EXHIBIT G

RANSPORTATION IMP STUDY"

WELLS & ASSOCIATES, LLC
TRAFFIC, TRANSPORTATION and PARKING CONSULTANTS

MEETING THE NEEDS OF A MOBILE SOCIETY

2201 M Street, N.W.
Transportation Impact Study
Washington, D.C.

Prepared by:
Wells & Associates, LLC

July 2007

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Section I
INTRODUCTION

Overview

Perseus Realty, LLC proposes to raze an existing building that formerly housed the Embassy of the Federal Republic of Nigeria and an adjacent restaurant, and develop a 182-room hotel. The hotel will contain an 8,500 square foot (SF) restaurant. The site is located in the northwest quadrant of the M Street/22nd Street intersection, in the northwest section of Washington, DC (See Figure 1-1).

The 15,590 square foot (SF) site includes lots 82, 84, 813, 814, and 816 of Square 50. The subject site currently is developed and zoned CR (Mixed Use Commercial Residential).

Perseus Realty, LLC and Starwood Capital Group plan to submit a Planned Unit Development (PUD) application to the District of Columbia Zoning Commission for the property development. The proposed site plan for the development is shown on Figure 1-2.

Representatives of the development team met with representatives of the District Department of Transportation (DDOT) to identify the study scope and agree on specific study parameters. A summary of the scoping meeting is included in Appendix A.

Study Area

The study area was selected based on those intersections that potentially could be affected by the proposed development. The following intersections were selected for detailed analysis:

1. M Street/22nd Street,
2. M Street/23rd Street,
3. M Street/New Hampshire Avenue.

This report presents an analysis of existing transportation conditions and 2010 conditions, with and without the proposed re-development.

Tasks undertaken in this study included the following:

1. Review of plans provided by Perseus Realty, LLC.

2. A field reconnaissance of existing roadway and intersection geometrics, traffic controls, speed limits, and parking restrictions.

3. Turning movement counts at the study intersections during typical, weekday AM and PM peak periods.

4. Analysis of existing and projected levels of service at the study intersections.

5. Estimation of the number of AM and PM peak hour trips that would be generated by the proposed development.

6. Identification of traffic operations and/or road improvements, if any, required to adequately accommodate future traffic forecasts with the proposed development.

7. Evaluation of total future AM and PM peak hour levels of service at the study intersections with DDOT's proposed bicycle lane to be constructed along 22nd Street.

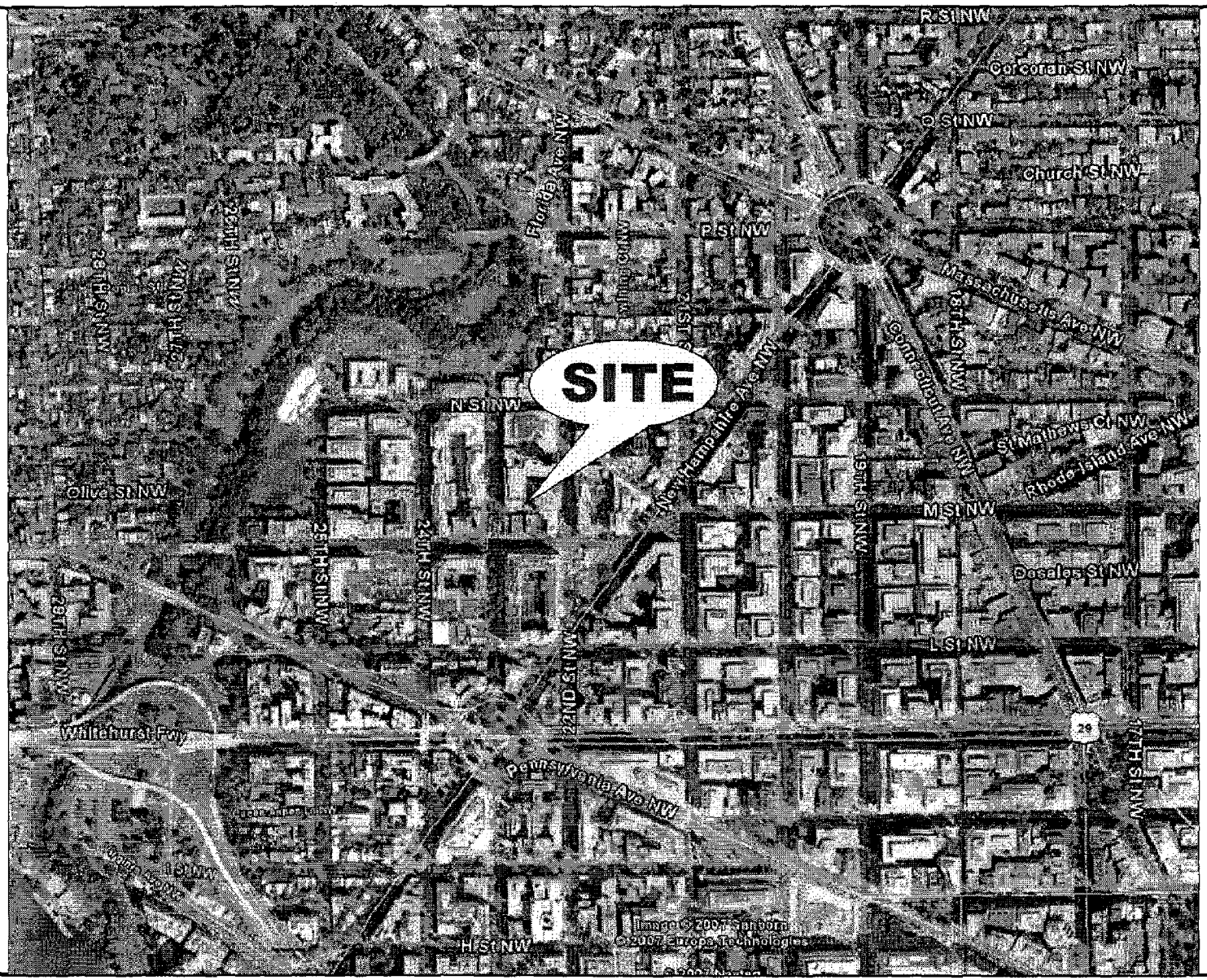

Figure 1–1
Site Location Map

North

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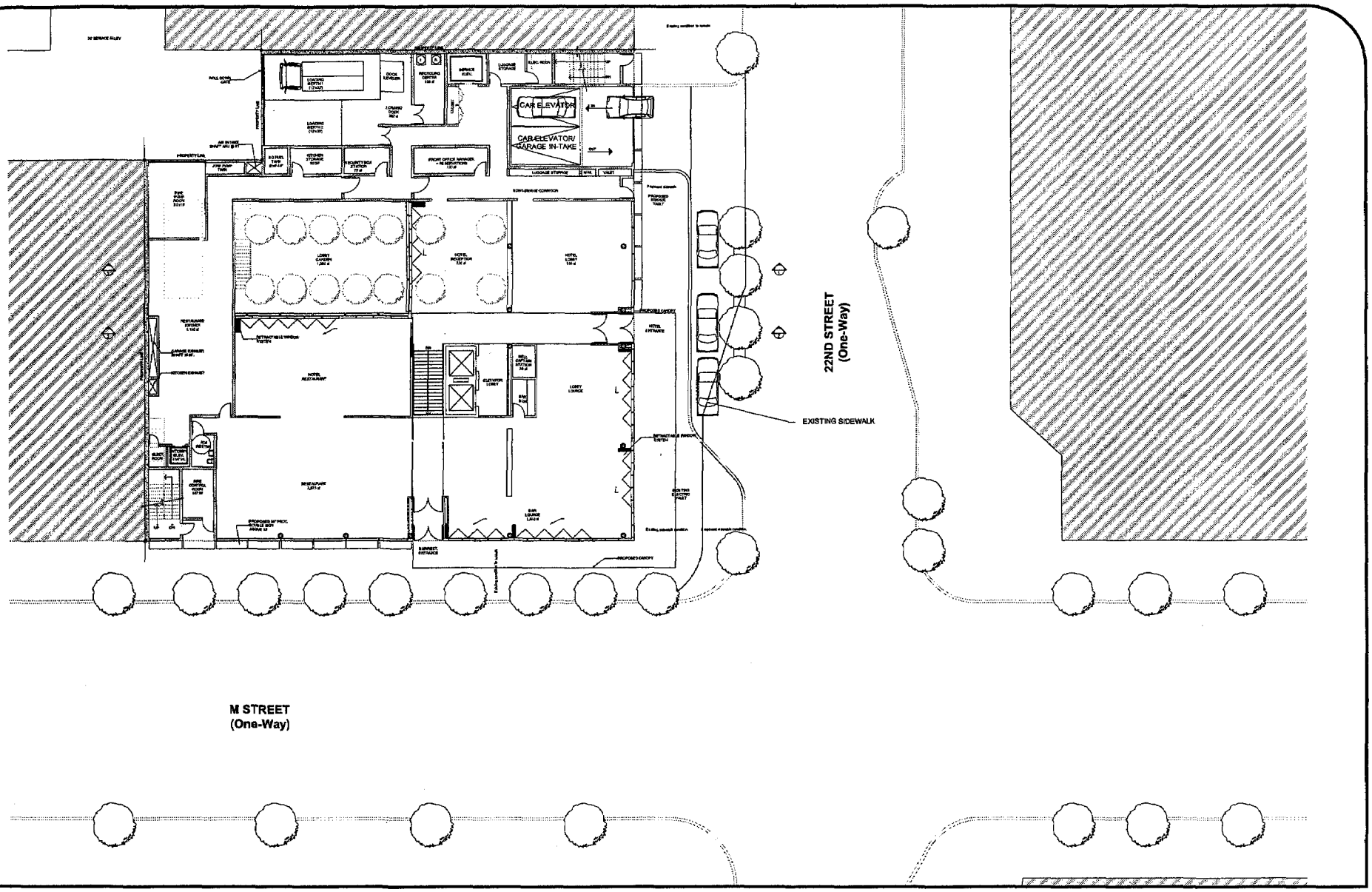

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Figure 1–2
Site Plan

North

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The conclusions and recommendations of this study are as follows:

1. Currently, all study intersections operate at level of service (LOS) "C" or better during the AM and PM peak hours.

2. Background traffic growth and traffic that will be generated by pipeline projects will have no significant impact on future (2010) levels of service, without re-development of the subject site.

3. The proposed hotel and restaurant is expected to generate 71 AM peak hour vehicle-trips and 131 PM peak hour vehicle-trips.

4. According to the District of Columbia Municipal Regulations,[1] 46 on-site parking spaces would be required for the proposed development. As proposed, the development would be served by 70 parking spaces.

5. The proposed hotel and restaurant would have no significant impact on future intersection levels of service.

6. With the bicycle lane proposed by DDOT, the study intersections are projected to operate at acceptable levels of service with slight adjustments to the green times at the M Street/22nd Street intersection during the AM peak hour.

Section 2
EXISTING CONDITIONS

Land Use

The subject site presently is occupied by the former building for the Embassy of the Federal Republic of Nigeria, a restaurant, and a parking lot with the capacity to park approximately 8 to 10 cars in unmarked spaces. The area surrounding the site is comprised of retail, residential, and office uses. A fire station and an office building are located to the west of the subject site. A hotel is located to the south of the subject site. A hotel is located to the east of the subject site.

Site Zoning

The subject site is zoned CR (Mixed Use Commercial Residential) and is designated in the mixed-use, high density residential and high density commercial land use category. The purpose of the CR District is to "encourage a diversity of compatible land uses that may include a mixture of residential, office, retail, recreational, light industrial, and other miscellaneous uses."[2]

Roadway Network

Regional access to the site is provided primarily via I-66 to the west, I-295 and I-395 to the south, and Rhode Island Avenue to the northeast. Local site access is facilitated by M Street, N Street, 22nd Street, and 23rd Street. Figure 2-1 reflects existing lane use and traffic controls. A description of each of the roadways within the study area is provided below:

M Street is a four-lane westbound (one-way) minor arterial. The average annual daily traffic (AADT) on M Street ranges from 14,200 vehicles per day (vpd) west of 23rd Street to 21,400 vpd east of 23rd Street.[3]

Currently, due to construction, the four-lane roadway is restricted to three travel lanes with a protected pedestrian walkway on the south side of M Street between 22nd Street and New Hampshire Avenue.

Curb parking is restricted to two-hour parking from 7:00 AM to 6:30 PM, Monday through Friday on the north side of M Street at its intersection with 22nd Street.

New Hampshire Avenue is a two-way, minor arterial, except south of M Street where it is one-way northbound. The average annual daily traffic (AADT) on New Hampshire Avenue ranges from 6,000 vpd south of M Street to 9,700 vpd north of M Street.[4]

Currently, due to construction, the exclusive northbound left-turn lane at the M Street/New Hampshire Avenue intersection is a parking lane for construction vehicles.

Curb parking is allowed on the west side of the street (north of M Street) and is restricted to two-hour parking from 7:00 AM to 6:30 PM, Monday through Friday. Curb parking is allowed on the east side of the street (north of M Street) and is restricted to four-hour parking for motorcycles only from 7:00 AM to 7:00 PM, Monday through Saturday.

22nd Street is a three-lane northbound (one-way) minor arterial. The intersection of 22nd Street with M Street is controlled by a traffic signal. The AADT on the 22nd Street is 14,300 vpd in the vicinity of the site.[5]

Currently, due to construction, the three-lane roadway at the M Street/22nd Street intersection is restricted to two travel lanes with a parking lane for construction vehicles.

Curb parking on 22nd Street is prohibited on both sides of the street from 4:00 PM to 6:30 PM, Monday through Friday.

23rd Street is a three-lane southbound (one-way) principal arterial. The intersection of 23rd Street with M Street is controlled by a traffic signal. The AADT on the 23rd Street is 16,600 vpd in the vicinity of the site.[6]

Curb parking is prohibited on the west side of the street during the commuter peak periods from 7:00 AM to 9:30 AM and from 4:00 PM to 6:30 PM.

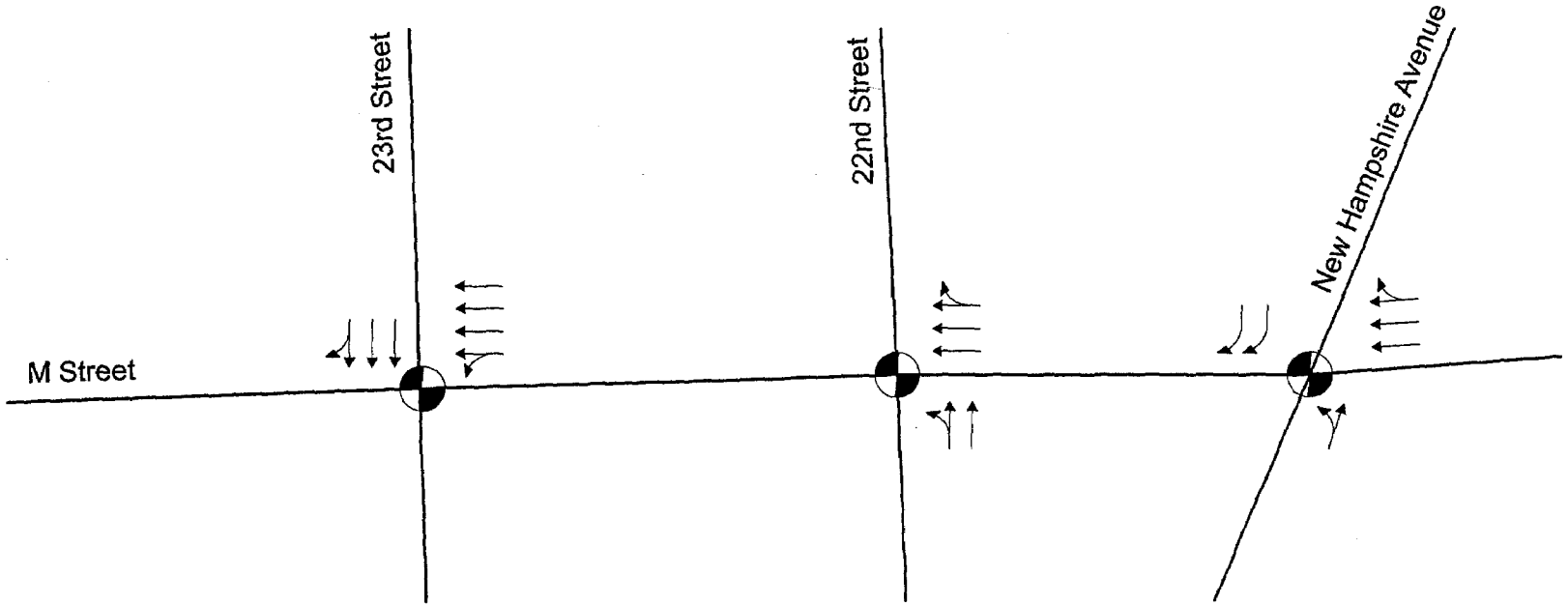

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Figure 2-1
Existing Lane Use and Traffic Control

← Represents One Travel Lane
Signalized Intersection
Stop Sign

North

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Public Transportation Facilities and Services

The subject site is located approximately ⅓-mile from the Foggy Bottom-GWU Metro Station and approximately ½-mile from the Dupont Circle Metro Station.

The Orange and the Blue line provide service at the Foggy Bottom-GWU Metro Station. The Red line provides service at the Dupont Circle Metro Station.

The area also is served by several Metrobus routes. The Brookland-Potomac Park Shuttle Line (Metrobus Route H1), the Connecticut Avenue Shuttle Line (Metrobus Route L1), and the Massachusetts Avenue Shuttle Line (Metrobus Route N3) provide bus service in the study area. Bus stops are located on 23rd Street at M Street and on New Hampshire Avenue at M Street.

Route H1 provides service to the Brookland-CUA, Columbia Heights, Dupont Circle, and Foggy Bottom-GWU Metro Stations.

Route L1 provides service to the Van Ness-UDC, Cleveland Park, Woodley Park-Zoo/Adams Morgan, and Foggy Bottom-GWU Metro Stations.

Route N3 provides service to the Friendship Heights, Foggy Bottom-GWU, and Federal Triangle Metro Stations.

Pedestrian/Bicycle Routes

Pedestrian access to the subject site is provided via sidewalks on both sides of the streets in the immediate site vicinity. Pedestrian signals with clearly marked crosswalks are located at the study intersections.

DDOT published a District of Columbia Bicycle Master Plan in April 2005.[7] That document evaluates existing bicycling facilities, policies, and other bicycle-related matters. It also establishes goals, makes recommendations for achieving those goals, and presents an implementation plan.

Presently, there are no bicycle lanes, routes, or trails in the immediate vicinity of the subject site, according to the Bicycle Master Plan. Bicyclists share the public streets with motor vehicles and pedestrians.

The Bicycle Level of Service (BLOS) on most streets in the site vicinity is BLOS "E" or better, according to the Bicycle Master Plan.

The Plan recommends a new bicycle lane on 22nd Street between L and P Streets. In order to accommodate the proposed bike lane on 22nd Street, DDOT proposes to re-stripe the easternmost lane, in which parking currently is permitted during the AM peak hour, to provide a five-foot bike lane and seven foot parking lane. The number of travel lanes would be reduced from two lanes to one lane during the AM peak hour and from three lanes to two lanes during the PM peak hour.

No detailed information is available on DDOT's plans to implement the proposed bicycle lane.

Traffic Volumes

Vehicular turning movement counts and pedestrian counts were conducted at the M Street/22nd Street and M Street/23rd Street intersections on Wednesday, March 21, 2007 from 7:00 AM to 10:00 AM and from 4:00 PM to 7:00 PM.

At the request of DDOT, the M Street/New Hampshire Avenue intersection was subsequently added as a study intersection. Vehicular turning movement counts and pedestrian counts were conducted at this intersection on Wednesday, June 27, 2007 from 7:00 AM to 10:00 AM and from 4:00 PM to 7:00 PM.

Based on the data collected, common AM and PM peak hours were selected for the entire study area. The common AM peak hour occurred from 8:15 to 9:15 AM. The common PM peak hour occurred from 5:15 to 6:15 PM. Traffic volumes at the M Street/New Hampshire Avenue intersection were adjusted to balance with the remaining study intersections.

Vehicular peak hour traffic volumes are summarized on Figure 2-2 and peak hour pedestrian volumes are summarized on Figure 2-3. Traffic count data are included in Appendix B.

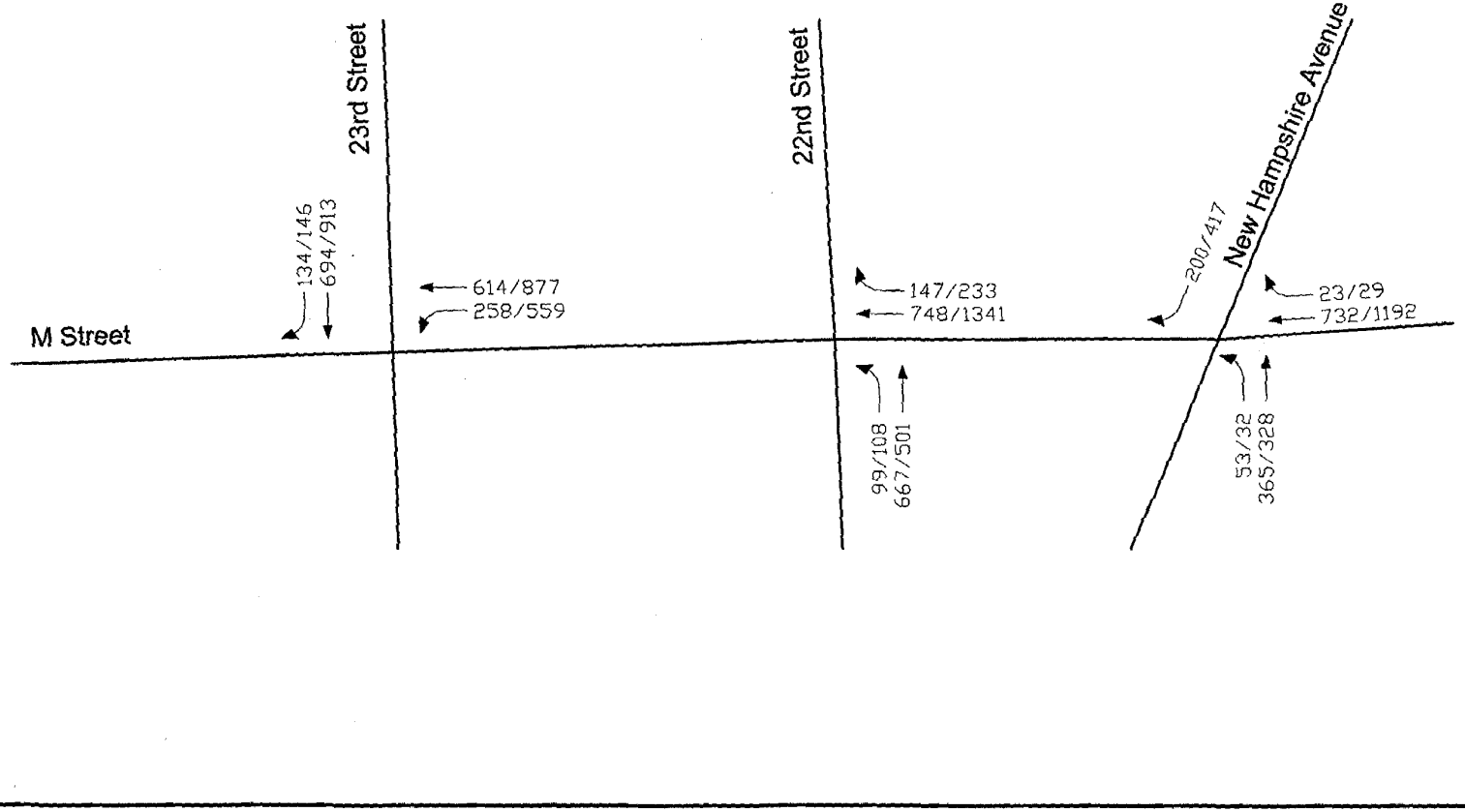

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Figure 2-2
Existing Peak Hour Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000

North

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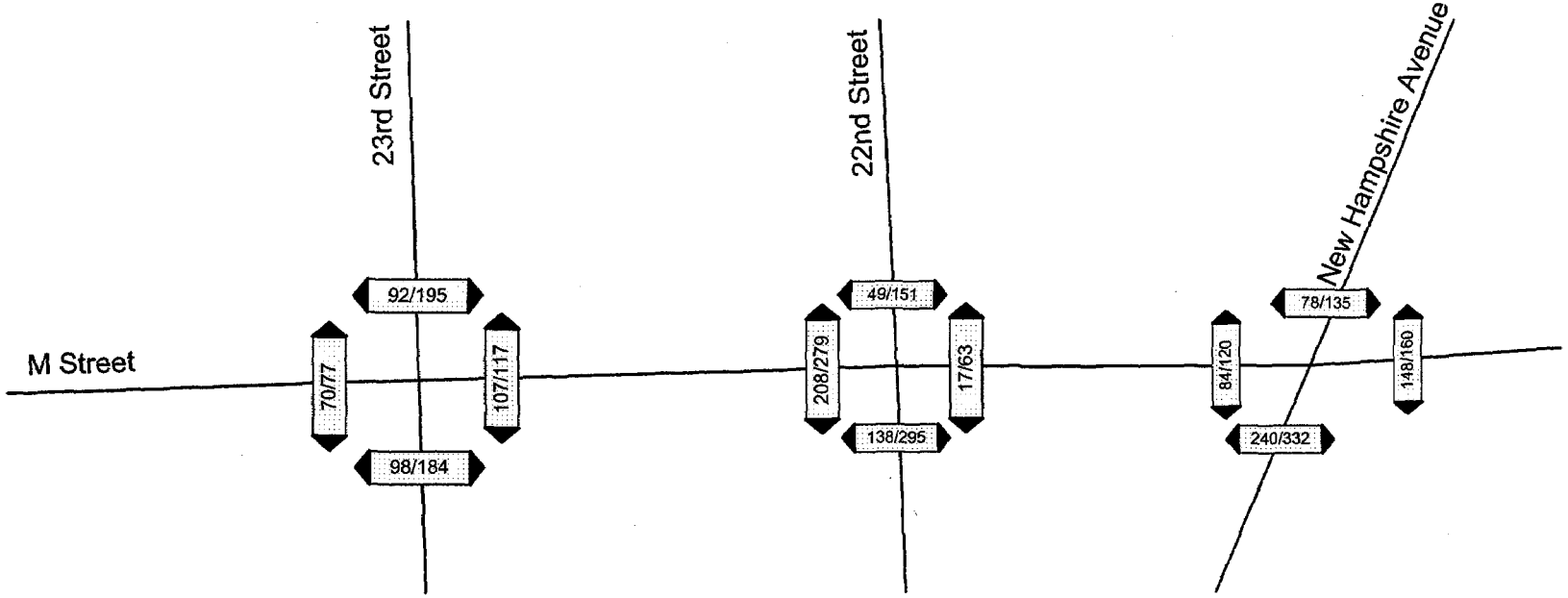

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Figure 2-3
Existing Peak Hour Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000

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Operational Analysis

Capacity/level of service (LOS) analyses were conducted based on the existing lane use and traffic control shown on Figure 2-1, existing vehicular traffic volumes shown on Figure 2-2, pedestrian volumes shown on Figure 2-3 and existing DDOT traffic signal timings included in Appendix C.

Synchro software (version 6, build 612) 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[8] (HCM) reports generated by Synchro. Levels of service descriptions are included in Appendix D.

The Synchro results are presented in Appendix E and summarized in Table 2-1.

As shown in Table 2-1, the study intersections currently operate at acceptable levels of service (i.e. LOS "D" or better). Each lane group also operates at LOS "C" or better during the AM and PM peak hours.

Table 2-1
Existing Levels of Service

Approach	AM Peak	PM Peak
M Street/23rd Street		
WBLT	A (5.2)	A (3.0)
SBTR	B (18.6)	C (26.4)
OVERALL	B (11.8)	B (12.9)
M Street/22nd Street		
WBTR	B (11.9)	B (16.3)
NBLT	B (18.4)	C (21.0)
OVERALL	B (14.9)	B (17.6)
M Street/New Hampshire Avenue		
WBTR	B (16.8)	B (19.2)
NBLT	C (32.0)	C (30.5)
SBR	C (20.3)	C (26.1)
OVERALL	C (21.9)	C (22.7)

(23.3) = signalized intersection control delay in sec/veh

Section 3
FUTURE BACKGROUND CONDITIONS

Land Use

In addition to the proposed development, five other developments are planned in and around the study area and were considered as part of the background traffic growth.

EastBanc, Inc. currently is constructing the 22 West development located at 1177 22nd Street, NW. The proposed development will consist of 95 condominium units and a gas station. The project is expected to be completed in the summer of 2007.

Walgreens Co. currently is constructing a pharmacy/drugstore in the northeast quadrant of the M Street/22nd Street intersection. For purposes of this analysis, the pharmacy was assumed to be 10,000 square feet (SF).

Charles E. Smith Commercial Realty proposes to redevelop the headquarters of BNA Washington, Inc. located in Square 24, Lots 109 and 883. The property currently includes a 112,665 SF office building (located at 1227 25th Street) and two office buildings (located at 1229 and 1231 25th Street). The 1227 Building will be expanded to 143,333 SF of office space. The 1229 and 1231 Buildings will be expanded and converted to approximately 295 condominium units.

Wyndham City Center Hotel, located at 1143 New Hampshire Avenue, is proposing to renovate the existing 350-room hotel and to construct an additional 90 rooms.

A condominium building containing 98 residential units and ground floor retail is proposed at 2110 M Street, NW. For purposes of this analysis, the ground floor retail was assumed to be 5,000 SF.

The location of each pipeline development is shown in Appendix F.

Roadway Network

The construction of the 22 West development and the Walgreens development currently restrict one travel lane on M Street between 22nd Street and New Hampshire Avenue and on 22nd Street and New Hampshire Avenue south of M Street. However, the construction is anticipated to be completed by 2010. The future (post-construction) lane use and traffic controls are shown on Figure 3-1.

Future Background Traffic Forecasts

In order to account for regional traffic growth outside the immediate site vicinity, a one percent growth rate, compounded annually, was applied to the existing traffic volumes. The resulting volumes are shown on Figure 3-2.

Additionally, traffic volumes from the five planned developments were included in the future traffic forecasts. Traffic volumes associated with the BNA Washington, Inc. redevelopment were taken from the 1227 and 1229-1231 25th Street PUD Traffic Impact Analysis.[9]

The number of trips that would be generated by the remaining four pipeline developments was estimated based on the Institute of Transportation Engineers' (ITE) Trip Generation[10] and Trip Generation Handbook.[11]

The pipeline trip generation is summarized in Table 3-1.

The traffic assignments associated with each of the pipeline developments are included in Appendix F. The combined peak hour site trips associated with the pipelines are shown on Figure 3-3.

The factored traffic volumes shown on Figure 3-2 were combined with the pipeline developments' traffic assignments shown on Figure 3-3 to yield the 2010 future background traffic forecasts shown on Figure 3-4.

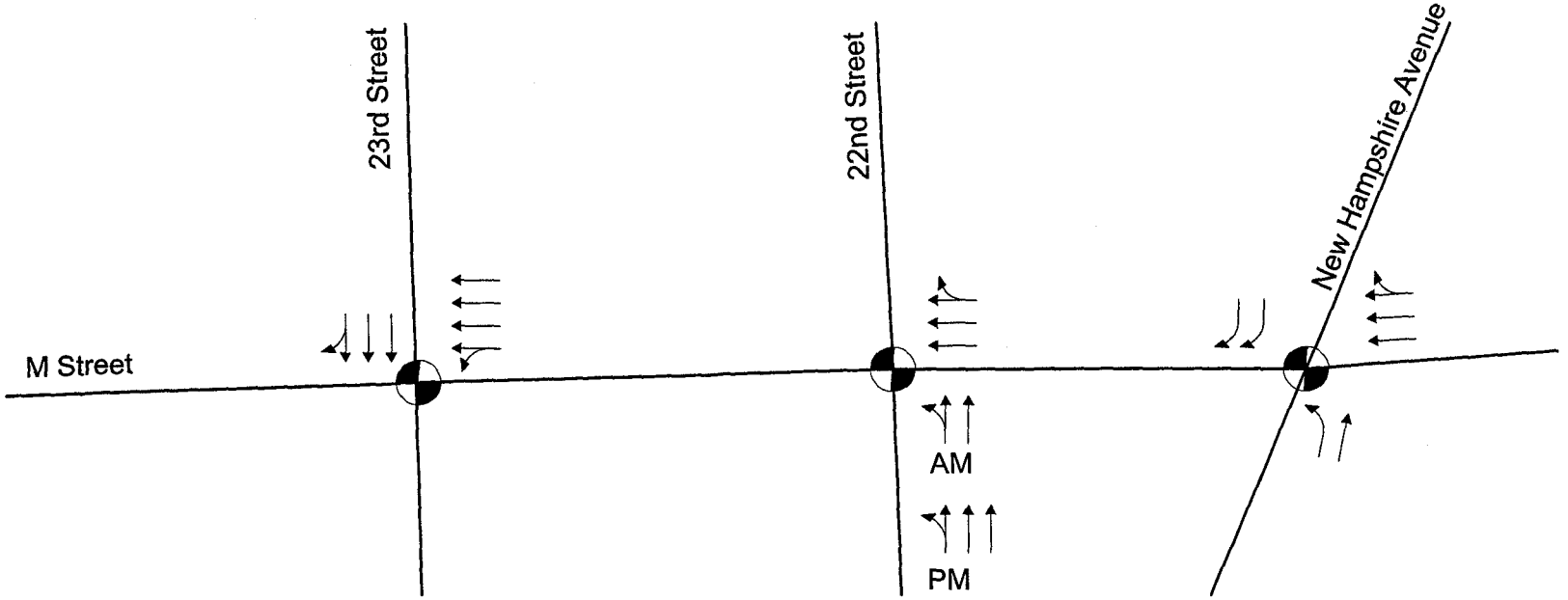

Figure 3–1

Future (Post–Construction) Lane Use and Traffic Control

← Represents One Travel Lane

⊗ Signalized Intersection

⊣ Stop Sign

North

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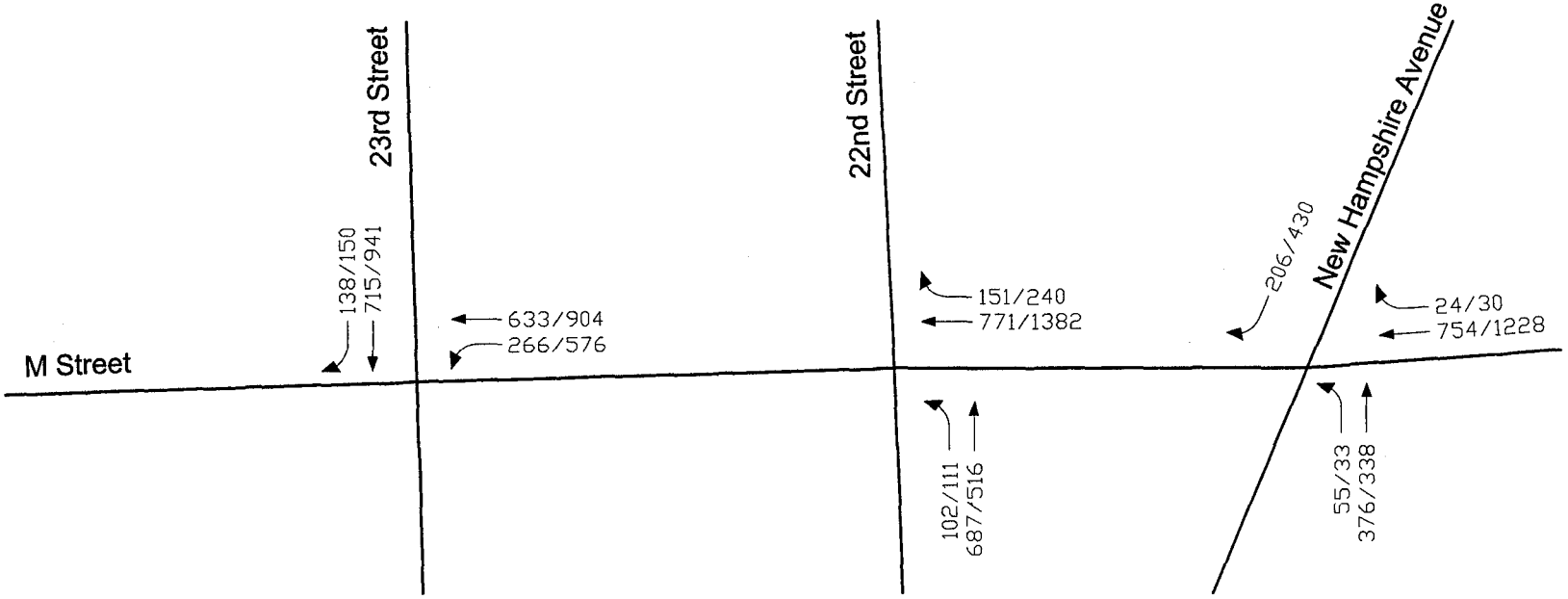

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Figure 3-2
Existing Peak Hour Traffic Volumes with Regional Growth

AM PEAK HOUR
PM PEAK HOUR
000/000

North

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Washington, D.C.

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Table 3-1
Pipeline Site Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour			ADT
	In	Out	Total	In	Out	Total	
22 West Development							
Residential Condominium	9	41	50	28	14	42	614
Internal Trips	1	2	3	6	5	11	130
External Trips	8	39	47	22	9	31	484
Non-auto Trips[1]	3	16	19	9	4	13	194
External Vehicle Trips	**5**	**23**	**28**	**13**	**5**	**18**	**290**
Gasoline/Service Station with Convenience Market	40	40	80	54	53	107	1,302
Internal Trips	2	1	3	5	6	11	130
External Vehicle Trips	**38**	**39**	**77**	**49**	**47**	**96**	**1,172**
Total Site Trips	49	81	130	82	67	149	1,916
Internal Trips	3	3	6	11	11	22	260
External Trips	46	78	124	71	56	127	1,656
Non-auto Trips[1]	3	16	19	9	4	13	194
External Vehicle Trips	**43**	**62**	**104**	**62**	**52**	**114**	**1,462**
Walgreens							
Pharmacy/Drugstore without Drive-Through Window	17	11	28	42	42	84	901
BNA Washington, Inc.							
High-Rise Apartments	21	102	123	98	48	146	1,610
Non-auto Trips	10	61	74	59	29	88	966
External Vehicle Trips	**8**	**41**	**49**	**39**	**19**	**58**	**644**
General Office	220	30	250	38	184	221	1,760
Non-auto Trips	88	12	100	15	73	88	704
External Trips	132	18	150	23	111	133	1,056
Existing Trips from Offices	60	0	60	1	39	40	556
External Vehicle Trips	**72**	**18**	**90**	**22**	**71**	**93**	**500**
Total Net Trips	**80**	**59**	**139**	**61**	**90**	**151**	**1,144**

[1] Based on WMATA's 2005 Ridership Survey.

Table 3-1 (continued)
Pipeline Site Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour			ADT
	In	Out	Total	In	Out	Total	
Wyndham City Center Hotel Expansion							
Hotel	22	14	36	28	25	53	432
Non-auto Trips[1]	6	4	10	7	6	13	108
External Vehicle Trips	**16**	**10**	**26**	**21**	**19**	**40**	**324**
2110 M Street, NW							
Residential Condominium	9	42	51	29	14	43	631
Internal Trips	1	0	1	2	1	3	22
External Trips	8	42	50	27	13	40	609
Non-auto Trips[1]	3	17	20	11	5	16	244
External Vehicle Trips	**5**	**25**	**30**	**16**	**8**	**24**	**365**
Specialty Retail	9	9	18	15	18	33	222
Internal Trips	0	1	1	1	2	3	22
External Vehicle Trips	**9**	**8**	**17**	**14**	**16**	**30**	**200**
Total Site Trips	18	51	69	44	32	76	853
Internal Trips	1	1	2	3	3	6	44
External Trips	17	50	67	41	29	70	809
Non-auto Trips[1]	3	17	20	11	5	16	244
External Vehicle Trips	**14**	**33**	**47**	**30**	**24**	**54**	**565**

[1] Based on WMATA's 2005 Ridership Survey.

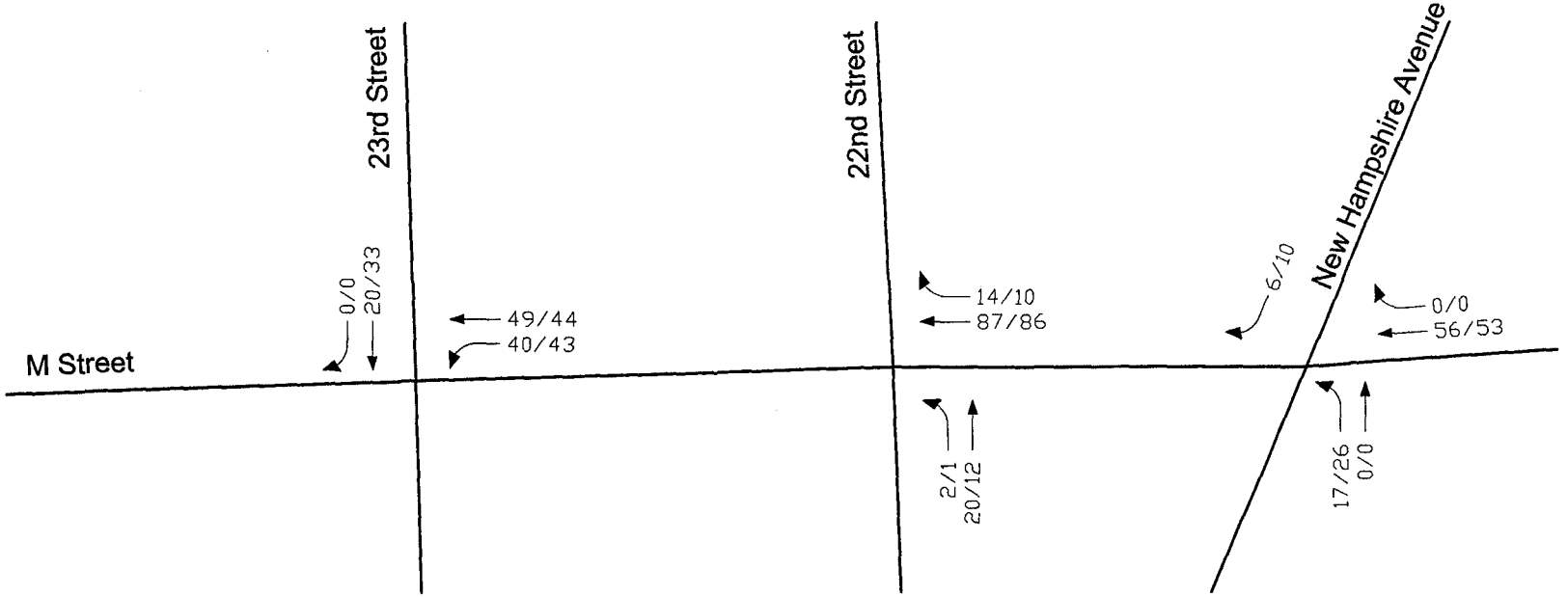

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Figure 3–3
Pipeline Developments Traffic Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

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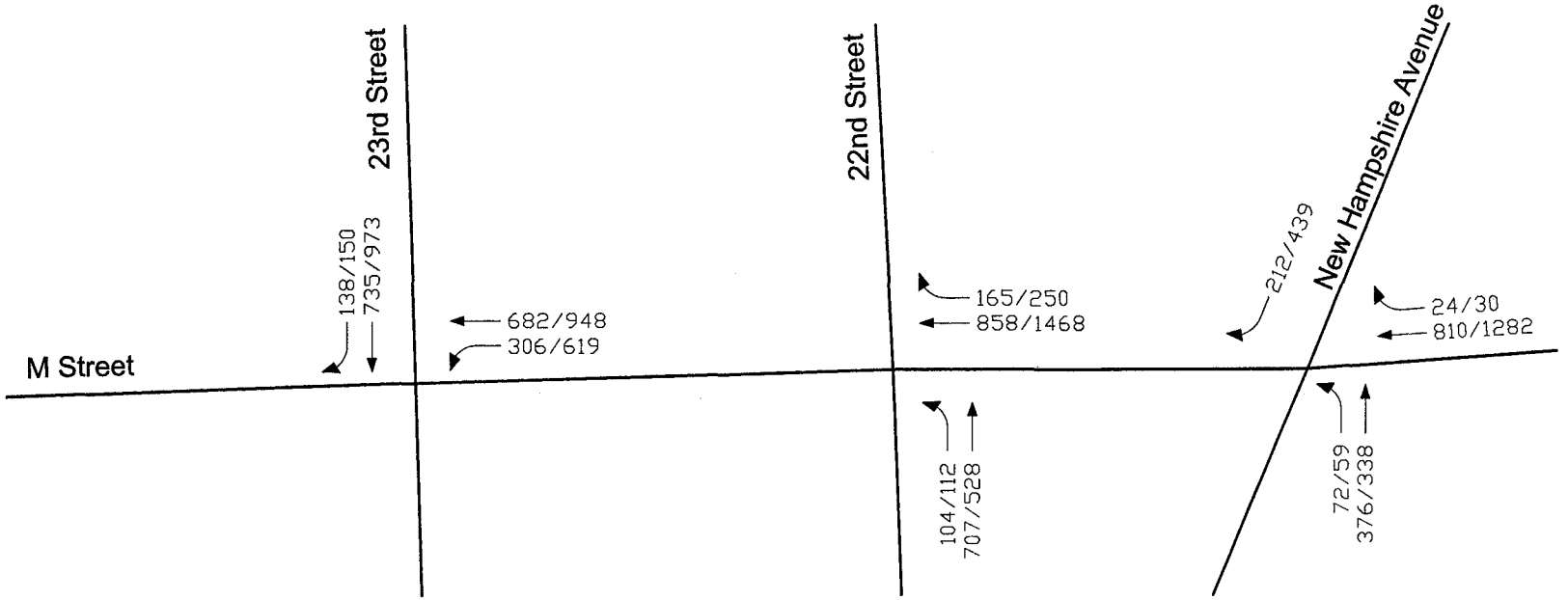

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Figure 3-4
2010 Future Background Peak Hour Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
000/000

North

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Washington, D.C.

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Operational Analysis

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the future lane use and traffic control shown on Figure 3-1, the 2010 future background traffic forecasts shown on Figure 3-4, pedestrian volumes shown on Figure 2-3 and the existing DDOT traffic signal timings included in Appendix C.

The Synchro results for the 2010 background conditions are presented in Appendix G and summarized in Table 3-2.

Table 3-2
Background Levels of Service

Approach	AM Peak	PM Peak
M Street/23rd Street		
WBLT	A (4.9)	A (2.9)
SBTR	B (18.9)	C (27.2)
OVERALL	B (11.5)	B (13.0)
M Street/22nd Street		
WBTR	B (13.5)	C (21.5)
NBLT	B (19.0)	B (18.3)
OVERALL	B (16.0)	C (20.6)
M Street/New Hampshire Avenue		
WBTR	B (17.3)	C (20.1)
NBL	B (19.8)	C (20.3)
NBT	C (29.4)	C (29.2)
SBR	C (20.4)	C (26.8)
OVERALL	C (20.9)	C (22.9)

(23.3) = signalized intersection control delay in sec/veh

As shown in Table 3-2, the study intersections continue to operate at acceptable levels of service (i.e. LOS "D" or better). Each lane group also operates at LOS "C" or better during the AM and PM peak hours.

Section 4
SITE ANALYSIS

Trip Generation Analysis for Proposed Hotel with Restaurant

The number of trips anticipated to be generated by the proposed development (a 182-room hotel with an 8,500 square foot (SF) restaurant) was estimated based on the Institute of Transportation Engineers' (ITE) Trip Generation.[12] Land Use Code 310 (Hotel) and Land Use Code 931 (Quality Restaurant) were used with the number of rooms and the square footage as the independent variables, respectively.

The proposed development is expected to generate 93 total AM peak hour trips and 171 total PM peak hour trips, based on standard ITE rates.

The hotel and restaurant would create a naturally occurring synergy. That is, some of the hotel guests would patronize the restaurant on-site rather than another restaurant off-site. As a result of this naturally occurring synergy, the volume of external trips generated by the site would be slightly reduced.

For purposes of this analysis, the internal capture rates outlined in the ITE Trip Generation Handbook[13] were used. Based on the ITE methodology, 14 PM peak hour trips would be projected to occur internally.

A portion of the trips generated by the proposed development would be made via non-auto modes of transportation. The percentage of site-generated trips that would utilize public transportation is dependent on the proximity of the site to transit stops.

According to WMATA's 2005 Ridership Survey, the transit mode share for hotels is related to the distance from the development to the nearest transit station.

Based on the Ridership Survey, the non-auto mode split for the subject site was estimated to be 25 percent. A non-auto mode split was not used for the restaurant component.

Non-auto trips are projected to account for 22 AM peak hour trips and 26 PM peak hour trips, as shown in Table 4-1.

Taking into account internal synergy and the non-auto mode share, the proposed development would generate an estimated 71 AM peak hour vehicular trips and 131 PM peak hour vehicular trips, as shown on Table 4-1.

Trip Generation Analysis for Matter-of-Right Development

As a matter of right, the CR zoning district permits residential, commercial and certain light industrial development to a maximum floor area ratio (FAR) of 6.0, not more than 3.0 of which may be used for other than residential purposes.[14] Therefore, the subject site could accommodate, as a matter of right, a 46,770 SF office and 60 apartment units.

Accordingly, a trip generation analysis was conducted to determine the number of trips that would be generated by the matter-of-right development. Land Use Code 220 (Apartment) and Land Use Code 710 (General Office Building) in ITE's Trip Generation[15] were used with the number of dwelling units and the square footage as the independent variables, respectively. Based on WMATA's 2005 Ridership Survey, the non-auto mode split for the apartment component was estimated to be 36 percent and the non-auto mode split for the office component was estimated to be 14 percent. Table 4-2 compares the anticipated trip generation for the matter-of-right development to that anticipated for the hotel with restaurant.

As shown in Table 4-2, the proposed hotel with restaurant is expected to generate 37 (or approximately 34 percent) fewer AM peak hour trips and 15 (or approximately 10 percent) fewer PM peak hour trips than could be generated by the matter-of-right development.

Table 4-1
Site Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour			ADT
	In	Out	Total	In	Out	Total	
Hotel	52	34	86	57	50	107	1,256
Internal Trips	--	--	--	3	4	7	76
External Trips	52	34	86	54	46	100	1,180
Non-auto Trips	13	9	22	14	12	26	295
External Vehicle Trips	**39**	**25**	**64**	**40**	**34**	**74**	**885**
Quality Restaurant	4	3	7	43	21	64	765
Internal Trips	--	--	--	4	3	7	76
External Trips	4	3	7	39	18	57	689
Non-auto Trips	--	--	--	--	--	--	--
External Vehicle Trips	**4**	**3**	**7**	**39**	**18**	**57**	**689**
Total Site Trips	56	37	93	100	71	171	2,021
Internal Trips	--	--	--	7	7	14	152
External Trips	56	37	93	93	64	157	1,869
Non-auto Trips	13	9	22	14	12	26	295
External Vehicle Trips	**43**	**28**	**71**	**79**	**52**	**131**	**1,574**

Table 4-2
Site Trip Generation Comparison

Land Use	AM Peak Hour			PM Peak Hour			ADT
	In	Out	Total	In	Out	Total	
Matter of Right Development							
Apartment	7	26	33	33	18	51	511
Non-auto Trips	3	9	12	12	6	18	184
External Vehicle Trips	**4**	**17**	**21**	**21**	**12**	**33**	**327**
Office	90	12	102	22	109	131	743
Non-auto Trips	13	2	15	3	15	18	104
External Vehicle Trips	**77**	**10**	**87**	**19**	**94**	**113**	**639**
Total External Vehicle Trips	**81**	**27**	**108**	**40**	**106**	**146**	**966**
Proposed Hotel and Restaurant							
External Vehicle Trips	**43**	**28**	**71**	**79**	**52**	**131**	**1,574**
Difference (Proposed - Matter of Right)	**-38**	**1**	**-37**	**39**	**-54**	**-15**	**608**
% Difference	**-46.9%**	**3.7%**	**-34.3%**	**97.5%**	**-50.9%**	**-10.3%**	**62.9%**

Trip Distribution

The distribution of peak hour hotel trips was based on existing traffic patterns and minimum travel time paths. The distributions are summarized in Table 4-3.

Table 4-3
Site Trip Distributions

Origin/Destination	AM	PM
From the northwest via 23rd Street	28%	29%
From the northeast via New Hampshire Avenue	7%	11%
From the east via M Street	25%	33%
From the southeast via New Hampshire Avenue	14%	10%
From the south via 22nd Street	26%	17%
Total Inbound	**100%**	**100%**
To the west via M Street	30%	32%
To the southwest via 23rd Street	38%	45%
To the north via 22nd Street	32%	23%
Total Outbound	**100%**	**100%**

Site Traffic Assignments

The site-generated traffic volumes shown in Table 4-1 were assigned to the public roadway network according to the directional distribution described Table 4-3. The resulting site traffic assignments are shown on Figure 4-1.

Proposed Site Access

As proposed, garage access to the site would be provided via a driveway along 22nd Street. A drop-off lane also will be provided on 22nd Street, south of the proposed garage access. All parking will be valet parking utilizing garage elevators.

Service vehicles will utilize the existing alley north of the proposed driveway on 22nd Street to access the loading dock area.

Appendix H includes a traffic circulation plan and truck circulation exhibits.

Parking Requirements

According to the District of Columbia Municipal Regulations (DCMR),[16] one parking space for each four rooms usable for sleeping, plus 1 for each 150 square foot of floor area in either the largest function room or the largest exhibit space, whichever is greater, is required for a hotel in the CR zoning district. Therefore, the proposed development would require 46 parking spaces. A total of 70 parking spaces will be provided. This is 24 spaces above the minimum required by the DCMR.

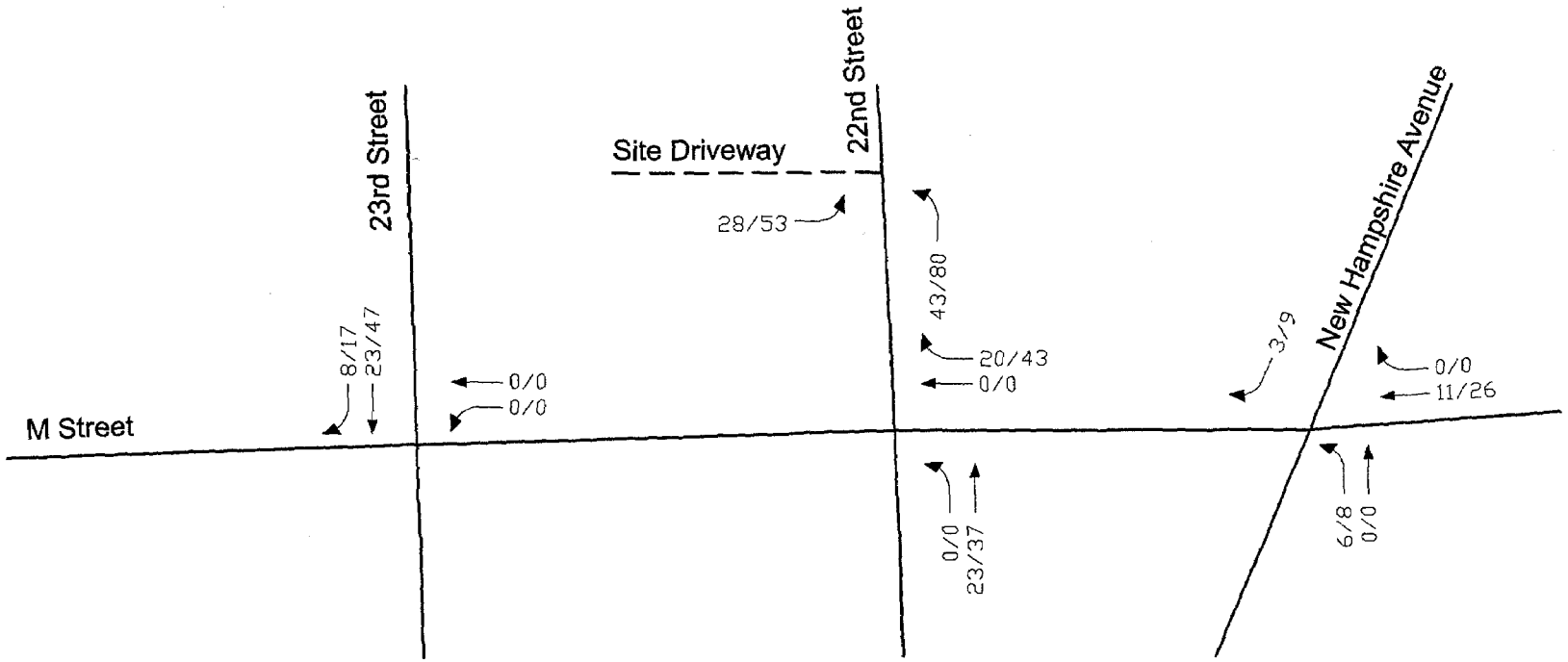

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Figure 4-1
Site Trip Distribution and Assignments

AM PEAK HOUR
PM PEAK HOUR
000/000

North

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Section 5
TOTAL FUTURE CONDITIONS

Total Future Traffic Forecasts

Total future traffic forecasts with the proposed development were determined by combining the 2010 background traffic forecasts shown in Figure 3-4 with the site generated traffic volumes shown on Figure 4-1 to yield the 2010 total future traffic forecasts shown on Figure 5-1.

Operational Analysis

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the future lane use and traffic control shown on Figure 3-1, 2010 total future traffic forecasts shown on Figure 5-1, pedestrian volumes shown on Figure 2-3 and existing DDOT traffic signal timings included in Appendix C.

The 2010 total future analysis is presented in Appendix I and summarized in Table 5-1.

As shown in Table 5-1, the proposed hotel would have no significant impact on intersection levels of service. Each lane group at each of the study intersections would continue to operate at a LOS C or better.

Table 5-1
Total Future Levels of Service

Approach	AM Peak	PM Peak
M Street/23rd Street		
WBLT	A (5.0)	A (3.0)
SBTR	B (19.2)	C (28.2)
OVERALL	B (11.8)	B (13.8)
M Street/22nd Street		
WBTR	B (13.8)	C (23.5)
NBLT	B (19.4)	B (18.6)
OVERALL	B (16.3)	C (22.1)
M Street/New Hampshire Avenue		
WBTR	B (17.4)	C (20.3)
NBL	B (19.8)	C (20.5)
NBT	C (29.4)	C (29.2)
SBR	C (20.5)	C (27.1)
OVERALL	C (20.9)	C (23.1)
22nd Street/Site Driveway		
EBL	B [12.4]	B [10.7]

(23.3) = signalized intersection control delay in sec/veh
[23.3] = unsignalized intersection control delay in sec/veh

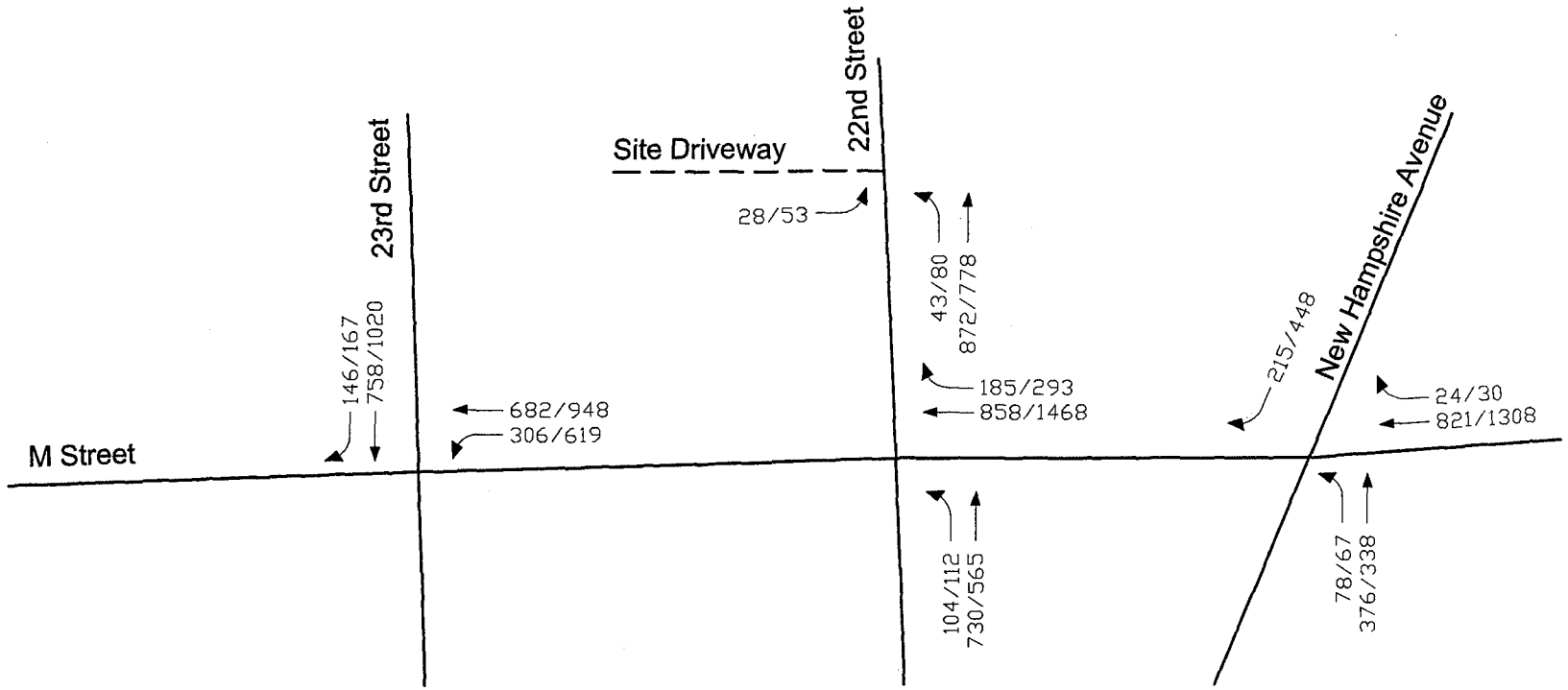

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Figure 5-1
2010 Total Future Peak Hour Traffic Forcasts

AM PEAK HOUR
PM PEAK HOUR
000/000

North

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Proportional Impact Analysis

In order to determine the amount of traffic on the surrounding roadways that is attributable to the proposed development, a proportional impact assessment was conducted. That is, the total future traffic volumes were compared to the background traffic volumes to determine the impact of adding the site trips to the study intersections. Table 5-2 displays the results of the proportional impact analysis.

Table 5-2
Proportional Impact Analysis

Intersection	AM Peak	PM Peak
M Street/23rd Street	1.6%	2.3%
M Street/22nd Street	2.3%	3.3%
M Street/New Hampshire Avenue	1.3%	2.0%

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 are generally considered moderate and minor effects on traffic operations and delays could be expected. Site impacts of more than 15 percent are generally considered significant.[17]

As shown in Table 5-2, the proportional impact at the study intersections is expected to be insignificant.

Operational Analysis with Bicycle Lane

As previously stated, a new bicycle lane is proposed by DDOT on 22nd Street between L and P Streets. In order to accommodate the proposed bicycle lane, DDOT proposes to re-stripe the easternmost lane, in which parking currently is permitted during the AM peak hour, to provide a five-foot bike lane and seven foot parking lane.

The number of travel lanes would be reduced from two lanes to one lane during the AM peak hour and from three lanes to two lanes during the PM peak hour.

The future lane use and traffic control with the bicycle lane is shown on Figure 5-2.

No detailed information is available on DDOT's plans to implement the proposed bicycle lane. However, at the request of DDOT, a future conditions capacity analysis, with the proposed bicycle lane, was performed at the study intersections utilizing the lane use and traffic controls shown on Figure 5-2, the 2010 projected total future traffic volumes shown on Figure 5-1, and pedestrian volumes shown on Figure 2-3. Slight adjustments to the green times at the M Street/22nd Street intersection were made during the AM peak hour. Existing DDOT traffic signal timings were used for the remaining study intersections.

The 2010 total future analysis with bicycle lane is presented in Appendix J and summarized in Table 5-3.

Table 5-3
Total Future Levels of Service
with Proposed Bicycle Lane

Approach	AM Peak	PM Peak
M Street/23rd Street		
WBLT	A (3.5)	A (2.9)
SBTR	B (19.2)	C (28.2)
OVERALL	B (11.0)	B (13.8)
M Street/22nd Street		
WBTR	D (47.8)	C (23.5)
NBLT	D (49.8)	C (21.1)
OVERALL	D (48.7)	C (22.9)
M Street/New Hampshire Avenue		
WBTR	B (17.4)	C (20.3)
NBL	B (19.8)	C (20.5)
NBT	C (29.4)	C (29.2)
SBR	C (20.5)	C (27.1)
OVERALL	C (20.9)	C (23.1)
22nd Street/Site Driveway		
EBL	C [18.9]	B [12.2]

(23.3) = signalized intersection control delay in sec/veh
[23.3] = unsignalized intersection control delay in sec/veh

With the proposed bicycle lane, the study intersections are projected to operate at acceptable levels of service with slight timing adjustments at the M Street/22nd Street intersection during the AM peak hour.

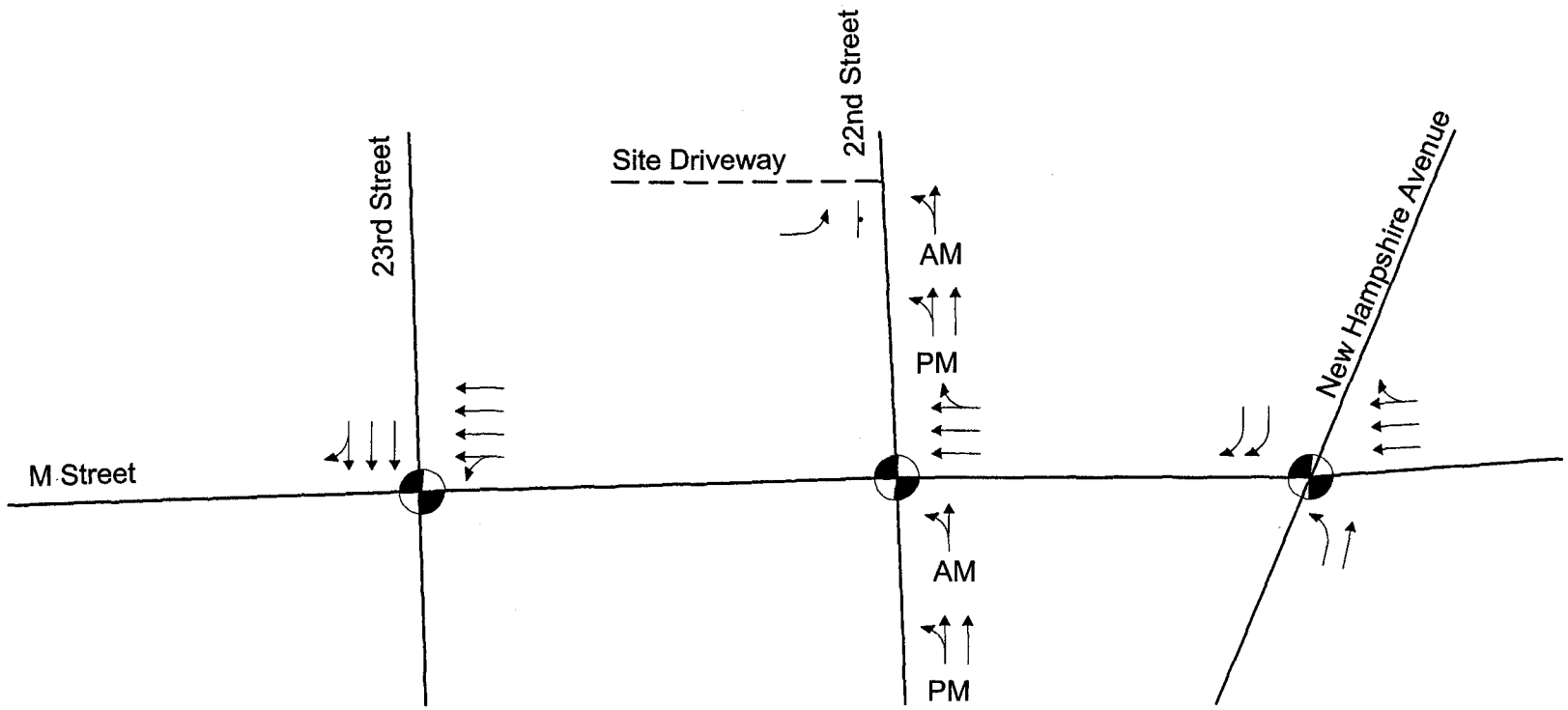

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Figure 5-2

Future Lane Use and Traffic Control with Bicycle Lane

← Represents One Travel Lane

⊗ Signalized Intersection

⊣ Stop Sign

North

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Washington, D.C.

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Section 6

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of this study are as follows:

1. Currently, all study intersections operate at level of service (LOS) "C" or better during the AM and PM peak hours.

2. Background traffic growth and traffic that will be generated by pipeline projects will have no significant impact on future (2010) levels of service, without re-development of the subject site.

3. The proposed hotel and restaurant is expected to generate 71 AM peak hour vehicle-trips and 131 PM peak hour vehicle-trips.

4. According to the District of Columbia Municipal Regulations,[18] 46 on-site parking spaces would be required for the proposed development. As proposed, the development would be served by 70 parking spaces.

5. The proposed hotel and restaurant would have no significant impact on future intersection levels of service.

6. With the bicycle lane proposed by DDOT, the study intersections are projected to operate at acceptable levels of service with slight adjustments to the green times at the M Street/22nd Street intersection during the AM peak hour.

REFERENCES

[1] District of Columbia Municipal Regulations, Title 11-Zoning, Section 2101.1, 2001 Edition.

[2] District of Columbia Municipal Regulations, Title 11-Zoning, Section 600.1, 2001 Edition.

[3] 2002 Traffic Volumes, District Department of Transportation, Traffic Services Administration, Washington, D.C. [http://ddot.dc.gov/ddot/frames.asp?doc=/ddot/lib/ddot/information/maps/2002_downtown.pdf]

[4] Ibid.

[5] Ibid.

[6] Ibid.

[7] District Department of Transportation, District of Columbia Bicycle Master Plan, April 2005.

[8] Highway Capacity Manual, Transportation Research Board, Washington D.C., 2000.

[9] 1227 and 1229-1231 25th Street PUD Traffic Impact Analysis, Gorove/Slade Associates, Inc., March 5, 2007.

[10] Trip Generation, 7th Edition, Volume 2, Institute of Transportation Engineers, Washington, D.C., 2003.

[11] Trip Generation Handbook, Institute of Transportation Engineers, Washington, D.C., March 2001.

[12] Trip Generation, 7th Edition, Volume 2, Institute of Transportation Engineers, Washington, D.C., 2003.

[13] Trip Generation Handbook, Institute of Transportation Engineers, Washington, D.C., March 2001.

[14] District of Columbia Municipal Regulations, Title 11-Zoning, Section 631.1, 2001 Edition.

[15] Trip Generation, 7th Edition, Volume 2, Institute of Transportation Engineers, Washington, D.C., 2003.

[16] District of Columbia Municipal Regulations, Title 11-Zoning, Section 2101.1, 2001 Edition.

[17] Connecticut Avenue Transportation Study – Draft Final Report, DMJM+Harris, Inc., June 2003.

[18] District of Columbia Municipal Regulations, Title 11-Zoning, Section 2101.1, 2001 Edition.

Attachments

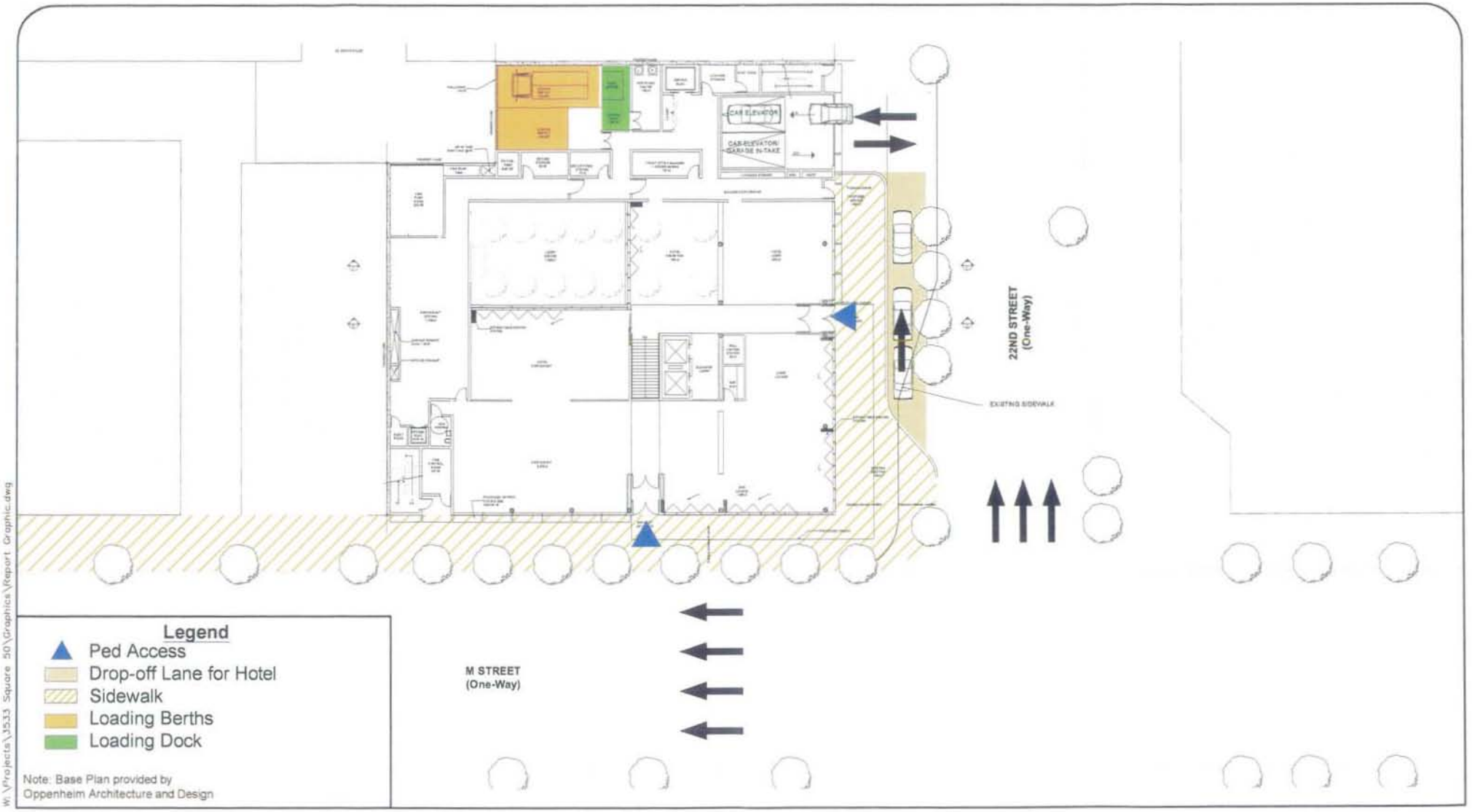

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Exhibit H–1
Traffic Circulation Plan

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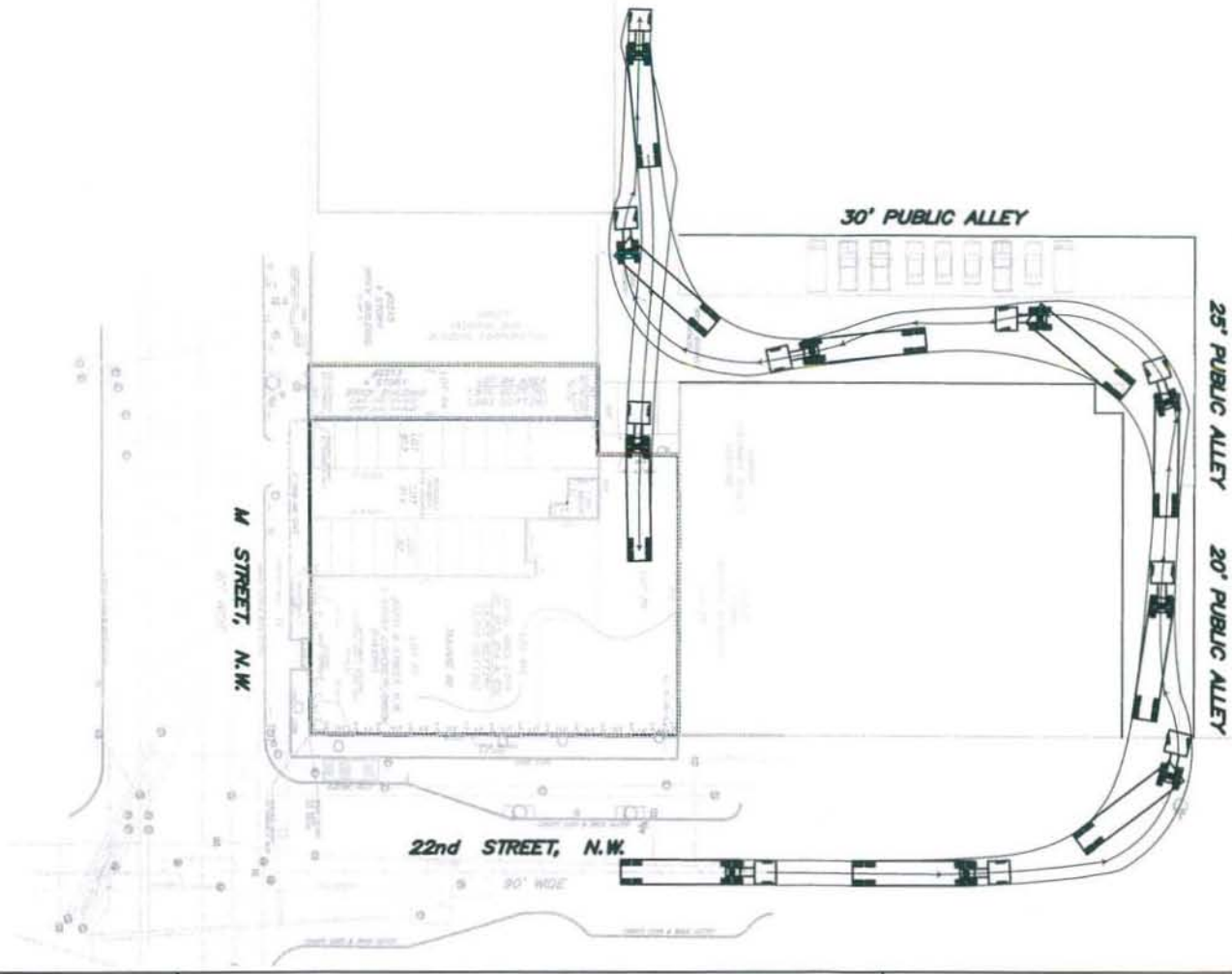
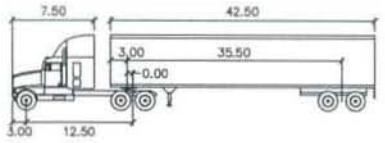


LEGEND

——— DENOTES ASSUMED EDGE OF PAVEMENT/BUILDING WALL



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Trailer Width	: 8.50 ft	Steering Angle	: 17.70
Tractor Track	: 8.00 ft	Articulating Angle	: 70.00
Trailer Track	: 8.50 ft		

WB-50 TRUCK

40 0 20 40

1 inch = 40 ft.

TRUCK CIRCULATION EXHIBIT

STARWOOD 1 HOTEL

LOTS 76,77,82,84,813 & 814
SQUARE 50
WASHINGTON, D.C.

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McLEAN, VA GERMANTOWN, MD

DATE: 09/29/06

PROJECT/FILE NO. 1425

SHEET NO. 1 OF 1

LAYOUT: TRUCK CIRCULATION EXHIBIT, Plotted By: Colocho

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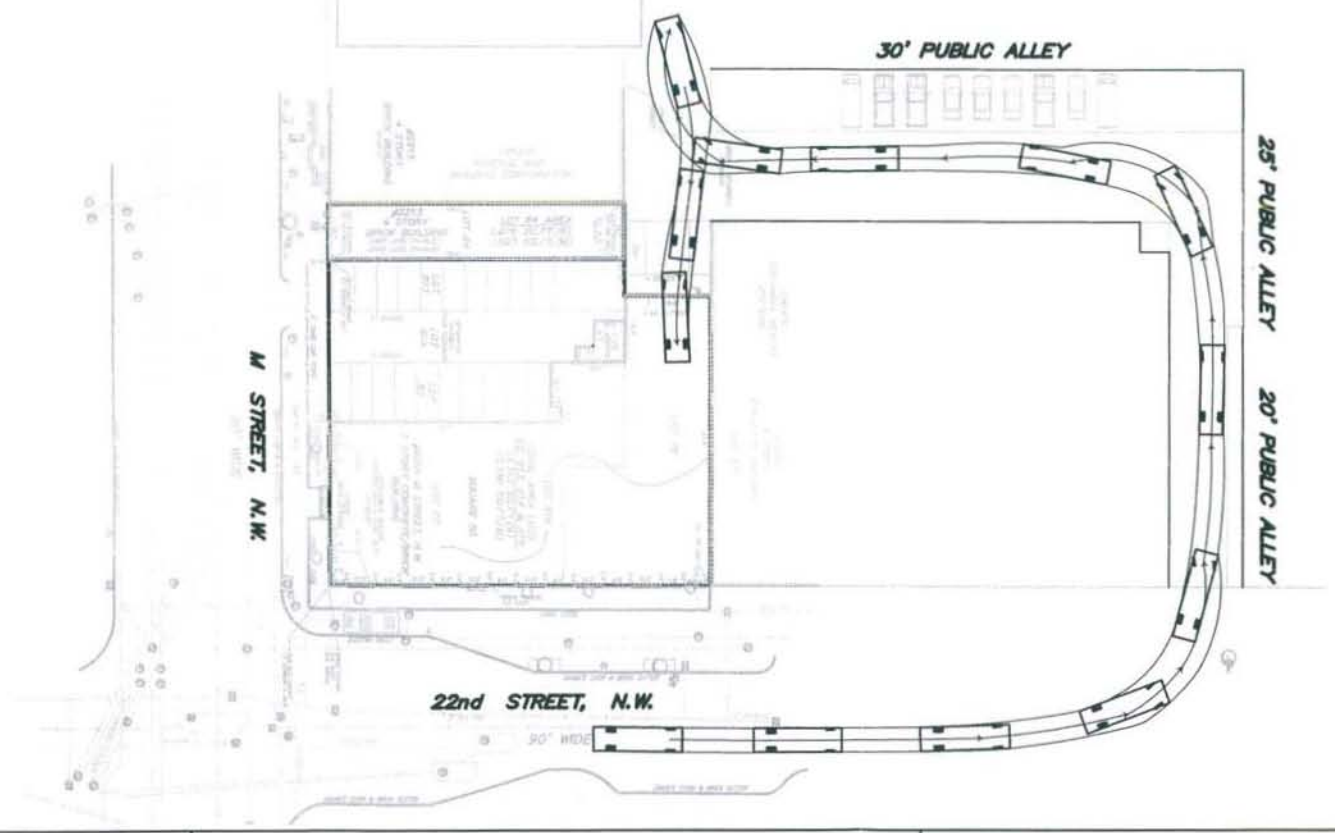
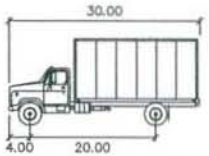


LEGEND

——— DENOTES ASSUMED EDGE OF PAVEMENT/BUILDING WALL



Width	: 8.00 ft
Track	: 8.00 ft
Lock to Lock Time	: 8.00 sec
Steering Angle	: 31.80

SU TRUCK

40 0 20 40

1 inch = 40 ft.

TRUCK CIRCULATION EXHIBIT

STARWOOD 1 HOTEL

LOTS 76,77,82,84,813 & 814
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SHEET NO. 1 OF 1

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