

Technical Memorandum:

**TRAFFIC IMPACT ASSESSMENT -
PLANNED UNIT DEVELOPMENT
APPLICATION, FOR 1000 F STREET
NORTHWEST, WASHINGTON, D.C.
(Case No. 07-18)**

Prepared for:

DOUGLAS DEVELOPMENT CORPORATION

702 H Street, N.W., Suite 400

Washington, D.C. 20001

➤ Mr. Paul Millstein, Vice-President

Land Use Counsel:

HOLLAND & KNIGHT, LLP

2099 Pennsylvania Avenue, N.W, Suite 100

Washington, D.C. 20006-6081

➤ Carolyn Brown, Esquire

Prepared by:

O. R. GEORGE & ASSOCIATES, INC.

Transportation Planning & Engineering Consultants

10210 Greenbelt Road, Suite 310

Greenbelt, MD 20706-2218

Tel: (301) 794-7700

November 26, 2007

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Lanham, MD 20706-2218

Tel: (301) 794-7700 • Fax: (301) 794-4400

E-mail: ogearge@orgengineering.com

TECHNICAL MEMORANDUM

DATE: November 26, 2007

TO: Douglas Development Corporation.
Attn: Mr. Paul Millstein, Vice President

FROM: Osborne R. George/Iain J. Banks

RE: Traffic Impact Assessment – Planned Unit Development
Application, for 1000 F Street, N.W. Washington, D.C. (Case No. 07-18)

INTRODUCTION

Douglas Development Corporation plans to develop approximately 91,200 GSF office space and 6,200 GSF retail on a property located within the southwest quadrant of the 10th Street/F Street intersection within the Central Employment Area of Northwest, Washington, D.C. The 0.30-Acre property is zoned C-4 (Central Business District) and is improved with a mix of 22,770 SF of office and retail uses. The development process would require approval under the City's Planned Unit Development review, and the current application includes a request for a Zoning Map Amendment to accommodate the proposed uses. The future site would be served by an underground garage consisting of sixty-eight (68) parking spaces, which would be accessed via a public alleyway system off both F Street and 11th Street via a public alley.

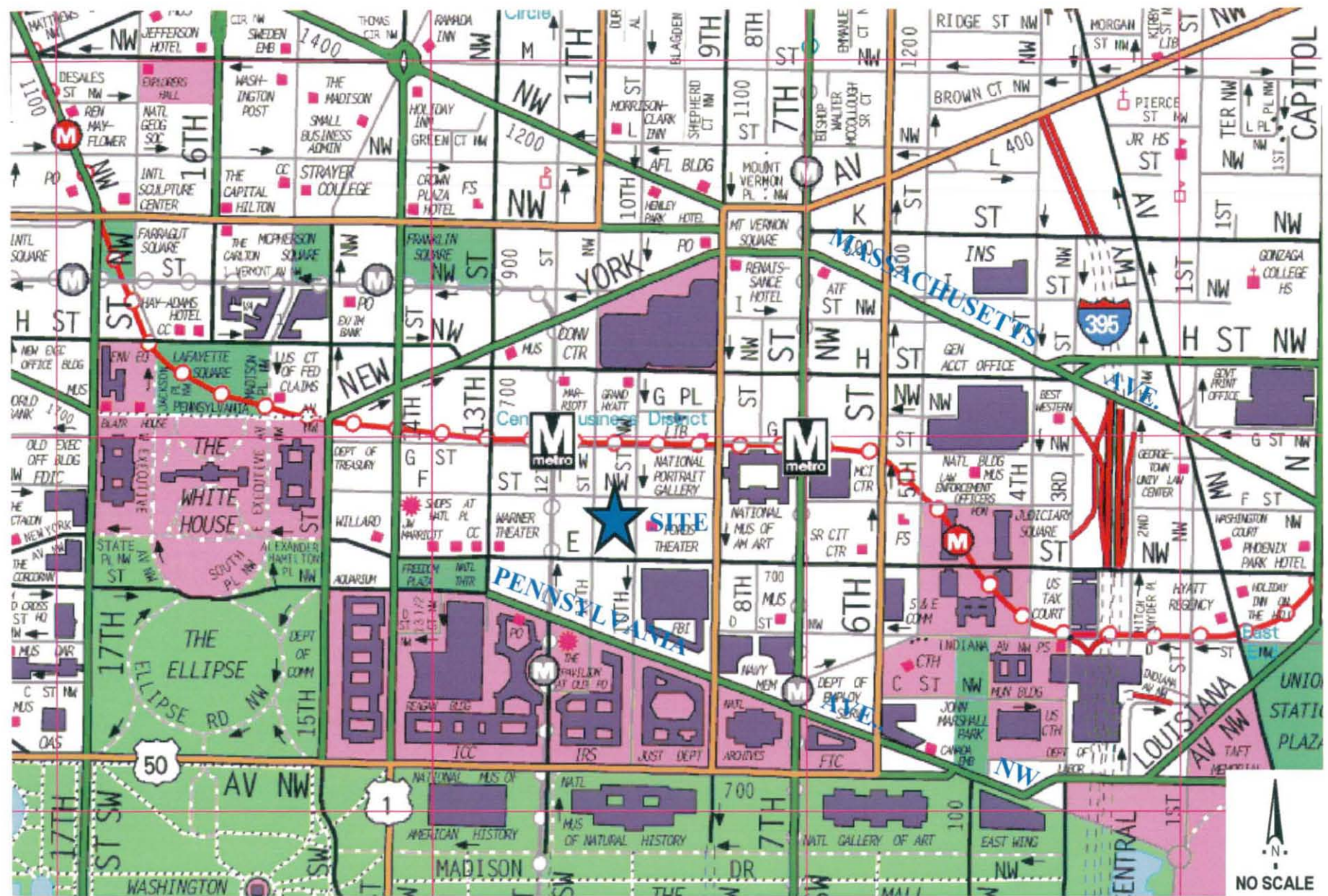
The Planned Unit Development process requires the applicant to demonstrate that the proposed use will not have adverse or objectionable impacts on neighboring properties, based upon traffic generation and parking considerations, among other factors. The process also considers the availability of, and potential impacts on, public facilities and amenities within the immediate vicinity. This memorandum addresses these requirements.

For ease of reference, Exhibit 1 shows the location of the development site. This exhibit shows the proximity to the Metro Center Station on the Washington Metropolitan Area Transit Authority (WMATA) regional system. It is noted that, this station is at the confluence of three (3) transit lines; and that the site is within convenient walking distance of the Gallery Place-Chinatown Station, which provides access to the remaining two (2) WMATA transit system lines. The site is also within the convenient walkway distance relative to increasing residential development within the Central Employment Area.

As part of the study process, discussions were held with the Policy and Planning Administration staff of the District Department of Transportation (DDOT), in addition to insights gained from the Applicant's meetings with the Office of Planning. Related correspondence is included in Appendix A. The study involved the following principal tasks:

- Site visit and reconnaissance of the adjacent roadway network, including pedestrian facilities and access to public transportation;
- Field observations of traffic volumes on the adjacent roadway network;

• Traffic Engineering Studies • Transportation Planning • Site Impact Studies
• Expert Witness Testimony • Data Collection: Traffic and Parking Studies



O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

EXHIBIT 1: Site Location Map

1000 F Street Planned Unit Development (Case # 07-18)

- Analyses and general assessments of the information and perspectives gained from the above tasks, relative to the subject application.

In addition to the above specific tasks, it is noted that site access issues were addressed in a significant way, as part of the recently concluded Alley Closing Application No. SO-06-5596.

This assessment concludes that the proposed development would not adversely impact vehicular and pedestrian, access, and parking, such that it will affect the quality of life in the surrounding neighborhood. As such, it satisfies the stated requirements of the City's Zoning Regulations under the Planned Unit Development review process. The basis for this conclusion is presented in the remaining sections of this memorandum.

PROPERTY LOCATION, ZONING AND SITE ACCESS

As noted, the C-4 Zoned is situated within the Downtown Development Overlay District. The surrounding areas are within the same zoning category, and are substantially improved with land uses that are consistent with this Zone District. The location of the subject property is well suited for mixed-use/development. This is primarily due to the following factors:

- Its location within the Washington D.C. Central Business District and Central Employment Area, in proximity to government and corporate offices, shopping, services, restaurants, and other institutional and community uses;
- Its proximity to the Metro Center Metrorail Station (on WMATA's Orange, Blue and Red Lines) and Gallery Place-Chinatown Metrorail Station (on WMATA's Yellow and Green Lines); as well as ease of access to Metrobus routes along the F Street, E Street, 9th Street and 11th Street corridors.

The above location and transit accessibility factors support low vehicle trip generation. The property location is therefore consistent with the context and general intent of the Comprehensive Plan. This and related factors are further elucidated in the Applicant's Statement.

As noted earlier, vehicular access to the proposed garage would be provided off both F Street and 11th Street via a 20-Ft public alley. *[Note: A 5-Ft easement was dedicated by the subject property as part of the recent alley closing process.]* Pedestrian access would be facilitated via the public roadway system, all segments of which have wide sidewalks, countdown pedestrian signals and related amenities at all intersections, as is typical for the Downtown area of the City. For completeness of the record, it is noted that these roadways have the following characteristics:

- **11th Street, N.W.** is a Minor Arterial on the City's roadway system. This roadway serves two-way traffic flow in the vicinity of the site. The facility provides access to important commuter routes such New York Avenue, Pennsylvania Avenue and Rhode Island Avenue; and carries an Average Daily Traffic (ADT) of approximately 9,000 vehicles per day. The posted speed limit is 25 MPH.
- **10th Street, N.W.** is a Collector on the City's roadway system; and serves one-way (southbound) traffic flow in the vicinity of the site. The facility provides access to H Street to the north and to Pennsylvania Avenue to the south; and carries an ADT of approximately 3,000 vehicles per day. The posted speed limit is 25 MPH.

1000 F Street, N.W

Planned Unit Development Application No: 07-18

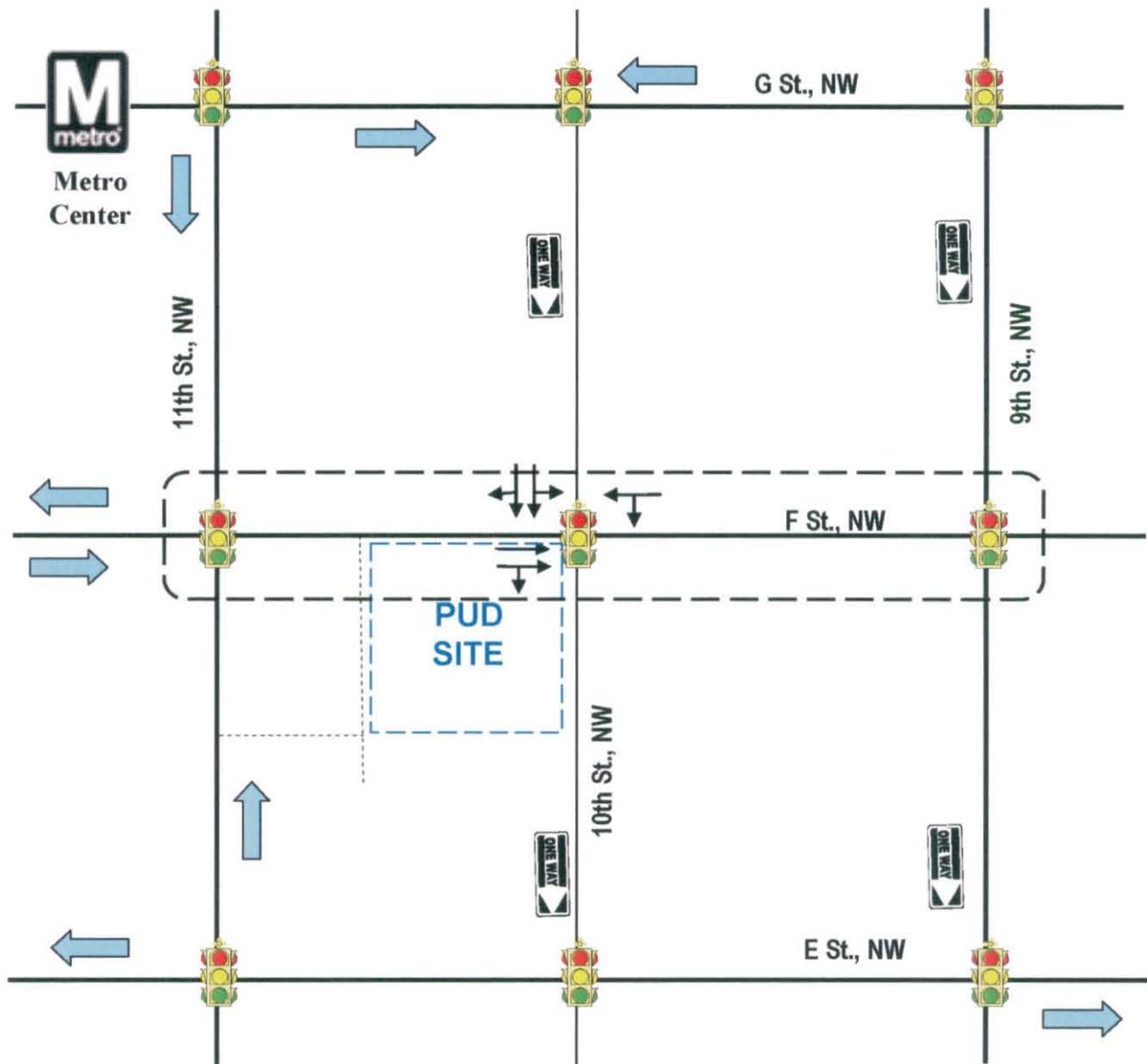
Memorandum, November 26, 2007

Page 4 of 10

- **F Street, N.W.** is a five (5) lane Collector roadway that serves two-way east-west traffic flows. The ADT in the vicinity of the site is approximately 5,000 vehicles, and the posted speed limit is 25 MPH.

The property is located within Square 347, which is served by an alleyway system which abuts the western edge of the site. This alleyway has a generous 20-Ft width, which facilitates access to the proposed parking garage and services/loading facility. These aspects of the site development are addressed on page 9 of this memorandum.

This is also noted that the study area is well served by sixteen (16) WMATA Bus routes, including one (1) along F Street, two (2) along 9th Street, ten (10) along 11th Street, and three (3) along E Street. Sidewalks are provided along each street in the vicinity of the subject site and crosswalks and pedestrian signals are provided at the study area intersection. Exhibit 2 shows the roadway configuration and traffic control devices provided at the study area intersections.



Legend



- Traffic Signal



- Public Alleyway



- Existing Lane Usage



- Flow Direction



- Intersections Considered

Note : All signals include
Pedestrian Countdown equipment



Schematic
Not To Scale

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

EXHIBIT 2: Roadway Lane Configuration

**1000 F Street, NW, Planned Unit
Development (Case # 07-18)**

EXISTING TRAFFIC CONDITIONS

In order to assess the existing traffic situation, field observations were made of typical weekday traffic flow conditions within the study area, during the morning and afternoon peak periods. Peak period traffic turning movement counts were also conducted at the three (3) adjacent study area intersections. Based on these counts, the morning and afternoon peak hours for the study intersection was determined to be 8:00 - 9:00 AM and 5:00 - 6:00 PM.

Exhibit 3 shows the existing peak hour turning movement volumes for the 10th Street/F Street intersection. In view of its proximity of the site, the analysis focused on this location. The count summaries are presented in Appendix B. In accordance with DDOT requirements, the peak hour volumes were analyzed using the Highway Capacity Manual (HCM) procedures for signalized intersections. The capacity analysis results are presented in Table 1 below. These results show that the study intersection currently operates at acceptable Levels of Service¹ (LOS), during both morning and afternoon peak periods. A contributing factor for this favorable traffic situation is that Tenth Street serves one-way traffic flow, and the intersection is on the City's computerize traffic system. The capacity analysis worksheets are presented in Appendix C.

TABLE 1
SUMMARY OF CAPACITY ANALYSIS RESULTS –
EXISTING WEEKDAY PEAK HOUR TRAFFIC SITUATION

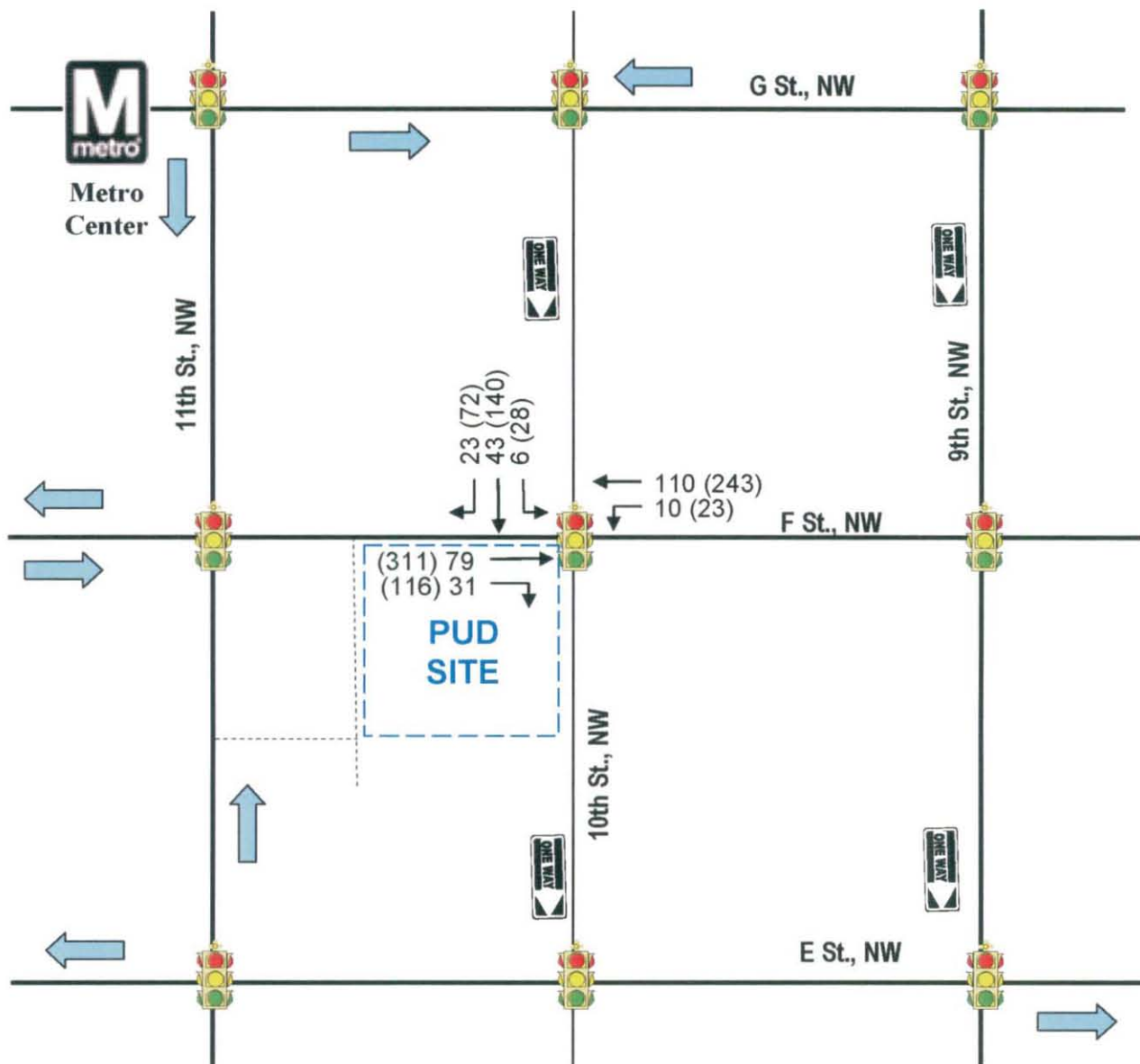
Intersection	AM Peak Hour		PM Peak Hour	
	Level of Service	Average Delay (secs)	Level of Service	Average Delay (secs)
F Street @ 10 th Street, NW*	B	12.0	B	13.4

* - Signalized intersection.

Source: O. R. George & Associates.

The computed levels of service are in keeping with field observations made during the data collection and field reconnaissance phases of the study. These observations showed no excessive queuing, delays, or other situations indicating significant capacity and safety deficiencies for either pedestrian or vehicular traffic. While specific analyses were not made of other intersections, it is noted that 9th Street and 12th Street (to the east and west, respectively) constitute a major north-south one-way pair of roadways, which carry the major traffic flows into the local area. Roadways such as 10th Street and 11th Street serve a more collector function, with 10th Street being somewhat of a local roadway. The intersections to the east and west currently operate acceptably.

¹ Level of Service is a qualitative measure describing operational conditions within a traffic stream or at an intersection, and their perception by road users. Principal considerations are factors such as speed and travel time, delay, freedom to maneuver, traffic interruptions, comfort, convenience and safety. Current engineering practice defines six (6) levels of service ranging from A to F. Level of Service A represents the best (free flow) conditions where drivers are unaffected by the presence of others in the traffic stream, and are free to change speeds and maneuver, etc., at will. Level of Service F represents the worst (forced flow) conditions where road users experience considerable delay and inconvenience. The District of Columbia has adopted Level of Service D as the minimum acceptable standard for planning purposes.



Legend

-  - Traffic Signal
-  - Public Alleyway
-  - Existing Lane Usage
-  - Flow Direction

Note : All signals include
Pedestrian Countdown equipment



O. R. GEORGE & ASSOCIATES, INC.
Traffic Engineers – Transportation Planners

EXHIBIT 3: Existing Peak Hour Volumes

**1000 F Street, NW, Planned Unit
Development (Case # 07-18)**

In order to assess the traffic safety situation within the study area, accident data was obtained from the DDOT Traffic Services Administration, for the three (3) study area intersections. This data covered the three-year period 2003 - 2005. Copies of the accident data summaries are included as Appendix D. Review of this data indicates that there are currently no significant safety deficiencies at the study area intersections, warranting further analysis and evaluation. In particular, it is noted that none of the accidents involved pedestrians or bicyclists. Accordingly, this analysis concludes that the study area roadway network currently operates without any significant operational, capacity or safety deficiencies per the City's planning standards.

FUTURE TRAFFIC SITUATION

As noted earlier, the Applicant proposes to develop 91,200 SF of office space and 6,200 SF of retail space on the site. In accordance with the DDOT's guidelines, trip generation estimates were developed for the site using rates recommended by the Institute of Transportation Engineers (ITE) "Trip Generation Manual" (2003). This ITE data is representative of sites within suburban areas and outside of Central Business Districts and "downtown" locations. Considering the proximity of the development relative to the public transportation facilities noted earlier, as well as employment and residential uses within the area, a trip reduction factor of sixty percent (60%) was applied. This is consistent with DDOT's policies for this area. *[Note: the ITE description for this land use emphasizes that General Office includes eating establishments, banks, news stands and other ancillary retail commercial uses.]* Based on the above factors, the projected trip generation for the proposed development is presented in Table 2.

TABLE 2
PROJECTED TRIP GENERATION –
PROPOSED 1000 F STREET DEVELOPMENT

Land Use Basis	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
• Trips/1,000 SF Office	1.36	0.19	1.55	0.25	1.24	1.50
- With 60% Transit Use and other non-vehicular trips	0.54	0.08	0.62	0.10	0.50	0.60
Trip Generation						
• Trips/77,434 SF Office**	40	6	46	8	37	45

* Includes pedestrian activity.

** With adjustment for the existing 22,770 GSF office/retail on the site

Source: ITE Trip Generation Manual (2003), WMATA and O. R. George & Associates.

Table 2 on the previous page confirms the statement, made earlier in this memorandum, that the proposed development would likely have a low impact, in terms of its projected trip generation. With the estimate of 45 peak hour trips, the site falls below the 50-trip threshold typically considered as requiring a full or detailed traffic analysis. Furthermore, it is noted that trips approaching the site would be well distributed, using several roadways entering the local area.

A “full” traffic study typically considers “background” developments. The “*Economic Development Map*” of the DC Office the Deputy Mayor of Planning and Economic Development, shows that there are no planned developments for the immediate 10 Street/F Street area. It is understood that, if approved the development would be built-out within a period of about three (3) years. Review of historical Average Daily Traffic (ADT) data provided by DDOT indicates that traffic volumes on the study area roadways have remained relatively stable over the most recent period for which data is available.

It is understood that, if the subject application were approved, the proposed development would be built-out within approximately 2-3 years. Based on the above factors, this study concludes that the addition of the projected trips would have a very minimal impact on the surrounding area roadway network. Upon build-out of the proposed development, the study area intersections would continue to operate acceptably during the morning and afternoon weekday peak hours.

PARKING AND LOADING EVALUATION

As noted earlier, the proposed mixed-use development would include a four (4) level parking garage, which will be accessed off both 11th Street and F Street via a 20-Ft public alley. This is a PUD Application, and the parking requirements would be as approved by the Zoning Commission. However, based on the underlined C-4 Zone, Section 2101.1 of the DC Zoning Regulations requires one (1) parking space for every 1,800 SF office space above 2,000 SF and one parking space for every 3,000 SF retail space above 30,000 SF in this Zoned District. The required parking and loading are summarize in the table following:

<u>Land Use Category</u>	<u>Parking</u>		<u>Loading</u>	
	<u>Required</u>	<u>Proposed</u>	<u>Required</u>	<u>Proposed</u>
• Per 91,138 SF Office	50	68	1 30-Ft Space	1 20-Ft Loading Space
- (w/allowance for proximity to Metro)*	38	No Change	Not Impacted	Not Impacted

** The Regulations also allow for a 25% reduction (i.e., 12 spaces) due to the location of the property within 2,000 Ft from the Metro Center Station.*

The proposed sixty (60) parking spaces would be made up as follows: Seventeen (17) standard spaces; four (4)-compact spaces; two (2) handicap spaces; and thirty-seven (37) “vault” spaces. This parking arrangement means that the twenty-three (23) regular spaces provided are fifteen (15) short of the requirement under the Zoning Regulations. Accordingly, the spaces would be managed and appropriate signs provided in accordance with sections 2115-11/-12 of the Zoning Regulations.

With regard to loading provisions, the Zoning Regulations require that a 10' x 30' loading berth be provided. The PUD plan makes provision for one (1) 10' x 20' service loading area, accessible via the public alley-way. The Applicant's statement notes that their experience at other comparable properties, within the downtown area, justifies the 20-Ft loading. It is projected that deliveries would be scheduled during weekday off-peak daytime hours. Appendix E presents the tracking diagrams showing that the proposed loading space can be efficiently accessed from the abutting street and alleyway system. Additional justification for this relief is presented in the Applicant's statement.

SUMMARY AND CONCLUSION

The foregoing data, discussion and analysis have shown that the development of the proposed 97,400 SF mixed-use development would have no significant adverse impacts on the operational efficiency and safety of the study area roadways. More specifically, the analysis has determined the following:

- a) Current traffic operational conditions at the adjacent intersection are quite acceptable, and well within the City's level of service standards.
- b) The proposed development is favorably situated relative to public transportation facilities, as well as to other major employment and residential uses.
- c) The projected trip generation for the site would have a very low, well distributed along the approach roadways, and thus have minimal impact on future traffic and parking conditions within the local area.
- d) The proposed parking and access elements of the development plan would be adequate, and would not adversely impact the local roadway system and transportation amenities within the public space in general.

This study concludes that development of the subject site, per the submitted application, would satisfy the requirements of the Zoning Regulations, from the perspective of impacts associated with transportation (i.e., vehicular access and parking). Furthermore, this proposal is quite consistent with public policy objectives and trends regarding Transit Oriented Development.

The relatively small size of the building, and the diverse tenancies that are likely, may not provide the critical densities that would support a formal Transportation Management Plan (TMP). However, in keeping with the City's general policies regarding reducing travel demand, we would recommend that the applicant incorporate reasonable Transportation Management measures at the site. These would include encouraging carpools, reserving preferentially located parking spaces for car/van-pools, and designating a management staff to serve in the capacity of Employee Transportation Coordinator.

We trust that the above satisfies your requirements. If we can be of further assistance in this matter, please let us know. Thank you.

ORG/IJB

Attachments: As Noted

APPENDIX

A

TRAFFIC STUDY SCOPING AGREEMENT
AND RELEVANT CORRESPONDENCE
WITH DDOT STAFF

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite # 310 • Lanham, Maryland 20706

Tel: (301) 794-7700 • Fax: (301) 794-4400

E-mail: admin@orgengineering.com

August 16, 2007

Mr. Abdoulaye Bah, Sr. Transportation Engineer
Transportation Policy and Planning Administration
District of Columbia Department of Transportation
2000 14th Street, N.W. 7th Floor
Washington, D.C. 20009

Re: 1000 F Street, NW Planned Unit Development Application

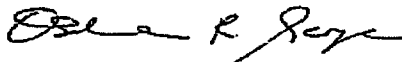
Dear Mr. Bah:

We hereby confirm that the Applicant in the referenced matter, Douglas Development Corporation, has retained our firm to prepare a Transportation Impact Analysis in support of the referenced application. The purpose of this letter is to confirm the project background, and the key study parameters we propose to use for the study.

As background, we note that 1000 F Street is a 0.30 Acre property situated within Square 347 in of Northwest Washington D.C. The subject property is zoned Commercial (C-4). The property is currently improved with 22,770 SF of office and retail uses. The applicant proposes to redevelop the site with approximately 01,138 SF of office space and 6,218 SF of retail space. In order to address the requirements of the Zoning Commission, we propose to evaluate traffic conditions within the adjacent roadway network, i.e. F Street at the 10th Street. We will consider traffic growth and background developments in projecting future traffic conditions, in accordance with your Department's usual requirements.

Please confirm that the above is in accordance with DDOT's general requirements, as well as with any specific requirements that may be applicable to the area of the site. We would also appreciate any additional information or perspective that could be useful to our study and to the application process. Thanks for your usual attention and assistance in this matter.

Sincerely,
O. R. GEORGE & ASSOCIATES, INC.



Osborne R. George
President



GOVERNMENT OF THE DISTRICT OF COLUMBIA
District Department of Transportation

Infrastructure Project Management Administration
Office of the Chief Engineer

MEMORANDUM

09-19-2007

TO: Roland F. Dreist, Jr.
Surveyor, D.C.
[Signature]

THRU: Ardeshir Nafici
Acting Chief Engineer
[Signature]

FROM: Don Goffredi, General Engineer
IPMA/OCE
[Signature]

SUBJECT: S.O. 06-5596, Closing of Public Alley, Square 347
10th & F Streets, NW

The subject file has been circulated among all interested DDOT offices. Comments from DDOT's Transportation Policy and Planning Administration (TPPA) are attached.

It is DDOT's policy, when a development in a commercial area abuts an existing alley that is less than 20' wide, to request that the owner dedicate additional width to make the alley 20' wide. When property was resubdivided on the west side of the north-south alley in Square 347, the applicant at that time dedicated a 5' wide alley easement (per S.O. 88-102, plat attached), widening the original 10'-wide alley to a total of 15'-wide. DDOT recommends that the current Applicant dedicate a 5' wide alley easement on the east side of the north-south alley, thereby increasing the width of the alley to the preferred 20 feet.

Please show the existing 5'-wide alley easement on the plat for this action. A revised plat reflecting DDOT's recommendations is attached.

Applicant will assume all costs for the removal of any alley lights and related materials that may be in the alley to be closed. Applicant shall pay an abandonment fee, the amount of which will be determined by DDOT, to the Treasurer of the District of Columbia. This fee must be paid prior to recordation and enactment of this action.

Applicant will also bear all costs to remove any and all existing parking and regulatory signs and posts that may be within the alley to be closed that are the property of the District, and return them to DDOT's Traffic Services Division.

DDOT looks forward to working with the Applicant regarding these issues.

Attachments as stated

PUBLIC ALLEY CLOSED SQUARE 347

THE ALLEY SHOWN THERE:  IS CLOSED, AND TITLE REVERTS
AS SHOWN UPON RECORDATION OF THIS PLAT.

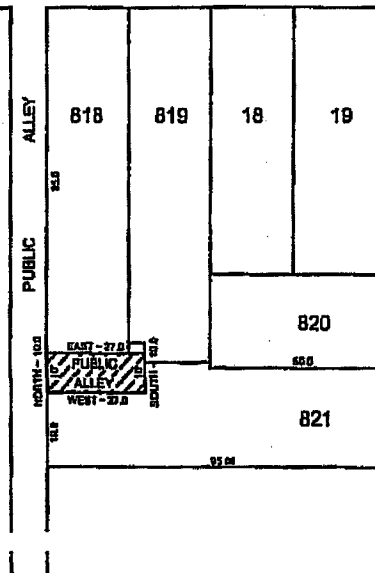
OFFICE OF THE SURVEYOR, D.C.

_____ 2208

I CERTIFY THAT THIS PLAT IS CORRECT AND IS RECORDED.

SURVEYOR, D.C.

F STREET, N.W.



10th STREET, N.W.

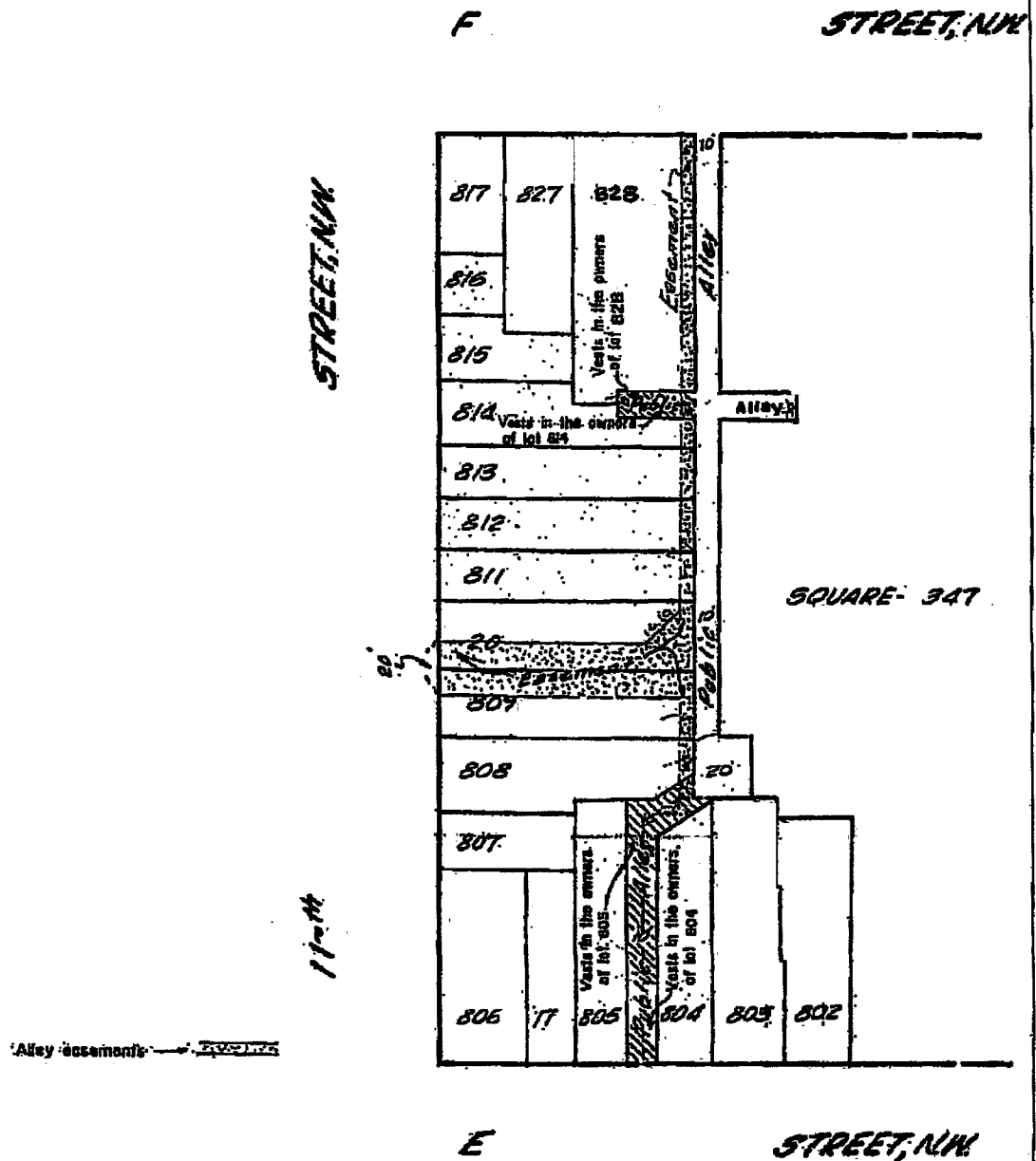
SURVEYOR'S OFFICE, D.C.

Made for: HOLLAND & KNIGHT
 Drawn by: L.E.S. Checked by: _____
 Record and computations by: F. SLETH
 Recorded at: _____
 Recorded in Book _____, Page _____, S.D. 04472
 Scale: 1 inch = 30 feet File No. 05-5526

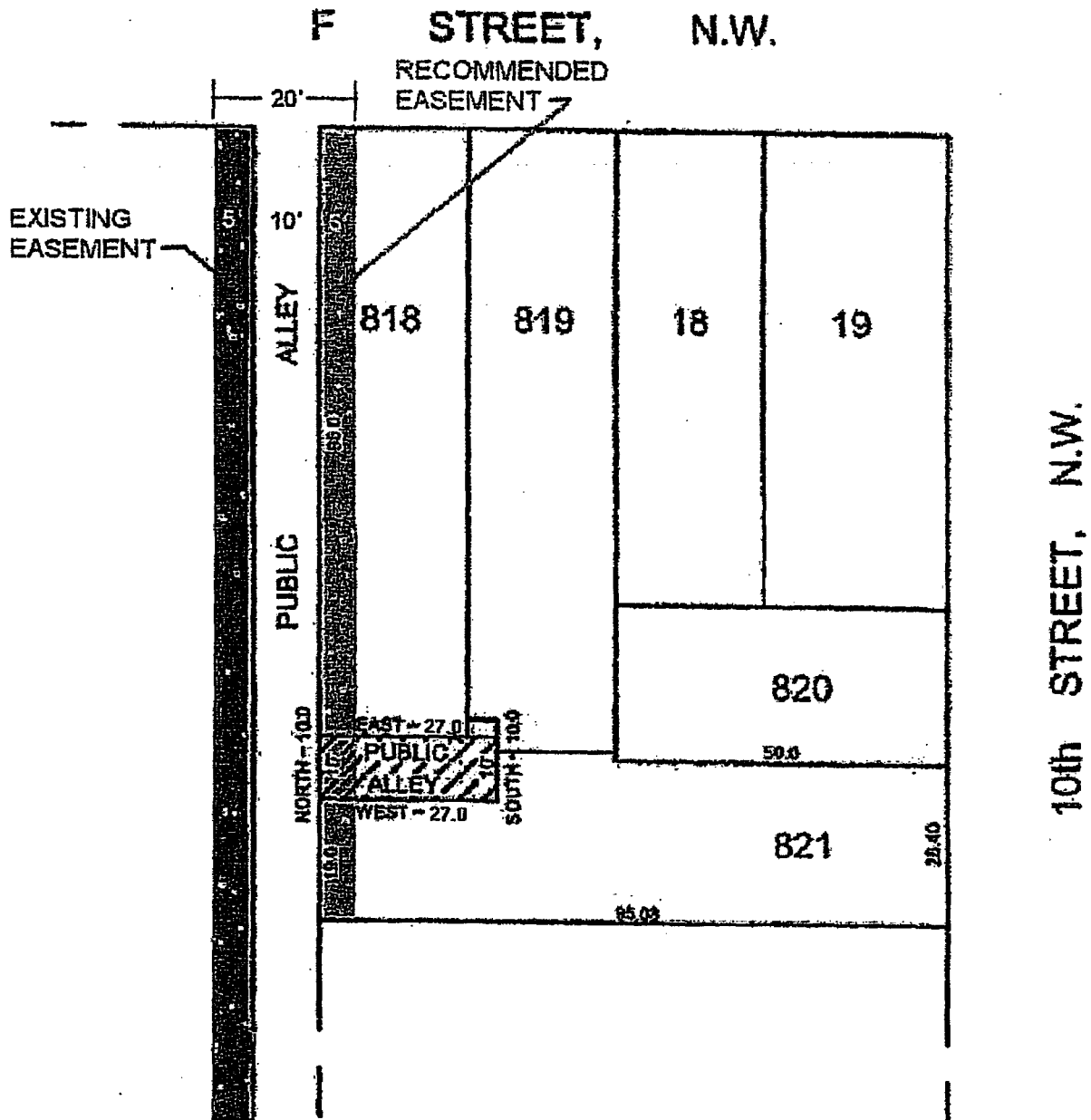
A-3

PUBLIC ALLEYS CLOSED ALLEY EASEMENTS ESTABLISHED

SQUARE 347



PUBLIC ALLEY CLOSED SQUARE 347



RECOMMENDED MODIFICATIONS TO PLAT

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF TRANSPORTATION



Transportation Policy and Planning Administration

MEMORANDUM

TO: John F. Deatrick, Chief
Infrastructure Project Management Administration

FROM: Kenneth G. Laden *KG Laden*
Associate Director for Transportation Planning
Transportation Policy and Planning Administration

DATE: December 6, 2006

SUBJECT: S.O. Application No. 06-5596, Proposed Alley Closing Located in
Square 347, Abutting Lots 818, 819 and 821

The DDOT Transportation Policy and Planning Administration (TPPA) has reviewed the application and other materials for the subject site and has no objections to the proposal.

Project Description

The applicant seeks to close a small dead-end alley located within the subject Square, bounded by F Street, E Street, Tenth Street and Eleventh Street, NW as part of the proposed redevelopment plans for the northeast corner of the square with a new twelve-story, 99,000 square foot mixed-use office building with ground floor retail. The subject east-west alley measures ten-feet (10') wide by twenty-seven feet (27') long, and is accessed by a fifteen-foot (15') wide alley that runs north-south and opens onto F Street, NW. The portion to be closed is located within the proposed development area that will occupy Lots 18, 19, and 818 to 821 within Square 347.

Action

The proposed alley closing will not restrict access to adjacent properties and will be incorporated into the development plan for the site which includes new loading and parking garage access. TPPA has no objections to the proposed alley closing, provided the applicant widens the existing fifteen-foot (15') wide alley, abutting the development site to the west, to a minimum width of seventeen-feet, six-inches (17'6") during construction of the new building.

KL:lb

Attention: Don Goffredi, Support Branch

A-6

APPENDIX

B

TRAFFIC TURNING MOVEMENT COUNT
SUMMARIES - EXISTING TRAFFIC
SITUATION

O. R. George & Associates, Inc.

10210 Greenbelt Road, Suite 310

Lanham, MD 20706-2218

Tel: (301) 794-7700 Fax: (301) 794-4400

Counted by:

Board :

City/County:

Weather :

File Name : F@10TH

Site Code : 28241607

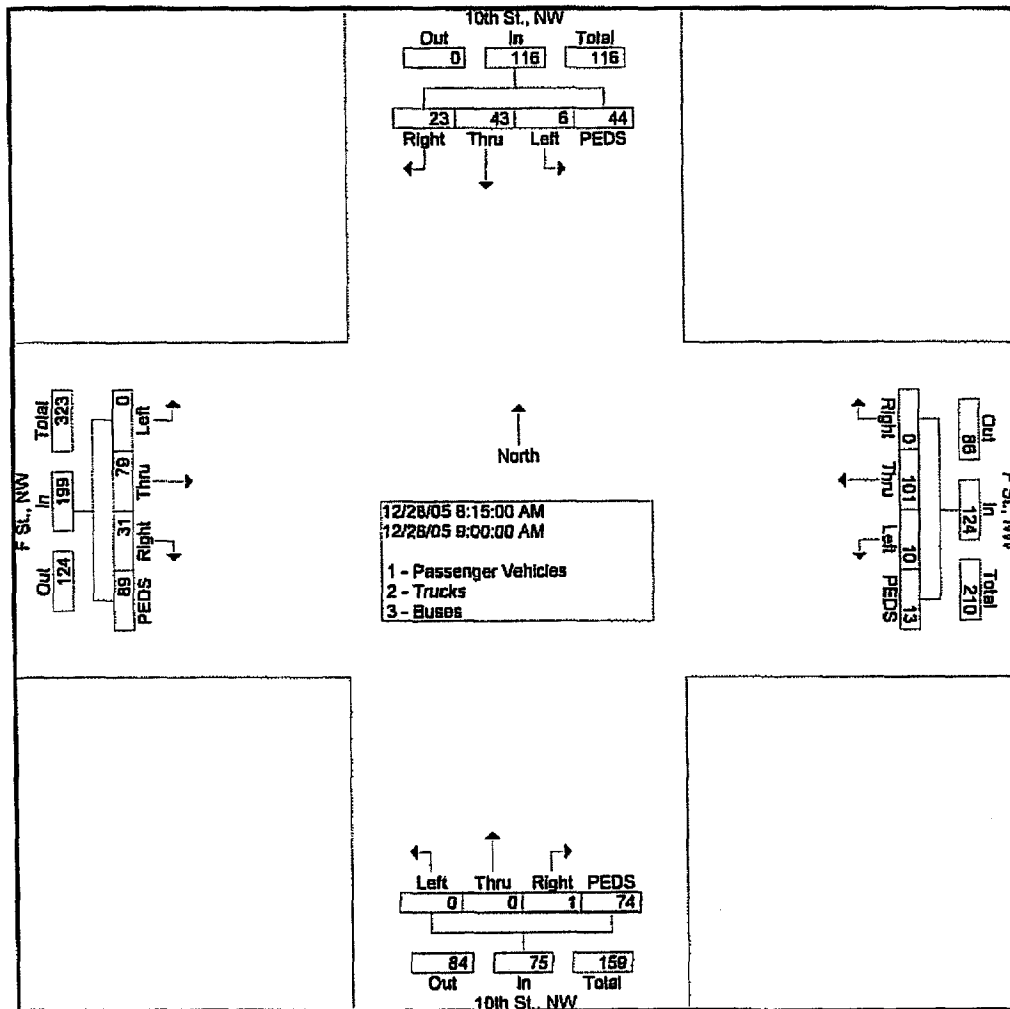
Start Date : 12/28/05

Page No : 1

Groups Printed- 1 - Passenger Vehicles - 2 - Trucks - 3 - Buses

	10th St, NW From North					10th St, NW From South					F St, NW From East					F St, NW From West					
End Time	Left	Thru	Right	PED S	App. Total	Left	Thru	Right	PED S	App. Total	Left	Thru	Right	PED S	App. Total	Left	Thru	Right	PED S	App. Total	Int. Total
07:15 AM	2	6	2	12	22	0	0	0	20	20	0	23	0	6	29	0	19	4	14	37	108
07:30 AM	1	2	1	8	12	0	0	0	20	20	8	21	0	5	34	0	17	7	10	34	100
07:45 AM	1	14	4	9	28	0	0	0	13	13	4	25	0	4	33	0	27	4	25	56	130
08:00 AM	0	6	0	10	16	0	0	0	11	11	2	31	0	4	37	0	21	7	27	55	119
Total	4	28	7	39	78	0	0	0	64	64	14	100	0	19	133	0	84	22	76	182	457
08:15 AM	1	10	5	7	23	0	0	1	15	16	2	21	0	4	27	0	16	7	11	34	100
08:30 AM	2	13	8	11	34	0	0	0	12	12	3	28	0	3	32	0	17	6	20	43	121
08:45 AM	0	10	4	8	22	0	0	0	12	12	4	22	0	1	27	0	28	6	19	53	114
09:00 AM	3	10	6	18	37	0	0	0	35	35	1	32	0	5	38	0	18	12	39	69	179
Total	6	43	23	44	116	0	0	1	74	75	10	101	0	13	124	0	79	31	89	199	514
04:15 PM	6	17	7	59	89	0	0	0	112	112	4	38	0	29	71	0	63	18	89	170	442
04:30 PM	4	12	12	63	91	0	0	0	111	111	1	39	0	48	88	0	63	31	100	194	484
04:45 PM	3	31	8	68	110	0	0	0	147	147	2	45	0	42	89	0	62	24	87	173	519
05:00 PM	2	23	5	66	96	0	0	3	98	101	5	54	0	30	89	0	64	23	105	192	478
Total	15	83	32	256	386	0	0	3	468	471	12	176	0	149	337	0	252	96	381	729	1923
05:15 PM	6	29	8	77	120	0	0	0	98	98	8	60	0	31	99	0	69	28	58	155	472
05:30 PM	7	33	19	76	135	0	0	0	100	100	4	59	0	15	78	0	72	30	67	169	482
05:45 PM	10	45	20	38	113	0	0	0	105	105	5	63	0	14	82	0	82	27	68	177	477
06:00 PM	3	33	25	52	113	0	0	0	131	131	6	61	2	7	76	0	88	31	93	212	532
Total	26	140	72	243	481	0	0	0	434	434	23	243	2	67	335	0	311	116	286	713	1963
Grand Total	51	294	134	582	1061	0	0	4	1040	1044	59	620	2	248	929	0	726	265	832	1823	4857
Apprch %	4.8	27.7	12.6	54.9		0.0	0.0	0.4	99.6		6.4	66.7	0.2	26.7		0.0	39.8	14.5	45.6		
Total %	1.1	6.1	2.8	12.0	21.8	0.0	0.0	0.1	21.4	21.5	1.2	12.8	0.0	5.1	19.1	0.0	14.9	5.5	17.1	37.5	

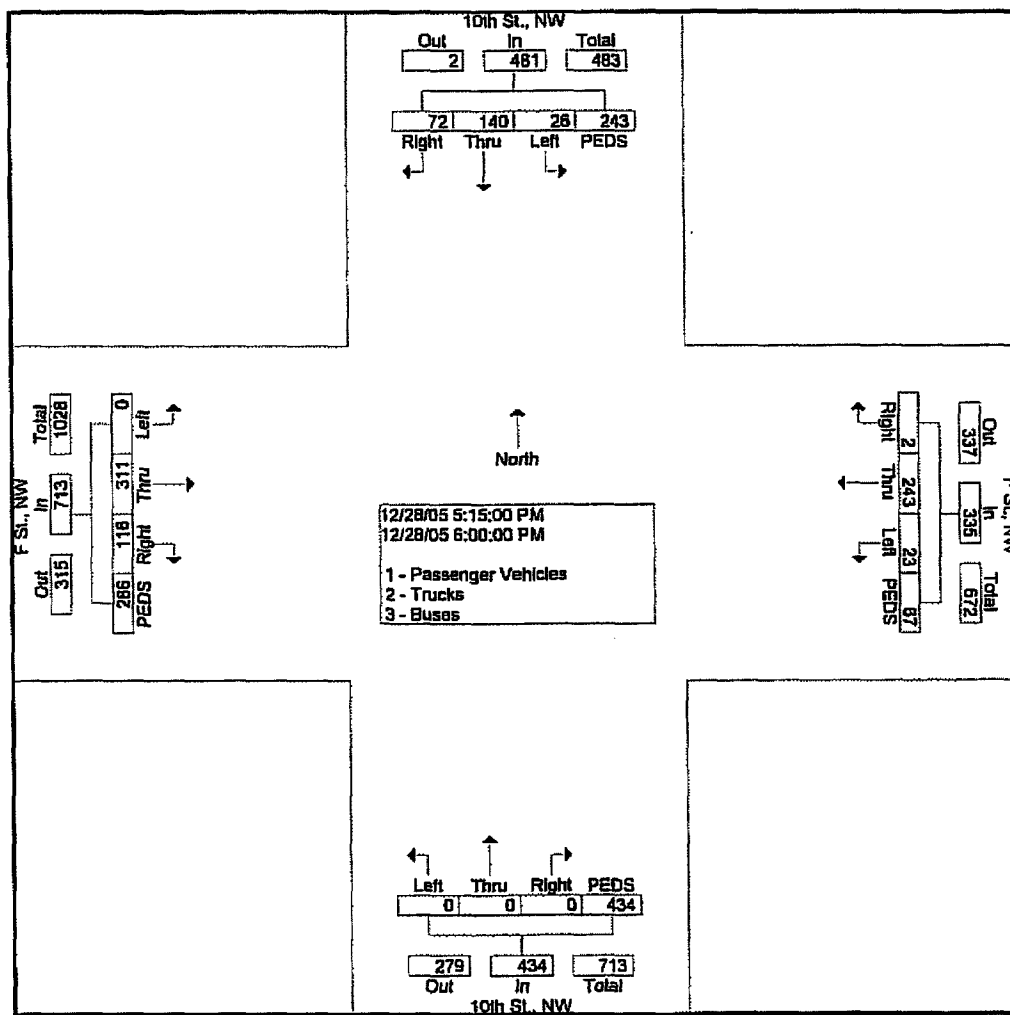
	10th St., NW From North					10th St., NW From South					F St., NW From East					F St., NW From West					
End Time	Left	Thru	Right	PED	App.	Left	Thru	Right	PED	App.	Left	Thru	Right	PED	App.	Left	Thru	Right	PED	App.	Int.
					Total					Total					Total					Total	Total
Peak Hour From 07:15 AM to 11:45 AM - Peak 1 of 1																					
Intersection 08:15 AM																					
Volume	6	43	23	44	116	0	0	1	74	75	10	101	0	13	124	0	79	31	89	199	514
Percent	5.2	37.1	19.8	37.9		0.0	0.0	1.3	98.7		8.1	81.5	0.0	10.5		0.0	39.7	15.6	44.7		
09:00																					
Volume	3	10	6	18	37	0	0	0	35	35	1	32	0	5	38	0	18	12	39	69	179
Peak Factor																					0.718
High Int. 09:00 AM						09:00 AM					09:00 AM					09:00 AM					
Volume	3	10	6	18	37	0	0	0	35	35	1	32	0	5	38	0	18	12	39	69	
Peak Factor	0.784					0.536					0.816					0.721					



O. R. George & Associates, Inc.
 10210 Greenbelt Road, Suite 310
 Lanham, MD 20706-2218
 Tel: (301) 794-7700 Fax: (301) 794-4400

File Name : F@10TH
 Site Code : 28241607
 Start Date : 12/28/05
 Page No : 3

	10th St., NW From North					10th St., NW From South					F St., NW From East					F St., NW From West					
End Time	Left	Thru	Right	PED S	App. Total	Left	Thru	Right	PED S	App. Total	Left	Thru	Right	PED S	App. Total	Left	Thru	Right	PED S	App. Total	Int. Total
Peak Hour From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Intersection 05:15 PM																					
Volume	26	140	72	243	481	0	0	0	434	434	23	243	2	67	335	0	311	116	286	713	1963
Percent	5.4	29.1	15.0	50.5		0.0	0.0	0.0	100.0		6.9	72.5	0.6	20.0		0.0	43.6	16.3	40.1		
06:00 Volume	3	33	25	52	113	0	0	0	131	131	6	61	2	7	76	0	88	31	93	212	532
Peak Factor																					0.922
High Int. 05:30 PM						06:00 PM					05:15 PM					06:00 PM					
Volume	7	33	19	76	135	0	0	0	131	131	8	60	0	31	99	0	88	31	93	212	
Peak Factor	0.891					0.828					0.846					0.841					



APPENDIX

C

CAPACITY ANALYSIS WORKSHEETS
EXISTING TRAFFIC SITUATION

SHORT REPORT

General Information

Analyst

Agency or Co. O.R. George & Associates, Inc

Date Performed 1/3/2007

Time Period AM Peak Hour

Site Information

Intersection

F Street @ 10th Street

Area Type

All other areas

Jurisdiction

Washington DC

Analysis Year

2007

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	2	0	0	1	0	0	0	0	0	2	0
Lane group		TR			LT						LTR	
Volume (vph)		79	31	10	101					6	43	23
% Heavy veh		0	0	0	0					0	0	0
PHF		0.90	0.90	0.90	0.90					0.90	0.90	0.90
Actuated (P/A)		P	P	P	P					P	P	P
Startup lost time		2.0			2.0						2.0	
Ext. eff. green		2.0			2.0						2.0	
Arrival type		3			3						3	
Unit Extension		3.0			3.0						3.0	
Ped/Bike/RTOR Volume	89		0				75			44		0
Lane Width		12.0			12.0						12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N		N	N	0	N
Parking/hr												
Bus stops/hr		0			0						0	
Unit Extension		3.0			3.0						3.0	
Phasing	EW Perm	02	03	04	SB Only	06	07	08				
Timing	G = 67.3	G =	G =	G =	G = 22.7	G =	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25				Cycle Length C = 100.0								

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate		122			123						81	
Lane group cap.		2333			1254						778	
v/c ratio		0.05			0.10						0.10	
Green ratio		0.67			0.67						0.23	
Unif. delay d1		5.5			5.7						30.6	
Delay factor k		0.50			0.50						0.50	
Increment. delay d2		0.0			0.2						0.3	
PF factor		1.000			1.000						1.000	
Control delay		5.6			5.9						30.9	
Lane group LOS		A			A						C	
Approch. delay		5.6			5.9						30.9	
Approach LOS		A			A						C	
Intersec. delay		12.0			Intersection LOS							B

C-1

SHORT REPORT												
General Information						Site Information						
Analyst <i>Mabrur Rahman</i>						Intersection <i>F Street @ 10th Street</i>						
Agency or Co. <i>O.R. George & Associates, Inc</i>						Area Type <i>All other areas</i>						
Date Performed <i>1/3/2007</i>						Jurisdiction <i>Washington DC</i>						
Time Period <i>PM Peak Hour</i>						Analysis Year <i>2007</i>						
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	2	0	0	1	0	0	0	0	0	2	0
Lane group		TR			LT						LTR	
Volume (vph)		311	116	23	245					26	140	72
% Heavy veh		0	0	0	0					0	0	0
PHF		0.90	0.90	0.90	0.90					0.90	0.90	0.90
Actuated (P/A)		P	P	P	P					P	P	P
Startup lost time		2.0			2.0						2.0	
Ext. eff. green		2.0			2.0						2.0	
Arrival type		3			3						3	
Unit Extension		3.0			3.0						3.0	
Ped/Bike/RTOR Volume	286		0				434			243		0
Lane Width		12.0			12.0						12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N		N	N	0	N
Parking/hr												
Bus stops/hr		0			0						0	
Unit Extension		3.0			3.0						3.0	
Phasing	EW Perm	02	03	04	SB Only	06	07	08				
Timing	G = 70.8	G =	G =	G =	G = 19.2	G =	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adj. flow rate		475			298						265	
Lane group cap:		2457			1267						660	
v/c ratio		0.19			0.24						0.40	
Green ratio		0.71			0.71						0.19	
Unif. delay d1		4.9			5.1						35.4	
Delay factor k		0.50			0.50						0.50	
Increment. delay d2		0.2			0.4						1.8	
PF factor		1.000			1.000						1.000	
Control delay		5.1			5.6						37.2	
Lane group LOS		A			A						D	
Apprch. delay		5.1			5.6						37.2	
Approach LOS		A			A						D	
Intersec. delay		13.4			Intersection LOS							B

APPENDIX

D

ACCIDENT RECORDS

District Department of Transportation
Traffic Services Administration

★ ★ ★

~~SECRET~~
~~SECRET~~

Fax (202) 671-0619

Facsimile transmittal

To: O.R. George ASS Fax: 671 0619
From: Pamela Evans Date: 10/1/14/06
Re: Accident Reports Pages: _____

CC:

☐ Urgent

☐ For Review

☐ Please Comment

d.

District Department of Transportation

2000 14th Street NW, 7th Floor Washington, DC 20009 Telephone (202) 671-2710

D-1

DDOT: Accident Summary Report (R-4)

Date: 1/16/2007
Prepared by: Pam

Location:
F ST And TENTH ST

Quadrant:
NW

Summary for the time period of: 01/01/2003 To 12/31/2003

Total Number of Accident: 1

Total Number of Injuries: 0

Contributing Factors:

Diver:	Vehicle:	Roadway:	Unknown:
1 100.00%	0 0.00%	0 0.00%	0 0.00%

Collision Types:

Right Angle:	Left Turn:	Right Turn:	Rear End:	Side Swiped:	Head On:	Parked:
0	0	0	0	0	0	0
Fixed Object:	Ran Off Road:	Pedestrian:	Backing:	Non Collision:	Other:	
0	0	0	1	0	0	

Accident Times:

Time	# ACC	Percent	Day of Week	# ACC	Percent
07:30-09:30	0	0.00%	Sunday	0	0.00%
09:30-11:30	0	0.00%	Monday	0	0.00%
11:30-13:30	0	0.00%	Tuesday	0	0.00%
13:30-16:00	0	0.00%	Wednesday	0	0.00%
16:00-18:30	0	0.00%	Thursday	0	0.00%
18:30-07:30	1	100.00%	Friday	0	0.00%
Weekday	0	0.00%	Saturday	1	100.00%
Weekend	1	100.00%			

Road Condition	# ACC	Percent	Light Condition	# ACC	Percent
Dry	0	0.00%	Daylight	0	0.00%
Wet	1	100.00%	Dawn/Dusk	0	0.00%
Repairing	0	0.00%	Dark	1	100.00%
Ice/Snow	0	0.00%	Unknown	0	0.00%
Unknown	0	0.00%			

D-2

DDOT: Accident Summary Report (R-4)

Date: 1/16/2007
Prepared by: Pam

Location:
F ST And TENTH ST

Quadrant:
NW

Summary for the time period of: 01/01/2004 To 12/31/2004

Total Number of Accident: 2

Total Number of Injuries: 1

Contributing Factors:

Diver:	Vehicle:	Roadway:	Unknown:
1 50.00%	0 0.00%	0 0.00%	1 50.00%

Collision Types:

Right Angle:	Left Turn:	Right Turn:	Rear End:	Side Swiped:	Head On:	Parked:
1	0	0	1	0	0	0

Fixed Object:	Ran Off Road:	Pedestrian:	Backing:	Non Collision:	Other:
0	0	0	0	0	0

Accident Times:

Time	# ACC	Percent	Day of Week	# ACC	Percent
07:30-09:30	0	0.00%	Sunday	0	0.00%
09:30-11:30	0	0.00%	Monday	0	0.00%
11:30-13:30	0	0.00%	Tuesday	1	50.00%
13:30-16:00	0	0.00%	Wednesday	0	0.00%
16:00-18:30	1	50.00%	Thursday	0	0.00%
18:30-07:30	1	50.00%	Friday	1	50.00%
Weekday	2	100.00%	Saturday	0	0.00%
Weekend	0	0.00%			

Road Condition	# ACC	Percent	Light Condition	# ACC	Percent
Dry	1	50.00%	Daylight	1	50.00%
Wet	1	50.00%	Dawn/Dusk	0	0.00%
Repairing	0	0.00%	Dark	1	50.00%
Ice/Snow	0	0.00%	Unknown	0	0.00%
Unknown	0	0.00%			

D-3

DDOT: Accident Summary Report (R-4)

Date: 1/16/2007
Prepared by: Pam

Location:

F ST And TENTH ST

Quadrant:

NW

Summary for the time period of: 01/01/2005 To 12/31/2005

Total Number of Accident: 1

Total Number of Injuries: 0

Contributing Factors:

Diver:	Vehicle:	Roadway:	Unknown:
0 0.00%	0 0.00%	0 0.00%	0 0.00%

Collision Types:

Right Angle:	Left Turn:	Right Turn:	Rear End:	Side Swiped:	Head On:	Parked:
0	0	0	0	1	0	0
Fixed Object:	Ran Off Road:	Pedestrian:	Backing:	Non Collision:	Other:	
0	0	0	0	0	0	

Accident Times:

Time	# ACC	Percent	Day of Week	# ACC	Percent
07:30-09:30	0	0.00%	Sunday	0	0.00%
09:30-11:30	0	0.00%	Monday	0	0.00%
11:30-13:30	0	0.00%	Tuesday	0	0.00%
13:30-16:00	1	100.00%	Wednesday	0	0.00%
16:00-18:30	0	0.00%	Thursday	1	100.00%
18:30-07:30	0	0.00%	Friday	0	0.00%
Weekday	1	100.00%	Saturday	0	0.00%
Weekend	0	0.00%			

Road Condition	# ACC	Percent	Light Condition	# ACC	Percent
Dry	1	100.00%	Daylight	1	100.00%
Wet	0	0.00%	Dawn/Dusk	0	0.00%
Repairing	0	0.00%	Dark	0	0.00%
Ice/Snow	0	0.00%	Unknown	0	0.00%
Unknown	0	0.00%			

D-4

APPENDIX

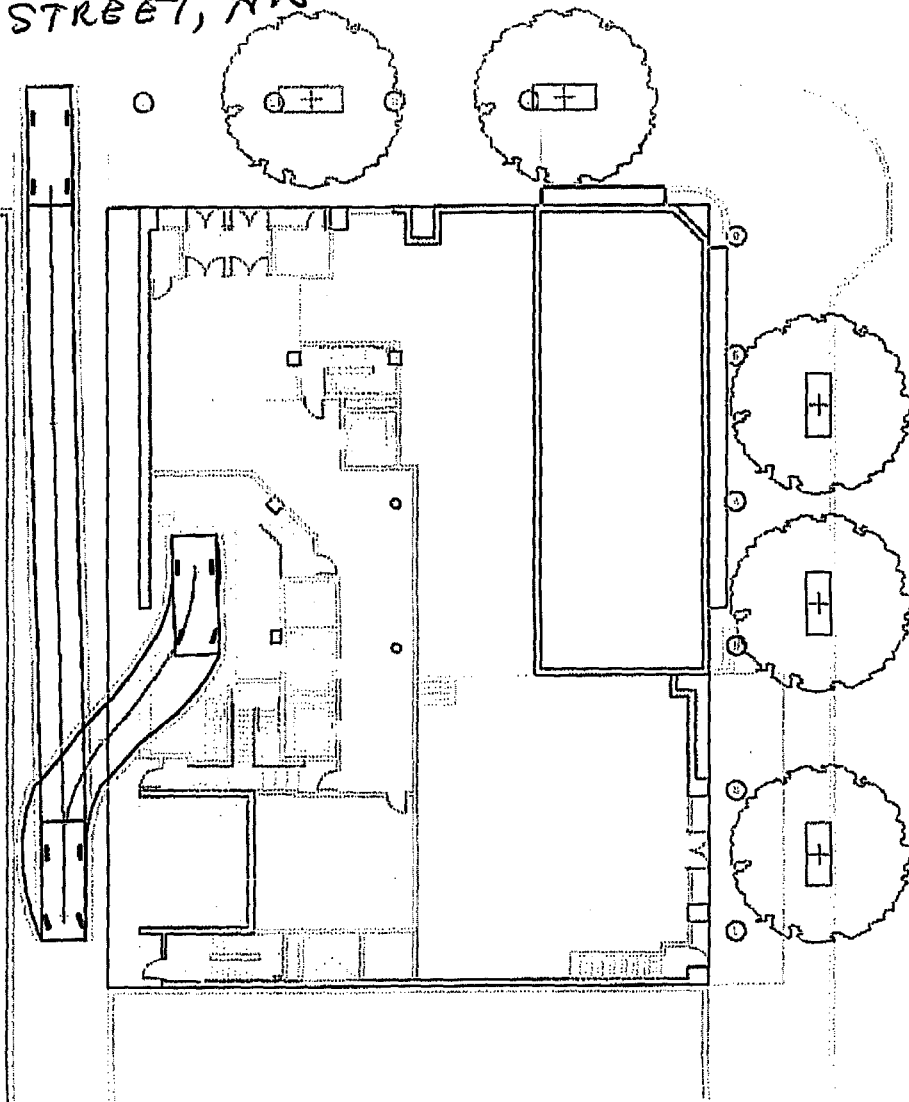
E

LOADING DOCK –
TRUCK TRACKING DIAGRAMS

E. STREET, NW

LOADING DOCK ACCESS # 1 - 20 FT BERTH(N)

10TH STREET, NW



O. R. GEORGE & ASSOCIATES, INC. Traffic Engineers - Transportation Planners 10210 Courtyard Blvd, Suite 110 Lanham, MD 20706	APPENDIX-1 TRACKING DIAGRAM	
	1000 F STREET NORTHWEST, WASHINGTON D.C.	
	DATE: 11/11/07	BY: [Signature]
	11/11/07	11/11/07

E-1

11TH STREET, NW

LOADING DOCK ACCESS # 1 - 20 FT BERTH(OUT)

10TH STREET, NW



	O. R. GEORGE & ASSOCIATES, INC. Traffic Engineers - Transportation Planners 10100 University Road, Suite 100 Columbia, MD 21046		APPENDIX E-2 TRACKING DIAGRAM 1000 P STREET NORTHWEST, WASHINGTON D.C.	
	DATE: 11/1/10 BY: [Signature]	CHECKED BY: [Signature] SCALE: 1" = 20'	SHEET NO.: 1000 P STREET TRACKING DIAGRAM	OF: 1
	PROJECT NO.: 1000 P STREET TRACKING DIAGRAM		SCALE: 1" = 20'	
	DATE: 11/1/10 BY: [Signature]		CHECKED BY: [Signature] SCALE: 1" = 20'	

LEGEND



E-3

