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August 28, 2012

VIA HAND DELIVERY

Board of Zoning Adjustment
441 4th Street, N.W.
Suite 210S
Washington, DC 20001

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D.C. OFFICE OF ZONING
2013 AUG 28 PM 1:59

Re: Application No. 18395 - PreHearing Statement of the Applicant

Honorable Members of the Board:

On behalf of CWC WDC LLC, the Applicant in the above-referenced case, enclosed please find one original and twenty copies of the Applicant's prehearing submission in support of its application for a special exception under sections 706, 726, and 2302 of the Zoning Regulations to allow the construction of a new gasoline station in the C-2-B District on a portion of the premises located at 2441 Market Street, N.E. (Square 4327, Lot 5).

Thank you for your attention to this application.

Sincerely,



Kyrus L. Freeman

Enclosure

cc: Arthur Jackson, Office of Planning (Via Hand, with enclosure)
ANC 5A (Via U.S. Mail, with enclosure)

BOARD OF ZONING ADJUSTMENT
District of Columbia
CASE NO. 18395
EXHIBIT NO. 24

Board of Zoning Adjustment
District of Columbia
CASE NO.18395
EXHIBIT NO.24

**BEFORE THE DISTRICT OF COLUMBIA
BOARD OF ZONING ADJUSTMENT**

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**APPLICATION OF
CWC WDC LLC**

**BZA APPLICATION NO. 18395
HEARING DATE: SEPT. 11, 2012
ANC 5A**

STATEMENT OF THE APPLICANT

**I.
NATURE OF RELIEF SOUGHT**

This Statement of the Applicant is submitted by CWC WDC LLC (the "Applicant"), the owner of property located at 2441 Market Street, N.E. (Square 4327, Lot 5) (the "Site"), in support of its application pursuant to 11 DCMR § 3104.1, for a special exception under sections 706, 726, and 2302 of the Zoning Regulations, to allow the construction of a new gasoline station in the C-2-B District on a portion of the Site.

**II.
JURISDICTION OF THE BOARD**

The Board of Zoning Adjustment (the "Board" or "BZA") has jurisdiction to grant the special exception relief requested herein pursuant to Section 3104.1 of the Zoning Regulations.

**III.
EXHIBITS IN SUPPORT OF THE APPLICATION**

- Exhibit A:** Building Plat showing the Site;
- Exhibit B:** Zoning Map showing the Site;
- Exhibit C:** Site Plan and Renderings;
- Exhibit D:** Traffic Impact Study and Memorandum Prepared by Wells & Associates;
- Exhibit E:** Fuel System Features memorandum Prepared by Barghausen Consulting Engineers, Inc.;
- Exhibit F:** Outline of Testimony of Renee Hanson, CWC WDC LLC;

Exhibit G: Outline of Testimony and Resume of Doug Brookbank, MulvannyG2
Architecture; and

Exhibit H: Outline of Testimony and Resume of Jami L. Milanovich, Wells &
Associates.

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IV. BACKGROUND

A. Background Information

The Site consists of Lot 5 in Square 4327. Lot 5 has a land area of approximately 93,598 square feet and is currently unimproved. (See Building Plat attached hereto as Exhibit A). Square 4327 is located in the northeast quadrant of the city and is generally bounded by Fort Lincoln Drive, N.E., New York Avenue, N.E., South Dakota Avenue, N.E., and 33rd Place, N.E. The Site is located within the C-2-B District (See Zoning Map attached hereto as Exhibit B).

As shown on the Site Plan and Renderings (the "Plans") attached hereto as Exhibit C, the Applicant proposes to construct a gasoline service station on a portion of the Site. The gasoline service station will include 16 pumps and 8 drive aisles. Other than a 44 square foot controller enclosure and a pump island canopy, there will be no other above-grade structures or uses constructed on the Site.

V. THE APPLICANT MEETS THE BURDEN OF PROOF FOR SPECIAL EXCEPTION RELIEF

Relief granted through a special exception is presumed appropriate, reasonable and compatible with other uses in the same zoning classification, provided the specific regulatory requirements for the requested relief are met. In reviewing an application for special exception relief, "[t]he Board's discretion ... is limited to a determination of whether the exception sought meets the requirements of the regulations." *First Baptist Church of Washington v. District of*

Columbia Board of Zoning Adjustment, 423 A.2d 695, 701 (D.C. 1981) (quoting *Stewart v. District of Columbia Board of Zoning Adjustment*, 305 A.2d 516, 518 (D.C. 1973)). If the applicant meets its burden, the Board must ordinarily grant the application. *Id.*

Pursuant to Section 726.1 of the Zoning Regulations, a gasoline service station is permitted in a C-2 District as a special exception if approved by the Board of Zoning Adjustment under Section 3104, subject to the provisions of Section 706 and Chapter 23 of the Zoning Regulations. The Applicant complies with the special exception standards as follows:

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1. **Section 706.1 - A gasoline service station established or enlarged after May 12, 1958, shall be permitted in a C-1 District as a special exception if approved by the Board of Zoning Adjustment under § 3104, subject to the provisions of chapter 23 of this title and the provisions of this section.**

This provision is a statement of the standards by which this application must be reviewed. As described below, this application meets the standards for special exception approval.

2. **Section 706.3 - The station shall not be located within twenty-five feet (25 ft.) of a Residence District unless separated from the Residence District by a street or alley.**

The Site is located in the C-2-B District. The properties located 25 feet to the immediate north, south, east, and west of the Site are also in the C-2-B District. Thus, the proposed station will not be within 25 feet of a residence district and the application complies with this provision.

3. **Section 706.4 - The operation of the use shall not create dangerous or other objectionable traffic conditions.**

The Applicant has retained Wells & Associates to conduct a traffic study to determine the impacts of the proposed gasoline service station. The operation and use of the proposed gasoline service station on the Site will not create dangerous or other objectionable traffic conditions

because the gasoline service station has been designed to provide queuing on the Site for 56 vehicles, and the station includes 22-foot drive aisles and 9-foot bypass lanes, both of which provide ample space for cars to leave the queue lanes if necessary. Additionally, the gasoline service station can only be used by Costco members which will minimize the number of trips typically associated with a gasoline service use. Moreover, as indicated in the memorandum prepared by Wells & Associates attached hereto as Exhibit D:

- the proposed development is anticipated to generate an nominal amount of traffic, with just 20 new AM peak hour vehicular trips and just 26 new PM peak hour vehicular trips;
- traffic associated with the proposed development will have a negligible impact on the surrounding intersections;
- the proposed traffic signal at the 33rd Place/Fort Lincoln Drive/Site Driveway intersection would adequately accommodate the additional traffic associated with the gasoline pumps; and
- the proposed gas station use will not, in and of itself, require improvements to be made at any of the study intersections.

Thus, the application complies with the requirements of Section 706.4.

4. **Section 706.5 - The Board may impose requirements pertaining to design, appearance, screening, or lighting, or other requirements it deems necessary to protect adjacent or nearby property.**

As shown on the Plans, the gasoline service station has been sited and designed to minimize any impacts. The Site is surrounded by commercial uses to the north and east, and by New York Avenue, N.E. and South Dakota Avenue, N.E. to the south. The closest residential uses are approximately 700 to 1000 feet away from the Site. Moreover, as shown on the landscape plans included with the Plans, the Applicant will be installing a landscape buffer along the southern portion of the Site. In addition, as indicated in the Fuel System Features

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memorandum prepared by Barghausen Consulting Engineers, Inc. and attached hereto as Exhibit

E, the gasoline service station will include numerous, state-of-the-art safety features, including:

- an on-site attendant at all times that the station is open to assist the customers and monitor the operations for safety and security;
- fuel dispenser safety devices, including automatic shutoff shear valves; nozzle breakaway devices; internal fire extinguishers; and liquid leak detectors that are 30 times more sensitive than required by Federal regulations;
- petroleum tanks with double-walled fiberglass and a hydrostatic monitoring system that exceeds current Federal leak detection monitoring requirements and monitors changes in liquid level of the tank's secondary containment;
- a monitoring system includes visual/audible alarms and will shut down the entire system in case of power failure or leak;
- an alarm system monitored by an independent security company in addition to on-site audible and visual alarm notifications;
- emergency shutdown stations through the site per fire code requirements;
- dispenser sumps installed under each dispenser and also monitored with a probe that detects liquid, and will also shut the system down if liquid is detected;
- the inclusion of a fire suppression system in the sump that is activated if a fire ever occurs;
- the fill and vapor connections at the tanks utilize spill buckets to capture any potential product leakage from the tanker disconnect; and
- an advanced vapor recovery system that address air pollution control equipment for the filling of the gas tanks by tanker trucks and air pollution control at the fueling dispensers for customer fueling.

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In addition, the Site has down lighting that will be contained on the Site with no spill-over to residential or other properties. Therefore, there is no need for the Board to impose any conditions regarding design, appearance, screening, or lighting in this case.

5. **Section 706.6 - Required parking spaces may be arranged so that all spaces are not accessible at all times. All parking spaces provided under this subsection shall be designed and operated so that sufficient access and maneuvering space is available to permit the parking and removal of any vehicles without moving any other vehicle onto public space.**

Section 2101.1 of the Zoning Regulations provides that a gasoline service station in all zone districts is required to provide one off-street parking space for each 300 square feet of gross floor area, excluding any pump island canopy and any kiosk adjacent to the pumps used exclusively as an attendant's shelter. As shown on the Plans, the only structure proposed on the Site is a 44 square foot controller enclosure. Moreover, the area under the proposed pump island is explicitly excluded from the parking calculation. Therefore, there are no required parking spaces for this gasoline service station. Nonetheless, the parking spaces included on the Site have been designed so that sufficient access and maneuvering space is available to permit the parking and removal of any vehicles without moving any other vehicle onto public space. Thus, the application complies with this provision.

6. **Section 2302.1 - A public storage garage, repair garage, mechanical parking garage, or gasoline service station established or enlarged in any district except in the C-M or M Districts shall be subject to the provisions in this section.**

This provision is a statement of the standards by which this application must be reviewed. As described in more detail below, this application meets the standards for special exception approval.

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7. **Section 2302.2 - No portion of the structure or premises to be used for any of the uses listed in § 2302.1 shall be located within twenty-five feet (25 ft.) of a Residence District unless separated from that Residence District by a street or alley.**

The Site is located in the C-2-B District. The properties located 25 feet to the immediate north, south, east and west of the Site are also located in the C-2-B District. Thus, the proposed station will not be located within 25 feet of a residence district and the application complies with this provision.

8. **Section 2302.3 - No use listed in § 2302.1 shall have a vehicular entrance or exit connected with a street at a point closer than twenty-five feet (25 ft.) to any Residence District existing at the time the use is established, unless separated from the Residence District by a street or alley.**

The nearest residential zone district and residential uses to the Site are over 700 to 1,000 feet away. Moreover, as shown on the Plans, the vehicular entrance and exit for the proposed gasoline service station connects with a street that is adjacent to properties zoned C-2-B. Thus, the application complies with this provision.

9. **Section 2302.4 - No driveway of any entrance or exit to any use listed in § 2302.1 shall be closer than forty feet (40 ft.) to a street intersection as measured from the intersection of the curb lines extended.**

As shown on the Plans, the vehicular entrance and exit for the proposed gasoline service station is approximately 325 feet from the nearest intersection, and thus the application complies with this provision.

10. **Section 2302.5 - Except in a C-M or M District, all grease pits or hoists constructed or established as part of a use listed in § 2302.1 shall be within a building.**

The project does not include any grease pits or grease hoists.

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VI.

WITNESSES

- A. Renee Hanson, CWC WDC LLC.
- B. Doug Brookbank, MulvannyG2 Architecture.
- C. Jami L. Milanovich, Wells & Associates.

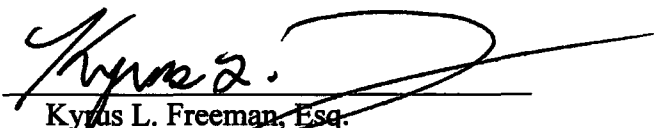
VII.

CONCLUSION

For the reasons stated above, the requested relief meets the applicable standards for special exception relief under the Zoning Regulations. Accordingly, the Applicant respectfully requests that the Board grant the application.

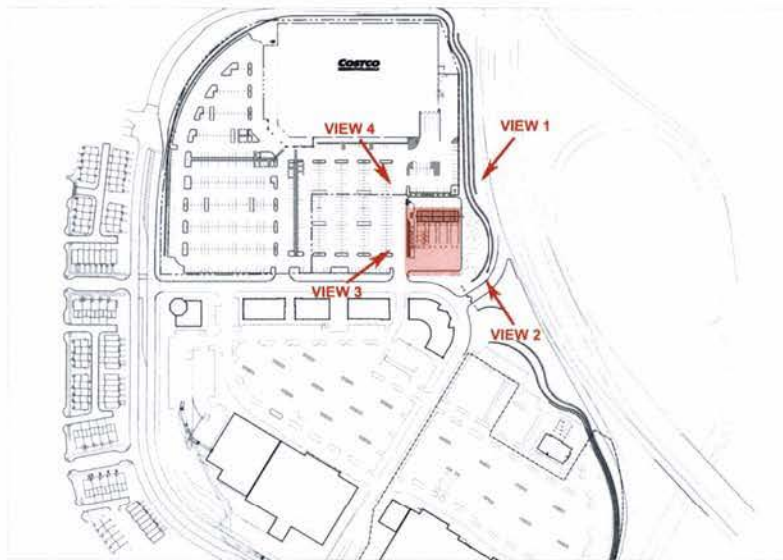
Respectfully submitted,

HOLLAND & KNIGHT, LLP

By: 

Kyrus L. Freeman, Esq.
2099 Pennsylvania Avenue, N.W.
Suite 100
Washington, D.C. 20006
(202) 955-3000

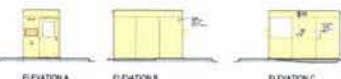
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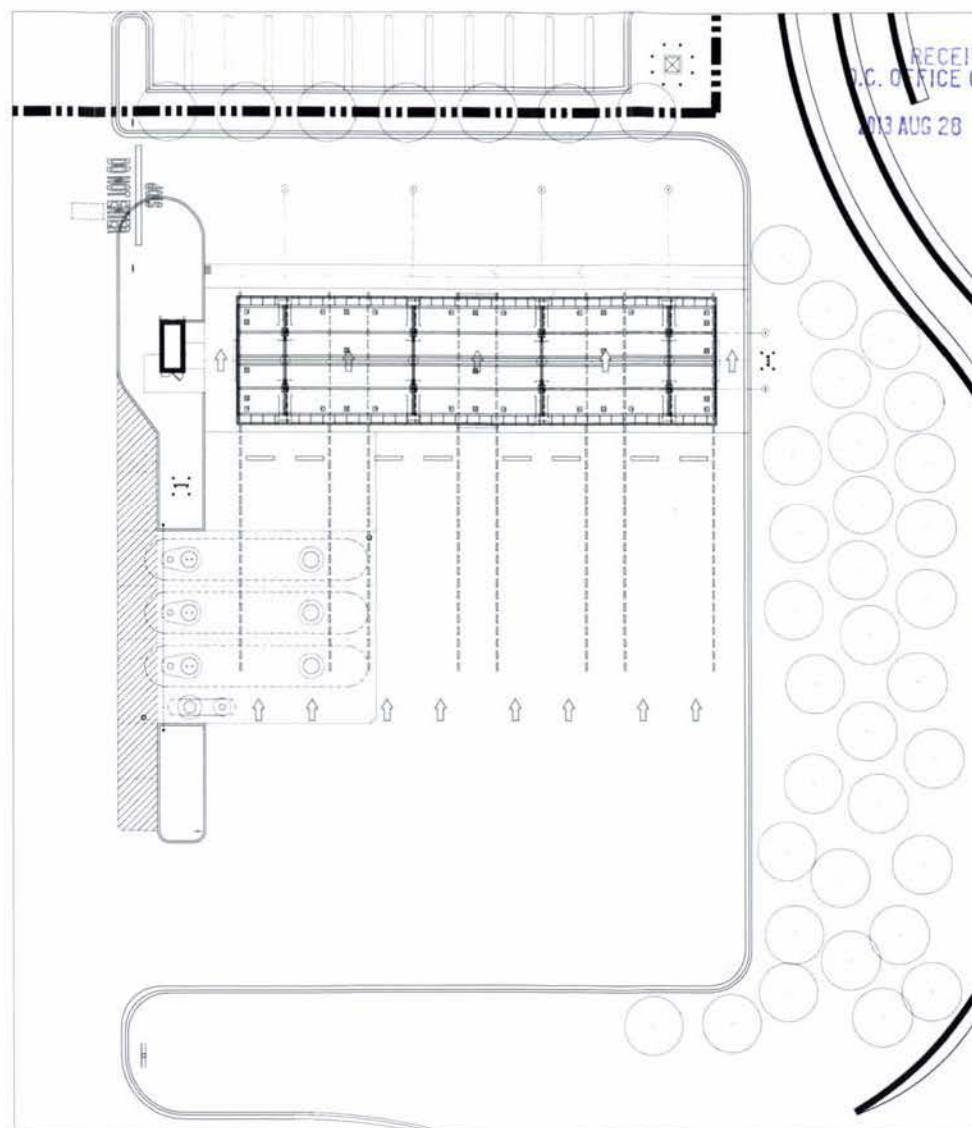
1 CANOPY AND DISPENSER ISLANDS



2 CANOPY AND DISPENSER ISLANDS



3 CONTROLLER ENCLOSURE EXTERIOR ELEVATIONS



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COSTCO WHOLESALE

WASHINGTON, D.C.

FUEL FACILITY

MULVANNY, G2

ARCHITECTURAL FIRM / 1000 17TH ST NW
WASHINGTON, DC 20036
(202) 331-1100

AUGUST 27, 2012

Worksheet: 02



VIEW 1



VIEW 2



VIEW 3



VIEW 4

COSTCO WHOLESALE

WASHINGTON, D.C.

FUEL FACILITY

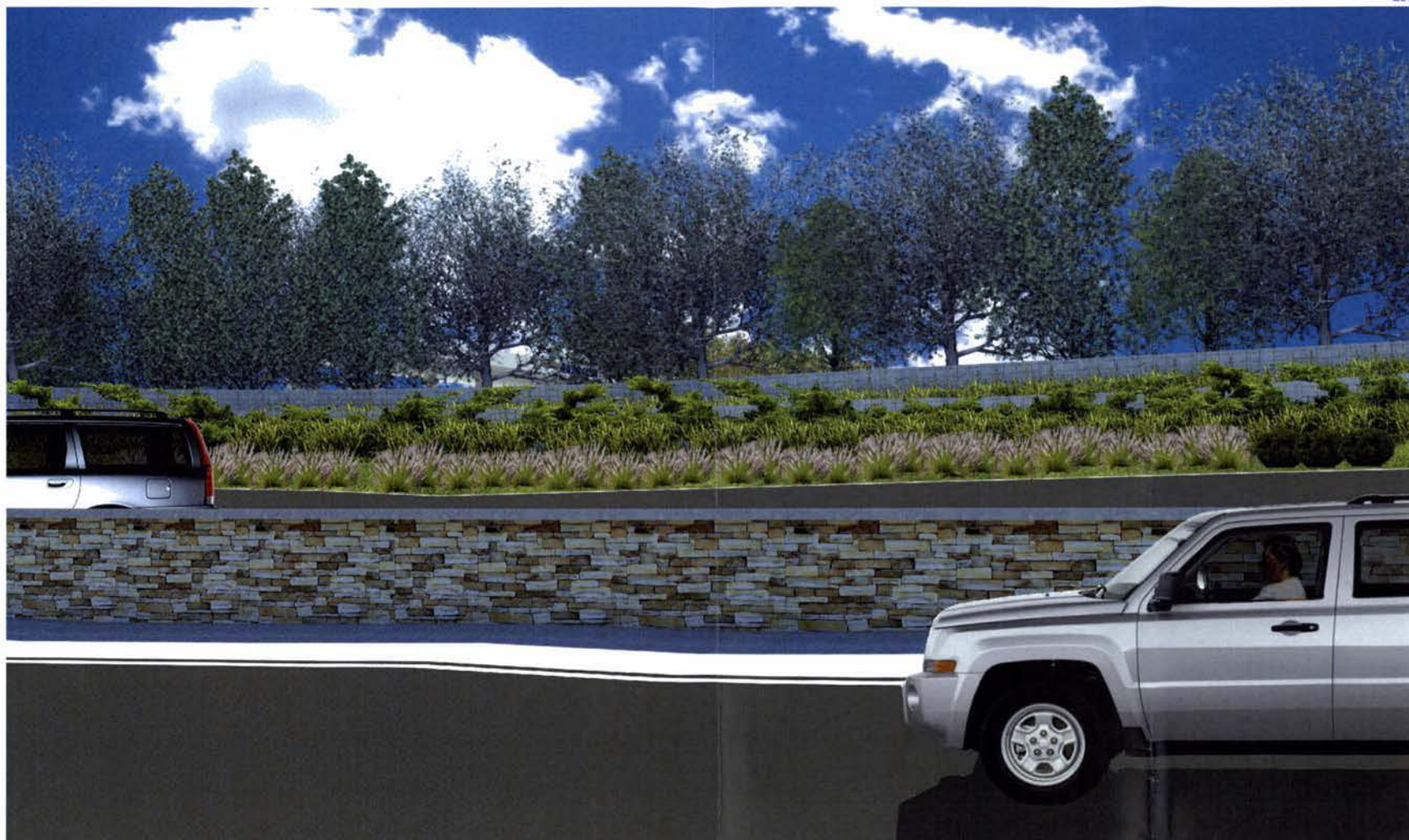
MULVANNY G2

4000 HESTON DRIVE, SUITE 100
BELLAMY, VA 22110
703.888.8888 / 703.888.8887

AUGUST 27, 2012

MulvannyG2.com

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VIEW FROM RT. 50 WEST

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VIEW FROM RT. 50 WEST OFF-RAMP

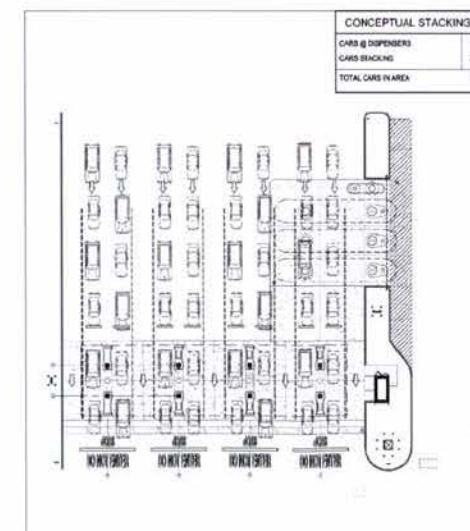
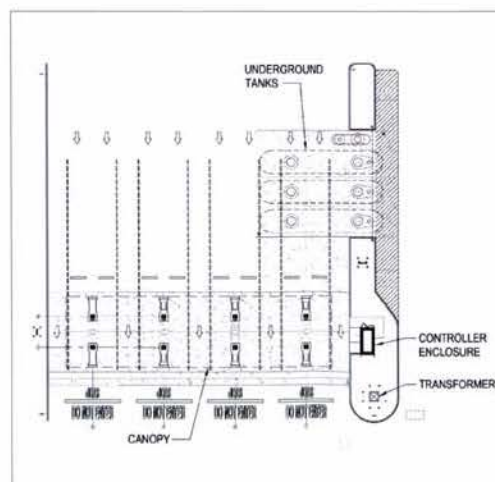
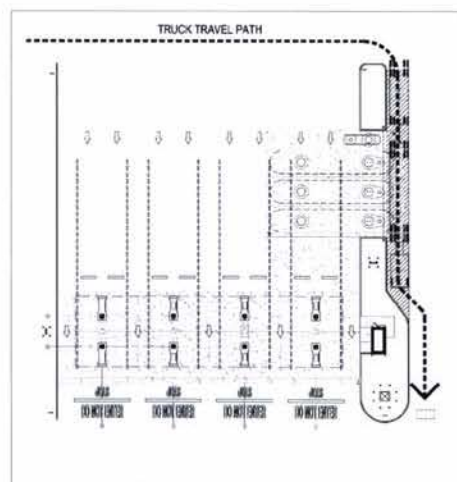
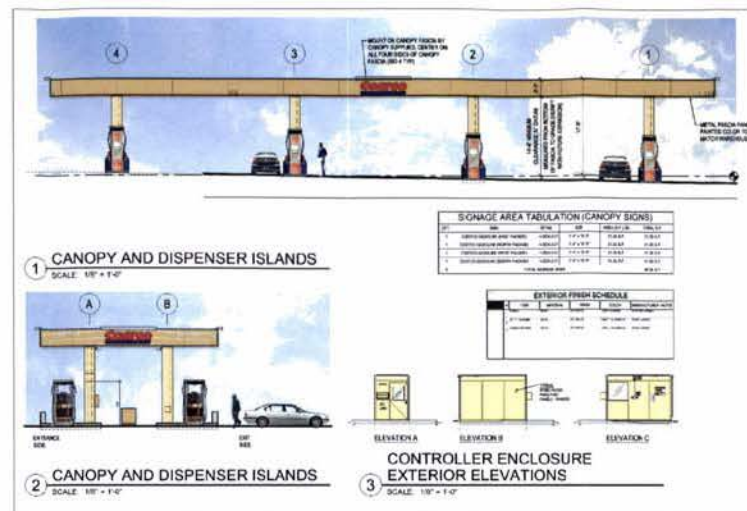
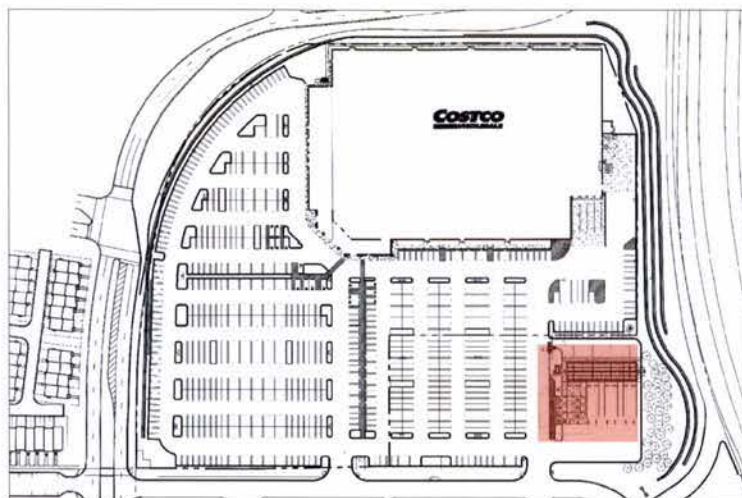
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VIEW FROM WEST PARKING LOT



VIEW FROM EAST PARKING LOT



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APRIL 13, 2012
CONCEPT
FUEL FACILITY
PLAN

DD41-01

COSTCO WHOLESale

WASHINGTON, D.C.

CONCEPT FUEL FACILITY PLAN

APRIL 13, 2012



WELLS + ASSOCIATES

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MEMORANDUM

TO: Renee Hanson
Director of Real Estate Development, Costco Wholesale

FROM: Jami L. Milanovich, P.E.
Priyatham Konda, P.E.

DATE: June 11, 2012

RE: Transportation Impact Analysis for Costco Wholesale – Fort Lincoln
Washington, D.C.

OVERVIEW

Costco Wholesale is proposing to add gasoline pumps to a new Costco Wholesale store that was previously approved as part of the Shops at Dakota Crossing retail development. The Shops at Dakota Crossing development, which is currently under construction in northeast Washington, D.C., is generally bounded by 33rd Place and Fort Lincoln Drive to the north, New York Avenue to the south, and South Dakota Avenue to the west. The new Costco store along with the proposed gasoline stations would be generally located in the southeast portion of the Shops at Dakota Crossing development. The Costco site's location is shown on Figure 1.

The Shops at Dakota Crossing will include an approximately 432,270 square foot (SF) shopping center, including a 154,000 SF Costco and a 65,000 SF supermarket. The subject site currently is zoned C-2-B and is proposed to remain so with the addition of the gasoline pumps, which would be used only by the store's membership. A special exception application to install and operate 16 gasoline pumps as an ancillary use to the approved wholesale store has been filed with the District of Columbia Office of Zoning.

Access to the retail development will be provided via two full-movement driveways: one at the Fort Lincoln Drive/33rd Place intersection and one approximately 440 feet west of the Fort Lincoln Drive/York Road intersection. Additionally, a right-in only driveway is proposed from the southbound New York Avenue off-ramp between the diverge point of Fort Lincoln Drive and its intersection with South Dakota Avenue. Access to the gas pumps would be provided via internal curb cuts that also provide access to the surface parking area adjacent to the Costco store, as shown on Figure 2 (a scalable version has been included in Attachment A). Off-street parking for the development would be provided on a surface parking lot.

This traffic impact assessment (TIA) was conducted in conjunction with the Special Exception application to evaluate the impact of the proposed 16 gasoline pumping stations associated with the approved Costco Wholesale store.

EXISTING CONDITIONS

STUDY AREA

The study area surrounding the Shops at Dakota Crossing was studied extensively in the TIA for the retail center dated August 2008 completed by Wells+Associates. As requested by DDOT staff at a meeting on April 13, 2012, the study area for this TIA was selected based on those intersections that potentially could be affected by the proposed addition of the gasoline pumps in place of the previously approved retail pad site that was to be located southwest of Costco Wholesale. The following intersections were selected for detailed analysis:

1. Bladensburg Road/V Street/25th Place,
2. South Dakota Avenue/33rd Place, and
3. Fort Lincoln Drive/33rd Place (site entrance).

TRAFFIC VOLUMES

Vehicular turning movement, pedestrian, and bicycle counts were conducted at the study intersections on Tuesday, May 15, 2012 from 7:00 AM to 10:00 AM and from 4:00 PM to 7:00 PM.

Common AM and PM peak hours were determined for each study time period by summing the vehicular volumes at all of study intersections and determining the highest volume in the study area for a one hour period between 7:00 AM and 10:00 AM and for a one hour period between 4:00 PM and 7:00 PM. The AM peak hour occurred from 7:45 AM to 8:45 AM and the PM peak hour occurred from 4:30 PM to 5:30 PM. Existing vehicular peak hour traffic volumes are shown on Figure 3 and existing pedestrian peak hour volumes are shown on Figure 4. Traffic count data are included in Attachment B.

LEVEL OF SERVICE ANALYSIS

Capacity/level of service (LOS) analyses were conducted based on the existing lane use and traffic control shown on Figure 5, existing vehicular traffic volumes shown on Figure 3, and existing pedestrian volumes shown on Figure 4.

Signal timings for the South Dakota Avenue/33rd Place and the Bladensburg Road/V Street/25th Place intersections were obtained from DDOT and are included in Attachment C.

Synchro software (Version 7, Build 773) was used to evaluate levels of service at each of the study intersections during the AM and PM peak hours. Synchro is a macroscopic model used to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings and to optimize traffic signal timings. The levels of service reported for the signalized intersections were taken from the Highway Capacity Manual 2000 (HCM) reports generated by Synchro. Levels of service descriptions are included in Attachment D.

The Synchro results for the existing conditions are presented in Attachment E and summarized in Table 1. As shown in Table 1, the southbound (33rd Place) approach of the South Dakota Avenue/33rd Place intersection currently operates at capacity (i.e., failing levels of service, or LOS "F"). The remaining lane groups at the study intersections operate acceptably (i.e., LOS "D" or better).

Summary of Intersection Levels of Service

Approach [†]	2012 Existing Conditions		2013 Background Conditions		2013 Total Future Conditions	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. Bladensburg Road/V Street/25th Place						
EBLTR	B	C	B	C	B	C
WBLTR	D	D	E	D	E	D
NBLTR	B	A	B	B	B	B
SBLTR	B	A	B	B	B	B
Overall	C	B	C	B	C	B
2. South Dakota Avenue/33rd Place						
EBL	B	A	C	E	E	F (119.9)
EBTR	B	A	B	C	B	C
WBL	B	A	B	C	B	C
WBT			E	C	E	C
WBR	A	A	B	C	B	C
NBLTR [‡]	C	C	E	F (339.9)	E	F (335.3)
SBL	D	F (93.9)	D	D	D	E
SBLT	D	F (126.5)	D	E	D	F (81.5)
SBR	C	C	C	C	C	C
Overall	B	C	D	D	D	E
3. Fort Lincoln Drive/33rd Place						
EBLT	B	B	C	C	C	C
EBR	B	C	C	F (85.1)	C	F (105.5)
WBL	-	-	C	C	C	C
WBLTR	-	-	C	C	C	C
NBL	A	A	C	E	B	E
NBTR	A	A	B	B	B	B
SBL	-	-	A	A	A	A
SBTR	A	A	C	C	C	C
Overall	-	-	C	D	C	D

[xx.x] = unsignalized intersection control delay in sec/veh (xx.x) = signalized intersection control delay in sec/veh

[†] For purposes of this assessment, South Dakota Avenue was assumed to be oriented in an east-west direction.

[‡] This approach is the Goodwill Driveway. With or without the proposed gasoline pumps, the approach would operate at a LOS F.

QUEUE ANALYSIS

A queuing analysis was conducted for 2012 existing conditions. Synchro was used to conduct the analyses; specifically, the 95th percentile queue lengths were examined. The results are summarized in Table 2. Queue reports for each of the study intersections are provided in Attachment F.

As shown in Table 2, the existing 95th percentile queues at each of the study intersections remain within the available storage during the AM and PM peak hours, with the exception of southbound (33rd Place) left turn queue at the South Dakota Avenue/33rd Place intersection, which extends beyond the available storage by approximately 134 feet during the PM peak hour.

Table 2
Summary of Intersection Queues

Approach [†]	Available Storage [‡]	2012 Existing Conditions		2013 Background Conditions		2013 Total Future Conditions	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. Bladensburg Road/V Street/25 th Place							
EBLTR	890'	16	28	16	26	16	26
WBLTR	>1,000'	329 [#]	186	370 [#]	239	376 ^{m#}	245
NBLTR	540'	58	102	61	130	61	130
SBLTR	560'	161	82	202	132	202	132
2. South Dakota Avenue/33 rd Place							
EBL	385'	12 ^m	0 ^m	64 [#]	190 ^{m#}	139 [#]	288 ^{m#}
EBTR	>1,000'	488	19	488	538	472	516
WBL	540'	512	171	20	23	20	22
WBT	540'			714 [#]	326	674 [#]	307
WBR	275'	6	9	29	50	29	51
NBLTR	N/A	15	78	20	190 [#]	20	189 [#]
SBL	Ex. 150'/250'	168	284 [#]	310 [#]	380 ^{m#}	343 [#]	413 ^{m#}
SBLT	670'	173	298 [#]	314 [#]	387 ^{m#}	361 [#]	418 ^{m#}
SBR	670'	26	21	66	38 ^m	55 [#]	50 ^{m#}
3. Fort Lincoln Drive/33 rd Place							
EBLT	725'	1	0	43	41	45	43
EBR	725'	49	98	78	319 [#]	83	351 [#]
WBL	270'	-	-	83	226	128	283
WBLTR	270'	-	-	83	230	128	281
NBL	150'	1	4	15 ^m	68 ^{m#}	12 ^m	55 ^{m#}
NBTR	670'	0	0	20	18 ^m	16	14 ^m
SBL	215'	-	-	0	0	0	0
SBTR	>1,000'	0	0	73	97	76	97

[†] For purposes of this assessment, South Dakota Avenue was assumed to be oriented in an east-west direction.

[‡] All distances measured to nearest intersection or end of turn lane, as appropriate.

^m Volume for 95th percentile queue is metered by upstream signal.

[#] 95th percentile volume exceeds capacity; queue may be longer.

- Volume exceeds capacity; queue is theoretically infinite.

* Delay theoretically greater than 999.9 seconds; queue cannot be calculated.

ALTERNATE TRANSPORTATION FACILITIES

Pedestrian Facilities

Sidewalks are present along both sides of Fort Lincoln Drive from 31st Place to Commodore Joshua Barney Drive, along both sides of Commodore Joshua Barney Drive, along South Dakota Avenue, and along Bladensburg Road.

The signalized intersections on South Dakota Avenue at 33rd Place and 31st Place and on Bladensburg Road at V Street/25th Place include painted crosswalks and pedestrian count down signals. The crosswalks at these intersections are wheelchair accessible. The unsignalized intersections of Fort Lincoln Drive with 31st Place and 33rd Place include ramps that are wheelchair accessible.

Public Transportation Facilities and Services

The Fort Lincoln Shuttle Line (Metrobus Routes B8 and B9) and the Brookland – Fort Lincoln Line (Metrobus Route H6) currently provide bus service in the study area. Bus stops are located on 33rd Place at its intersection with South Dakota Avenue and on Fort Lincoln Drive at its intersection with 33rd Place. Routes B8 and B9 provide service to the Rhode Island Metro Station. Route H6 provides access to the Brookland-CUA Metro Station. Several bus stops also are located on Bladensburg Road in the vicinity of the study area. Metrobus service is shown on Figure 6.

In conjunction with the Shops at Dakota Crossing, two bus stops are proposed, including bus shelters, within the retail center. Based on Fort Lincoln New Town Corporation's preliminary discussion with the Washington Metropolitan Area Transit Authority (WMATA), it is anticipated that existing bus service will be extended to serve these proposed bus stops.

2013 BACKGROUND CONDITIONS

TRAFFIC VOLUMES

In order to develop background traffic forecasts, that is, future traffic forecasts without development of the subject property, a composite of existing traffic, increases in traffic associated with regional growth, and traffic associated with pipeline developments in the site vicinity was developed.

Regional Growth

To account for increases in regional traffic, a one percent annual compounded growth rate was applied to baseline traffic volumes in the study area. This growth accounts for regional traffic growth outside the immediate vicinity of the site. Since the gasoline pumps are anticipated to be operational in 2013, the existing traffic volumes were grown by one year.

Pipeline (Background) Developments

In addition to the approved retail/commercial uses at the Shops at Dakota Crossing development, three (3) other developments (i.e., pipeline, or background, developments) in the study area were included in the background traffic forecasts. Each of the pipeline developments are listed below:

1. The Shops at Dakota Crossing

- a. Shopping Center,
 - b. Costco Store, and
 - c. Grocery Store.
2. The Villages at Dakota Crossing (formerly known as the Villages at Washington Gateway),
3. Fort Lincoln Multi-Family, and
4. City Homes at Fort Lincoln.

The development programs associated with each of the above pipelines developments were updated to reflect any known changes that have occurred since the August 2008 TIS for the Shops at Dakota Crossing. The site trips generated by each of the pipeline developments as well as the development program information were obtained from the Shops at Dakota Crossing TIS and subsequent research conducted by Wells + Associates. The total pipeline development traffic associated with the above-listed pipelines is shown on Figure 7. The 2013 background lane use and traffic controls are shown on Figure 8. The existing peak hour traffic volumes were combined with the regional growth and the total pipeline development traffic to yield the 2013 background traffic forecasts shown on Figure 9. The pipeline development trip generation analyses, each of the individual pipeline trip assignments, and the existing volumes plus regional growth assignments are provided in Attachment G.

LEVEL OF SERVICE ANALYSIS

Capacity/level of service analyses were conducted for the study area for 2013 background conditions (without the proposed redevelopment) using Synchro. Background levels of service were calculated using 2013 background future traffic forecasts shown on Figure 9, the 2013 background lane configuration and traffic controls shown on Figure 8, and existing traffic signal timings (modified to incorporate timing adjustments recommended in the TIS for the Shops at Dakota Crossing). The results of these analyses are presented in Table I.

The August 2008 TIS for the Shops at Dakota Crossing includes certain recommended transportation improvements at the Fort Lincoln Drive/33rd Place and South Dakota Avenue/33rd Place intersections to offset site generated traffic impacts associated with the Shops at Dakota Crossing. These recommended improvements are listed below and were incorporated into the 2013 background level of service analysis.

Fort Lincoln Drive/33rd Place Intersection:

1. Installation of a new traffic signal at the Fort Lincoln Drive/33rd Place intersection

South Dakota Avenue/33rd Place Intersection:

1. An exclusive westbound left turn lane at the on South Dakota Avenue
2. Extension of the southbound left-turn lane on 33rd Place intersection to approximately 250 feet in order to accommodate projected queues
3. Incorporation of an advance eastbound left-turn phase
4. Signal timing adjustments, including split phasing on the side street approaches

The levels of service under background conditions are shown in Table I. Synchro worksheets for the 2013 background conditions are included in Attachment H.

QUEUE ANALYSIS

A queuing analysis was conducted for 2013 background conditions without the proposed Costco gasoline station development. The 95th percentile queue lengths were examined. The results are summarized in Table 2 and the queue reports for each of the study intersections are provided in Attachment I.

As shown in Table 2, under 2013 background conditions, the 95th percentile southbound left turn queue at the South Dakota Avenue/33rd Place intersection would continue to exceed the available storage of 250 feet by approximately 60 feet during the AM peak hour and by 130 feet during the PM peak hour. The westbound through queues at this intersection may begin to extend past the immediate upstream intersection during the AM peak hour.

SITE ANALYSIS

SITE TRIP GENERATION

The number of trips generated by the proposed gasoline pumps would be comprised of three types of trips: (1) **new trips** or trips added to the roadway network for the exclusive purpose of going to the gas pumps, (2) **internal trips** or trips that originate from or are destined to the Costco store or other stores at the Shops at Dakota Crossing that stop at the gasoline pumps while they are at the retail center, and (3) **pass-by trips** or trips that have another origin or destination but stop at the gasoline pumps in passing the site (e.g., stopping at the gas station on the way home from work or vice versa).

New Vehicle Trips

The number of new trips anticipated to be generated by the proposed Costco's gasoline pumps was based on a survey conducted by Wells + Associates at a Costco's gasoline station in Sterling, Virginia (excerpts from the Sterling Costco survey provided in Attachment J). The Sterling data was selected because it is the busiest Costco store on the East Coast in terms of gasoline sales and the average daily traffic (ADT) volumes on Route 7 (adjacent to Costco) are comparable to the ADT volumes on New York Avenue and South Dakota Avenue. Additionally, data for the Sterling store included both AM and PM data.

The Sterling Costco survey indicates that new trips to the gas pumps accounted for approximately eight percent of the total trips generated by the gas pumps during the AM peak hour and approximately six percent of the total trips generated by the gas pumps during PM peak hour. Wells + Associates also reviewed a survey completed by BA Group at two Costco locations in Leesburg, Virginia and Barrie, Ontario (Canada). Based on these surveys, the new vehicular trips generated by the gasoline stations at the Leesburg and Barrie Costco locations account for approximately 10 percent and 5 percent, respectively, of the total PM peak hour trip generation (AM data were not available). As shown on Table 3, the proposed Costco gasoline station at the Shops at Dakota Crossing also is estimated to generate a comparable new vehicular trip percentage, that is, approximately 10 percent of the total trip generation is expected to be new vehicular trips.

Accordingly, the proposed Shops at Dakota Crossing Costco gasoline station with 16 fueling stations is projected to generate approximately 20 new AM peak hour and 26 new PM peak hour trips upon build-out. These new trips would be added to the roadway network for the exclusive purpose of going to the Costco gas pumps during the weekday AM and PM peak hours.

Excerpts from the BA Group survey also are provided in Attachment K.

Internal Trips

According to the Institute of Transportation Engineers' (ITE) Trip Generation Handbook, 2nd Edition, mixed-use developments have a naturally occurring synergy between the various land uses and, therefore, would have a certain number of trips that are shared between the on-site uses. Accordingly, it is anticipated that a certain percentage of the trips generated by the gasoline pumps would be captured internally within the Shops at Dakota Crossing development due to the mix of uses proposed. As a result of this naturally occurring synergy, the volume of external trips generated by the site would be reduced.

Based on the survey conducted at the Sterling Costco, a 24 percent internal synergy was recorded during the PM peak hour. Therefore, a 20 percent internal synergy was assumed during the PM peak hour. No internal synergy was assumed during the AM peak hour since the majority of the stores in the retail center would not be open during the morning peak hour.

Internal trips between the gas pumps and the stores in the retail center are estimated to account for 50 trips during the PM peak hour.

Pass-by Trips

According to ITE, a portion of the external trips generated by certain retail uses, such as gasoline stations, drive-in banks, and fast-food restaurants, are attracted from the surrounding road network, and are not trips new to the surrounding roadway network. Such pass-by trips are made as intermediate stops on the way to a primary destination. An example of a pass-by trip would be one in which a driver stops at a gasoline station on his/her way home from work.

The survey conducted at the Costco store in Sterling indicated 92 percent of the AM peak hour trips and 70 percent of the PM peak hour trips were pass-by trips or trips that were already on the roadway for another reason. Therefore, as shown on Table 3, a 90 percent AM peak hour and a 70 percent PM peak hour pass-by trip reduction were applied to the trip generation. Pass-by trips at the Costco at the Shops at Dakota Crossing are expected to account for 177 trips during both the AM and PM peak hours.

Total Trips

Based on the trip generation survey at Sterling Costco, the overall trip generation rate for the gas pumps (including new trips, internal trips, and pass-by trips) was calculated to be approximately 12.3 trips per fueling position during the AM peak hour and 15.8 trips per fueling position during the PM peak hour. The total trip estimate shown on Table 3 for the proposed Costco gasoline station is based on these rates.

Table 3
Trip Generation Summary

Land Use / Trip Type	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Costco Gasoline Station – 16 fuelling positions						
Total Trips¹	99	98	197	127	126	253
<i>Internal Capture²</i> (AM – 0%; PM – 20%)	-	-	-	(25)	(25)	(50)
<i>Pass-by Reduction²</i> (AM – 90%; PM – 70%)	(89)	(88)	(177)	(89)	(88)	(177)
New Vehicle Trips³	10	10	20	13	13	26
¹ Total Trips generated based on a survey conducted by Wells+Associates at a Costco in Sterling, Virginia. ² Internal Capture trips based on a survey conducted by Wells+Associates at a Costco in Sterling, Virginia. ³ The resulting "new" or primary trips also were comparable to the primary trips accounted for in surveys conducted by BA Group at two Costco stores in Leesburg, Virginia and Barrie, Ontario.						

SITE TRIP DISTRIBUTION AND ASSIGNMENT

Site Trip Distribution

The distribution of new external peak hour vehicular trips generated by the proposed development was based on existing traffic patterns in the study area and the premise that commuters will select routes that minimize travel time. The following distributions were utilized for the AM and PM peak hours, consistent with the distributions utilized in the approved TIA for the Shops at Dakota Crossing dated August 2008:

- 30 percent to/from the east on New York Avenue NE,
- 40 percent to/from the southwest on Bladensburg Road,
- 10 percent to/from the north on Bladensburg Road, and
- 20 percent to/from the northwest on South Dakota Avenue.

The above trip distributions were utilized to develop the site trip assignments at each of the study intersections.

The pass-by trips shown in Table 3 were assigned to the study intersections based on the existing traffic patterns on South Dakota Avenue. During the AM and PM peak hours, an estimated 60 percent and 40 percent of the pass-by trips, respectively, were assumed to come from the south on South Dakota Avenue. Accordingly, an estimated 40 percent of the pass-by trips were assumed to come from the north on South Dakota Avenue during the AM peak hour, while an estimated 60 percent of the pass-by trips were assumed to come from the north during the PM peak hour.

Site Trip Assignment

The new site trips were assigned to the public roadway network according to the directional distributions described above and the location of the site entrances. The resulting new site traffic assignments are shown on Figure 10. Additionally, the site pass-by trips and the total site trips are shown on Figure 11 and 12, respectively.

SITE ACCESS

Patron Access

The new Costco gasoline station is proposed to be located within the Shops at Dakota Crossing development, immediately southwest of the Costco store. This gasoline station would be accessible via any of the larger retail development entrances. Access would be provided via two full-movement driveways: one at the Fort Lincoln Drive/33rd Place intersection and one approximately 440 feet west of the Fort Lincoln Drive/York Road intersection. Additionally, a site driveway is proposed from the southbound New York Avenue off ramp between the diverge point of Fort Lincoln Drive and its intersection with South Dakota Avenue.

Truck Access

In accordance with DDOT staff's request to show the gasoline truck movements entering and exiting the proposed site for gasoline station, an AutoTurn drawing is included in Attachment K. As shown in Attachment K, Costco's gasoline trucks are anticipated to enter/exit the site via an internal driveway within the Shops at Dakota Crossing development. Based on the information provided by the Applicant, the proposed new Costco gasoline station is expected to have two (2) to three (3) gasoline trucks delivering gas to the underground tanks per day. It is anticipated that fuel trucks will access the site from New York Avenue, using the entrance from the off-ramp to South Dakota Avenue. Trucks exiting the site would then exit the site via 33rd Place, head south on South Dakota Avenue toward New York Avenue Eastbound.

2013 TOTAL FUTURE CONDITIONS

TRAFFIC VOLUMES

To obtain 2013 total future peak hour forecasts with the proposed Costco gasoline station, the total site traffic assignments shown on Figure 12 were added to the 2013 background traffic forecasts shown on Figure 9. The resulting 2013 total future peak hour traffic forecasts are shown on Figure 13.

LEVEL OF SERVICE ANALYSIS

Capacity/level of service analyses were conducted for the study area under total future conditions (with the proposed redevelopment) using Synchro. Total future levels of service were calculated using 2013 total future traffic forecasts shown on Figure 13, the background lane configuration and traffic controls shown on Figure 8, and existing traffic signal timings. The results of these analyses are presented in Table I.

Based on the analyses, the proposed development will not have a significant impact on the surrounding roadway network. The lane groups at each of the study intersections are anticipated to operate at

levels of service generally consistent with the background conditions, with the exception of certain movements at the South Dakota Avenue/33rd Place intersection. As shown in Table 1, the eastbound left turn would drop to a LOS "E" during the AM peak hour and a LOS "F" during the PM peak hour under 2013 background conditions. Additionally, the southbound left turns would drop to a LOS "E" and the southbound shared through/left turn movement would drop to a LOS "F" during the PM peak hour under 2013 background conditions. As shown in Table 4, the impact could be offset with minor adjustments in signal timings.

Synchro worksheets for the total future conditions are included in Attachment L.

Table 4
Summary of Intersection Levels of Service with Timing Adjustments

Approach†	2013 Background Conditions		2013 Total Future Conditions		2013 Total Future Conditions (with Timing Improvements)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. Bladensburg Road/V Street/25th Place						
EBLTR	B	C	B	C	B	C
WBLTR	E	D	E	D	E	D
NBLTR	B	B	B	B	B	B
SBLTR	B	B	B	B	B	B
Overall	C	B	C	B	C	B
2. South Dakota Avenue/33rd Place						
EBL	C	E	E	F (119.9)	E	E
EBTR	B	C	B	C	B	C
WBL	B	C	B	C	B	C
WBT	E	C	E	C	E	D
WBR	B	C	B	C	B	C
NBLTR‡	E	F (339.9)	E	F (335.3)	E	F (344.5)
SBL	D	D	D	E	D	D
SBLT	D	E	D	F (81.5)	D	E
SBR	C	C	C	C	C	B
Overall	D	D	D	E	D	D
3. Fort Lincoln Drive/33rd Place						
EBLT	C	C	C	C	C	C
EBR	C	F (85.1)	C	F (105.5)	C	E
WBL	C	C	C	C	C	D
WBLTR	C	C	C	C	C	D
NBL	C	E	B	E	B	E
NBTR	B	B	B	B	B	B
SBL	A	A	A	A	A	A
SBTR	C	C	C	C	C	C
Overall	C	D	C	D	C	D

[xx.x] = unsignalized intersection control delay in sec/veh (xx.x) = signalized intersection control delay in sec/veh

† For purposes of this assessment, South Dakota Avenue was assumed to be oriented in an east-west direction.

‡ This approach is the Goodwill Driveway. With or without the proposed gasoline pumps, the approach would operate at a LOS F.

Table 5
Signal Timing Adjustments Summary at the South Dakota Avenue/33rd Place Intersection

Phase	Approach	Existing Split	Adjusted Split
2	EB	56 sec	54 sec
5	EBLT	17 sec	22 sec
6	WB	39 sec	32 sec
3	NB	10 sec	10 sec
4	SB	34 sec	36 sec

QUEUE ANALYSIS

A queuing analysis was conducted for 2013 total future conditions with the proposed Costco gasoline pumps. The 95th percentile queue lengths were examined. The results are summarized in Table 2 and the queue reports for each of the study intersections are provided in Attachment M.

As shown in Table 2, under 2013 total future conditions, the 95th percentile queues at each of the study intersections would remain within the available storage area. Those queues that exceed the available storage are generally consistent with the background conditions with the exception noted below:

- South Dakota Avenue & 33rd Place – The southbound left-turn AM peak and PM peak queues are approximately one vehicle length longer under total future conditions compared to the background conditions.

PROPORTIONAL IMPACT ANALYSIS

In order to determine the amount of traffic on the surrounding roadways that is attributable to the proposed gasoline pumps, a proportional impact assessment was conducted. That is, the total future traffic volumes were compared to the site generated traffic volumes to determine the impact of adding the vehicular site trips to the study intersections. Table 6 displays the results of the proportional impact analysis.

Table 6
Proportional Impact Analysis

Intersection	AM Peak	PM Peak
Bladensburg Road/V Street/25 th Place	0.2%	0.3%
South Dakota Avenue/33 rd Place	1.4%	2.0%
Fort Lincoln Drive/33 rd Place (site driveway)	10.5%	8.1%

Site impacts of five percent or less are low and generally reflect negligible effects on traffic operations and delays. Site impacts between five and 15 percent generally are considered moderate and minor effects on traffic operations and delays could be expected. Site impacts of more than 15 percent generally are considered significant.

As shown in Table 6, the proportional impact at two off-site intersections is expected to be low or negligible. The proportional impact at the Fort Lincoln Drive/33rd Place intersection, which is a site driveway intersection, is expected to be moderate. As noted previously, the signal timings at the proposed traffic signal at this intersection can be developed to adequately accommodate the future traffic volumes, including traffic generated by the Costco gasoline pumps.

CONCLUSIONS

The conclusions and recommendations of this traffic evaluation are as follows:

- The proposed development is anticipated to generate just 20 new AM peak hour vehicular trips and just 26 new PM peak hour vehicular trips.
- Traffic associated with the proposed development will have a negligible impact on the study off-site study intersections.
- The proposed traffic signal at the 33rd Place/Fort Lincoln Drive/Site Driveway intersection would adequately accommodate the additional traffic associated with the gasoline pumps. When the signal timings for the proposed signal are developed, the traffic associated with the proposed retail center, including the Costco gasoline pumps, should be taken into consideration.
- The proposed development will not require improvements to be made at any of the study intersections; however, slight signal timings adjustments at the South Dakota Avenue/33rd Place intersection would allow the intersection to operate at levels of service consistent with background conditions.

We hope that this memorandum provides you with sufficient information regarding the traffic impacts of the proposed Costco gasoline pumps at the Shops at Dakota Crossing development. Should you require any additional information, please do not hesitate to contact us at 724-933-9010 (or jlmlanovich@mjwells.com) or 703-365-9262 (or pkonda@mjwells.com).

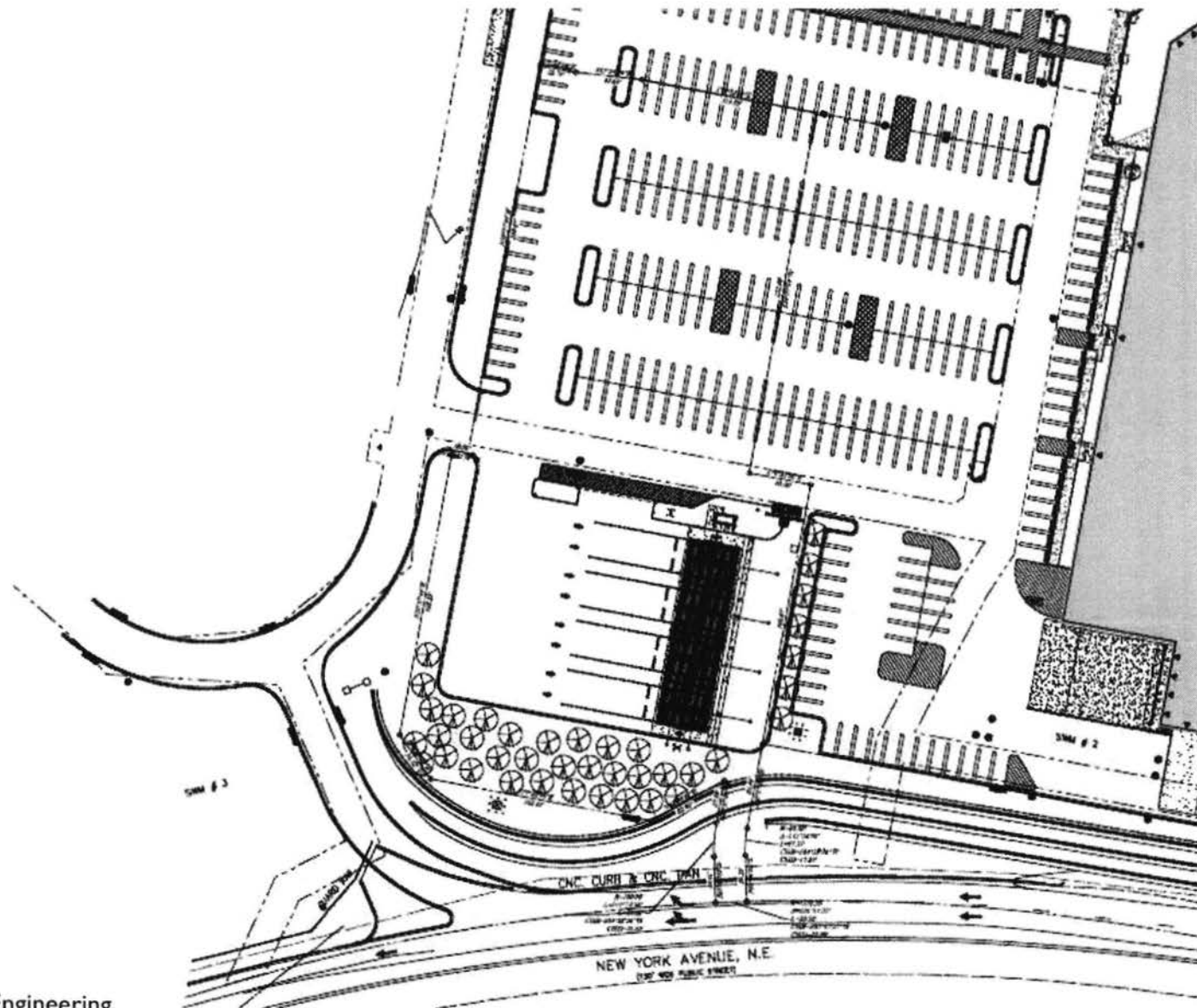


Figure 1
Site Location Map



Costco - Ft. Lincoln
Washington, DC





Source: Bohler Engineering

Figure 2
Reduced SE Plat



Costco - Ft. Lincoln
Washington, DC

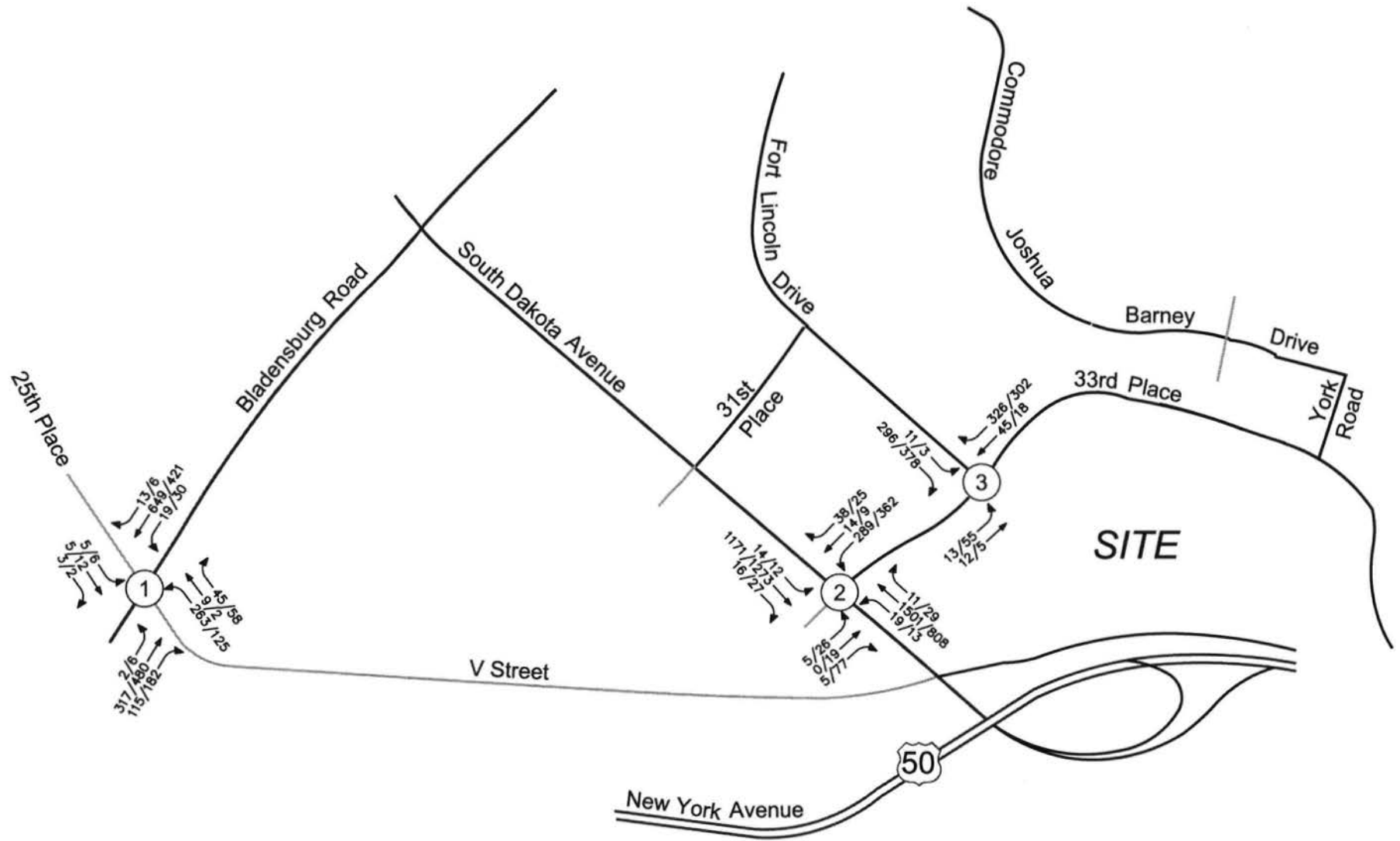


Figure 3
Existing Peak Hour Traffic Volumes

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



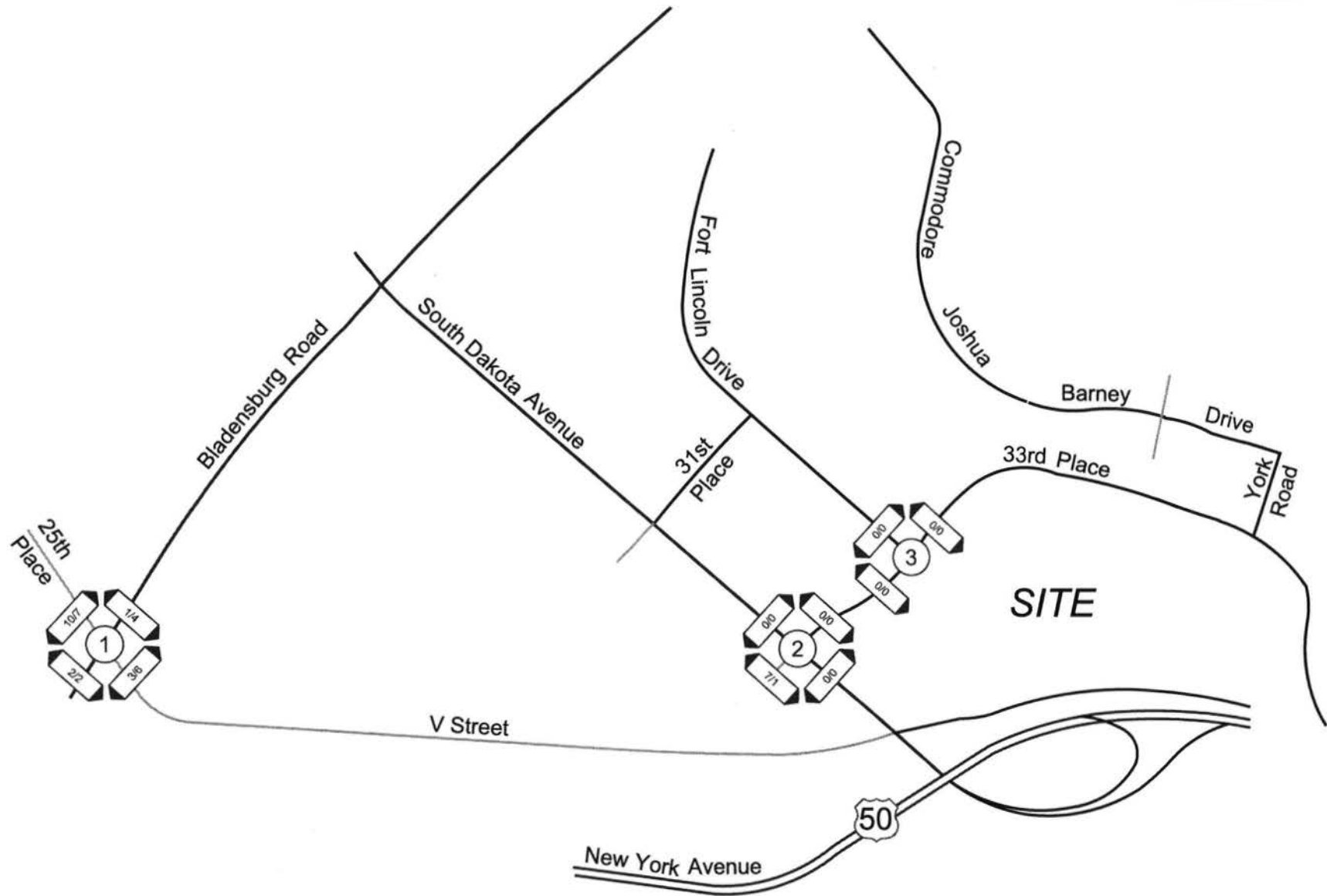


Figure 4
Existing Peak Hour Pedestrian Volumes

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



Wells + Associates

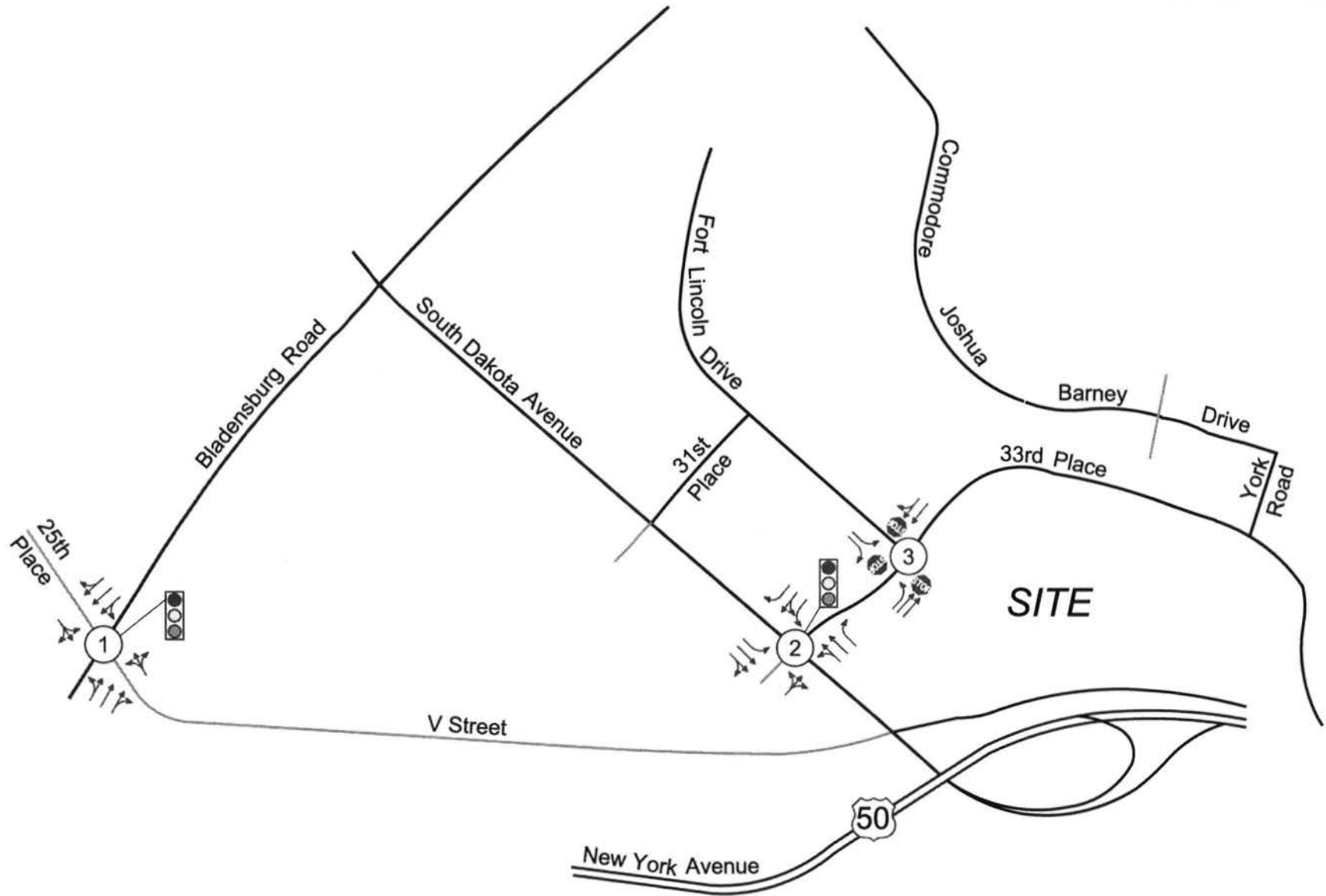


Figure 5
Existing Lane Use and Traffic Control

← Represents One Travel Lane
 Signalized Intersection
 Stop Sign

North

Costco - Ft. Lincoln
Washington, DC

Wells + Associates

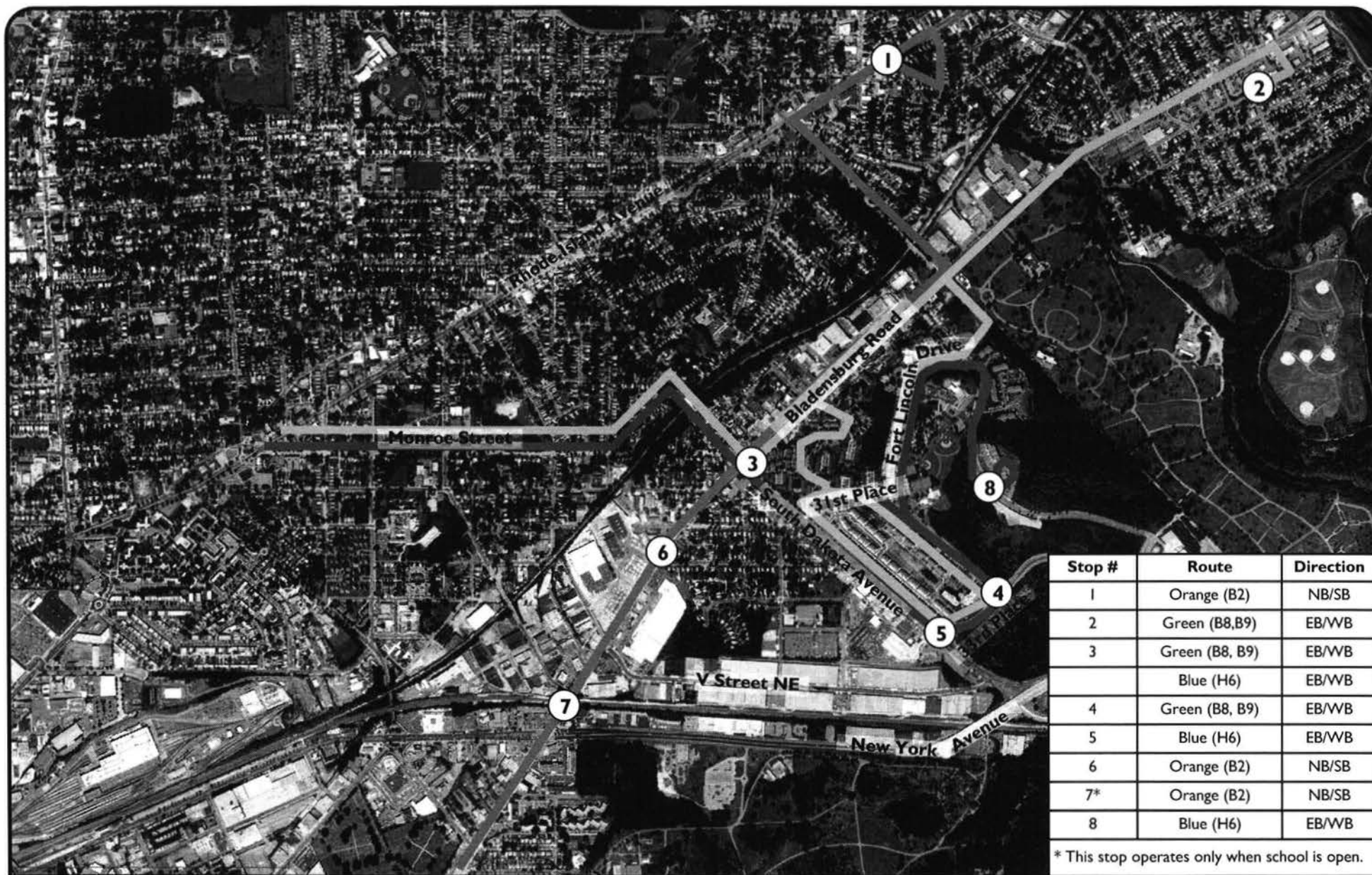


Figure 6
Metro Bus Service



Costco - Ft. Lincoln
Washington, DC

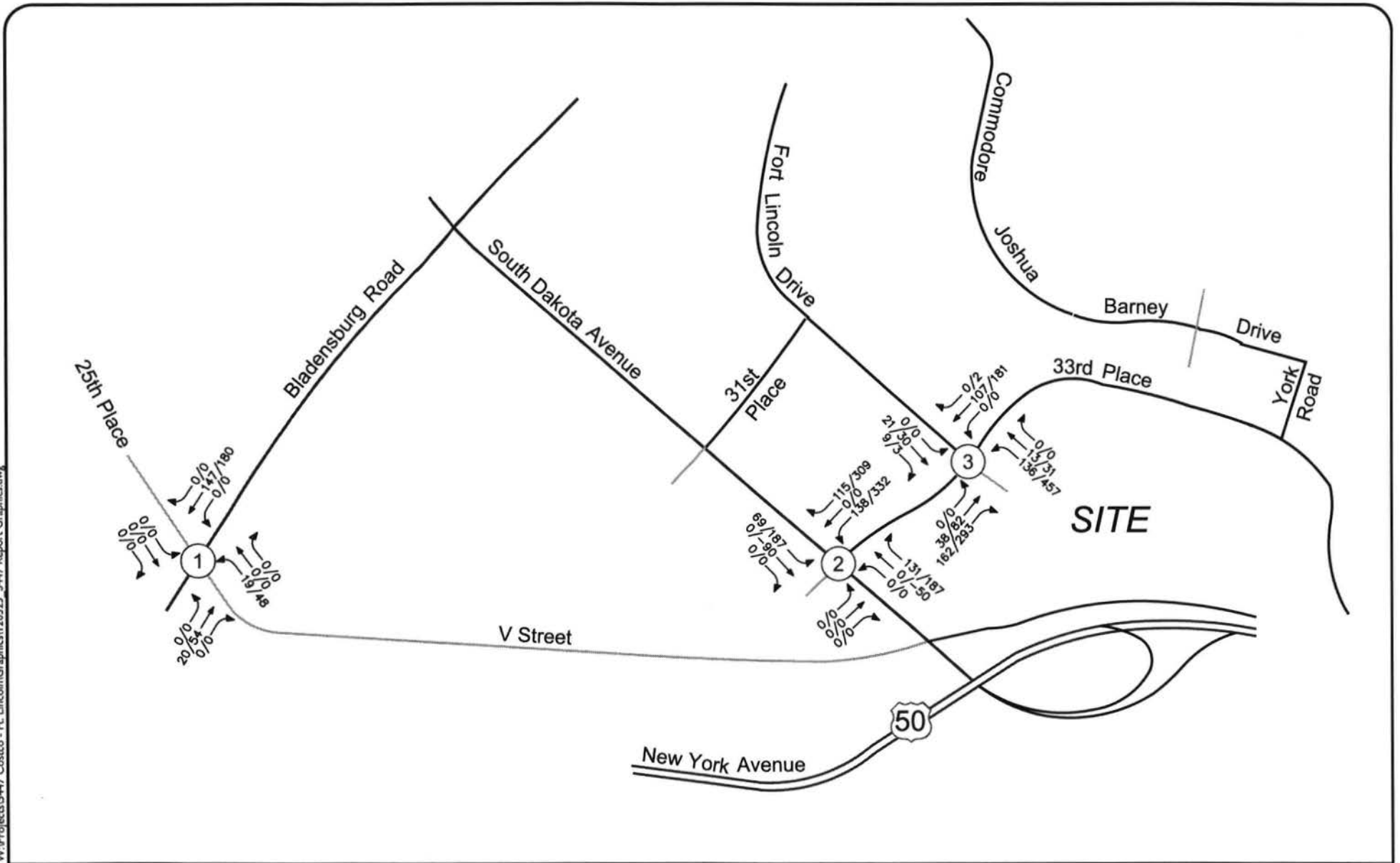


Figure 7
Total Pipeline Trips

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



Wells + Associates

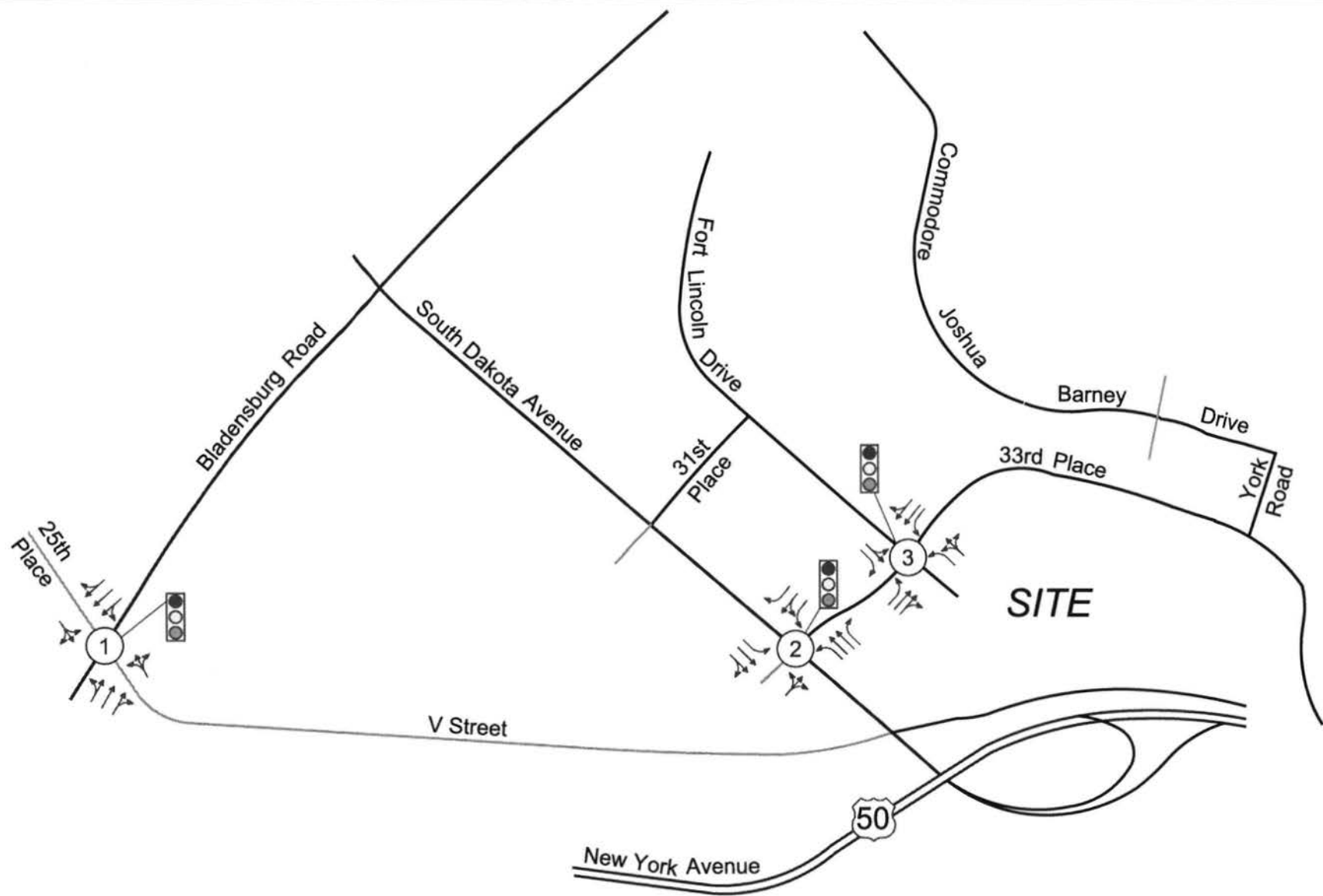


Figure 8
Background Lane Use and Traffic Control

- ← Represents One Travel Lane
- ⬢ Signalized Intersection
- ⊙ Stop Sign



Costco - Ft. Lincoln
Washington, DC

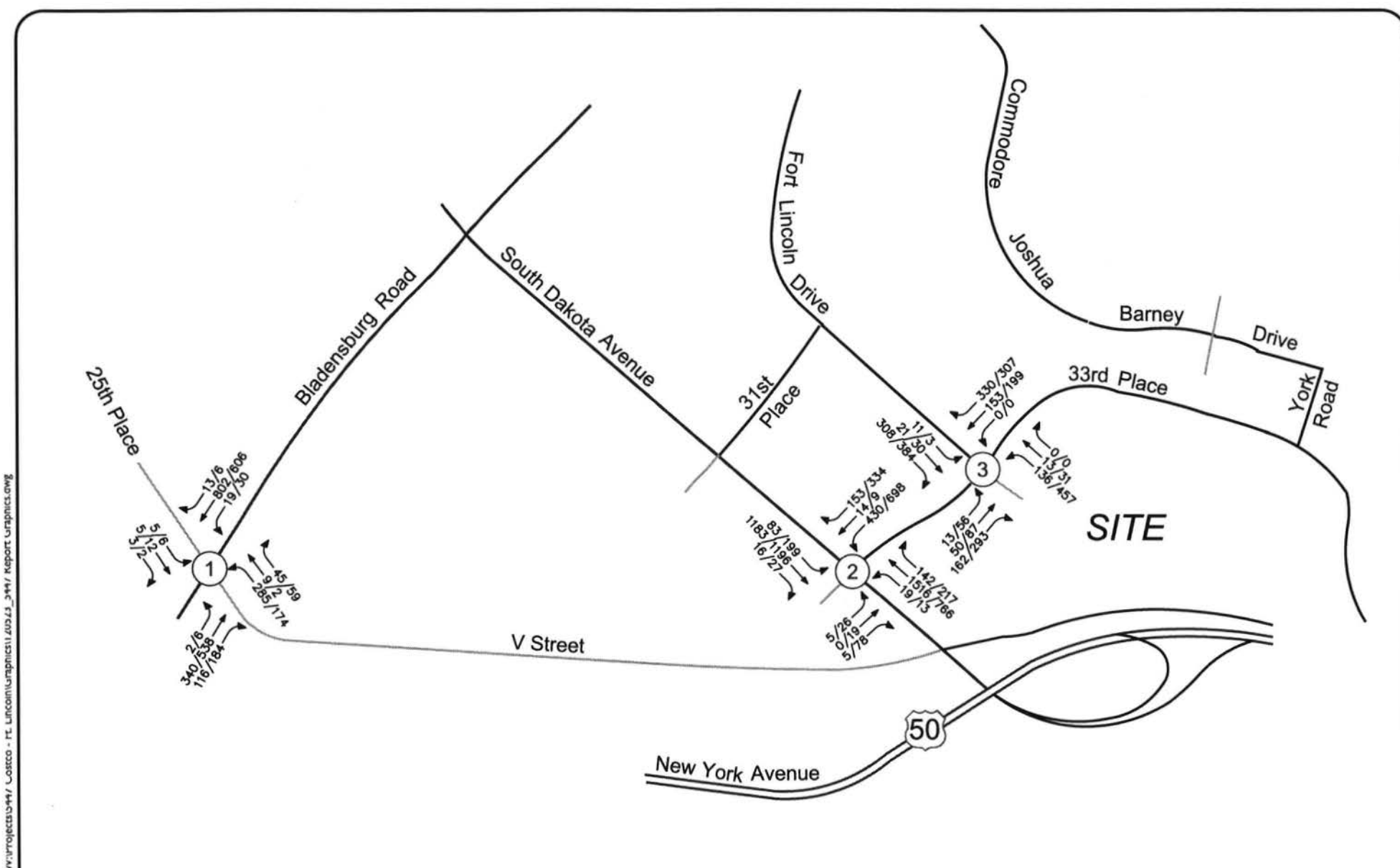


Figure 9
Background Peak Hour Traffic Volumes

Costco - Ft. Lincoln
Washington, DC

AM Peak Hour
PM Peak Hour
000/000



Wells + Associates

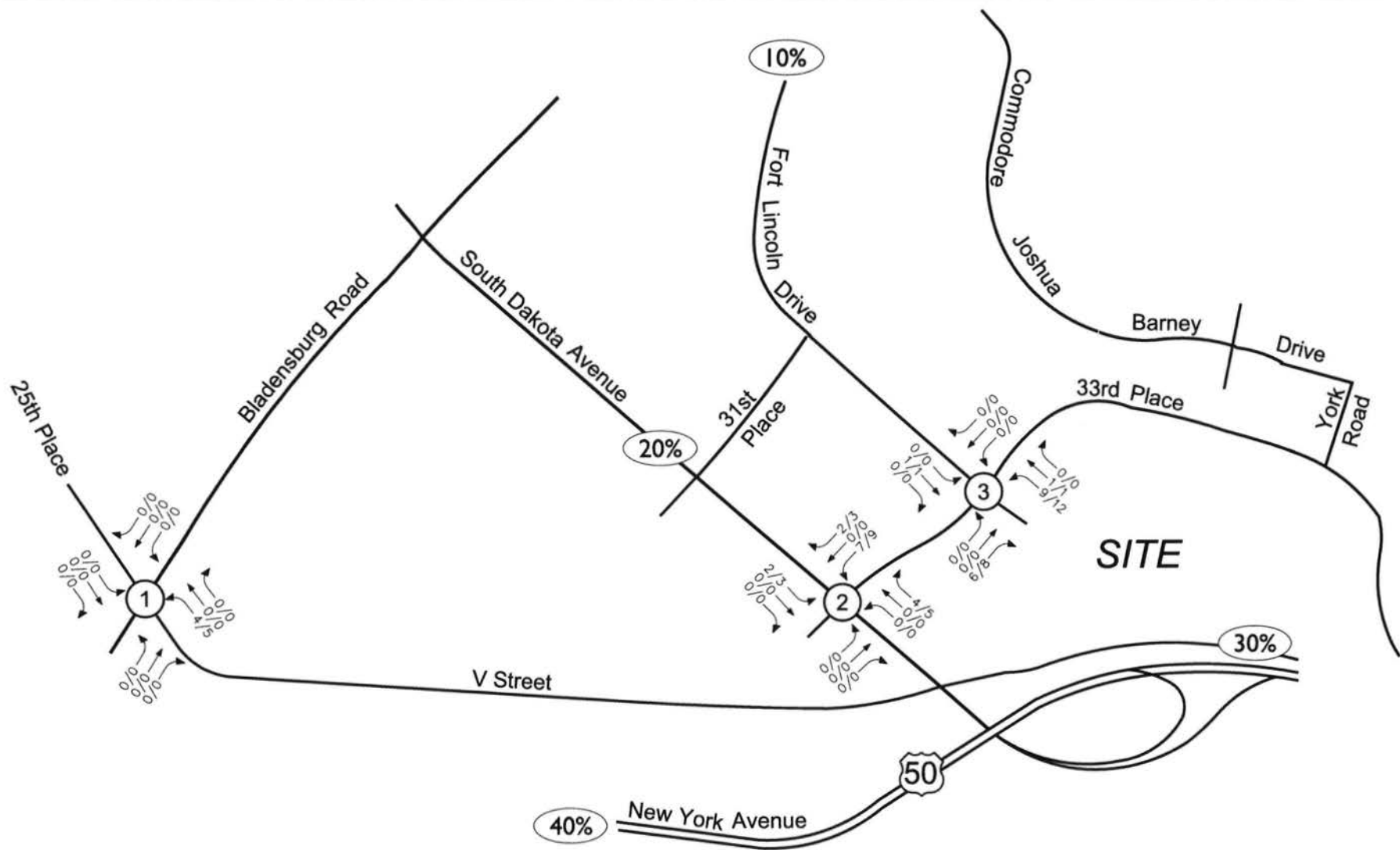


Figure 10
New Site Trips

xx Site Trip Distributions

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



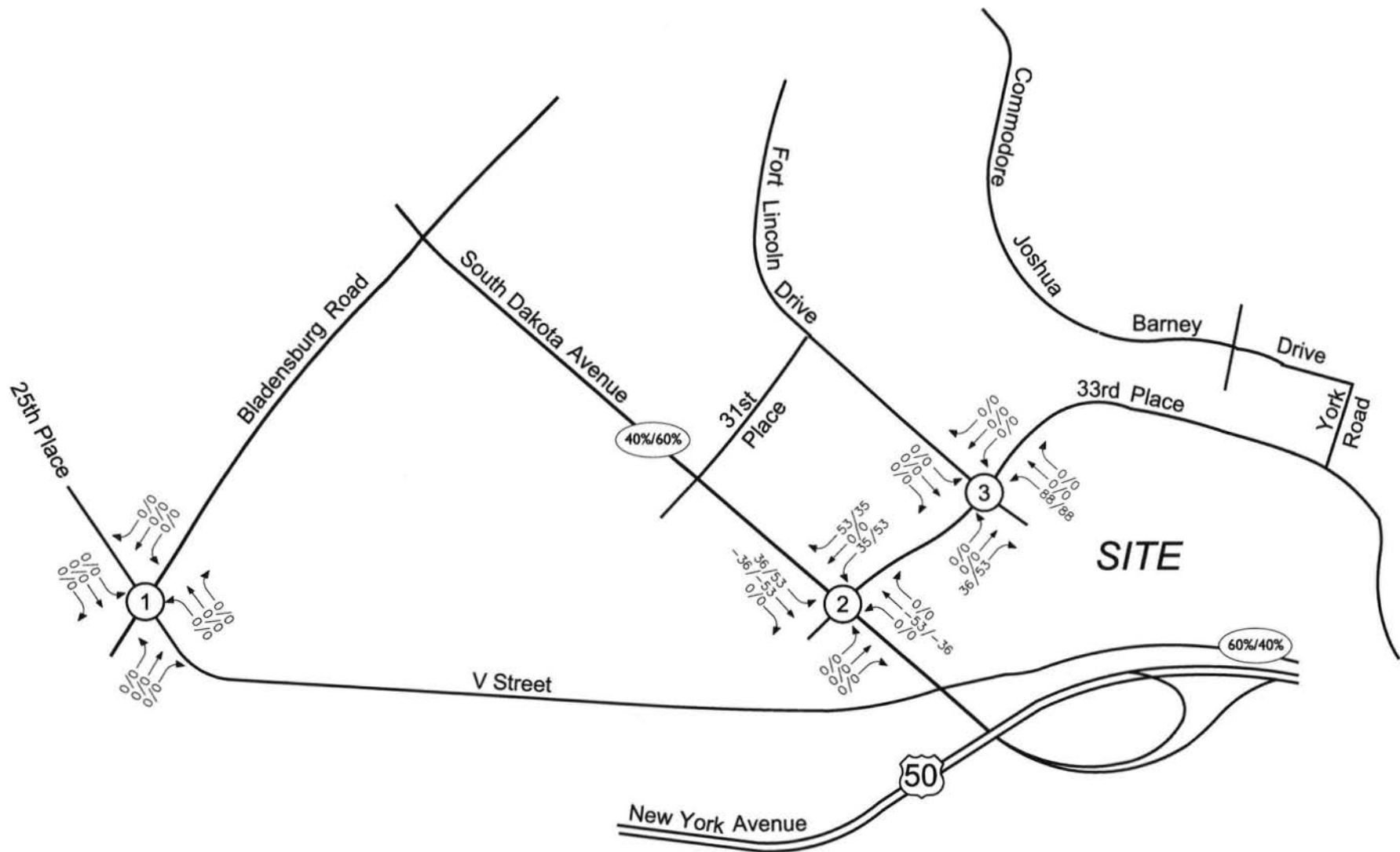


Figure 11
Pass-By Trips

(xx/xx) Pass-By Trip Distributions (AM/PM)

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



Wells + Associates

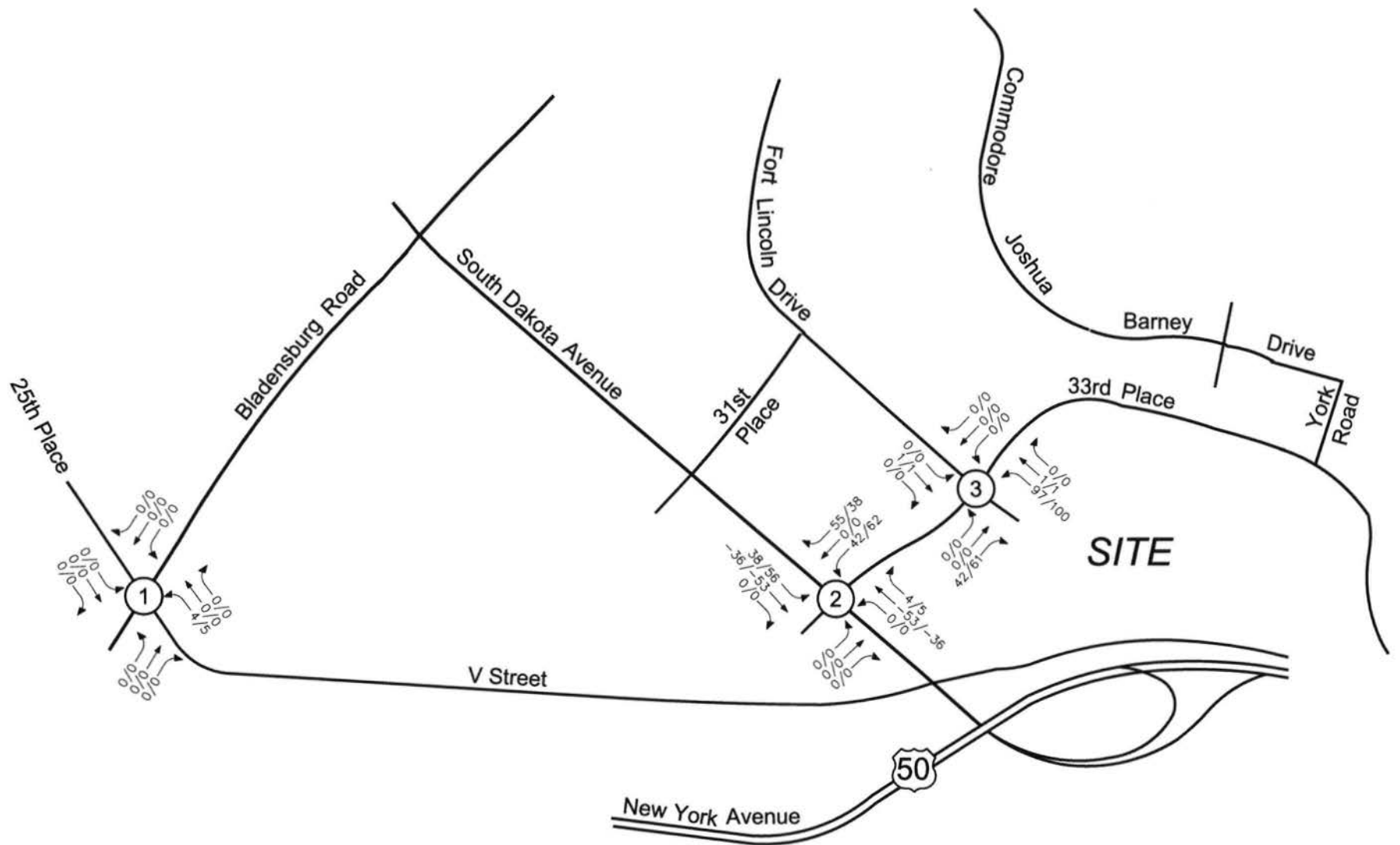


Figure 12
Total Site Trips

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



Wells + Associates

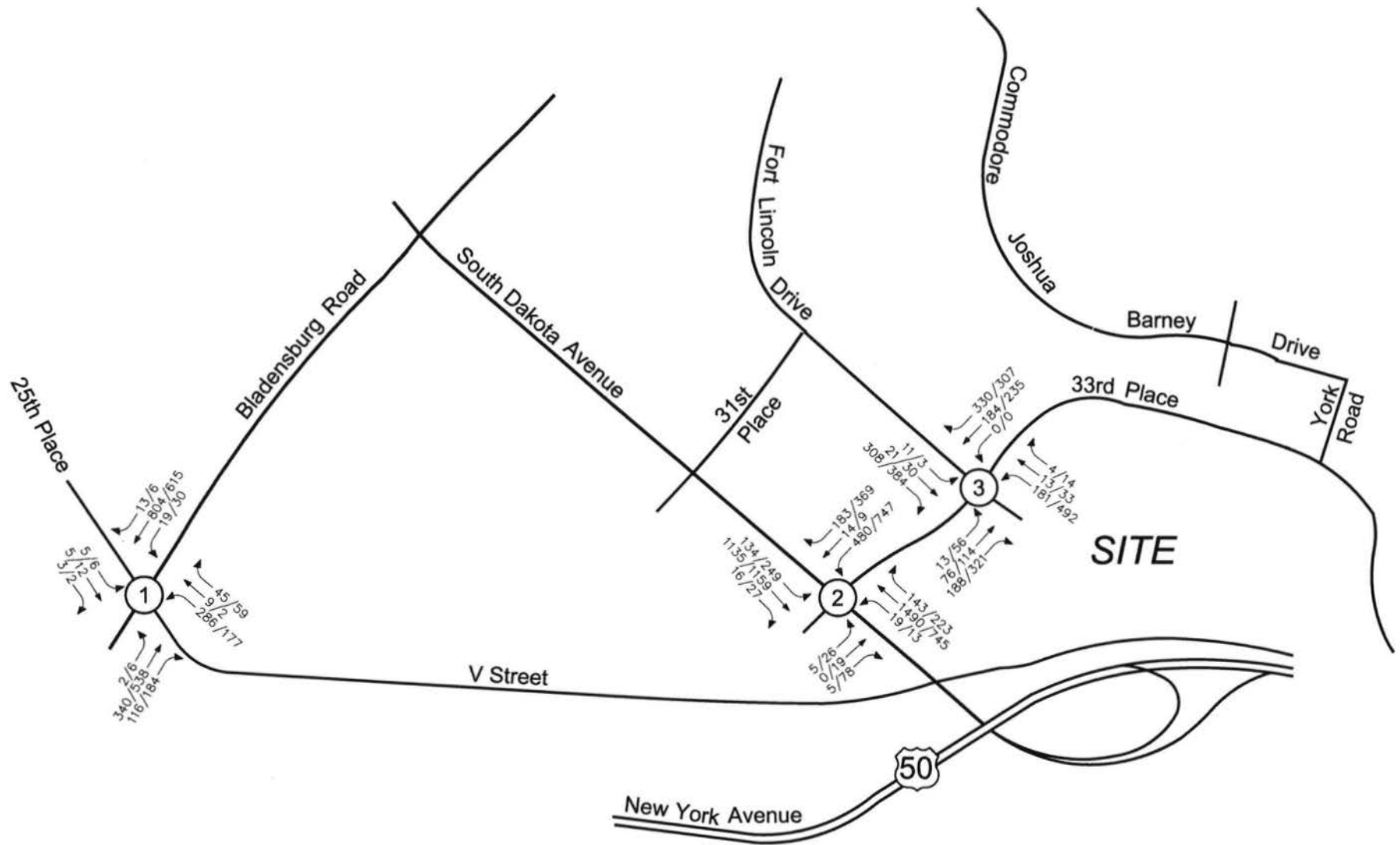


Figure 13
Total Future Peak Hour Traffic Volumes

AM Peak Hour
PM Peak Hour
000/000



Costco - Ft. Lincoln
Washington, DC



Wells + Associates



WELLS + ASSOCIATES

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2013 AUG 28 PM 2:04

MEMORANDUM

TO: James Cheeks, DDOT
Bryon White, DDOT

FROM: Jami L. Milanovich, P.E.
Kyle L. Brown

DATE: August 17, 2012

COPY: Renee Hanson, Costco
Chip Glasgow, Holland & Knight

RE: Comment Response Memo for Costco Wholesale – Fort Lincoln
Washington, D.C.

Wells + Associates submitted a Traffic Impact Analysis (TIA) for the proposed addition of gasoline pumps to a new Costco Wholesale store in June 2012. The Costco Wholesale store previously was approved as part of the Shops at Dakota Crossing development. The Shops at Dakota Crossing development, which currently is under construction in northeast Washington, D.C., generally is bounded by 33rd Place and Fort Lincoln Drive to the north, New York Avenue to the south, and South Dakota Avenue to the west. The new Costco store along with the proposed gasoline station would be generally located in the southeast portion of the Shops at Dakota Crossing development.

The Shops at Dakota Crossing will include an approximately 432,270 square foot (SF) shopping center, including a 154,000 SF Costco and a 65,000 SF supermarket. The subject site currently is zoned C-2-B and is proposed to remain so with the addition of the gasoline pumps, which would be used only by the store's membership. A special exception application to install and operate 16 gasoline pumps as an ancillary use to the approved wholesale store has been filed with the District of Columbia Office of Zoning.

This memo addresses a comment made by Mr. Cheeks in an email to Commissioner Janae Grant on July 25, 2012. Specifically, Mr. Cheeks' comment was as follows:

"We recommend that Wells suggest some additional improvements and mitigation measures to addressing the queuing that will occur at the intersection of South Dakota and 33rd Place."

Table 1 summarizes the queues for the South Dakota Avenue/33rd Place intersection, as presented in the June 11, 2012 memorandum detailing the traffic impact evaluation completed for the Costco Gasoline Pumps. The Synchro reports are included in Attachment A.

Table I
 Summary of Intersection Queues

Approach [†]	Available Storage [‡]	2012 Existing Conditions		2013 Background Conditions		2013 Total Future Conditions		2013 Total Future Conditions (with Timing Improvements)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
South Dakota Avenue/33 rd Place									
EBL	385'	12 ^m	0 ^m	64 [#]	190 ^{m#}	139#	288 ^{m#}	147 [#]	294 ^{m#}
EBTR	>1,000'	488	19	488	538	472	516	478	516
WBL	540'	512	171	20	23	20	22	21	25
WBT	540'			714 [#]	326	674#	307	695 [#]	381 [#]
WBR	275'	6	9	29	50	29	51	31	57
NBLTR	N/A	15	78	20	190 [#]	20	189 [#]	20	191 [#]
SBL	115'	168	284 [#]	310 [#]	380 ^{m#}	343#	413 ^{m#}	312 [#]	407 ^{m#}
SBLT	670'	173	298 [#]	314 [#]	387 ^{m#}	361#	418 ^{m#}	331 [#]	413 ^{m#}
SBR	670'	26	21	66	38 ^m	55#	50 ^{m#}	48 [#]	14 ^m
[†] For purposes of this assessment, South Dakota Avenue was assumed to be oriented in an east-west direction. [‡] All distances measured to nearest intersection or end of turn lane, as appropriate. ^m Volume for 95 th percentile queue is metered by upstream signal. [#] 95 th percentile volume exceeds capacity; queue may be longer.									

It is important to note that the existing left turn queue on 33rd Place **currently** exceeds the available left-turn storage during the peak hours. **This is an existing issue that is not attributable to Costco or the Costco gas pumps.** Furthermore, when comparing future conditions without the gas pumps to future conditions with the gas pumps (and signal timing improvements), the peak hour queues would increase by just two feet (net) during the AM peak hour and by just 27 feet (net) during the PM peak hour. That is, the addition of the Costco gas pumps would amount to approximately one additional vehicle or less in the queue. Since the left-turn queue exceeds the available storage under existing conditions, the additional traffic associated with the gas pumps itself would not cause the turn lane to be exceeded. Finally, although the queue in the left turn lane is exceeded under existing and future conditions, the spillover into the adjacent lane would have a minimal impact on the operations of the intersection. This is due to the fact that the adjacent shared through/left lane, which extends the entire length of 33rd Place, essentially acts as a de facto left turn lane due to the low volume of vehicles traveling straight through the intersection (just 14 vehicles during the AM peak hour and just 9 vehicles during the PM peak hour). That is, the vast majority of the traffic in the adjacent lane also is turning left onto South Dakota Avenue). Therefore, once the exclusive left turn lane is full, traffic would be accommodated in the adjacent lane.

In conclusion, the proposed gas pumps, which are the subject of the pending special exception application that will be heard before the Board of Zoning Adjustment on September 11, 2012, would generate just a fraction of the trips generated by the entire Shops at Dakota Crossing retail development. As shown in Table I, the gas pumps would account for just 3.5 percent of the shopping center trips during the AM peak hour and just 2.3 percent of the shopping center trips during the PM peak hour. As such and as detailed in the Transportation Impact Analysis for Costco Wholesale – Fort

Lincoln (dated June 11, 2012 prepared by Wells + Associates), **the proposed gasoline pumps would not create additional traffic impacts in the Fort Lincoln area.**

Table 1
Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Shops at Dakota Crossing ¹ (excluding Gasoline Station)	349	208	557	543	559	1,102
Costco Gasoline Station ²	10	10	20	13	13	26
Percent Attributable to Gasoline Station³	2.7%	4.6%	3.5%	2.3%	2.3%	2.3%
¹ From The Shops at Dakota Crossing Transportation Impact Study conducted by Wells + Associates, August 2008. ² From Transportation Impact Analysis for Costco Wholesale – Fort Lincoln conducted by Wells + Associates, June 11, 2012. ³ Calculated by dividing the number of trips associated with the Gasoline Station by the total number of trips (trips associated with the Gasoline Station + trips associated with the Shops at Dakota Crossing).						

We hope that this memorandum provides you with sufficient information regarding the traffic impacts of the proposed Costco gasoline pumps at the Shops at Dakota Crossing development. Should you require any additional information, please do not hesitate to contact us at 724-933-9010 (or jmilanovich@mjwells.com or klbrown@mjwells.com).



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D.C. OFFICE OF ZONING

**Costco Gasoline
Fuel System Features
Dakota Crossing, Washington D.C.**

2013 AUG 28 PM 2: 04

Operation Safety Features:

- Costco is operated as an attended self-serve facility. An attendant is on-site at all times that the station is open to assist the customers and monitor the operations for safety and security.
- Employees are trained to identify maintenance requirements and physically inspect the islands regularly. Training includes:
 - Emergency/Spill response procedures
 - Nozzle function and operation
 - Safety equipment checking such as breakaways, shear valves, fire extinguishers and monitoring system diagnostics
- Fuel Dispenser Safety Devices:
 - Automatic shutoff shear valves
 - Nozzle Breakaway devices
 - Internal fire extinguishers
 - Liquid Leak Detectors
- The slabs and sumps are sealed to prevent surface leakage into the ground. A special petroleum resistant sealant developed by Prevention Technologies (Pti) petroleum is used.

Petroleum System Design Features:

Costco utilizes the industries best available petroleum handling systems at their sites. Their petroleum systems exceed federal, state and local requirements for pollution prevention and fire safety.

- Tanks are double walled fiberglass with hydrostatic monitoring system. The interstitial space is filled with a liquid solution and is sealed with a liquid level sensor. This system monitors minute changes in liquid level of the tank's secondary containment. This is superior to a dry annular in that a breach in either wall is detected. With a dry annular, unless groundwater is present, you may not know if the secondary is breached.
- Exceeds current Federal leak detection monitoring requirements. If the product piping system detects a failure of 0.1 gallons per hour (GPH) test, the line is automatically shut down and the alarm is activated. Federal requirements is a minimum of 3 GPH

- Monitoring System includes visual/audible alarms and will shut down the entire system in case of power failure or leak
- Alarm system monitored by an independent security company in addition to on-site audible and visual alarm notifications
- Emergency shutdown stations through the site per fire code requirements
- Flexible piping connections are used at the termination of all product, vapor and vent piping to prevent rupture from ground movement. These flexible connectors are contained in sumps that are monitored. The sumps are made of sturdy fiberglass materials that resist underground conditions and corrosion.
- Product piping is continuously monitored with a pressure line leak detector (PLLD) for the primary pipe. This leak detector senses minute losses in pressure on the primary system and goes into an alarm and slowdown and ultimately shut down of the system to prevent a continued loss of product. The product piping is also a double walled system. The annular space is continuously monitored by a probe in the sump. The piping is sloped back to this sump and so any product or water that enters the annular space is conveyed to the sump for detection. The probe is a discriminating sensor that can detect either product or water. If the sensor detects liquid, a shutdown of the system will occur. In addition, the containment sumps are equipped with a fire suppression system that is activated if a fire ever occurs.
- Dispenser sumps are installed under each dispenser and also monitored with a probe that detects liquid. These will also shut the system down if liquid is detected. Also included in this sump is a fire suppression system that is activated if a fire ever occurs.
- The fill and vapor connections at the tanks utilize spill buckets to capture any potential product leakage from the tanker disconnect. The hoses on the delivery trucks are cam locked to the fill and the hose is emptied entirely before disconnect so the likely hood of leakage at disconnect is rare but the spill bucket will capture up to five gallons in the event of lingering product. A valve then lets the product into the fill riser to clear this bucket. The fill and Vapor recovery risers are also contained in a sump. This sump is also monitored with a probe for the presence of liquid. The code allows direct bury of these fill risers but Costco voluntarily uses the secondary sump for maintenance and added

environmental protection. In addition, the containment sumps are equipped with a fire suppression system that is activated if a fire ever occurs.

- The vent and vapor lines are protected from handling product in the unlikely event of an over-fill. Over-fill prevention to meet EPA's requirements of the tanks is handled in the following way.
 - First, the driver will not deliver product to the tank unless there is capacity in the tank to completely off-load the product and drain the hose. The tank is equipped with an automatic tank level gauge which is part of the stations main monitoring system. The delivery driver accesses the monitoring panel and prints out of the capacity of the tank. If there is capacity he delivers, if not he either waits for capacity to become available or reschedules. This level gauge also has a feature that sounds an alarm audible and visual to the driver telling him he is near capacity at 90%.
 - As a secondary measure a ball float is used to shut off the passage to the vent and vapor lines. This is set at 95% to provide a secondary measure of stopping the delivery flow into the underground tank.
- The UST's are anchored regardless of groundwater conditions. It is Costco's policy that tanks should be anchored to assure themselves that any potential for buoyancy is negated. The hold down system employs concrete beams at the bottom of the tank hole and a strapping system is used secure the tanks. The tanks themselves are reinforced at the hold down locations to prevent and damage to the tanks due to ground motion. In liquefaction prone areas a hold down slab is employed to prevent differential settlement.

Vapor Recovery System

- Phase I Enhanced Vapor Recovery (EVR) air pollution control equipment for the filling of the gas tanks by tanker truck
 - A two point system is employed to capture the vapors at the filling operation. The tanker is equipped with a vapor recovery hose that is attached to the truck and secondary riser port. This hose is continuously gathering vapors during the filling operation and returning them to the transport truck. The system is extremely efficient in capturing vapors and it is likely that the capture rate is 100% but the manufacturers and Air Districts conservatively assume 98%.

- A pressure/vacuum vent cap is used to prevent the free escape of vapors to the environment. In most cases the pressures in a tank are managed in the free space within the tank and lines themselves so a vent release is avoided, however for safety the vent cap has a valve that will release the pressure before any damage can occur to the system. A secondary pressure management system is discussed below that also prevents the escape of vapors during filling.
- Phase II Vapor Recovery air pollution control at the fueling dispensers for customer fueling.
 - This is a vacuum system that collects the vapors during the filling of vehicles. As with the Phase I system above, the vapors are collected except in this case via aspirator opening in the nozzle. The nozzle has a shield that blocks off the open area around the fill pipe. When fueling begins, the shield is drawn to the fill pipe by the vacuum and the vapors are returned to the tank.
 - To manage the additional pressure experienced by the tank from the vacuum system, a back-end processor unit is used. The system is called the Arid Technologies "Permeator". This system compresses the excess vapors and cools them down until they are condensed into liquid form. The condensate then returns back to the tank versus become a fugitive emission through the vents. Any vapors not fully condensed are pushed through a membrane within the processor, which will strip away the pollutants, condense them and release fresh air as necessary. The system is also very efficient with a conservative return rate of 95%.
 - Per newer government emissions regulations, the automobile manufacturers currently equip vehicles with On-Board vapor recovery (ORVR) systems to limit fugitive emissions during fueling operations. The proposed fueling equipment employs "smart nozzle" technology which will limit the station's vapor recovery function while fueling newer vehicles with ORVR, and automatically switches to full vapor recovery operation when it senses that a vehicle is not equipped with ORVR.

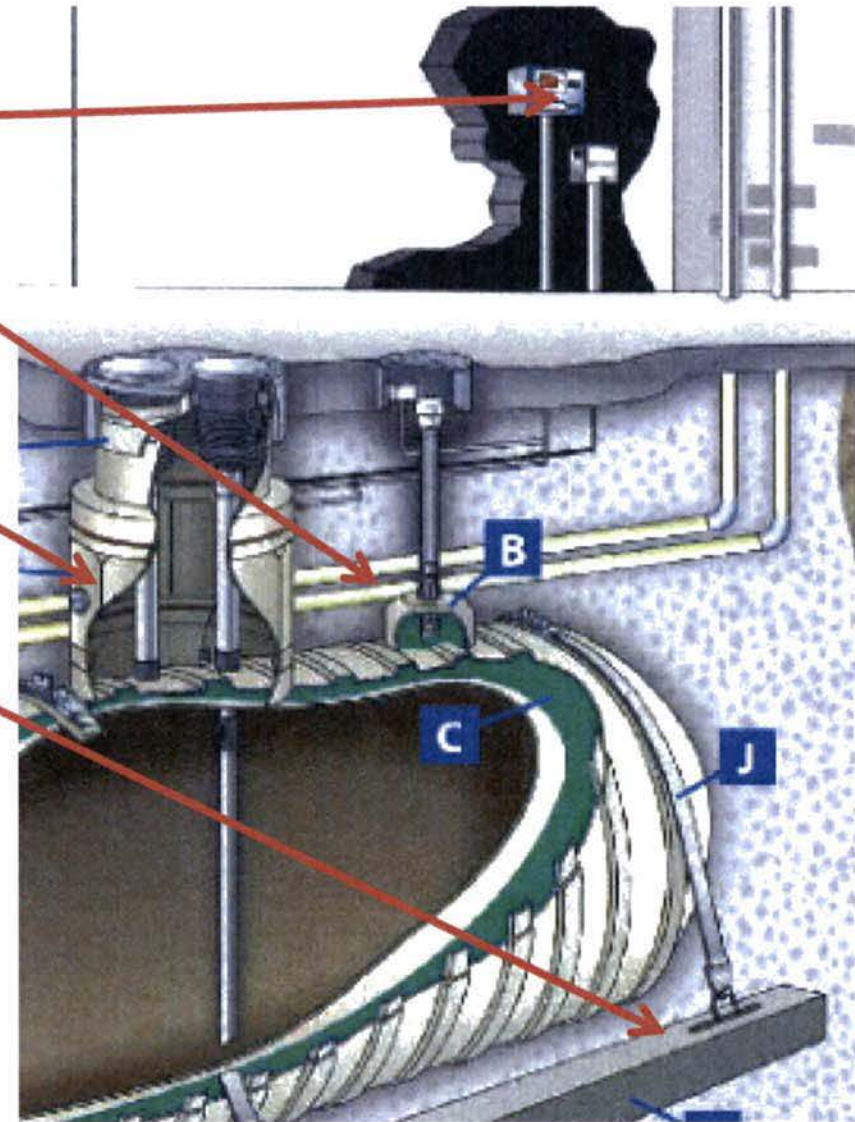
Operations Safety Training

- Costco is operated as an **attended** self-serve facility.
- An Attendant is on-site at all times that the station is open to assist the customers and monitor the operations for safety and security.
- Costco Gasoline Facility Attendants must first pass an interactive training program and test prior to working at the facility.
- Training program is continually improved with lessons learned and employees training is frequently refreshed.
- Training includes:
 - National Fire Protection Agency (NFPA) and American Petroleum Industry (API) required and recommended practices for fire and spill prevention.
 - Emergency/Spill response procedures
 - Hose and Nozzle function and operation for EPA requirements
 - How to identify, report and confirm equipment throughout the facility requiring maintenance has been fixed or replaced prior to placing it back in service.
 - Safety equipment operation and maintenance including but not limited to breakaways, shear valves, fire extinguishers, monitoring system diagnostics, leak detectors, alarm systems and emergency shut-offs

Petroleum System Design Features

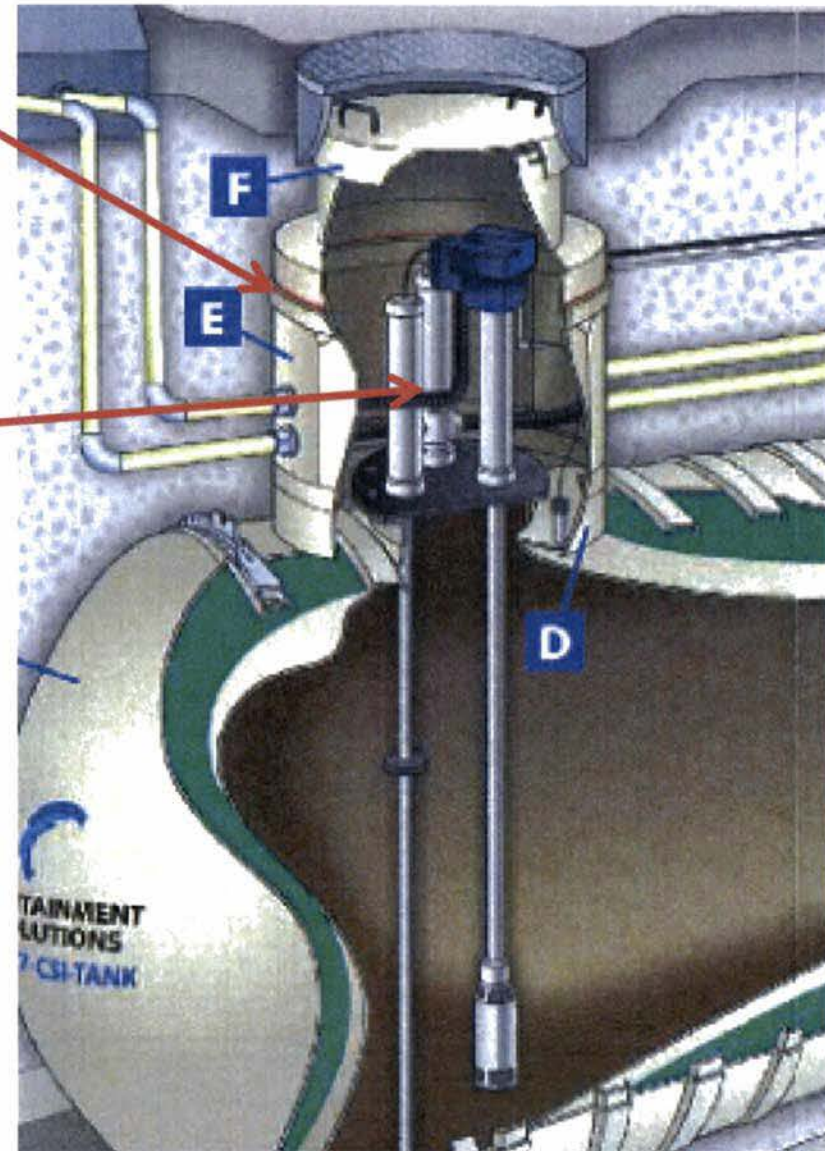
Tanks

- Underground tanks are double walled fiberglass with hydrostatic monitoring systems.
- UST's use integral collars for secure sump connections with lids
- The UST's are anchored regardless of groundwater conditions.
- UST's designed with adequate safety factors for installation in Seismic conditions up to zone 4.



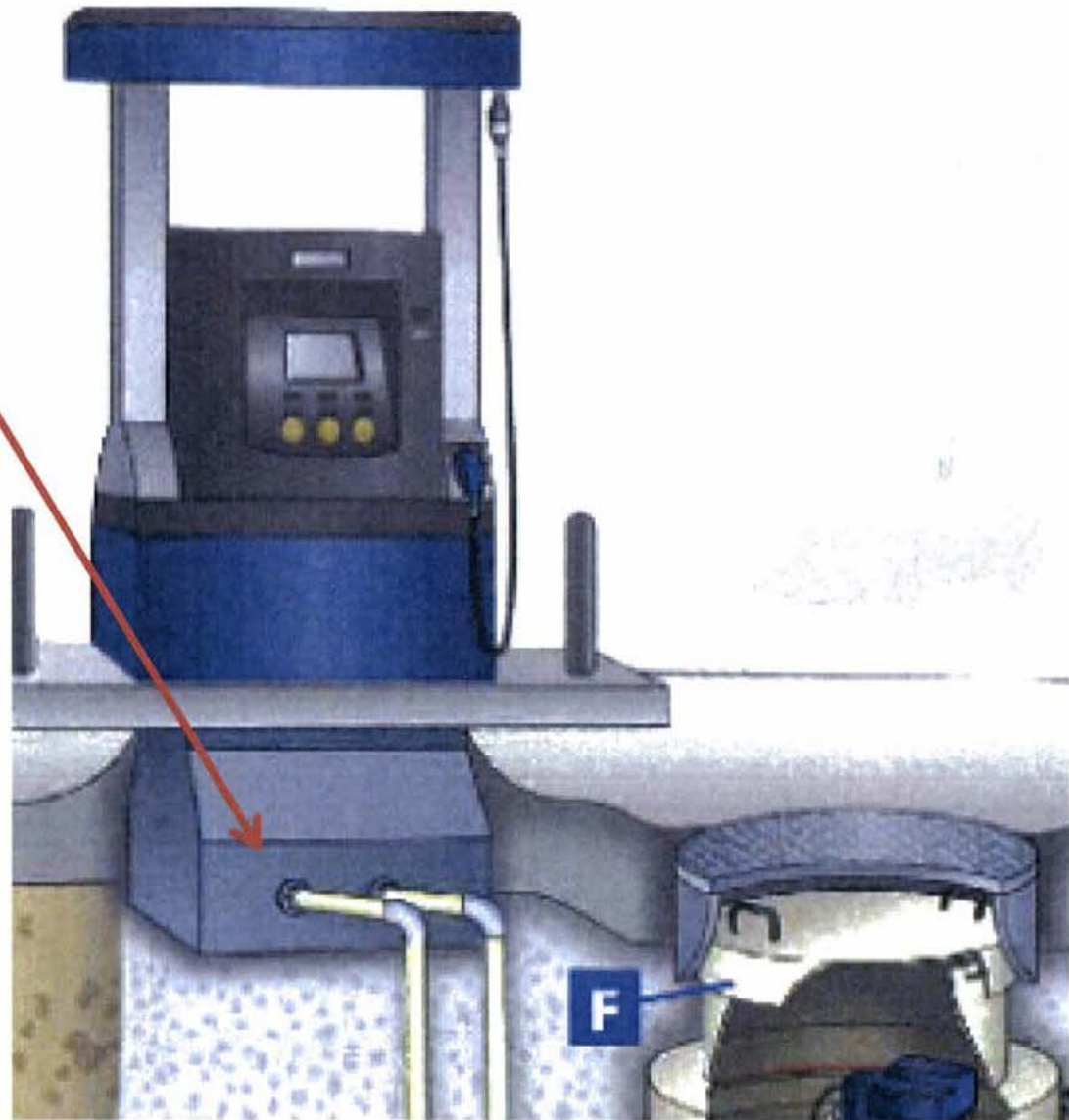
Piping

- Product, Vapor and Vent piping is secondarily contained and designed to drain back to piping sump for continuous monitoring.
- Piping systems designed for flexibility to avoid rupture in a seismic event. Flexible connections at each transition to grade and within sumps. The fiberglass piping itself is flexible with allowable deflection of 1.3 inches in 60



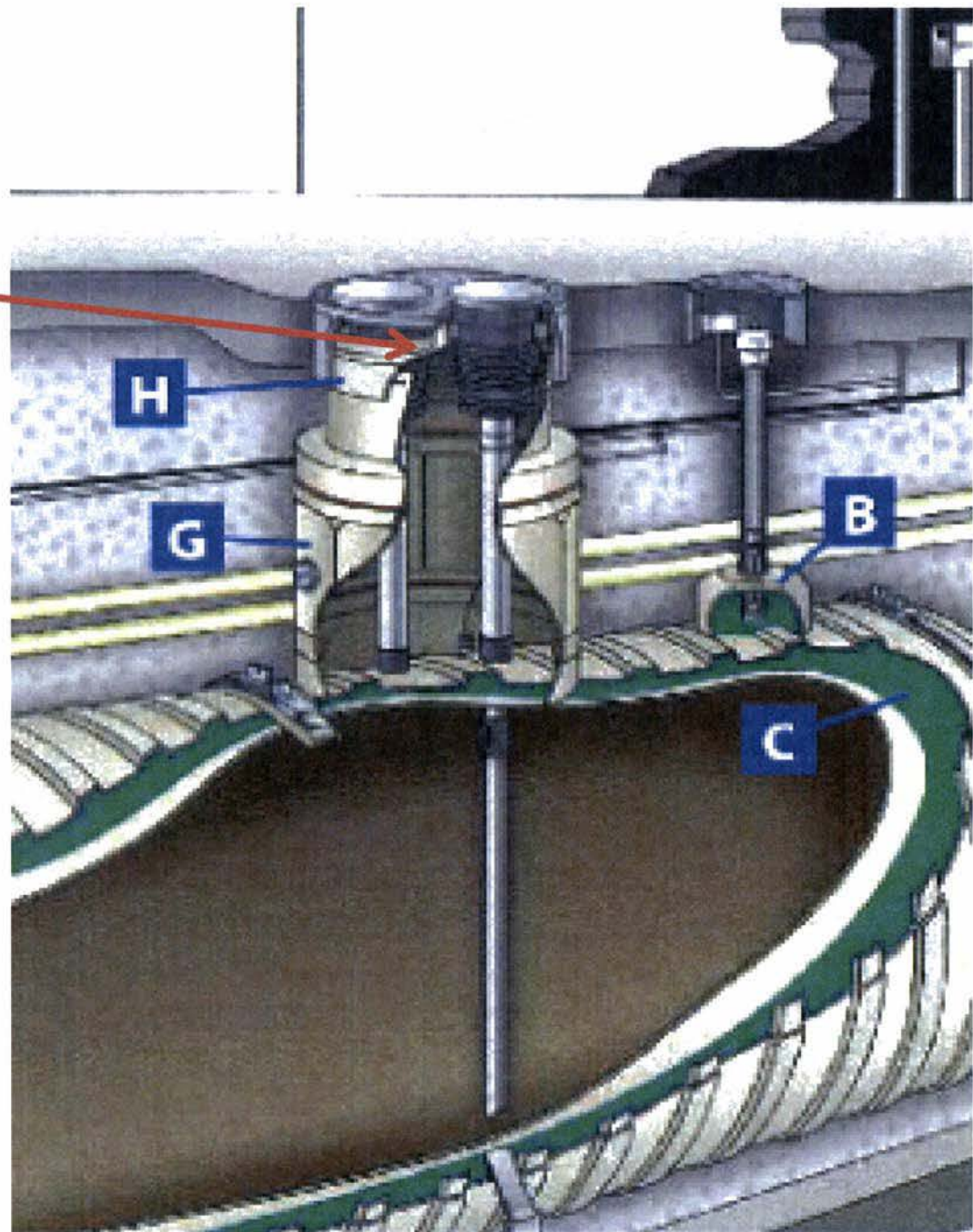
Dispenser sumps

Dispenser sumps are installed under each dispenser and also monitored with a probe that detects liquid.



Fill Sumps

The fill and vapor connections at the tanks utilize spill buckets to capture any potential hose retention and these risers are contained in a monitored sump.

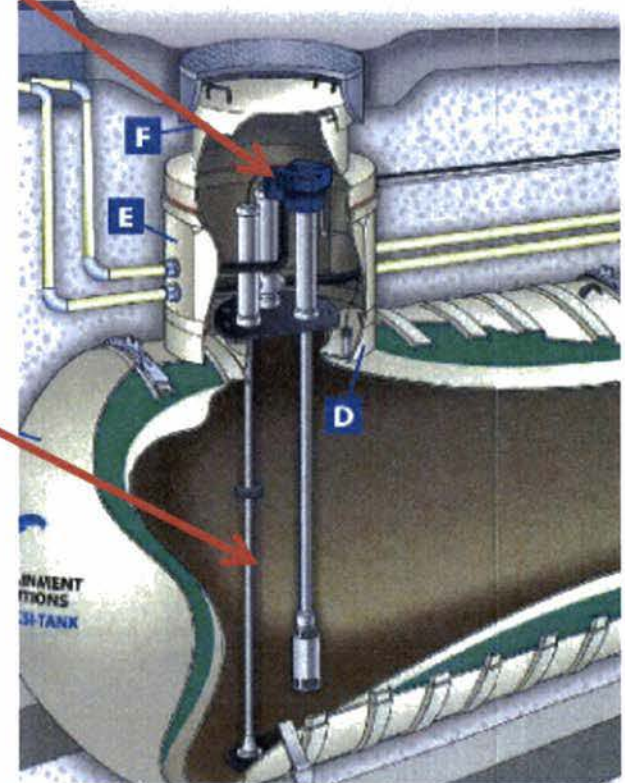


Leak Detection Monitoring Systems

- Costco's Tank and Piping Systems both, primary and secondary containment, are continuously monitored with leak detection monitoring systems that meet and/or exceed the EPA, State and Local Requirements.
- Systems include visual/audible alarms and automatic shut down of the affected system or the entire system in case of power failure or detected leak.
- The Alarm System is monitored by independent security company in addition to on-site audible and visual alarm notifications.
- Redundant monitoring systems are used as a added measure of leak detection, overfill and spill prevention .

Leak Detection Monitoring Systems Continued

- Redundant monitoring systems include:
 - Pressure Line Leak Detector (PLLD) Exceeds current State and Federal line leak detection monitoring requirements. If the product piping system detects a failure of a 0.1 gallons per hour (GPH) test, the line is automatically shut down and the alarm is activated. Federal and State requirements allow 3 GPH.
 - Automatic Tank Gauge (ATG) exceeds EPA required manual tank Gauging and reconciliation.
 - Backfill monitor ports are installed in the tank excavation to monitor liquids in the backfill.



Emergency/Spill Response

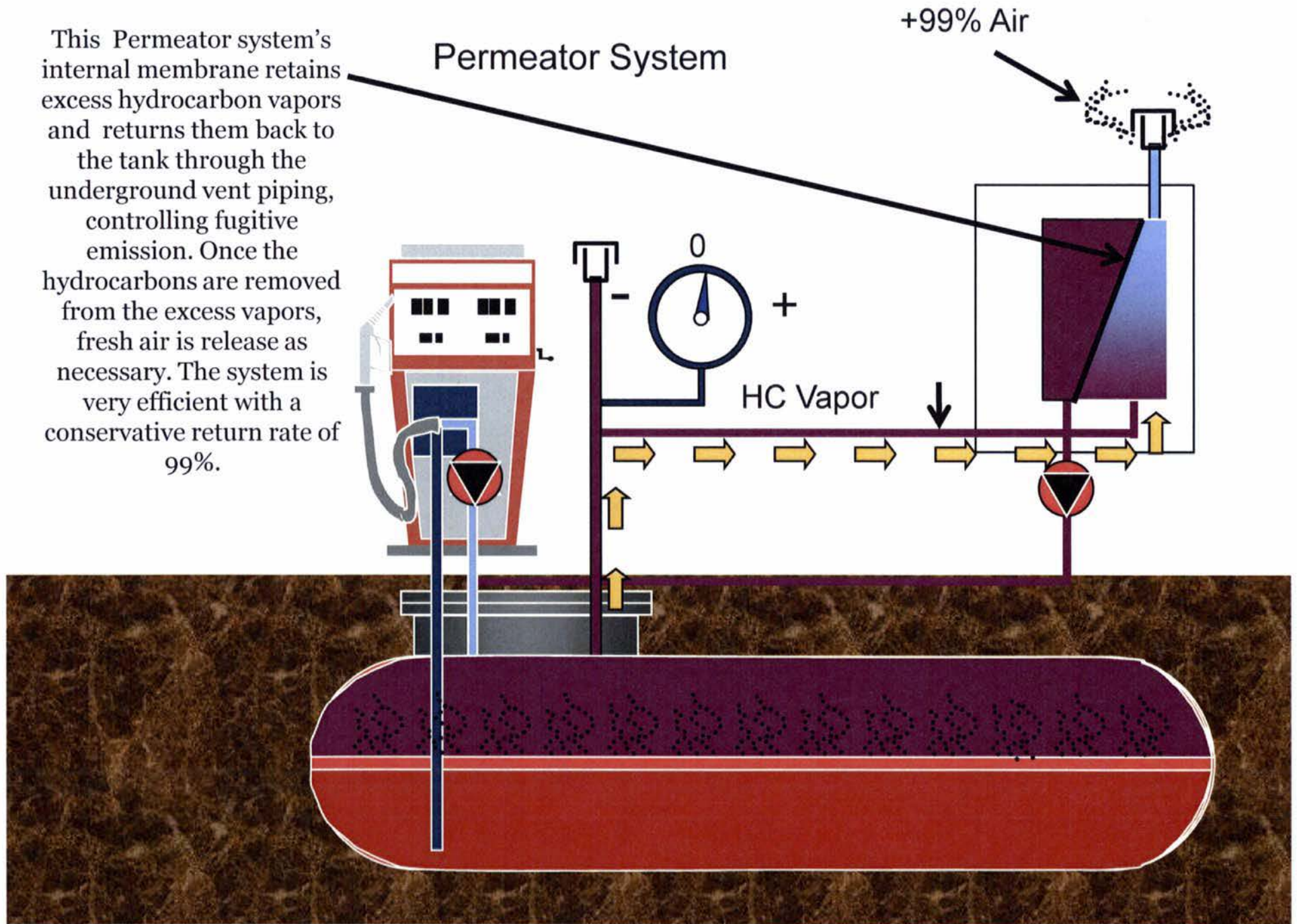
- All Costco attendants are trained in emergency and spill response procedures per NFPA Requirements and API Standards.
- Emergency Shut Offs are located throughout the facility in plain site of the attendants and customers
- A direct hard connection to Emergency dispatch via “911 telephone” accessible to the customers, mounted on exterior of control enclosure.
- Small On-site spills are controlled by the attendant using a cleanup kit that includes Personal Protection Equipment (PPE), neutralizing absorbent materials and hazardous waste containers. The neutralizing absorbent material used is FM 186 and disposed of properly
- In the unlikely event of a larger spill, (in excess of 5 gallons) The attendant is trained to contain the spill and block off the storm basins prior to it entering any storm water facilities. Containment booms and CB mat covers are located on site

Vapor Recovery and Control of Fugitive Emissions

- Stage I Vapor Recovery . Costco **Dual Point** vapor recovery equipment meets the EPA, State and local requirements for Stage I air pollution control for the filling of the gas tanks by tanker truck. The system is a balance system and extremely efficient (95%) in capturing vapors during the filling operations. The dual point system is easier to maintain than the common coaxial.
- Costco Utilizes **Vacuum Assisted** Phase II Vapor Recovery System to collect the vapors during the filling of vehicles. This is a superior system to the balance system since it eliminates the awkward bellow boot which is easily short circuited by customers pulling back the boot.
- Costco controls fugitive emissions to near zero from the vents with the use of **Arid Technologies “Permeator”**. **The Permeator is a form of Enhanced Stage II Vapor recovery system** that exceeds minimum EPA, State and Local Air Quality requirements.
- By 2013 it is expected that a majority of the US will be effectively penetrated with vehicles equipped with On Board Vapor Recovery Systems (ORVR). A canister on board of a vehicle to recover vapors during filling.
- The ORVR system is expected to nearly cancel fugitive emissions from the filling operation at Stage II

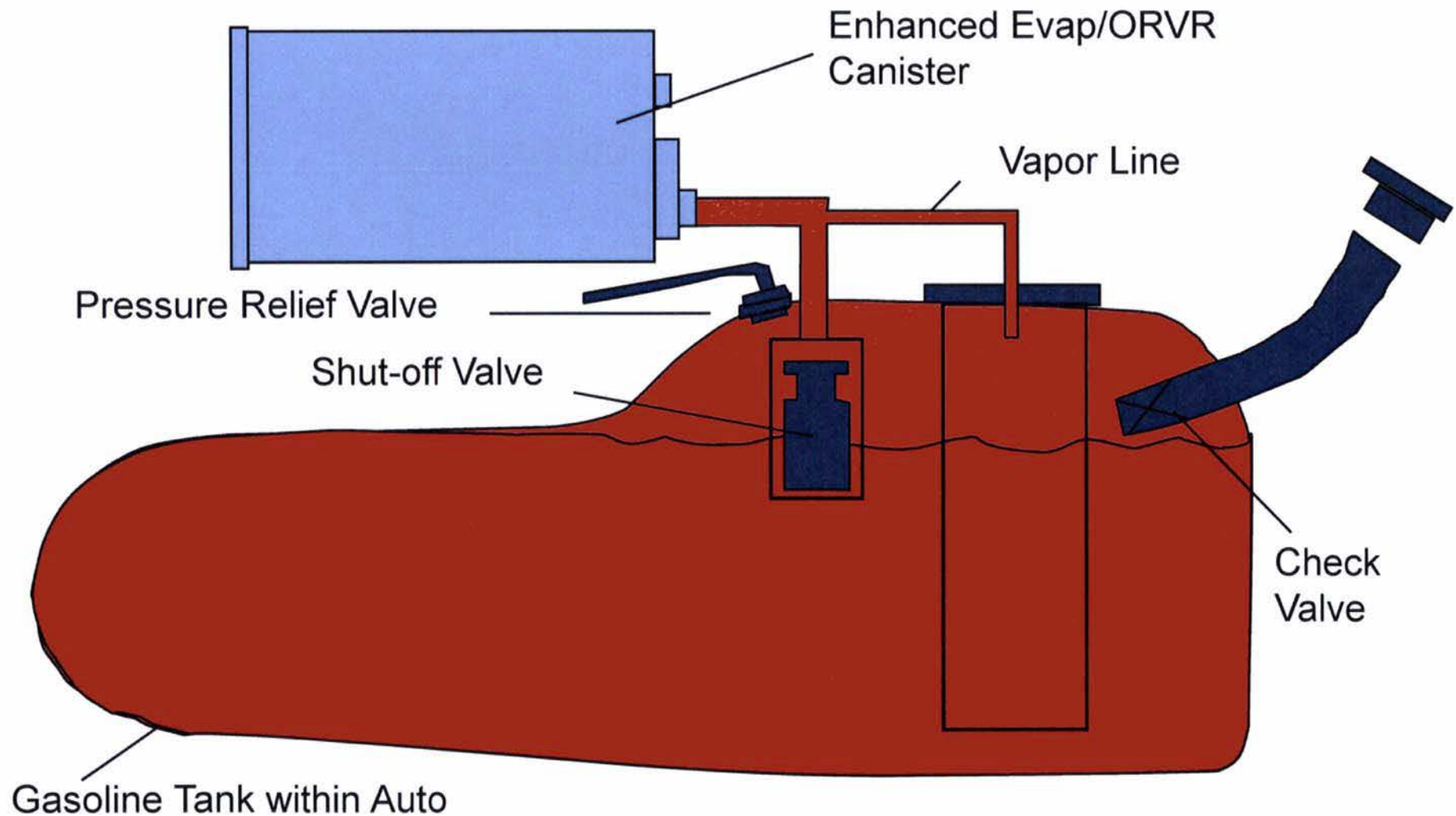
This Permeator system's internal membrane retains excess hydrocarbon vapors and returns them back to the tank through the underground vent piping, controlling fugitive emission. Once the hydrocarbons are removed from the excess vapors, fresh air is released as necessary. The system is very efficient with a conservative return rate of 99%.

Permeator System



ORVR Configuration

ORVR Canisters within cars created to adsorb hydrocarbon vapors from automobile storage tank



OUTLINE OF TESTIMONY
RENEE HANSON, CWC WDC LLC

- I. INTRODUCTION
- II. PROPOSED GASOLINE SERVICE STATION AND OPERATION
- III. WORK WITH THE COMMUNITY
- IV. CONCLUSION

OUTLINE OF TESTIMONY
DOUG BROOKBANK, MULVANNYG2 ARCHITECTURE

- I. INTRODUCTION AND PROFESSIONAL QUALIFICATIONS**
- II. SITE AND LOCATION DESCRIPTION**
 - A. OVERVIEW OF SITE, VICINITY AND LAND USE/ZONING**
 - B. SITE PLANNING – SIZE, LOT CONFIGURATION, TOPOGRAPHY**
- III. DESCRIPTION OF DESIGN OF GASOLINE SERVICE STATION**
- IV. CONCLUSION**



Quality leadership and design.

Doug Brookbank, AIA, LEED AP, NCARB, Principal | Principal-in-Charge

Doug's dedication and passion for design, coupled with over fifteen years of architectural experience, has made him an integral part of MulvannyG2's Washington DC team. Not only does Doug know design, he knows people and he knows service. That is why Doug plays a primary role in the management and operations of our East Coast team. Doug's leadership skills translate into successful client relationships. So much so that Doug serves as our largest client's main point of contact for all East Coast operations.

As a Principal, Doug wears many hats. Retail architecture is Doug's forte, with an emphasis on team design and the entitlement process. He also knows how to walk the talk as a Project Manager, focusing on construction documents and construction administration. Quality leadership, with the knowledge and experience to back it, have clients resting easy when they know their project is in Doug's hands.

Education. | Bachelor in Architectural Design from University of Florida
Master in Architecture from University of Washington

Licensing. | Registered Architect in Virginia and New Jersey
LEED Accredited Professional
National Council of Architectural Registration Boards (NCARB) Certified

Selected Project List

Costco Wholesale

Livonia, Michigan

Costco Wholesale

Boca Raton, Florida

Costco Wholesale

Myrtle Beach, South Carolina

Costco Wholesale

Brookhaven, Georgia

Costco Wholesale

Manahawkin, New Jersey

Costco Wholesale

Woodbridge, Virginia

Costco Wholesale

Balzac, Alberta, Canada

Costco Wholesale

Sanatoga, Pennsylvania

Costco Wholesale

Kendall, Florida

Costco Wholesale

Washington, DC

Brookside I Office Building

Alpharetta, Georgia

Franklin Exchange Building

Tampa, Florida

OUTLINE OF TESTIMONY

JAMI L. MILANOVICH, WELLS & ASSOCIATES

- I. INTRODUCTION AND EXPERIENCE**
- II. PROJECT BACKGROUND**
- III. DESCRIPTION OF STUDIES AND DISCUSSIONS WITH DDOT**
- IV. ASSESSMENT AND EVALUATION**
- V. SUMMARY AND CONCLUSIONS**

JAMI L. MILANOVICH, P.E.
PRINCIPAL ASSOCIATE

PROFILE:

Ms. Milanovich has 16 years of experience in a wide range of traffic and transportation projects including: traffic impact studies, corridor studies, parking analyses, traffic signal design, intersection improvement design, and signing and pavement marking design. She has worked for both public and private sector clients.

EXPERIENCE:

Traffic Impact Studies. Conducted numerous traffic impact studies in support of rezoning, planned unit development, special exception, and site plan approvals for large and small residential, commercial, office, retail, and institutional developments in the mid-Atlantic region. Her work includes experience in Pennsylvania, Virginia, Maryland, and Washington, D.C. Specific Washington, D.C. projects include the following:

- ◆ Transportation Impact Study for the George Washington University Campus Plan: 2005-2026
- ◆ George Washington University Mount Vernon Campus Plan Transportation Impact Study
- ◆ Transportation Impact Study for Square 54
- ◆ Transportation Impact Study for the School without Walls
- ◆ 2013 H Street Transportation Impact Study (HSC Foundation)
- ◆ Connecticut Avenue Walgreens Transportation Impact Study
- ◆ Catholic University of America South Campus Redevelopment Transportation Impact Study
- ◆ Transportation Impact Study for Arbor Place
- ◆ Traffic Impact Study for the Fort Lincoln New Town Townhomes
- ◆ Transportation Impact Study for the Village at Washington Gateway
- ◆ Transportation Impact Study for the Shops at Dakota Crossing
- ◆ City Homes at Fort Lincoln Transportation Impact Study
- ◆ Transportation Impact Study for Art Place + Shops at Fort Totten
- ◆ Rosemount Center Traffic and Parking Study
- ◆ Sidwell Friends School Transportation Study
- ◆ Traffic and Parking Study for the Broad Branch Market and Child Development Center
- ◆ Fannie Mae Headquarters Transportation Impact Study
- ◆ Friends of Saint Patrick's Transportation Impact Study
- ◆ Transportation Impact Study for Square 776
- ◆ 2201 M Street, NW Transportation Impact Study

Corridor Studies. Conducted several corridor studies, which have evaluated the effects of various geometric and traffic signal system improvements on specific corridors. She has utilized Synchro and SimTraffic software to both analyze the potential improvements and make presentations for agencies and the general public.

Traffic Signal Design. Prepared numerous traffic signal designs for new installations and modifications to existing installations, including the development of coordination timings for interconnected intersections. Her work has included preparation of signal permit drawings for state agencies and construction drawings for contractors.

Intersection Improvements. Prepared many intersection improvement plans throughout Pennsylvania, often in conjunction with traffic signal designs. Design of intersection improvements typically consists of roadway widening, drainage improvements, utility coordination, maintenance and protection of traffic considerations, and signing and pavement marking plans.

Traffic Calming Studies. Investigated traffic calming measures to reduce travel speeds and "through" traffic on residential streets. Alternatives included chicanes, chokers, diverters, speed tables, and one-way street options.

Interchange Justification Studies. Prepared Point of Access Study for the completion of the partial diamond interchange for submission to the Pennsylvania Department of Transportation and the Federal Highway Administration. Study included an origin-destination study and capacity/level of service analyses at eight intersections and an inventory of existing and approved developments within the study area. Data analyses were conducted for scenarios with and without the proposed interchange.

Origin-Destination Studies. Conducted several origin-destination studies as part of larger projects to determine travel patterns through specific areas. Methods used included license plate matching, post-card surveys, personal interviews, and car-following.

Speed Limit Studies. Conducted speed limit for two-lane, rural roadways in Pennsylvania. Methodology utilized was safe running speed method in accordance with ITE guidelines.

EDUCATION: Master of Engineering, The Pennsylvania State University, University Park, Pennsylvania, December 2000

Bachelor of Science, Civil Engineering, The Pennsylvania State University, University Park, Pennsylvania, May 1995

REGISTRATIONS: Registered Professional Engineer: Pennsylvania; Virginia; Washington, D.C.

AFFILIATIONS: Institute of Transportation Engineers
EMPLOYMENT HISTORY

2003 - Present **Wells & Associates, Inc.**
McLean, Virginia
Principal Associate

1997 - 2003 **Herbert, Rowland & Grubic, Inc.**
Harrisburg, State College, and Pittsburgh, Pennsylvania
Traffic Engineer

Ms. Milanovich was a project manager responsible for the preparation of traffic engineering studies, traffic signal design, and intersection improvement designs.

1995 - 1997 **Transportation Resource Group, Inc.**
York, Pennsylvania
Traffic Engineer-in-Training

Ms. Milanovich was responsible for data collection efforts and conducting traffic engineering studies. Her duties also including overseeing technical support staff.

From: Freeman, Kyrus L (WAS - X75978)
Sent: Monday, August 27, 2012 3:03 PM
To: WAS-DTI Service Center
Cc: Jones, Cheryl B (WAS - X72468)
Subject: FW: DC gas
Attachments: Costco Gasoline Washington D.C..ppt

Please print 30 copies of the attached in color and charge 028068 matter 20. This will be include in a filing I am working on for tomorrow. Thanks!

Kyrus L. Freeman | Holland & Knight
Partner and LEED® AP

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kyrus.freeman@hklaw.com | www.hklaw.com

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