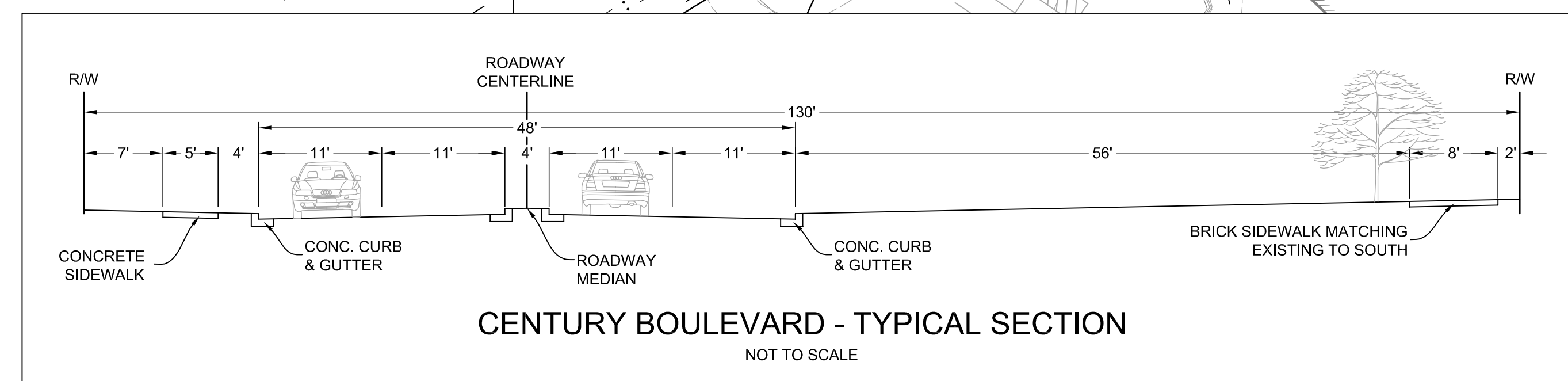
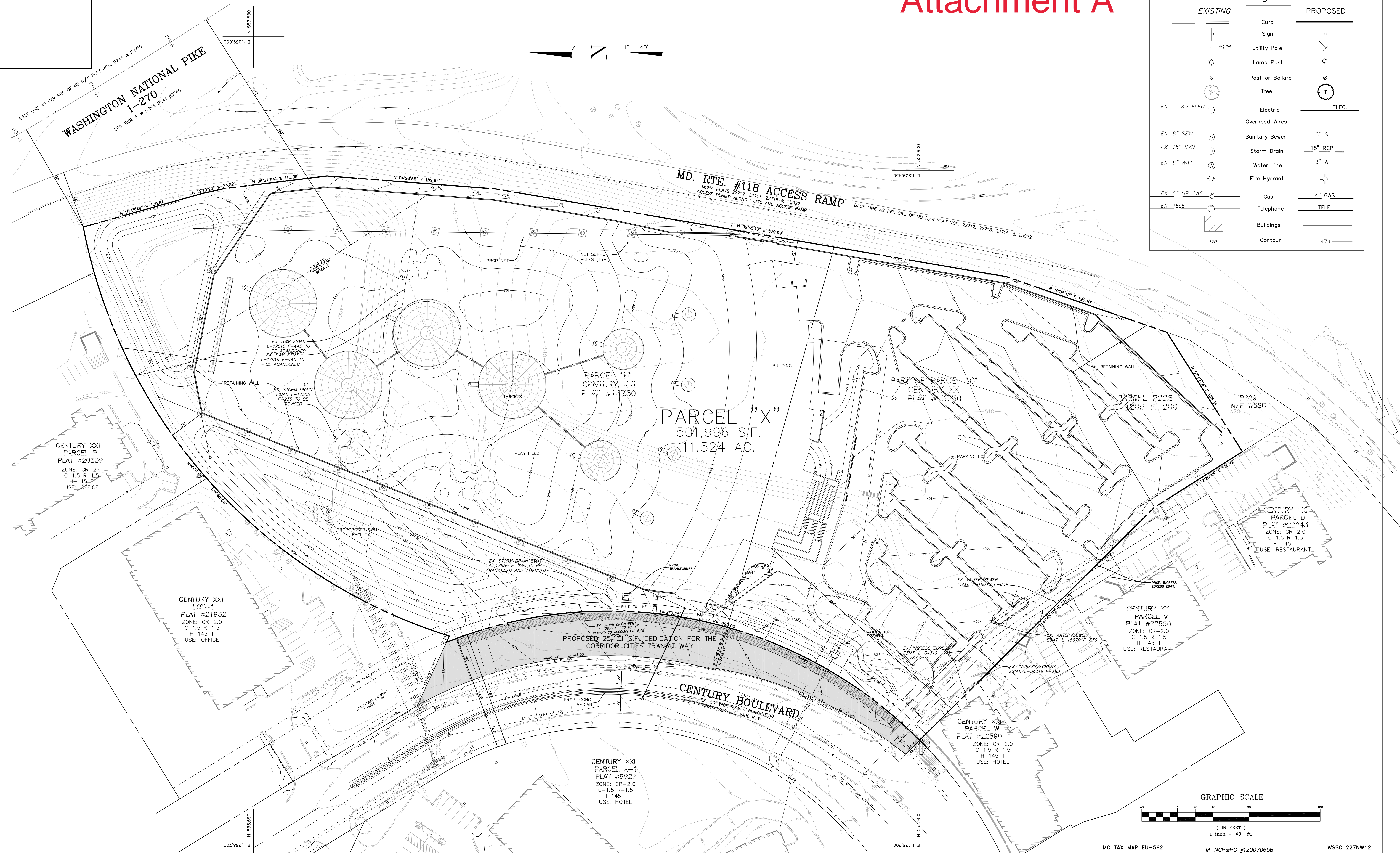
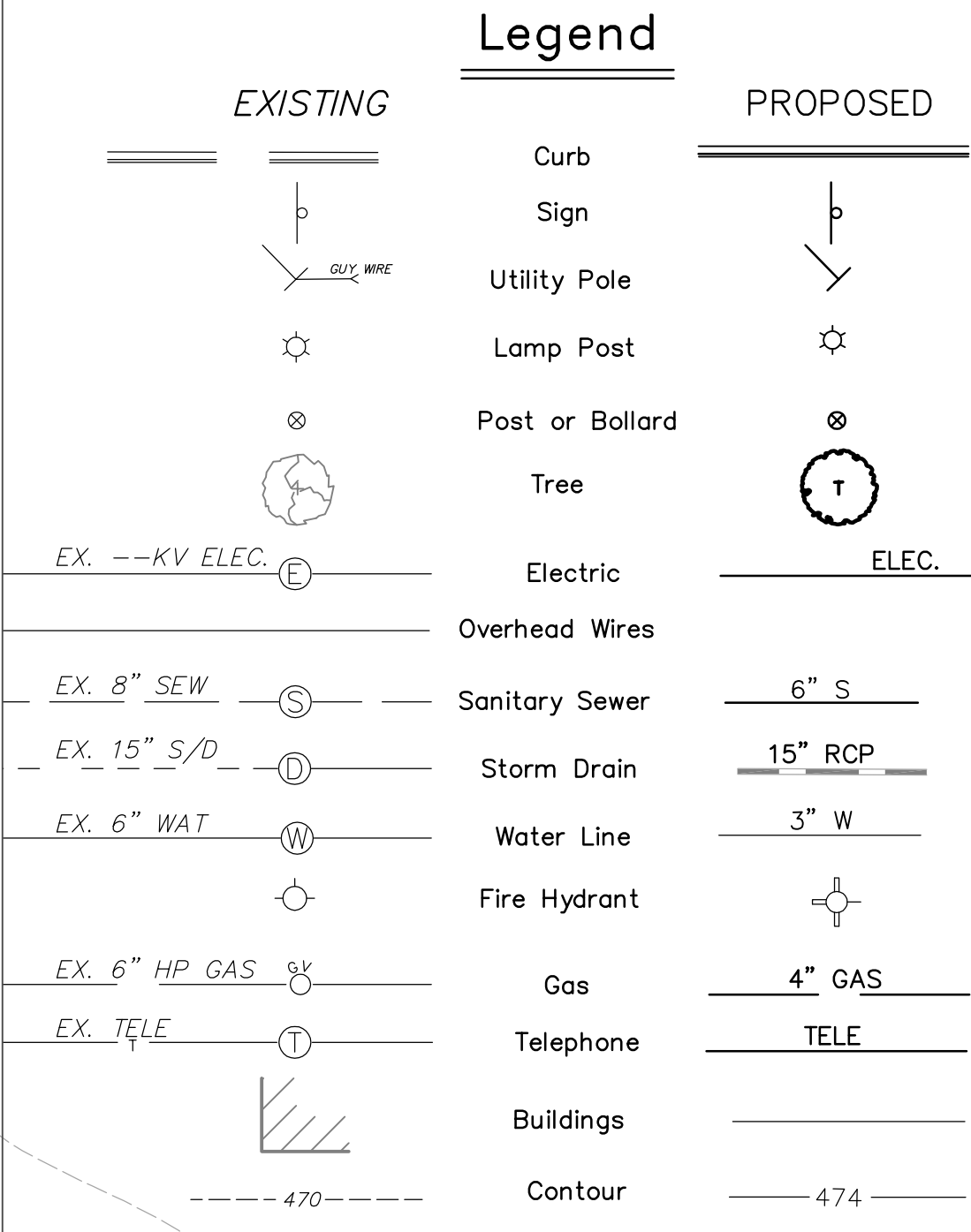



Attachment A



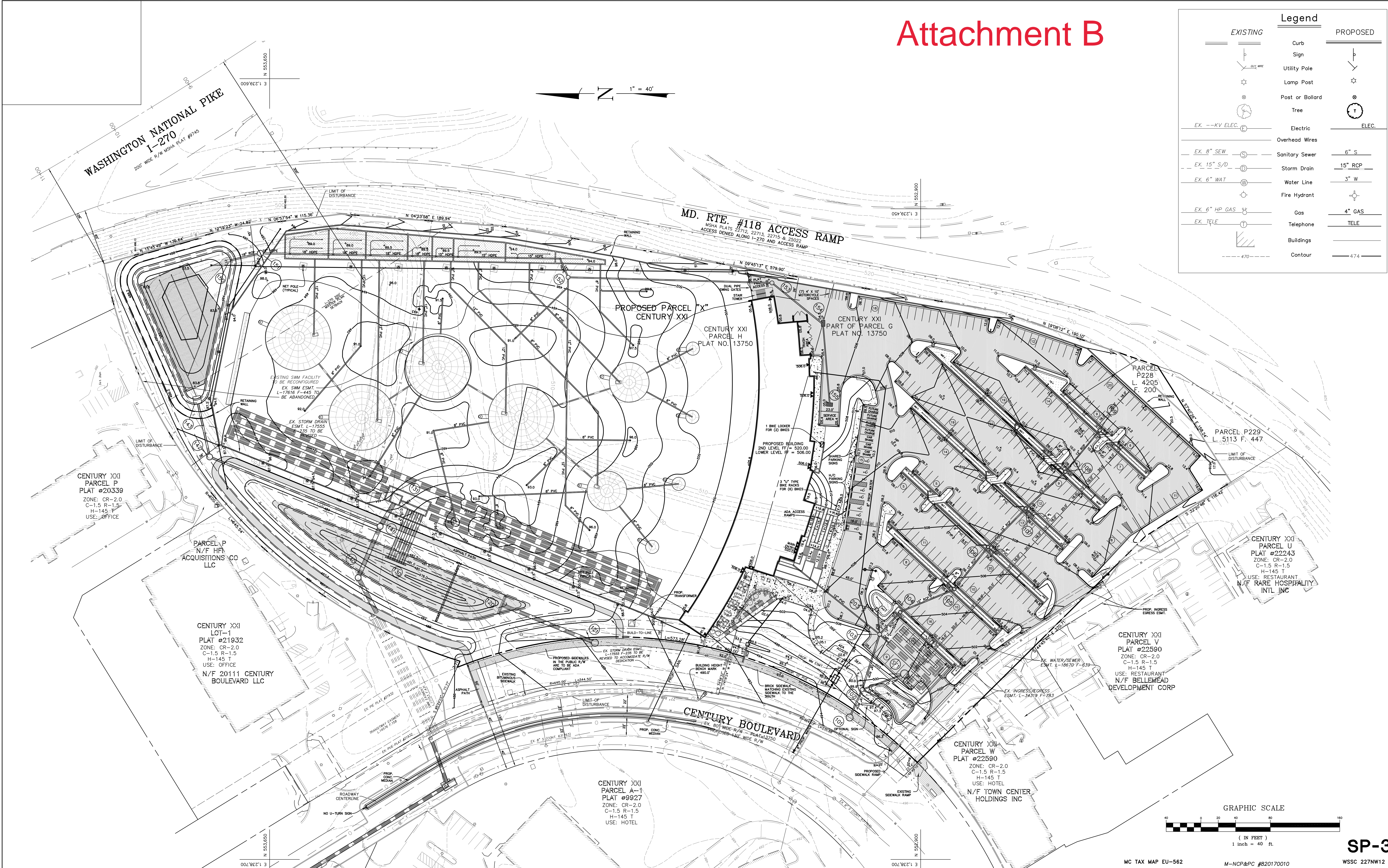
SURVEYOR'S CERTIFICATE	
<p>I hereby certify that the boundary shown hereon is correct based on existing deeds and plats recorded among the Land Records of Montgomery County, Maryland, subject to change upon completion of a final survey. Topography from sources noted hereon.</p>	
Date	<p>Macris, Hendricks, & Glascock, P.A. By: Barry Edward Hoyle Professional Land Surveyor MD. Reg. No. 21135 License Expires: 6-21-18</p>

[illegible]

MC TAX MAP EU-562	M-NCP&P.C.#12007065B	SSNC 227N12W12						
<h2 style="margin: 0;">PRELIMINARY PLAN AMENDMENT</h2>								
<h1 style="margin: 0;">PARCEL "X" CENTURY XXI</h1>								
<p style="margin: 0;">PT. PAR. G, PARCEL H, PLAT 13750 & PARCEL P228, L.4205 F.200</p> <p style="margin: 0;">2ND ELECTION DISTRICT – MONTGOMERY COUNTY – MARYLAND</p>								
 <p style="margin: 0;">MHGA</p> <p style="margin: 0; font-size: small;">9220 Wightman Road, Suite 120 Montgomery Village, Maryland 20886-1279</p>	<p style="margin: 0;">Macris, Hendricks & Glascock, P.A.</p> <p style="margin: 0; font-size: small;">Engineers ■ Planners Landscape Architects ■ Surveyors</p> <p style="margin: 0; font-size: small;">Phone 301.970.0840 Fax 301.948.0693 www.mhga.com</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 5px;">Proj. Mgr. MDP/KDJ</th> <th style="padding: 5px;">Designer MDP/KDJ</th> </tr> <tr> <td style="padding: 5px;">Date 5-26-17</td> <td style="padding: 5px;">Scale 1"=40'</td> </tr> <tr> <td style="padding: 5px;">Project No. 06-158-21</td> <td style="padding: 5px;">Sheet 2 of 2</td> </tr> </table>	Proj. Mgr. MDP/KDJ	Designer MDP/KDJ	Date 5-26-17	Scale 1"=40'	Project No. 06-158-21	Sheet 2 of 2
Proj. Mgr. MDP/KDJ	Designer MDP/KDJ							
Date 5-26-17	Scale 1"=40'							
Project No. 06-158-21	Sheet 2 of 2							

Attachment B

Legend	
EXISTING	PROPOSED
	Curb
	Sign
	Utility Pole
	Lamp Post
	Post or Bollard
	Tree
	Electric
	Overhead Wires
	Sanitary Sewer
	Storm Drain
	Water Line
	Fire Hydrant
	Gas
	Telephone
	Buildings
	Contour



DEVELOPER'S CERTIFICATE
The undersigned agrees to execute all the features of the Site Plan Approval No. 820170010, including Approval Conditions, Development Program, and Certified Site Plan.

Developer's Name: _____ Company: _____ Contact Person: _____

Address: _____
Phone: _____
Signature: _____

REVISIONS		
NO.	DATE	DESCRIPTION

Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the Laws of the State of Maryland License No. 16905, Expiration Date: 04/01/2018

MC TAX MAP EU-562

M-NCP&PC #820170010

WSSC 227NW12

SITE PLAN
PARCEL X, CENTURY XXI
TOPGOLF - GERMANTOWN
PT. PAR. G, PARCEL H, PLAT 13750 & PARCEL P228, L.4205 F.200
2ND ELECTION DISTRICT - MONTGOMERY COUNTY - MARYLAND

MHG Macris, Hendricks & Glascock, P.A.
Engineers • Planners
Landscape Architects • Surveyors

9220 Wightman Road, Suite 120
Montgomery Village, Maryland
20886-1279

Phone 301.670.0840
Fax 301.948.0693
www.mhga.com

Proj. Mgr.
MDP/KDJ

Date
5-26-17

Project No.
06-158-21

Designer
MDP/KDJ

Scale
1" = 40'

Sheet
3 of 3

SP-3

Attachment C

VARIANCE TREE PLANT LIST							
KEY	QTY	BOTANICAL NAME	COMMON NAME	CAL	HGT	ROOT	SPACING
SHADE TREES							
CXM	3	Celtis x 'Magnifica'	Magnifica Hackberry	3 - 3½"		B&B	As shown
QPR	4	Quercus prinus	Chestnut Oak	3 - 3½"		B&B	As shown



EXISTING TREE NAME	SIZE	PROPOSED TREE NAME	COMMENTS / REMARKS
1. Silver Maple	43"	Acer saccharinum	Fair-Poor - Canopy dieback, minor base rot, VA creeper vines - REMOVE
2. Silver Maple	30"	Acer saccharinum	Fair-Poor - Canopy dieback, poison ivy vines - REMOVE
3. Silver Maple	25"	Acer saccharinum	Fair-Poor - Narrow canopy, poison ivy & groundcover vines - REMOVE
4. Silver Maple	28"	Acer saccharinum	Fair-Poor - Lopsided canopy, poison ivy vines - REMOVE
5. Black Locust	23"	Robinia pseudacacia	Fair - REMOVE
6. White Ash	36"	Fraxinus americana	Poor - Hollow trunk from base to 15', Canopy dieback - REMOVE
7. Red Maple	36"	Acer rubrum	Poor - Hollow, rotting from base to 12', Split - REMOVE
8. American Beech	38"	Fagus grandifolia	Good - REMOVE
9. Red Maple	30"	Acer rubrum	Fair-Poor - REMOVE

Notes: Diameters are given for each trunk of multiple hole trees when division occurs below 4.5 feet. If major division occurs above 4.5 feet only the trunk diameter at 4.5 feet is given. Tree ID Numbers correspond to those assigned on the Natural Resource Inventory/Forest Stand Delineation Map. Trees less than 24" DBH are shown for informational purposes only.

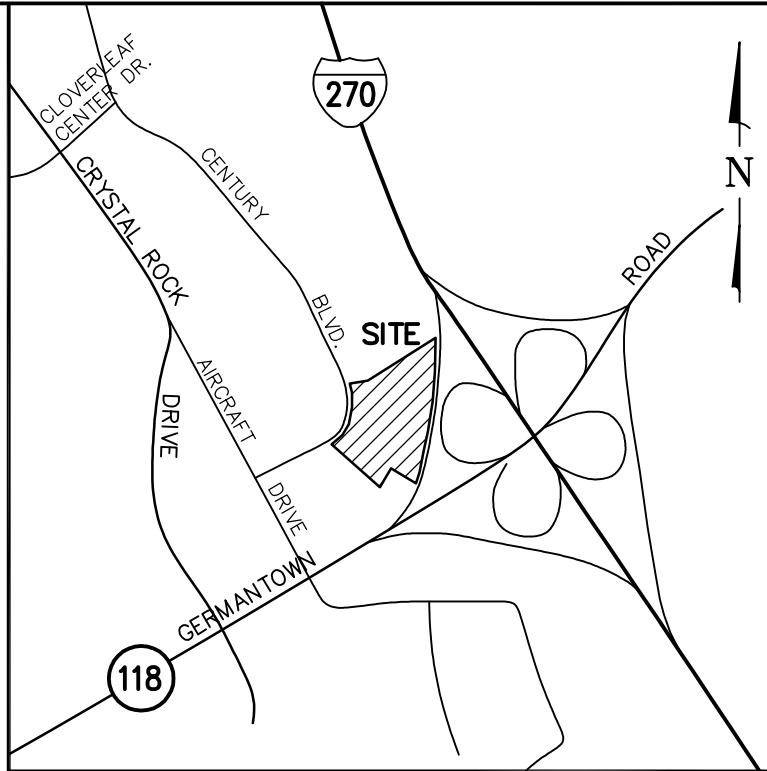
* Designates a Specimen Tree (DBH of 30" or greater)

Legend

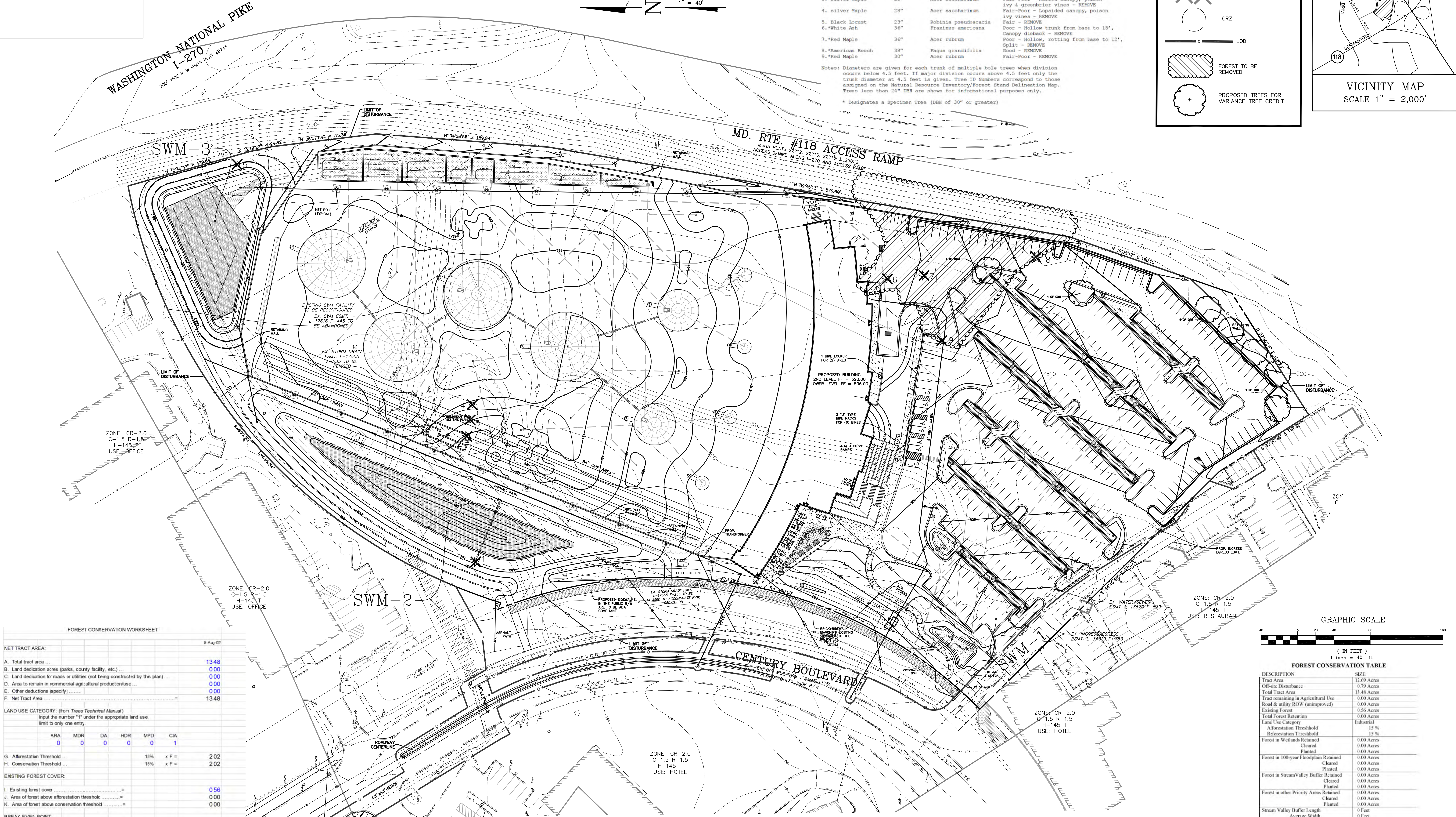
- TREE
- SPECIMEN TREE
- TREE TO BE REMOVED
- CRZ
- FOREST TO BE REMOVED
- PROPOSED TREES FOR VARIANCE TREE CREDIT

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.



VICINITY MAP
SCALE 1" = 2,000'



FOREST CONSERVATION WORKSHEET									
NET TRACT AREA:									
5-Aug-02									
A. Total tract area ...									1348
B. Land dedication acres (parks, county facility, etc.) ...									0.00
C. Land dedication for roads or utilities (not being constructed by this plan) ...									0.00
D. Area to remain in commercial agricultural production/use ...									0.00
E. Other deductions (specify) ...									0.00
F. Net Tract Area ...									1348
LAND USE CATEGORY: (from Trees Technical Manual)									
Input the number "1" under the appropriate land use limit to only one entry									
	ARA	MOR	IDA	HDR	MPD	CIA			
	0	0	0	0	0	1			
G. Afforestation Threshold ...					15%	X F =			202
H. Conservation Threshold ...					15%	X F =			202
EXISTING FOREST COVER:									
I. Existing forest cover ...									0.56
J. Area of forest above afforestation threshold ...									0.00
K. Area of forest above conservation threshold ...									0.00
BREAK EVEN POINT									
L. Forest retention above threshold with no mitigation ...									0.00
M. Clearing permitted without mitigation ...									0.00
PROPOSED FOREST CLEARING:									
N. Total area of forest to be cleared ...									0.56
O. Total area of forest to be retained ...									0.00
PLANTING REQUIREMENTS									
P. Reforestation for clearing above conservation threshold ...									0.00
Q. Reforestation for clearing below conservation threshold ...									1.12
R. Credit for retention above conservation threshold ...									0.00
S. Total reforestation required ...									1.12
T. Total afforestation required ...									1.46
U. Credit for landscaping (may not exceed 20% of "S") ...									0.00
V. Total reforestation and afforestation required ...									2.58

DEVELOPER'S CERTIFICATE
The undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. 820170010, including financial bonding, forest planting, maintenance and all other applicable agreements.
Developer's Name: Topgolf International, Inc. Mark Foster
Company Contact Person
Address: 8750 N. Central Expressway Suite 1200 Dallas, TX 75231
Phone: 303-910-5470
Email: Mark.Foster@topgolf.com
Signature: _____

QUALIFIED PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREON IS CORRECT AND THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF EXISTING STATE AND COUNTY FOREST CONSERVATION LEGISLATION.
DATE _____ FRANK C. JOHNSON
RECOGNIZED AS QUALIFIED PROFESSIONAL BY MD. DEPT. OF NATURAL RESOURCES COMAR 08.19.06.01

OWNER
MATAN DEVELOPMENT, LLLP
4600 WEDGEWOOD BOULEVARD
SUITE A
FREDERICK, MD 21703
CONTACT: BRIAN MORRIS
PHONE: 301-694-9200

APPLICANT/DEVELOPER
TOPGOLF
8750 N. CENTRAL EXPRESSWAY
SUITE 1200
DALLAS, TX 75231
CONTACT: MARK FOSTER
PHONE: 303-910-5470

Call "Miss Utility" at 1-800-257-7777, 48 hours prior to the start of work.
The excavator must notify all public utility companies with underground facilities in the area of proposed excavation and have those facilities located by the utility companies prior to commencing excavation. The excavator is responsible for compliance with requirements of Chapter 36A of the Montgomery County Code.

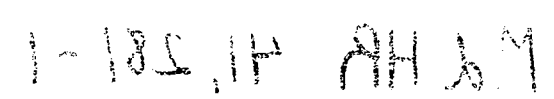
NO.	DATE	DESCRIPTION	BY
1	2/23/17	revised site development	FCJ

FINAL FOREST CONSERVATION PLAN
PARCEL X, CENTURY XXI
TOPGOLF - GERMANTOWN
PT. PAR. G, PARCEL H, PLAT 13750 & PARCEL P228, L.4205 F.200
2ND ELECTION DISTRICT - MONTGOMERY COUNTY - MARYLAND

MHG
Macris, Hendricks & Glascock, P.A.
Engineers • Planners
Landscape Architects • Surveyors
9220 Wightman Road, Suite 120
Montgomery Village, Maryland
20886-1279
Phone 301.670.0840
Fax 301.948.0693
www.mhga.com

Proj. Mgr.
MDP/KDJ
Designer
FCJ
Date
02/14/07
Project No.
06.158.21
Scale
1" = 40'
Sheet
1 of 2

2.58 ACRES TO BE MET IN OFF-SITE FOREST MITIGATION BANK



**BOARD OF APPEALS
for
MONTGOMERY COUNTY**

**Stella B. Werner Council Office Building
100 Maryland Avenue
Rockville, Maryland 20850
(240) 777-6600
<http://www.montgomerycountymd.gov/boa/>**

CASE NO. A-6519

PETITION OF TOPGOLF GERMANTOWN USA LLC

OPINION OF THE BOARD

(Public Hearing Date: May 24, 2017)
(Effective Date of Opinion: June 8, 2017)

Case No. A-6519 is an application by Topgolf Germantown USA LLC for a twenty-five (25) foot variance from the 145-foot height limit established pursuant to Section 59.4.5.3.C.4 of the Zoning Ordinance. This variance is necessary to allow the construction of multiple (25) net poles needed to contain golf balls originating from the Topgolf recreation and entertainment facility being developed on the subject property. Each of the proposed net poles will be approximately 170 feet in height as measured from the lower level first floor elevation of the principal Topgolf building.

The Board of Appeals held a hearing on the application on April 26, 2017. Christopher M. Ruhlen, Esquire, appeared in support of the application on behalf of Petitioner Topgolf, along with Mark Foster, Manager for Real Estate Development with Topgolf, Tom Boerman, P.E., ARCO Murray Design/Build, and Ken Jones, Macris, Hendricks & Glascock, P.A.

Decision of the Board: Variance GRANTED.

EVIDENCE PRESENTED

1. The property on which the proposed net poles will be located is Parcel H, Century 21 Subdivision, located at 20101 Century Boulevard, Germantown, Maryland, 20878, in the CR Zone. The Topgolf facility is being developed on this parcel and on the abutting Pt. Parcel G, Century 21 Subdivision, located at 20051 Century Boulevard. Since these parcels are being developed as a whole, they will be collectively referred to as the "property" or "subject property." The property is owned by Matan Development dba CC 118 LLC, which has consented to the filing of this variance petition. See Exhibits 1(a) and (b).

2. The subject property is bordered by Century Boulevard to the west and by the right-of-way for the Interstate 270/Maryland Route 118 access ramp to the east. There is a stormwater management pond on the northern portion of the property, and the surrounding land is developed with commercial uses, as follows:

The immediately surrounding land, which is also zoned CR, is developed with uses that are commercial in nature. More specifically, recorded parcels containing office and hotel uses are located to the north of the Property. Office uses also directly confront the Property to the west across Century Boulevard, with the Regal Cinemas complex located just beyond at the northeastern corner of Century Boulevard and Aircraft Drive. To the south are hotel and restaurant uses that utilize the existing driveway on the southern portion of the Property for access purposes.

See Exhibit 3.

3. The subject property is unusually shaped, described by counsel as having lot lines that "are generally not straight and uneven in length, resulting in an assemblage of land that resembles an irregular curved trapezoid." In addition, any development of this property for the proposed Topgolf facility will require the dedication of an additional 22 feet to 50 feet of right-of-way for Century Boulevard to accommodate the future "Corridor Cities Transitway," in accordance with the Master Plan, further "reduc[ing] the Property's width, exacerbat[ing] the Property's irregular shape, and further constrain[ing] the locations on-site where development is feasible." When measured between "the curved front and rear lines, the Property is approximately 535 feet wide at its widest point, less than the 205 yard (+/- 615 foot) distance that is needed for Topgolf's outfield." See Exhibits 3 and 4(b).

The subject property is also affected by a significant slope from east to west and from north to south, with an approximate 35 foot change in elevation. Because of this, "stormwater management facilities on the Property – including the stormwater management pond that currently serves the surrounding off-site development, which will be redesigned and reconstructed with the [Topgolf] Project – must be located in the northernmost portion of the site where elevations are lower." The irregular shape of this property, combined with the existing grade and the required location of stormwater management facilities at the lowest point on the property combine to restrict the orientation and location of the proposed recreation and entertainment facility:

As a result of these exceptional and extraordinary characteristics (*i.e.*, the Property's irregular shape and its sloping topography), the Project must be situated on a north-to-south alignment, with its stormwater management facilities and its outfield area placed near the peninsula that approaches I-270 and the adjacent office and hotel development. With this placement, the sides of the outfield run approximately parallel with Century Boulevard to the west and the highway access ramp to the east (see Figure 3 above). The limits of the outfield area approach a

minimum of only 17 feet from the nearest lot line at certain points (measured to the closest net pole).

While the Project's placement satisfies the applicable development standards of the Zoning Ordinance for the CR Zone, the golf balls that will be hit from the building's three levels will travel across the outfield in the direction of the adjacent development, Century Boulevard, and the access ramp. Given that the Property will only be marginally wider than the proposed outfield, these golf balls could potentially cross the Property's lot lines unless sufficiently tall protective netting is provided.

See Exhibit 3.

4. The requested variance is for the construction of multiple (25) net poles, each approximately 170-feet in height as measured from the lower level first floor elevation of the principal Topgolf building, which are needed in connection with the construction of the Petitioner's recreation and entertainment facility. The Topgolf facility is a permitted use in the CR Zone.¹ The Petitioner, in collaboration with the Calloway Golf Company, has determined the necessary height for the net poles as follows:

As shown on the Barrier Netting Analysis provided with this variance request, these studies have shown that it is possible for a golf ball hit by a proficient guest with a swing speed of 120 miles per hour to achieve a height of approximately 165 feet at a distance of approximately 200 yards (+/- 600 feet) from tee location. ... As previously stated, the outfield of the proposed Topgolf will have a depth of approximately 205 yards (+/- 615 feet). Given that some players may have even faster swing speeds than the 120 miles per hour assumed in the Barrier Netting Analysis, it is possible that some balls will achieve greater heights and distances and will potentially exceed heights of 165 feet at the end of the outfield.* In addition, wind, weather, equipment selection, and other factors may affect the heights and distances that golf balls hit from Topgolf's decks will actually achieve in flight. Based on these factors and reasonable assumptions, Topgolf has determined that 170 feet is the minimum height necessary for the protective net poles to ensure the safety of its customers. For this Property, where the outfield area will be very close to the lot lines at certain points, 170 feet is also the minimum height necessary to prevent golf balls from being hit into adjacent properties and rights-of-way and to protect neighbors and passersby.

* For example, as noted in the Barrier Netting Analysis, "Tiger Woods' driver swing speed has been measured at 130+ mph."

See Exhibits 3 and 5(b).

¹ The Petitioner correctly notes that pursuant to Section 59-3.1.6 of the Zoning Ordinance, both Major Recreation and Entertainment Facilities (capacity over 1,000 persons) and Restaurant uses are permitted in the CR Zone.

5. The property was originally subdivided in 1982, at which time "the record lots were created with the irregular curved trapezoidal shape described above, which operates as a constraint on development of the site and contributes to the need for variance relief." The existing topography is partially the result of rough-grading done in connection with the construction of the existing stormwater management pond which serves the surrounding off-site development. See Exhibit 3.

At the hearing, Mr. Tom Boerman, P.E., testified that the property was subdivided prior to any involvement by Topgolf, and has an irregular, non-rectilinear shape, with a curved right-of-way for Century Boulevard along one side, and rights-of-way for Interstate 270 and Maryland Route 118 on the other side. He testified that these rights-of-way have set grades, and that the property falls 35 feet from east to west. Mr. Boerman testified that the topography of the subject property is due to these right-of-way elevations, and to grading that was done when the stormwater management pond was created. He testified that because the property is not wide enough (east-west) to accommodate Topgolf's requisite 205-yard outfield, the facility must be laid out in a north-south direction.

6. The subject property is located within the 2009 Approved and Adopted Germantown Employment Area Sector Plan. Per counsel for the Petitioner:

The Sector Plan places the Property at the far eastern edge of the Town Center Core neighborhood of the Town Center District. The Sector Plan recommends directing new uses, activity, and design attention to this area to, among other things, complete the economic core envisioned by the General Plan, increase employment, and organize communities around transit. More specifically, the Town Center Core is intended to have a mix of uses (including offices, restaurants, housing, and civic facilities) close to shopping, transit, and jobs. At the same time, the Sector Plan notes that the Town Center Core includes cinemas, restaurants, hotels and civic facilities that contribute significantly to Germantown's identity as the "up-County cultural center." The Sector Plan states that, by emphasizing cultural, entertainment, and street level retail uses among residential and commercial development, synergy is created among diverse use types. (See Sector Plan, Page 46). ... The proposed Project will be in keeping with the Sector Plan's recommendations

See Exhibit 3.

At the hearing, Mr. Boerman testified that the Topgolf building will "face" north, with a parking lot for approximately 360 cars to the south, and the outfield and stormwater management pond to the north. In response to Board questions about the need to relocate the stormwater management pond, Mr. Boerman testified that it would be relocated all around the outfield, and that they were working with the County on that, indicating that a stormwater concept plan had already been approved by the County. With respect to Master Plan compliance, Mr. Boerman testified that he had reviewed the Master Plan, and that the subject property is in the Town Center area, which calls for a mix of uses, with an emphasis on entertainment and cultural uses, and a synergy of

different use types. He testified that the proposed Topgolf facility would not impair the intent of the Master Plan, and would in fact directly benefit the goals of the Master Plan.

7. At the hearing, Mr. Mark Foster testified that the proposed Topgolf facility would have 475-500 employees who would be hired locally, and that the facility is anticipated to attract approximately 500,000 visitors per year. In response to a Board question about traffic, counsel for Topgolf stated traffic was being looked at carefully by the County, and that traffic and transportation were being reviewed by the Department of Transportation in connection with the Site Plan and Preliminary Plan Amendment reviews. He further stated that under the plan currently being reviewed by DOT, Topgolf would be required to make some improvements on Century Boulevard.

8. The proposed net poles and netting have been designed to minimize their visibility from adjacent properties and "to ensure that the accessory structures will fade into the skyline and not be overly visible from a distance." In addition, "the majority of the net poles will be located away from surrounding development on Century Boulevard and will be separated from I-270 by the intervening access ramp and associated right-of-way." Counsel for the Petitioner notes that in connection with the Site Plan and Preliminary Plan Amendment applications, the Petitioner held a pre-submission public meeting, notice of which was provided to "all adjacent and confronting property owners and to all civic and homeowners associations within one mile of the Property...." Counsel states that information regarding the proposed net poles was shared at the meeting and subsequent discussions were held with several of the immediate neighbors. He indicates that many expressed support for the proposed Topgolf facility, and that "[t]o date, no specific concerns have been expressed to the Petitioner regarding the heights of the protective net poles." See Exhibit 3.

FINDINGS OF THE BOARD

Based on the binding testimony of Petitioner's witnesses and the evidence of record, the Board finds that the variance can be granted. The requested variance complies with the applicable standards and requirements set forth in Section 59-7.3.2.E as follows:

1. *Section 59.7.3.2.E.2.a. one or more of the following unusual or extraordinary situations or conditions exist:*

Section 59.7.3.2.E.2.a.i exceptional narrowness, shallowness, shape, topographical conditions, or other extraordinary conditions peculiar to a specific property;

The Board finds that the subject property has a unique, non-rectilinear shape, distinct from that of surrounding properties, and that Petitioner's description of that shape as an irregular, curved trapezoid is apt. The Board further finds that the property is narrower than a typical Topgolf driving range is long, which restricts the orientation of the

proposed range. The Board notes that assuming the Topgolf project moves forward, the irregularity of this property's shape will be further increased as additional land varying in width between 22 feet and 50 feet will have to be dedicated for the Corridor Cities Transitway.

The Board finds that this property is also encumbered by a significant grade, falling 35 feet and sloping in two directions and down towards the northern lot line to a low spot where a portion of this property is occupied by a stormwater management pond that serves the surrounding development, and must remain (in some form) on the property. When the shape and slope of this property are viewed in combination with the required stormwater management facilities, the Board finds that the result is a uniquely constrained building area which not only restricts the location of the proposed Topgolf facility, but also dictates its orientation.

2. *Section 59.7.3.2.E.2.b the special circumstances or conditions are not the result of actions by the applicant;*

The Petitioner was not responsible for the subdivision of this parcel, which created its unique shape, for its slope and topography, or for the creation of the existing stormwater management pond. Thus the Board finds that unique constraints existing on this property are not the result of actions by the applicant.

3. *Section 59.7.3.2.E.2.c the requested variance is the minimum necessary to overcome the practical difficulties that full compliance with this Chapter would impose due to the unusual or extraordinary situations or conditions on the property;*

The Board finds that the unique shape and slope of this property force an orientation of the proposed Topgolf facility such that balls will be hit in the direction of existing hotels, offices, roadways, and highway access ramps, resulting in the need for tall protective netting (and poles to support that netting) to prevent errant golf balls from leaving the property. The Petitioner has represented that the Topgolf driving range will be approximately 205 yards deep. While net poles as tall as 145 feet would be allowed on the subject property without the need for a variance, the Board finds, based on the Barrier Netting Analysis presented by the Petitioner following its work with the Callaway Golf Company, that due to the shape and topography of the subject property, and the resultant orientation of the Topgolf facility, net poles as high as 170 feet are needed to prevent golf balls from crossing property lines, since "a golf ball hit by a proficient guest with a swing speed of 120 miles per hour [could] achieve a height of approximately 165 feet at a distance of approximately 200 yards (+/- 600 feet) from tee location." See Exhibits 3 and 5(b). Thus the Board finds that the requested 25 foot height variance needed to allow net poles of up to 170 feet is the minimum necessary to overcome the practical difficulties that full compliance with this Chapter would impose due to the unusual or extraordinary situations or conditions on the property.

4. *Section 59.7.3.2.E.2.d the variance can be granted without substantial impairment to the intent and integrity of the general plan and the applicable master plan;*

The Board finds that per the testimony of Mr. Boerman and the reasons set forth in the Statement submitted with this variance application, as set forth under the Findings

of Fact, the location and operation of the proposed recreation and entertainment facility is consistent with the 2009 Approved and Adopted Germantown Employment Area Sector Plan, and that the requested variance is needed to enable that project to go forward. Thus the Board finds that the variance can be granted without substantial impairment to the intent and integrity of the general plan and the applicable master plan.

5. *Section 59.7.3.2.E.2.e granting the variance will not be adverse to the use and enjoyment of abutting or confronting properties.*

The Board finds that the proposed net poles and netting have been designed to minimize their visibility from adjacent properties, and that "the majority of the net poles will be located away from surrounding development on Century Boulevard and will be separated from I-270 by the intervening access ramp and associated right-of-way." The Board further finds that neighboring property owners were made aware of the need for these net poles in the context of the Site Plan and Preliminary Plan Amendment application processes, as well as through this variance process, and that "[t]o date, no specific concerns have been expressed to the Petitioner regarding the heights of the protective net poles." See Exhibit 3. Based on the foregoing, the Board finds that granting the variance will not be adverse to the use and enjoyment of abutting or confronting properties.

Accordingly, the requested variance of twenty-five (25) feet from the otherwise applicable height limit of 145 feet, needed to allow multiple (25) net poles to be as tall as 170 feet in height, is **granted**, subject to the following conditions:

1. Petitioner shall be bound by the testimony of all of its witnesses and by the exhibits of record, to the extent that such testimony and evidence are referenced or relied on in this opinion.
2. The net poles shall be constructed substantially in compliance with Exhibits 4(a), 4(b), and 5(a).

Therefore, based upon the foregoing, on a motion by Edwin S. Rosado, seconded by Bruce Goldensohn, with John H. Pentecost, Vice Chair, and Stanley B. Boyd in agreement, and with Carolyn J. Shawaker, Chair, necessarily absent, the Board adopted the following Resolution:

BE IT RESOLVED by the Board of Appeals for Montgomery County, Maryland that the opinion stated above is adopted as the Resolution required by law as its decision on the above-entitled petition.



John H. Pentecost, Vice Chair
Montgomery County Board of Appeals

Entered in the Opinion Book
of the Board of Appeals for
Montgomery County, Maryland
this 8th day of June, 2017.


Barbara Jay
Executive Director

NOTE:

Any request for rehearing or reconsideration must be filed within fifteen (15) days after the date the Opinion is mailed and entered in the Opinion Book. Please see the Board's Rules of Procedure for specific instructions for requesting reconsideration.

Any decision by the County Board of Appeals may, within thirty (30) days after the decision is rendered, be appealed by any person aggrieved by the decision of the Board and a party to the proceeding before it, to the Circuit Court for Montgomery County, in accordance with the Maryland Rules of Procedure. It is each party's responsibility to participate in the Circuit Court action to protect their respective interests. In short, as a party you have a right to protect your interests in this matter by participating in the Circuit Court proceedings, and this right is unaffected by any participation by the County.

See Section 59-7.3.2.G of the Zoning Ordinance regarding the twelve (12) month period within which the variance granted by the Board must be exercised.



Attachment F

DEPARTMENT OF TRANSPORTATION

Isiah Leggett
County Executive

Al R. Roshdieh
Director

June 27, 2017

Mr. Benjamin Berbert, Planner Coordinator
Area Three Planning Division
The Maryland-National Capital
Park & Planning Commission
8787 Georgia Avenue
Silver Spring, MD 20910-3760

RE: Preliminary Plan No. 12007065B
TopGolf Germantown

Ben:
Dear Mr. Berbert:

We have completed our review of the revised preliminary plan dated May 26, 2017. An earlier version of this plan was reviewed by the Development Review Committee at its meeting on December 12, 2016. We recommend conditional approval of the plan subject to the following comments, to be depicted prior to Certified Preliminary Plan:

All Planning Board Opinions relating to this plan or any subsequent revision, project plans or site plans should be submitted to the Department of Permitting Services in the package for record plats, storm drain, grading or paving plans, or application for access permit. Include this letter and all other correspondence from this department.

Preliminary Plan Review Comments

1. Dedication of right-of-way and easements necessary for the future construction and maintenance of Century Boulevard, including fifty (50) feet to accommodate the future Corridor Cities Transitway (CCT), in accordance with the 2009 Germantown Employment Area Sector Plan and the Bicycle Facility Master Plan.
2. Grant necessary slope and drainage easements. Slope easements are to be determined by study or set at the building restriction line.
3. MCDOT has conditionally accepted the consultant's alternative concept plan to preclude U-turns and provide wayfaring to I-270, MD Route 118 (Germantown Road) and the Germantown Town Center. Details are to be finalized at the permit stage and are described in Comment #16. A. of this letter.

Office of the Director

101 Monroe St., 10th Floor • Rockville, Maryland 20850 • 240-777-7170 • 240-777-7178 FAX
www.montgomerycountymd.gov/dot

4. Prior to issuance of any permits for work within the Century Boulevard right-of-way, the applicant will need to coordinate with Rapid Transit System Developments Manager Ms. Joana Conklin of our Director's Office and Mr. Rick Kiegel of Maryland Transit Administration regarding the latest plans for the CCT. Ms. Conklin may be contacted at 240-777-7195 or at joana.conklin@montgomerycountymd.gov; Mr. Kiegel may be contacted at 410-728-2900 or at rkiegel@rkk.com.
5. The applicant must pay the TPAR mitigation payment that is equivalent to 25% of the Transportation Impact Tax prior to issuance of the building permit.
6. At or before the permit stage, please coordinate with Ms. Stacy Coletta of our Division of Transit Services to coordinate improvements to the RideOn bus facilities in the vicinity of this project. Ms. Coletta may be contacted at 240-777-5800.
7. In order to promote the use of non-auto modes of transportation, transit-oriented and sustainable development, as called for in the 2009 Germantown Forward Sector Plan and the Project's proximity to the Germantown Transit Center, the Project should incorporate the following Transportation Demand Management (TDM) related measures:

Provide bike racks, lockers and bicycle storage facilities, as well as publicly-accessible bike parking. Both publicly- and privately-accessible bike racks should be conveniently located.

Given that the project is within walking distance to the Town Center area and to transportation resources (e.g., Germantown Transit Center), ensure safe pedestrian and bicycle circulation and connections between the facility, nearby bus stops and the future CCT station just across Aircraft Drive.

Allow MCDOT's Commuter Services marketing staff to conduct on-site events to promote modes of commuting other than driving single occupancy vehicles to employees working at the site. These efforts will be coordinated with the designated Transportation Benefits Coordinator.

Identify a Transportation Benefits Coordinator to serve as a point of contact for MCDOT and to facilitate marketing and promotional activities.

Participate in the Commuter Survey.

Provide a permanent information display area for commuter information and materials promoting TDM.

Promote Live Near Your Work or similar programs that seek to shorten employee commutes.

8. The applicant should be required to, once Bikeshare becomes operational in Germantown, become a Corporate Member or comparable level of participation, and distribute the discounted annual memberships to its employees for five years. The applicant must take other actions in concert with MCDOT to promote use of Bikeshare among employees and visitors at the Project. Coordinate with Ms. Sandra Brecher, Chief of the Division of Transit Services/Commuter

Services Section. Ms. Brecher can be reached at 240-777-8383 or at sandra.brecher@montgomerycountymd.gov.

9. MCDOT defers to MNCP&PC and MCDPS for access and improvements to the private, on-site parking lot (including alignment, profile, typical section, drainage, maintenance and liability, etc.).
10. The owner will be required to submit a recorded covenant for the operation and maintenance of the private storm drain systems, and/or open space areas prior to MCDPS approval of the record plat. The deed reference for this document is to be provided on the record plat.
11. The storm drain capacity and impact study is acceptable. However, there are deficiencies in the existing system which will need to be addressed with MCDPS at the permit stage. These deficiencies are further described in Comment #16. B. of this letter.
12. Relocation of utilities along existing roads to accommodate the required roadway improvements shall be the responsibility of the applicant.
13. Execute and record a Declaration of Covenants (for Maintenance and Liability) for the brick sidewalk in accordance with Comment #16. A. of this letter.
14. The sight distance certification has been reviewed and accepted by MCDOT. A copy of the executed form is attached to this letter.
15. For trees in the County rights-of-way, the spacing and species must be in accordance with the applicable MCDOT standards. Tree planting within the public right of way must be coordinated with DPS Right-of-Way Plan Review Section.
16. Permit and bond will be required as a prerequisite to DPS approval of the record plat. The permit will include, but not necessarily be limited to, the following improvements:
 - A. Improvements and grading within the Century Boulevard right-of-way including sidewalk, curb, gutter and paving necessary to extend the existing four (4) foot, monolithic, concrete median on Century Boulevard approximately four hundred (400) feet north to the entrances of 20111 Century Boulevard and 20010-20030 Century Boulevard. Rough grade the site frontage along Century Boulevard to the ultimate, future cross section. If required as a condition of plan approval by the Planning Board, install the proposed eight (8) foot brick sidewalk two (2) feet inside of the right-of-way to match the existing sidewalk.

***NOTE: the Public Utilities Easement is to be graded on a side slope not to exceed 4:1.**

- B. Enclosed storm drainage and/or engineered channel are to be designed in accordance with the MCDOT Storm Drain Design Criteria within the County rights-of-way and all drainage easements. The existing forty-eight (48) inch RCP from existing structure X44 to the stormwater management facility requires replacement with a minimum fifty-four (54) inch RCP or equivalent. Also, the existing thirty-six (36) inch RCP from existing structure X2 to the existing

Mr. Benjamin Berbert
Preliminary Plan No. 12007065B TopGolf Germantown
June 27, 2017
Page 4

downstream end wall requires replacement with a minimum fifty-four (54) inch RCP or equivalent.

- C. Provide permanent monuments and property line markers as required by Section 50-24(e) of the Subdivision Regulations.
- D. Erosion and sediment control measures as required by Section 50-35(j) and on-site stormwater management where applicable shall be provided by the Developer (at no cost to the County) at such locations deemed necessary by the Department of Permitting Services (DPS) and will comply with their specifications. Erosion and sediment control measures are to be built prior to construction of streets, houses and/or site grading and are to remain in operation (including maintenance) as long as deemed necessary by the DPS.
- E. The developer shall provide street lights in accordance with the specifications, requirements, and standards prescribed by the MCDOT Division of Traffic Engineering and Operations.

Thank you for the opportunity to review this preliminary plan. If you have any questions or comments regarding this letter, please contact Mr. William Whelan, our Development Review Engineer for this project, at william.whelan@montgomerycountymd.gov.

Sincerely,



Gregory M. Leck, Manager
Development Review Team
Office of Transportation Policy

M:\corres\FY17\Traffic\Active\12007065B TopGolf Germantown - MCDOT FINAL prelim plan ltr.doc

cc: Brian Morris Matan Development, Inc.
 Tom Boerman Arco/Murray, Inc.
 Mark Foster Topgolf Germantown USA, LLC
 Christopher Ruhlen Lerch, Early & Brewer, Chtd.
 Mike Plitt Macris, Hendricks & Glascock, P.A.
 Glenn Cook The Traffic Group
 Rick Kiegel RKK Engineers
 Richard Weaver MNCP&PC, Area 3
 Sandra Pereira MNCP&PC, Area 3
 Preliminary Plan folder
 Preliminary Plan letters notebook

cc-e: Atiq Panjshiri MCDPS RWPR
 Sam Farhadi MCDPS RWPR

Mr. Benjamin Berbert
Preliminary Plan No. 12007065B TopGolf Germantown
June 27, 2017
Page 5

Marie LaBaw	MCFRS
Joana Conklin	MCDOT Director's Office
Mark Terry	MCDOT DTEO
Stacy Coletta	MCDOT DTS
William Whelan	MCDOT OTP



Department of Permitting Services
Fire Department Access and Water Supply Comments

DATE: 05-Jun-17
TO: Kenneth Jones - kjones@mhgpa.com
Macris, Hendricks & Glascock
FROM: Marie LaBaw
RE: Topgolf - Germantown
820170010 12007065B

PLAN APPROVED

1. Review based only upon information contained on the plan submitted **05-Jun-17**. Review and approval does not cover unsatisfactory installation resulting from errors, omissions, or failure to clearly indicate conditions on this plan.
2. Correction of unsatisfactory installation will be required upon inspection and service of notice of violation to a party responsible for the property.



Attachment H

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

March 16, 2017

Mr. Jeremiah Swenson
Macris, Hendricks and Glascock, P.A.
9220 Wightman Road, Suite 120
Montgomery Village, MD 20886

Re: **COMBINED STORMWATER MANAGEMENT
CONCEPT/SITE DEVELOPMENT
STORMWATER MANAGEMENT PLAN**

Request for Top Golf
Preliminary Plan #: Pending
SM File #: 282190
Tract Size/Zone: 11.52/CR-2.0
Total Concept Area: 11.52ac
Lots/Block: N/A
Parcel(s): G & H
Watershed: Little Seneca Creek

Based on a review by the Department of Permitting Services Review Staff, the Combined Stormwater Management Concept/Site Development Stormwater Management Plan for the above-mentioned site is **acceptable**. The plan proposes to meet required stormwater management goals via the use of micro bio-retention, a wet pond with extended detention, a surface sand filter and structural filtration for on-site control. Replacement of the onsite quantity pond will be provided within an underground detention system sized per the current design.

The following **items** will need to be addressed **during** the final stormwater management design plan stage:

1. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
2. An engineered sediment control plan must be submitted for this development.
3. All filtration media for manufactured best management practices, whether for new development or redevelopment, must consist of MDE approved material.
4. Landscaping shown on the approved Landscape Plan as part of the approved Site Plan are illustrative purpose only and may be changed at the time of detailed plan review of the Sediment Control/Storm Water Management plans by the Mont. Co. Department of Permitting Services, Water Resources Section.
5. The proposed underground SWM systems must provide special anti-floatation design considerations, detailed in the sediment control plan submission, where groundwater is present.

Mr. Jeremiah Swenson
March 16, 2017
Page 2 of 2

6. The proposed pumping system used to convey water from the target areas will be determined during the detailed plan stage. The pumping should be done in a manner that should try to replicate natural flow to the proposed micro bio retention structures as close as possible. This may require pumping to a trunk line storm drain system and flow splitting to the SWM structures.
7. If the proposed pond design requires modification from what was submitted at concept it may be required to be reevaluated by MDE for dam safety.

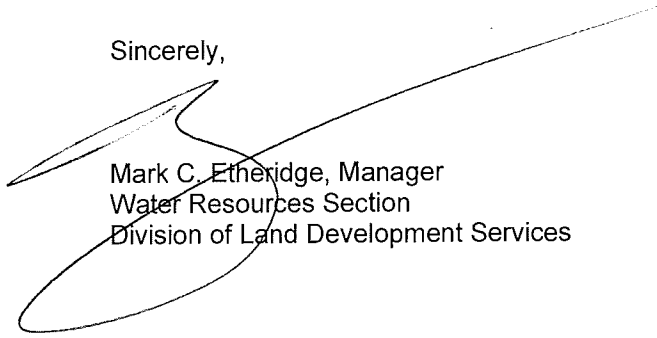
This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is not required**.

This letter must appear on the final stormwater management design plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Thomas Weadon at 240-777-6309.

Sincerely,

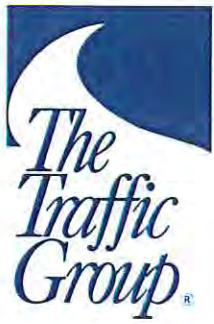


Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: TEW

cc: C. Conlon
SM File # 282190

ESD Acres:	2.4ac
STRUCTURAL Acres:	8.5ac
WAIVED Acres:	N/A



A VETERAN-OWNED
SMALL BUSINESS

CORPORATE OFFICE
Baltimore, MD

Suite H
9900 Franklin Square Drive
Baltimore, Maryland 21236
410.931.6600
fax: 410.931.6601
1.800.583.8411

DELMARVA OFFICE
443.513.4128

FIELD LOCATIONS

Arkansas
Maryland
New York
North Carolina
North Dakota
Ohio
Texas
Virginia
Washington State
West Virginia

January 26, 2017

Attachment I

Mr. Greg Leck
Manager, Traffic Engineering and Operations
Department of Transportation
County Government Office
Rockville, MD 20850

RE: Top Golf
Montgomery County, Maryland
Our Job No.: 2015—0414

Dear Mr. Leck:

As a result of comments received from your office and discussions that occurred at the DRC meeting held on December 12, 2016 for the proposed development of the Top Golf facility along Century Boulevard, The Traffic Group, Inc. has conducted analysis as requested to determine the impact of a single right-in/right-out access along Century Boulevard.

Based on your comments, several possible scenarios were outlined for possible access to the subject property. However, after reviewing these options it was determined that the most feasible alternative was the right-in/right-out access along Century Boulevard. Providing this access raised several questions as it relates to traffic destined to the number of U-turn maneuvers that would result from this configuration. Vehicle from the north will likely make a U-turn at the median break which serves the hotels and vehicle destined to the south leaving the property will need to make a U-turn to the north of the access. This can be done at the Cloverleaf Center Drive intersection or vehicles can make a left turn at this location and proceed to Crystal Rock Drive and then turn left to head in a southerly direction.

Exhibit 1 to this letter was prepared to show the location of the proposed Top Golf facility. Exhibit 2 was prepared to show the existing lane use at the intersections that would be impacted by left turns or U-Turns that would be required for vehicles coming or leaving the subject facility.

The Traffic Group, Inc. conducted intersection turning movement counts in January 2017 at the 3 intersections identified in Exhibit 3 along with the peak hour volumes identified by the counts. The Copies of the turning movement count summary sheets are contained in Appendix A to this report.

In addition to the existing traffic, a significant amount of traffic will be generated in the future along Century Boulevard as a result of other approved developments planned in the vicinity of the subject site. Exhibit 4 has been prepared to show the trip generation rates and the peak hour trips projected to be generated by other developments that have received approval in the vicinity of the subject site. It should be noted that this list of background developments was obtained from the approved study prepared for the Black Hills Development. As determined by the Black Hills study, the peak hour trips projected to be generated by the nearby approved developments were assigned to the adjacent roadways, and the results are shown in Exhibit 5. Combining these trips with the existing traffic, results in the projected background traffic volumes.

The traffic projected to be generated by the Top Golf facility was based on a traffic study prepared for an existing Top Golf facility located in Scottsdale, Arizona. The Scottsdale location is identical to the facility proposed to be built on the subject site. The proposed site and the Scottsdale Site will consist of 102 Tee locations and approximately 12,905 sq. ft. of entertainment area. The peak hour for the Scottsdale Facility was determined to occur in the morning from 7:45 to 8:45 AM. The peak hour during the evening occurs from 5:15 to 6:15 PM.

The projected distribution of traffic to the Top Golf facility will change on a day-to-day basis. However, it is anticipated that an average of approximately 70% of the traffic would arrive to and from the south with the remaining 30% coming to and from the north. This we feel would represent a worst case situation as it relates to turning vehicles to and from the subject property for this analysis. The peak hour trips projected to be generated by the proposed site are shown in Exhibit 7. These trips were then combined with the background peak hour volumes resulting in the total peak hour volumes shown in Exhibit 8. Intersection capacity analyses were conducted for each of the study area intersections, and the results are shown in Exhibit 9. A review of Exhibit 9 indicates that all of the study area intersections are projected to operate within the congestion standard established for this part of Montgomery County.

Although the intersections in the study area are projected to operate at acceptable levels of service, it is recommended that the nose of the existing median along Century Boulevard along the property frontage be extended further to the north using flex posts in order to prevent vehicles from trying to make a U-Turn along this segment of Century Boulevard. No U-Turn signs will also be posted along northbound at various locations along northbound Century Boulevard. There are several locations north of this area such as parking lots to existing buildings and the access to the Salvation Army facility which could be used by vehicles which were leaving the subject facility desiring to travel to the south which may be used to turn around and proceed in a southerly direction along Century Boulevard. It is noted that these parking lots and the access to the Salvation Army facility are not public roadways. Therefore, we would not encourage the use of these. The first opportunity for vehicles to make a U-Turn or to turn left would be at Cloverleaf Center Drive. These vehicles would then proceed to Crystal Rock Parkway and travel in a southerly direction to MD 118. For the purposes of our analysis, this is the path that we envision most vehicles to use. We have prepared an exhibit which is attached to this letter that shows the turning templates for vehicles at the locations that would be required. In addition, the location of the additional flex post and signage recommended to enforce no U-Turn movements are shown on the plan.

We have also conducted an analysis for the existing left turn lanes to determine that adequate storage space is available for the increase in the U-Turns at each of these locations. The results of this analysis are shown on Exhibit 10 and indicate that sufficient storage space does exist to accommodate these movements. In addition the sight distance to and from the south along Century Boulevard at the site access is acceptable.

Therefore, based on the analysis contained in this report, we believe it is clear that the single right-in/right-out access to the Top Golf facility along Century Boulevard is sufficient to handle the projected demand to be generated by the subject site. The adjacent road system does provide sufficient opportunities for vehicles to make legal movements to reach their preferred destinations.

If you have any questions concerning this information, please do not hesitate to contact me.

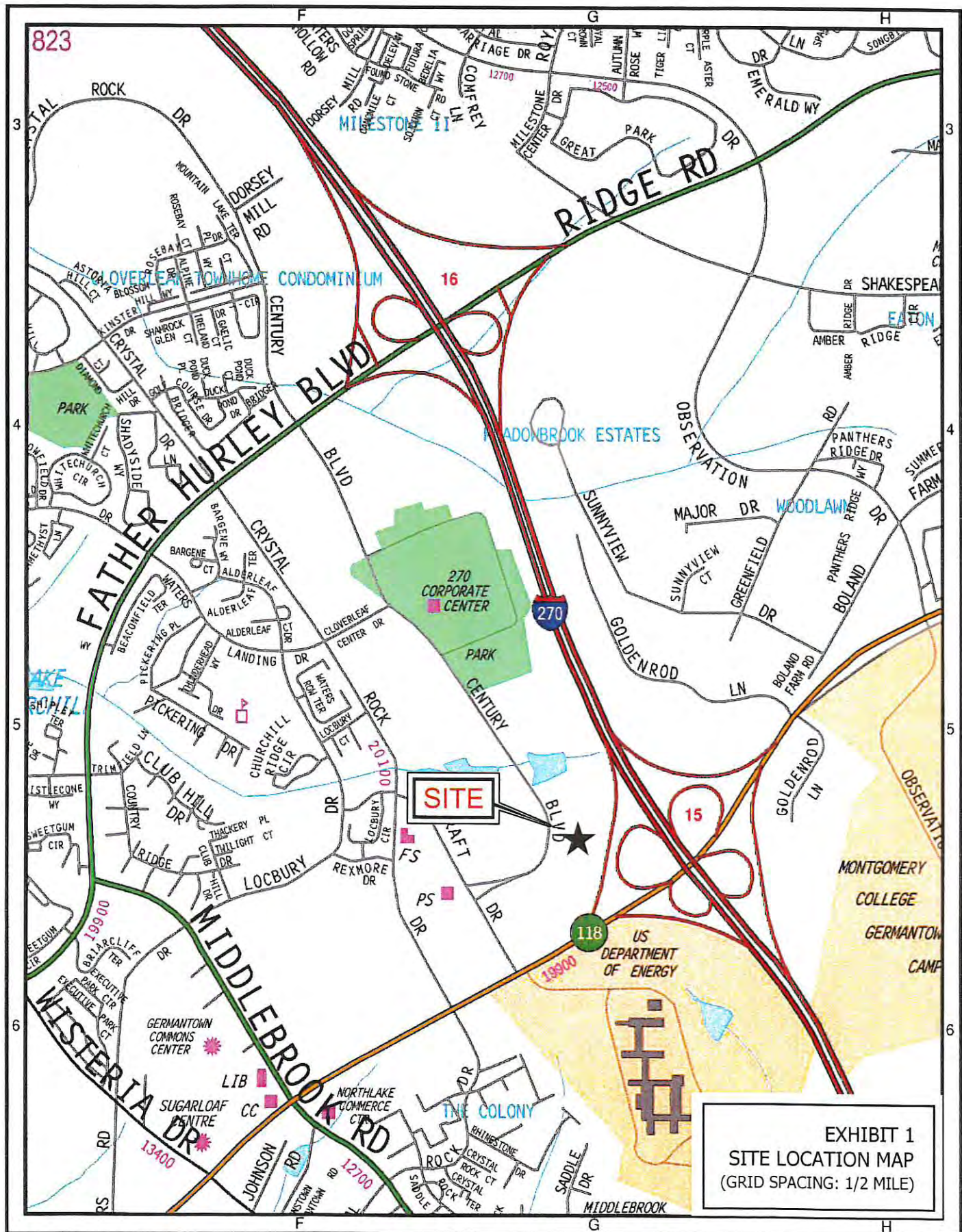
Sincerely,

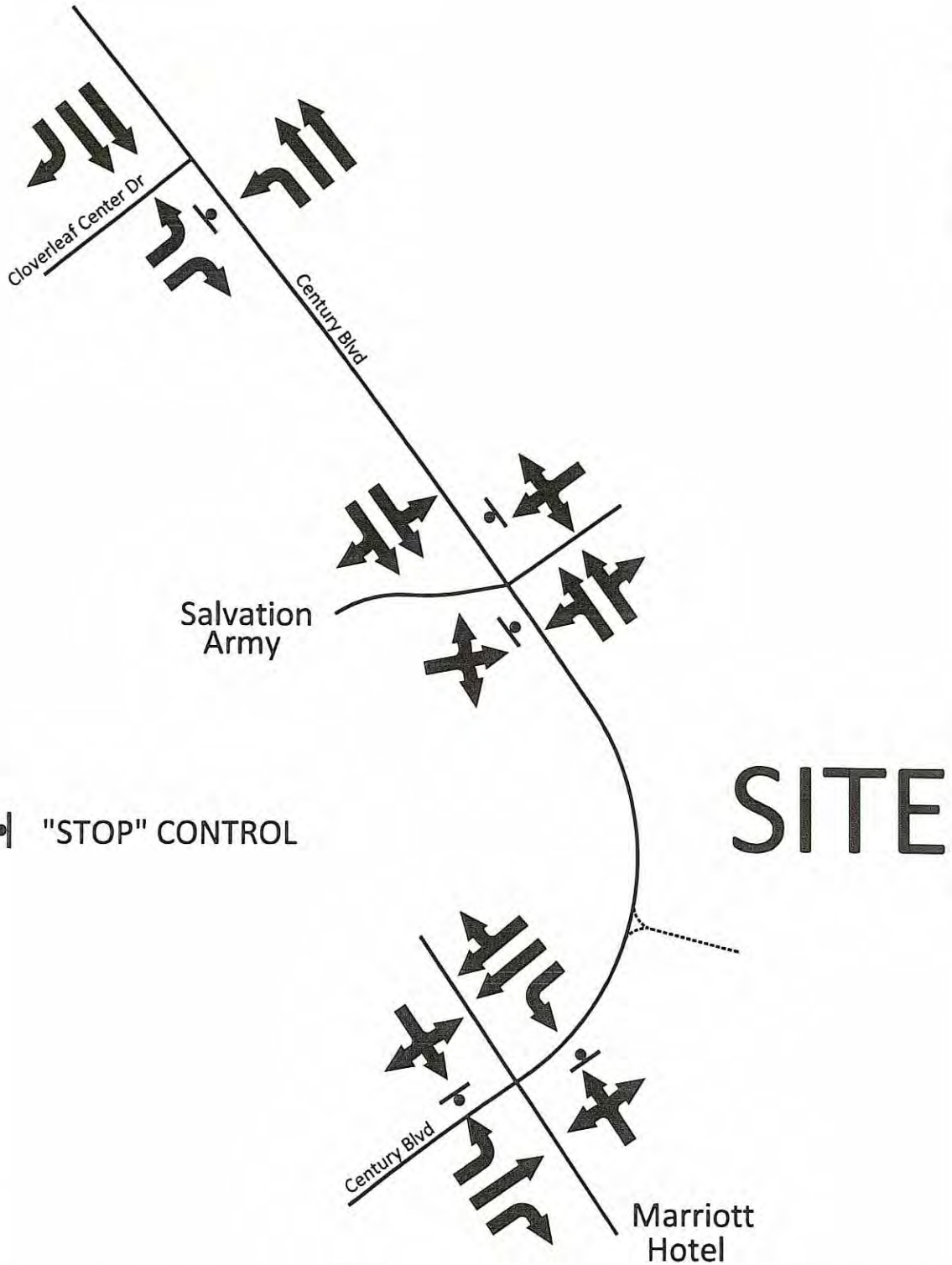
A handwritten signature in black ink, appearing to read "Glenn Cook", written in a cursive style.

Glenn E. Cook
Vice President

GEC:rek

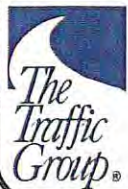
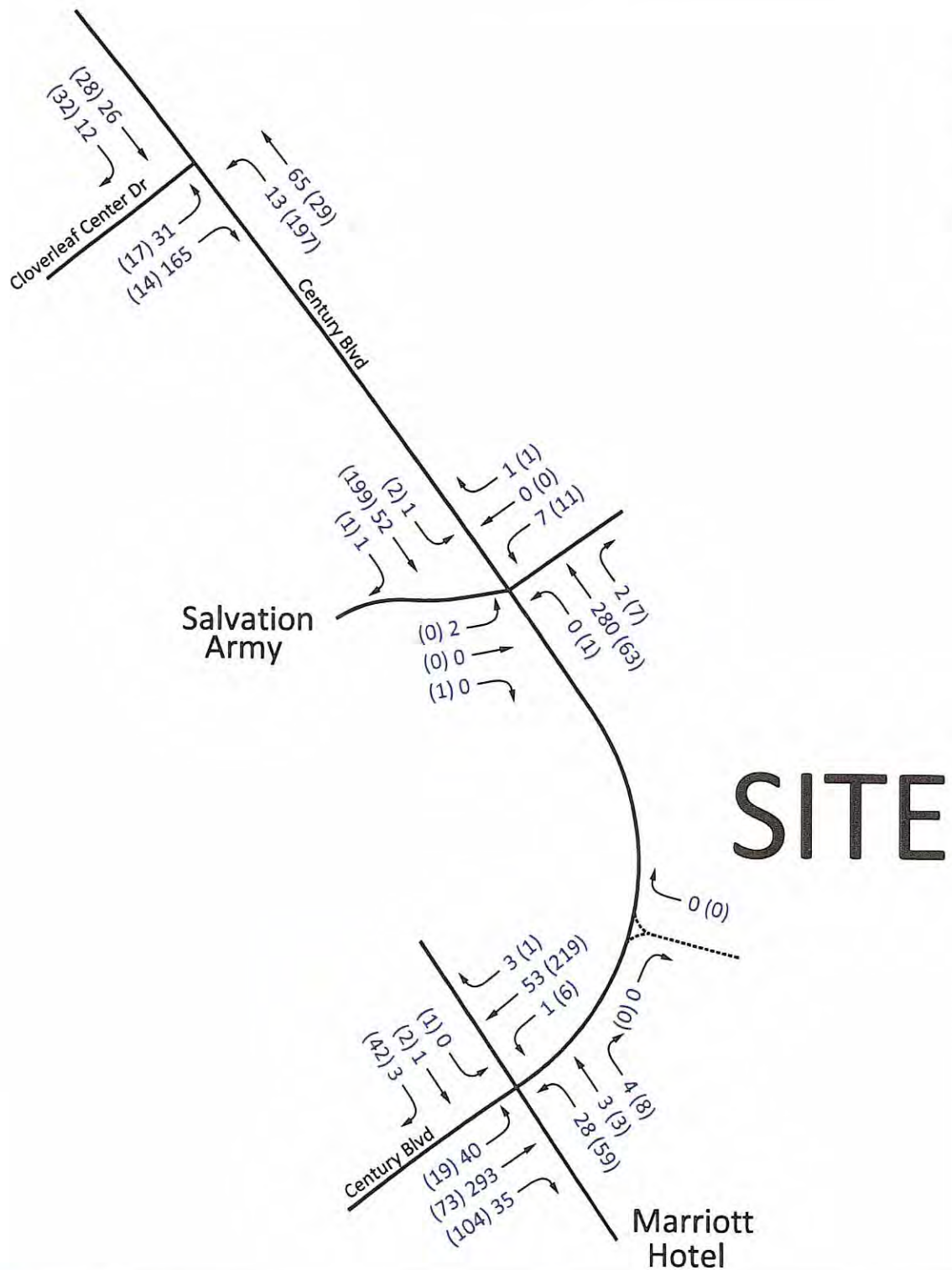
(F:\2015\2015-0414_Top Golf\DOC5\CORRESP\ANALYST\Ltr_Leck.docx)





NOT TO SCALE

EXHIBIT 2
EXISTING LANE USE



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 3 EXISTING PEAK HOUR TRAFFIC VOLUMES

TRIP GENERATION FOR BACKGROUND DEVELOPMENTS

TRIP RATES / FORMULAE	IN/OUT
General Office (Montgomery County, < 25 ksf)	
Morning Trips = $(1.38 \times \text{KSF})$	87/13
Evening Trips = $(2.24 \times \text{KSF})$	17/83
General Office (Montgomery County, ≥ 25 ksf)	
Morning Trips = $(1.70 \times \text{KSF}) - 8$	87/13
Evening Trips = $(1.44 \times \text{KSF}) + 20$	17/83
Retail, No Major Food Chain (Montgomery County, <50 ksf)	
Morning Trips = $25\% \times \text{Evening Trips}$	52/48
Evening Trips = $((12.36 \times \text{KSF}) \times (1 - .05 + .002(200 - \text{KSF})))$	52/48
Single-Family Units (Montgomery County, <75 Units)	
Morning Trips = $(0.95 \times \text{Units})$	25/75
Evening Trips = $(1.11 \times \text{Units})$	64/36
Single-Family Units (Montgomery County, ≥ 75 Units)	
Morning Trips = $(0.62 \times \text{Units}) + 25$	25/75
Evening Trips = $(0.82 \times \text{Units}) + 21$	64/36
Townhouse/Sigle Family Attached Units (Montgomery County, <100 Units)	
Morning Trips = $(0.48 \times \text{Units})$	17/83
Evening Trips = $(0.83 \times \text{Units})$	67/33
Townhouse/Sigle Family Attached Units (Montgomery County, ≥ 100 Units)	
Morning Trips = $(0.53 \times \text{Units}) - 5$	17/83
Evening Trips = $(0.48 \times \text{Units}) + 35$	67/33
Garden/Mid-Rise Apartments <10 stories (Montgomery County, <75 Units)	
Morning Trips = $(0.44 \times \text{Units})$	20/80
Evening Trips = $(0.48 \times \text{Units})$	66/34
Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥ 75 Units)	
Morning Trips = $(0.40 \times \text{Units}) + 3$	20/80
Evening Trips = $(0.47 \times \text{Units}) + 1$	66/34
Day Care Center (Students, ITE-565)	
Morning Trips = $0.80 \times \text{Students}$	53/47
Evening Trips = $0.82 \times \text{Students}$	47/53
Church (ksf, ITE-560)	
Morning Trips = $0.56 \times \text{ksf}$	62/38
Evening Trips = $0.55 \times \text{ksf}$	48/52



**Obtained from Black Hills
TIS dated 02/22/2016.**

**EXHIBIT 4
TRIP GENERATION FOR
BACKGROUND DEVELOPMENTS**

TRIP GENERATION FOR BACKGROUND DEVELOPMENTS

TRIP TOTALS

	MORNING PEAK HOUR			EVENING PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
1. Tapestry (120050950)						
Single-Family Units (Montgomery County, <75 Units)						
66 units	16	47	63	47	26	73
2. Clarksburg Village (120010300)						
Single-Family Units (Montgomery County, ≥75 Units)						
450 units	76	228	304	250	140	390
Garden/Mid-Rise Apartments <10 stories (Montgomery County, <75 Units)						
168 units	15	59	74	53	28	81
Retail, No Major Food Chain (Montgomery County, <50 ksf)						
6,000 sq.ft.	6	5	11	22	20	42
Pass-by Trips	-3	-3	-6	-14	-13	-27
New Trips	3	2	5	8	7	15
3. Montgomery College Germantown (120110380)						
General Office (Montgomery County)						
80,000 sq.ft.	111	17	128	23	112	135
4. Goddard Child Day Care - Clarksburg (120110020)						
Day Care Center (Students, ITE-565)						
283 students	69	61	130	109	123	232
Pass-by Trips	-47	-41	-88	-80	-90	-170
New Trips	22	20	42	29	33	62
5. Cabin Branch (120031100C and DPA No. 13-02) ^{1/}						
Residential						
Single-Family Units (Montgomery County, ≥75 Units)						
938 units	152	455	607	506	284	790
Townhouse/Sigle Family Attached Units (Montgomery County, ≥100 Units)						
581 units	52	251	303	210	104	314
Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥75 Units)						
367 units	30	120	150	114	59	173
Subtotal	234	826	1060	830	447	1277
Less Internal to Retail (15%)	-20	-41	-61	-74	-71	-145
Less Internal to Employment (15%)	-35	-124	-159	-125	-53	-178
New Residential Trips	179	661	840	631	323	954
Service/Public Use (S/P)						
Independent Living with min Support Services (>150 Units, Montgomery County)						
500 units	14	26	40	30	25	55
New Residential and S/P Trip Total	193	687	880	661	348	1009
Commercial/Employment						
34,000 sq.ft. Retail	55	50	105	218	202	420
450,000 sq.ft. Outlet Center	220	82	302	258	290	548
Subtotal	275	132	407	476	492	968
Less Internal to Residential (15%)	-41	-20	-61	-71	-74	-145
Less Internal to Employment (15%)	-41	-20	-61	-71	-53	-124
Net Retail Trips	193	92	285	334	365	699
General Office (Montgomery County, ≥ 25 ksf)						
622,000 sq.ft.	913	136	1049	156	760	916
Research & Dev. Center (ksf, ITE-760)						
1,226,500 sq.ft.	955	195	1150	159	898	1057
Hotel Rooms (ITE-310)						
87,500 sq.ft.	38	26	64	37	35	72
Employment Subtotal	1906	357	2263	352	1693	2045
Internal to Residential (15%)	-124	-35	-159	-53	-125	-178
Internal to Retail (15%)	-20	-41	-61	-53	-71	-124
Net Employment Trips	1762	281	2043	246	1497	1743
New Commercial/Employment Trips	1955	373	2328	580	1862	2442
Total Cabin Branch External Trips	2148	1060	3208	1241	2210	3451



Obtained from Black Hills
TIS dated 02/22/2016.

EXHIBIT 4 CONT'D
TRIP GENERATION FOR
BACKGROUND DEVELOPMENTS

TRIP GENERATION FOR BACKGROUND DEVELOPMENTS

TRIP TOTALS

	MORNING PEAK HOUR			EVENING PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
6. I.S.G. Building (120100130)	(No impact on study intersections)					
3,800 sq.ft. religious building	1	1	2	1	1	2
7. The Towns of Boland Farms (120050260)						
<i>Townhouse/Sigle Family Attached Units (Montgomery County, <100 Units)</i>						
22 units	2	9	11	12	6	18
8. Century Technology Campus (120020950)						
<i>General Office (Montgomery County)</i>						
168,202 sq.ft.	242	36	278	45	217	262
9. Century XXI (120070650)						
<i>General Office (Montgomery County)</i>						
235,000 sq.ft.	341	51	392	61	297	358
10. Village West at Germantown Town Center (120110090)						
<i>Retail, No Major Food Chain (Montgomery County, <50 ksf)</i>						
14,425 sq.ft.	14	12	26	54	49	103
<u>Pass-by Trips</u>	<u>-8</u>	<u>-7</u>	<u>-15</u>	<u>-35</u>	<u>-32</u>	<u>-67</u>
New Trips	6	5	11	19	17	36
11. Seneca Meadows Corporate Center (119980040)						
<i>General Office (Montgomery County)</i>						
143,356 sq.ft.	205	31	236	38	188	226
<i>Shopping Center (ksf, Montgomery County)</i>						
168,400 sq.ft.	195	180	375	779	719	1498
<u>Pass-by Trips</u>	<u>-62</u>	<u>-58</u>	<u>-120</u>	<u>-265</u>	<u>-244</u>	<u>-509</u>
New Trips	133	122	255	514	475	989
12. Milestone Industrial (119872710) ^{1/}						
<i>Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥75 Units)</i>						
373 units	30	122	152	116	60	176
<i>General Office (Montgomery County)</i>						
230,000 sq.ft.	333	50	383	60	291	351
13. Qiagen-Germantown Business Park (119811420)						
<i>General Office (Montgomery County, ≥ 25 ksf)</i>						
58,500 sq.ft.	79	12	91	18	86	104
14. Chestnut Ridge (119960660)						
<i>General Office (Montgomery County, < 25 ksf)</i>						
16,300 sq.ft.	19	3	22	6	31	37
15. Liberty Mill (120040520)						
<i>Single-Family Units (Montgomery County, <75 Units)</i>						
3 units	1	2	3	2	1	3
16. Germantown Estates (120060970)						
<i>General Office (Montgomery County, < 25 ksf)</i>						
15,600 sq.ft.	19	3	22	6	29	35

1. For #12, 373 unit apartments were proposed to replace 252 ksf office.



Obtained from Black Hills
TIS dated 02/22/2016.

EXHIBIT 4 CONT'D
TRIP GENERATION FOR
BACKGROUND DEVELOPMENTS

TRIP GENERATION FOR BACKGROUND DEVELOPMENTS

TRIP TOTALS

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

17. Symmetry at Cloverleaf (Century Park Development)

Retail (Montgomery County, <50 ksf)

125,000 sq.ft.	153	141	294	612	564	1176
Internal Capture w/ Residential	-4	-2	-6	-61	-147	-208
Internal Capture w/ Office	<u>-38</u>	<u>-37</u>	<u>-75</u>	<u>-49</u>	<u>-11</u>	<u>-60</u>
External Trips	111	102	213	502	406	908
Pass-by Trips	<u>-38</u>	<u>-35</u>	<u>-73</u>	<u>-171</u>	<u>-138</u>	<u>-309</u>
New Trips	73	67	140	331	268	599

General Office (Montgomery County, ≥ 25 ksf)

625,000 sq.ft.	918	137	1055	156	764	920
Internal Capture w/ Residential	-7	0	-7	-7	-15	-22
Internal Capture w/ Retail	<u>-37</u>	<u>-38</u>	<u>-75</u>	<u>-11</u>	<u>-49</u>	<u>-60</u>
External Trips	874	99	973	138	700	838

Garden/Mid-Rise Apartments <10 stories (Montgomery County, ≥75 Units)

950 units	77	306	383	296	152	448
-----------	----	-----	-----	-----	-----	-----

Townhouse/Sigle Family Attached Units (Montgomery County, ≥100 Units)

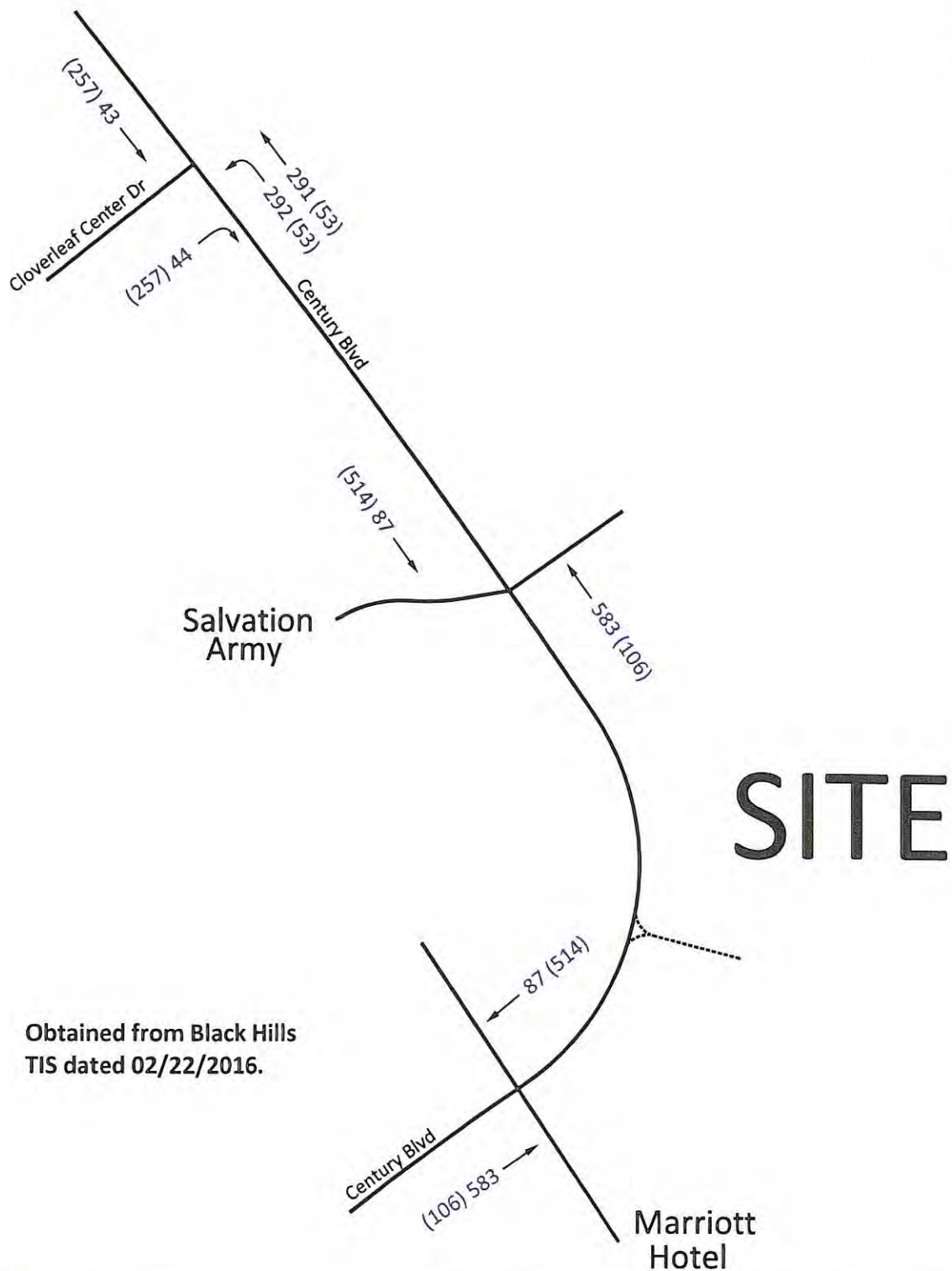
150 units	<u>13</u>	<u>62</u>	<u>75</u>	<u>72</u>	<u>35</u>	<u>107</u>
-----------	-----------	-----------	-----------	-----------	-----------	------------

Combined Residential Trips	90	368	458	368	187	555
Internal Capture w/ Retail	-2	-4	-6	-147	-61	-208
Internal Capture w/ Retail	<u>0</u>	<u>-7</u>	<u>-7</u>	<u>-15</u>	<u>-7</u>	<u>-22</u>
External Trips	88	357	445	206	119	325



Obtained from Black Hills
TIS dated 02/22/2016.

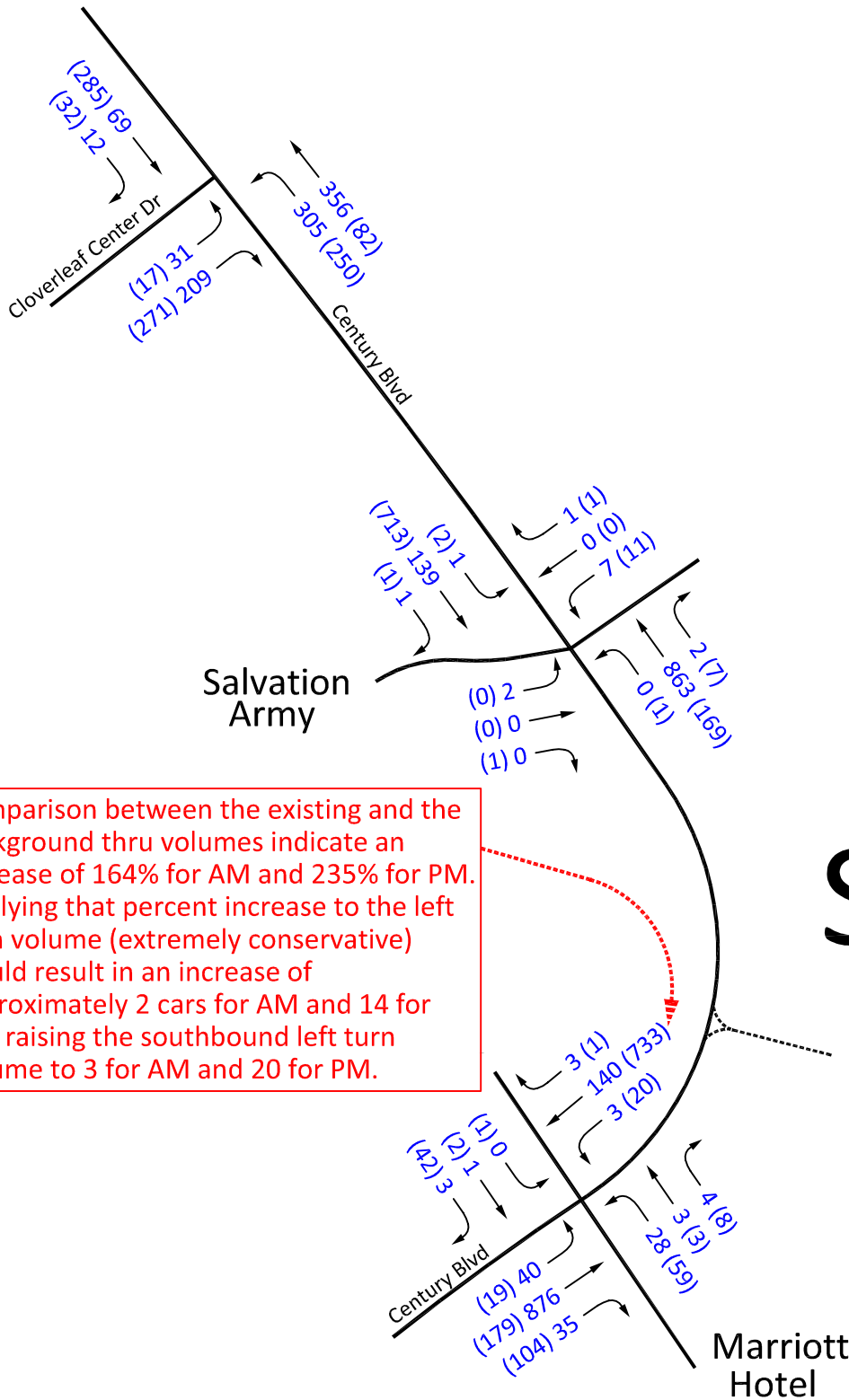
EXHIBIT 4 CONT'D
TRIP GENERATION FOR
BACKGROUND DEVELOPMENTS



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 5 COMBINED TRIPS GENERATED BY APPROVED DEVELOPMENTS



SITE

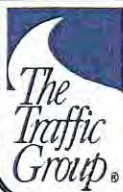
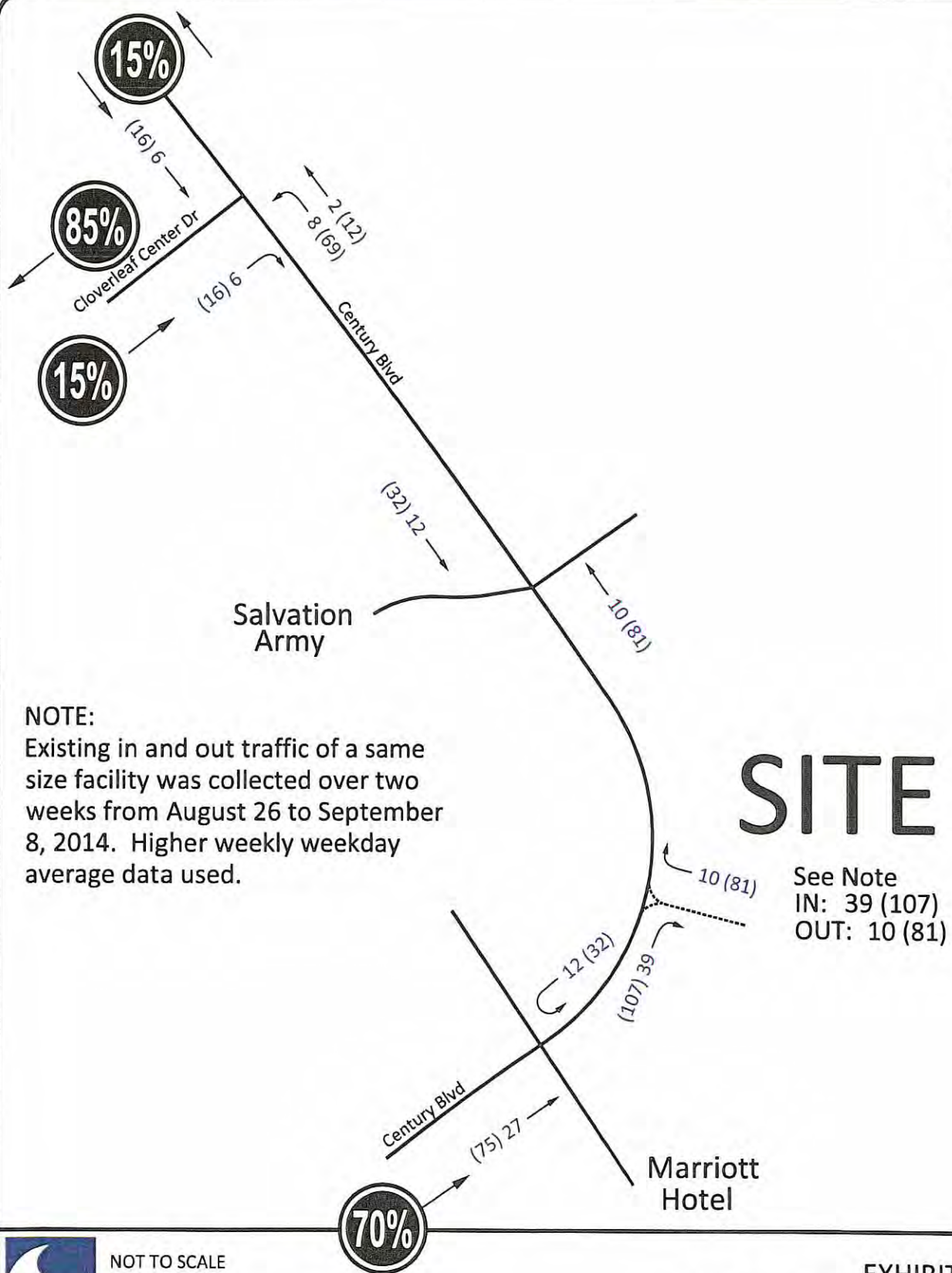
Comparison between the existing and the background thru volumes indicate an increase of 164% for AM and 235% for PM. Applying that percent increase to the left turn volume (extremely conservative) would result in an increase of approximately 2 cars for AM and 14 for PM, raising the southbound left turn volume to 3 for AM and 20 for PM.



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

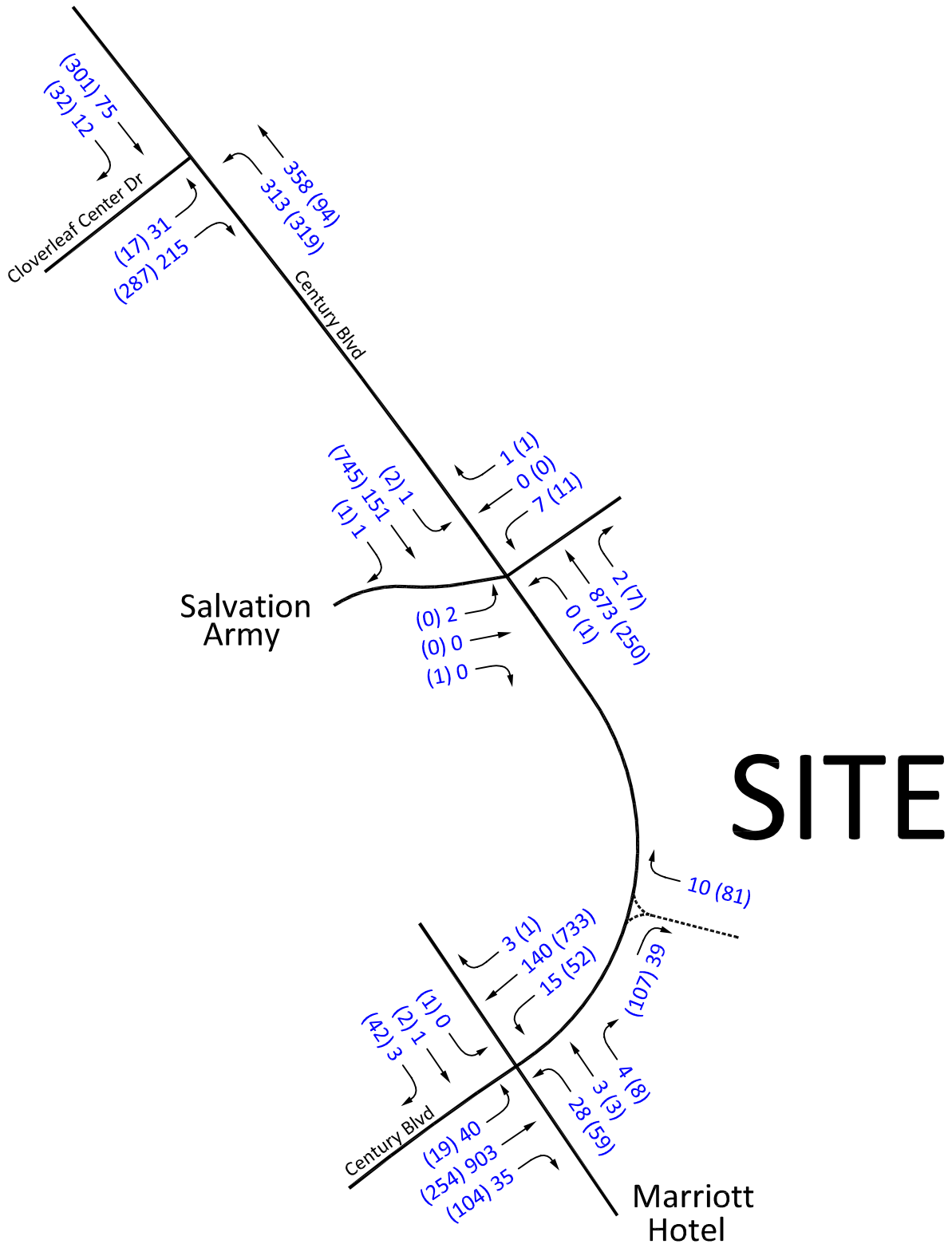
**EXHIBIT 6
BACKGROUND PEAK HOUR
TRAFFIC VOLUMES**



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 7 TRIP ASSIGNMENT FOR PROPOSED PLAN (TOPGOLF)



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 8 TOTAL PEAK HOUR TRAFFIC VOLUMES

RESULTS OF INTERSECTION CAPACITY ANALYSIS (CLV)

MORNING PEAK HOUR TRAFFIC	EXISTING	Background	TOTAL
1. Century Blvd & Cloverleaf Center Drive	186	373	384
2. Century Blvd & Salvation Army Access Drive	160	469	475
3. Century Boulevard & Marriott Hotel	329	914	953

EVENING PEAK HOUR TRAFFIC	EXISTING	Background	TOTAL
1. Century Blvd & Cloverleaf Center Drive	229	422	496
2. Century Blvd & Salvation Army Access Drive	120	392	409
3. Century Boulevard & Marriott Hotel	240	512	512

NOTE:

1. Background Traffic is derived from combining Existing Traffic and traffic to be generated by approved developments.
2. Total Traffic is derived from combining Background Traffic and traffic to be generated by site.



EXHIBIT 9
RESULTS OF INTERSECTION
CAPACITY ANALYSIS

RESULTS OF QUEUING ANALYSES

(HCM Unsignalized Methodology)

		TOTAL TRAFFIC
MORNING PEAK HOUR	Available Storage Length	Queue Length
1. Century Blvd & Cloverleaf Center Dr		
(NB Left Turn On Century Blvd)	220 ft	< 25 ft
3. Century Boulevard & Marriott Hotel		
(WB Left Turn On Century Blvd)	115 ft	< 25 ft

		TOTAL TRAFFIC
EVENING PEAK HOUR	Available Storage Length	Queue Length
1. Century Blvd & Cloverleaf Center Dr		
NB Left Turn On Century Blvd	220 ft	40 ft
3. Century Boulevard & Marriott Hotel		
WB Left Turn On Century Blvd	115 ft	< 25 ft

NOTE:

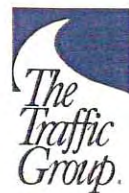
1. Total Traffic is derived from combining Background Traffic and traffic to be generated by site.



EXHIBIT 10
QUEUING ANALYSES FOR
TOTAL TRAFFIC CONDITIONS

APPENDIX A

Intersection Turning Movement Counts and Aerial Photos



TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Century Boulevard
and: Cloverleaf Center Drive
Location: Montgomery County, Maryland

Counted by: VCU
Date: January 11, 2017
Weather: Cool, Fair
Entered by: BGJ

Wednesday
Star Rating: 5



TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH					TRAFFIC FROM EAST					TRAFFIC FROM WEST					TOTAL
	on: Century Boulevard					on: Century Boulevard					on:					on: Cloverleaf Center Drive					N + S
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	+ E + W
AM																					
6:30 - 6:45	0	4	0	0	4	0	1	2	0	3	0	0	0	0	0	8	0	4	0	12	19
6:45 - 7:00	1	5	0	0	6	0	2	3	0	5	0	0	0	0	0	21	0	1	0	22	33
7:00 - 7:15	3	8	0	0	11	0	10	2	0	12	0	0	0	0	0	15	0	2	0	17	40
7:15 - 7:30	6	4	0	0	10	0	5	6	0	11	0	0	0	0	0	23	0	8	0	31	52
7:30 - 7:45	2	5	0	0	7	0	11	2	0	13	0	0	0	0	0	24	0	3	1	28	48
7:45 - 8:00	2	10	0	0	12	0	15	3	0	18	0	0	0	0	0	41	0	6	0	47	77
8:00 - 8:15	2	7	0	0	9	0	28	2	0	30	0	0	0	0	0	34	0	10	0	44	83
8:15 - 8:30	5	2	0	0	7	0	9	4	0	13	0	0	0	0	0	48	0	11	0	59	79
8:30 - 8:45	3	7	0	0	10	0	13	4	0	17	0	0	0	0	0	42	0	3	1	46	73
8:45 - 9:00	1	4	0	0	5	0	16	3	0	19	0	0	0	0	0	34	0	7	1	42	66
9:00 - 9:15	6	12	0	0	18	0	19	4	0	23	0	0	0	0	0	35	0	10	0	45	86
9:15 - 9:30	8	8	0	0	16	0	14	1	0	15	0	0	0	0	0	23	0	5	1	29	60
3 Hr Totals	39	78	0	0	115	0	143	36	0	179	0	0	0	0	0	348	0	70	4	422	716
1 Hr Totals																					
6:30 - 7:30	10	21	0	0	31	0	18	13	0	31	0	0	0	0	0	87	0	15	0	82	144
6:45 - 7:45	12	22	0	0	34	0	28	13	0	41	0	0	0	0	0	83	0	14	1	98	173
7:00 - 8:00	13	27	0	0	40	0	41	13	0	54	0	0	0	0	0	103	0	19	1	123	217
7:15 - 8:15	12	26	0	0	38	0	59	13	0	72	0	0	0	0	0	122	0	27	1	150	260
7:30 - 8:30	11	24	0	0	35	0	63	11	0	74	0	0	0	0	0	147	0	30	1	178	287
7:45 - 8:45	12	26	0	0	38	0	65	13	0	78	0	0	0	0	0	165	0	30	1	196	312
8:00 - 9:00	11	20	0	0	31	0	66	13	0	79	0	0	0	0	0	158	0	31	2	191	301
8:15 - 9:15	15	25	0	0	40	0	57	15	0	72	0	0	0	0	0	159	0	31	2	192	304
8:30 - 9:30	18	31	0	0	49	0	62	12	0	74	0	0	0	0	0	134	0	25	3	162	285
PEAK HOUR																					
7:45 - 8:45	12	26	0	0	38	0	65	13	0	78	0	0	0	0	0	165	0	30	1	196	312
PM																					
4:00 - 4:15	2	4	0	0	6	0	8	39	0	47	0	0	0	0	0	2	0	8	3	13	66
4:15 - 4:30	8	3	0	0	9	0	10	26	0	36	0	0	0	0	0	6	0	3	3	12	57
4:30 - 4:45	6	5	0	0	11	0	3	41	0	44	0	0	0	0	0	8	0	1	3	10	65
4:45 - 5:00	1	6	0	0	7	0	4	41	0	45	0	0	0	0	0	2	0	2	3	7	59
5:00 - 5:15	7	9	0	0	16	0	10	68	0	78	0	0	0	0	0	2	0	5	1	8	102
5:15 - 5:30	10	6	0	0	16	0	6	49	0	55	0	0	0	0	0	5	0	1	1	7	78
5:30 - 5:45	8	8	0	0	14	0	7	41	0	48	0	0	0	0	0	3	0	1	2	6	68
5:45 - 6:00	7	7	0	0	14	0	6	39	0	45	0	0	0	0	0	4	0	5	1	10	69
6:00 - 6:15	7	5	0	0	12	0	6	29	1	36	0	0	0	0	0	6	0	4	1	11	59
6:15 - 6:30	5	3	0	0	8	0	2	29	0	31	0	0	0	0	0	3	0	4	4	11	50
6:30 - 6:45	6	6	0	0	12	0	5	20	0	25	0	0	0	0	0	2	0	1	0	3	40
6:45 - 7:00	3	1	0	0	4	0	7	18	0	25	0	0	0	0	0	5	0	4	1	10	39
3 Hr Totals	68	61	0	0	129	0	74	440	1	515	0	0	0	0	0	46	0	39	23	108	752
1 Hr Totals																					
4:00 - 5:00	15	18	0	0	33	0	25	147	0	172	0	0	0	0	0	16	0	14	12	42	247
4:15 - 5:15	20	23	0	0	43	0	27	176	0	203	0	0	0	0	0	16	0	11	10	37	283
4:30 - 5:30	24	26	0	0	50	0	23	199	0	222	0	0	0	0	0	15	0	9	8	32	304
4:45 - 5:45	26	27	0	0	53	0	27	199	0	226	0	0	0	0	0	12	0	9	7	28	307
5:00 - 6:00	32	28	0	0	60	0	29	197	0	228	0	0	0	0	0	14	0	12	5	31	317
5:15 - 6:15	32	24	0	0	56	0	25	158	1	184	0	0	0	0	0	18	0	11	5	34	274
5:30 - 6:30	27	21	0	0	48	0	21	138	1	160	0	0	0	0	0	16	0	14	8	38	246
5:45 - 6:45	25	21	0	0	46	0	19	117	1	137	0	0	0	0	0	15	0	14	6	35	218
6:00 - 7:00	21	15	0	0	36	0	20	96	1	117	0	0	0	0	0	16	0	13	6	35	188
PEAK HOUR																					
5:00 - 6:00	32	28	0	0	60	0	29	197	0	226	0	0	0	0	0	14	0	12	5	31	317

Century Blvd & Cloverleaf Center Dr



TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Century Boulevard
and: Entrance to Salvation Army
Location: Montgomery County, Maryland

Counted by: VCU
Date: January 11, 2017
Weather: Cool, Rain
Entered by: BGJ

Wednesday
Star Rating: 5



TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH					TRAFFIC FROM EAST					TRAFFIC FROM WEST					TOTAL N + S + E + W
	on: Century Boulevard					on: Century Boulevard					on: Entrance to Extended Stay Ameri					on: Entrance to Salvation Army					
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	0	7	0	0	7	1	11	0	0	12	0	0	3	0	3	0	0	0	0	0	22
6:45 - 7:00	0	13	0	0	13	3	25	0	0	28	0	0	3	0	3	0	0	0	0	0	44
7:00 - 7:15	0	10	0	0	10	0	45	0	0	45	0	0	2	0	2	0	0	0	0	0	57
7:15 - 7:30	0	9	0	0	9	0	36	0	0	36	0	0	4	0	4	0	0	0	0	0	49
7:30 - 7:45	0	11	0	0	11	2	50	0	0	52	0	0	4	0	4	0	0	0	0	0	67
7:45 - 8:00	0	12	0	0	12	1	65	0	0	66	0	0	2	0	2	0	0	0	0	0	80
8:00 - 8:15	0	4	1	0	5	0	74	0	0	74	1	0	2	0	3	0	0	0	0	0	82
8:15 - 8:30	0	17	0	0	17	1	70	0	0	71	0	0	2	0	2	0	0	1	0	1	91
8:30 - 8:45	0	12	0	0	12	1	63	0	0	64	0	0	1	0	1	0	0	0	0	0	77
8:45 - 9:00	1	19	0	0	20	0	73	0	0	73	0	0	2	0	2	0	0	1	0	1	96
9:00 - 9:15	0	13	1	0	14	1	82	0	1	84	0	0	0	0	0	0	0	0	0	0	78
9:15 - 9:30	0	13	0	0	13	2	41	0	0	43	0	0	1	0	1	0	0	0	0	0	57
3 Hr Totals	1	140	2	0	143	12	615	0	1	628	1	0	26	0	27	0	0	2	0	2	800
1 Hr Totals																					
6:30 - 7:30	0	39	0	0	39	4	117	0	0	121	0	0	12	0	12	0	0	0	0	0	172
6:45 - 7:45	0	43	0	0	43	5	156	0	0	161	0	0	13	0	13	0	0	0	0	0	217
7:00 - 8:00	0	42	0	0	42	3	196	0	0	199	0	0	12	0	12	0	0	0	0	0	253
7:15 - 8:15	0	36	1	0	37	3	225	0	0	228	1	0	12	0	13	0	0	0	0	0	278
7:30 - 8:30	0	44	1	0	45	4	259	0	0	263	1	0	10	0	11	0	0	1	0	1	320
7:45 - 8:45	0	45	1	0	46	3	272	0	0	275	1	0	7	0	8	0	0	1	0	1	330
8:00 - 9:00	1	52	1	0	54	2	280	0	0	282	1	0	7	0	8	0	0	2	0	2	346
8:15 - 9:15	1	61	1	0	63	3	268	0	1	272	0	0	5	0	5	0	0	2	0	2	342
8:30 - 9:30	1	57	1	0	59	4	239	0	1	244	0	0	4	0	4	0	0	1	0	1	308
PEAK HOUR																					
8:00 - 9:00	1	52	1	0	54	2	280	0	0	282	1	0	7	0	8	0	0	2	0	2	346
PM																					
4:00 - 4:15	1	40	1	0	42	1	19	0	0	20	1	0	2	0	3	1	0	1	0	2	67
4:15 - 4:30	1	20	0	0	21	4	14	1	0	19	1	0	1	0	2	0	0	0	0	0	42
4:30 - 4:45	0	48	0	0	48	2	8	0	0	10	1	0	0	0	1	0	0	0	0	0	59
4:45 - 5:00	0	35	0	0	35	1	11	1	0	13	1	0	1	0	2	1	0	0	0	1	51
5:00 - 5:15	0	62	0	0	62	1	21	0	0	22	0	0	3	0	3	0	0	0	0	0	87
5:15 - 5:30	1	47	0	0	48	1	17	1	0	19	0	0	1	0	1	0	0	0	0	0	68
5:30 - 5:45	0	54	2	0	56	1	15	0	0	16	0	0	3	0	3	1	0	0	0	1	76
5:45 - 6:00	0	36	0	0	36	4	10	0	0	14	1	0	4	0	5	0	0	0	0	0	55
6:00 - 6:15	0	43	0	0	43	2	20	1	0	23	0	0	0	0	0	0	1	0	0	1	67
6:15 - 6:30	0	21	0	0	21	3	10	1	0	14	1	0	0	0	1	0	0	0	0	0	36
6:30 - 6:45	0	29	0	0	29	6	11	1	0	18	1	0	1	0	2	1	0	1	0	2	51
6:45 - 7:00	0	15	0	0	15	4	12	0	0	16	1	1	2	0	4	0	0	0	0	0	35
3 Hr Totals	3	450	3	0	456	30	168	6	0	204	8	1	18	0	27	4	1	2	0	7	694
1 Hr Totals																					
4:00 - 5:00	2	143	1	0	146	8	52	2	0	62	4	0	4	0	8	2	0	1	0	3	219
4:15 - 5:15	1	165	0	0	166	8	54	2	0	64	3	0	5	0	8	1	0	0	0	1	239
4:30 - 5:30	1	192	0	0	193	5	57	2	0	64	2	0	5	0	7	1	0	0	0	1	265
4:45 - 5:45	1	198	2	0	201	4	64	2	0	70	1	0	8	0	9	2	0	0	0	2	282
5:00 - 6:00	1	199	2	0	202	7	63	1	0	71	1	0	11	0	12	1	0	0	0	1	286
5:15 - 6:15	1	180	2	0	183	8	62	2	0	72	1	0	8	0	9	1	1	0	0	2	266
5:30 - 6:30	0	154	2	0	156	10	55	2	0	67	2	0	7	0	9	1	1	0	0	2	234
5:45 - 6:45	0	129	0	0	129	15	51	3	0	69	3	0	5	0	8	1	1	1	0	3	209
6:00 - 7:00	0	108	0	0	108	15	53	3	0	71	3	1	3	0	7	1	1	1	0	3	189
PEAK HOUR																					
5:00 - 6:00	1	199	2	0	202	7	63	1	0	71	1	0	11	0	12	1	0	0	0	1	286

Century Blvd & Entrance to Salvation Army



TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Century Boulevard
and: Entrance to Marriott Hotel
Location: Montgomery County, Maryland

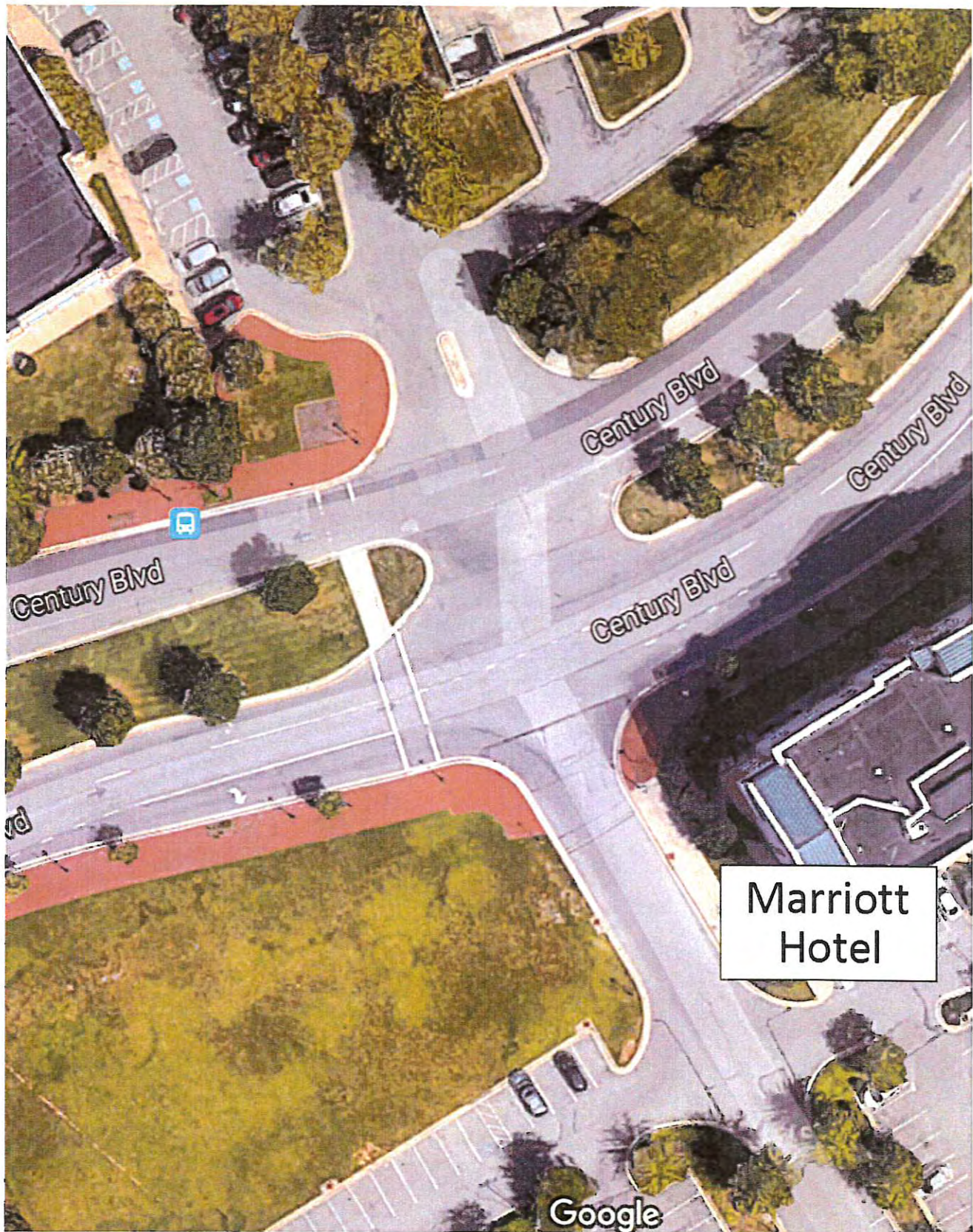
Counted by: VCU
Date: January 11, 2017
Weather: Cool, Rain
Entered by: BGJ

Wednesday
Star Rating: 4



TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH					TRAFFIC FROM EAST					TRAFFIC FROM WEST					TOTAL N + S + E + W
	on: Entrance to Regal Cinemas					on: Entrance to Marriott Hotel					on: Century Boulevard					on: Century Boulevard					
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	0	0	0	0	0	1	0	4	0	5	0	11	0	0	11	2	14	4	0	20	36
6:45 - 7:00	0	0	0	0	0	0	0	3	0	3	0	15	0	0	15	2	36	11	0	49	67
7:00 - 7:15	1	0	0	0	1	0	0	6	0	6	0	9	2	0	11	5	35	7	0	47	65
7:15 - 7:30	0	0	0	0	0	0	0	2	0	2	1	12	0	0	13	6	38	11	0	55	70
7:30 - 7:45	0	1	0	0	1	0	1	6	0	7	1	10	1	0	12	8	52	10	0	70	90
7:45 - 8:00	2	1	1	0	4	4	0	6	0	10	1	11	1	0	13	7	66	17	0	90	117
8:00 - 8:15	0	0	0	0	0	1	0	11	0	12	0	8	0	0	8	12	83	6	1	102	122
8:15 - 8:30	0	0	0	0	0	1	1	7	0	9	2	15	0	0	17	9	65	11	0	85	111
8:30 - 8:45	1	1	0	0	2	1	0	5	0	6	1	10	0	1	12	8	69	3	1	81	101
8:45 - 9:00	2	0	0	0	2	1	2	5	0	8	0	20	0	0	20	6	76	18	0	100	130
9:00 - 9:15	1	0	0	0	1	0	0	5	0	5	0	11	0	0	11	6	70	18	1	95	112
9:15 - 9:30	0	0	0	0	0	0	0	9	0	9	0	19	0	1	20	10	49	9	0	68	97
3 Hr Totals	7	3	1	0	11	9	4	69	0	82	6	151	4	2	163	81	653	125	3	882	1118
1 Hr Totals																					
6:30 - 7:30	1	0	0	0	1	1	0	15	0	16	1	47	2	0	50	15	123	33	0	171	238
6:45 - 7:45	1	1	0	0	2	0	1	17	0	18	2	48	3	0	51	21	161	39	0	221	292
7:00 - 8:00	3	2	1	0	6	4	1	20	0	25	3	42	4	0	49	26	181	45	0	262	342
7:15 - 8:15	2	2	1	0	5	5	1	25	0	31	3	41	2	0	46	33	239	44	1	317	399
7:30 - 8:30	2	2	1	0	5	6	2	30	0	38	4	44	2	0	50	36	266	44	1	347	440
7:45 - 8:45	3	2	1	0	6	7	1	29	0	37	4	44	1	1	50	36	283	37	2	358	451
8:00 - 9:00	3	1	0	0	4	4	3	28	0	35	3	53	0	1	57	35	293	38	2	368	464
8:15 - 9:15	4	1	0	0	5	3	3	22	0	28	3	56	0	1	60	29	280	50	2	361	454
8:30 - 9:30	4	1	0	0	5	2	2	24	0	28	1	60	0	2	63	30	264	48	2	344	440
PEAK HOUR	3	1	0	0	4	4	3	28	0	35	3	53	0	1	57	35	293	38	2	368	464
PM																					
4:00 - 4:15	5	0	1	0	6	1	0	7	0	8	0	49	2	0	51	11	22	1	2	36	101
4:15 - 4:30	5	2	0	0	7	2	0	11	0	13	0	28	1	0	29	16	15	5	0	36	85
4:30 - 4:45	9	0	0	0	9	0	0	16	0	16	2	49	0	0	51	15	11	1	0	27	103
4:45 - 5:00	4	4	0	0	8	1	0	11	0	12	1	39	1	0	41	21	14	1	1	37	98
5:00 - 5:15	9	0	1	0	10	5	0	12	0	17	0	69	1	0	70	30	17	3	1	51	148
5:15 - 5:30	15	0	0	0	15	1	0	17	0	18	1	49	1	0	51	26	23	6	4	59	143
5:30 - 5:45	13	1	0	0	14	1	0	15	0	16	0	60	0	0	60	22	14	2	1	39	129
5:45 - 6:00	5	1	0	0	6	1	3	15	0	19	0	41	4	0	45	26	19	1	1	47	117
6:00 - 6:15	2	0	1	0	3	2	1	20	0	23	0	47	3	0	50	39	18	6	0	63	138
6:15 - 6:30	6	2	0	0	8	2	1	10	0	13	0	24	0	0	24	19	14	3	2	38	83
6:30 - 6:45	2	0	0	0	2	1	0	25	0	26	0	36	0	0	36	25	14	0	1	40	104
6:45 - 7:00	3	1	0	0	4	0	0	20	0	20	2	19	0	0	21	24	13	1	0	38	83
3 Hr Totals	76	11	3	0	92	17	5	178	0	201	6	510	13	0	529	274	194	30	13	511	1333
1 Hr Totals																					
4:00 - 5:00	23	6	1	0	30	4	0	45	0	49	3	165	4	0	172	63	62	8	3	136	387
4:15 - 5:15	27	8	1	0	34	8	0	50	0	58	3	165	3	0	191	82	57	10	2	151	434
4:30 - 5:30	37	4	1	0	42	7	0	56	0	63	4	206	3	0	213	92	65	11	6	174	492
4:45 - 5:45	41	5	1	0	47	8	0	55	0	63	2	217	3	0	222	99	88	12	7	186	518
5:00 - 6:00	42	2	1	0	45	8	3	59	0	70	1	219	6	0	226	104	73	12	7	196	537
5:15 - 6:15	35	2	1	0	38	5	4	67	0	76	1	197	8	0	206	113	74	15	6	208	528
5:30 - 6:30	26	4	1	0	31	6	5	60	0	71	0	172	7	0	179	106	65	12	4	187	466
5:45 - 6:45	15	3	1	0	19	6	5	70	0	81	0	148	7	0	155	100	65	10	4	188	443
6:00 - 7:00	13	3	1	0	17	5	2	75	0	82	2	126	3	0	131	107	59	10	3	179	408
PEAK HOUR	42	2	1	0	45	8	3	59	0	70	1	219	6	0	226	104	73	12	7	196	537

Century Blvd & Entrance to Marriott Hotel



APPENDIX B

Intersection Capacity Analysis



CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

E/W Road Name: Cloverleaf Center Drive

Date of Count: 1/11/2017

N/S Road Name: Century Boulevard

Day of Count: Wednesday

Conditions: Existing Traffic

Analyst: Shulin Li



AM Peak: 7:45 -8:45

PM Peak: 5:00 -6:00

CENTURY BOULEVARD

32	28	PM
12	26	AM
R	T	

R	T	T

CLOVERLEAF CENTER DRIVE

PM	AM	
17	31	L
14	165	R

L —
R —

L	T	T

	L	T
AM	13	65
PM	197	29

CENTURY BOULEVARD

Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	152	1.00	152			
NB	65	0.53	34			
SB	26	0.53	14	13	1.00	13
CLV TOTAL=						186

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	17	1.00	17			
NB	29	0.53	15			
SB	15	1.00	15	197	1.00	197
CLV TOTAL=						229

Scenario ID - EXIST1

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

E/W Road Name: Cloverleaf Center Drive

Date of Count: 1/11/2017

N/S Road Name: Century Boulevard

Day of Count: Wednesday

Conditions: Background Traffic

Analyst: Shulin Li



AM Peak: 7:45 -8:45

PM Peak: 5:00 -6:00

CENTURY BOULEVARD

32	285	PM
12	69	AM
R	T	

R	T	T

CLOVERLEAF CENTER DRIVE

PM	AM	
17	31	L
271	209	R

L	—
R	—

L	T	T

	L	T
AM	305	356
PM	250	82

CENTURY BOULEVARD

Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	31	1.00	31				31
NB	356	0.53	189				342
SB	69	0.53	37	305	1.00	305	
CLV TOTAL=							373

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	21	1.00	21				21
NB	82	0.53	43				401
SB	285	0.53	151	250	1.00	250	
CLV TOTAL=							422

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

E/W Road Name: Cloverleaf Center Drive

Date of Count: 1/11/2017

N/S Road Name: Century Boulevard

Day of Count: Wednesday

Conditions: Total Traffic

Analyst: Shulin Li



AM Peak: 7:45 -8:45

PM Peak: 5:00 -6:00

CENTURY BOULEVARD

32	301	PM
12	75	AM
R	T	

R T T
| | |

CLOVERLEAF CENTER DRIVE

PM	AM	
17	31	L
287	215	R

L —
R —

| | |
L T T

	L	T
AM	313	358
PM	319	94

CENTURY BOULEVARD

Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	31	1.00	31			
NB	358	0.53	190			
SB	75	0.53	40	313	1.00	313
CLV TOTAL=						384

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
EB	17	1.00	17			
NB	94	0.53	50			
SB	301	0.53	160	319	1.00	319
CLV TOTAL=						496

Scenario ID - TOT1

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

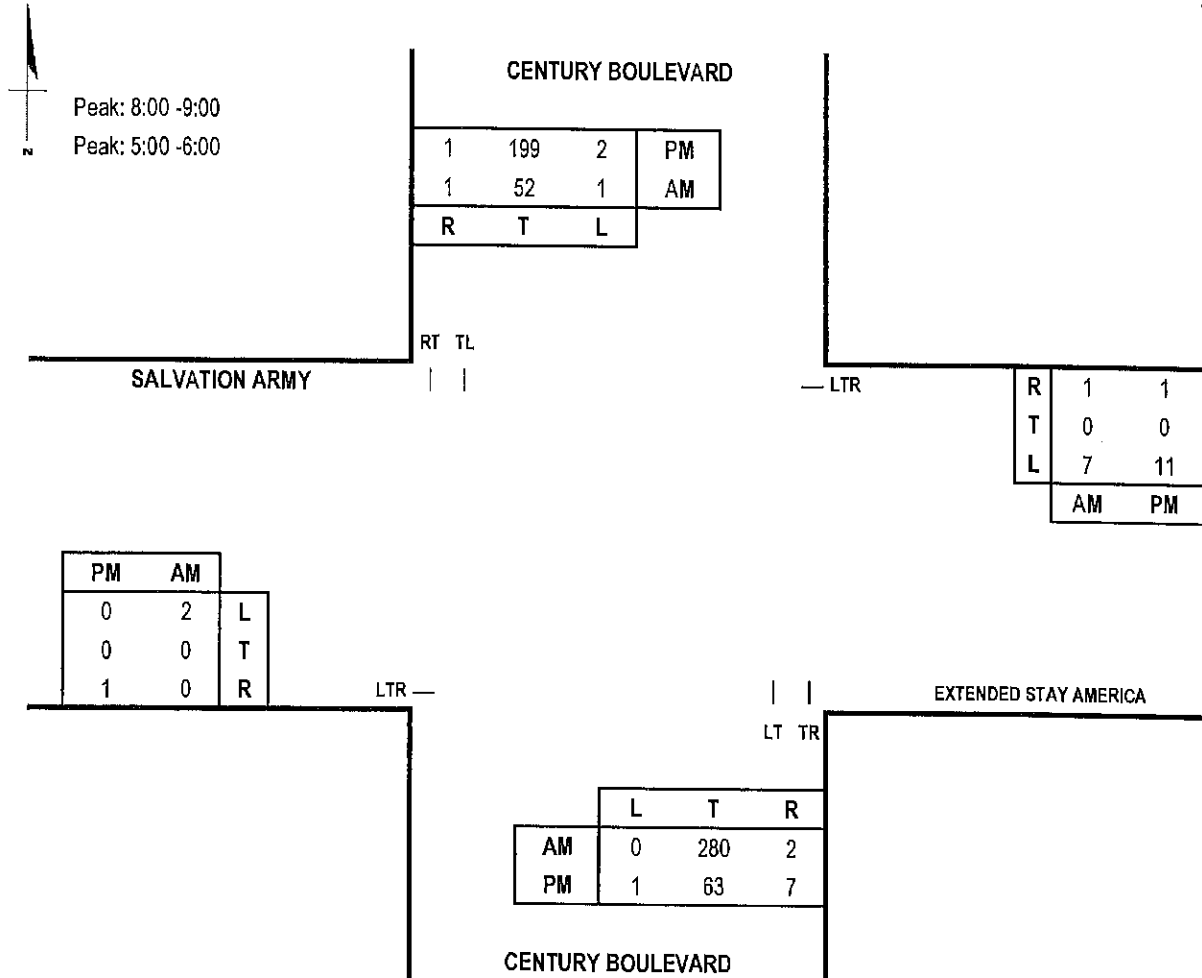
E/W Road: Extended Stay America/Salvation Army Date of Count: 1/11/2017

N/S Road: Century Boulevard

Day of Count: Wednesday

Conditions: Existing Traffic

Analyst: Shulin Li



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	282	0.53	149	1	1.00	1	150
SB	54	0.53	29	0	1.00	0	
EB	2	1.00	2	7	1.00	7	10
WB	8	1.00	8	2	1.00	2	
CLV TOTAL=							160

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	71	0.53	38	2	1.00	2	108
SB	202	0.53	107	1	1.00	1	
EB	1	1.00	1	11	1.00	11	12
WB	12	1.00	12	0	1.00	0	
CLV TOTAL=							120

Scenario ID - EXIST2

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

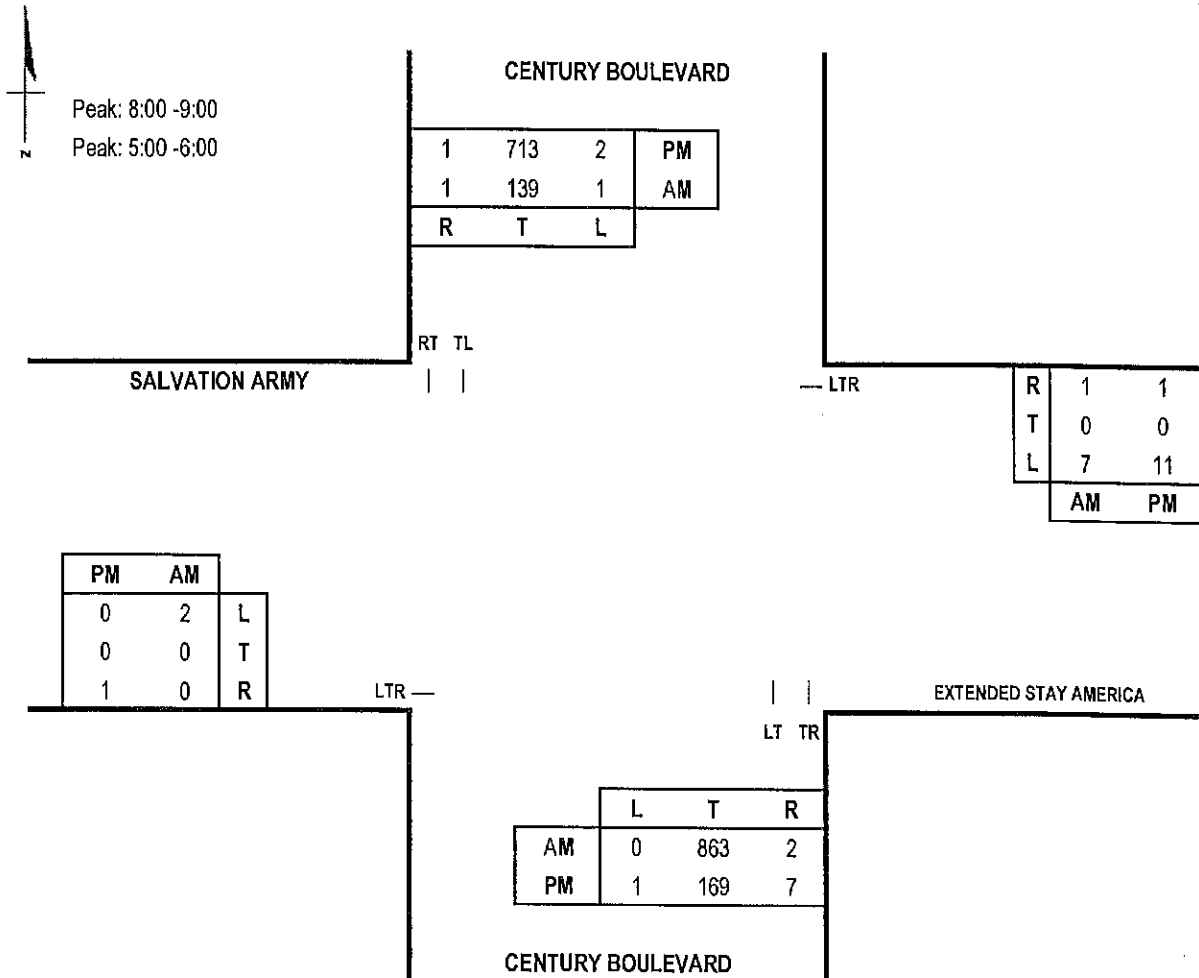
E/W Road: Extended Stay America/Salvation Army Date of Count: 1/11/2017

N/S Road: Century Boulevard

Day of Count: Wednesday

Conditions: Background Traffic

Analyst: Shulin Li



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	865	0.53	458	1	1.00	1	459
SB	141	0.53	75	0	1.00	0	
EB	2	1.00	2	7	1.00	7	10
WB	8	1.00	8	2	1.00	2	
CLV TOTAL=							469

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	177	0.53	94	2	1.00	2	380
SB	716	0.53	379	1	1.00	1	
EB	1	1.00	1	11	1.00	11	12
WB	12	1.00	12	0	1.00	0	
CLV TOTAL=							392

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

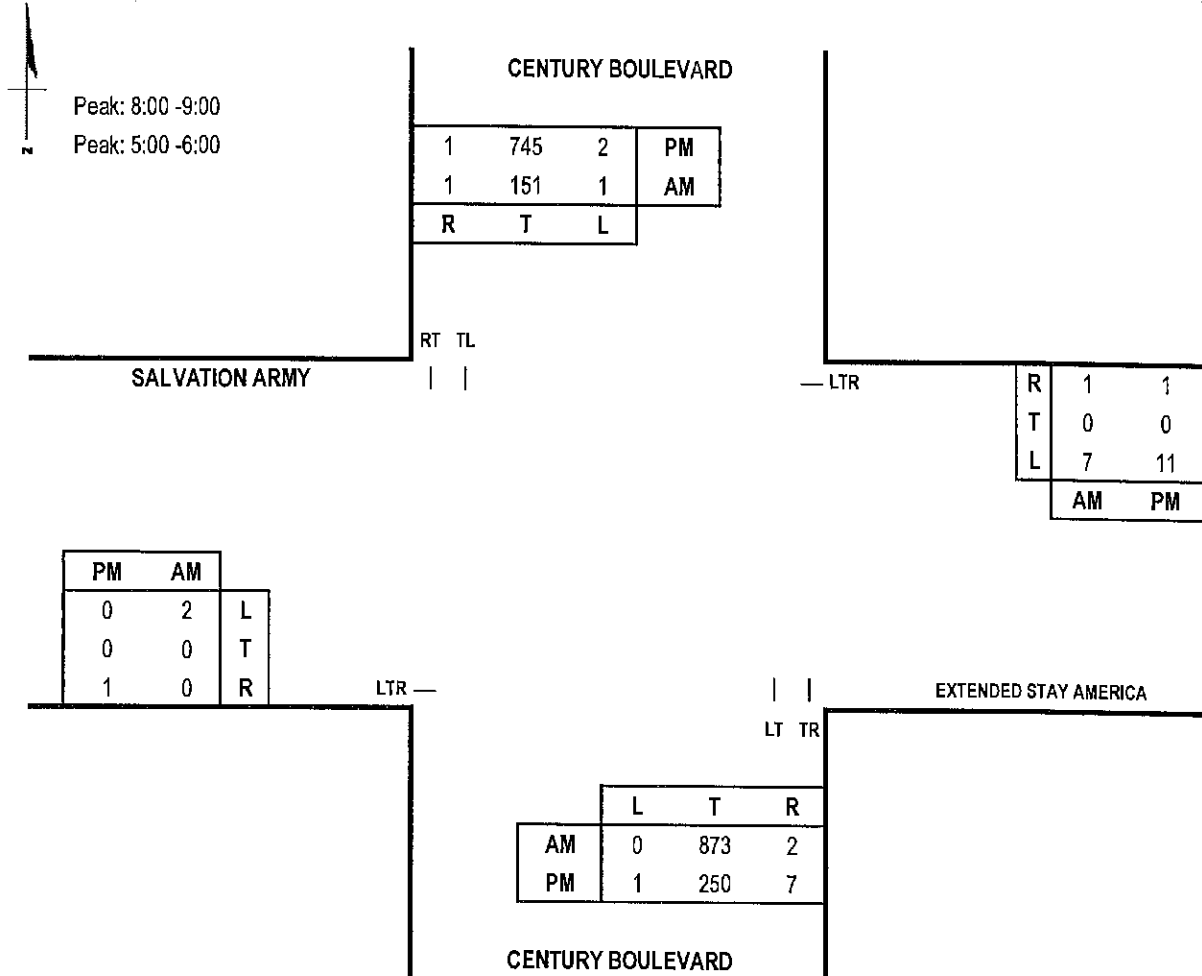
E/W Road: Extended Stay America/Salvation Army Date of Count: 1/11/2017

N/S Road: Century Boulevard

Day of Count: Wednesday

Conditions: Total Traffic

Analyst: Shulin Li



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	875	0.53	464	1	1.00	1	465
SB	153	0.53	81	0	1.00	0	
EB	2	1.00	2	7	1.00	7	10
WB	8	1.00	8	2	1.00	2	
CLV TOTAL=							475

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	258	0.53	137	2	1.00	2	397
SB	748	0.53	396	1	1.00	1	
EB	1	1.00	1	11	1.00	11	12
WB	12	1.00	12	0	1.00	0	
CLV TOTAL=							409

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

E/W Road: Century Boulevard

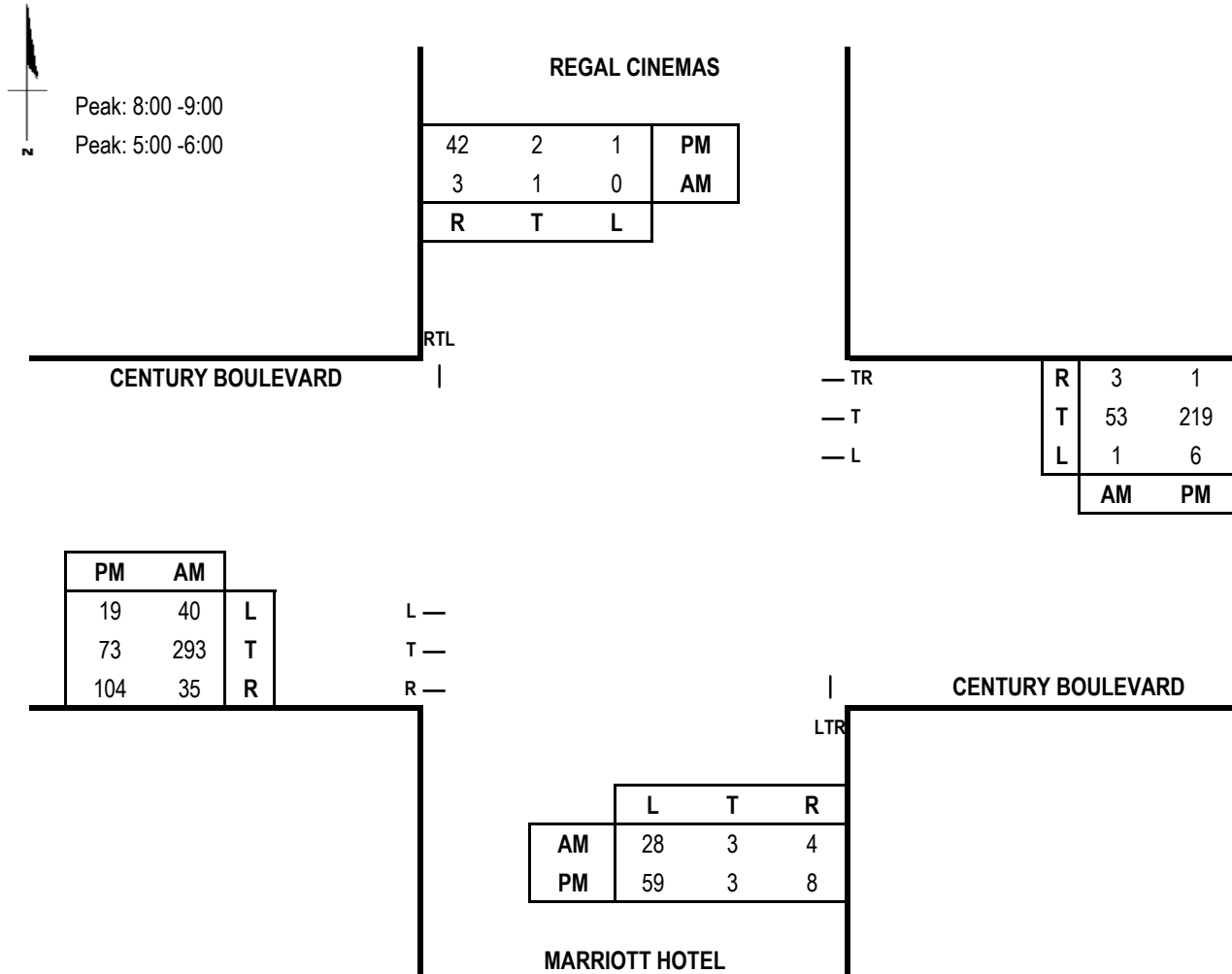
Date of Count: 1/11/2017

N/S Road: Regal Cinemas/Marriott Hotel

Day of Count: Wednesday

Conditions: Existing Traffic

Analyst: Shulin Li



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	35	1.00	35	0	1.00	0	35
SB	4	1.00	4	28	1.00	28	
EB	293	1.00	293	1	1.00	1	294
WB	56	0.53	30	40	1.00	40	
CLV TOTAL=							329

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	70	1.00	70	1	1.00	1	104
SB	45	1.00	45	59	1.00	59	
EB	73	1.00	73	6	1.00	6	136
WB	220	0.53	117	19	1.00	19	
CLV TOTAL=							240

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

E/W Road: Century Boulevard

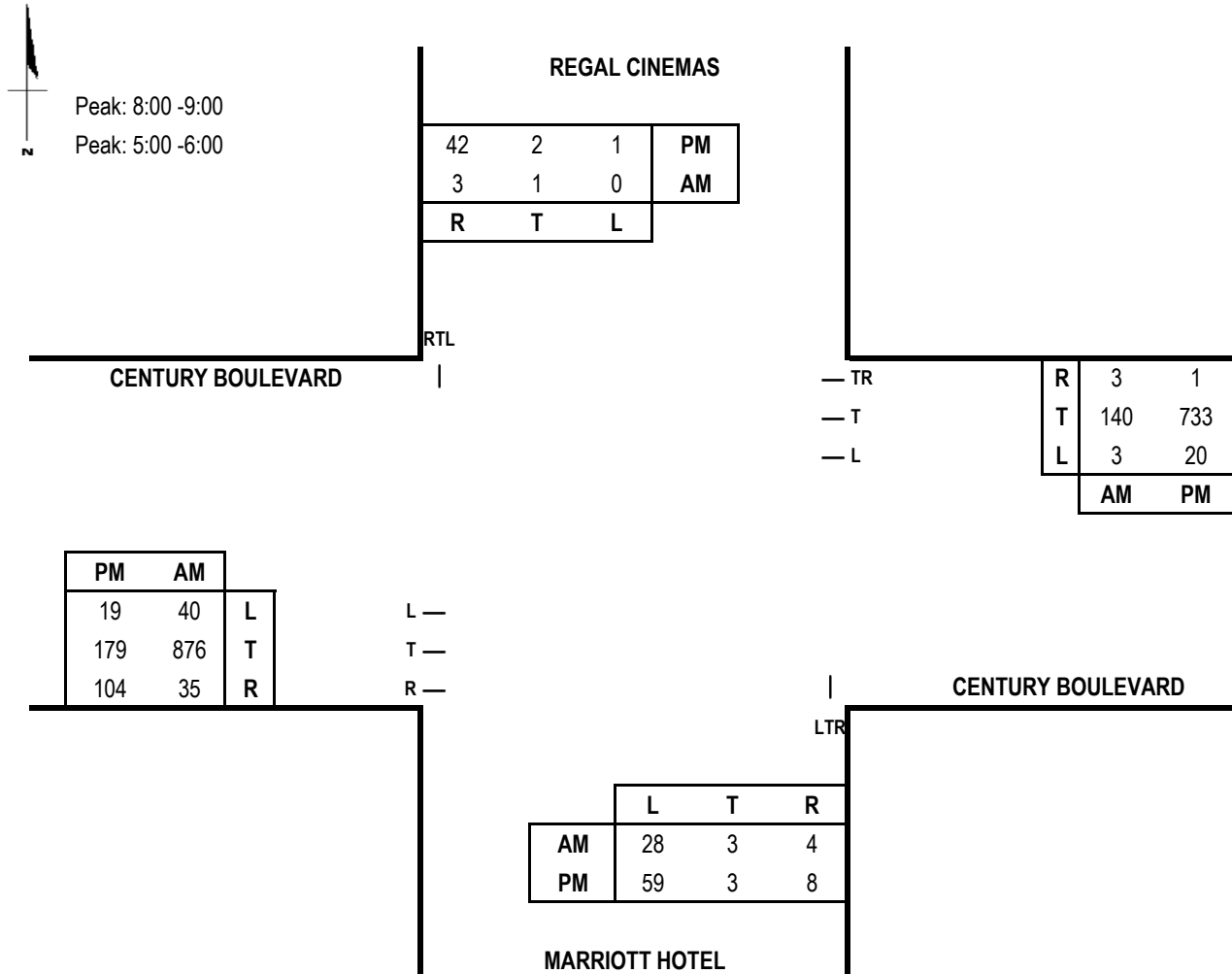
Date of Count: 1/11/2017

N/S Road: Regal Cinemas/Marriott Hotel

Day of Count: Wednesday

Conditions: Background Traffic

Analyst: Shulin Li



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	35	1.00	35	0	1.00	0	35
SB	4	1.00	4	28	1.00	28	
EB	876	1.00	876	3	1.00	3	879
WB	143	0.53	76	40	1.00	40	
CLV TOTAL=							914

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	70	1.00	70	1	1.00	1	104
SB	45	1.00	45	59	1.00	59	
EB	179	1.00	179	20	1.00	20	408
WB	734	0.53	389	19	1.00	19	
CLV TOTAL=							512

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Montgomery County

E/W Road: Century Boulevard

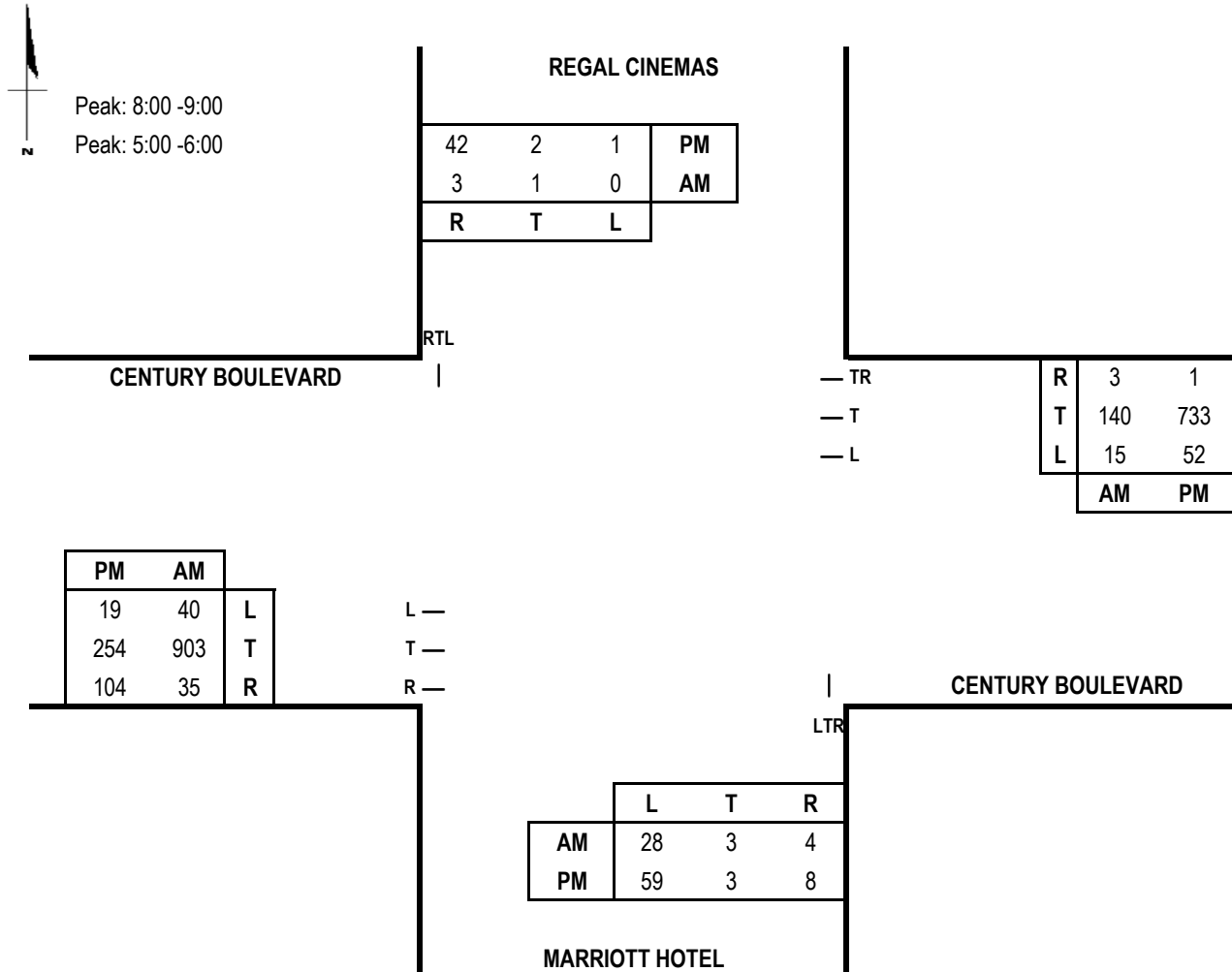
Date of Count: 1/11/2017

N/S Road: Regal Cinemas/Marriott Hotel

Day of Count: Wednesday

Conditions: Total Traffic

Analyst: Shulin Li



Capacity Analysis

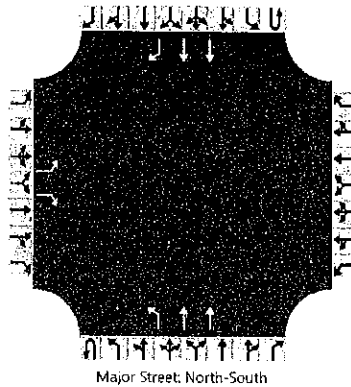
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	35	1.00	35	0	1.00	0	35
SB	4	1.00	4	28	1.00	28	
EB	903	1.00	903	15	1.00	15	918
WB	143	0.53	76	40	1.00	40	
CLV TOTAL=							953

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	70	1.00	70	1	1.00	1	104
SB	45	1.00	45	59	1.00	59	
EB	254	1.00	254	52	1.00	52	408
WB	734	0.53	389	19	1.00	19	
CLV TOTAL=							512

HCS 2010 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	sli	Intersection	#1
Agency/Co.	TTG	Jurisdiction	Mont
Date Performed	1/25/2017	East/West Street	Cloverleaf Center DR
Analysis Year	2017	North/South Street	Century Blvd
Time Analyzed	Total AM	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	2015-0414		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	2	0	0	0	2	1
Configuration		L		R						L	T				T	R
Volume, V (veh/h)		31		215						313	358				75	12
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				Yes			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.86		6.96						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33		229						333						
Capacity, c (veh/h)		204		1019						1509						
v/c Ratio		0.16		0.22						0.22						
95% Queue Length, Q ₉₅ (veh)		0.6		0.9						0.8						
Control Delay (s/veh)		26.0		9.6						8.1						
Level of Service, LOS		D		A						A						
Approach Delay (s/veh)	11.6								3.8							
Approach LOS	B															

HCS 2010 Two-Way Stop-Control Report

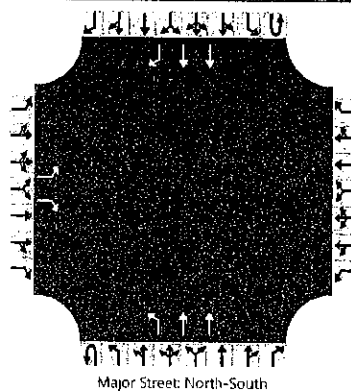
General Information

Analyst	sli
Agency/Co.	TTG
Date Performed	1/25/2017
Analysis Year	2017
Time Analyzed	Total PM
Intersection Orientation	North-South
Project Description	2015-0414

Site Information

Intersection	#1
Jurisdiction	Mont
East/West Street	Cloverleaf Center DR
North/South Street	Century Blvd
Peak Hour Factor	0.78
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	2	0	0	0	2	1
Configuration		L		R						L	T				T	R
Volume, V (veh/h)		17		287						319	94				301	32
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized	No				No				No				Yes			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.86		6.96						4.16						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

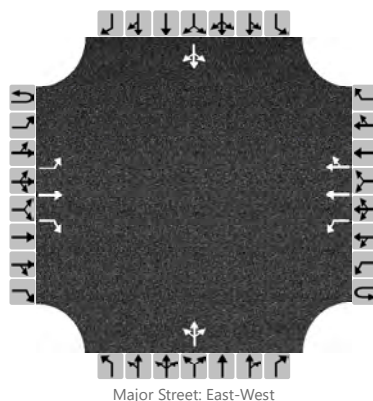
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		22		368						409						
Capacity, c (veh/h)		104		813						1162						
v/c Ratio		0.21		0.45						0.35						
95% Queue Length, Q ₉₅ (veh)		0.8		2.4						1.6						
Control Delay (s/veh)		48.8		13.0						9.8						
Level of Service, LOS		E		B						A						
Approach Delay (s/veh)	15.1								7.5							
Approach LOS	C															

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	sli	Intersection	#2
Agency/Co.	TTG	Jurisdiction	Mont
Date Performed	1/25/2017	East/West Street	Century Blvd
Analysis Year	2017	North/South Street	Marriott Hotel
Time Analyzed	Total AM	Peak Hour Factor	0.89
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	2015-0414		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	1	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	R		L	T	TR			LTR				LTR	
Volume, V (veh/h)		40	903	35	14	1	140	3		28	3	4		0	1	3
Percent Heavy Vehicles (%)		3			3	3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1			2.0	4.1				7.5	6.5	6.2		7.5	6.5	6.9
Critical Headway (sec)		4.16			2.06	4.16				7.56	6.56	6.26		7.56	6.56	6.96
Base Follow-Up Headway (sec)		2.2			2.0	2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23			2.03	2.23				3.53	4.03	3.33		3.53	4.03	3.33

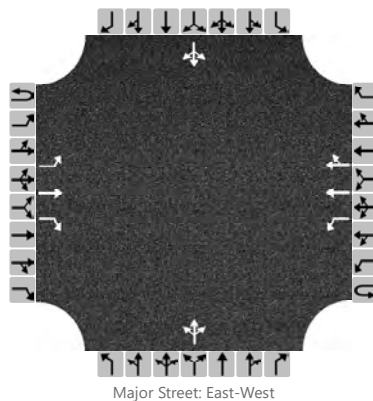
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45				17					38				4	
Capacity, c (veh/h)		1410				1591					140				398	
v/c Ratio		0.03				0.01					0.27				0.01	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0					1.0				0.0	
Control Delay (s/veh)		7.6				7.3					40.2				14.1	
Level of Service, LOS		A				A					E				B	
Approach Delay (s/veh)	0.3				0.7				40.2				14.1			
Approach LOS									E				B			

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	sli	Intersection	#2
Agency/Co.	TTG	Jurisdiction	Mont
Date Performed	1/25/2017	East/West Street	Century Blvd
Analysis Year	2017	North/South Street	Marriott Hotel
Time Analyzed	Total PM	Peak Hour Factor	0.91
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	2015-0414		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	1	0	1	2	0		0	1	0		0	1	0
Configuration		L	T	R		L	T	TR			LTR				LTR	
Volume, V (veh/h)		19	254	104	46	6	733	1		59	3	8		1	2	42
Percent Heavy Vehicles (%)		3			3	3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1			2.0	4.1				7.5	6.5	6.2		7.5	6.5	6.9
Critical Headway (sec)		4.16			2.06	4.16				7.56	6.56	6.26		7.56	6.56	6.96
Base Follow-Up Headway (sec)		2.2			2.0	2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23			2.03	2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		21				58					77				49	
Capacity, c (veh/h)		808				1649					239				492	
v/c Ratio		0.03				0.04					0.32				0.10	
95% Queue Length, Q ₉₅ (veh)		0.1				0.1					1.3				0.3	
Control Delay (s/veh)		9.6				7.3					27.0				13.1	
Level of Service, LOS		A				A					D				B	
Approach Delay (s/veh)	0.5				0.5				27.0				13.1			
Approach LOS									D				B			



Gaithersburg-Germantown Chamber of Commerce, Inc.

910 Clopper Road, Suite 205N, Gaithersburg, Maryland 20878 (301) 840-1400, Fax (240) 261-6395

 Adventist HealthCare
Shady Grove Medical Center

 ASBURY
Methodist Village
Anticipate More

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 DELEON & STANG
CERTIFIED PUBLIC ACCOUNTANTS AND ADVISORS

 First National Bank

 GENESIS
SECURITY SYSTEMS LLC

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THERRIEN WADDLE

 The UNIVERSITIES
at Shady Grove

June 27, 2017

Sandra Pereira
Area 3 Acting Supervisor
Montgomery County Planning Department
8787 Georgia Avenue
Silver Spring, MD 20910

Re: Germantown Topgolf - Preliminary Plan Amendment Application No. 12007065B
and Site Plan Application No. 820170010

Dear Ms. Pereira,

The Gaithersburg-Germantown Chamber of Commerce would like to express our full support for the Germantown Topgolf project. The project will be a destination in Germantown Town Center and be an economic driver for the community.

Germantown Sector Plan - This project will help fulfill the objectives of the Germantown Employment Sector Plan. The Town Center Core is intended to have a mix of uses close to shopping, transit, and jobs. At the same time, the Sector Plan notes that the Town Center Core will include cinemas, restaurants, hotels and civic facilities that contribute significantly to Germantown's identity as the Upcounty cultural center. This project is compatible with other Town Center amenities including BlackRock Center for the Arts, the Germantown Library, and the Town Center Park.

Germantown Topgolf substantially conforms to the Sector Plan by providing a significant recreation and entertainment facility in the Town Center District, serving as a genuine attraction for residents, employees, and visitors in the area, enhancing activity in the Town Center Core, and contributing to the synergy that the Sector Plan desires between different land uses.

Quality Design – We are very pleased to see the proposed quality of design for this facility. The design will include a number of customized elements that will help activate Century Boulevard. My understanding is that the Applicant has modified aspects of its prototypical layout in order to accommodate a variety of physical improvements that are intended to create activity and interest, while also anchoring and orienting the building to Century Boulevard. Among these modifications, the Project proposes:

- An outdoor patio adjacent to the southwestern side of the building that will provide gathering opportunities with seating for customers and guests;
- A programmable lawn space just below the outdoor patio that can accommodate additional seating for the public, lawn games, and other functions; and

- A walking path with seating opportunities, birdhouses, and interpretive signage that will be placed around the pond on the western portion of the site, along the facility's outfield.

All of these modifications will further contribute to the Sector Plan's recommendations for a series of parks, open spaces, and public gathering spaces to be provided along Century Boulevard.

Destination Attraction - The Germantown Topgolf will also be a local and regional attraction. Like other Topgolf venues, the Germantown Topgolf will provide an outdoor hitting range that will be used for golf games for all ages and skill levels. The indoor area will allow customers to enjoy year-round play as well as food, beverage, music, and sports broadcasts. With other accommodations for golf lessons, leagues, tournaments, and corporate and social events, the facility will be a regional attraction – it is anticipated to draw approximately 500,000 visitors annually from a 25-mile trade area.

Jobs - The Germantown location of Topgolf represents the company's first foray into the Montgomery County market, and is anticipated to have significant local economic development impacts. Among other things, Topgolf anticipates that the Germantown site will create approximately 450 to 500 new jobs in the community, including approximately 400 full time equivalent positions.

The proposed Germantown Topgolf project will be a welcomed addition to our community. We support the Preliminary Plan Amendment Application and Site Plan Application and encourage the support of the Planning Board.

Sincerely,

A handwritten signature in cursive script, reading "Marilyn Balcombe".

Marilyn Balcombe
President & CEO
mbalcombe@ggchamber.org



June 27, 2017

Sandra Pereira
Area 3 Acting Supervisor
Montgomery County Planning Department
8787 Georgia Ave.
Silver Spring, MD 20910

RE: Topgolf Project, Germantown, MD

Dear Sandra,

I am writing on behalf of the Marriott Fairfield Inn & Suites, Germantown to show our support of the Topgolf Project to be built in Germantown on Century Blvd.

As our hotel is located adjacent to this location, we feel that this new facility would greatly benefit our hotel and the community.

We feel that this new project will open up more job opportunities for Montgomery County and also keep County Residence in the County when looking for recreational activities.

I am writing to express our full support of this project as it would bring more exposure and business to the Germantown area.

Sandra Pereira

Topgolf

Page 2

Thank you for taking this letter into consideration and we look forward to a great working relationship with the team at Topgolf.

Sincerely,

Ellen Lambert

Area Director of Sales

Fairfield Inn & Suites

20025 Century Blvd.

Germantown, MD 20874

301-916-0750

Ellen.lambert@baywoodhotels.com



June 27, 2017

Sandra Pereira, Area 3 Acting Supervisor
Montgomery County Planning Department
8787 Georgia Avenue
Silver Spring, MD 20910

RE: Topgolf
Preliminary Plan Amendment Application No 12007065B
Site Plan Application No 820170010

To Mrs. Pereira:

Matan Companies ("Matan") is a privately-held real estate investment firm with a strong and vested interest in development in Germantown, particularly in properties located along Century Boulevard. We are writing this letter to support the above-mentioned project, which represents an exciting and important opportunity for Germantown.

As you are likely aware, Matan has a particular knowledge of, and interest in, the property that is subject to these applications. Ten (10) years ago, we were able to secure approvals for a 235,000 square foot office building on the proposed site for Topgolf, which we own. Unfortunately, during the economic downturn in 2008, this site sat dormant with no interest from any potential office users. It has remained in an undeveloped state ever since.

Three (3) years ago, Matan was approached by Topgolf, a unique, established global company with a strong interest in locating in Montgomery County. Their proposal for our site is now before you for approval. While it represents a departure from the previously approved office building, there is no question that the project will provide a great new amenity in Germantown. Not only will the project provide a genuine attraction in the Town Center, but it will be a benefit for existing and potential office users, providing spaces to hold events, conferences, and social gatherings for their customers and employees. We believe that this facility will showcase the Germantown community as a destination and as an economic development hub, thereby supporting surrounding suburban office developments.

Matan is interested in such outcomes because we not only have a vested interest in the success of this particular site, but in Germantown as a whole. Matan owns and manages over one-million square feet of office space in Germantown, including 450,000 square feet of office located at 270 Corporate Center on Century Boulevard and 650,000 square feet of office located at Milestone Business Park. We see Topgolf as the needed catalyst for Century Boulevard to help spur growth and to create more opportunities within Germantown, especially given the struggling office market in the County.

We are truly excited to see Topgolf locate in Germantown and the new opportunities that will come with this type of development. With that, we support and respectfully ask for the Planning Board's approval on this project.

Sincerely,



Mark C. Matan