will not have an opportunity to attend. Waiting for a better time to bring this meeting before the public would be wise. Although zoom meetings are an option, these meetings are not the same and are not secure as a camera may not present a full picture.

To repeat, concerns are for crime, pollution, noise (Route 66 noise is listed as medium on one realtor website.), lighting, 24 hour operation, some AML homes very near, views are impacted by the proposed development site, traffic impact, local business impact, economic impacts (how are gas stations economic drivers?—they are a service industry), devaluation of property, neighborhoods' in Linden rights to quiet and safe and peaceful existence, dangers to family life. Much of the commercial development near this exit into Linden has been subdued. This area is not a thriving in-town commercial district wherein there is mixed types of commercial development which are appropriately separated from housing developments. It would be located amongst a series of residential developments, originally appealing to rural/country aesthetics and getaways. There already are several commercial zones in Linden on Route 55 and on other roads off Route 55 nearer to Front Royal. There are already 2 service stations/convenience stores and the Apple House and other buildings nearby. The Appalachian Trail and its preservation of scenic and unencumbered natural ecologies is nearby.

I leave you with quotes in his introduction, written in 1914, by F. Schuyler Mathews, in his Field Book of American Trees and Shrubs, G.P. Putnam's Sons, New York.

Pg. viii: "The old axiom 'There is no short road to Parnassus' should be borne in mind by the reader who desires to obtain a knowledge of botany by an easy process in a limited space of time. It is indeed a long, hard road which leads to mastery of any art or science...but the shorter way so often diligently sought is frequently set with snares and pitfalls more inimical to progress..."

Pg. xi: "Dollars actually hold the woods and when there are enough of them passing from hand to hand the trees will go. ...The trouble, however, is less a matter of ownership than a lack of protective law."

Also attached as points to consider is a compilation of recent posted sales at AML and price reductions and references to AML community crime statistics and to a flood map. Manassas Run is marked for flooding as are some streams and ravines coming down the mountain here and there. I will forward if alright to do so as soon as I can an email from US Geological Survey—my attempt to see if any pertinent data is available.

Sincerely,

Michie Miley
Lot Owner, N26, AML, Linden, Virginia

Attachment to Email to Warren County BOS dtd 11.27.2020

About History & Taxes Data

The price and tax history data displayed is obtained from public records and/or MLS feeds from the local jurisdiction. Contact your REALTOR® directly in order to obtain the most up-to-date information available.

ANOTHER PROPERTY:

$329,900

- 5bed
- 2bath
- 2,064sqft
- 1.04acre lot

703 Apple Orchard Dr, Linden, VA, 22642

Property Price

Date	Event	Price	Price/Sq Ft	Source
11/08/2020	Listed	$329,900	$159	BrightMLS
07/10/2017	Price Changed	$297,000	$143	MRIS
06/06/2017	Listed	$299,900	$145	MRIS

Property Tax

Year	Taxes	Land		Additions		Total Assessment
2020	$1,622	$50,000	+	$197,700	=	$247,700

https://www.bestplaces.net/city/virginia/apple_mountain%20lake **11.22.2020**

Best Places to Live in Apple Mountain Lake, Virginia

National center - Along the Potomac River between southern Maryland and northern Virginia, inland from Chesapeake Bay. September, June and August are the most pleasant months in Apple Mountain Lake, while January and February are the least comfortable months.

Pros

Uniquely attractive core

Arts and culture

see next page

Pros

Historic interest

Cons

Growth and sprawl

Cost of living

Summer heat

https://www.bestplaces.net/crime/city/virginia/apple_mountain_lake **11.22.2020**

Crime in Apple Mountain Lake, Virginia

Crime is ranked on a scale of 1 (low crime) to 100 (high crime)

Apple Mountain Lake violent crime is 9.3. (The US average is 22.7)
Apple Mountain Lake property crime is 21.7. (The US average is 35.4)

https://www.realtor.com/realestateandhomes-detail/McIntosh-Dr_Linden_VA_22642_M59898-17034?cid=prt_bestplaces_overview_tall 11.22.2020

Property Tax

Year	Taxes	Land		Additions		Total Assessment
2020	$2,082	$65,000	+	$252,800	=	$317,800
2019	$2,082	$65,000	+	$252,800	=	$317,800
2018	$1,711	$55,000	+	$204,300	=	$259,300
2017	$1,685	$55,000	+	$204,300	=	$259,300

https://www.realtor.com/realestateandhomes-search/Apple-Mountain-Lake_VA/overview **11.22.2020**

Re Flood Zones Map (water obviously flows toward Manassas Run) – see attached images

https://www.realtor.com/realestateandhomes-detail/2617-Tuckers-Ln_Linden_VA_22642_M50897-47584 **11.22.2020**

Satellite view of the AML side and adjacent properties. Linden Monastery, Vineyards, so on.

https://www.realtor.com/realestateandhomes-detail/King-David-Dr_Linden_VA_22642_M91666-81116 11.22.2020

As you can see, the seller has lowered his asking price. This lot has been on the market since 09/29/2019.

$18,500

- 1.28acre lot

King David Dr, Linden, VA, 22642

Property Price

lot

Date	Event	Price	Price/Sq Ft	Source
09/23/2020	Price Changed	$18,500	-	BrightMLS
09/29/2019	Listed	$20,000	-	BrightMLS

ANOTHER LISTING FOR A LOT:

lot

$14,900

- 1.13acre lot

Grimes Golden Rd Lot 16, Linden, VA, 22642

Property History

Property Price

Date	Event	Price	Price/Sq Ft	Source
11/07/2020	Listed	$14,900	-	BrightMLS

realtor.com

Property Tax

No property tax history available for this property.

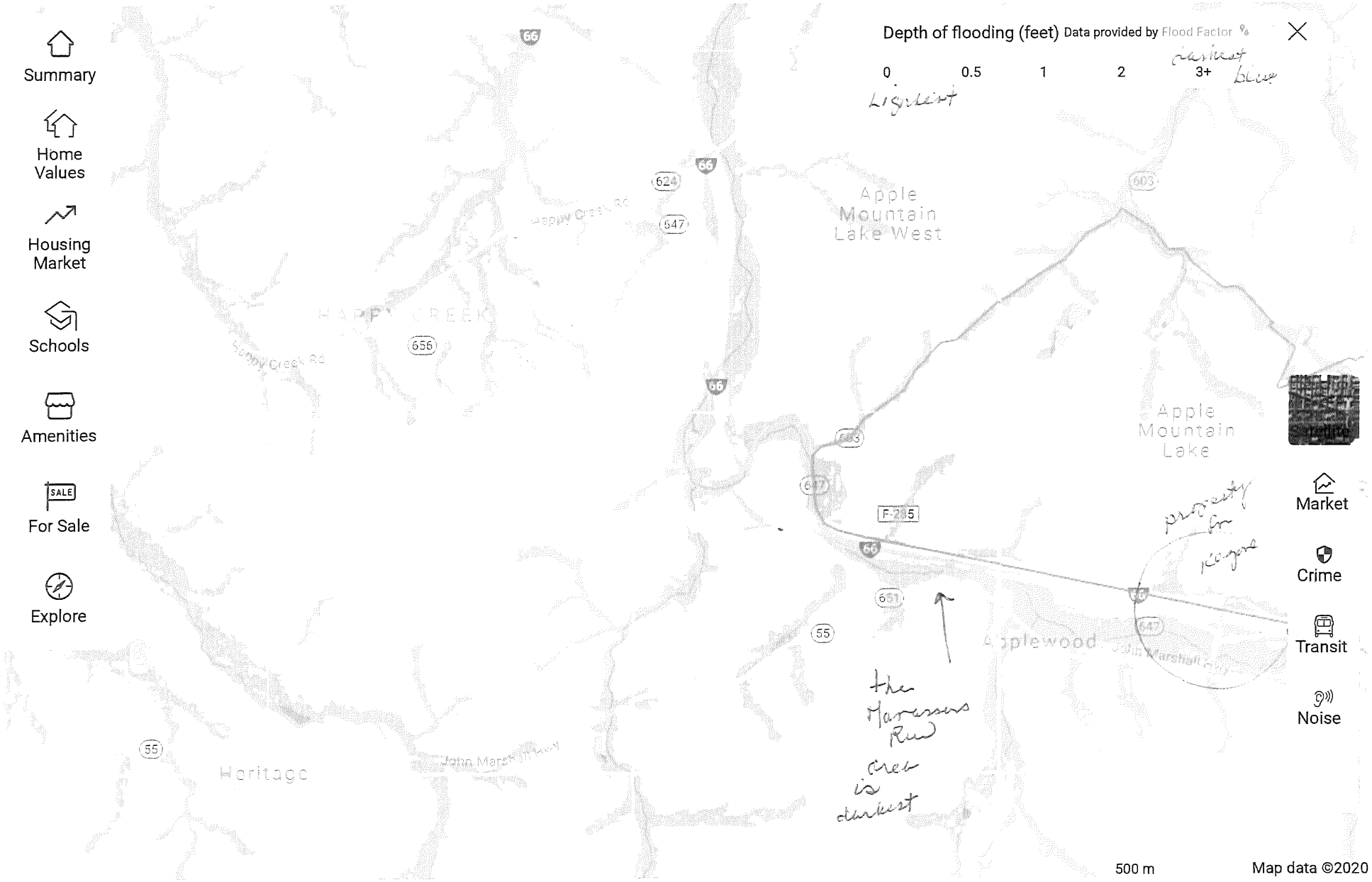
Best to view on website

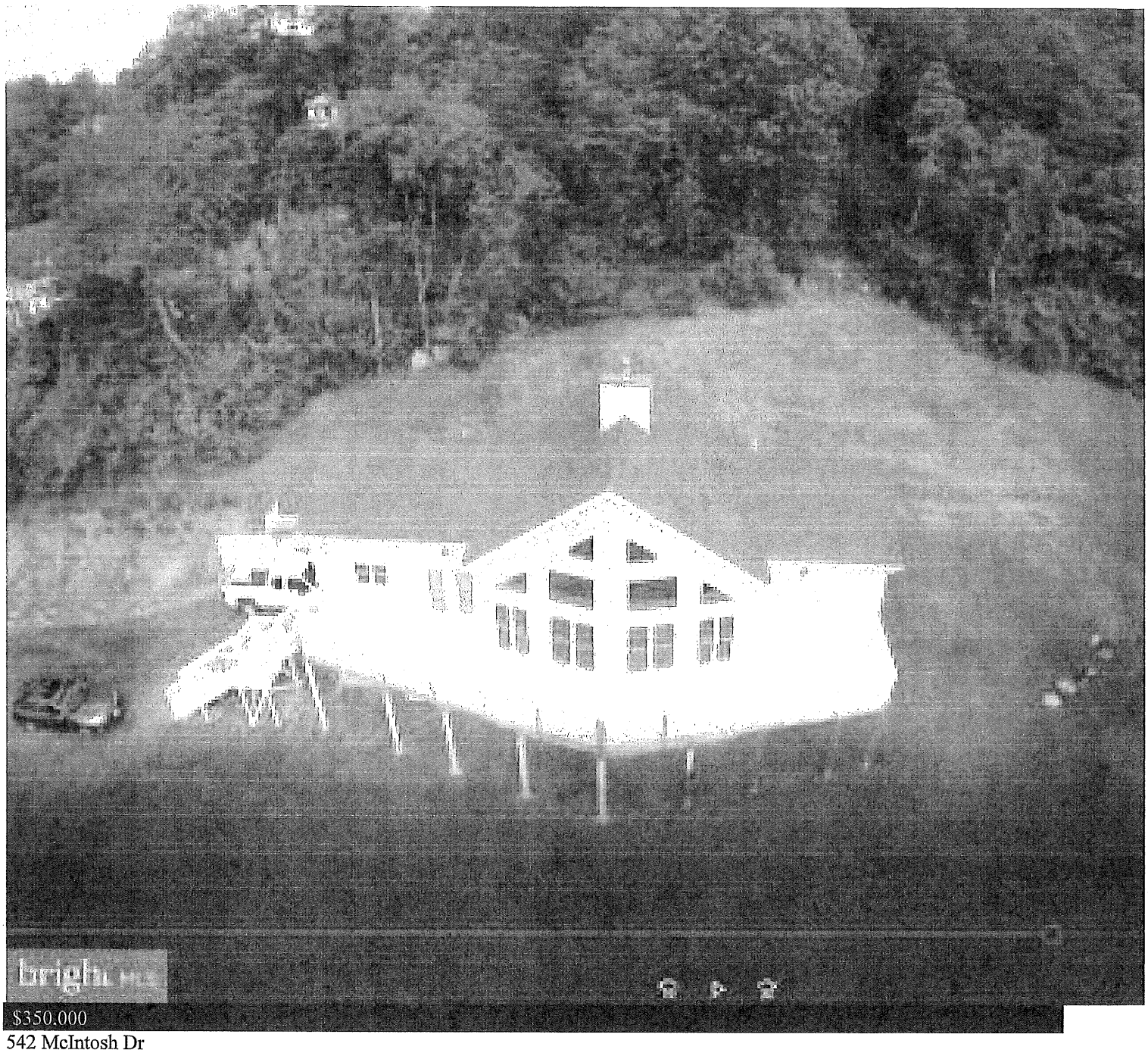
tor.com®

Log In Sign up

Apple Mountain l × Virginia > Warren County > Apple Mountain Lake

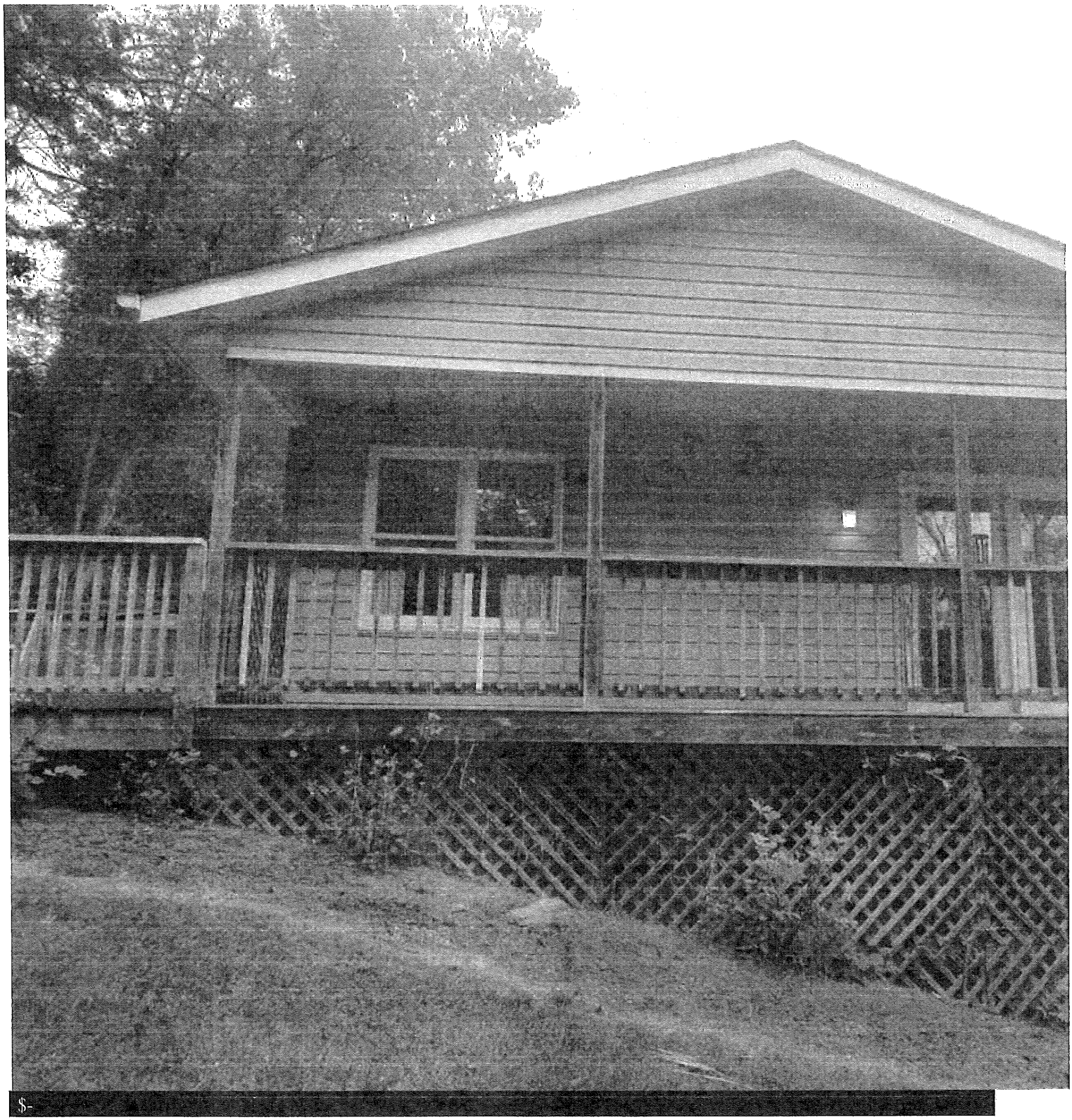
Summary
Home Values
Housing Market
Schools
Amenities
For Sale
Explore





542 McIntosh Dr

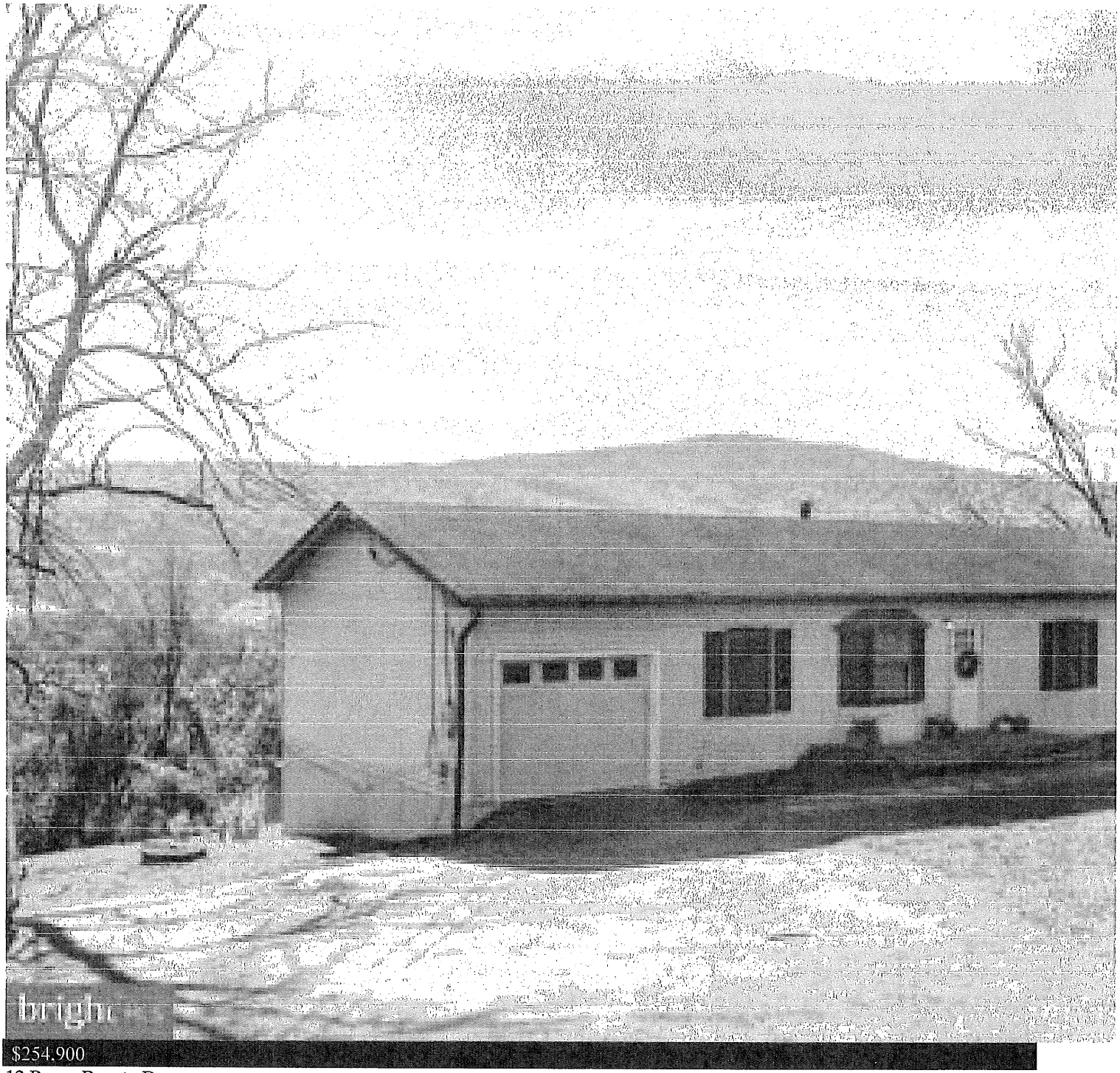
Bed 3 | Bath 2 | 1491 SqFt



$-

1367 King David Dr

Bed N/A | Bath N/A | N/A SqFt



$254,900

12 Rome Beauty Dr

Bed 3 | Bath 3 | 1510 SqFt

Required Permit or Notification

Minnesota Department of Health

The Minnesota Department of Health (MDH) or a delegated well program* must be notified before well construction begins. The MDH notification form, which is similar to a permit, must be submitted by the well contractor or the property owner and must be accompanied by the appropriate fee. Construction may begin when the notification form and fee have been received by the MDH or a permit has been approved by a delegated well program.

Delegated well programs

***Note:** Some counties and cities in Minnesota have assumed some of the responsibility for regulating well construction. A list of these delegated well programs is on page 36. Delegated well programs may have additional requirements beyond those in Minnesota laws and rules, and some local requirements may be stricter. A construction or sealing permit is usually required by a delegated well program. If you live in a county or city with a delegated well program and have questions, you should contact a delegated well program representative.

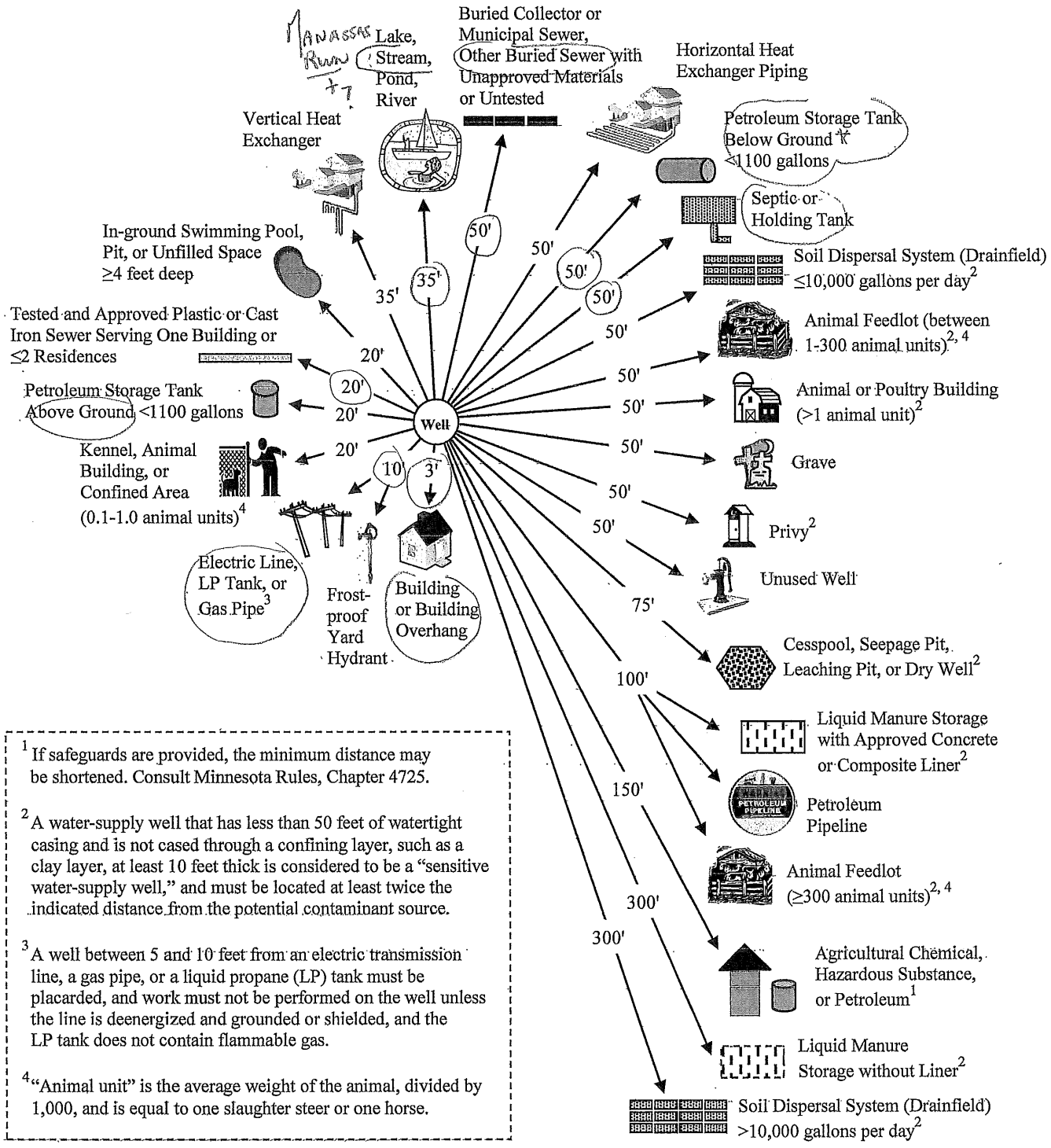
Well Location

Locating your new well

A well must be located so that it meets the minimum isolation distances (also known as "setback" or "separation" distances) required by Minnesota Rules, Chapter 4725. These distances, some of which are shown on the next page, are between the well and utilities, buildings, and potential sources of contamination on your property or neighboring properties. *Before* construction begins, the *best* location on the property should be identified by considering the land elevation and the location of proposed or existing buildings, buried gas or power lines, and potential sources of contamination. Ideally, the well should be at a higher elevation than contamination sources such as septic systems or feedlots. New wells are not allowed to be constructed in basements, well pits, or in buildings other than a *well house.* A licensed well contractor can help you choose the best location for your new well.

Isolation distances

The isolation distances are based on the ability of soil and bedrock to remove certain types of contaminants from the groundwater before they reach the well. A well may be more susceptible to contamination if it has less than 50 feet of watertight casing — or if it passes through less than 10 feet of a **confining layer** (see page 5). These more vulnerable wells must be located at least twice as far as other wells from sources of contamination that leach contaminants to the soil, such as septic system drainfields (Figure 2).



[1] If safeguards are provided, the minimum distance may be shortened. Consult Minnesota Rules, Chapter 4725.

[2] A water-supply well that has less than 50 feet of watertight casing and is not cased through a confining layer, such as a clay layer, at least 10 feet thick is considered to be a "sensitive water-supply well," and must be located at least twice the indicated distance from the potential contaminant source.

[3] A well between 5 and 10 feet from an electric transmission line, a gas pipe, or a liquid propane (LP) tank must be placarded, and work must not be performed on the well unless the line is deenergized and grounded or shielded, and the LP tank does not contain flammable gas.

[4] "Animal unit" is the average weight of the animal, divided by 1,000, and is equal to one slaughter steer or one horse.

FIGURE 2 Selected "Isolation" Distances.
SOURCE: Complete listing may be found in Minnesota Rules, Chapter 4725

§ 180-27. Commercial (C) District.

A. Statement of intent. This district is intended for areas suitable for the conduct of general business not characterized by either constant heavy trucking or nuisance factors and to which the public requires direct and frequent access.

B. Uses permitted by right. Any one or more of the following uses is permitted as a matter of right on each lot, parcel or tract of land in the Commercial District: **[Amended 6-20-1995; 1-21-1997; 7-21-1998]**

(1) Auction houses.

(2) Auto sales and auto parts.

(3) Automobile filling station.

(4) Bowling alley, billiard or pool room, fitness center or similar recreational structures.

(5) Building supply.

(6) Buildings used primarily for federal, state, County or local government purposes.

(7) Commercial greenhouse/nursery.

(8) Community center.

(9) Church.

(10) Day- or child-care center (nursery).

(11) Farm supplies, feed and grain mill.

(12) Farm machinery sales and service.

(13) Funeral parlor or mortuary.

(14) General retailing and wholesaling uses, including but not limited to: appliance stores, bakeries, clothing stores, drug stores, grocery stores, furniture stores and gift shops.

(15) Home service establishment such as exterminator, plumber, decorator or appliance service.

(16) Hospital.

(17) Hotel or motel.

(18) Indoor theater.

(19) Medical arts building, dental clinic or pharmacy.

(20) Office building.

(21) Personal service establishment such as barbershop, laundry or financial institutions.

(22) Printing shop.

(23) Private club or lodge.

(24) Private school.

(25) Public protection facilities: fire departments, rescue squads, police stations or substations.

(26) Public park/playground. **[Added 7-15-2008]**

(27) Radio or television station (excluding tower).

(28) Restaurant.

(29) Small distribution center.

(30) Light assembly (fabrication).

(31) Convenience store.

(32) Municipal solid waste collection facilities established and operated by the Board of Supervisors. **[Added 4-15-2008]**

(33) Mobile food establishment. **[Added 5-17-2016]**

C. Accessory uses permitted by right. Accessory uses permitted by right shall be as follows:

(1) Parking areas and loading spaces subordinate to a principal use.

(2) Types of accessory buildings permitted: garage, tool storage building, greenhouse, shed and portable storage container. **[Added 12-20-1994; amended 7-17-2007]**

(3) Wind energy system, private use. **[Added 5-19-2009]**

(4) Mobile food establishment. **[Added 5-17-2016]**

D. Uses permitted by conditional use permit. The following named uses may be permitted upon issuance of a conditional use permit by the Board of Supervisors:

(1) Bottled gas storage and service.

(2) Bulk gasoline and petroleum storage.

(3) Commercial (repair) garage or wrecking service.

(4) Fairgrounds or racetrack.

(5) Radio broadcast tower.

(6) Tavern, inn or bar.

favorable opinion

(7) Veterinary services, animal hospital or kennel.

(8) Warehousing or enclosed storage.

(9) Zoo or museum.

(10) Bus and limousine terminal. **[Added 8-17-1993]**

(11) Commercial outdoor recreation operation. **[Added 5-30-1995]**

(12) Amusement park. **[Added 6-18-1996]**

(13) Commercial campground. **[Added 10-11-1995]**

(14) Shopping center. **[Added 7-21-1998]**

(15) Rental and storage of moving vans and trailers and storage of cars, boats and recreational vehicles. **[Added 8-19-2003]**

(16) Bottling works. **[Added 8-19-2003]**

(17) Car wash. **[Added 8-21-2007]**

(18) Extended-stay hotel. **[Added 10-16-2007]**

(19) Wind energy system, commercial power generation. **[Added 5-19-2009]**

(20) Compressed natural gas station. **[Added 10-21-2014]**

E. Minimum lot area shall be 21,780 square feet (0.5 acre).

F. Minimum lot width shall be 100 feet.

G. Maximum length/width ratio shall be four to one (4:1).

H. Minimum yard depth shall be as follows:

(1) Front: 50 feet.

(2) Rear: 15 feet for a principal structure; 10 feet for an accessory structure.

(3) Side: 15 feet for a principal structure; 10 feet for an accessory structure.

I. Utility requirement for water and sewer shall be individual, public or approved private.

§ 180-22. Residential - 1 (R-1) District. [Amended 12-20-1994; 1-16-1996; 12-17-1996; 5-20-1997; 8-17-1999; 3-21-2006]

A. Statement of intent. This district is intended for family living in safe and suitable surroundings in areas where low-density residential development may be situated without degrading the environment. Such areas shall be developed in a manner that will protect and preserve natural resources, watersheds and topographic features and protect and enhance the natural beauty of the land.

B. Uses permitted by right. Any one of the following uses is permitted as a matter of right on each lot, parcel or tract of land in the R-1 District:

(1) Single-family dwelling.

(2) Noncommercial park/playground.

(3) Residential facility. **[Added 7-20-2010]**

C. Accessory uses permitted by right. Accessory uses permitted by right shall be as follows:

(1) Home occupation.

(2) Types of accessory buildings permitted: detached garage, patio enclosure, tool storage building, gazebo, greenhouse and portable storage container. **[Amended 7-17-2007]**

(3) Temporary family health care structure. **[Added 7-20-2010]**

(4) Parking lots accessory to a residential subdivision owned and managed by the subdivision's homeowners' association and/or sanitary district when used by residents of the subdivision. **[Added 6-17-2014]**

(5) Backyard chickens. **[Added 11-15-2016]**

D. Uses allowed by conditional use permit. The following named uses may be permitted upon issuance of a conditional use permit by the Board of Supervisors:

(1) Adult day care.

(2) Church or parish house.

(3) Community center.

(4) Day-care or child-care center (nursery).

(5) Public protection facilities: fire departments and rescue squads.

(6) Public utility poles, lines, transformers, pipes, meters and other facilities not servicing the residents of the County.

(7) Rest home, nursing home, convalescent home or similar institution.

(8) School, public/private.

(9) Temporary model home.

(10) Private use camping.

(11) Office, maintenance yard and building and storage unit facilities in a residential subdivision when owned and operated by the subdivision's homeowners' association or the County and when used by the association or County or by residents of the subdivision. **[Amended 10-18-2011]**

(12) A cluster housing development meeting the standards of § 180-40.5, with not more than one lot for each gross acre of the parcel or tract of land.

(13) Muncipal solid waste facilities and solid waste collection facilities established and operated by the County. **[Added 3-15-2011]**

(14) Short-term tourist rental. **[Added 4-17-2012]**

E. Minimum lot area shall be one acre, except for lots in cluster housing developments which shall be a minimum of 21,780 square feet (0.5 acre).

F. Minimum lot width shall be 150 feet, except for lots in cluster housing developments which shall be a minimum of 90 feet.

G. Maximum length/width ratio shall be 3.5 to 1.

H. Minimum yard depth shall be as follows:

(1) Front: 50 feet.

(2) Rear: 35 feet for a principal structure; 10 feet for an accessory structure.

(3) Side: 15 feet for a principal structure; 10 feet for an accessory structure.

I. Utility requirements for water and sewer shall be individual, public or approved private, except for lots in cluster housing developments which shall be served by central water and sewer. **[Amended 12-15-2009]**

Memorandum For Record

NOV 20 2020

To: **Sheetz, Inc**

From: **Apple Mountain Lake POA, Board of Directors**

Subject: Proposed Sheetz in Linden, VA Concept Plan C

Date: 20201101

This memorandum will serve as the Apple Mountain Lake POA, Board of Directors official stance of opposition to the proposed site plans for the construction of a Sheetz store located adjacent to the AMLPOA entrance at Macintosh Drive and supersedes any previous memo concerning the subject above.

October 17 marked the date of the AMLPOA 2020 semi-annual meeting of the membership. A quorum was present with 76 lots represented in person and proxy attendance. Upon a call for new business a motion was made from the floor for the Board of Directors to rescind the MFR dated 20200914 which outlined the Boards' decision to remain neutral on the construction of the proposed Sheetz and replace with a memo of opposition. The 76 lots represented at the meeting did not constitute a majority of the total membership of 684 lots in the community but were enough to represent the membership at the meeting and carry the motion.

The membership raised several concerns regarding the presence of a gas station so closely located to our association and the following should not be construed as the extent of those concerns. The one that seems to stand in the forefront is the potential environmental impact of leaking fuel tanks and the use of chemical deicing agents in the winter on the water table that serves many of the homes located in our association. The risk to children's safety having a school bus stop co-located with a convenience store has garnered an equal amount of attention from the community and viewed by many as irresponsible and unacceptable to any proposed plan. The impact of increased traffic around the entrance to our community is viewed as a nuisance that could be avoided if the property remained zoned as agricultural.

The addition of any business as closely located as the proposed is sure to bring a wide array of emotions and opinions from the community. We are committed to being a transparent conduit of information to our membership regarding this project and will continue to address the concerns of our community and informing them of where they can show support or express objection as this proposal makes its way through the Warren County government processes.

We do recognize and are grateful that Sheetz from the beginning has showed their commitment to being a good neighbor by involving our Board into their decision-making process and legitimately listening to our concerns and even taking action by altering site plans to accommodate our community with key issues such as removing the truck stop from consideration and including a visual abatement. Hopefully, this does not deter any future collaboration if the opportunity presents itself.

Jason N Cagle
President, Apple Mountain Lake POA

To the Planning Commission:

NOV 23 2020

Re: Re-zoning of land at Apple Mountain Lake

The site is within 500 feet of my house on Apple Orchard Dr.

As a working mother my children often walk to the bus stop, and are home after school by themselves.

I am very concerned about the increased traffic and the safety issues that will create for my children, as well as the noise, fumes, and light pollution this will create.

There are plenty of other available sites to choose from, please let us keep our neighborhood a safe and family friendly environment.

Felicity Smoot

NOV 23 2020

Gmail

Land rezoning

1 message

Stephanie Frush <slfrush@gmail.com> Mon, Sep 21, 2020 at 8:28 PM

My husband and I have lived on the mountain for over 16 years. When we moved here our 3 girls were young. They are now grown and have moved on with there lives but we now have our sweet granddaughter who will in a few years be starting school. Having a major covence store/gas station just a half a block from my home scares us to the point of selling our forever home. We urge you to please do not rezone this land.
Thank you
The Frush family
627 Apple Orchard Dr

Janet R. Acord
506 McIntosh Drive
Linden, Va 22642
571-722-4128
beckyacord@gmail.com

NOV 23 2020

September 22, 2020

Zoning Board
Warren County, Va

Reference: Rezoning of property located on Apple Mountain Lake

To the Zoning Board

My name is Janet Acord, my husband and I resided at 506 McIntosh Drive Linden, Va. Our home is located less than 500' from the proposed site of a new Sheetz convenience store and gas station. I am asking the board not to rezone the property that Sheetz wants to build on to commercial.

My biggest concern is that the water tables will become polluted and there may not be enough water to sustain the homes with wells located on the mountain. Our wells are our only source of water. They are residents that are having well issues now. I believe that the Sheetz store will require more water than our water tables can supply. We moved to Linden Va. from Manassas to get away from the pollution. My husband has chronic stage 3 kidney disease. At the present time we have fresh air and chemical free water. This store will add pollution to our fresh air and water table.

My second concern is that a tractor trailer accident with trucks coming off Route 66 would shut down McIntosh Drive which is 1 of 2 roads off the mountain. The weather would be a big factor in whether we could get to the other road in case of a medical emergency.

Sheetz has proposed building a new bus stop with an enclosure for the children who ride the school bus. I personally do not have children who ride the school bus, However putting a bus stop in a parking lot of a convenience store should never happen. This will potentially cause a lot of grief and heartache if a child is hit by a vehicle or even worse if they were harmed by a pedophile or drug dealers who tend to hang out around these establishments on major highways.

The Apple Mountain Lake Community has very little crime and we would like it to remain that way. I would ask each and every one of the zoning board members to vote no to the request to rezone the property.

Sincerely,

Janet R. Acord

Your Name

NOV 23 2020

Gmail

Impact Statement for Bonnie Hicks, 795 Apple Orchard

1 message

Bonnie Hicks <eggplant@wehicks.com> Thu, Sep 24, 2020 at 8:35 PM

My husband and I have owned our home on Apple Orchard Drive for over 25 years. We have experienced water issues with our well during drought, and this is one of my biggest concerns with the commercial development that is being proposed. The drought was for a short period of time, but a business will be there 365 days a year. We could have chosen to purchase property in town, but we wanted to be away from the light and noise pollution. A gas station within such close proximity (probably less than a quarter of a mile from our home) will reduce our quality of life and our property values. Additionally, there are already problems with traffic during certain times of the year and the county has (to my knowledge) never addressed them. We already have people wandering around our private roads as they are trying to find their way to Front Royal or just curious about the neighborhood. With our community being so close to the highway, this is a potential safety issue. If Warren County is going to consider this development as a way to increase tax revenue, they must first consider the concerns of the tax-paying residents of Apple Mountain Lake for safety, property values, access to water, and quality of life.

Bonnie Hicks

NOV 23 2020

Gmail

Sheetz coming to the Linden Exit

1 message

Nicole Wanzer <nicwanzer@yahoo.com> Tue, Sep 22, 2020 at 10:28 PM

Hello,

My name is Nicole Wanzer my husband is Patrick Robinson. We live at 51 Winesap Ct. in Linden VA in the Apple Mountain Lake Community.

For many years I've had to commute to Northern Virginia and My Husband Patrick travels all over the Mid Atlantic for work.
We so look forward to seeing that exit 13 and knowing we're almost home and no more traffic!

We're opposed to having a Sheetz at the bottom of Apple Mountain. We already have two gas stations. The traffic will be dangerous for the children in our community and bring unwanted congestion and noise for the residents. There isn't a need for a 3rd Gas station at exit 13 there already 2 of them and there is already a Sheetz off exit 6 in Front Royal. It's going to disrupt a beautiful, rural, and quiet community for no reason worthy of the disruption.

Thank you,

Nicole Wanzer

Gmail

NOV 23 2020

Letter
1 message

Carrie Karashowsky <ph98cj@yahoo.com>
Reply-To: Carrie Karashowsky <ph98cj@yahoo.com>

Mon, Sep 21, 2020 at 8:14 PM

Good day, my name is Carrie Karashowsky, and I have two children, one who has just started kindergarten, the other still has a few years, but the thought of letting my child go through a busy area just to get to their bus stop is ridiculous! We live with in walking distance. How can you even think to allow this? With kidnappings and being near the woods and 66, setting up for disaster! It is making me sick and I am losing sleep over this. Please don't do this.
I am also concerned with pollution. And how this will affect us.
Apple Mountain Resident - Carrie Karashowsky, mom of 2.

Carrie

Gmail

NOV 23 2020

My letter against Sheetz and/or otherwise development of the property at the entrance of AppleMountain

imensing@comcast.net <imensing@comcast.net>

Re: proposed rezoning to commercial and Sheetz development at the bottom of AppleMountain

To whom it may concern

I am opposed to the development of the property that lies at the entrance of The AppleMountain Community at Exit 13 (66) for below reasons

- There are already two service stations and a restaurant with a few 100 feet of this location. Another is not needed.

- This community was not made aware of the fact of this proposal,, until the ground work had already been laid.

- Water issues: All of the AppleMountain community have private wells. As new houses have been build on vacant lots, certain home owners have had a negative impact on their water supply. I myself have been battling a weak well since moving into this community 20 yrs ago. I can only imagine the further negative impact this proposal of a Sheetz will have on the water table in this area

- I am concerned for those families that have children that meet the bus at this location, now being exposed to an establishment that will most likely sell alcohol and tobacco. The children would have to walk past the establishment to the back where the new proposed school bus stop will be located.

- Rt 66 and its proximity to Rt 81 is a major sex trafficking route, adding to the danger.

- If this property is zoned commercial and Sheetz does build, most likely they will further develop this into the super truck stop which was in the original proposal, only removing that part to placate any opposition to this plan, that might arise. Mind you, the community was only made aware until well

after all of this was set in motion. Even the school board was contacted before the community that is directly affected

- Under ground gasoline and diesel tank propose a health risk to the community

- The additional traffic and noise pollution is also a major concern

- This will have an impact on the wild life and definitely impact the rural flavor of this area. There is a reason the property is and has been zoned agricultural since zoning was established

I am against the property being rezoned to commercial and Sheetz, or whatever else, might be build there, should such rezoning happen.

The underhanded way this was handled without the proper notification of the community, is of grave concern

Iris Mensing

AppleMountain Lake Home owner

RECEIVED
NOV 23 2020
PLANNING

To: Warren County Planning Commission

Re: Re-zoning of Land at Exit 13, Apple Mountain Lake

I have lived on Apple Mountain since 1998 and have driven bye during school hours or dropped my kids off at the bus stop at the bottom of our mountain. I have never seen any trouble with vehicles or people which would cause any harm to the children. Everyone acts like civilized parents or neighbors when it comes to picking up or dropping off children.

I was very offended with the way Sheetz personnel portrayed our bus stop and also took pictures of it. There were no pictures taken of the traffic this fall when everyone comes out to Skyline drive. I am also concerned with the proposed bus stop at Sheetz! Not just the amount of unknown traffic which will be coming off the highway but also the "who's responsibility" the bus stop will fall under. If there is an occurrence of any type on the proposed bus stop is it Sheetz' responsibility or the School Boards.

The bus stop will be located on private property. Also the traffic coming in and out of Sheetz will not treat our children with the same safety as we do when it is time for the kids to be picked up or dropped off. People will not even know there is a bus stop there and will drive without precautions.

/David Nadzam/

998 Granny Smith road

NOV 23 2020

Catalina Visoreanu statement

My name is Catalina Visoreanu. My husband and I are hardworking people, we moved in this community because it is safe, beautiful, quiet and a great place for a family. We have a healthy 5 months old son, and we are planning to have more children. The proposed plan of a gas station built less than 500 ft away from our home is horrific! Being exposed to risk of cancer, low-birth weight, the huge drop of safety are strong reasons for this plan to NOT materialized! Strong reasons for the plot to stay zoned agricultural. We have a well and are seriously concerned about the future both quality and quantity of water. It would disrupt our health, safety, and comfort.

There should be no place for a gas station (potential truck stop later) anywhere near a but stop. Apple Mountain Community children would be exposed to human trafficking, drugs, crime, pollution, unhealthy snacks. There is nothing good about any of these! Imagine the pain of a mother and father who found out their child went missing or was molested, near a gas station, in their own community!!! I cannot stress enough the SAFETY factor!

Fuel leaks seeping into the ground and the water all residents are using, gas smell, increased air pollution, increased water pollution, these are all reasons for the plan to NOT materialize. It has been proven too many times the huge negative impact of gas stations near residential areas.

Our community is a beautiful rural clean place, a perfect place for families. The plot for the proposed plan of the gas station is currently zoned agricultural. And that is for various reasons. There is no reason good enough to rezone the plot, to the detriment of a whole community.

Catalina Visoreanu

RECEIVED
NOV 23 2020
WARREN COUNTY
PLANNING DEPARTMENT

To: Planning Commission

RE: RE-zoning of land at Exit 13, adjacent Apple Mountain Lake

To Whom It May Concern:

My name is Sue Kinyon, and I live at 152 York Court Linden Virginia 22642. I am writing in strong opposition to the re-zoning of the land at Exit 13, at the bottom of Apple Mountain Lake. **WE don't want it, WE don't need it**. My family and I have lived here 32 years, before there were any traffic signals in Linden or paved roads on the mountain. Before there was an Exxon or a fire department, there was only the Apple House that carried a few grocery items i.e. Bread, Milk etc. It was the perfect place to raise my 5 children

First, we are sure you are aware that under REZONING REQUEST PROFFERS", Section III(A)(2) - **The following uses shall be prohibited in the above-referenced property: (B) Bulk gasoline and petroleum storage.**For this reason alone, Dudding's re-zoning application should be denied!! They want to build a Sheetz gas station with a convenience store. The gas station will have multiple underground gasoline storage tanks. This is bulk gasoline and petroleum storage, a prohibited use!

It is extremely troubling why Dudding, in most of its application papers, fail to admit that it will be a gas station! At best, they want to confuse us and make us believe it will only be a convenience store, but we all know this is

not true. At worst, they are doing this for improper reasons that one can only imagine.

For this reason alone, the application for re-zoning should be denied. They want to build something that will be a prohibited use!

We also ask that this re-zoning be denied for traffic reasons, and the safety of our children. I traveled to the bus stop area every school year for 17 years. The current bus stop is not on a main road and is much safer than it looks. Unlike, their proposal of being tucked away from the entrance to the mountain where children could be snatched and on I66 before anyone knew it happen. Too many preteen and teenagers just walk home from the bus stop and residents usually keep an eye on them, being back off the road that wouldn't be possible.

Moving out here from Gainesville was our American dream. Country life, peace and quiet, Mountain views and wildlife. Now when the "leafers" come into town I stay home as the traffic is so backed up, on I66 as well as RT 55 West. Both convenience store/gas stations are so full cars can't get off the road. Even now with regular traffic turning left off the eastbound exit ramp is almost impossible. I have seen traffic backed up on the exit ramp of the west bound lane and cars were still on I66. During peak travel times they had to make a right turn lane. With Sheetz everyone will think it is easier to turn right but will make getting into our mountain more of a traffic jam. The other concern I have are the two existing gas/convenient stores will lose business and they may not survive leaving empty buildings.

We have lived here for 32 years and this is our home. Keep this land agricultural, like the Comprehensive Plan states, for future use. This is the right decision in the Comprehensive Plan, for so many reasons. Please listen to us. We are the people living here. We are the ones that will suffer if this land gets re-zoned. Don't re-zone this land. Thank you for your time.

Sincerely,

Sue Kruger

NOV 23 2020

Gmail

Fwd: Sheets
1 message

Gus Thorpe <gus@osgf.org> Wed, Sep 23, 2020 at 7:30 PM

18 golden russet dr

James Thorpe
Ashley Thorpe

Traffic conjesting and saftey concerns for residents along with wildlife , we chose to live out in the county away from all the development for a reason

RECEIVED
NOV 23 2020
WARREN COUNTY
PLANNING DEPARTMENT

November 18, 2020

To: Warren County Planning Commission

RE: Re-zoning of land at Exit 13, bottom of Apple Mountain Lake

My name is Christopher Kemp and I live at 71 king David. My wife and I are strongly opposed to the re-zoning of the land at the bottom of Apple Mountain Lake for a Sheetz gas station and we urge this Commission to reject the re-zoning request.

Everyone on AML has a well and no access to county water. My wife and I have been *especially* hard hit. We found out in December last year that our well ran out of water. When we called a plumber, they came out three times and replaced all the wires along with the pump and $2000 dollars later we got water (!!!!!!!). Just to end up running out of water again a short time later due to not having enough well water. We called a well drilling company to give us an estimate on what a new well would cost....and he said $15,000 dollars!!!!!! For a new well. We cannot afford that being young newlyweds. Let alone afford just the $2000 again to keep replacing a pump that burns up because of low water levels. It's just her and I here. And we have to watch every water usage every day so we don't burn up the pump again due to low water levels.

Rest assured if the Sheetz gets built, then we and when I say "we" I mean all of Apple Mountain will be suffering. Hard working tax paying Americans will be the ones that suffer. Please people of the Planning Commission, Sheetz can afford to dig 1000 foot wells we cannot and most people could not. People of the Planning Commission, I moved here with the welcoming environment of a family oriented

community. If you agree to move forward with Sheetz, then it would be no different then turning your back on family. Our anxiety is overwhelming worried about our well being drained because of a ($$$ 1.9 billion) company. You, respective members of The Planning Commission, are built of people just like us so please do the right thing and look out for the people of Apple Mountain and put a stop to this.

Don't re-zone this land. It does not matter what the builder says. He does not live here. The people that gave him "reports" don't live here and probably never will. But we do. The reality is that we do NOT have enough water. I would *not* wish this upon anyone, and please don't wish this upon us. There are many other places in Warren County for a gas station. Not when there are already 2 within eyesight of this location.

Plus, the traffic will be HORRIBLE!! On weekdays I have had to sit through 5-6 lights just to leave my house! Imagine if someone had an emergency, where **seconds matter, and seconds matter between life and death**. Could an emergency vehicle reach a house in time if they had to compete with the only entrance with a new business?

Don't re-zone and please listen to the residents. We are your best source of information of what AML is really like, and the dangers of re-zoning. Thank you.

Sincerely,

/Christopher & Stephanie Kemp/

NOV 24 2020

To: Warren County Planning Commission, Dir. Planning and Zoning

Attn: Taryn Logan

Re: Re-zoning Application from Dudding Commercial Development for land at Exit 13, at the entrance of Apple Mountain Lake

Ms Logan,

My name is Mark H. Sweberg and I live at 519 Delicious Road, Linden, Virginia 22642—Apple Mountain Lake. I am writing because I am strongly opposed to re-zoning the land at Exit 13, at the entrance to Apple Mountain Lake. My family and I have lived here for a number of years and ask this Commission to deny this application for re-zoning.

There are at least 10 reasons why you should deny this application:

1. The Warren County Comprehensive Plan designated this land for future use as agricultural.
2. The builder filed an application to change the zoning to allow for the building of a "Convenience Store". However, in presentations and other paperwork supporting this request the builder identified his plan to put in a **Sheetz gas station**. This is a ***PROHIBITED USE*** of the land. That is, "Bulk gasoline and petroleum storage" is a prohibited use. (see below). Yet, the builder either wants this Commission to look the other way, and approve this re-zoning request, or at worst, is trying to pull a fast one on us. **Do not let this happen. This Commission should deny on this reason alone.**

A. Land Use

1. Development of the Property shall be developed in accordance with the regulations of the Commercial ("C") zoning district as are set forth in the Warren County Code or as may otherwise be approved by the Warren County Board of Supervisors in conformance therewith.

2. The following uses shall be prohibited in the above-referenced Property:

A. Auction houses

* B. Bulk gasoline and petroleum storage

C. Fairgrounds or racetrack

D. Amusement Park

E. Commercial Campground

F. Auto Sales

* ACCORDING TO THIS REZONING DOCUMENT SHEETZ CANNOT HAVE GAS PUMPS OR STORAGE TANKS,

3. **Traffic**. There is only one main entrance to Apple Mountain Lake and there is already a LOT of traffic at that intersection, which is shared by people coming off 66-W!!! People who live in Apple Mountain Lake already have to wait sometimes 5-6 lights just to get in or out of the neighborhood! And now someone wants to zone this commercial and put a business there??! The traffic infrastructure cannot handle this. Plus, there are already 2 gas stations only ¼ mile away! Two!
4. **Traffic – Emergency Response time.** This is also about traffic. What happens when someone on the mountain has an emergency and needs to call 911? In situations where seconds matter, these emergency vehicles will now have to compete with a business and a huge traffic burden to get into Apple Mountain Lake? Not long ago there was a house burning at Apple Mountain Lake. If emergency vehicles were not able to arrive when they did, the first

might not have been contained like it was, and more houses and people would have been injured or killed.

5. **Pollution.** This is self-explanatory – an increase in air, noise, water, sound, light pollution is inevitable.
6. **Rural Charm.** A lot of us moved here to get away from the big city life. A lot of us stay here for the same reason, and a lot more visit Warren County to experience this rural charm. Allowing this to be re-zoned would hurt that and the reasons many of us live here.
7. **Safety of our Children.** This is a major concern! This plan envisions a bus pick-up and drop-off located at the rear of the Sheetz lot. Children who walk home after being dropped off will be a much greater risk from predators as they navigate the length of the Sheetz facility. No one with children could possibly be OK with letting them walk to and from that bus stop. There is tremendous concern among families living in the community. This poses an unacceptable risk to children attending county schools.
8. **Our wells will run dry.** Many families here have wells that have already run dry and some more than once. We don't have enough water on this mountain. I know you've received letters telling you this. Please don't ignore us.
9. **Toxic Groundwater Contamination**. If you allow this land to be re-zoned, there will be a gas station. With lots of underground storage tanks filled with gasoline. There will be leaks. This will go into our groundwater and make our water toxic. Is the County ready to take responsibility for when this happens??? Is Sheetz willing to take responsibility? The builder claims that the tanks are so "perfect" that they won't leak. Can we get that in writing?? I would rather not risk my life, my family's life, my house, my livelihood, on empty promises that is not backed with any guarantee.

10. **Please take a look at:** https://www.epa.gov/ust
    a. **Here, is what it says, and I quote:**

"Approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances. The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans."

Also, according to the "Semiannual Report of UST (Underground Storage Tank) Performance Measures; Mid Fiscal Year 2020 (October 1, 2019 – March 31, 2010), the EPA reports that:

- **There was 2,365 confirmed Leaking Underground Storage Tanks (LUST) in the United States.**
- Since data collection began in 1984, there have been 557,644 cases of leaked underground storage tanks. That's over half a million.
- Source: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf

So, I am frankly offended when the builder or Sheetz tells me that there will be no leaks, and their system if perfect. If that is true, why don't they sell their so-called "*perfect*" underground storage tanks to the 2,365 sites that had underground storage tank leaks in the last 6 months alone!!!!

Please do not re-zone this land.

Don't re-zone because of the Comprehensive Plan.

Don't re-zone because the traffic infrastructure cannot handle it.

Don't re-zone because emergency response time matters to you for the residents of Warren County.

Don't re-zone because you care about our children and their safety.

Don't re-zone because you care if we run out of water.

Don't re-zone because you want to protect us from toxic groundwater contamination from inevitable leaks.

Don't re-zone because the builder is asking you to do this for a PROHIBITED USE!

Don't re-zone because you care about the rural character of Warren County.

Don't re-zone because you want to listen to the residents of Warren County.

Thank you.

Sincerely,

Mark H. Sweberg

Mark H. Sweberg
519 Delicious Road
Linden, VA 22642

To: Warren County Planning Commission

Re: Re-zoning Application for land at Exit 13, at the entrance of Apple Mountain Lake

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

To Whom It May Concern:

My name is Christopher Hiner, and I live at 497 Delicious Road, in Apple Mountain Lake. I am writing because I am strongly opposed to re-zoning the land at Exit 13, at the entrance to Apple Mountain Lake.

There are at least 10 reasons why you should deny this application:

1. The Warren County Comprehensive Plan designated this land for future use as agricultural.

2. The builder filed this application to put in a **Sheetz gas station**. This is a ***PROHIBITED USE*** of the land. That is, "Bulk gasoline and petroleum storage" is a prohibited use. (See below). **Do not let this happen. This Commission should deny on this reason alone.**

A. Land Use

1. Development of the Property shall be developed in accordance with the regulations of the Commercial ("C") zoning district as are set forth in the Warren County Code or as may otherwise be approved by the Warren County Board of Supervisors in conformance therewith.

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F. Auto Sales

* ACCORDING TO THIS REZONING DOCUMENT SHEETZ CANNOT HAVE GAS PUMPS OR STORAGE TANKS,

3. **Traffic**. There is only one main entrance to Apple Mountain Lake and there is already a LOT of traffic at that intersection. Adding a commercial business would make the traffic unsustainable at that intersection.

4. **Traffic – Emergency Response time.** What happens when someone on the mountain has an emergency and needs to call 911?
   a. In situations where seconds matter, these emergency vehicles will now have to compete with a business and a huge traffic burden to get into Apple Mountain Lake?
   b. Not long ago there was a house burning at Apple Mountain Lake. If emergency vehicles were not able to arrive when they did, the first might not have been contained like it was, and more houses and people would have been injured or killed.

5. **Pollution.** This is self-explanatory – an increase in air, noise, water, sound, light pollution is inevitable.

6. **Rural Charm.** A lot of us moved here to get away from the big city life. A lot of us stay here for the same reason, and a lot more visit Warren County to experience this rural charm. Allowing this to be re-zoned would hurt that and the reasons many of us live here.

7. **Safety of our Children.** Do you have children? And if so, would you be OK if their school bus stop was behind a gas station on Interstate 66? Would you be OK with letting them walk to that bus stop and waiting for a bus? I am not. And I can tell you many families here feel the same.

8. **Our wells will run dry.** Many families here have wells that have already run dry and some more than once. We don't have enough water on this mountain. I know you've received letters telling you this. Please don't ignore us.

9. **Toxic Groundwater Contamination**. If you allow this land to be re-zoned, there will be a gas station. With lots of underground storage tanks filled with gasoline. There will be leaks. This will go into our groundwater and make our water toxic. Is the County ready to take responsibility for when this happens??? Is Sheetz willing to take responsibility? The builder claims that the tanks are so "perfect" that they won't leak. Can we get that in writing?? I would rather not risk my life, my family's life, my house, my livelihood, on empty promises that is not backed with any guarantee.

10. **Please take a look at: https://www.epa.gov/ust**
    a. **Here, is what it says, and I quote:**

"Approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances.

The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans."

Also, according to the "Semiannual Report of UST (Underground Storage Tank) Performance Measures; Mid Fiscal Year 2020 (October 1, 2019 – March 31, 2010), the EPA reports that:

- **There was 2,365 confirmed Leaking Underground Storage Tanks (LUST) in the United States.**
- Since data collection began in 1984, there have been 557,644 cases of leaked underground storage tanks. That's over half a million.
- Source: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf

So, I am frankly offended when the builder or Sheetz tells me that there will be no leaks, and their system is perfect.

If that is true, why don't they sell their so-called "*perfect*" underground storage tanks to the 2,365 sites that had underground storage tank leaks in the last 6 months alone!!!!

Please do not re-zone this land.

Don't re-zone because of the Comprehensive Plan.

Don't re-zone because the traffic infrastructure cannot handle it.

Don't re-zone because emergency response time matters to you for the residents of Warren County.

Don't re-zone because you care about our children and their safety.

Don't re-zone because you care if we run out of water.

Don't re-zone because you want to protect us from toxic groundwater contamination from inevitable leaks.

Don't re-zone because the builder is asking you to do this for a PROHIBITED USE!

Don't re-zone because you care about the rural character of Warren County.

Don't re-zone because you want to listen to the residents of Warren County.

Thank you.

Sincerely,

/Christopher Hiner/

497 Delicious Road

Linden, VA 22642

September 25, 2020

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

To: Warren County Planning Board
Warren County Board of Supervisors

As registered voters in the state of Virginia we, Cathy and Steve Myers, longtime residents of Apple Mountain Lake, Adamantly oppose your Considering agreement to a SHEETZ gas station and store at the bottom of our community.

Your FIRST concern should be the safety of the Children that walk to and from the bus stop. I watch these Kids walking these roads, many of them alone. I have nightmares about a child being followed &/or stalked by a creep from said gas station. Would you want that on your Conscience ???

Then comes our concerns about the amount of water that will be taken away from our water table not to mention the DANGER to said water table should a leak occur from underground tanks.

Then comes the nightmare of traffic at that stop light.

We, the citizens of this Community, expect you to do the right thing, that which is best for the people of this Community that you represent and NOT what will provide the most money.

Cathy Myers

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

To whom this may concern,

We are not for the area at the bottom of AML to be zoned to commercial. The crime would increase in the area. Also, the housing market would decrease in this area. That is not where we want to raise a family.

Thank you,

Amy L Sajeski
687 High Top Rd
Linden VA 22642

In June of 2009 I came across, what would be then the future home of my family, a place where I believed I could find peace and solitude. For the first 27 years of my life I watched as western Fairfax expanded to the point where it literally was faster to walk the one mile distance to our local Safeway then to get behind the wheel of a vehicle and sit in the enviable traffic jam. For me, the ultimate turning point was when I saw an inmate I recognized from work. I should probably mention I am a Deputy Sheriff for Fairfax County. I have served the citizens and the Sheriff of Fairfax for over sixteen years. My life changed when I saw an inmate I personally knew, and was on a first name basis with, running across Fairlakes Blvd. I remember thinking to myself "that guy looks like Andre".

A couple days later, when I returned to work, I noticed that Andre had been arrested. Curious, I looked him up in the computer system. It was then I realized that Andre had been arrested for Bank Robbery, Abduction, and a slew of petty crimes. Andre was later convicted and sentenced to two twenty-year sentences (forty years total) for his crimes which I will not go into in this letter. Seeing inmates on a regular basis at work was the norm, I mean how does one work for a Law Enforcement Agency and not see inmates? It was not until I saw Andre that day, outside of work, that I began to see life differently. The crimes he committed to an innocent person and the idea that at that very moment, when I saw him running across Fairlakes Blvd, he was in the act of committing those crimes. I decided that I did not want to live in a place where I would come in contact with inmates I personally knew. What if they saw me before I saw them? What if I was with my future family? How would I respond? Back then all these thoughts ran through my mind. Not in todays atmosphere but back then... over ten years ago. I knew I had to get out of Fairfax, get away from a place where I would be most likely to recognize inmates, people that hate me not because of who I am but rather what I represent when I put on my uniform.

So, I found a home in Apple Mountain. Seemed to fit my needs perfectly, close to I66, POA responsible for plowing snow, guaranteed to be able to get out and make it to work. Granted I did not really set my standards to the highest of taste, but my "future" home fulfilled another big need. That I was guaranteed, as much as one could be, to not run into inmates that knew me. As morbid as it sounds, in my mind the playing field would be level. No one would know me, and I would not know them. I found peace in ignorance.

For over ten years I have lived peacefully as a Warren County resident. A traffic jam is more than ten cars waiting at a stop light. I found peace in the seclusion that the Apple Mountain community provided. Much the same as the Federal Government and their three letter agencies, some of the most important work is performed right out in the open. In buildings one would not think provided the appropriate security for conducting National Security Matters. This is because people often do not pay attention to what is right in front of them. This community is the same, though I do not think most whom live here are aware. Many of my coworkers have confessed to me over the years they did not "even know a community was up there". And, of those coworkers most of them live out "our" way (ie: Front Royal, Warren County, Shenandoah County, Page County, Frederick County, Clark County, the list goes on and on.

Now I find that my community, my solitude, is at a crossroads. A home that has been peaceful for over a decade now potentially faces reverting to some of the very aspects of Fairfax I sought to escape so many years ago. The community has but two entrances / exits. One on the front of the Mountain (I66) and one off the back. By allowing a Sheetz to be built at the I66 entrance I can assure

you it will cause congestion. Congestion for Warren County residents / constituents that live down Route 340, Route 522, and south and east Front Royal. This does not just affect Apple Mountain. This will affect anyone that uses Route 55 to get to I66 as well. What separates me from them is that this congestion will be less than one mile from my home.

The Law Enforcement community is a very tight knit community. We truly consider ourselves as brothers and sisters. We follow in each other's footsteps. When one of us believes we found a good thing we tend to inadvertently drag others with us. I can assure you that you have a large Law Enforcement community that are voting constituents in Warren County. They live here because they work in the adjoining counties. The fears I have are not just my own, they are shared by many. Those brothers and sister's live in Warren County because this county is viewed as a rural friendly county. A county where revenue is not what is most important. If we wanted convenience, we would have sacrificed safety to be closer to stores, shops, gas stations, etc. We moved here to get away from those commercial sites. We moved here because we believed that this county, much the same as Fauquier, Shenandoah, Page, Frederick, Clark, and Rappahannock cared more about the wants of their constituents then another revenue stream.

I ask the Board of Supervisors one simple question; if you lived in Apple Mountain, along Route 55, Blue Mountain, down Route 340 / 522, would you want a Sheetz right at Exit thirteen? I bet the answer is NO if you had to commute east every day to go to work. Lastly, I implore you to consider your constituents and their quality of life before allowing the property at the bottom of Apple Mountain to be rezoned to commercial.

Phil Bender

November 27, 2020

Note: My name is Tony Karashowsky. I live at 365 Golden Russet Drive at Apple Mountain Lake. My telephone number is: 814-279-5372.
I will not be present at the December 9, 2020 Public Hearing.
I ask that these comments be read into the minutes during the Public Hearing.

To The Warren County Planning Commission:

My name is Tony Karashowsky and I live at 365 Golden Russet Drive in Apple Mountain Lake. **I am also an experienced firefighter/paramedic of fifteen (15) years**. I am concerned with the development and commercialization of the site located at the bottom of Apple Mountain. This site is poorly located for a commercial building for multiple reasons and will cause a multitude of trickle down problems.

First, **the proposed location itself will only allow one point of ingress and egress from the parking lot**.

- The point is less than 100 yards from an on/off ramp of a major highway.
- This is also the only entrance for the residents of Apple Mountain.
- The increased traffic alone will significantly hinder and drastically slow down anyone wishing to enter the mountain, neighborhood, or visiting Warren County.
- Not to mention potential traffic jams when larger tractor drawn vehicles attempt to enter the facility.

With traffic in mind, this will slow any first responders entering the mountain or facility for emergencies.
It shouldn't need to be said that the addition of any commercial business increases the chances of emergencies of any form.

As stated above, **the fact that there is only one point of ingress or egress from the facility will cause a "choke point" for traffic**.

- This will **prevent citizens from evacuating the mountain and/or parking lot when there is an emergency, at the risk of lives being lost**.
- This will also **prevent first responders from entering the parking lot or neighborhood.**

It is common knowledge that emergencies of any form is time sensitive in nature. Some more than others.

- Structure fires burn hotter and faster than just 25 years ago.
- Most new style construction loses integrity within 15 minutes.
- Which **leaves the fire department with very little time to make rescues** and extinguish the fire before the building is structurally unsafe to occupy.

The increased vehicle traffic, should this land be re-zoned for commercial use, also raises serious concerns with regard to what is going to be near or close to the residents of Apple Mountain.

- Vehicle fires have many complications from materials in the vehicle used to whatever is within the vehicle itself, **which can have the potential to be a "Hazardous Materials" type of emergency**.
- **Warren County Fire Dept. does have basic abilities to mitigate leaks and identify what potential issue is occurring**.
- **The closest full "Haz Mat" response team is 45 minutes to an hour away.**
- Because this builder wants to place hundreds of thousands of gallons of a toxic, flammable material within 500 feet of houses at Apple Mountain; and the presence of a Sheetz gas station will inevitably increase traffic to unbearable levels, increasing the risk of a “Hazardous Materials” type of emergency, this Commission *needs* to take this very seriously.

The commercial building will be on well water with no proposed site for a fire hydrant which is also very concerning.

- The closest water sources for fire department use is the dry hydrant at Apple Mountain Lake 10 plus minutes away, or a creek equal distance in the opposite direction.

Medical emergencies have an even smaller window.

- Most arterial hemorrhages can cause **death within 2-4 minutes.**
- Airway compromise such as choking can cause **death within 4-6 minutes.**
- **Heart attacks** and **strokes** are by nature **a time sensitive event.**
- **The more time that passes, the greater the amount of irreversible damage that occurs.**

I hope that you consider these issues as seriously as I have. The impact that something as simple as a poorly located convenience store/gas station can have is devastating to your tax payers and voters. I for one can assure you it will not go unnoticed when you make the right, or wrong decision.

Thank you for your time,

/Anthony Karashowsky/

Anthony Karashowsky
365 Golden Russet Drive
Linden Virginia 22642

9.25.20

I am against the idea of building a Sheetz, or any rezoning of our immediate area. I grew up in Vienna and am very uncomfortable with the density of it's development. I've always loved the natural beauty of this area. Living on Apple Mountain is the perfect balance of peaceful seclusion and convenience. I feel the completion of this project would upset that balance by forever changing this community's atmosphere. I am also concerned for the local businesses that have faithfully served the needs of the people of our tranquil area for generations.

Richard Frazier

Sept. 22, 2020

To whom it may concern,

I live at 245 Wealthy Rd. Linden Virginia, in Apple Mountain Lake subdivision. It is distressing to hear of the plans that Sheetz has of building a gas station and/or truck stop at the entrance to our community.

I believe the construction of such a facility in our community will have an extremely negative impact, far outweighing any benefits.

Apple Mountain Lake is a quiet, peaceful neighborhood, which is why we have chosen to live here. A Sheetz facility would drastically change the nature of our neighborhood and cause our property values to plummet. A Sheetz store, with 24 hours-a-day service would bring noise, traffic, and possibly a late-night criminal element; right in our back yards.

There are 2 other gas stations near the I66 exit 13 interchange. However, they are separated from our neighborhood and the traffic and noise does not impact Apple Mountain Lake. The proposed Sheetz location sits at the entrance to our neighborhood and would be an eyesore all day and all night, and backing up traffic at the intersection during busy times of the day.

For these reasons and more, I am opposed to the construction of a gas station in our neighborhood.

Jeff Walters

To whom this may concern,

I am not in favor of any commercialized facility at the entrance of Apple Mtn. The safety of our families and the environmental damage that will do will is not looking out for us as citizens.

Thank you,

Dale Mayes

640 McIntosh Dr

Linden VA 22642

September 24, 2020

Glen H. Acord
506 McIntosh Drive
Linden, Va 22642

Zoning Board
Warren County, Va

To the Zoning Board

My name is Glen Acord, my wife and I reside at 506 McIntosh Drive Linden, Va. Our home is located approximately 500' from the proposed site of the Sheetz store. I am requesting that the zoning board reject the request from Sheetz to rezone the property from agricultural to commercial.

It is my fear that it will bring added traffic to our community along with crime, drugs, added noise and air pollution.

The construction of this store and gas station will increase the chance of the natural water tables becoming polluted. All the homes are dependent on well water as there is no public water system in our area. There is no guarantee that there will be enough water to sustain the wells and a store. If a fuel leak should occur it will poison the ground water and kill the many animal species that live in this area.

Our roads are not maintained by the state of Va. All maintenance is taken care of through the POA. our roads are not chemically treated during the winter so our wells and groundwater are not polluted with toxins. Our roads do not need the extra traffic that will be caused due to people leaving the store and coming up the mountain.

I do not have any school age children, however I do not support relocating the school bus stop to the parking lot of a convenience store. This store located off a major interstate will attract crime, drugs. The chance of a child being run over by a vehicle or being abducted is a nightmare that no parent should have to worry about.

There are two gas stations in Linden, we don't need another. Please do rezone the property.

Sincerely,

Glen H. Acord

Glen H. Acord

Not sure where to start other then I'm not for Sheetz at the bottom of Apple Mountain.

I moved here from Manassas to get away from the city and all the noise and traffic, to find a nice slice of heaven and some peace and quiet. There is already two fuel stations not more then 2 tenths of a mile from the exit. I am not sure what another station would do. Other then pollute the air and take away from the night sky with more light pollution. On a good clear night I can see more stars than you could imagine. I know they have said they will use led lights facing the ground but it's still going to be a lot of light that will still pollute the air. As for the bus stop proposed location I feel that it is not the best environment to have kids standing around waiting for a bus. Not only will they encounter numerous strangers that could increase their chances of being kidnapped but they will also be exposed to gas fumes which is proven to have negative effects on a child's development. So, in closing, I am not for the Sheetz at the bottom of the mountain.

Michael J Cross

Michael J Cross

58 Delicious Rd.

Linden VA 22642

To whom it may concern,

Iam not in favor of a commercial facility at the entrance of apple mtn. The crime would increase as well as the housing market go down.

Thank you,

Shawn S Campbell
319 King David Dr.

Gmail **Sarah Lhymn <sarah.lhymn@gmail.com>**

letter

1 message

Robert Hicks <rlhicks@wehicks.com> Mon, Sep 21, 2020 at 8:15 PM
To: sarah.l.hymn@gmail.com

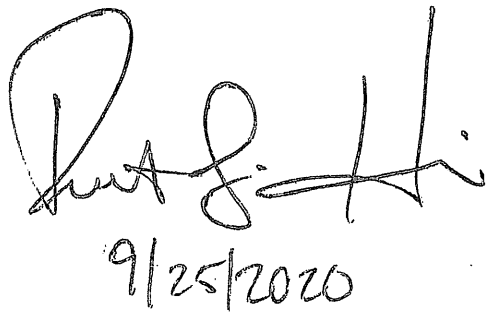
To whom it may concern,

I'm the father of four children. I am extremely concerned with Sheetz going in at the bottom of our mountain (Apple Mountain Lake). I have done some research on the potential issues that a Sheetz might bring to our community as a whole and my family in particular. There are so many potential issues from increased traffic and congestion to the entrance to our community, to underground gas leaks, to major tractor-trailer accidents, to our wells being impacted, to the very peacefulness that brought my family out to Linden 25 years ago. I am sure Sheetz is going to say "It's okay, we've done the studies." but it's not okay. The risks are too great. Other areas where these fears have become reality are or are becoming unlivable and people having to pack up and leave. That is a risk I am not willing to take and I'm sure if it was your family you wouldn't take that risk either.

Say no to Sheetz at exit 13 in Linden.

Respectfully,

Robert Hicks
795 Apple Orchard Dr, Linden, VA 22642
540-660-4141



9/25/2020

September 27, 2020

To Whom It May Concern,

I moved to Apple Mountain 12 years ago from Fairfax to get away from the hustle and bustle of city life. It has been peaceful and quiet! Building a Sheetz at the entrance to AM will take away from the tranquility enjoyed by its residents, add additional traffic, provide a venue for unwanted visitors causing a security risk for the residents. Additionally, the water table will be affected and not in a good way.

This is a peaceful community, enjoyed for nature and peace and quiet. Let's keep it that way. As a former security expert, providing security plans for facilities throughout the world, I can with confidence say that there are significant issues with building a Sheetz. Criminal element, lighting, noise, appearance and the list can go on.

Put the Sheetz somewhere where it is wanted, it is not wanted here.

Andrew Podolak
244 Delicious Rd
Linden, VA 22642

To: Warren County Planning Commission

Re: Re-zoning Application from Dudding Commercial Development for land at Exit 13, at the entrance of Apple Mountain Lake

To Whom It May Concern:

My name is Ruveyde Gugus and my husband and I live at 552 Apple Orchard Drive, Linden, VA 22642. I am writing because I am strongly opposed to re-zoning the land at Exit 13, at the entrance to Apple Mountain Lake. My family and I have lived here for a number of years and ask this Commission to deny this application for re-zoning.

There are at least 10 reasons why you should deny this application:

1. The Warren County Comprehensive Plan designated this land for future use as agricultural.
2. The builder filed this application to put in a **Sheetz gas station**. This is a ***PROHIBITED USE*** of the land. That is, "Bulk gasoline and petroleum storage" is a prohibited use. (see below). Yet, the builder either wants this Commission to ~ look the other way, and approve this re-zoning request, or at worst, is trying to pull a fast one on us. **Do not let this happen. This Commission should deny on this reason alone.**

A. Land Use

1. Development of the Property shall be developed in accordance with the regulations of the Commercial ("C") zoning district as are set forth in the Warren County Code or as may otherwise be approved by the Warren County Board of Supervisors in conformance therewith.

2. The following uses shall be prohibited in the above-referenced Property:

A. Auction houses

* B. Bulk gasoline and petroleum storage

C. Fairgrounds or racetrack

D. Amusement Park

E. Commercial Campground

F. Auto Sales

* ACCORDING TO THIS REZONING DOCUMENT SHEETZ CANNOT HAVE GAS PUMPS OR STORAGE TANKS,

3. **Traffic**. Come on – there is only one main entrance to Apple Mountain Lake and there is already a LOT of traffic at that intersection, which is shared by people coming off 66-W!!! Ask anyone who lives here – we have to wait sometimes 5-6 lights just to get in or out of our neighborhood! And now someone wants to zone this commercial and put a business there??! The traffic infrastructure cannot handle this. Plus, there are already 2 gas stations about ¼ mile away! Two!
4. **Traffic – Emergency Response time.** This is also about traffic. What happens when someone on the mountain has an emergency and needs to call 911? In situations where seconds matter, these emergency vehicles will now have to compete with a business and a huge traffic burden to get into Apple Mountain Lake? Not long ago there was a house burning at Apple Mountain

Lake. If emergency vehicles were not able to arrive when they did, the first might not have been contained like it was, and more houses and people would have been injured or killed.

5. **Pollution.** This is self-explanatory – an increase in air, noise, water, sound, light pollution is inevitable.
6. **Rural Charm.** A lot of us moved here to get away from the big city life. A lot of us stay here for the same reason, and a lot more visit Warren County to experience this rural charm. Allowing this to be re-zoned would hurt that and the reasons many of us live here.
7. **Safety of our Children.** Do you have children? And if so, would you be OK if their school bus stop was behind a gas station on Interstate 66? Would you be OK with letting them walk to that bus stop and waiting for a bus? I am not. And I can tell you many families here feel the same.
8. **Our wells will run dry.** Many families here have wells that have already run dry and some more than once. We don't have enough water on this mountain. I know you've received letters telling you this. Please don't ignore us.
9. **Toxic Groundwater Contamination**. If you allow this land to be re-zoned, there will be a gas station. With lots of underground storage tanks filled with gasoline. There will be leaks. This will go into our groundwater and make our water toxic. Is the County ready to take responsibility for when this happens??? Is Sheetz willing to take responsibility? The builder claims that the tanks are so "perfect" that they won't leak. Can we get that in writing?? I would rather not risk my life, my family's life, my house, my livelihood, on empty promises that is not backed with any guarantee.

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So, I am frankly offended when the builder or Sheetz tells me that there will be no leaks, and their system if perfect. If that is true, why don't they sell their so-called "*perfect*" underground storage tanks to the 2,365 sites that had underground storage tank leaks in the last 6 months alone!!!!

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Don't re-zone because you care if we run out of water.

Don't re-zone because you want to protect us from toxic groundwater contamination from inevitable leaks.

Don't re-zone because the builder is asking you to do this for a PROHIBITED USE!

Don't re-zone because you care about the rural character of Warren County.

Don't re-zone because you want to listen to the residents of Warren County.

Thank you.

Sincerely,

Ruveyde Gugus

Nov. 12, 2020

Attention Planning Commission

NOV 20 20
PLANNING DEPARTMENT

To whom it may concern,

We oppose the construction of a Sheetz gas station and convenience store at the location directly off the exit 13 ramp for Linden.

There are two Exits to Front Royal. Exit 13 is a high volume corridor for local commuter, and tourist traffic which continuously is on the increase. The light at the bottom of the ramp already experiences a great deal of back up, especially during rush hour as well as on weekends. This spot is also heavily utilized during the week by parents of the Apple Mountain Lake community to drop off to, and pick up their children from the school bus.

It is our fear that the increase of automobiles resulting in a Sheetz here would create a traffic nightmare all day long. We all chose this peaceful spot to live to avoid stressful traffic situations that are so common in Virginia. Thank you for your consideration.

Sincerely,

/Richard and Mary Frazier/

90 Rambo Ct, Linden, VA 22642

9/27/20

To the elected officials of Warren County,

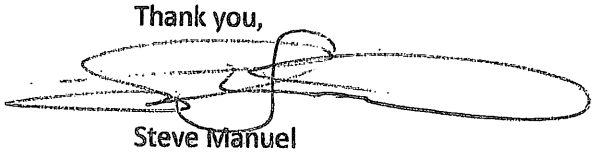
I oppose this area to be zoned commercial for many reasons. This would back right up to our community and literally be in people's back yards. We are against a facility being constructed at the entrance of Apple Mtn.

Thank you,

Mary Ann Burns
832 Granny Smith Rd
Linden VA 22642

My name is Steve Manuel and I am against the Sheetz going in on Rt 79 at the bottom of Apple Mountain. This will affect me and my family in so many ways. Higher crime, Light pollution, and healthy water just to name a few. I ask that you DO NOT rezone this land to commercial. I drive home everyday on 66 and it is a relief and refreshing to see the rolling hills and views versus the city lights and buildings. I moved here for that reason. I love raising my family here. This will mess up traffic much worse than it is now getting off of Exit 13. This would not be pleasant looking in Linden. You will also affect the small business owners that own the franchises to Exxon and 7/11 down the street. Please do not let this pass.

Thank you,

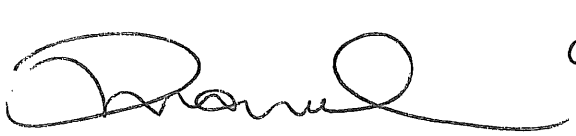


09/25/2020

Steve Manuel

To whom this may concern,

I oppose a Sheetz gas station at the bottom of our neighborhood. I did not move out to this beautiful county to come up over 66 and see a big Sheetz along the rolling hills of the gorgeous Shenandoah Mountains. I do want my children going to a bus stop where they have to stand behind a facility where much unknown activity occurs. Please do not let this happen



9/25/2020

Stephanie Manuel, Resident of Apple Mountain Lake, mother of 2

Testimony in opposition to Sheetz

My name is Ryan Legg, and I have been a homeowner on apple mountain for 8 years. The reason I moved here is to be in a small rural community, away from the hustle and bustle of city or even town life. It has been a pleasure being here, seeing the mountains by day, and the stars at night. Now those stars I look up to at night are in danger, as they will soon be drowned out by the neon lights of a gas station nestled right into the heart of our small community where everyone will be able to see it.

Just off of 66 lies a small two lane road, winding to the top of apple mountain. Sometimes it can be a little cramped, getting up and down the mountain at peak hours of traffic flow, but that is part of life here, and a happily accepted one given the trade offs. The residents of this beautiful neighborhood are all wondering how well these roads and traffic will fare when a monstrosity of a business will be dropped onto the bottom of the mountain. This business will not only ruin the beauty that we all no doubt purchased land here for in the first place, but create an unsustainable traffic pattern that will overwhelm our infrastructure.

Speaking of aesthetics, the building itself is not the only concern to us residents. The litter, the smell, and the unquestionable spillage of fuels leaking into the surrounding watershed are also a concern. This station no doubt will invite people into our small neighborhood that otherwise would not be there. To not be concerned about who is driving by your house is another incredibly potent reason that I myself purchased land here. Now we will have to worry about the litter of those who do not live or care about our place of living, or the care we take in preserving its cleanliness. Now we will have to worry about the gas station inviting unsavory people with ill intent into our neighborhood, around ourselves and our children. Now we have to worry about our children standing at a bus stop next to a gas station, undeniably breathing the vapors and harmful compounds, around strangers with the potential to be predatory in nature or just careless in their operation of a vehicle, and all less than a stones throw from 66.

The potential for fuel leaks was previously mentioned, and is all but absolute certainty when dealing with a gas station. Apple mountain is a massive component of the county watershed, and all of its residents are on well water. What will the residents of this neighborhood do if there is a large spill that ruins our wells? Forget a large spill, we only need a series of small spills over a dedicated amount of time. What about potential leaks in the underground tanks? Like small spills from people filling their cars, this is also all but an absolute certainty. This is not out of the box thinking, this is very real, and a common issue for underground tanks, and a risk that the county appears to be willing to make; to ruin the ground water in our residential neighborhood, potentially poisoning us, and ruining our property by making it unlivable. This is unconscionable, and appalling that the county would even consider this.

Finally, lets discuss the elephant in the room, dollars and cents. How is this gas station going to affect the property values of the residents of this mountain? I can guarantee you that they aren't going to rise as a result. These homes are the biggest investment in the lives of many of its residents, and no one is vying for first place to buy a house that stares directly at a gaudy gas station. I myself live near the top of the mountain, and I don't see any way that I wont be able to sit on my front porch and not see this building. Surely I'll have people flocking to my house with handfuls of cash begging to rent my porch so they can sit and watch the way the light reflects off of the flat roof of the newest Sheetz. Who among the county board of supervisors would vote to have a gas station built next door to their house? I'm willing to bet that none of them would, but these same board of supervisors will be doing just that to

myself and the other fine members of this community. Other parts of our community include the apple house and the other two gas stations that exist less than a half mile away off the mountain. Is this going to help these businesses thrive, or is it going to cripple and even drive them out of business? The decision to place Sheetz on the mountain will be devastating not only on a community level to us residents, but also to the local businesses.

Summarily, there is not a single objective or subjective reason that I can think of that paints the idea of placing a Sheetz on Apple Mountain in a positive light. It drives down local business income, as well as property value; a property value that the Board of Supervisors should be concerned about preserving or increasing. A Sheetz would create hazards environmentally, decrease safety in our community, and place our children at increased, and undue, risk. The residents of Apple Mountain were not approached by Sheetz, we did not approve of this build, we are not neutral in our stance on this decision. Our POA decision to submit a letter of neutrality on this topic is not reflective of the residents that live here, we are appalled that we have apparently been kept in the dark on this approaching decision. If the zoning commission and the Board of Supervisors truly cares for the people of this county, and its residents on Apple Mountain, then they will see that this is a failing endeavor. This endeavor is poor for the local economy, its poor for the environment, and its poor for the residents that these officials represent.

-Ryan Legg

[redacted]

138 Rose Beauty Dr Linden VA 22642

Registered Voter

To whom this may concern,

I oppose a Sheetz gas station at the bottom of our neighborhood. I am not in favor of my kids going to a bus stop a facility that sells alcohol. This community does not want something so atrocious at the beginning of the neighborhood

Eli Cisler

157 Rambo ct Linden VA 22642

To whom this may concern,

We live on King David Dr on Apple Mtn and are not in favor of a commercialized facility at the entrance of Apple Mtn. The environmental damage and the safety of our community is not looking out for our citizens. This is not where we want to raise a family.

Thank you,

Concerned mother of two



319 King David Dr.

September 27, 2020

To Whom It May Concern,

As a resident of Apple Mountain Lake since 2000, mother of four children, and Certified Professional Midwife. I write in opposition to Sheets' development at the forefront of our mountain entrance. I have concerns over environmental and residential safety, traffic congestion, and the visual eyesore of this corporate business in place of the natural countryside. The natural beauty, low development is what makes Linden unique. The residents of Apple Mountain have two local gas stations; I will continue to support them, just as I have for the last 20 years. Let Warren County do the right thing and put the environmental and community safety before profit.

Sincerely,

Desiree K. Cripps, CPM

Desiree Cripps, CPM

vida_y_luz@comcast.net

September 27, 2020

RE: Rezoning of land at base of Apple Mountain Lake

To whom it may concern.

I am against the rezoning of the of land at the entrance to Apple Mountain Lake in Linden, Virginia from agricultural to commercial use. I have been a resident of Apple Mountain Lake since October of 2000.

It has come to my attention that the Sheetz Inc. wishes to change the zoning from agricultural to commercial so they may build a gas station and convenience store at the base of our mountain @ exit 13. I have many concerns, first and foremost is our clean drinking water. All of Apple Mountain, and all of Linden for that matter, derive our water from wells drilled into the precious earth. To install large holding tanks of petroleum into that very same ground that shares our water, opens up a potential for an environmental disaster larger than the Avtex Fibers disaster that Warren county is still paying the price for.

If our water gets contaminated though a slow or fast leaking petroleum tank, the consequences would cripple our community. The amount of water a gas station like Sheetz Inc would consume is worrisome as well. Our water is precious and we depend on it so please, do not allow this land to be rezoned.

With the increased populations to our east, there are a tremendous amount of people who come out to beautiful Warren County to escape the overcrowded, over developed land they are from. The first thing you see as you enter Warren County is a spectacular view as you come around the bend on Interstate 66. To come around that bend and see a red and yellow Sheetz would be absolutely disgraceful. There are two gas stations available for their use right next to the beautiful Apple House that so many of the visitors love.

Linden is a charming area of Warren county and I urge you to keep it that way, do not let greed get in the way of our beautiful county. Please do not allow the rezoning of this land our health depends on it.

Sincerely yours,



Shawn Cripps

SHAWN CRIPPS 467 DELICIOUS RD. LINDEN, VA

NOV 20 2020

To whom it may concern,

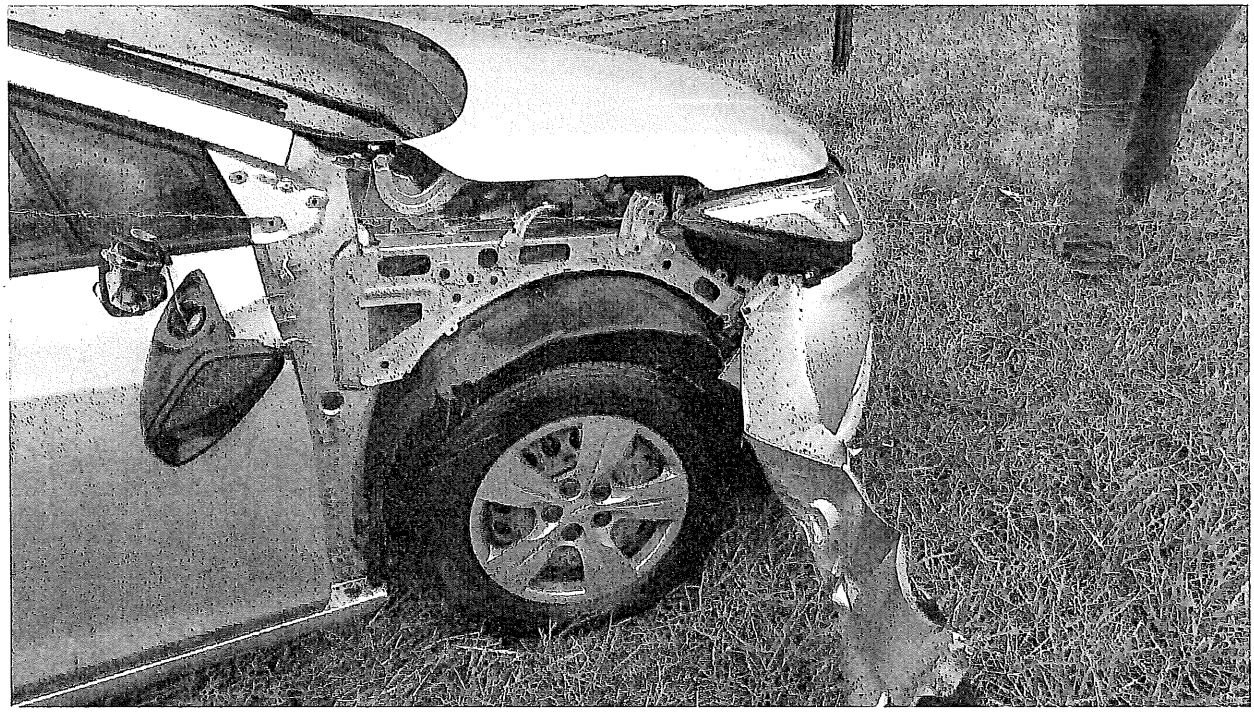
I am a former resident of Apple Mountain. I used to live with my Mom and Step Dad at 627 Apple Orchard Drive. I still visit often with my 1 year old daughter.

I was unfortunately in an accident right before the Linden exit ramp. I was hit by a box truck on chose to switch lanes at the last minute. I had my lights on and laid on the horn but he claimed he never saw me nor heard my horn. My passenger side front door had a big hole in it from the cable step on the back end of the box truck. It tuna canned my whole right side front and tore off my whole mirror. Not only that but, it was during rush hour traffic and I had to control my car from going down the embankment. I did not have any injuries to myself or my passenger, thank god but, I have seen other accidents at that exit 13 who have not been so lucky.

I can see on to 66 from my mother's home and have seen plenty of accidents. You think traffic is bad now wait until you put a Sheetz right at the bottom of that exit ramp. Traffic will be backed up on to 66 not to mention all the last minute people that decide all of a sudden they have to exit right then and there. Please do not let Sheetz be the reason for more accidents in the area. On the following pages are pictures from the accident.

Thank you for your time,

/Paula Copeland /



November 16, 2020

NOV 20 2020

Re: Re-zoning of Land at Exit 13, Apple Mountain Lake

To Whom It May Concern,

I spent a good part of October 17th down at the property in question. The traffic backup to get on and off 66 at exit 13 was miles long. (Photos attached).

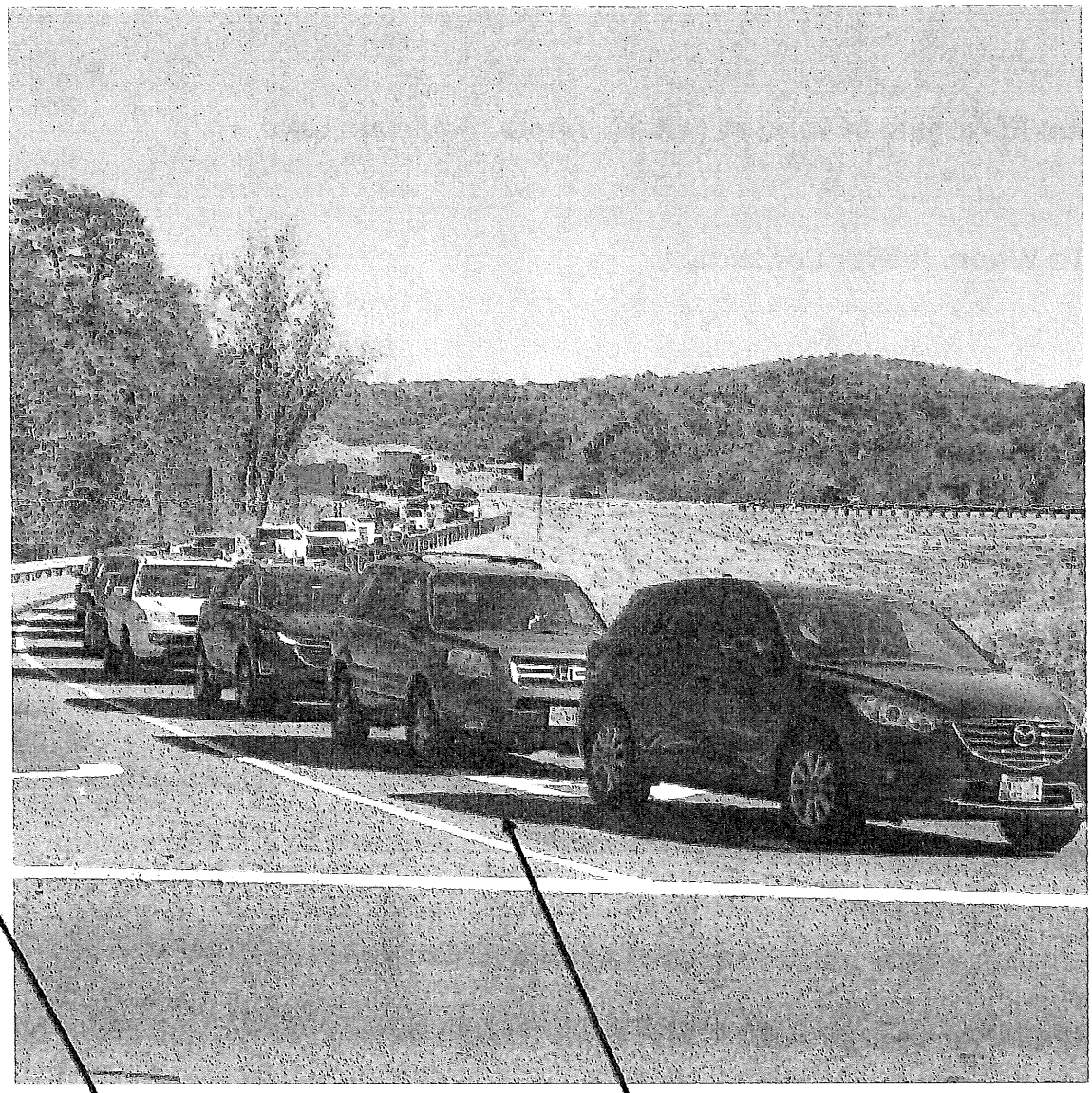
If a business of any kind comes onto this exit area at the base of Apple Mountain Lake, the state of Virginia and Warren County will have to incur immense costs to reconstruct the entirety of 66 and exit 13. One car that I stopped informed me that it took him 45 minutes to get from Spelunkers in town Front Royal to exit 13 which is normally a 10 minute drive.

If a business is added to this type of traffic during the fall season it will impede the home owners of AML from exiting and entering the mountain. It will also prevent emergency vehicles from entering and exiting.

The excessive traffic at this location makes a business or commercial entity at this exit a bad investment fir the state, county, and people of AML.

Respectfully,

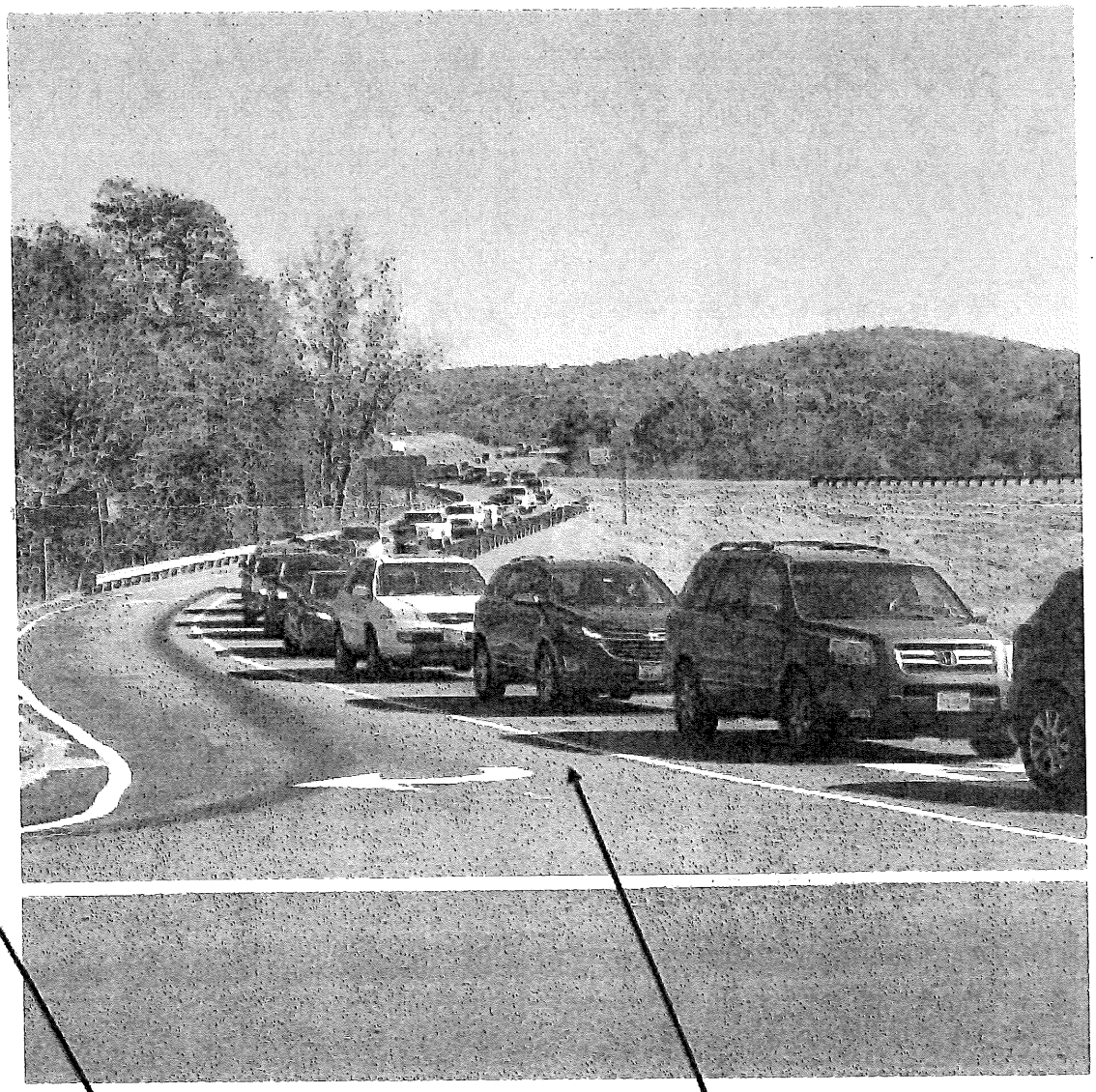
/Deanne E. DePyper/
434 King David Drive
Linden, VA 22642



Date: October 17, 2020

Entrance to Apple Mountain Lake begins here

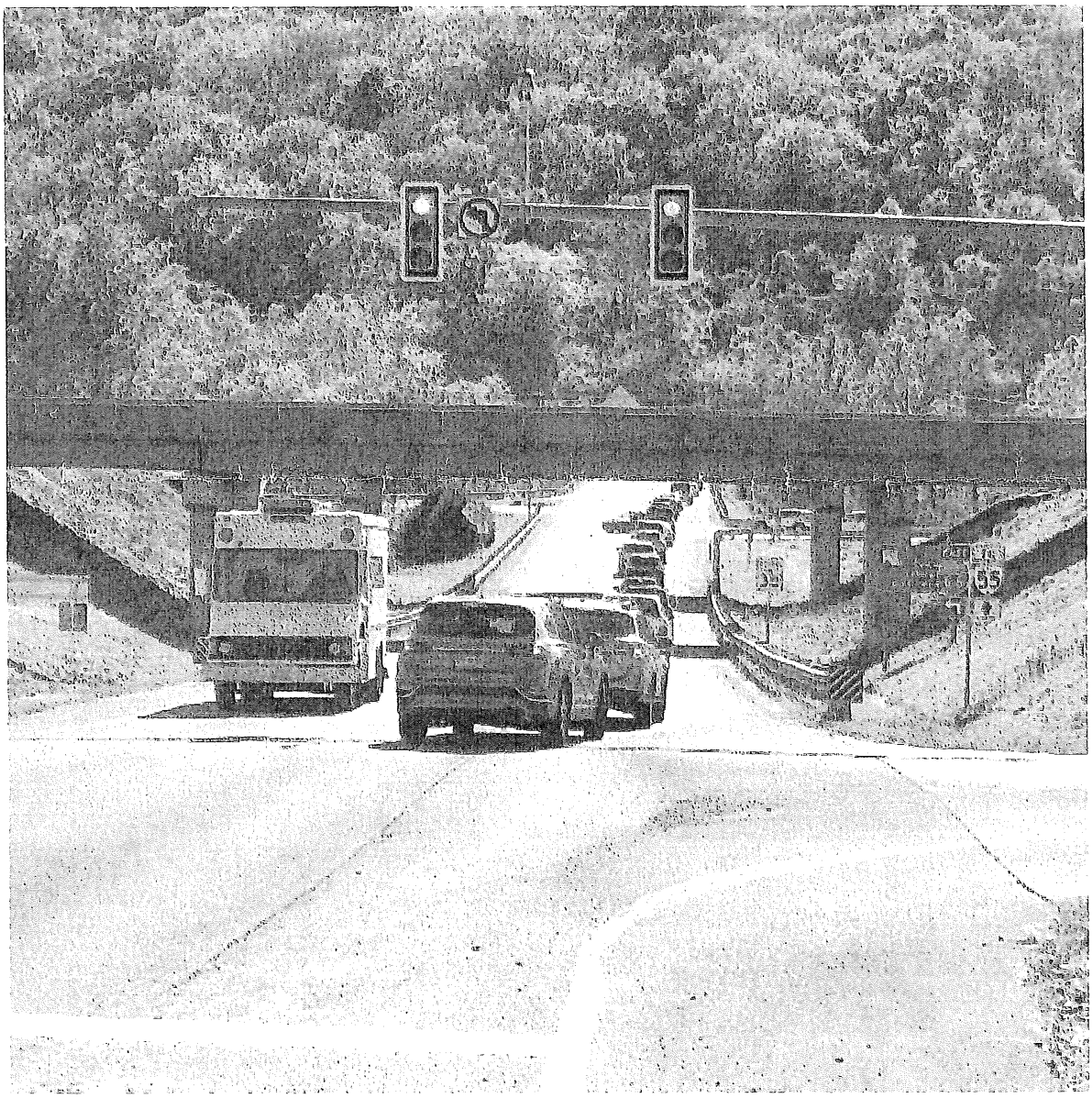
This is traffic from the exit ramp off I-66W



Date: October 17, 2020

Entrance to Apple Mountain Lake begins here

This is traffic from the exit ramp off I-66W.



Date: October 17, 2020

Traffic Light at the Entrance/Exit to Apple Mountain Lake

November 17, 2020

NOV 20 2020

Dear Members of the Planning Commission,

I am in total opposition to the rezoning of land for Sheetz on AML.

Not only because it isn't in accordance with the comprehensive plan as this would be the west side of 66 and commercial is zoned on the east side, but also because the traffic currently is more than troublesome to say the least.

We need to sit through several light cycles in order to get through the intersection. We recently had an emergency on AML where we needed a quick response, I can't imagine how long residents would need to wait for help if we rezone this. Even one life is not worth it if it comes to that.

If this land is rezoned the residents of this community will suffer the consequences. We have built our homes and our lives here.

This is not just because we oppose Sheetz. We oppose any rezoning and any risk to our well-being.

Please help us understand how a large company is more important that the health and safety of your community members.

/Felicia Warner/

84 Grimes Golden Road

Linden, VA 22642

Nov. 17, 2020

NOV 20 2020

To Whom It May Concern:

At this point in time, I know that you are aware of the re-zoning at Exit 13 (Apple Mountain Lake) that Sheetz is requested for the possible build of a gas station. There are a great many reasons why this is a horrible idea and you should have a presentation giving you all the facts you need to deny that request.

I wanted to take a moment to address something that maybe should have had a stronger emphasis in the package that was sent to you. Traffic. The current traffic situation at Exit 13 is already a mess during morning and evening traffic. Placing a Sheetz on that exit will exasperate the situation a hundredfold (even more so when tourists come out for the changing of the leaves). The Apple Mountain Lake community has one major entrance and that comes out at Exit 13 and adding more of a traffic burden to that intersection is going to be a terrible experience for those of us living on the mountain.

Another reason it is a bad idea is that the bus stop is right there as well and when parents drive down and park to get their kids to and from the buses it is almost impossible to pass through it. Imagine added more traffic with the Sheetz in place. I have seen the Sheetz plans and even if there was a new bus stop built it would

not lessen the traffic issues and it would put our kids in even more danger from sex traffickers (imagine a bus stop off a major highway when it is dark like now). All of the above add up to an untenable traffic situation and there really is no way to alleviate it at Exit 13.

Please do not re-zone. Please do not add to the traffic issues. Please do not put our kids at risk.

Respectfully,

/Robert Hicks/
Apple Mountain Resident

To: Warren County Planning Commission November 18, 2020

From: Greg & Julie Keys
583 Golden Russet Dr
Linden, Va 22642

We have lived on Apple Mountain for more than 20 years and have seen changes for the good and for the bad. This is a community that is not suitable for a convenience store like Sheetz that will bring an unwarranted stream of traffic.

On weekends the stream of traffic is becoming untenable. The interchange already has two convenience stores as well as the Apple House which is a very popular location.

When the Fire Department is stopping traffic with their "boot drives" it adds to the congestion. I am waiting for a big traffic event one of these days.

Apple Mountain has no county water or sewer. Sheetz will put an additional strain on an already strained water table. I have heard the stories of dry wells and it is a frightening proposition.

Sheetz does not need this facility here. Just east of Linden the Markham exit has zero convenience stores. What a great location for Sheetz!

I have nothing against Sheetz or their ability to do business but I don't believe that this exit can support the additional stress of this dynamic business.

I would prefer that the county put the well-being of their long tenured tax paying citizens ahead of the wants of an out-of-state and really unneeded business enterprise.

Best Regards,

/Greg & Julie Keys/

Greg & Julie Keys

To: Warren County Planning Commission

Re: Re-zoning Application from Dudding Commercial Development for land at Exit 13, at the entrance of Apple Mountain Lake

To Whom It May Concern:

My name is **Iris Mensing** and I live at **852 King David Drive, Linden, Va** (**AppleMountain Lake**). I am writing because I am strongly opposed to re-zoning the land at Exit 13, at the entrance to Apple Mountain Lake. My family and I have lived here for a number of years and ask this Commission to deny this application for re-zoning.

There are at least 10 reasons why you should deny this application:

1. The Warren County Comprehensive Plan designated this land for future use as agricultural.
2. The builder filed this application to put in a **Sheetz gas station**. This is a ***PROHIBITED USE*** of the land. That is, "Bulk gasoline and petroleum storage" is a prohibited use. (see below). Yet, the builder either wants this Commission to ~ look the other way, and approve this re-zoning request, or at worst, is trying to pull a fast one on us. **Do not let this happen. This Commission should deny on this reason alone.**

A. Land Use

1. Development of the Property shall be developed in accordance with the regulations of the Commercial ("C") zoning district as are set forth in the Warren County Code or as may otherwise be approved by the Warren County Board of Supervisors in conformance therewith.

2. The following uses shall be prohibited in the above-referenced Property:

A. Auction houses

* B. Bulk gasoline and petroleum storage

C. Fairgrounds or racetrack

D. Amusement Park

E. Commercial Campground

F. Auto Sales

* ACCORDING TO THIS REZONING DOCUMENT SHEETZ CANNOT HAVE GAS PUMPS OR STORAGE TANKS,

3. **Traffic**. There is only one main entrance to Apple Mountain Lake and there is already a LOT of traffic at that intersection, which is shared by people coming off 66-W!!! Ask anyone who lives here – we have to wait sometimes 5-6 lights just to get in or out of our neighborhood! And now someone wants to zone this commercial and put a business there??! The traffic infrastructure cannot handle this. Plus, there are already **2 gas stations** about ¼ mile away! The VDOT traffic studies were done during the Corona impact and during a time of day that traffic is fairly light, so in my opinion, useless and incorrect.
4. **Traffic – Emergency Response time.** This is also about traffic. What happens when someone on the mountain has an emergency and needs to call 911? In situations where seconds matter, these emergency vehicles will now have to compete with a business and a huge traffic burden to get into Apple Mountain Lake? Not long ago there was a house burning at Apple Mountain Lake. If emergency vehicles were not able to arrive when they did, the first might not have been contained like it was, and more houses and people would have been injured or killed.

5. **Pollution.** This is self-explanatory – an increase in air, noise, water, sound, light pollution is inevitable.
6. **Rural Charm.** A lot of us moved here to get away from the big city life. A lot of us stay here for the same reason, and a lot more visit Warren County to experience this rural charm. Allowing this to be re-zoned would have a tremendous negative impact on the rural impact and the local residents.
7. **Safety of our Children.** Do you have children? And if so, would you be OK if their school bus stop was behind a gas station on Interstate 66? Would you be OK with letting them walk to that bus stop and waiting for a bus? I am not. And I can tell you many families here feel the same.
8. **Our wells will run dry.** Many families here have wells that have already run dry and some more than once. We don't have enough water on this mountain. I know you've received letters telling you this. Please don't ignore us.
9. **Toxic Groundwater Contamination**. If you allow this land to be re-zoned, there will be a gas station. With lots of underground storage tanks filled with gasoline. There will be leaks. This will go into our groundwater and make our water toxic. Is the County ready to take responsibility for when this happens??? Is Sheetz willing to take responsibility? The builder claims that the tanks are so "perfect" that they won't leak. There are no **Perfect** underground storage solutions (see below studies). It is not a matter of "**if**", but a matter of "**when**" a leak happens. Our way of living, livelihoods and possibly our lives are at stake here.

10. Please take a look at: https://www.epa.gov/ust
    a. Here, is what it says, and I quote:

"Approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances. The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans."

Also, according to the "Semiannual Report of UST (Underground Storage Tank) Performance Measures; Mid Fiscal Year 2020 (October 1, 2019 – March 31, 2010), the EPA reports that:

- There were 2,365 confirmed Leaking Underground Storage Tanks (LUST) in the United States.
- Since data collection began in 1984, there have been 557,644 cases of leaked underground storage tanks. That's over half a million.
- Source: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf

I am offended when the builder or Sheetz tells me that there will be no leaks, and their system if perfect. There are no "*perfect*" underground storage tanks! Proof (confirmed) is that 2,365 sites had underground storage tank leaks in the last 6 months alone! 557,644 since 1984!

Please do not re-zone this land.

- **Don't re-zone** because of the Comprehensive Plan.
- **Don't re-zone** because the traffic infrastructure cannot handle it.
- **Don't re-zone** if emergency response time matters to you for the residents of Warren County.
- **Don't re-zone** if you care about our children and their safety.
- **Don't re-zone** if you care if we run out of water.

- **Don't re-zone** if you want to protect us from toxic groundwater contamination from inevitable leaks.
- **Don't re-zone** because the builder is asking you to do this for a **PROHIBITED USE!**
- **Don't re-zone** if you care about the rural character of Warren County.
- **Don't re-zone** if the voices of the residents of Warren County are important to you.

Thank you.

Sincerely



Iris Mensing

To: Planning Commission

RE: RE-zoning of land at Exit 13, adjacent Apple Mountain Lake

To Whom It May Concern:

My name is Iris Mensing, and I live at 852 King David Dr, Linden, Va. I am writing in strong opposition to the re-zoning of the land at Exit 13, at the bottom of Apple Mountain Lake. I have lived here 20. The reason for purchasing property here on Apple Mountain is because of the rural quiet community, which is now in jeopardy with the proposed SHEETZ GAS STATION at the entrance of Apple Mountain Lake

First, we are sure you are aware that under REZONING REQUEST PROFFERS", Section III(A)(2) - **The following uses shall be prohibited in the above-referenced property: (B) Bulk gasoline and petroleum storage.** For this reason alone, Dudding's re-zoning application should be denied!! They want to build a Sheetz gas station with a convenience store. The gas station will have multiple underground gasoline storage tanks. This is bulk gasoline and petroleum storage, a prohibited use!

It is extremely troubling why Dudding, in most of its application papers, fail to admit that it will be a gas station! At best, they want to confuse us and make us believe it will only be a convenience store, but we all know this is

not true. At worst, they are doing this for improper reasons that one can only imagine.

For this reason alone, the application for re-zoning should be denied. They want to build something that will be a prohibited use!

We also ask that this re-zoning be denied for traffic reasons, and the safety of our children.

I have lived here for 20 years and this is our home. Keep this land agricultural, like the Comprehensive Plan states, for future use. This is the right decision in the Comprehensive Plan, for so many reasons. Please listen to us. We are the people living here. We are the ones that will suffer if this land gets re-zoned. Don't re-zone this land. Thank you for your time.

Sincerely,



Iris Mensing

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

Ron Beckner

226 Jonathan Rd.

Linden, Va. 22642

9/25/2020

To whom it may concern,

I am a resident of Apple Mountain Lake in Linden, Va. I am writing to express my opposition to the possible rezoning or building of a Sheetz gas station at the entrance to my community. There are several reasons for my opposition:

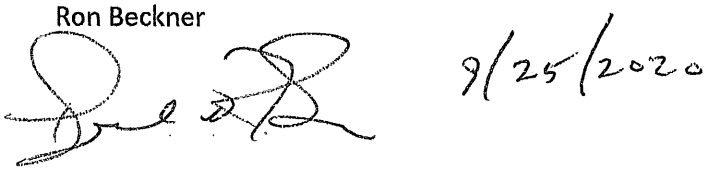
1. Increased traffic at the entrance to our private community.
2. The negaitive effect on the water table and septic system.
3. The effect of commuters and customers of Sheetz on the children who wait in that area for the school buses.
4. An increase in noise created by additional cars and trucks near my home.
5. Light pollution form the commercial building and it's environment.
6. The negaitive impact on my property value.
7. A negative effect on local business owners in our community.

We live in a peaceful, quiet community with liitle or no crime. A commercial establihment at the entrance to our community, like a Sheetz gas station and convenience store, will have a negative impact on our community and it's residents. I moved to this community because it is a quiet, peaceful place and the addition of a commercial zone adjacent to our homes will

change the atmosphere which I sought when I relocated here. I hope those involved in this process will take into account the feelings of the citizens who want to keep their neighborhood safe and peaceful.

Sincerely,

Ron Beckner



9/25/2020

RECEIVED

NOV 30 2020

WARREN COUNTY
PLANNING DEPARTMENT

Gmail

Personal Statement

1 message

Lauren A.S. Baio <lseldomridge@gmail.com>
To: Planning Commission

Tue, Sep 22, 2020 at 2:24 PM

To Whom It May Concern:

I strongly object to the placement of a gas station convenience store. My family and I live across from Apple Mountain and about a mile from the proposed site. I commute over an hour to and from work each day because of my love for the rural nature of this area. It has been an idyllic location to raise my son - where he can appreciate nature, enjoy the stars in the sky at night, and feel safe in a sprawling backyard. An additional gas station-convenience store in our neighborhood will threaten all of those things and will force me, and other residents, to rethink our decision to live here.

A new gas station-convenience store is unnecessary in this area. We already have two gas stations off the same exit on I-66 and no community need for a third. Additionally there is a truck rest area approximately seven miles to the west. In that same area is a gas station-convenience store (Exxon) which includes space for trucker resting and refueling. Another commercial establishment of this nature will put a strain on our water table, irreparably harm the landscape, create an increase in transient traffic as well as crime, and cause additional light, noise and fuel pollution.

The harm to our community far exceeds the miniscule benefit of such a business. To protect the area now, and in the future, this land should not be rezoned from agricultural use.

Respecfully,
Lauren Baio
309 Faith Way
Front Royal VA 22630
410-960-2106

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

Hi.

My name is Lisa Haring. I had my home built on Apple Mountain in 2003. I worked and lived in Arlington most of my life. I moved to Apple Mountain to get away from the traffic, crime and noise.

By putting a Sheetz at the only real entrance to our community you are creating an environment that is unsuitable for most of the people who have selected to live here.

We chose this location for the reasons listed above. You would be taking our quiet community away. Furthermore, our property value will most certainly drop.

Most people who buy in Linden are not looking to live at the entrance of a Sheetz. My home is my old age fall back. I need to be able to sell at a profit to live out my later years.

Please do not let this happen to us.

I feel relatively certain that you would not let this happen if it was at the entrance to your neighborhood.

Lisa Haring

Lisa Haring

My name is Rhiannon Linfeld, I'm a 25 year old homeowner on Blue Mountain in Linden Virginia. I strongly oppose the rezoing of the 30 acre lot on Apple Mountain for ANY REASON. Espcially for a Sheetz. Our water table is a delicate and precious thing, all of the mountain homes on both Blue and Apple are on wells. Wells are already running dry in our neighborhoods. The cost to replace a well? 10,000$ dollars and months of misery. Not many people can afford that, espeically when our ecomnomy is taking a hit from the pandemic. Sheetz would steal our water for their own profits. It is a finite resource that needs to be managed in a responsile manner, choosing profits over people is reprehensiable.

Many people have personally spoken to me that they will move should this project go through. These are our homes, where memories are, where children are growing up. We want them to grow up in safe places, away from traffic, danger, and pollution. Sheetz is not a good fit for Linden. We already have two gas stations well away from homes. We can't support another. Tourists visit the Valley to explore our natural wonders, they want to go to places like the Apple House, the Giving tree, and other local businesses, they don't want another Sheetz.

Rhiannon Linfeld

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

Suzanna Jones

74 King David Dr.

Linden, VA 22642

RECEIVED

NOV 30 2020

WARREN COUNTY
PLANNING DEPARTMENT

TO: Planning Commissioner

RE: Re-zoning of land at Exit 13, adjacent to Apple Mountain Lake

To Whom It May Concern:

I live at the above address and am really opposed to the rezoning of the above-mentioned land parcel. I have lived here for 7 years and love the "country" atmosphere.

There are already two gas stations each with a convenience store with one being a 7-11 at Exit 13. It seems an overkill to have a third one almost on top of the other two.

But my main concerns are as follows:

(1) The additional traffic at the exit will be really heavy. The proposed new gas station is literally almost on top of the current schools' bus stop. The amount of increased traffic just cannot be safe for children as so many of them walk home from the bus stop.
(2) The noise from trucks will be heard for a long distance with a large percentage of homeowners within hearing range. Right now, I hear birds.
(3) Underground petroleum tanks are always at risk for leakage. Everyone on the mountain is on a well. It is also my understanding that it prohibited in the first place.

It is agricultural land. Please keep it that way.

Thank you for listening,

Suzanna Jones

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

September 27, 2020

To Whom It May Concern,

I have lived on Apple Mountain since 1986, built my home, raised my family, served the community, and hope to stay for generations even. My house is on a 3-lot section, with 2 of them greenspaces.

I urge you to keep the properties near the entrance of Apple Mt which are zoned agricultural for that purpose.

I have grave concerns that rezoning the land to commercial would have unhealthy consequences:

1. First and foremost, **the safety of our children**. There are already two gas stations/convenience/food businesses in the vicinity to serve travelers and the community—at a safe distance from our children.
2. **Water supply and conservancy**. As there is not, and like will not be, public water and sewer services to this area a new, large capacity, highly trafficked operation would place a heavy and damaging burden on the environment and the water supply hundreds of families depend upon.
3. **Small and local businesses will suffer**, and possibly not survive. There are already 5 small businesses in the Linden corridor that offer food, gas, gift/tourist, or convenience items. Any large corporate service station will adversely affect those businesses.
4. Last, but important to **our Warren County message** and tone: we are a uniquely beautiful part of the country. People come from all over the world to see our glorious views, hike the magnificent trails, and breathe the clear air. The Linden exit is the eastern gateway to Warren County; the first thing visitors from the metropolitan area see when they come over that hill. I have been to every state and many countries, and there are few to match that sight. If any development must occur, please set requirements and standards that will protect our natural beauty and not destroy or disrupt.

I understand and agree that the owner has every right to sell his/her property for the best offer they can get. But please keep that an agricultural option, or work with the community to put in a safe and healthy operation that does not include heavy traffic, massive pollution, and the youth & children being exposed non-stop to dangerous elements.

Thank you for your consideration.

Lisa Jones
995 Granny Smith Rd
Linde Va 22642

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

Good day,

I, Carrie Karashowsky will not be able to attend the December 9, 2020 Public Hearing for the re-zoning of the land at Exit 13, at the bottom of Apple Mountain Lake.

I, Carrie Karashowsky at 365 Golden Russet Dr, Linden, VA 22642 and, (412) 523-0749 hereby request for these comments to be read into the minutes during the Dec. 9 Public Hearing.

I am writing to you with my concern about the proposed Sheetz that wants to build at the entrance to Apple Mountain. Please help us make them reconsider. This is a horrible idea. For the following reasons:

1. This is our only entrance in and out of the mountain.

2. Traffic, again it will back up traffic, making it harder to get off our mountain. It will take us longer to leave. Depending on the time of year, traffic backs up horribly. This is also placed right at an on and off ramp! What if there is an emergency, it will take longer for Emergency Response to get to us.

3. Our children!!!! As a parent of a child now attending school, I feel 100% safe having my child at the current bus stop. There is less traffic flowing here since it is only residents coming through. Having a bus stop in the BACK of the parking lot is only going to cause more problems. Many children do walk to the bus stop, having a Sheetz there will make is easier for kidnapping, a child to get hit. Things happen so fast that even security cameras can't save them.

4. The location is right at an on and off ramp. That alone will cause more backups.

5. Drying up our wells. Sheetz will drain our wells since they will work off well water. Can I send Sheetz my bill for when my well dries up and I have no water in my house to give my children and pets?

6. **Safety**, having Sheetz here opens up people to start driving around our mountain. I worry for the safety of myself and my family, along with the friends that I have made on this mountain.

7. **We already have two gas stations on the otherwise of the mountain!!!** We do NOT need another one. Both provide not only gas, but also anything we might need as well.

8. **Pollution!!! What happens if there is a fuel spill? That can mess with our well water!**

9. The current spot, despite being just off our Apple Mountain Lake property, we do use this, not just for a bus stop, but we do our annual Halloween Truck or Treat. Santa stops here, we've been doing some holiday parades going up our mountain and it's the starting point. **As a community, please do not take this away from us. Especially since everything going on, we need something to help bring us together.**

Thank you for your time. I truly hope you will help us. Just please keep this in mind, **imagine your house was right behind Sheetz, how would you feel? Please put yourself in our shoes.**

/Carrie Karashowsky/

Carrie Karashowsky
365 Golden Russet Rd
Linden, VA 22642
(412) 523-0749

RECEIVED

NOV 30 2020

WARREN COUNTY
PLANNING DEPARTMENT

September 24, 2020

Please help stop Sheetz,

My husband and I moved to Linden, Virginia in 2004. We love the quiet simple life here in Linden. It is very troubling to think that Sheetz is trying to build right outside of our residential community. Linden is not a growing community and has little need for a third gas station, but if Sheetz is serious about building in Linden, they should build on Route 55 where all of the commercial buildings are currently located.

There are serious health and environmental issues to the residents, water, and animals in the area from a gas station. The proposed gas station will cause additional traffic, including back up on I66 at exit #13, noise from the additional traffic, additional semitruck traffic and light pollution in the area. The land in question is currently zoned agricultural and should remain agricultural. Agricultural land will have the lowest impact on the residents in the immediate area.

The residents in Apple Mountain Lake (AML) use well water and Sheetz will use the same water table. We do not have $30,000 available for a new well if the additional usage lowers the water table. Not to mention the pollution of our well water, and local water sources that animals rely on will be exposed to toxins from the underground tanks and run off from the gas pumps.

A huge concern is the location of the school bus stop. My daughter is a grown adult and lives in Loudon county with my grandson. However, I am appalled that anyone would propose a school bus stop location behind a gas station and convenience store. This is not acceptable! Not all parents can drive their children to the bus stop and wait with their children. The bus stop accommodates elementary school children, middle school and high school children. Some parents drop the children off at the bus stop and they would be unsupervised until the bus arrives. And some children walk to the bus stop. The children walking to the bus stop would be forced to walk through a gas station parking lot, and wait for the school bus. This exposes the children to unnecessary risk and I don't believe any parent would find this scenario to be acceptable.

Please help us stop the rezoning of the property that Sheetz intends to build on and keep the land zoned agricultural. Please help us keep the residents, our children, our well water and the local wildlife safe.

Thank you,

Mike and Mona Centers

609 Golden Russet Drive,

Linden VA 22642

Michael Centers
Mona Centers

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

September 24, 2020

To Whom It May Concern:

I am writing to voice my concern and opposition to the proposed rezoning for development of the site at the foot of Apple Mountain for the construction of the proposed Sheetz or any other similar development.

The risk to the environment from the additional traffic, water usage, storage of gas tanks, and deforestation and destruction of habitat that is necessary for this construction threatens to have an adverse, and irreparable, impact on the community of Linden. Additionally, this area is a bus stop for local children, and the potential danger to them is also considerable because of increased traffic flow, the proximity of a convenience store, and the numerous trucks and other vehicles that would come through such a site.

The current infrastructure of the area does not have the capacity to support the proposed development.

The potential risk to the water table and to the surrounding community and environment in the event of an accident is unacceptable.

The increase in traffic would congest the area in a way that would be a severe burden to the community.

Please consider the voices of the local community as you review this application, and protect the beauty and safety of Linden and the surrounding area.

Sincerely,

Kate Watters

Kate Watters

23 Warbler Way

Linden, Virginia 22642

My name is Hope Payne & I have a son who will be attending public school in three short years. I also have neighbors and friends with young children in Apple Mountain Lake, who will all be negatively impacted by a Sheetz gas station at the entrance to our neighborhood.

It is appalling to me that anyone with common sense would allow a school bus stop to move to the back of a gas station.

My #1 concern is for the safety of our neighborhood children who will have to go to here every morning and afternoon for school.

Once dangerous people figure out that there are kids waiting for the school bus every morning at this proposed Sheetz, I am 100% sure it will be a matter of time before a school child will be harmed in some way, whether it be in the parking lot, being followed home by a predator in his/her car, being hit by a vehicle, approached by a human tracking ring, a pedophile, or other criminal threat.

I am also concerned about the environmental effects this will take right on our neighbors, and especially our water systems.

Sheetz can go build somewhere else where they will NOT threaten the daily safety of our neighborhoods' children, and our homes.

It is my hope that Warren County will stand up for its citizens, and not give into a business who is sorely seeking profit and unintentionally attracting threats to our community.

Warren County leaders, PLEASE DO NOT provide another reason for your citizens to lose further confidence and trust in your leadership & ability to care for the community.

Sincerely,

Hope Payne
781 King David Drive
Linden VA 22642 "

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

My wife and I have lived on the mountain since 2003. Our well went dry after 3 years living in the house. We ended up spending $30,000 for a new well that had to be drilled over 900 feet deep. We don't want a gas station that will ultimately use more water than needs to at the bottom of our mountain. We couldn't afford the well back then, and we sure can't afford to be out of water in the future.

#nosheetz

Regards,

James & Debra L'Amoreaux

64 Black Twig Rd

Linden, VA 22642

jlamdcor@aol.com

RECEIVED

NOV 30 2020

WARREN COUNTY
PLANNING DEPARTMENT

RECEIVED
NOV 30 2020
WARREN COUNTY
PLANNING DEPARTMENT

To whom this may concern,

We are not for the area at the bottom of AML to be zoned to commercial. The crime would increase in the area. Also, the housing market would decrease in this area. That is not where we want to raise a family.

Thank you,

Amy L Sajeski
687 High Top Rd
Linden VA 22642

Cindy Kokernak

From: Michelina S. MIley <pgmsbm3@gmail.com>
Sent: Monday, January 11, 2021 11:36 AM
To: Jerime@duddingcommercial.com
Cc: Tony Carter; 'Sarah Lhymn'; Cindy Kokernak; barbara@frwrc.org
Subject: Please consider for Property Next to Apple Mountain Lake Community

The Warren County Conservation Easement and Purchase of Development Rights programs are projects to assist County landowners in protecting and preserving farm and forest land, open space, scenic vistas, historic sites, water resources, environmentally sensitive lands, and the rural character of the community for the future. A conservation easement is a voluntary land-protection tool granted by the owner, and there are currently twenty-two (22) properties and 2,000 acres under conservation easement in Warren County. For more information about conservation easements, check out the brochure created by the Warren County Planning Department.

Recently, in appreciation of the contributions of landowners to the conservation easement program, the County created signage to be installed on these properties.

https://www.warrencountyva.net/conservation-easement-program

Cindy Kokernak

From: mdenisa.scott <mdenisa.scott@comcast.net>
Sent: Wednesday, January 13, 2021 4:33 PM
To: Cindy Kokernak
Subject: please read at tonght's planning meeting

-------- Original message --------
From: Denisa Scott <denisa@nusprime.com>
Date: 1/13/21 2:30 PM (GMT-05:00)
To: Denisa Scott

To the Warren County Planning Commission,

I would like my comments heard at tonight's meeting, though due to having high-risk family members in our household, I do not think it prudent to attend in person. This said, as a 20+ year resident of Apple Mountain Lake, I must voice my most vehement objections to the potential approval of rezoning the land at the base of our mountain that would allow a SHEETZ Gas Station to be constructed there. I have drawn my information cited below, from highly discriminating, reliable scientific sources such as the World Health Organization, US National Institutes of Health, US Department of Housing and Urban Development (HUD) , Johns Hopkin University, Penn State, and peer reviewed scientific publications funded through the National Science Foundation.

The facts are that

1. Compounds injurious to human health are released from gas stations during vehicle fueling and from underground storage tank vents. These compounds include: benzene, toluene, ethyl benzene, and xylene (BTEX). Measures to reliably resolve these adverse health effects are **not employed at new gas stations**. Adverse health effects directly attributed to exposure to the compounds include but are not limited to nausea, **cancer**, anemia, increased susceptibility to infections, and learning disabilities. According to *World Health Organization Guidelines* ***there is no safe level for benzene.*** *A 2019 study of U.S. gas stations found that benzene emissions from underground gasoline storage tank vents were sufficiently high to constitute a health concern at a distance of up to 518-feet.*
2. In 2005, the California Air Resources Board recommended a minimum 300-foot separation distance between new gas stations and "sensitive land uses" including playgrounds and other places where children convene. The Sheetz Proposal puts our children's current, and potential future bus stop well within the danger-zone.
3. The U.S. Environmental Protection Agency echoed concerns about the health risk associated with gas station emissions in their *School Siting Guidelines*. The US EPA recommended screening school-use sites for potential health risk *when located within 1,000 feet of a gas station.*
4. Other environmental damage that *will* result should you approve this blight upon our community:
    a. Johns Hopkins University researchers recently found that an average of 40 gallons of gasoline is spilled at a typical gas station per year at the pumps. The JHU researchers also found that a significant portion of the spilled gasoline can migrate through the concrete pads at many fueling stations.

b. One review of scientific studies ultimately found that gas station should be no closer than 500 feet to a well, wetland, spring, stream, river, pond, lake, reservoir or tidal waters. This alone negates this land from being rezoned for construction of a gas-station. Our mountains wells would mostly all become contaminated.

5. Approving SHEETZ to build on the proposed construction site will place our children in further, daily extreme danger.
    a. A survey of Quick-Mart retailers in 2019 found that **100% reported drug-use and dealing on their properties**
    b. ***The explosive, exponential growth of drug-use, most notably opioid addition, in Warren county over the last few years has effected a disproportionate number of our students. Deaths from accidental overdose is both unthinkably tragic, but an almost daily occurrence at this point, right here in our community. Many have been children.***
    c. **Numerous studies link proximity and access to gas-stations and quick-marts to drug dealing and exposure to drugs and other illicit substances.**
    d. Additionally, a recent survey of human trafficking victims reveals that quick-marts and gas stations, especially those with **easy on-off to interstate highways,**, are a favorite targeting and transit-point for their "handlers" (which SHEETZ absolutely would be given its placement on the access road to I-66). Furthermore, we have over 100 sex offenders living locally, and Virginia writ-large has been identified by the BFI and Federal Marshalls as a major human-trafficking "problem area". As recently as November several dozen sex-trafficking victims, many of them minors, were rescued by Federal Marshalls in a Virginia raid.
        i. Considering this in context; as a rough rule of thumb, each proposed pump at a gas station generates about 100 to 130 trips per day. By "pump" we mean fueling position. The convenience store will generate 800 to 1,200 trips per day per 1,000 square feet. So a 2,000 square foot store with ten pumps would generate around 3,150 trips per day. (CEDS.org)
    e. Currently generally only local traffic is ever in proximity to our current school bus-stop. The idea of such a radical increase in outside traffic in proximity of our vulnerable school-aged children is truly frightening.There is no *possible* way to monitor and patrol a convenience/store/gas-mart with such easy, innocuous, and quick-in-and-out access adequately, to prevent the inevitable tragedy of a child being introduced to drug use, or worse, abducted and/or molested/murdered as a ***direct consequence of allowing Sheetz to build at this proposed site***.

All of these facts converge to compel each of you, our duly appointed members of the Warren County Planning Commission, unequivocally and unanimously voting AGAINST allowing Sheetz to build at Apple Mountain Lake. There is no other vote possible, assuming you do not want our children's body-bags, either imminently by human-predators, or due to long-term toxin-exposure, on your conscience.

I am not trying to guilt anyone, or use scare tactics. These are simply FACTS.

Sincerely,

Denisa Scott
Apple Mountain Lake Resident

571.969.5242

Cindy Kokernak

From: Lisa Martin <lgm.hiker@gmail.com>
Sent: Thursday, January 7, 2021 2:38 PM
To: Cindy Kokernak
Subject: Sheetz

Hello,

I've never been one for government involvement, but after yesterday, seeing what happens when good people dont get involved happens, I've decided that I cant go without my voice being heard.

I know all this is is a new gas station being built, but its my mountain, its my home, its where I live for peace and quiet and comfort. If you allow the Sheetz to be built on Apple Mountain, you are going to markedly change our way of life. There is no reason to allow this to happen.

I will be on the livestream and I will be joining with my neighbors to do whatever is necessary to stop you from ruining our community.

Lisa Martin

Cindy Kokernak

From: John Hoody <jhoody01@msn.com>
Sent: Tuesday, December 29, 2020 5:19 PM
To: Cindy Kokernak
Subject: Sheetz

Please allow Sheetz to be built in the Apple Mountain area. We need the jobs.

Sent from my iPhone

Taryn Logan

From: Bonnie Hicks <eggplant@wehicks.com>
Sent: Tuesday, November 24, 2020 11:54 AM
To: remyers20@gmail.com
Cc: Taryn Logan
Subject: Proposed Rezoning for Sheetz in Linden, Virginia

Dear Mr. Myers,

My name is Bonnie Hicks and I have lived in Apple Mountain Lake subdivision for 26 years. We were almost neighbors! You mentioned at the November 12 hearing that you had been a resident over 30 years ago. I am glad that someone on the Planning Commission is so familiar with our location. I think it is wonderfully distinct in its rural setting paired with convenience for commuting. Those were certainly major factors when my husband and I relocated here from Fairfax County.

My commute in the last ten years has kept me current with developments at the exits in Marshall and Haymarket. Apple Mountain Lake is unique in the number of homes (600) to the proximity of the highway. While there are some homes close to the extremely busy Marshall exit, they were at one time "in town" homes, and some of them have been abandoned. Additionally, the large development of rental townhouses is set farther back from the gas station and shopping center. Getting off of the highway on this exit is a test of patience and driving skills to avoid getting hit and it does not appear that the current design for highway access is a good fit for the amount of traffic currently flowing through the area. The other Marshall exit and the Markham exit are even less congested and developed than Linden. Haymarket and Front Royal both have very commercialized and busy exits but no large communities impacted by the traffic.

While I-66 is a connector to I-81, there are distinct differences between the two. There are no telescoping signs, and nowhere near the level of truck traffic and corresponding accidents and miles-long backups that are synonymous with travelling on I-81.

It is fair to say that we don't have any precedent for this type of development in our part of the Commonwealth, and for good reason. The risks far outweigh the benefits. I know you are in possession of the packet prepared by Sarah Lhymn stating specific objections to the Sheetz development. I also know that the Sheetz team has a "Letter of Neutrality" from the Board members of Apple Mountain Lake Property Owners' Association. I think it is significant to point out that the Board members did not notify nor poll the membership before writing this letter. As a matter of fact, on October 18, 2020 there was an annual membership meeting where a majority of members voted to rescind that letter and replace it with a letter objecting to the development. The Board members wrote a lackluster replacement letter that makes it clear that they are in favor of the rezoning even if the membership is not. After being part of the team that went door to door and collected petition signatures from a majority of homeowners who are against the rezoning, I can state with confidence that the Board's opinion does not represent the desires of the community at large. Unfortunately the process of replacing those Board members will take too long to be effective in our efforts to block the rezoning.

I was present at the November 12 presentation to the Planning Commission. At times it was hard to hear everything that was being said, but I do want to point out that Sheetz has a heavy burden to sufficiently address concerns over traffic, water use, and the effects of pollution (exhaust, light and noise).

It will take significant and expensive reconstruction of Exit 13 to allow for the access that we currently enjoy. And as you may be aware, that access is severely impacted during the weekends of peak leaf-peeping and

during times of heavy snowfall. Please hold Sheetz accountable and require that they will not harm our community by restricting access.

A member of the Sheetz team stated "there are already two gas stations in this location." The gas stations currently in Linden are much farther away from the community. There are four lanes of highway and a lot of land buffering the noise, lights and smells coming from those gas stations. There will be little to no buffer for some of the homes here (mine included). Please do not let Sheetz minimize the impact that their business will have on the quality of life for families living here (not to mention their home values).

Last but not least, there are major concerns about water access. Sheetz will have the money and technology to drill their wells very deep, and there is no possible way that anyone can know what impact that will have on water access to homes here. Our family experienced severe drought in the early 2000s, to the point where we had silt coming out of our faucets. The implications of losing water in your home are frightening, but at least then we knew that once it started raining, things would go back to normal. If we lose our water when Sheetz drills for theirs, we have essentially lost our home, and will be forced to recover it at great expense. Please insist that Sheetz guarantee continuous access to water for the families of Apple Mountain Lake.

Thank you for taking the time to read and consider these issues. My family and my community appreciate the Planning Commission's careful consideration of the issues at stake with this proposed rezoning.

Sincerely,

Bonnie Hicks
795 Apple Orchard Drive
Linden, Virginia

Total Control Panel Login

To: tlogan@warrencountyva.net
From: eggplant@wehicks.com

Message Score: 25
My Spam Blocking Level: Medium

Block this sender
Block wehicks.com

High (60): Pass
Medium (75): Pass
Low (90): Pass

This message was delivered because the content filter score did not exceed your filter level.

Cindy Kokernak

From: Bryan Ruffner <bryan.ruffner@gmail.com>
Sent: Wednesday, January 13, 2021 2:02 AM
To: Cindy Kokernak
Subject: Warren County Planning Commission - January 13 Linden/Apple Mountain Lake Sheetz Service-Station Public Hearing

Dear Warren County Planning Commission:

I am the owner of the Apple Mountain Lake (AML) property located at 753 Grimes Golden Rd. My primary residence has for many decades been in Annandale, VA near the Motiva Enterprises LLC Pickett Rd oil tank farm. In 1990 the tank farm was owned by Star Enterprise. At that time, the tank farm leaked into, and devastated, the adjacent Mantua neighborhood (see https://www.epa.gov/hwcorrectiveaction/hazardous-waste-cleanup-motiva-enterprises-formerly-star-enterprise-fairfax-city).

I am strongly opposed to the placement of a Sheetz service station at the entrance to the AML community. The water table from which AML residents draw their well water undoubtedly extends under the proposed gas-station tank footprint, making us very vulnerable to any leaks from the tanks. I feel the risks far outweigh any advantages to the community especially given that there are already two gas stations on the other side of I-66. Finally, there is a strong transition underway from internal-combustion engines (ICE) toward electric vehicles. This is a very bad time for our community to make an investment in a service station for ICE vehicles given both the likely short productive lifespan of such a station, and the corresponding threat to the health of AML residents.

Thank you for considering my opinion.

Sincerely,
Bryan J. Ruffner
703-764-0353

Memorandum For Record

To: **Sheetz, Inc**
From: **Apple Mountain Lake POA, Board of Directors**
Subject: Proposed Sheetz in Linden, VA Concept Plan C
Date: 20201101

This memorandum will serve as the Apple Mountain Lake POA, Board of Directors official stance of opposition to the proposed site plans for the construction of a Sheetz store located adjacent to the AMLPOA entrance at Macintosh Drive and supersedes any previous memo concerning the subject above.

October 17 marked the date of the AMLPOA 2020 semi-annual meeting of the membership. A quorum was present with 76 lots represented in person and proxy attendance. Upon a call for new business a motion was made from the floor for the Board of Directors to rescind the MFR dated 20200914 which outlined the Boards' decision to remain neutral on the construction of the proposed Sheetz and replace with a memo of opposition. The 76 lots represented at the meeting did not constitute a majority of the total membership of 684 lots in the community but were enough to represent the membership at the meeting and carry the motion.

The membership raised several concerns regarding the presence of a gas station so closely located to our association and the following should not be construed as the extent of those concerns. The one that seems to stand in the forefront is the potential environmental impact of leaking fuel tanks and the use of chemical deicing agents in the winter on the water table that serves many of the homes located in our association. The risk to children's safety having a school bus stop co-located with a convenience store has garnered an equal amount of attention from the community and viewed by many as irresponsible and unacceptable to any proposed plan. The impact of increased traffic around the entrance to our community is viewed as a nuisance that could be avoided if the property remained zoned as agricultural.

The addition of any business as closely located as the proposed is sure to bring a wide array of emotions and opinions from the community. We are committed to being a transparent conduit of information to our membership regarding this project and will continue to address the concerns of our community and informing them of where they can show support or express objection as this proposal makes its way through the Warren County government processes.

We do recognize and are grateful that Sheetz from the beginning has showed their commitment to being a good neighbor by involving our Board into their decision-making process and legitimately listening to our concerns and even taking action by altering site plans to accommodate our community with key issues such as removing the truck stop from consideration and including a visual abatement. Hopefully, this does not deter any future collaboration if the opportunity presents itself.

Jason N Cagle
President, Apple Mountain Lake POA

RECEIVED
DEC 02 2020
WARREN COUNTY
PLANNING DEPARTMENT

Michelina S. Milley

From: Michelina S. Milley <pgmsbm3@gmail.com>
Sent: Sunday, November 15, 2020 7:44 AM
To: sarah.lhymn@gmail.com
Cc: Jmartin@coventrygrp.com; D_SNP_SO_AT@patc.net; tcarter@warrencountyva.net; ccullers@warrencountyva.net; afox@warrencountyva.net; wmabe@warrencountyva.net; doates@warrencountyva.net; barbara@frwrc.org
Subject: RE Sheetz & AML Community
Attachments: AML.docx

I own a lot on AML. It is lot N26. I was intent on selling the lot and attended the October POA Semi Annual Meeting. This is when I found out about the Sheetz proposal/lease of land for owner Four L Corporation out of Goochland and Dudding as their representative and Sheetz as proposed lessee.

Needless to say, I was disheartened as I really wanted to market my lot in a more favorable situation.

So I began writing and researching. I've read the rezoning request and frankly I see lots of problems with the proffers that are included. I do not have time to elaborate. I've written emails to Zoning; the AMLBOD (which believes it does not have a requirement to voice opposition and therefore is not representing many of the residents on AML—their logic is arguable), the Warren County Board of Supervisors and Appalachian Trail and fellow AML neighbors.

I am sending you the results of some of my research. I believe the data supports that the convenience stores, especially as would be situated on this parcel, are magnets for robberies and murders. The reason this site is especially conducive to this type of crime is that it is 24 hour; it is situated in an isolated area and therefore conducive to escape. Various studies indicate that there is no real prevention (i.e., cameras, etc.) but there are mitigating measures such as cash protocols, more than 1 employee on site, etc. But, again, this site is a "crime scene" utopian dream—

I also believe the data supports the devaluation of surrounding homes/property. There are many factors but one that particularly annoys me is the plethora of car noise—we all know that many drive in with speakers so loud they could wake the dead. Strangers will not care as they drive in to get their snacks and gas up. Lighting will affect the appreciation of the night sky. Food smells will attract wildlife and annoy nearby AML residences.

Finally, the idea of placing a school bus drop off/pick up on the property is simply borne from blinded ambitions—it is not safe.

In the rezoning application, there is a claim made that this proposal is consistent with the comprehensive plan. I am not sure how this is so for Linden, Virginia, considering that the majority of Linden has been populated by "getaway" developments. I do not see any support by Dudding for this statement. It is interjected without validation.

This property is not designed for any real use because it is off the exit ramp and it will impede traffic going into and out of AML and onto Route 55. On my way to the Semi Annual AMLPOA BOD meeting, I could not exit onto Route 55 off of Route 66 because there was a backup on the exit itself onto Route 66. This was a Sunday in October! I had to take the next exit off 66 into Front Royal (site of the meeting).

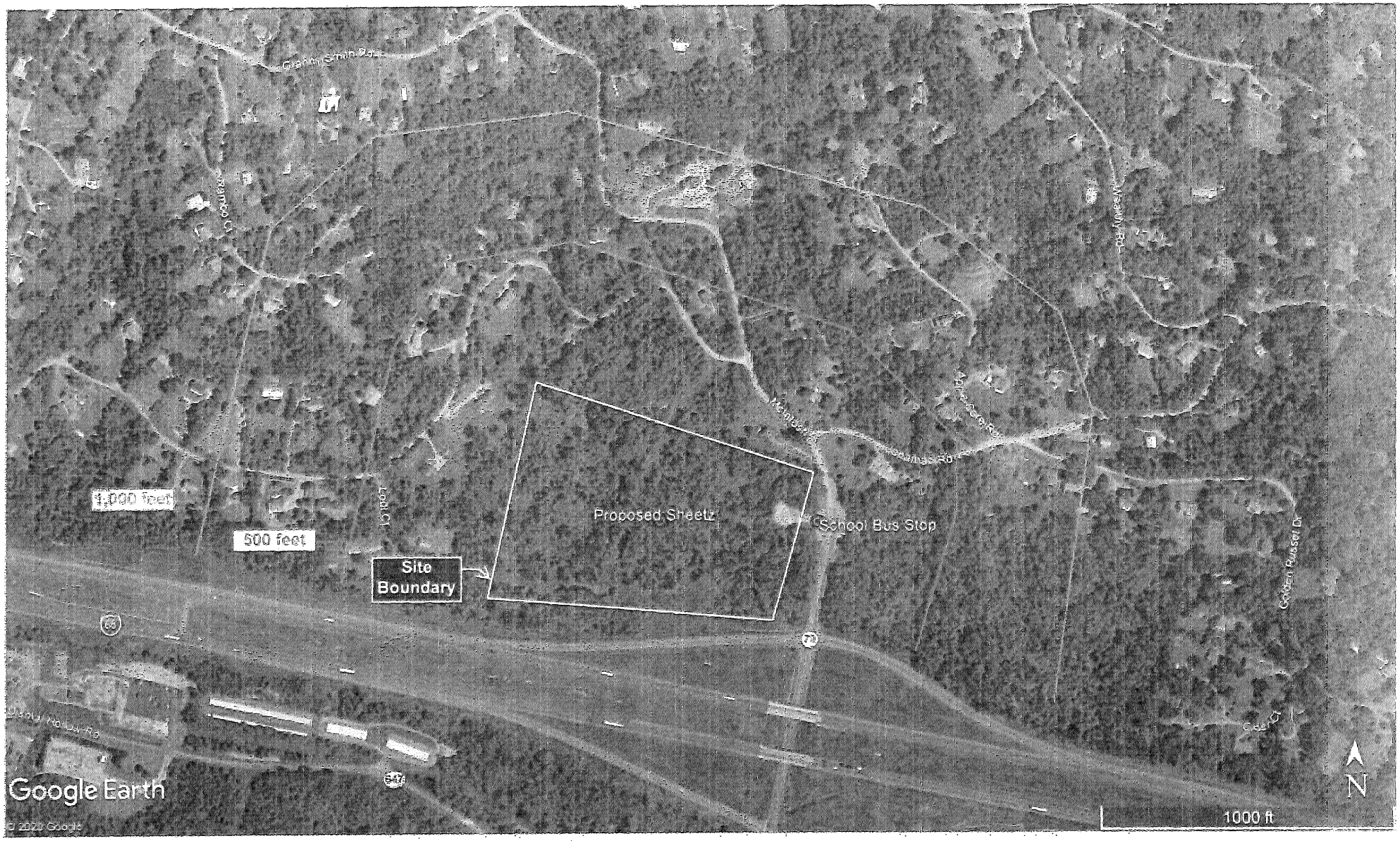
As I have researched the subject, I have become more devoted to protecting the safety of AML residents and especially their children and these families' right to a peaceful environment for their homes and their right to expect some real estate appreciation instead of devaluation. Devaluation will affect all related businesses and government creating new issues to deal with.

I attach my research.

I hope this helps your efforts on behalf of the entire Linden region. AML and other developments are zoned R1- but they are residential rural in all original intent.

Michelina Miley
AML Property Owner

AML .docx -


1,000 feet
500 feet
Site Boundary
Proposed Sheetz
School Bus Stop
Google Earth
1000 ft
N

Attachment to Email from Miley to Lhymn, et. al. Email Dated 11/15/2020.

There are some differences between the brands. Sheetz is a little more lively and fun with their loud pop music and bright red and yellow decor. Everything aligns with the brand — the bakery sells shweetz, sandwiches are subz, and even the employee gym is called the Shwellness Center. Sheetz got its start in Altoona and has since expanded to 500 stores throughout Central and Western Pennsylvania, Maryland, Virginia, West Virginia, Ohio and North Carolina.

"We're in smaller towns," said President and CEO Joe Sheetz, speaking from his company's headquarters in Altoona. "In a lot of those places, we're kind of the general store, the corner store. Sometimes we're the social center of that small town where people meet." HOWEVER THIS WOULD NOT APPLY TO AML LOCATION AS AML AND SURROUNDING COMMUNITIES ARE RESIDENTIAL RURAL.

Joe Sheetz is the president and CEO of the third-generation family company, still headquartered in Altoona, Pa.

Perhaps the biggest impact is through jobs. More stores means more jobs on the homefront — warehouse and distribution jobs, trucking and logistics work and other jobs outside the stores.

"I don't think we're the reason Blair County is a great place to live but I'd like to think the jobs we've been able to create, particularly the jobs in the last 15 years, [are] not only well-paying jobs but lots of career opportunities that we've been able to provide people in this geography," said Joe Sheetz, referencing the county where Altoona is located.

Sheetz employs nearly 10,000 people in Pennsylvania — 7,500 of them work in the stores. The lowest starting salary is $9 an hour, though that quickly increases with time worked. That's comparable to Wawa, where the 11,000 store employees in Pennsylvania start at $10 an hour.

Both companies offer healthcare and retirement benefits and opportunities for promotions. And that's where the real money is — store managers at both chains earn $75,000 or more a year with bonuses. Wawa offers employee stock ownership, while Sheetz has a tuition reimbursement program for employees pursuing college.

In 2017, Forbes Magazine ranked Sheetz the 83rd best employer in the country and Wawa the 146th best.

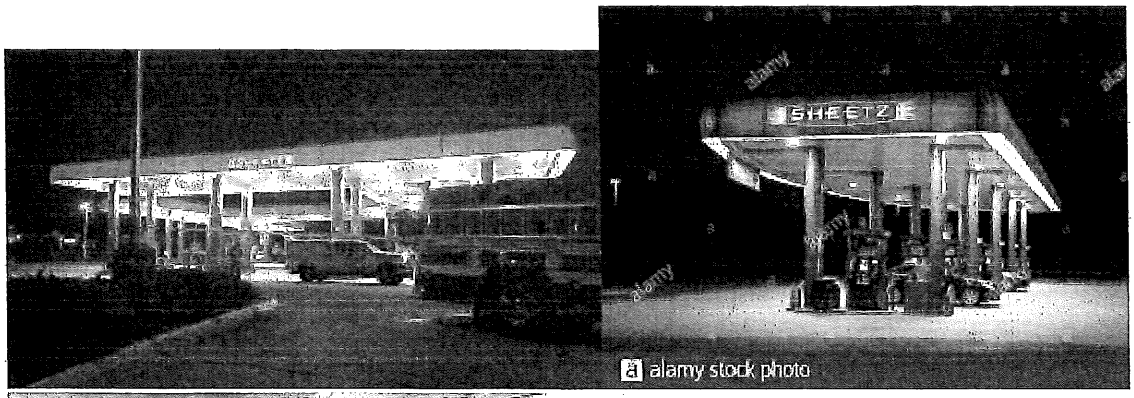
Longo said this isn't typical for a convenience store brand. But thanks to Sheetz and Wawa, and a few other industry leaders, it's becoming common strategy.

"It helps with employee retention and growth. You don't want to rely on minimum wage workers if you're a growing company. You want workers who want to grow with you," he said. "The leading companies in this business treat their employees well."

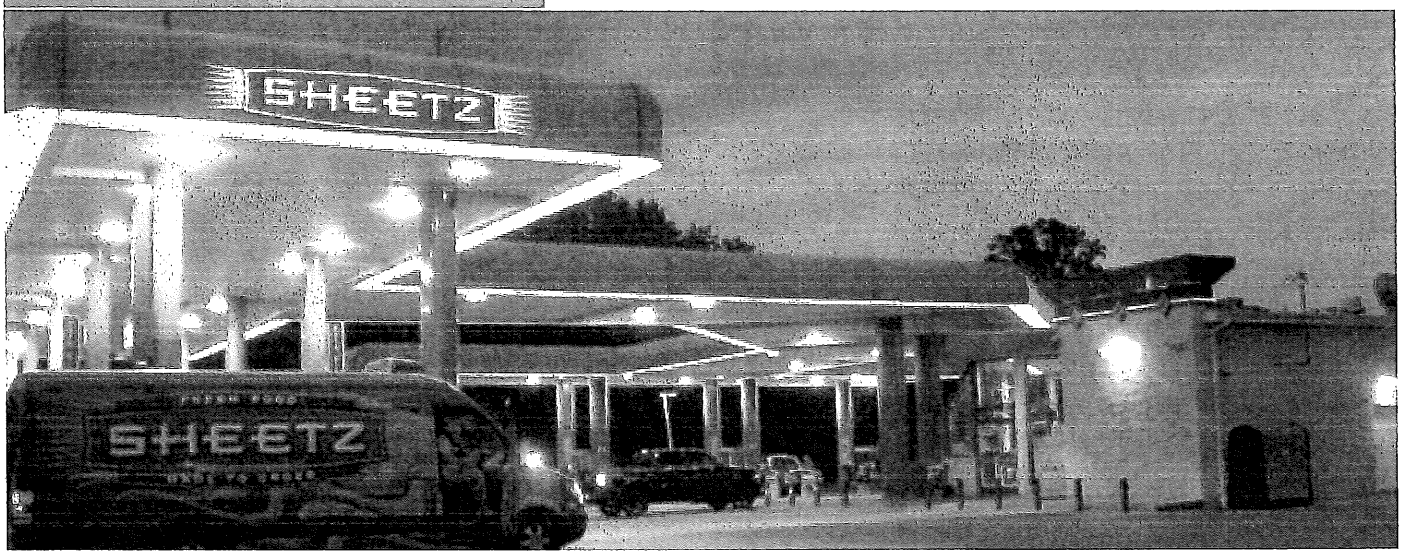
Credit Eleanor Klibanoff / WPSU
https://www.wesa.fm/post/convenience-store-wars-economic-impact-and-fandom-pas-sheetz-and-wawa-0 11.14.2020



Sterling, Virginia







Four Square, In Virginia



Nokesville, Virginia

2 Neighborhoods Say "No" To "Convenience"

by Gilad Edelman | Feb 12, 2014 2:58 pm

(19) Comments | Commenting has been closed | E-mail the Author

Posted to: Neighborhoods, Newhallville, Westville

Convenience stores are inconvenient for their neighbors, breeding traffic and crime, in the view of New Haveners who filled a zoning hearing.

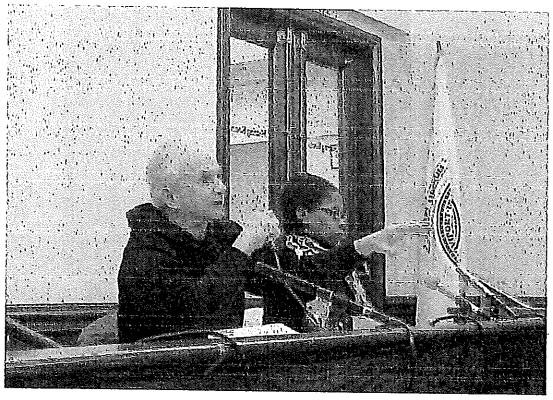
Neighbors turned out en masse to the hearing, a Board of Zoning Appeals meeting, to argue against granting approvals to two such proposed stores: a Cumberland Farms in Westville, which would include a large gas station; and a bodega in Newhalville.

The board, meeting at the Hall of Records at 200 Orange St., voted unanimously to reject the Cumberland Farms application. The other one goes to the City Plan Commission before the board votes on it.

Tough Crowd In Westville

For Cumberland Farms, a chain of convenience store/gas stations in the Northeast and Florida, Tuesday night's vote was the end of a drawn-out process of community meetings and plan revisions. (Read about that here.) The developers, seeking special exceptions to put in a gas station at the corner of Whalley Avenue and Dayton Street and to stay open until midnight, faced two basic concerns: a fear of increased traffic problems and a sense that the neighborhood has no need for another gas station.

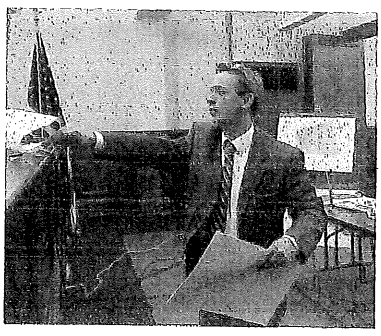
Mark Vertucci, the project's traffic engineer, tried to quell concerns by citing a study the project had commissioned. He said it shows the plan would cause "no significant impact on traffic in the area."



"I really can't accept the claim that there will be no impact on traffic," said board member Victor Fasano (pictured) as neighbors nodded in agreement. In a lengthy back-and-forth with Vertucci, Fasano argued that the traffic would get worse at the proposed gas station, as cars make left turns to enter from Whalley.

"It's a horrendous situation as it is," he said, echoing the sentiments of many of the neighbors who spoke at the meeting. "Now this is going to compound that."

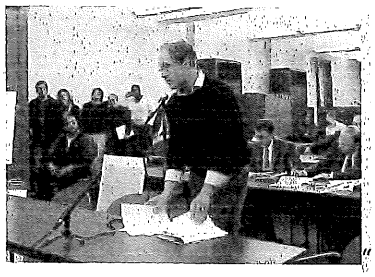
Perhaps an even greater obstacle for the developers was the sense among neighbors that, given the presence of a Hess station directly across the street, the area has no need for another gas station.



Patrick O'Leary (pictured), the project engineer, argued that Cumberland Farms wouldn't be trying to set up shop in that location if there weren't demand for it.

"This site was not picked arbitrarily by Cumberland Farms," he said.

That argument didn't sway the neighbors or the board. Matt Higbee, in one of the more forceful speeches of the night, argued that allowing the gas station would "saddle the neighborhood with gas pumps" long after Cumberland Farms' 20-year lease is up, since developers are generally loathe to buy properties that have been used as gas stations.



Approval for this project is approval for a vacant gas station in the future," Higbee (pictured) said, holding up a photo of a vacant station on the Merritt Parkway.

Julia Chaffe, a neighbor, brought a poster to illustrate her point Whalley has 13 gas stations between downtown and Amity. That's more than enough for such a small stretch of road, she said.

Some neighbors expressed concern that a highway-style convenience store/gas station wouldn't benefit the character of the neighborhood. Colin Caplan, an architect who leads walking tours through New Haven, argued that the proposed store "has nothing to do with New Haven. It has nothing to do with our well-being, our memories, and our sense of place."

The only New Haveners to speak in full support of the project were the current owner of the property, Al Morgillo, and his attorney.

"Who are they to tell me and my associates what to do with my property?" asked an indignant Morgillo. He said he has owned property in Westville for 50 years. "If this is not approved, my associates and I will stop maintaining the property and let it go down to nothing, and you can see what happens. I can afford to do it."

Shortly after, Morgillo got the chance to make good on his threat, as the board voted to reject both of the special exception requests, killing the project.

Board member Stanley Kontogiannis praised the developers' efforts to get neighbors on their side, but said it hadn't been enough.

"Despite your community outreach, the community wasn't behind you."

Newhalville Not Interested

Humberto Collado had no idea opinions would run so strongly against his proposed bodega at 381 Shelton Ave. He hadn't counted on opposition from Newhalville neighbors who see convenience stores as breeding grounds for crime.

New Haven police Sgt. David Guliuzza set the tone by reading a letter by Lt. Herbert Sharp, Newhallville's top cop.

"The location has a significant crime rate," the letter said, and the proposed store would only make things worse. "With convenience brings overpriced products, loitering, and a high probability of crime."

The letter prompted loud applause from the 15 or so neighbors who lined up to speak in opposition to the proposed store, which would take over a building long occupied by Morena Hair Salon.



Collado (at right in photo) said he was surprised by the negative response. He said he had spoken with people who live in the area who welcomed his plan to open a store that would provide essentials like milk and bread in the early morning, before the Quick Check Stop across the street opens.

Rigoverto Alicea (at left in photo), who came to the meeting to translate for Collado, suggested that the owners of the Quick Check Stop may have been behind the opposition.

"It's like any other business," he said. "They don't want competition."

Star Gilliams (pictured in the photo at the top of the story, in the green sweater), who lives around the corner, would rather see zero convenience stores on her block. Like many of the neighbors who spoke at the meeting, she said the stores serve as hang-out spots for drug dealers and gang members.

"As long as the stores are open, people feel like they have the right to be on those corners," she said.

Gilliams paused when asked what kind of tenants she'd prefer to see move into the space. After a moment, she thought of an answer.

"A police substation."

Share this story with others.

https://housely.com/industries-that-diminish-property-values-the-most/ 11.15.2020

Just like bad residential neighbors who leave old rusty cars on their lawn, the wrong type of industry can send your home value plummeting. You can't always predict what businesses will be approved by your zoning board to spring up in the future; however, you can be on the lookout for a few which will not mean good news for your overall home value.

Here are 10 of the industries that can hurt property values.

1. Hospitals

You would think people would feel reassured living right near a hospital, however, statistics show a different story. Screaming sirens from ambulances, frantic through traffic and even medical helicopter units can make your neighborhood feel like you live in an episode of "MASH." Realtor.com, cites a study that shows homes with a hospital close by had a 3.2% reduction in sales price.

2. Convenience Store With Gas Station

People will be driving in and out of your intersection, hanging out at the property, and buying lots of lotto tickets, cigarettes, and beer when they gas up. Although handy, these shops do nothing to help property values and hurt them significantly according to Zillow.com. Although the realtors questioned on the site did not have exact statistics, common sense would show that the increase in robberies, accidents, traffic and pedestrians would add up to decreased property value. Still, many gas stations with mini-markets are springing up like wildfire.

3. A Badly Rated School

4. Gentlemen's Club

5. Funeral Parlors/Crematoriums

6. Cemetery

7. Halfway House/Homeless Shelter

8. City Dumps

9. Power Plants

10. Shooting Range

homechef59
4 years ago

https://www.houzz.com/discussions/3810805/buying-home-opposite-upcoming-gas-station 11.15.2020

Maybe. Your residential property valuation could be negatively affected by the very busy Wawa's proximity. I would advise canceling the contract based upon a material change to the quiet use and enjoyment of the property. While I don't have maps or pictures, there is a strong possibility that your residential property zone may turn into a commercial zone.

When you go to sell it, most buyers won't want the property due to the Wawa nearby. The price may be depressed. While the price may seem low, it's low for a reason. Spend your money elsewhere. There is always another, better opportunity that will be a better place to live and invest.

https://www.quora.com/There-is-a-gas-station-being-built-beside-my-home-Is-it-safe-to-live-beside-a-gas-station-Does-it-make-it-hard-to-sell-your-home-later-on 11.15.2020



Robert Largent, Environmental Engineer at Army & Air Force Exchange Service (2013-present)

Updated October 15, 2019 · Author has 151 answers and 136.6K answer views

You see this hyperbole about the dangers of gas stations all the time. Let's get it all sorted out.

1. Gas storage is normally in underground storage tanks. Do you know what happens if an underground storage tank blows up? Loud boom, manhole covers may become airborne, there might be a localized fire. The collateral damage is minimal. I work with over 300 gas stations across the world, been doing it since 2002 and I have never had one "Blow-up".
2. Fires- Fires do happen at gas stations. Normally due to customers. You have to remember 50% of people are below average intelligence. People drive into or over the dispensers. People smoke while filling their tanks. But the gas station is designed to minimize the effects of fires. The gas station owners don't want to replace equipment or have to stop selling fuel for any time, or they lose money.
3. Contamination from gas tanks- In the US all new gas stations are double protected. Double-walled tanks, double-walled piping, and any point that fuel could leak is double-walled and monitored by electronic equipment 24/7. Sites could leak fuel, but the chances of it getting into the ground are minimal.
4. Air pollution risks- Gas stations are vapor-tight now. Vapors are not allowed to escape the tanks; vapors are not allowed to escape during the pumping process. The biggest risks are the tailpipe emissions from the cars pulling in to get gas.

So, above are some of the things other people have posted as the bad parts of a gas station. And why I do not agree with their assessments.

Here is why I wouldn't want a gas station next to my house.

1. People. I don't want a lot of people traversing past my house. Some people have bad intentions, the more people there are around, and the more people will be nearby with bad intentions.
    1. Crime- It seems to come with a lot of gas stations.
2. Traffic. I don't want to have to worry about getting in and out of my own driveway because the road is congested.
3. Noise. People driving into and out of a gas station make a lot of noise.

Here are some pros to a gas station next door.

1. No reason to get a DWI on the next beer run.
2. Always have a short trip to get snacks.
3. Never have a reason to forget to buy a lottery ticket.
4. You should never run out of gas.

If you buy a house next to a gas station, you should understand what you are buying into. If a gas station is being built next to your existing house, now you know what to expect. Usually, the big convenience store operators will design, build and operate a quality location. The mom and pop type stores are less likely to have the resources or knowledge to operate the same.

6.4K views

View 35 Upvoters

View Sharers

· Answer requested by

Alex Aamot

Ned Boff , Lead Electrical & Controls Engineer

Most American construction codes for facilities like gas stations are sufficiently high that the likelihood of a leak or fire are small... the challenge in America will be the light (many are open 24/7/365), the noise (many stations in America serve both cars and trucks), the smell (both fuel and

exhaust smells, plus many stations in America have convenience stores, food facilities etc. attached, that result in their own "greasy food and trash" smells).

Then there is the likelihood of criminal activity, everything from "people loitering around" in the station parking lot to actual robbery of the station.

For all of these reasons, zoning frequently does not allow gasoline station construction in residential areas... but sometimes it happens that a residential home property lines are shared with a stations property lines.

Not good for residential real estate valuations.

I wouldn't want to live there.



John Collins, PhD Chemistry, Princeton University

Answered September 28, 2019 · Author has 3K answers and 4.7M answer views

Residential property is diminished in value by being adjacent to any commercial property. Some businesses are more objectionable than others. Supermarkets, for examples, have large expanses of pavement for parking lots that turn over ~7 times a day. Gas stations are fairly busy if they want to stay in business. I doubt if safety is much of a concern but noise (and the clientele) could be, especially 24-hour stations.

A classmate of mine came from Oklahoma City. There were a lot of developments. His own development had a vacant corner lot. As a prank, he and his brother erected a large sign on the vacant corner lot that read "Coming Soon! Jiffy Quick Car Wash!" complete with graphics and the kind of boilerplate usually found regarding financing and permits. His neighbors were apoplectic.

A gas station next to your home, in all likelihood, will be safe. It will diminish the value of your home, however.

Susan Cooper, Realtor at Coldwell Banker Schmidt Realtors (2006-present)

Answered September 26, 2019 · Author has 589 answers and 361.9K answer views

Well, it will definitely make your home harder to sell, and will almost certainly have a negative impact on its value. Were you not aware that this was contemplated long before construction started? It is uncommon for a gas station to be permitted though, in a residential area. It would almost always require some change of zoning - which requires multiple meetings of the zoning board. If your home sits within 500 feet of the proposed usage, you should have been invited to sit in on any meetings if the zoning had to be changed to accommodate it. You would have had an opportunity to object to it, had you attended. And since you will suffer financial detriment, the board would have to consider your objection.

You can imagine though, both headlights and traffic noise will cause you problems in the future. This will certainly have an economic impact, unless, of course, your home is already in a commercially rated area, in which case, you'd benefit by selling it as a commercial property rather than a house, when you decide to sell

Lastly, the high traffic count may result in reduction in your valuation of the property. Most stations are open 24/7 so traffic is continuous and disruptive.

https://www.ncjrs.gov/pdffiles1/nij/grants/173772.pdf 11.15.2020

Multistate Study of Convenience Store Robberies Charles F. Wellford John MacDonald Joan C. Weiss With the Assistance of: Timothy Bynum Robert Friedmann Robert McManus Anthony Petrosino October 1997

Multistate Study of Convenience Store Robberies
Introduction
Homicide ranks as one of the leading types of occupational injury in the United States, accounting for over 1100 worker deaths in the most recent year. In the period 1980 -1989, the rate of employee homicide was reported as 8.0 per 100,000 with 75 percent of these homicides resulting from gunshots. After taxicabs, **convenience stores have the highest prevalence of workplace homicide (NOSH. 1993) and also have very ' high rates of robbery.** This has prompted leaders of the convenience store industry, public health officials, and criminal justice practitioners to search for ways to reduce these rates and enhance the safety of convenience store workers.' A variety of reasons make convenience stores prone to robbery, which is frequently associated with injuries that can result in death. These stores are easily accessible and are located in metropolitan areas. They have available cash on hand. which makes them attractive to robbers who need a quick source of funds. In addition. prior research has documented that certain convenience stores are more subject to robbery and subsequent injury than others. which is evidence that even within this high- risk category of business, some stores are more vulnerable than others (~rnanhus, et al.. 1994). In .Maryland, for example, 63 percent of all convenience store robberies occurred in three counties (Amandus, et al., 1994), which suggests that certain convenience stores are targeted more frequently than others. This fact provides a basis for applying tested o or purposes of this paper, convenience store is defined as an establishment of 5000 square feel or less, operating with extended hours, and selling a variety of commodities including dairy products. This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.
crime control strategies.' Unlike other hieh-risk occupations (for example. taxicab driver), convenience stores are static establishments, which may enable certain crime control strategies employed by police, the stores,' or through public ordinancesJ to have a deterrent effect on robbery. This paper describes a research project conducted in five states to provide more detailed information on convenience store robberies and to identify ways in which these robberies might be reduced. The paper that follows consists of three major sections: first. a description of prior literature on convenience store robberies: second, the methodology employed in the rnultisite study; and finally. findings and conclusions of the research.

Duffala proposed four hypotheses: a convenience store is more vulnerable to robbery when (1) located within two blocks of a major transportation route: (2) located on street(s) with only a light amount of vehicular traffic; (3) located in a residential and/or vacant land use area; (4) located in an area of fewer surrounding commercial activities. .& is evident from these hypotheses, Duffala was concerned with the location of a store being a determinant of robbery. In particular. the belief was that a major This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.
transportation route would provide easier escape. Similarly, lisht amounts traffic. vacant land use area, and few surrounding activities would make ir less likely for an offender to be identified by witnesses passing by (Duffala, 1976)

When he hrther divided the cells. he found that the higher the number of commercial activities, the lower the incidence of robbery, which was significant at the .@llevel. However. the relatively small size of Duffala's sample makes any further differences statistically insignificant. Duffala did find that when all four hypotheses were combined together "in interaction with one another." there was a significant relationship with the number of robberies (Duffala. 1976). He suggests that this research shows that a public policy that takes land use into account can have an effect on crime prevention. (There are, however, problems with the merits of this inference which will be discussed later.)

The five most desirable characteristics the robbers ranked were: (1) remote area (45%); (3) no customers (32%): (3) one clerk on duty (32%); (4) easy access/get away (25%); (5) lots of cash (25%). & suggested by Bentham's (1979) utility theory, Swanson's research suggests that convenience store robbers weigh the costs and benefits before committing a robbery. Swanson then constructed a list of 32 store characreristics and correlated them with robbery data for 40 Gainesville stores.

The only sociodemographic factor that was related to higher robbery rates, and significant at the $p < .10$ level, was the transience of the surrounding area. These results are consistent with both utility and routine activity theories in relation to environmental design. Stores that provide gas service and large parking lots tend to have more business traffic and therefore provide fewer unguarded opportunities for a robber to commit an act without being seen by outside witnesses. In contrast, stores in areas where people are generally transient have fewer guardians of the community who could identify a robber.

https://ucr.fbi.gov/crime-in-the-u.s/2016/crime-in-the-u.s.-2016/topic-pages/tables/table-15 11.15.2020

		Street/highway	108,957	-1.8	38.9	1,191
		Commercial house	42,783	+4.6	15.3	1,689
		Gas or service station	8,178	+2.1	2.9	970
Robbery by location:		Convenience store	17,401	+6.7	6.2	732
		Residence	46,419	+2.3	16.6	1,758
		Bank	4,982	+0.8	1.8	3,531
		Miscellaneous	51,637	+5.0	18.4	1,367
Burglary:	Total		1,354,920	-4.4	100.0	2,361
		Residence (dwelling):	942,177	-7.1	69.5	2,273
		Residence Night	278,600	-4.5	20.6	1,913
		Residence Day	486,006	-8.6	35.9	2,258
Burglary by location:		Residence Unknown	177,571	-7.1	13.1	2,879
		Nonresidence (store, office, etc.):	412,743	+2.6	30.5	2,562
		Nonresidence Night	178,470	+6.0	13.2	2,585
		Nonresidence Day	142,631	-0.1	10.5	2,182
		Nonresidence Unknown	91,642	+0.7	6.8	3,109

https://en.wikipedia.org/wiki/Convenience_store_crime 11.15.2020

For a variety of reasons, convenience stores are often popular targets for a variety of crimes, most notably shoplifting and robbery. In some cities, **convenience store crime** has become such a problem that special task forces have been created or some stores have been completely closed down. American convenience stores are often direct targets of armed robbery. In some areas of the United States, it is not unusual for clerks to be working behind bulletproof glass windows, even during daylight hours. Some convenience stores may even limit access inside at night, requiring customers to approach a walk-up window specifically for such situations to make purchases. The main dangers are that almost all convenience stores only have one person working night shift, most of the transactions are in cash, and easily resold merchandise, such as liquor, lottery tickets, and cigarettes are on site.

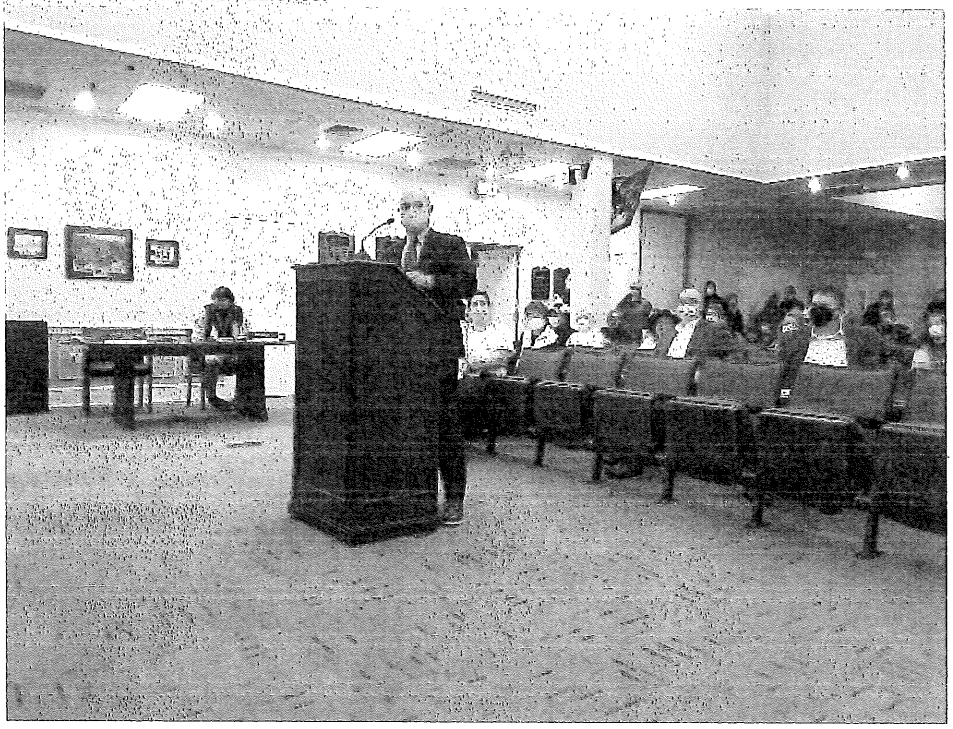
Most convenience stores have a cash drop slot into a time-delay safe so clerks may limit the amount of cash on hand. Many have installed security cameras to help detect robberies and shoplifting. Because of their vulnerability to crime, nearly all convenience stores have a friendly relationship with the local police. To reduce burglaries when the convenience store is closed, some convenience stores will have bars on the windows.

The reasons for the higher rate of crime at convenience stores may be attributable to various factors, including:

- the small number of employees per store makes it difficult to stop or deter criminals
- the extended hours of many convenience stores present more opportunities when few customers and/or witnesses are present
- the smaller size of the stores makes it easy for criminals to quickly navigate the floor plan and enter and exit close to the cash registers
- the majority of purchases are in cash as opposed to electronic transactions, leading to a relatively large amount of cash (often minimally secured) at any point

https://royalexaminer.com/county-planning-commission-meeting-attracts-attention-with-linden-sheetz-proposal/ 11.15.2020

- The Commission then turned to the Authorization to Advertise portion of the meeting.
- The Commission then heard from the planning staff regarding an authorization to advertise for a public hearing for a project for Dudding Commercial Development, LLC. This request will be to amend the Warren County Zoning Map and rezone approximately six and forty-five hundredths (6.45) +/- acres from Agricultural (A) to Commercial (C). The property is located on Route 79 (Apple Mountain Road) at the corner of Apple Mountain Road and Interstate I-66. Dudding plans to purchase a 15-acre parcel at that site, with the intention of leasing just under six and a half acres of it to Sheetz, Inc to build and operate a filling station and convenience store. The rezoning request is part of a development process that will include site plan approvals, permits, environmental approvals, and Community impact assessment. Jerime Dudding and his project team gave a slide presentation outlining the project for the commissioners and the audience.



- Jerime Dudding describes a new Sheetz facility for the Commission and the large audience.
- In addition to the C-Store and filling station, The project includes a school bus turnaround and a bus shelter on the site. The representatives for the project described the physical layout of the finished site, discussed security measures being implemented, and described Sheetz as a "good fit" for that site. Representatives of the team described the environmental safeguards such as double-wall underground fuel storage, groundwater systems, and fuel spill procedures.
- The Sheetz Director of Real Estate, Michael LaCesa was also present to provide Sheetz's corporate perspective as anxious to be a good community neighbor and willing to listen to concerns. The team has already met with Apple Mountain HOA and expects to spend a lot more time working with residents to address any concerns or questions they may have. The very thorough presentation may well have alleviated some residents concerns, but the Public hearing will provide plenty of opportunities for every concerned resident to have their say. At the conclusion of the presentation, Commissioner Henry said he would be curious as to what VDOT may have to offer regarding the project, but offered a motion to approve the advertisement for a public hearing. Commissioner Kersjes seconded, and the approval vote was unanimous.
- The reaction on the part of the audience was surprisingly muted, but there were certain to be more said when the hearing is held in December.
- The commissioners each expressed wishes for a Happy Thanksgiving, and the Director of Planning told the commission that the Chipotle outlet at Riverton is 3-4 weeks away from opening, and the 5 Guys shortly after that.
- The chairman then reminded everyone about recognizing veterans this month, make sure all the political signs are down and have a Happy Thanksgiving.
- The meeting was adjourned at 8:10 PM

COUNTY OF WARREN, VIRGINIA
PLANNING COMMISSION AGENDA ITEM

DATE	ITEM	SUBJECT:	PAGE
2/10/2021	C	Rezoning request – R2020-10-01 Dudding Commercial Development, LLC Agricultural (A) to Commercial (C)	1 of 1

EXPLANATION & SUMMARY:

See attached application and staff report.

PROPOSED OR SUGGESTED MOTION:

Finding that the requested rezoning is appropriate for the public necessity and is good zoning practice, I move that the Planning Commission forward this application to the Board of Supervisors with the recommendation to approve the applicant's request to rezone from Agricultural (A) to Commercial (C) a portion of tax map 31, parcel 39 consisting of 6.45 acres, more or less, as identified in the rezoning application, and accept as part of the rezoning the proffers that have been signed and submitted by the applicant.

OR

Finding that the requested rezoning is not appropriate for the public necessity and is not good zoning practice, I move that the Planning Commission forward this application to the Board of Supervisors with the recommendation to deny the applicant's request to rezone from Agricultural (A) to Commercial (C) a portion of tax map 31, parcel 39 consisting of 6.45 acres, more or less, as identified in the rezoning application. (List Reasons)

SUBMITTED BY:	DISPOSITION OF COMMISSION:	PROCESSED BY:
Taryn Logan, TGL Deputy County Administrator/ Planning Director	☐ APPROVED ☐ OTHER (Describe)	

COUNTY OF WARREN, VIRGINIA
BOARD OF SUPERVISORS AGENDA ITEM

DATE	ITEM	SUBJECT:	PAGE
2/10/2021	D	Rezoning request – R2020-10-01 Dudding Commercial Development, LLC Agricultural (A) to Commercial (C)	1 of 1

EXPLANATION & SUMMARY:

See attached application and staff report.

The Planning Commission will be making a recommendation to the Board of Supervisors after the joint public hearing is complete.

PROPOSED OR SUGGESTED MOTION:

Finding that the requested rezoning is appropriate for the public necessity and is good zoning practice, I move that the Board of Supervisors approve the applicant's request to rezone from Agricultural (A) to Commercial (C) a portion of tax map 31, parcel 39 consisting of 6.45 acres, more or less, as identified in the rezoning application, and accept as part of the rezoning the proffers that have been signed and submitted by the applicant.

OR

Finding that the requested rezoning is not appropriate for the public necessity and is not good zoning practice, I move that the Board of Supervisors deny the applicant's request to rezone from Agricultural (A) to Commercial (C) a portion of tax map 31, parcel 39 consisting of 6.45 acres, more or less, as identified in the rezoning application (List Reasons).

SUBMITTED BY:	DISPOSITION OF COMMISSION:	PROCESSED BY:
Taryn Logan, Deputy County Administrator/ Planning Director	☐ APPROVED ☐ OTHER (Describe)	