TRAFFIC VOLUMES

This section of the report describes the methodology used to compile the peak hour traffic volumes for the three scenarios analyzed: (1) existing, (2) future background, and (3) total future.

Existing Volumes

Turning movement traffic counts were collected on Thursday, September 9, 2004, from 7:00 AM to 10:00 AM, and 4:00 PM to 7:00 PM. Based on these counts, the commuter peak hours of the study area was determined to be 8:00 to 9:00 AM and 5:00 to 6:00 PM. The existing peak hour traffic volumes are shown in Figure 3; count summary sheets are included in the Appendix to this report.

Future Background Volumes

The future background volumes represent the amount of future traffic the study area should expect without the DC USA development. They are used as a point of comparison to the future conditions with the DC USA development in place (total future conditions). Two types of future traffic are included in the projections: (1) regional growth, accounts for District-wide development and growth that will pass through the study area, and (2) traffic generated directly by local approved developments, in the Columbia Heights neighborhood. A background growth percentage of 1% per year, for three years, was applied to the existing traffic volumes to account for regional growth.

There are several approved developments within the Columbia Heights neighborhood. Table 1 lists these developments, their location, and whether these developments would have future traffic impacts to the study area intersections.

Table 1 – Columbia Heights Approved Developments

Parcel	Cross Street	Influences Study Area?
Parcel 26	14th & Irving	Yes
Parcel 15	14th & Irving	Yes
Parcel 5	14th & Girard	Yes
Parcel 24	14th between Monroe, Newton	No
Parcel 19	Euclid between 13th,14th	No
Parcel 32	14th & Chapin	No
Parcel 11	14th & Clifton	No
Parcel 40	14th & Harvard	No
Parcel 29 (Tivoli Theater)	14th, Park, Holmead, Monroe	Yes
Zydeco Lofts	Irving & 16th	No
Parcel 34	14th & Florida	No
Fairmont Square Apt.	12th & Fairmont	No
Fairmont I & II Apts.	14th & Fairmont	No

Board of Zoning Adjustment
District of Columbia
CASE NO. 17232
EXHIBIT NO. 54A2

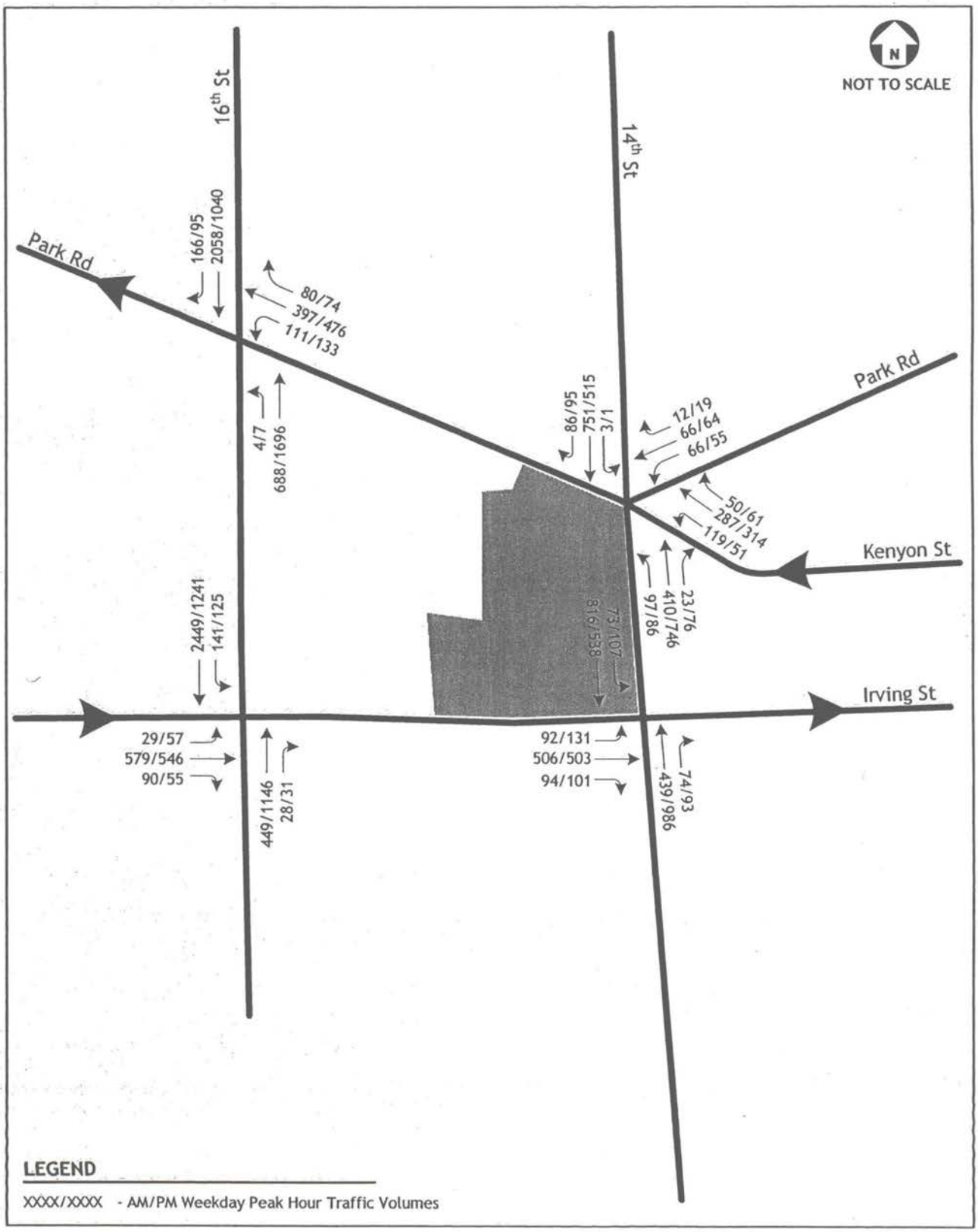


Figure 3 – Existing Peak Hour Traffic Volumes

Trips were generated for these four developments (Parcels 26, 15, 5, and 29) based on methodology contained in the ITE *Trip Generation* (7th Edition) report and reduced for transit usage, the same methodology contained in the 2003 report. Since these four developments have not changed since the 2003 report the calculations are not repeated here, and are summarized below in Table 2.

Table 2 - Trip Generation Summary: Background Developments

Parcel	AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out
Parcel 26	72	11	61	88	59	29
Parcel 15	69	11	58	84	56	28
Parcel 5	19	3	16	30	20	10
Parcel 29 (Tivoli Theater)	254	171	83	294	111	183
Total	**414**	**196**	**218**	**496**	**246**	**250**

Note: Details contained in *DC USA EISF*, Gorove/Slade Associates, Inc., (2003)

The trips generated by the background developments were assigned to the study area intersections using trip distribution percentages developed for the 2003 report; Figure 4 displays these percentages.

G/SA assembled the future background conditions peak hour volumes by adding the regional growth and the traffic generated by local background developments to the existing traffic volumes. Figure 5 shows the resulting background volumes

Total Future Volumes

The total future volumes represent the traffic expected to pass through the study area upon completion of the DC USA development. They are based upon the future background volumes, with the addition of traffic generated by DC USA and distributed through the study area intersections.

Traffic volumes for DC USA were generated for the AM and PM peak hours using methodology in ITE *Trip Generation*. A trip reduction in the original report was used in this analysis and is based on the WMATA *Transit Ridership* Study. Table 3 presents the results of these calculations.

Table 3 - Trip Generation: DC USA

Land Use	Amount	Detail	Time Period					
			AM Peak Hour			*PM Peak Hour*		
Shopping Center	445,000 SF	Equation	ln(t) = 0.6 ln(x)+ 2.29			ln(t) = 0.66 ln(x)+ 3.4		
		Direction	Total	In	Out	Total	In	Out
		Percentage	100%	61%	39%	100%	48%	52%
		Trips	383	117	75	1,677	805	875
Transit reduction	50%		-192	-117	-75	-839	-403	-436
Total			**190**	**117**	**75**	**839**	**403**	**436**

t - Total trips generated during time period
x - Amount (in 1000's of square feet)

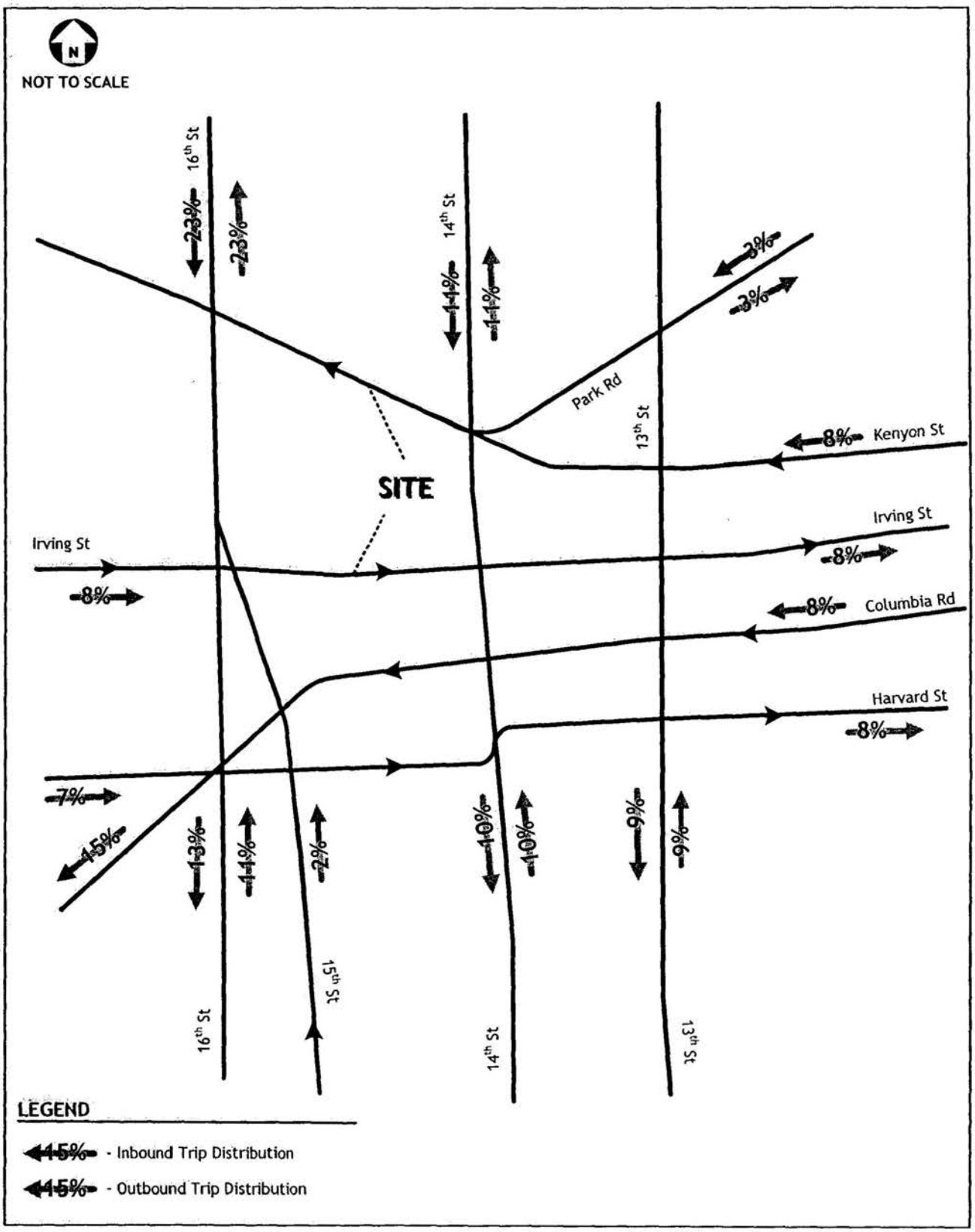


Figure 4 – Trip Distribution Percentages

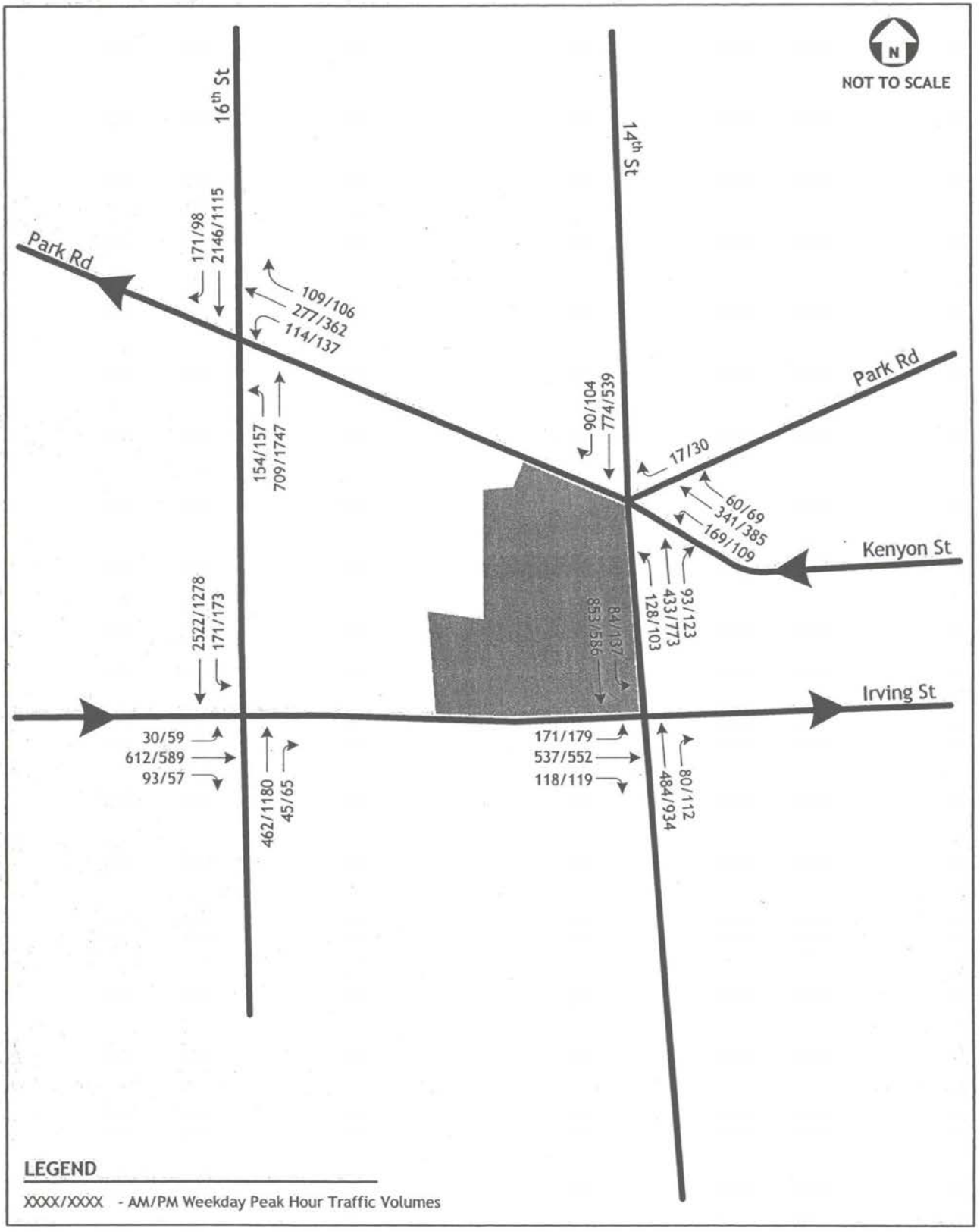


Figure 5 – Future Background Peak Hour Traffic Volumes

The trips generated by DC USA (Table 3) were distributed though the study are roadways based on the trip distribution percentages contained in Figure 4, resulting in the site generated peak hour volumes shown on Figure 6. These volumes were added to the future background volumes to generate the total future peak hour traffic volumes, shown on Figure 7.

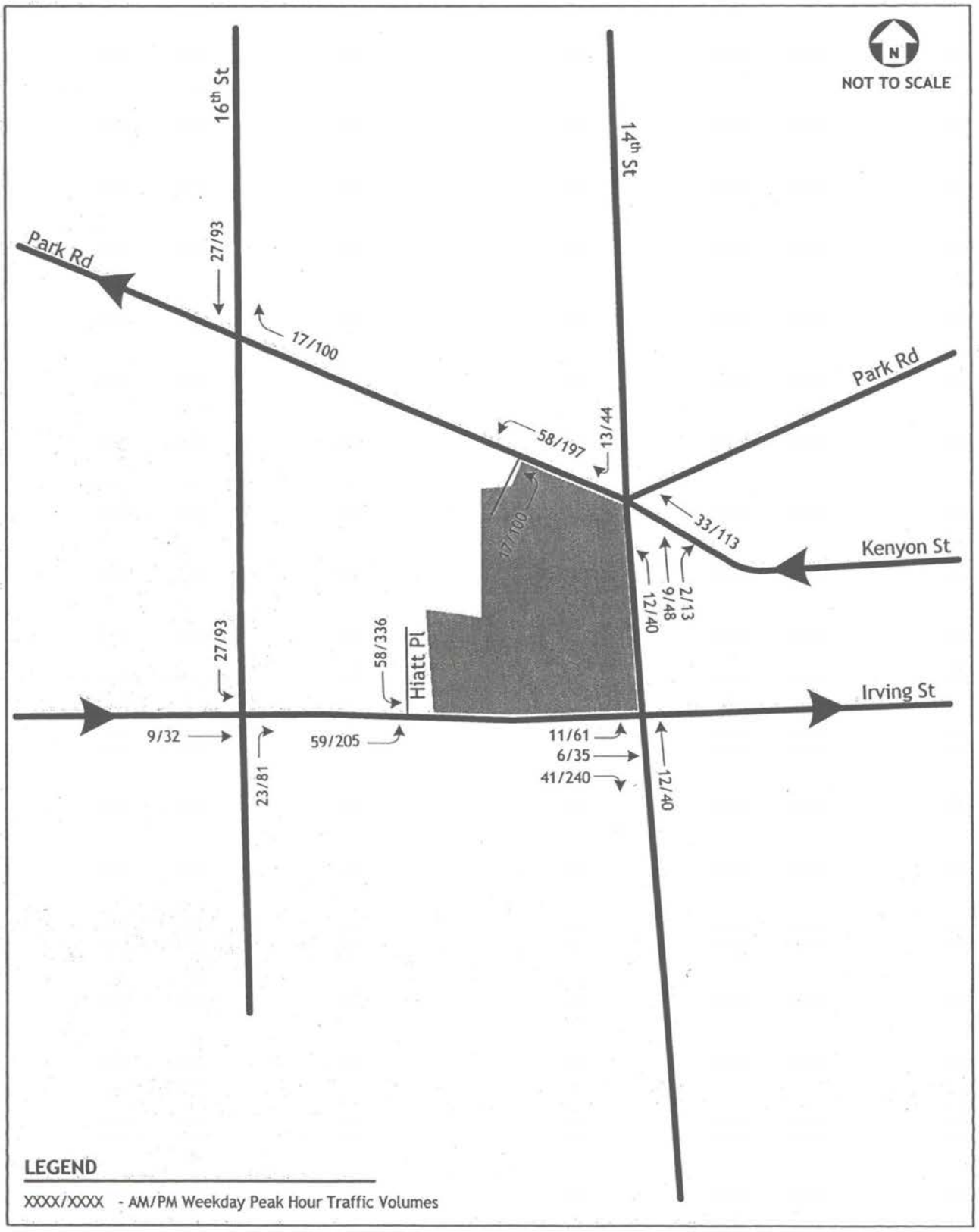


Figure 6 – DC USA Generated Peak Hour Traffic Volumes

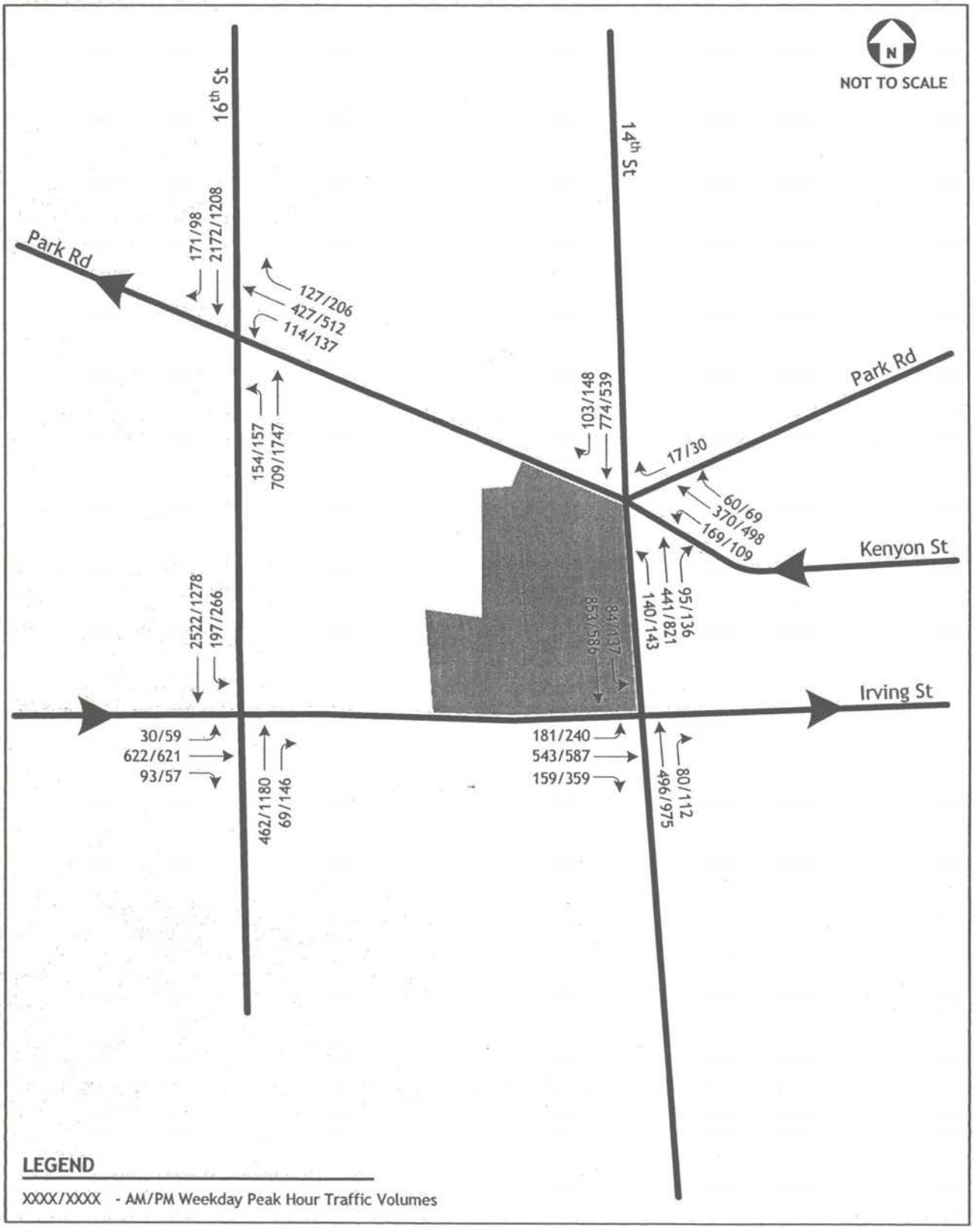


Figure 7 – Total Future Peak Hour Traffic Volumes

FUTURE TRANSPORTATION IMPROVEMENTS

DDOT recently worked with a consultant team led by Cambridge Systematics, Inc., to identify short and long-term improvements that can be made to the Columbia Heights neighborhood to enhance the transportation system. The results of thus study contained several improvements to study area intersections. The main objective of these recommendations was not to facilitate vehicular traffic through the study area, but promote safe and efficient transportation for all modes, especially transit, walking and bicycling.

The proposed DC USA development plan is consistent with the Cambridge Systematics report as it relates to intersection and sidewalk capacities. The proposed plan differs from the Cambridge Systematics plan with regard to on-street parking provisions. The DC USA plan does not provide parking in front of the main entrance to the project on 14th Street to avoid congestion on-street and on the sidewalk. However, a lay by parking lane is provided north of the main entrance on 14th Street where it will have the least operational impact.

At the direction of DDOT, the future background and total future scenarios studied in this report contain these improvements, listed below and shown graphically on Figure 8:

- Intersection of 14th Street and Park Road/Kenyon Street
  - Limit Park Road to right-turns in and right-turns out

    By eliminating left turns into and out of Park Road, the traffic signal located there no longer has to dedicate green time to Park Road, and can serve 14th Street and Kenyon Road more efficiently. This approach is currently only used by a small number of vehicles, which can shift to alternate east-west roadways such as Monroe Street or Kenyon Street. This report shifted future traffic from Park Road to Kenyon Street to reflect this change in traffic patterns. This improvement also aids pedestrian crossings across Park Road.
  - Narrow the Kenyon Street approach to three lanes wide by eliminating the left turn lane

    This improvement aids pedestrians crossing Kenyon Street.
  - Narrow northbound 14th Street to a two lane approach (one shared through/right turn lane, and one separate left turn lane)

    14th Street northbound does narrow to one through lane at Monroe Street; this improvement shifts that narrowing one block south. This improvement changes the character of 14th Street near the Metrorail station and allows for better pedestrian and bicycle accommodations.
- Intersection of 14th Street and Irving Street
  - Re-stripe the approach as one through lane and one-shared through and left turn lane

    This improvements better aligns the through lanes on 14th Street north of Irving Street, with those to the South.
- 14th Street Traffic Signals
  - To help aid pedestrian crossings, lower the signal cycle to 90 seconds, and maintain sufficient east-west green times.

- Intersection of 16th Street and Park Road
  - Re-stripe Park Road from two lanes to three lanes, adding a separate left turn lane.
  - Allow for left turns on northbound 16th Street. To reflect this change in traffic volumes, some vehicles were shifted from westbound Park Road to left turns on northbound 16th Street.

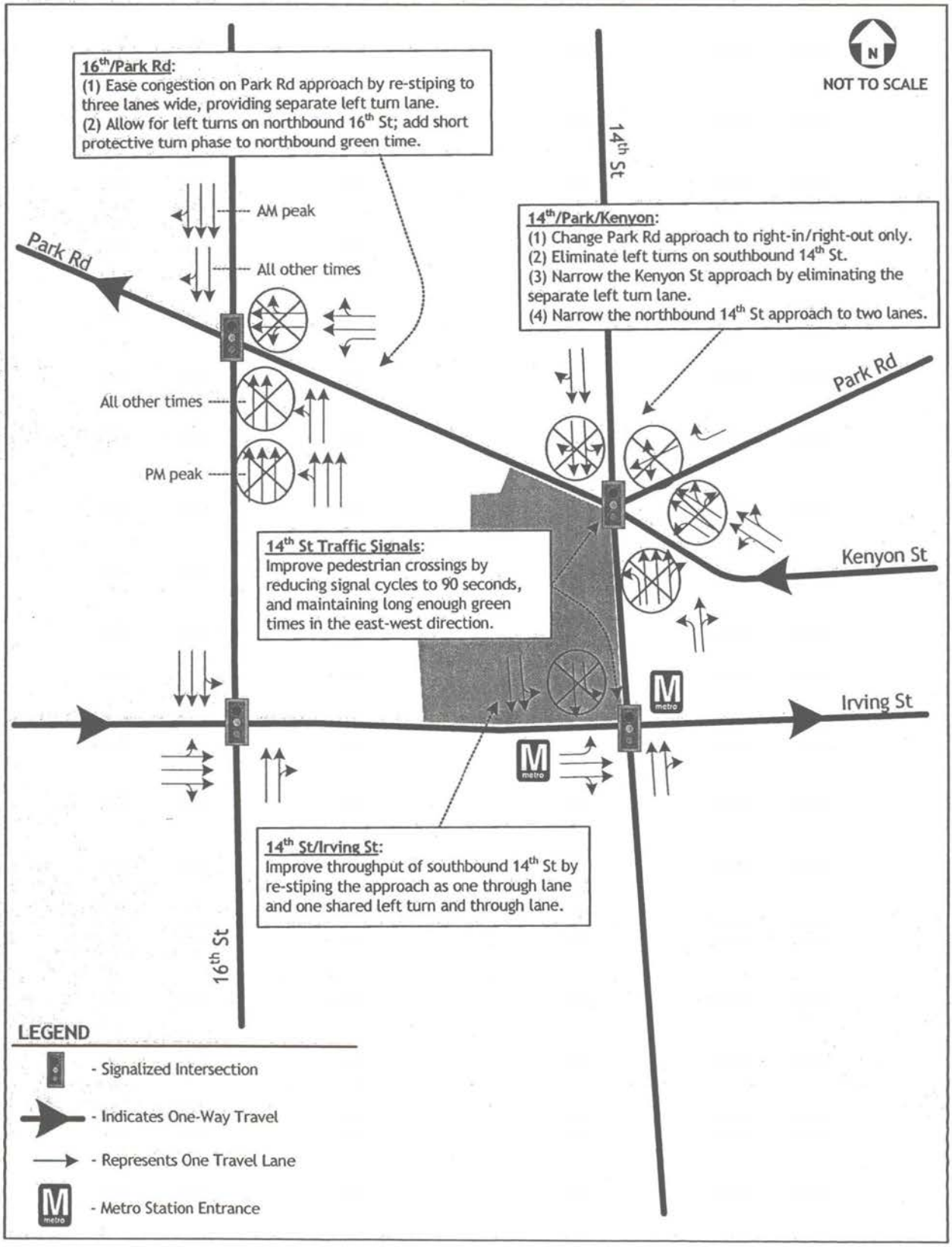


Figure 8 – Future Transportation Improvements

CAPACITY ANALYSIS

G/SA performed a capacity analysis comparing traffic conditions within the study are for the three scenarios studied; (1) existing, (2) future background, and (3) total future conditions. These analyses were performed for each of the study intersections, in both the AM and PM peak hours, using the Synchro 6 software program and methodology contained in the *Highway Capacity Manual*. The HCM methodology for calculates the average delay (in seconds per vehicles) for vehicles passing through an intersection. The average delay is then equated to a 'letter-grade' of A through F, called a Level of Service (LOS). DDOT considers LOS D to be an acceptable condition, although in highly urbanized areas, LOS E is also acceptable. The following table presents the results of these capacity analyses, including LOS and average delay results for each intersection and approach.

Table 4 – Capacity Analysis Results

Intersection (Approach)	Time Period											
	AM Peak Hour						*PM Peak Hour*					
	Existing		Background		Total Future		Existing		Background		Total Future	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
14th St & Park Rd/Kenyon St												
Overall	**33.0**	**C**	**20.9**	**C**	**21.0**	**C**	**26.6**	**C**	**24.8**	**C**	**36.8**	**D**
Westbound	46.8	D	29.6	C	30.4	C	51.7	D	55.6	E	68.2	E
Northbound	7.4	A	10.5	B	10.8	B	4.9	A	18.1	B	34.4	C
Southbound	19.2	B	22.6	C	22.9	C	16.4	B	9.3	A	11.2	B
Southwest-bound	165.6	F	0.0	A	0.0	A	141.4	F	0.1	A	0.1	A
14th St & Irving St												
Overall	**18.9**	**B**	**15.9**	**B**	**16.4**	**B**	**16.8**	**B**	**15.1**	**B**	**24.1**	**C**
Eastbound	35.1	D	27.7	C	26.5	C	10.9	B	10.8	B	19.4	B
Northbound	12.5	B	17.5	B	19.2	B	23.3	C	20.8	C	32.3	C
Southbound	10.0	B	4.6	A	5.3	A	13.7	B	11.9	B	19.4	B
16th St & Park Rd												
Overall	**16.5**	**B**	**22.5**	**C**	**25.8**	**C**	**13.7**	**B**	**22.9**	**C**	**33.6**	**C**
Westbound	33.2	C	38.8	D	50.8	D	44.4	D	37.4	D	67.5	E
Northbound	7.7	A	15.2	B	14.9	B	3.7	A	22.7	C	29.4	C
Southbound	14.8	C	21.7	C	22.6	C	10.5	B	16.0	B	17.7	B
16th St & Irving St												
Overall	**23.9**	**C**	**39.6**	**D**	**56.8**	**E**	**18.8**	**B**	**17.5**	**B**	**17.9**	**B**
Eastbound	42.9	D	42.3	D	42.7	D	37.4	D	34.3	C	35.2	D
Northbound	9.0	A	18.5	B	18.7	B	21.3	C	17.3	B	19.3	B
Southbound	34.7	C	42.8	D	68.0	E	7.7	A	9.6	A	8.4	A

The results contained in Table 4, show:

- *Existing Conditions*
  Overall intersection LOSs are at acceptable levels, although the approach of Park Road to its intersection with 14th Street operates at a LOS F.

- *Future Background Conditions*
  With the addition of: (1) the regional growth in traffic, (2) future background development traffic, and (3) the future transportation system improvements, future LOSs in the study area remain acceptable. Although one intersection approach (PM Peak Hour westbound Kenyon Street) operates at LOS E, the future transportation improvements and the development

Street) operates at LOS E, the future transportation improvements and the development surrounding the Columbia Heights Metrorail station is transforming the area into a highly urban, pedestrian oriented environment, where LOS E is acceptable.

- *Total Future Conditions*
  With the addition of traffic generate by DC USA, overall intersection and individual approach LOSs remain acceptable. Individual approaches and intersection delays increase, some to LOS E, but delays of this magnitude are common in downtown environments. Mitigation measures to reduce delays and generate LOS D conditions at these locations would most likely be detrimental to pedestrian and bicycle traffic (i.e., widening of intersections, or lengthening the overall signal cycle or north-south green times).

CONCLUSIONS

The analyses summarized in this report presented the following conclusions:

- The Columbia Heights neighborhood is a developing transit-oriented neighborhood centered on the Metrorail station. Numerous transit and pedestrian amenities serve the area surrounding the DC USA site;
- Existing traffic conditions at the study area intersections show mostly acceptable Levels of Service. Roadways and traffic controls are oriented in the commuter north-south direction, in some cases detrimentally to pedestrian traffic and east-west vehicular routes;
- A recently completed DDOT report prepared by Cambridge Systematics recommends various changes to the transportation network to improve the efficiency of vehicle, pedestrian, and bicycle traffic;
- The proposed DC USA plan is consistent with the Cambridge Systematics report except for on-street parking in front of the 14th Street main entrance has been eliminated to reduce the potential for street and sidewalk congestion.
- Capacity analyses of future conditions including traffic projections and the recommended improvements show that future vehicular volumes and pedestrian traffic both can be accommodated with acceptable Levels of Service;
- The DC USA site will generate approximately 190 and 839 vehicle trips in the AM and PM peak hours, respectively;
- Capacity analyses of future conditions with the inclusion of DC USA traffic show the study area intersections operating at acceptable Levels of Service. Some intersections and approaches will operate at LOS E, although this is considered acceptable in urban locations. Vehicular delay could be reduced in these instances through mitigation measures, but this would result in negative impacts to pedestrian and bicycle traffic; and
- Based on these conclusions, the DC USA development will not have a detrimental impact to the transportation network in the Columbia Heights neighborhood.

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MEMORANDUM

TO: Kenneth G. Laden — DDOT
Abdoulaye Bah — DDOT

CC: Drew Greenwald — Grid Properties, Inc.
Jim Tuman — Grid Properties, Inc.
Chip Glasgow — Holland & Knight, LLP
Kyrus Freeman — Holland & Knight, LLP

FROM: Daniel VanPelt, P.E.
Robert Schiesel, P.E.
Frederick Gorove, P.E.

DATE: October 28, 2004

SUBJECT: Revised DC USA Parking Reduction Analysis

INTRODUCTION

This memorandum is a revision of the *DC USA Parking Reduction Analysis* prepared by Gorove/Slade Associates, Inc. (G/SA), dated April 2, 2002. This memorandum demonstrates that the number of proposed DC USA parking spaces will be sufficient to meet the project's expected demand.

This revision is necessary due to a change in the proposed development program, outlined below. The total amount of planned development is being reduced, as are the planned amount of parking spaces.

- *2002 Development Program*
  - 378,500 Square Feet (SF) retail (GLA)
  - 25,000 SF health club
  - 40-lane bowling alley
  - Either a movie theater with 3,500 seats, or a 80,000 SF retail discount store
  - 1,364 parking spaces

- *2004 Development Program*
  - 405,000 SF retail (GLA)
  - 40,000 SF Health Club (GLA)
  - 1,000 parking spaces

ANALYSIS

Practical Need Calculation

The 'practical need' calculation is based on retail industry standard parking ratios observed in practice at shopping centers and documented by the Urban Land Institute (ULI) in *Parking Requirements for Shopping Centers, 2nd Edition*. The ULI methodology starts with an estimation of 4 spaces for each 1,000 square feet of commercial space. This is based on data collected throughout the year for suburban shopping centers located across the country. The rate of 4 spaces per 1,000 square feet corresponds to the 20th highest hour occurring over the course of the year for all the hours the shopping center is open. Use of this design hour to calculate need results in sufficient parking for all patrons and employees for more than 3,000 hours per year. For approximately 40% of the operational hours of the year, over half of the parking spaces will remain empty. By using the 20th highest hour, only 19 hours out of the year should it be expected that the parking supply will be exceeded and these 19 hours will occur typically during the 10 busiest shopping days of the year.

Given that the ULI rate applies to suburban shopping center models, the rate was adjusted based on two assumptions: (1) that employees, which generally constitute 15-20% of the parking demand, will use alternate modes of transportation to reach the site, and (2) DC USA patrons will use alternate modes 35% of the time given the urban site location. The employee parking need is commonly observed to be as much as 20% during peak periods. For the purposes of this analysis, 15% employee parking was assumed. The 35% alternative mode reduction is based on District-wide transit use as recently documented in the *Columbia Heights/Mount Pleasant Transportation Study* prepared by Cambridge Systematics. Table 3 contains the result of the ULI based parking demand calculations.

Table 1 – Peak Parking Demand Calculations

Amount (GLA)	ULI Ratio	Employee Reduction	Transit Reduction	Adjusted Ratio	Adjusted Demand
445,000 SF	4 spaces per 1,000 SF	(15%)	(35%)	2.2 spaces per 1,000 SF	983

The peak parking demand is 98% of the programmed supply; the proposed 1,000 parking spaces will provide sufficient capacity.

It should be amplified that the ULI methodology results in a peak demand calculation that will be exceeded only several hours a year. Thus, even though the peak parking demand is 98% of the supply; this number will only be met or exceeded at peak times of the year, such as when the development first opens or during holiday shopping periods.

Comparable Sites

Several shopping center sites located within sections of Washington, DC were identified for consideration as comparables. The most similar project, in that it contains "big box" retailers, is located at 4500 Wisconsin Avenue above the Tenleytown Metro station. This project, along with The Shops at Georgetown Park, has a parking ratio less than the proposed ratio of 2.2 for DC USA. The new project located at Gallery Place has a very similar parking supply available for the retail component of the project. The comparable ratios are attributable to several factors most notably high non-auto mode split due to transit access and urban location.

Table 2 – Comparable DC Retail Parking Ratios

Site	Size	Number of Parking Spaces	Parking Ratio per 1,000 SF
4500 Wisconsin – Best Buy & Container Store	88,000 SF	150*	1.7
The Shops at Georgetown Park	449,000 SF	650	1.5
Gallery Place	260,000	608*	2.3

* Does not include parking for the residential component of the project.

CONCLUSIONS

- The development program has been reduced along with the planned parking when compared to the previously reported 2002 program.
- The practical parking need as calculated using the adjusted ULI rate results in 983 spaces.
- The proposed 1,000 parking spaces will have sufficient capacity for the practical parking need.
- The practical need parking demand will only be exceeded for several hours of the year during busy shopping days such as the holiday shopping season.
- According to ULI, it could be expected that half of the parking supply will remain empty for as much as 40% of the operational hours throughout the year.

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MEMORANDUM

TO: Kenneth G. Laden — DDOT
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CC: Drew Greenwald — Grid Properties, Inc.
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Chip Glasgow — Holland & Knight, LLP
Kyrus Freeman — Holland & Knight, LLP

FROM: Daniel VanPelt, P.E.
Robert Schiesel, P.E.
Frederick Gorove, P.E.

DATE: October 28, 2004

SUBJECT: DC USA Pedestrian Analysis

INTRODUCTION

The purpose of this memorandum is to assess the adequacy of the sidewalk widths being proposed adjacent to the north, east and south sides of the DC USA retail project in Columbia Heights. The assessment considers the sufficiency of the sidewalks in light of projected increased pedestrian volumes associated with the retail development and future development in the vicinity of the project. The basis of this analysis includes an assessment of sidewalk capacity undertaken by HCM Methodology and an analysis of sidewalks serving comparable land uses in the DC area.

PROPOSED SIDEWALK

The proposed DC USA plan drafted by Bower Lewis Thrower Architects shows a total sidewalk width of 19' 9" from the face of the building façade glass to the curb on the 14th Street frontage. Accounting for structural piers that project from the building façade a distance of 1' 9" on a spacing of approximately 12' apart except where there are entry doors, the sidewalk width narrows to 18' at these pier locations. The 18' dimension is held constant for most of the block, but increases to as much as 37' 3" at the northern end of the block due to a northeasterly bend in 14th Street away from the building. As part of the streetscape, 5' wide tree boxes are being proposed set back from the curb a distance of 10". The planters will not be located in areas where there will be high concentrations of pedestrians such as in front of critical building entry points or at the intersections of 14th Street/Irving Street and 14th Street/Park Road. A parking or "lay by" lane will be provided in the northern portion of the block, north of the main entrance to the project, to avoid street congestion.

The Irving Street sidewalk adjacent to the project will have a width of 12' 2" (10' 5" at pier locations) at

the narrowest point from the building façade glass to the curb. The sidewalk widens to 20' – 22' in some locations along Irving Street. The Park Road sidewalk will measure 10' 6" (9' 9" at pier locations) consistently along the building frontage. The Irving Street and Park Road sidewalks will not have planter boxes.

COMPARABLE SIDEWALKS

Multiple sites throughout the DC area were identified for the purpose of comparing the proposed DC USA sidewalks to known sidewalks functioning today. Each of the comparable locations support considerable retail activity and high volumes of pedestrian traffic. The sidewalks were measured at the narrowest point from the face of the building to the curb. Any features that reduce the width of the sidewalk, such as landscaping, planter boxes or sidewalk seating/dining, were subtracted to achieve the available sidewalk width. The information obtained for each of the comparables is contained in Table 1.

Table 1 – Comparison of DC USA Sidewalk Frontages to Comparable Locations

		On-Street Parking	Sidewalk Width at Narrowest Point	Reduction for Planter Boxes and Patio Seating	Available Clear Sidewalk Width
Proposed DC USA	***14th Street Sidewalk***	***No***	***18.00 feet***	***(5.83) feet***	***12.17 feet***
	Irving Street Sidewalk	***No***	***10.42 feet***	--	***10.42 feet***
	Park Road Sidewalk	***Yes***	***9.75 feet***	--	***9.75 feet***
Gallery Place	*H St NW adjacent to Benneton*	*No*	*15.5 feet*	*(4) feet*	*11.5 feet*
	7th St NW adjacent to Urban Outfitters	*Off peak*	*16 feet*	*(4) feet*	*12 feet*
L St NW	*west of 18th St NW north side*	*Evening & weekend*	*22 feet*	*(14) feet*	*8 feet*
	east of 19th St NW south side	*Off peak*	*21 feet*	*(14) feet*	*7 feet*
Downtown Silver Spring	*Fenton St adjacent to Borders*	*No*	*17 feet*	*(10) feet*	*7 feet*
	Fenton St adjacent to Men's Warehouse	*No*	*16.4 feet*	*(6) feet*	*10.4 feet*
4500 Wisconsin adjacent to Best Buy		*No*	*23 feet*	*(8) feet*	*15 feet*
Mazza Gallerie on Wisconsin Ave at main entrance		*Off peak*	*22 feet*	*(10) feet*	*12 feet*
Bethesda Row on Bethesda Ave at Barnes & Noble		*Yes*	*16 feet*	*(7.5) feet*	*8.5 feet*
Pentagon Row on Joyce St east side		*Yes*	*12 feet*	*(5) feet*	*7 feet*
Clarendon Market Common on Clarendon adjacent to The Container Store		*Yes*	*19.5 feet*	*(5.5) feet*	*14 feet*
Georgetown M St NW between 31st St and Wisconsin Ave		*Off peak*	*10 feet*	*(4) feet*	*6 feet*

A review of the table shows that there is much variation from location to location, but the DC USA proposed dimensions are similar to or exceed many of the comparable location dimensions.

PROPOSED SIDEWALK FLOW RATES

According to the *Highway Capacity Manual 2000* (HCM) published by the Transportation Research Board, the maximum capacity of a sidewalk that experiences platooning (grouping of pedestrians often caused by interruptions of flow such as at a signalized intersection) is 18 persons per minute per foot. This value is based on a compilation of research data and years of industry practice. The HCM also presents a methodology to relate the operation of a sidewalk based on a 15-minute peak pedestrian flow rate. The HCM methodology provides level of service (LOS) grades ranging from "A" to "F" with LOS E being defined as the sidewalk capacity. The common practice is to design for LOS D (11 persons per minute per foot) during peak conditions on the basis that the majority of off-peak times will be much less congested and operate at much higher LOS.

Considering the HCM methodology, the following assumptions in Table 2 were applied to the minimum dimensions of the proposed sidewalks. The planter boxes physically reduce the sidewalk width because they occupy portions of the sidewalk that would otherwise be available to pedestrians. The planter box reduction applies to 14th Street only. Additionally, a reduction is taken for the space immediately adjacent to the building, which is occupied by architectural piers at some locations and is often not utilized by pedestrians so as to avoid opening doors or individuals standing next to the building to window shop. A third reduction was taken to account for the fact that pedestrians typically do not walk on the portion of the sidewalk located immediately adjacent to the curb. This third reduction is not applicable to 14th Street because the planter boxes are located adjacent to the curb. The total sidewalk width with reductions applied results in the effective sidewalk width for analysis purposes.

Table 2 – Analysis Assumptions for the Proposed DC USA Sidewalk Frontages

	Minimum Width from Glass Façade to Curb	Reduction for Planter Boxes	Reduction for Friction Space Adjacent to Building	Reduction for Shying Away from Curb	Effective Sidewalk Width
14th Street Sidewalk	*19.75 feet*	*(5.00 + 0.83)*	*(3.00)*	--	*10.92 feet*
Irving Street Sidewalk	*12.17 feet*	--	*(3.00)*	*(1.50)*	*7.67 feet*
Park Road Sidewalk	*10.50 feet*	--	*(3.00)*	*(1.50)*	*6.00 feet*

Applying the analysis assumptions in Table 2 using the HCM methodology produces the peak 15-minute flow rates in Table 3. It is recommended that the maximum flow rate corresponding to LOS D be considered for design purposes. If this flow rate is not exceeded during peak pedestrian activity periods then non-peak periods will function with considerably less congestion. However, if the LOS D maximum design flow were to be exceeded there will still be pedestrian capacity as illustrated in Table 3.

Table 3 – Peak 15-Minute Flow Rates for the Proposed DC USA Sidewalk Frontages

	Max Design Flow Rate (LOS D)	Max Capacity Flow Rate (LOS E)
14th Street Sidewalk	*1,801 p/15 min*	*2,948 p/15 min*
Irving Street Sidewalk	*1,265 p/15min*	*2,070 p/15 min*
Park Road Sidewalk	*990 p/15min*	*1,620 p/15 min*

PEDESTRIAN VOLUME DEMANDS

Existing pedestrian volumes during the weekday AM and PM peak hours were collected on October 19 and 20, 2004 for the 14th Street sidewalk adjacent to the DC USA site. In addition, an estimate was made of the order of magnitude of pedestrian trips that will be generated by DC USA along 14th Street to determine the impacts the foot traffic generated by this large-scale retail project will have on the planned sidewalks. This projection does not include other development in the corridor that will add to pedestrian traffic.

New pedestrian traffic generated by the DC USA project was formulated using assumptions regarding modal split and vehicular trip generation contained in the DC USA Traffic Impact Analysis (TIA). According to the ITE *Trip Generation* methodology contained in the TIA, the project would generate 383 AM peak hour and 1,677 PM peak hour trips before taking a transit reduction of 50% based on WMATA *Transit Ridership Surveys*. Assuming the 50% mode split reducing vehicular trips and converting the vehicle trips into people trips assuming a vehicle occupancy of 1.2 consistent with retail uses, this translates to 230 AM peak hour (58 AM peak 15 minutes) and 1,007 PM peak hour (252 PM peak 15 minutes) pedestrian trips.

Table 4 contains a summary of the existing peak 15-minute pedestrian flows, the addition of new pedestrian trips generated by DC USA (all pedestrians assumed to use 14th Street), the total number of pedestrians in the future (not including other development) and the pedestrian flows as a percentage of the maximum design flow. The table shows that existing pedestrian traffic and new DC USA pedestrian traffic occurring during peak hours of the day will utilize only 7.3% and 19.0% of the design flow for the AM and PM peak hours respectively. Therefore more than 81% of the sidewalk capacity will remain for additional pedestrian traffic to be generated by other future development. This analysis indicates that the proposed sidewalk will provide sufficient capacity to accommodate new pedestrian trips associated with DC USA and other future development.

Table 4 – 14th Street Peak 15 Minute Flows

	AM Peak		PM Peak	
	Peak 15 Min Flow	*% of Max Design Flow*	*Peak 15 Min Flow*	*% of Max Design Flow*
Existing	*73*	*4.1%*	*90*	*5.0%*
DC USA Projection	*58*	*3.2%*	*252*	*14.0%*
Total*	***131***	***7.3%***	***342***	***19.0%***

* Does not include pedestrian traffic generated by other future developments.

INDUSTRY STANDARDS

FHWA (Federal Highway Administration) Pedestrian Facilities Users Guide

The *Pedestrian Facilities Users Guide* states that the width of a sidewalk depends primarily on the number of pedestrians who are expected to use the sidewalk at a given time – high-use sidewalks should be wider than low-use sidewalks. "Street furniture" and sidewalk cafes require extra width.

The minimum clear or unobstructed sidewalk widths are:

- Local or collector streets - 5 feet
- Arterial or major streets - 6 - 8 feet
- Central Business District (CBD) areas - 8 feet minimum without planter strip to 12 feet minimum with planter strip
- Along parks, schools, and other major pedestrian generator - 8 - 10 feet

Similarly, when sidewalks abut storefronts, the sidewalk should be built 2 feet wider to accommodate window shoppers and to avoid conflicts with doors opening and pedestrians entering or leaving the buildings.

The sidewalks along the DC USA façade exceed the minimum clear or unobstructed sidewalk widths recommended in the *Pedestrian Facilities Users Guide* for arterials or major streets, and also exceed the minimum widths recommended in CBD areas and along major pedestrian generators.

AASHTO (American Association of State Highway and Transportation Officials) Guide for the Planning, Design, and Operation of Pedestrian Facilities

Along arterials not in the CBD, sidewalk widths of 6-to-8 feet are desirable where a planting strip is provided between the sidewalk and the curb, and sidewalk widths of 8-to-10 feet are desirable where the sidewalk is flush against the curb. In CBD areas, the desirable sidewalk width is 10 feet or sufficiently wide to provide the desired level of service. These widths represent a clear or unobstructed pedestrian travel way. When the sidewalk abuts storefronts, it is desirable to provide a sidewalk about 2 feet wider to

accommodate shy distance from walls, shoppers stopping to look into windows, and to avoid conflicts with doors opening and pedestrians entering and leaving the adjacent buildings

The minimum unobstructed pedestrian travel ways along DC USA façade exceed the AASHTO recommendations.

LAY BY LANE LOCATION

A lay by parking lane is being proposed for a location along the 14th Street frontage north of the main entrance to DC USA. The design team chose this location because practical experience has shown that lay by lanes immediately adjacent to the building entrance can be problematic. Such features located near an entrance can promote undesirable activities associated with loitering and can increase sidewalk congestion as a result of pick up/drop off activity. Provisions for pick up/drop off activity have been provided in the parking garage. Additionally, locating the lay by lane closer to the intersection with Irving Street in the vicinity of the entrance will result in on-street congestion by increasing the amount of vehicular movements that will conflict with one another at this critical location.

CONCLUSIONS

This memorandum looked at comparables, sidewalk capacities according to HCM 2000 and industry standards, all of which indicate that the proposed DC USA sidewalks will be sufficient to serve the project. The additional pedestrian generation of other development planned for the corridor is not expected to materially change these conclusions since DC USA and existing pedestrian activity will utilize less than 20% of the sidewalk capacity during peak conditions. The facts supporting this conclusion include: a) many of the pedestrians forecasted in the analyses contained in this document will also be visiting the other developments in the corridor; b) the Metro Station and the bus stop are across the street from the DC USA site so these people will not cross the street and; c) there is sufficient sidewalk capacity to accommodate a greater increase in volume than would be expected from the other development.

The analysis reviewed each sidewalk at its narrowest point with many portions of the sidewalks being much wider. To avoid congestion on the sidewalks, planter boxes and sidewalk furniture features will not be located where there will be a concentration of pedestrians. The lay by lane will be located to the north of the main entrance, also to avoid both pedestrian and on-street congestion.

P:\1772\005 DC USA\BG5 - Special Surveys\Ped Study\2004 Documents\Memo - DCUSA Ped Analysis 102804 Final.doc

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Land Area Chart

Square/Lot	Land Area	Premise Address	Owner Name
2676 0795	53495	3300 14TH ST NW	PARK ROAD LP
2843 0078	40703	1368 PARK RD NW	TRIANGLE DEVELOPMENT ASSOCIATES LLC
2672 0719	24497	3020 14TH ST NW	UNITY HEALTH CARE INC
2676 0822	18850	1451 PARK RD NW	1451 PARK ROAD COOPERATIVE
2676 0813	15500	1437 PARK RD NW	TEMPLE CHURCH GOD IN CHRIST
2849 0108	14408	3031 14TH ST NW	14TH & IRVING VENTURES LLC
2672 0853	12302	1460 IRVING ST NW	1460 IRVING STREET LP
2676 0824	10150	1445 PARK RD NW	PARK TIVOLI LP
2672 0007	9728	1450 IRVING ST NW	CCHL INVESTMENTS INC
2672 0873	9409	1454 IRVING ST NW	DOMENICO PANZA TRUSTEES & GLORIA PANZA T
2674 0704	8907	1448 PARK RD NW	PARK REDEVELOPMENT LP
2674 0718	3668	1430 PARK RD NW	TEMPLE CHURCH BUILDING & ECONOMIC DEVELO
2674 0854	3156	3237 HIATT PL NW	3237 LP
2674 0710	2575	1438 PARK RD NW	ANN R BERGAN
2674 0711	2344	1436 PARK RD NW	WASHINGTON APOSTOLIC CHURCH INC
2674 0712	2140	1434 PARK RD NW	CHI F CHENG
2674 0855	1931	3223 HIATT PL NW	HIATT PLACE GP
2676 0746	1930	1418 MONROE ST NW	ALAR C HIGGINS
2676 0290	1917	1426 MONROE ST NW	M E PRENDER
2676 0291	1917	1424 MONROE ST NW	MARY A WARNER
2676 0745	1885	1420 MONROE ST NW	JEREMY A GRANT
2676 0806	1881	1422 MONROE ST NW	JAMES B NASTUS
2674 0599	1752	3221 HIATT PL NW	QUANG T NGUYEN
2674 0639	1570	3229 HIATT PL NW	SONIA M PAZ
2674 0715	1528	1428 PARK RD NW	SAN MIGUEL GROUP INC
2674 0638	1507	3227 HIATT PL NW	F ALVARENGA
2674 0611	1463	1452 PARK RD NW	PHONG HOANG
2674 0637	1361	3225 HIATT PL NW	M BANULS
2674 0608	1360	1458 PARK RD NW	LUISA MALDONADO
2674 0609	1360	1456 PARK RD NW	FLORENTINO G TUREIOS
2674 0610	1360	1454 PARK RD NW	PILAR A PEREL
2674 0856	1350	1460 PARK RD NW	HORIZON 2012 LLC
2674 0716	1325	1426 PARK RD NW	SAN MIGUEL GROUP INC
2674 0717	1170	1424 PARK RD NW	JOSEFINA AYALA
2674 0851	13	NW	T B COFER
	7440		

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Mueser Rutledge
Consulting Engineers

SUBSURFACE INVESTIGATION
DC USA
14TH STREET AND IRVING PLACE, NW
WASHINGTON, DC

DC USA Operating Co., LLC
c/o Grid Properties Inc.
2309 Frederick Douglass Boulevard
New York, NY 10027

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 West 34th Street
New York, NY 10122

April 13, 2004

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April 13, 2004

DC USA Operating Co., LLC
c/o Grid Properties Inc.
2309 Frederick Douglass Boulevard
New York, NY 10027

Attention: Mr. Jim Tuman

Re: Subsurface Investigation
DC USA
14th Street and Irving Place, NW
Washington, DC
MRCE File 9976A

Gentlemen:

In accordance with our proposal dated July 24, 2003, we summarize herein the results of our soils and foundation investigation for the proposed DC USA project to be constructed in the Columbia Heights section of Northwest Washington, DC.

Exhibits

The following exhibits are attached to illustrate our report:

Drawing No. B-1	Boring Location Plan
Drawing No. GS-1	Geologic Section A-A
Drawing No. GS-2	Geologic Section B-B
Drawing No. GS-3	Geologic Section C-C
Drawing No. GS-4	Geologic Section D-D
Drawing No. GS-5	Geologic Section E-E
Drawing No. GS-R	Geotechnical Reference Standards
Plate No. 1	Gradation Curves
Plate No. 2	Gradation Curves
Appendix A	Boring Logs

Available Information

The following items used in the preparation of our report were obtained from Grid Properties or members of the design team:

1. *Boundary and Topographic Survey, 14th and Park Road, N.W.,* dated March, 2003, prepared by A. Morton Thomas and Associates, Inc.

2. DC USA Proposed Boring Location Plan, SKC-1, dated April 17, 2003.

3. Drawings A201, A202, etc. plans, sections etc. provided electronically by Bower Lewis Thrower on September 22, 2003.

4. *Preliminary Geotechnical Engineering Report, Parcel 27/Columbia Heights, 14th and Irving Streets, N.W., Washington, D.C.,* dated December 12, 2000, prepared by GeoConcepts Engineering, Inc., for Grid Properties, Inc.

Site Description

The site is located in Northwest Washington, DC, and is bounded by 14th Street on the east, Park Road on the north, Hiatt Place and other properties on the west and Irving Street on the south. The majority of the site is occupied by parking lots. There are several one-story masonry buildings at the northeast corner of the site, some with basements, which are scheduled to be demolished. The site abuts the east and south sides of Bell Multicultural Senior High School, which we understand contains one level below grade. A 16-foot wide alley separates the site from the east edge of the high school structure, but the south edge abuts the site property line. A 130-foot long façade is present along the south edge of the site near Hiatt Place.

The Washington Metro Columbia Heights station is beneath 14th Street adjacent to the southeast corner of the site. The Metro tunnels turn east at the north end of the station, heading away from the project site. Site grades range from Elev. 193 at the southeast corner and the northern edge to Elev. 197 in the south-central and southwest areas.

Project Description

The project consists of a retail structure with three stories above grade and three parking levels below grade. The footprint of the building is 210,000 square feet in an L-shape. The structure will be built to the property line shared with Metro on all levels. The second and third parking levels will be set back from the property lines in portions of the north and west sides. Along Park Road loading areas will be constructed which will have no basements. Along the west edge of the site adjacent to the alley and along the north side of the western leg of the site adjacent to Bell Multicultural Senior High School, ramps will be constructed which will not extend below

the first basement level. The historic façade along the south site boundary will be preserved and incorporated into the new building.

Field Exploration

Field work began on October 6, 2003 and finished on October 17, 2003. Eleven borings were made at the location of the proposed building. These borings are identified with an M prefix. Three borings made previously by GeoConcepts are also shown, and are identified with a B prefix.

Borings were made by GeoServices Corporation of Forestville, MD, under contract to DCUSA Operating Co., LLC. Field work was performed under the part-time inspection of our resident engineer, Mr. William Hobson. Boring locations and elevations were provided by the boring contractor's surveyor. Elevations are referenced to the National Geodetic Survey Datum, a mean sea level datum.

Representative soil samples were recovered from the borings with a two-inch split spoon sampler driven with a 140-pound hammer free-falling 30 inches. The number of blows required to advance the sampler through each of three or four six-inch intervals was recorded. The Standard Penetration Test (SPT) resistance, an index of the density of the material sampled, is calculated by summing the blows from the second and third intervals. An automatic hammer was used in the current investigation. The automatic hammer typically delivers a higher energy per blow than the older style cathead driven hammers used in many earlier investigations.

M-series borings were advanced and stabilized using weighted drilling fluid and temporary casing, and extended to depths of 60 feet. Piezometers were installed in three of the completed borings to determine present groundwater levels. Falling head tests were performed in the piezometers to demonstrate that they were functioning properly and permit an estimate to be made of the permeability.

After completion of the borings, GeoServices Corporation shipped the soil samples to our office. Samples were reexamined in our laboratory and field descriptions were verified or revised as necessary. All soil samples are described in accordance with the system shown on Drawing No. GS-R. Relatively undisturbed samples were subjected to laboratory testing to determine strength and consolidation characteristics. Groundwater levels were recorded during the course of the field work. Readings are shown on the appropriate boring log sheets.

SUBSURFACE CONDITIONS

The results of the boring program are shown on the boring logs attached as Appendix A. The logs include sample number, depth, blow count, individual soil descriptions for each sample and descriptions of drilling operations. Our interpretation of subsurface conditions is illustrated on

Geologic Sections A-A through E-E, shown on Drawings Nos. GS-1 through GS-5. Generalized descriptions of the soil strata encountered in the borings are summarized below in order of their occurrence with increasing depth:

Stratum F - Fill

The uppermost material encountered in all of the recent borings is fill ranging in thickness from 4 to 17.5 feet. Stratum F consists of loose to very compact brown gray gravelly fine to coarse sand, trace to some silt, to fine to coarse sand, some gravel, silt, grading to clayey and silty fine to coarse sand, trace to some gravel, with trace to some concrete, brick, trace rock fragments, clay pockets, glass, roots, occasional boulders.

Stratum T1 – Terrace Clay

Stratum T1was encountered beneath the fill in Boring M-3. This stratum was 2 feet thick, and consisted of stiff gray red silty clay, trace fine sand.

Stratum T2 – Terrace Sand

Stratum T2 was encountered beneath Stratum F in Borings M-9 and M-10, and consisted of medium compact brown gray clayey fine to medium sand; to silty fine to medium sand, trace clay, clay pockets. A typical N value was 12 blows per foot.

Stratum T3 – Terrace Sand and Gravel

Stratum T3 consists of medium compact to very compact brown gray gravelly fine to coarse sand, trace to some silt, trace clay pockets, to fine to coarse sandy gravel, trace silt, clay, grading to fine to coarse sand, some gravel, trace to some silt, clay, with occasional cemented sand and cobbles. N values generally ranged from 8 to 90 blows per foot, with an average value of 38. This stratum was encountered in all M-series borings beneath Strata F, T1, or T2. Thickness ranged from 1 to 15.5 feet.

Sampler penetration resistance was lower in the M-series borings than in previous borings. Studies by others indicate that the automatic hammer reduces N-values by 20 to 25 percent when compared with a cathead-driven hammer. We attribute the lower N-values in the current investigation to the use of an automatic hammer.

Stratum P2 – Potomac Sand

This stratum was encountered beneath Stratum F or the T-series strata in all of the recent borings, occasionally interlayered with Stratum P1. Measured thicknesses ranged from 33 to 44 feet. Stratum P2 consists of loose to compact tan brown silty fine to medium sand; trace clay, clay pockets, gravel; to clayey fine to medium sand, trace gravel, grading to fine to coarse sand,

some silt, trace to some gravel, trace clay, clay pockets, with occasional cemented sand, cemented sand layers, clay layers. N-values ranged from 3 to 48 with an average value of 22 blows per foot.

Stratum P1 – Potomac Clay

Stratum P1 was encountered beneath Stratum P2 in all of the recent borings and extended beyond the bottom of the borings. Stratum P1 consisted of stiff to hard gray to red brown silty clay; to plastic clay; to clayey silt, with trace fine sand, fine sand pockets and layers, occasional cemented sand cemented silt, lignite, lignite layers (fissured to slickensided). N-values ranged from 15 to 37 blows per foot, with an average value of 24.

Groundwater

Groundwater was measured in three permanent piezometers installed during the field work. Groundwater levels corresponded to Elev. 166.6 to 168.1. Subsequent readings have shown little change in water level.

Permeabilities estimated from falling head tests ranged from 2.8×10^{-5} to 3.0×10^{-4} ft/min and are summarized in the table below. It appears that these test results reflect the permeability of Stratum P2 even though the column of sand in the wells extended to more permeable strata above that were also above the groundwater table. Permeabilities determined in previous investigations in Stratum P2 soils in Washington, DC have ranged from 10^{-3} to 10^{-5} ft/min.

Boring No.	Estimated Permeability (ft/min)
M-1P	2.8×10^{-5}
M-8P	1.2×10^{-4}
M-12P	3.0×10^{-4}

DESIGN AND CONSTRUCTION RECOMMENDATIONS

Foundations

Current plans call for Parking Level P3, the lowest basement level, to be established at Elev. 160 feet. Subgrade at this elevation will be in Stratum P2. The western portion of the building, in the area of Borings M-7, M-8P, and M-11, will contain two basements. Parking Level P2, the second basement, will be established at Elev. 170.5. Subgrade in this area will also be in Stratum P2.

We recommend support of the new structure on spread foundations bearing in Stratum P2 at an allowable bearing pressure of 2 tsf. In areas where no basement will be constructed beneath the structure, including the northwest corner along Park Road and the ramps east and south of the adjacent Bell Multicultural High School (in the area of Borings M-1P, B-2, M-3 and northeast of M-7) foundations must extend through the fill and into the underlying natural strata. This could be achieved by lowering the footings or constructing deep foundations. Driven or drilled-in piles, drilled piers or caissons would provide the recommended support in these areas. However, footings will extend only 6 to 7 feet deep in granular fill well above the water table. If the adjacent 2-story brick building has a basement the new footings would have to extend to the same level as the basement footings. If there is no existing basement, it may be necessary to underpin the wall footing in order to place the new footings at a deeper level.

Underdrainage

Measured groundwater levels are six to eight feet above the lowest finished floor elevation. The lowest slab and basement walls must be designed to resist groundwater. Design water level should be taken as five feet above the water levels read in the piezometers at the site, or Elev. 173. The slab should be underdrained, with a 12-inch thick layer of clean 3/4 inch crushed stone or washed gravel placed beneath the slab underlain by a layer of geotextile filter fabric and overlain by a vapor barrier. The specifications for the stone or gravel should require that these materials be durable with no potential to slake or abrade and should contain no more than 2 % passing the No. 40 standard sieve. A network of perforated PVC pipes should be installed in the stone with holes down, spaced 20 feet on centers or centered between the columns, to collect any water that enters the stone layer and carry it to a sump or sumps below the floor. Pipes should be connected to each other at every crossing. The sump or sumps should be equipped with two pumps set to operate as a primary and a secondary, and sized so that the primary pump cycles no more than four times per hour. A secondary power source should be provided to the pumps so that they operate in the event of a power failure. The pumps must be capable of lifting the collected water to the level of the DC sewers in the street. The District of Columbia assesses a disposal fee on water discharged into the sewer system. We estimate that steady state flow into the underdrainage system may range from 15 to 30 gallons per minute based on a future groundwater level at Elev. 173 ft and an estimated average permeability of 1×10^{-3} ft/min. We recommend that the pumps be sized for about five times the higher estimate or 150 gallons per minute (gpm). The quantity of groundwater pumped during construction should be metered and recorded. Permanent pump size should be revised if indicated by the construction dewatering data.

Groundwater within the Washington, DC area typically exhibits relatively high iron content, which in a wet aerobic environment gives rise to the growth of iron-loving bacteria which can clog drainage lines and pumps. Previous experience in Washington projects indicates that frequent purging of the underdrainage system should be performed to minimize clogging by these bacteria. Cleanouts which are accessible from the lowest floor level should be located in

every line at distances not to exceed 100 to 200 feet, to allow the lines to be flushed from above with mild acids to purge any bacteria which might accumulate. Lines should be designed with excess capacity to allow efficient drainage between cleanings. Pipes should be smooth walled perforated PVC to minimize areas where clogging bacteria could accumulate. Points of entry of air into the system should be minimized. Lines which discharge into sumps should have their ends submerged below the permanent water level in the sumps to preclude easy entry of air into the lines, and cleanouts with tightly sealed caps should be located within the sumps to allow for cleaning of the incoming lines. Floor drains below the lowest parking level should be kept separate from the underdrainage lines to preclude entry of air into the underdrainage lines. Operations instructions to the building staff should explain the procedures and the need for regular maintenance of the underdrainage lines.

Below Grade Walls

For design of below grade walls, we recommend an equivalent fluid pressure of 60 lbs per cubic foot (pcf) above the groundwater table and 90 pcf below the groundwater table. Live load surcharge should be added to the above pressures particularly over the upper part of the walls.

Waterproofing and wall drainage should be applied to the outside of the walls below the design groundwater table. Waterproofing should consist of a bituminous coating and a rubber membrane with overlap at the sealed seams, or a sprayed-on membrane waterproofing. Wall drainage should consist of Enkadrain, Miradrain, or a similar product, with a collector pipe placed at the base of the wall. The collector pipe should be bedded in gravel and the gravel covered with geotextile in accordance with the wall drain manufacturer's recommendations. The collector pipe should carry the collected water into one or more of the sumps in the deepest basement. Collected water should not be routed through the underdrainage network but in separate lines. Waterstops should be installed in all concrete joints below the design groundwater level. Damp proof coating should be used on walls above the design groundwater level to limit infiltration during wet periods including street flooding and possible water main breaks.

CONSTRUCTION CONSIDERATIONS

Support of Excavation

The anticipated depth of excavation is up to 35 feet below existing grades. Support of excavation is expected to consist of soldier piles and lagging with tiebacks and/or internal braces. For temporary excavation support, we recommend using a soil unit weight of 130 pcf and an angle of internal friction of 34 degrees. On the east side of the site along the WMATA facilities, design earth pressures for temporary support of excavation are as specified in our WMATA submittal. On the remaining sides of the site the second and third basements will be stepped in from the first basement. This will require two rows of soldier piles. Loads imposed by the upper soldier piles must be considered in the design of the lower soldier piles. Soldier

piles installed within 30 ft of existing structures should be inserted in pre-augered holes filled with grout to limit vibrations which could damage the existing structures. Positive measures should be provided to prevent soil from being washed between lagging boards during rainstorms causing subsidence outside of the sheeting and potential damage.

Heelblocks to resist raker loading may be designed assuming an angle of internal friction of the P2 sands of 34 degrees, provided that the angle of the raker above horizontal is at least 45 degrees and the heelblock is completely embedded in the soil. Care must be taken to avoid excavation behind the heelblocks while they are loaded. Rakers should be preloaded to 80 percent of their design load prior to excavation to the supported wale level to minimize movement of the soldier piles and lagging. It may be possible to use temporary tiebacks above the subway tunnels and below the existing and surrounding streets if permission can be obtained from the appropriate parties. If tiebacks are used, they should be installed using drilling procedures that minimize the loss of ground to avoid damage to the existing structures.

Underpinning

Underpinning must be considered for buildings within the influence zone of the proposed excavation. The influence zone is defined by a line rising upward and outward from the excavation perimeter at a slope of 1H:1V. Buildings founded above this line or utilities buried above this line are subject to settlement if the excavation support system moves toward the excavation. We understand that garage ramps will be constructed adjacent to the south end of Bell Multicultural High School and the abutting structures on Park Road NW. If no adjoining structures are founded above the line described above, underpinning will not be needed unless footings are extended to below adjacent footings to reach natural soil. The façade to remain on the south will require underpinning and lateral support during construction, and should be considered in design of the support of excavation. Wind loads on the façade must be taken into account in design of the support system.

Monitoring

A survey of the structures which could be damaged by construction should be performed prior to the start of construction. Such a survey should document all existing cracks, settlement, water or other damage to the structures. This will permit interested parties to distinguish later what damage may have occurred during construction of DCUSA as distinct from pre-existing damage. The settlement caused by construction of DCUSA may cause minor cosmetic damage to the adjacent buildings.

A series of settlement and lateral movement monitoring points should be established on the existing buildings and sidewalks and baseline readings taken, referenced to a benchmark which is far enough from the site to be unaffected by the construction. These points should be monitored at regular intervals especially when construction is being performed nearby. Threshold movement and action levels should be established for these points. If threshold levels

are exceeded monitoring frequency should increase. If action levels are reached, construction should stop until remedy can be implemented.

WMATA will also require monitoring of their facilities beneath 14th Street NW. This monitoring will be addressed separately in the WMATA submittal package.

Dewatering

Dewatering of construction excavations should be anticipated. Water levels should be drawn down at least 2 feet below subgrade levels by installing wells and pumping in advance of excavation. Quantities of water pumped during construction should be metered and recorded. These data should be reviewed and the design of the permanent underdrainage system adjusted if indicated. Construction dewatering intakes should be fitted with screens to minimize entry of fines into the system from the surrounding ground, and discharge lines should be equipped with Rossum sand testers or equivalent to monitor the quantity of fines pumped. If excessive amounts of fines are pumped, ground subsidence and settlement of adjacent structures could result.

Tunneling for Metro Sections E2, E3 and E4 which run from U Street NW along 14th Street, Park Road, and New Hampshire Avenue involved intense efforts at predrainage of groundwater. Installation and operation of deep wells encountered exceptional difficulties, particularly along Park Road. These involved the pervasive influence of iron-loving bacteria in clogging well filter packs and screens. No efficient remedy other than frequent purging was devised. Chemical treatment proved only to temporarily increase well yields. It is thought that the bacteria intruded the wells from contamination in the shallow Pleistocene strata. Every effort should be made to seal the uppermost section of the wells and make them absolutely watertight above the groundwater contours. Tools used in well installation that may have been contaminated should not be transferred to new wells without sterilization to destroy bacteria.

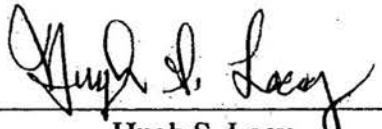
Foundation Subgrades

Construction traffic on the exposed subgrade should be limited to minimize disturbance of the subgrade soils. Subgrades should be inspected by a qualified geotechnical engineer prior to placing concrete.

Please contact us if you have any questions concerning this report.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS



Hugh S. Lacy

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CLARK CONSTRUCTION SMOOT CONSTRUCTION

DC USA - A JOINT VENTURE

December 6, 2004

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

Regarding: DC USA at Columbia Heights
Washington, DC

To whom it may concern:

We understand that zoning regulations require that 1,592 parking spaces be provided. The RLA Revitalization Corp. is requesting a reduction in the number of parking spaces to meet market demand and deal with the unique site conditions of this project. The design currently provides, 1,000 parking spaces in two levels of below-grade parking. To provide the total amount required by zoning would require the construction of a full third level and a partial fourth level of parking. We have estimated the cost premiums indicated below:

Option 1 - 1,000 Spaces on Two Levels

Level	# of Spaces	Cost	$/SF	$/Car
1 & 2	1,000	$27,645,000	$67	$27,600

Option 2 – Use of Zoning Special Exception to Provide 1,209 Spaces on Three Levels

Level	# of Spaces	Cost	$/SF	$/Car
1 & 2	1,000	$27,648,000	$67	$27,600
3	209	$9,140,000	$102	$43,700

Option 3 – Zoning As-of Right – 1,592 spaces on Four Levels

Level	# of Spaces	Cost	$/SF	$/Car
1 & 2	1,000	$27,648,000	$67	$27,600
3	500	$17,510,000	$85	$35,000*
4	92	$6,359,000	$137	$69,000*

(*Note: Combined 3rd and 4th levels equals $40,000/space.)

The cost premiums result from the following items:

7500 Old Georgetown Road
Bethesda, Maryland 20814-6196

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Groundwater Levels – The Subsurface Investigation report prepared by Mueser Rutledge, dated April 13, 2004, indicates that actual groundwater would be approximately 6-8' above the finished floor elevation of the 3rd parking level. Project construction costs and time will be significantly increased to handle major site dewatering and higher soil stabilization costs associated with deeper excavation in super saturated soils. Mitigation of this problem for the life of the building will require an extensive drainage and waterproofing system added to the current design. Increased safety risks during construction and ongoing flooding risks during the life of the building will need to be dealt with. Other continual costs may include a pumping system (including a connection and increased sizing to the emergency generator), and District dewatering charges. There are also operational costs involved including the electrical consumption charges for the pumping system that are not included in the estimate above. A fourth parking level may also require a thicker slab on grade.

WMATA Tunnel - A WMATA subway tunnel runs adjacent to the site on 14th Street. According to the structural engineers, there would be a premium associated with the additional WMATA Surcharge as well as increased monitoring costs. There will also be additional monitoring costs for constructing the third and fourth levels.

Sheeting/Shoring/Underpinning Premium – The additional parking levels are much more difficult for sheeting and shoring and involve exponentially higher loads on the sheeting as the excavation gets deeper. Therefore the cost of sheeting/shoring/underpinning is substantially higher than the upper floors. Support of the existing façade will also increase.

Design Inefficiencies – Adding additional parking levels require that many design elements that are not based on the number of cars, such as elevators, exit stairs and parking ramps be extended to the lower levels. This results in an extremely high incremental cost per parking spot. In addition, the additional parking levels may increase the size of garage exhaust ventilation ductwork that must run through the building to the roof. All exhaust fans serving these areas will need to be increased accordingly.

Increased Construction Schedule - The third parking level will add approximately four months to the overall construction schedule and the partial fourth parking level an additional two months. This will result in additional costs for project management, and construction general conditions.

Exposure to Unforeseen Conditions - The deeper the excavation, the higher the risk of project exposure to the unexpected. These exposures may be in the form of unsuitable materials, undocumented utilities and/or adverse weather conditions. The success of the construction project is largely how quick we can get out of the hole and get the shell of the building completed and dried-in. Normal excavations are vulnerable to adverse weather conditions. Deep excavations in supersaturated soils with continual dewatering systems are very vulnerable and unfortunately have longer exposure periods due to the many related support activities and safety measures that must be taken.

7500 Old Georgetown Road
Bethesda, Maryland 20814-6196

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CLARK CONSTRUCTION SMOOT CONSTRUCTION

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Yours truly,

CLARK CONSTRUCTION GROUP, LLC

Kenneth C. Carlson
Vice President

7500 Old Georgetown Road
Bethesda, Maryland 20814-6196

Writer's Direct Dial 301 272-7046

Grid Properties
DC USA at Columbia Heights
Washington, DC

BUDGET COMPARISON TO BASE
TWO (2) LEVEL GARAGE
December 6, 2004
Based on Current Pricing

Parameter	3rd Level 90,000s.f./209 spaces Premium Cost/Space	3rd & 4th Levels 254,000s.f./592 spaces Premium Cost/Space
Excavation and Dewatering Premiums Due to Depth	$1,700	$1,400
Support of Excavation Premiums Due to WMATA	1,200	900
Structural Premiums Due to Depth, Efficiency and Water	6,500	4,900
Additional Waterproofing Due to Water Table	1,000	500
Building Finish Premium Due to Reduced Efficiency	700	600
Elevator Premium Due to Reduced Efficiency	500	200
Mechanical Premium for Additional Pumps	500	200
Electrical Premium Due to Reduced Efficiency	200	
SUBTOTAL	$12,100	$8,700
Mark-Ups and Contingencies	$4,000	$2,900
PREMIUM COST/SPACE	$16,100	$11,400

Over and Above 2 Level Garage

Grid Properties
DC USA at Columbia Heights
Washington, DC

PRELIMINARY BUDGET ESTIMATE OF CONSTRUCTION COST

December 6, 2004
Based on Current Pricing
Add Third level and Partial Fourth level, 254,000sf, 592 **Spaces**

	Below Grade		Totals
	Parking & Loading	Davis Bacon Premium Parking & Loading	Total with Davis Bacon Premium
Sitework			$0
Building Excavation	$3,316,000	$88,000	$3,404,000
Support of Excavation	1,756,000	$105,000	$1,861,000
Deep Foundations			$0
Structure	8,682,000	$434,000	$9,116,000
Exterior Skin Envelope			$0
Roofing & Waterproofing	475,000	$48,000	$523,000
Exterior Soffit		$0	$0
General Building Finishes	1,114,000	$111,000	$1,225,000
Vertical Transportation	400,000		$400,000
Mechanical System	1,524,000	$76,000	$1,600,000
Electrical System	1,019,000	$71,000	$1,090,000
Railroad Insurance	27,000	0	$27,000
Builder's Risk Insurance	77,000	4,000	$81,000
General Liability Insurance	138,000	7,000	$145,000
SUBTOTAL	$18,528,000	$944,000	$19,472,000
General Conditions	$1,038,000		$1,038,000
General Contractor's Bond	157,000	9,000	$166,000
Fee	838,000	41,000	$879,000
Pricing Contingency 3 %	617,000	30,000	$647,000
SUBTOTAL	21,178,000	1,024,000	22,202,000
Cost per SF	$83.38 /sf	$4.03 /sf	$87.41 /sf
Gross Area (SF)	254,000 sf	254,000 sf	254,000 sf
Design Contingency 3 %	635,000	31,000	666,000
Construction Contingency 3 %	635,000	31,000	666,000
Escalation 1.5%	318,000	17,000	335,000
TOTAL BUDGET	$22,766,000	**$1,103,000**	$23,869,000

CLARK/SMOOT
A Joint Venture

		Project:	DC USA at Columbia Heights		
		Job # :	01_6040		
		PRELIMINARY BUDGET ESTIMATE			
		DATE:	6-Dec-04		
	Parking & Loading	50% Sche			
		Unit	Quantity	Unit Price	Amount
BUILDING EXCAVATION					
BUILDING EXCAVATION					
	Abate Underground Fuel Oil Storage Tanks	ea			Exclude
	Abate Contaminated Soils	cy			Exclude
	Building Cut & Haul	cy	115,000	26.00	2,990,000
	Excavation & backfill for interior wall layback	cy	1,600	20.00	32,000
	Foundation, Footing & Pit Excavation Premium	cy	6,720	8.00	53,760
	Foundation, Footing & Pit Backfill Premium	cy	3,360	3.00	10,080
	Foundation, Footing & Pit Excavation	cy	1,500	40.00	60,000
	Hand Backfill & Hand Excavation Work	ls			20,000
	DC water discharge fees for dewatering - **Allowance**	ls			Exclude
	Groundwater control & sumping premium	ls			150,000
	BUILDING EXCAVATION TOTAL	cy	115,000	28.83	~~3,315,840~~
				USE	$3,316,000
SUPPORT OF EXCAVATION					
	Sheeting & Shoring & support of existing adjacent structures	sf	38,000	37.00	1,406,000
	WMATA support of excavation premium	sf	10,000	20.00	200,000
	WMATA Monitoring & Survey premium	ls			150,000
	SUPPORT OF EXCAVATION TOTAL	sf	38,000	46.21	~~1,756,000~~
				USE	$1,756,000
STRUCTURE BELOW GRADE					
	Concrete Foundations	cy	1,250	280.00	350,000
	Concrete Foundation Wall	sf	38,000	26.00	988,000
	Concrete Interior ramp Walls	sf	5,600	25.00	140,000
	Shear walls	sf	5,000	30.00	150,000
	Premium for Thickened Slab on Grade	sf	190,000	6.00	1,140,000
	Concrete Supported Slab	sf	254,000	21.70	5,511,800
	DCI in Concrete Slabs	cy	5,600	30.00	168,000
	Concrete CIP Stairs	flight	8	6,790	54,320
	Winter protection & heat - Masonry, Fireproofing & Concrete	sf	254,000	0.20	50,800
	Concrete Misc. Fills, Curbs, Pads, etc.	cy	40	2,000.00	80,000
	Expansion Joints	lf	980	50.00	49,000
	STRUCT. BELOW GRADE TOTAL	sf	254,000	34.18	~~8,681,920~~
				USE	$8,682,000

CLARK/SMOOT A Joint Venture	Project:	DC USA at Columbia Heights		
	Job # :	01_6040		
	PRELIMINARY BUDGET ESTIMATE			
	DATE:	6-Dec-04		
Parking & Loading	50% Sche			
	Unit	Quantity	Unit Price	Amount
ROOFING & WATERPROOFING				
WATERPROOFING				
Foundation Drain tile	lf	2,000	15.00	30,000
Underslab Drainage	sf	190,000	0.40	76,000
Heavy Duty Vapor Barrier at SOG	sf	190,000	1.00	190,000
Garage Slab Sealer /	sf	90,000	0.30	27,000
Vertical Bentonite Panels	sf	38,000	2.50	95,000
Vertical Drainage Board	sf	38,000	1.50	57,000
ROOFING & W.P. TOTAL	sf	254,000	1.87	~~475,000~~
			USE	$475,000
GENERAL BUILDING FINISHES				
PARTITIONS				
Masonry CMU Partitions	sf	34,000	10.00	340,000
BUILDING FINISHES :				
REMAINING BUILDING FINISHES:				
FLOOR FINISHES :				
Paint / Seal Concrete Floor	sf			In Waterproofing
Parking space Striping	space	612	10.00	6,120
Elevator lobby floor	sf	4,000	8.00	32,000
CEILING FINISHES :				
Painting of exposed ceilings at garage	ls			Exclude
Gypsum board bulkheads at lobby	sf	5,000	5.00	25,000
Spray-On Insulation	ls			Exclude
WALL FINISHES :				
Paint CMU Walls	sf	67,000	0.50	33,500
Floor Identification Color code on columns	sf	36,000	0.80	28,800
Paint Garage Exposed Conc. Walls & Columns	sf	73,000	0.50	36,500
DOORS, FRAMES & HARDWARE:				
Hollow Metal Doors, Frames & Hardware	leaf	34	825.00	28,050

CLARK/SMOOT
A Joint Venture

Project:	DC USA at Columbia Heights		
Job # :	01_6040		
PRELIMINARY BUDGET ESTIMATE			
DATE:	6-Dec-04		
Parking & Loading	50% Sche		

	Unit	Quantity	Unit Price	Amount
SPECIALTIES:				
Ramp Divider Railings	lf	1,680	85.00	142,800
Stair Railings	Flight	8	2,500.00	20,000
Corner Guards	lf	9,000	14.00	126,000
Louvers	sf	4,760	25.00	119,000
Signage	ls			15,000
Fire Extinguishers & Cabinets	ea	42	200.00	8,400
Final Building Cleaning	sf	254,000	0.10	25,400
Rough Carpentry	gsf	254,000	0.10	25,400
Interior Caulking	gsf	254,000	0.10	25,400
Interior Misc. Metals	gsf	254,000	0.30	76,200
GEN. BUILD. FINISH TOTAL	sf	254,000	4.38	~~1,113,570~~
			USE	$1,114,000
VERTICAL TRANSPORTATION				
Budget Allocation from Retail Building Budget	stop	16	25,000	400,000
VERTICAL TRANSPORT. TOTAL	Stops			~~400,000~~
			USE	$400,000
MECHANICAL SYSTEM				
PARKING				
Garage/Storage Ventilation - Allowance	sf	254,000	2.90	736,600
Carbon Monoxide Monitoring - Allowance	sf	254,000	0.35	88,900
Garage/Storage Drainage	sf	254,000	1.25	317,500
Garage/Storage Sprinklers	sf	254,000	1.50	381,000
MECHANICAL SYSTEM TOTAL	sf	254,000	6.00	~~1,524,000~~
			USE	$1,524,000
ELECTRICAL SYSTEM				
PARKING				
Building Systems (Switchgear, Panel Boards, Emergency, Fire Alarm)	sf	254,000	1.95	495,300
Interior Lighting	sf	254,000	1.10	279,400
Wiring Devices	sf	254,000	0.17	43,180
HVAC & Electrical Power	sf	254,000	0.40	101,600
Temporary Power	ls			100,000
ELECTRICAL SYSTEM TOTAL	sf	254,000	4.01	~~1,019,480~~
			USE	$1,019,000

Grid Properties
DC USA at Columbia Heights
Washington, DC

PRELIMINARY BUDGET ESTIMATE OF CONSTRUCTION COST

December 6, 2004
Based on Current Pricing
Two Level Garage, 1,000 spaces, 411,400sf

	Below Grade		Totals
	Parking & Loading	**Davis Bacon Premium Parking & Loading**	**Total with Davis Bacon Premium**
Sitework			$0
Building Excavation	$4,070,000	$108,000	$4,178,000
Support of Excavation	1,931,000	$116,000	$2,047,000
Deep Foundations			$0
Structure	9,466,000	$473,000	$9,939,000
Exterior Skin Envelope			$0
Roofing & Waterproofing	197,000	$20,000	$217,000
Exterior Soffit		$0	$0
General Building Finishes	1,202,000	$120,000	$1,322,000
Vertical Transportation	400,000		$400,000
Mechanical System	2,294,000	$115,000	$2,409,000
Electrical System	1,639,000	$115,000	$1,754,000
Railroad Insurance	27,000	0	$27,000
Builder's Risk Insurance	90,000	4,000	$94,000
General Liability Insurance	160,000	8,000	$168,000
SUBTOTAL	$21,476,000	$1,079,000	$22,555,000
General Conditions	$1,203,000		$1,203,000
General Contractor's Bond	183,000	11,000	$194,000
Fee	972,000	46,000	$1,018,000
Pricing Contingency 3 %	715,000	34,000	$749,000
SUBTOTAL	24,549,000	1,170,000	25,719,000
Cost per SF	$59.67 /sf	$2.84 /sf	$62.52 /sf
Gross Area (SF)	411,400 sf	411,400 sf	411,400 sf
Design Contingency 3 %	736,000	35,000	771,000
Construction Contingency 3 %	736,000	35,000	771,000
Escalation 1.5%	368,000	19,000	387,000
TOTAL BUDGET	$26,389,000	**$1,259,000**	$27,648,000

CLARK/SMOOT A Joint Venture	Project:	DC USA at Columbia Heights		
	Job # :	01_6040		
	PRELIMINARY BUDGET ESTIMATE			
	DATE:	6-Dec-04		
Parking & Loading	50% Sche			
	Unit	Quantity	Unit Price	Amount
BUILDING EXCAVATION				
BUILDING EXCAVATION				
Abate Underground Fuel Oil Storage Tanks	ea			Exclude
Abate Contaminated Soils	cy			Exclude
Building Cut & Haul	cy	170,000	22.00	3,740,000
Excavation & backfill for interior wall layback	cy	1,200	20.00	24,000
Foundation, Footing & Pit Excavation	cy	6,720	30.00	201,600
Foundation, Footing & Pit Backfill	cy	3,360	20.00	67,200
Hand Backfill & Hand Excavation Work	ls			45,000
DC water discharge fees for dewatering - Allowance	ls			Exclude
Groundwater control & sumping premium	ls			30,000
Target Allocation				(38,000)
BUILDING EXCAVATION TOTAL	cy	170,000	23.94	~~4,069,800~~
			USE	$4,070,000
SUPPORT OF EXCAVATION				
Sheeting & Shoring & support of existing adjacent structures	sf	52,085	35.00	1,822,975
WMATA support of excavation premium	sf	10,800	10.00	108,000
WMATA Monitoring & Survey premium	ls			Exclude
SUPPORT OF EXCAVATION TOTAL	sf	52,085	37.07	~~1,930,975~~
			USE	$1,931,000
STRUCTURE BELOW GRADE				
Concrete Foundations	cy	6,719	280.00	1,881,320
Slab on Grade	sf	204,909	6.10	1,249,945
Concrete Foundation Wall	sf	48,000	24.50	1,176,000
Concrete Interior ramp Walls	sf	8,000	24.50	196,000
Shear walls	sf	5,000	28.00	140,000
Concrete Supported Slab	sf	196,000	21.70	4,253,200
DCI in Concrete Slabs	cy	6,272	30.00	188,160
Concrete Plaza Slab	sf	26,800	21.70	581,560
Target Allocation plaza				(312,000)
Concrete CIP Stairs	flight	13	6,790	88,270
Winter protection & heat - Masonry, Fireproofing & Concrete	sf	411,400	0.20	82,280
Concrete Misc. Fills, Curbs, Pads, etc.	cy	67	2,000.00	134,000
Expansion Joints	lf	980	50.00	49,000
Target Allocation footings				(242,000)
STRUCT. BELOW GRADE TOTAL	sf	411,400	23.01	~~9,465,735~~
			USE	$9,466,000

CLARK/SMOOT A Joint Venture	Project:	DC USA at Columbia Heights		
	Job # :	01_6040		
	PRELIMINARY BUDGET ESTIMATE			
	DATE:	6-Dec-04		
Parking & Loading	50% Sche			
	Unit	Quantity	Unit Price	Amount
ROOFING & WATERPROOFING				
WATERPROOFING				
Foundation Drain tile	lf	2,000	15.00	Exclude
Underslab Drainage	sf	196,100	0.40	Exclude
Garage Slab Sealer	sf	386,000	0.30	115,800
Loading Dock Traffic Coating	sf	26,800	4.00	107,200
Target Allocation	ls			(42,000)
Horizontal Membrane Waterproofing	sf	2,100	3.00	6,300
Horizontal protection board	sf	2,100	1.00	2,100
Vertical Bentonite Panels	sf	48,000	2.50	Exclude
Vertical Drainage Board	sf	48,000	1.50	Exclude
Metallic Waterproofing - Elevator Pits	sf	1,600	5.00	8,000
ROOFING & W.P. TOTAL	sf	254,000	0.78	~~197,400~~
			USE	$197,000
GENERAL BUILDING FINISHES				
PARTITIONS				
Masonry CMU Partitions	sf	34,000	10.00	340,000
BUILDING FINISHES :				
Parking Garage Manager and Toilet Room	sf	250	50.00	12,500
REMAINING BUILDING FINISHES:				
FLOOR FINISHES :				
Paint / Seal Concrete Floor	sf			In Waterproofing
Parking space Striping	space	1,000	10.00	10,000
Elevator lobby floor	sf	4,365	8.00	34,920
CEILING FINISHES :				
Painting of exposed ceilings at garage	ls			Exclude
Gypsum board bulkheads at lobby	sf	5,000	5.00	25,000
Spray-On Insulation	ls			Exclude
WALL FINISHES :				
Paint CMU Walls	sf	67,000	0.50	33,500
Floor Identification Color code on columns	sf	12,800	0.80	10,240
Paint Garage Exposed Conc. Walls & Columns	sf	61,000	0.50	30,500
DOORS, FRAMES & HARDWARE:				
Hollow Metal Doors, Frames & Hardware	leaf	25	825.00	20,625

CLARK/SMOOT
A Joint Venture

Project:	DC USA at Columbia Heights			
Job # :	01_6040			
PRELIMINARY BUDGET ESTIMATE				
DATE:	6-Dec-04			
Parking & Loading	50% Sche			
	Unit	Quantity	Unit Price	Amount
SPECIALTIES:				
Parking Equipment	ls			80,000
Ramp Divider Railings	lf	1,250	85.00	106,250
Stair Railings	Flight	8	2,500.00	20,000
Corner Guards	lf	6,500	14.00	91,000
Louvers	sf	3,500	25.00	87,500
Signage	ls			35,000
Fire Extinguishers & Cabinets	ea	42	200.00	8,400
Bike Storage	ls			10,000
Final Building Cleaning	sf	411,400	0.10	41,140
Rough Carpentry	gsf	411,400	0.10	41,140
Interior Caulking	gsf	411,400	0.10	41,140
Interior Misc. Metals	gsf	411,400	0.30	123,420
GEN. BUILD. FINISH TOTAL	sf	411,400	2.92	~~1,202,275~~
			USE	$1,202,000
VERTICAL TRANSPORTATION				
Budget Allocation from Retail Building Budget	stop	16	25,000	400,000
VERTICAL TRANSPORT. TOTAL	Stops			~~400,000~~
			USE	$400,000
MECHANICAL SYSTEM				
PARKING				
Garage/Storage Ventilation - **Allowance**	sf	411,400	2.90	1,193,060
Carbon Monoxide Monitoring - **Allowance**	sf	384,600	0.35	134,610
Garage/Storage Drainage	sf	411,400	0.85	349,690
Garage/Storage Sprinklers	sf	411,400	1.50	617,100
MECHANICAL SYSTEM TOTAL	sf	411,400	5.58	~~2,294,460~~
			USE	$2,294,000
ELECTRICAL SYSTEM				
PARKING				
Building Systems (Switchgear, Panel Boards, Emergency, Fire Alarm)	sf	411,400	1.95	802,230
Interior Lighting	sf	411,400	1.10	452,540
Wiring Devices	sf	411,400	0.17	69,938
HVAC & Electrical Power	sf	411,400	0.40	164,560
Temporary Power	ls			150,000
ELECTRICAL SYSTEM TOTAL	sf	411,400	3.98	~~1,639,268~~
			USE	$1,639,000

Grid Properties
DC USA at Columbia Heights
Washington, DC

PRELIMINARY BUDGET ESTIMATE OF CONSTRUCTION COST

December 6, 2004
Based on Current Pricing
Add Cost for Partial Third Level, 90,000sf, 209 Spaces

	Below Grade		Totals
	Parking & Loading	Davis Bacon Premium Parking & Loading	Total with Davis Bacon Premium
Sitework			$0
Building Excavation	$1,200,000	$32,000	$1,232,000
Support of Excavation	663,000	$40,000	$703,000
Deep Foundations			$0
Structure	3,338,000	$167,000	$3,505,000
Exterior Skin Envelope			$0
Roofing & Waterproofing	236,000	$24,000	$260,000
Exterior Soffit		$0	$0
General Building Finishes	406,000	$41,000	$447,000
Vertical Transportation	200,000		$200,000
Mechanical System	540,000	$27,000	$567,000
Electrical System	401,000	$28,000	$429,000
Railroad Insurance	27,000	0	$27,000
Builder's Risk Insurance	30,000	1,000	$31,000
General Liability Insurance	53,000	3,000	$56,000
SUBTOTAL	$7,094,000	$363,000	$7,457,000
General Conditions	$397,000		$397,000
General Contractor's Bond	60,000	4,000	$64,000
Fee	321,000	16,000	$337,000
Pricing Contingency 3 %	236,000	11,000	$247,000
SUBTOTAL	8,108,000	394,000	8,502,000
Cost per SF	$90.09 /sf	$4.38 /sf	$94.47 /sf
Gross Area (SF)	90,000 sf	90,000 sf	90,000 sf
Design Contingency 3 %	243,000	12,000	255,000
Construction Contingency 3 %	243,000	12,000	255,000
Escalation 1.5%	122,000	6,000	128,000
TOTAL BUDGET	$8,716,000	**$424,000**	$9,140,000

CLARK/SMOOT
A Joint Venture

Project:	DC USA at Columbia Heights		
Job # :	01_6040		
PRELIMINARY BUDGET ESTIMATE			
DATE:	6-Dec-04		
Parking & Loading	50% Sche		

	Unit	Quantity	Unit Price	Amount
BUILDING EXCAVATION				
BUILDING EXCAVATION				
Abate Underground Fuel Oil Storage Tanks	ea			Exclude
Abate Contaminated Soils	cy			Exclude
Building Cut & Haul	cy	37,000	26.00	962,000
Excavation & backfill for interior wall layback	cy	1,200	20.00	24,000
Foundation, Footing & Pit Excavation Premium	cy	6,720	8.00	53,760
Foundation, Footing & Pit Backfill Premium	cy	3,360	3.00	10,080
Foundation, Footing & Pit Excavation	cy	1,000	40.00	40,000
Hand Backfill & Hand Excavation Work	ls			10,000
DC water discharge fees for dewatering - Allowance	ls			Exclude
Groundwater control & sumping premium	ls			100,000
BUILDING EXCAVATION TOTAL	cy	37,000	32.43	~~1,199,840~~
			USE	$1,200,000
SUPPORT OF EXCAVATION				
Sheeting & Shoring & support of existing adjacent structures	sf	13,200	37.00	488,400
WMATA support of excavation premium	sf	5,000	20.00	100,000
WMATA Monitoring & Survey premium	ls			75,000
SUPPORT OF EXCAVATION TOTAL	sf	13,200	50.26	~~663,400~~
			USE	$663,000
STRUCTURE BELOW GRADE				
Concrete Foundations	cy	750	280.00	210,000
Concrete Foundation Wall	sf	13,200	26.00	343,200
Concrete Interior ramp Walls	sf	2,000	25.00	50,000
Shear walls	sf	2,500	30.00	75,000
Premium for Thickened Slab on Grade	sf	90,000	6.00	540,000
Concrete Supported Slab	sf	90,000	21.70	1,953,000
DCI in Concrete Slabs	cy	2,000	30.00	60,000
Concrete CIP Stairs	flight	4	6,790	27,160
Winter protection & heat - Masonry, Fireproofing & Concrete	sf	90,000	0.20	18,000
Concrete Misc. Fills, Curbs, Pads, etc.	cy	22	2,000.00	44,000
Expansion Joints	lf	350	50.00	17,500
STRUCT. BELOW GRADE TOTAL	sf	90,000	37.09	~~3,337,860~~
			USE	$3,338,000

CLARK/SMOOT
A Joint Venture

		Project:	DC USA at Columbia Heights		
		Job # :	01_6040		
		PRELIMINARY BUDGET ESTIMATE			
		DATE:	6-Dec-04		
	Parking & Loading	50% Sche			
		Unit	Quantity	Unit Price	Amount
ROOFING & WATERPROOFING					
WATERPROOFING					
	Foundation Drain tile	lf	2,000	15.00	30,000
	Underslab Drainage	sf	90,000	0.40	36,000
	Heavy Duty Vapor Barrier at SOG	sf	90,000	1.00	90,000
	Garage Slab Sealer	sf	90,000	0.30	27,000
	Vertical Bentonite Panels	sf	13,200	2.50	33,000
	Vertical Drainage Board	sf	13,200	1.50	19,800
	ROOFING & W.P. TOTAL	sf	254,000	0.93	~~235,800~~
				USE	$236,000
GENERAL BUILDING FINISHES					
PARTITIONS					
	Masonry CMU Partitions	sf	12,000	10.00	120,000
BUILDING FINISHES :					
REMAINING BUILDING FINISHES:					
FLOOR FINISHES :					
	Paint / Seal Concrete Floor	sf			In Waterproofing
	Parking space Striping	space	209	10.00	2,090
	Elevator lobby floor	sf	2,000	8.00	16,000
CEILING FINISHES :					
	Painting of exposed ceilings at garage	ls			Exclude
	Gypsum board bulkheads at lobby	sf	2,500	5.00	12,500
	Spray-On Insulation	ls			Exclude
WALL FINISHES :					
	Paint CMU Walls	sf	24,000	0.50	12,000
	Floor Identification Color code on columns	sf	6,400	0.80	5,120
	Paint Garage Exposed Conc. Walls & Columns	sf	26,000	0.50	13,000
DOORS, FRAMES & HARDWARE:					
	Hollow Metal Doors, Frames & Hardware	leaf	12	825.00	9,900

CLARK/SMOOT
A Joint Venture

Project:	DC USA at Columbia Heights		
Job # :	01_6040		
PRELIMINARY BUDGET ESTIMATE			
DATE:	6-Dec-04		
Parking & Loading	50% Sche		

	Unit	Quantity	Unit Price	Amount
SPECIALTIES:				
Ramp Divider Railings	lf	600	85.00	51,000
Stair Railings	Flight	4	2,500.00	10,000
Corner Guards	lf	3,200	14.00	44,800
Louvers	sf	1,700	25.00	42,500
Signage	ls			10,000
Fire Extinguishers & Cabinets	ea	15	200.00	3,000
Final Building Cleaning	sf	90,000	0.10	9,000
Rough Carpentry	gsf	90,000	0.10	9,000
Interior Caulking	gsf	90,000	0.10	9,000
Interior Misc. Metals	gsf	90,000	0.30	27,000
GEN. BUILD. FINISH TOTAL	sf	90,000	4.51	~~405,910~~
			USE	$406,000
VERTICAL TRANSPORTATION				
Budget Allocation from Retail Building Budget	stop	8	25,000	200,000
VERTICAL TRANSPORT. TOTAL	Stops			~~200,000~~
			USE	$200,000
MECHANICAL SYSTEM				
PARKING				
Garage/Storage Ventilation - Allowance	sf	90,000	2.90	261,000
Carbon Monoxide Monitoring - Allowance	sf	90,000	0.35	31,500
Garage/Storage Drainage	sf	90,000	1.25	112,500
Garage/Storage Sprinklers	sf	90,000	1.50	135,000
MECHANICAL SYSTEM TOTAL	sf	90,000	6.00	~~540,000~~
			USE	$540,000
ELECTRICAL SYSTEM				
PARKING				
Building Systems (Switchgear, Panel Boards, Emergency, Fire Alarm)	sf	90,000	1.95	175,500
Interior Lighting	sf	90,000	1.10	99,000
Wiring Devices	sf	90,000	0.17	15,300
HVAC & Electrical Power	sf	90,000	0.40	36,000
Temporary Power	ls			75,000
ELECTRICAL SYSTEM TOTAL	sf	90,000	4.45	~~400,800~~
			USE	$401,000

M

Enclosure
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JIM GRAHAM
COUNCILMEMBER, WARD ONE
COUNCIL OF THE DISTRICT OF COLUMBIA
WASHINGTON, D.C. 20004

WASHINGTON DC
THE AMERICAN EXPERIENCE

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Chairperson
Human Rights, Asian/P.I. & Latino Affairs & Property Management Subcommittee

Voting Member
Board of Directors, Washington Metropolitan Area Transit Authority

October 20, 2004

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

Re: BZA Application No. 17232
Application of RLA Revitalization Corporation
14th & Irving Streets, N.W.

Dear Members of the Board:

As the Councilmember with whom this project rests, I am writing to urge your approval of the above-referenced BZA application. This long-awaited project which is so vital to the provision of retail services to the residents of Ward one and the District is, after years of hard work, ready to proceed forward. The original project previously approved by the Board was decreased in scope in order to address the unique problems and difficulties in constructing the third parking garage level on the site.

In addition, due to the large size of the roof and several large tenants, there will be multiple roof structures. Special exception relief is needed to address that issue.

The revised plan has been carefully reviewed by many departments within the District of Columbia including the Deputy Mayor's office, my office, DDOT, and other agencies. All have concluded that this is the appropriate project and development for the site. Collectively, we are now moving forward to implement this vision with the agreement between Target and the developer finally signed and in place. The City Council previously took emergency action this past summer to provide a financing mechanism for the project.

In closing, I urge your prompt approval of this application for special exception and variance relief, which is necessary to permit this development to proceed.

Sincerely,

Jim Graham

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Outline of Testimony of Developer

I. Introduction

II. Development History in District of Columbia

III. Description of Subject Property

IV. Description of Proposed Project

V. Conclusion

O

Outline of Testimony of Architect

I. Introduction and Professional Qualifications

II. Site and Location Description

III. Project Description

- A. Design Goals and Constraints
- B. Description of Project Design

IV. Conclusion

P

Outline of Testimony of Traffic Consultant

I. Introduction

II. Experience and Expertise

III. Project Scope

IV. Existing Conditions

V. Future Background Conditions

VI. Total Future Traffic and Pedestrian Conditions

VII. Conclusions