



September 1, 2016

VIA E-MAIL AND MAIL
DGradishar@GeoCapEng.com

Mr. Dan Gradishar
4545 42nd Street NW
Suite 307
Washington, DC 20016

**RE: Parking Deck at 2nd and K Street NW
Washington, DC 20001
Square 0560, Lot 0841
Zoning District MU-6
VIKA Capitol #VC0370A**

Dear Mr. Gradishar:

In accordance with your request, VIKA Capitol has prepared this report identifying potential site issues and opportunities that may be associated with the development of the referenced property. The following summarizes our findings:

EXECUTIVE SUMMARY

The key issues identified in this report that will have a significant impact on the development of the subject property are summarized as follows:

- **Site Access** – Any site entrance (curb cut), including existing entrances to remain, will have to go through a public space committee review, unless a DDOT approved permit has been obtained and the document is presented to DDOT. All motor vehicles accessing a loading dock driveway from a roadway shall both enter and exit a driveway entrance in a forward direction so as to avoid vehicle backing in the public space. A loading management plan will need to be designed and approved by DDOT prior to a back in loading area being approved.
- **Stormwater Management (SWM)** – Any disturbance over 5,000 square feet will need to meet the current DOEE SWM criteria. Typically for this type of development a greenroof and or bio-retention facilities will need to be designed. Additionally DDOT will require that tree pits or permeable pavers or both be installed to the maximum extent possible to treat the areas of disturbance in the public right of way associated with this site plan.
- **Water** - Provided the new fire and domestic water connections can tap the 8” watermain in 2nd Street NW, DC Water will likely require a portion (approximately 100 linear feet of 8” watermain in 2nd Street NW) of the existing 8” water main in 2nd Street NW be rebuilt for this development.
- **PEPCO Vaults** – The current plan does not show any underground PEPCO vault locations. DDOT and the Office of Planning (OP) will not normally allow a top a top vented vault in public space. Any required vaults will need to be located in an area accessible to PEPCO service vehicles on private property. Surface mounted transformers may be allowed however they will need to be installed on private property.

LOCATION AND DESCRIPTION OF SITE

General Information

The subject property is located in the District of Columbia. The property is identified as Square 0560 Lot 0841 and is located in Ward 6. For the purposes of this report it is our understanding that the parking deck will be modified to add a proposed structure yet to be determined.

Lot 0841 is bordered to the North by Carmel Plaza, The West by Mt Carmel Baptist Church to the north and an existing parking lot to the South, the South by an existing office building, parking lot and exhaust shaft for the underground 395 tunnel, and the West by 2nd Street, NW.

The property to the East across 2nd Street NW is currently occupied by a small park to the north and a gravel parking lot to the south.

Land Area

According to the District of Columbia Office of Tax and Revenue records, the property has a land area as follows:

- Square 0560 Lot 0841 – 115,674 sf Ownership – Carmel Plaza North Associates LLP W H H Trice & CO, Agent

Total area of the overall lot per the District of Columbia Tax and Revenue is 115,674 sf or 2.656 Ac.

We recommend that research in the surveyor's office be undertaken to determine the exact acreages of the lot to determine the maximum FAR obtainable on the property.

The following information is based on RFQ DCEB-2016-Q-022 Engineering Analysis for 200 K Street NW Parking Deck dated April 22, 2016 provided by your office. The RFQ wishes to evaluate the amount of development the existing structure would accommodate.

The following review is only for the engineering evaluation of the potential development above the existing structure.

We have included additional criteria typically reviewed by our office and this information is included in the following sections.

Current Zoning Information

The subject property is currently zoned C-2-C. It is assumed that any proposed development would need to meet the new 2016 DC Zoning Regulations that have revised the zoning to the MU-6 zone. For the purposes of this evaluation the MU-6 zone will be used. To the best of our knowledge the properties are not subject to any development conditions and/or proffers.

Several Zoning Commission applications relate to this property and were approved to set the current zoning of C-2-C and address the air rights parcel for the current parking deck.

Topography

Based the Boundary and Topographic Survey Dated August 2014 by AMT, LLC, the existing parking garage is relatively flat with a second floor elevation at elevation 58.50 and a first floor elevation at approximately elevation 46.91. 2nd Place NE slopes from the midpoint entrance to the second floor of the garage to the North and South from approximately elevation 55 to 46 to the North and 45.12 to the South.

Soils

As of the date of this report, neither a subsurface soil exploration, nor a preliminary geotechnical study was provided to VIKA Capitol for the subject property. Soils information presented herein is from the Soil Survey of The District of Columbia. The soils types most frequently found on the site are as follows:

Ub – Urban Land

It is recommended that that a detailed geotechnical report be prepared for further analysis of the soils conditions.

Environmental Hazards

Our office does not know if a detailed environmental study of the property has been performed. Investigation by qualified professionals is recommended to verify if there is evidence of current or past environmental hazards.

Floodplain

According to FEMA Map Number 1100010019C Dated September 27, 2010 this property is in Zone X (Areas determined to be outside the 0.2% annual chance floodplain), therefore there are no FEMA floodplains present on the property.

Cultural and Historic Resources

We are not aware of any historic, archeological, or cultural resources on the subject property, although this should be verified by a subject-matter expert.

Sediment and Erosion Control

A Final Sediment and Erosion Control plan is required for any land disturbing activity in the District of Columbia that disturbs 50 square feet or more of land.

Because this site is over an acre in disturbance a separate notice of intent will need to be filed directly with the Environmental Protection Agency (EPA).

Stormwater Management

Any disturbance over 5,000 square must meet the 2013 District of Columbia Stormwater Management (SWM) regulations which will require the retention of 1.2” of runoff over the area of the site.

Stormwater Management: Quality/Treatment Requirements – This new site development would be considered major land-disturbing activity, and as such the site shall be required to retain the 1.2” storm event. Based on our review of the new stormwater regulations, a green roof, or cistern (or other approved type of facility) will need to be installed. Depending on the final layout of the project, a combination of these and other facilities will need to be installed to meet these new requirements. A minimum of 50% of the stormwater management Quality requirement must be obtained on site. If 100% cannot be achieved on site offsite stormwater management credits will be required or a yearly fee will need to be paid.

Stormwater Management: Storm Control/Detention Requirements - The 2-year, 24-hour frequency storm event shall be detained to a level that is equal to or less than the storm event’s pre-project peak discharge rate; The 15-year, 24 hour frequency storm event shall be detained to a level that is equal to or less than the storm event’s pre-project peak discharge rate as well. The site is exempt from the Extreme Flood Requirements since the proposed work will not increase the size of the Special Flood Hazard Area (SFHA) as delineated on the effective Flood Insurance Rate Maps (FIRM).

Stormwater Management Options - The area of the property (85,704 square feet parking deck) needs to have 71% or 61,000 square ft. of its area covered with over at least an 8-inch green roof. This green roof area can be reduced to 57% of green roof coverage with 25% additional impervious roof area draining into this green roof - provided it is a rock wool green roof. An alternative is to provide a green roof and bio retention planter combination in order to meet the Storm Water Management requirements. The size of green roof and bio retention planter varies on how much water you can drain to the planter area, how deep you can make the bio retention planter area, and how much green roof you can install. Another option is to install green roof and or bio retention planters and or a cistern; however, you will need to be able to get rid of the water in the cistern via irrigation or a cooling tower.

Stormwater Management: Impacts to Public Right of way - Stormwater management for the portion of land-disturbing activity that is in the existing Public Right of Way (PROW) shall be computed & treated independently of the on-site area. This shall be done in conformance with DDOT’s “Maximum Extent Practicable” (MEP) criteria. Typically permeable pavers and tree pit bioretention facilities are install to meet these requirements.

Wetlands and Endangered Species

Further investigation by qualified professionals shall be utilized to verify there is no evidence of Wetlands and Endangered Species. There are no known wetlands per the “Known Wetlands within the District of Columbia” map dated January, 2001.

Site Access

Any site entrance (curb cut), including existing entrances to remain, will have to go through a public space committee review, unless a DDOT approved permit has been obtained and the document is presented to DDOT.

1. Vehicular entrances for drop offs, loading docks, and garages used to be approved through an administrative staff level approval with District of Columbia Department of

Transportation (DDOT). Now any roadway entrances must go through a quasi-public approval called a “Public Space Committee Hearing” process. Once a site is proposing redevelopment, DDOT considers all curb cuts “null and void” and any new curb cut shall meet the current DDOT design standards.

2. The Public Space Committee Hearing process is somewhat subjective and can take up to 4 months.
 - a. Applicant shall provide requested material and apply for the Public Space Committee Hearing.
 - b. The revised plans and other requested material will need to be submitted two months prior to your hearing date.
 - c. At the hearing, DC agencies can request other things or disapprove any or all items on the plan.
 - d. Once approved staff will log the approval in the system and the other public space permits can be approved.

3. It helps to have Advisory Neighborhood Commissions (ANC) approval for any new curb cuts.

The current site is accessed by a curb cut off of 2nd Street NW. Based on the information it is assumed that any access to any proposed development would be from these existing two entrances. While a Public Space Committee Hearing would be required it is our opinion that these entrances would be re-approved.

Note, back in loading is no longer allowed by DDOT. All motor vehicles accessing a loading dock driveway from a roadway shall both enter and exit a driveway entrance in a forward direction so as to avoid vehicle backing in the public space. It is our opinion that any loading access would be required to come from the internal circulation. No Back in loading would be allowed off of 2nd Street NW.

Fire Access

Based on the current condition any proposed development would be accessed from 2nd Street NW by emergency vehicles. We recommend a consultation with the Fire Marshal once the type of building construction is specified to verify the emergency access is adequate.

Additional fire hydrants may be required to meet the fire marshal’s requirements.

Environmental Impact Screening Form (EISF)

The site will require processing and approval of the District’s Environmental Impact Screening Form (EISF). This process could take up to 6 months to obtain approval. We will need to do the following for the EISF Submission:

- An air quality analysis of emissions (this is where we need Apex Environmental - or a similar firm).
- A traffic study.
- Additionally In order to finalize the EISF we will need input for your office, the MEP, owner, & geotechnical engineer, etc. to submit the plans and forms for review and approval.

UTILITIES

Note: Capacity for adequate utilities for the proposed uses to be determined with a final detailed engineering study.

Sanitary Sewer

The property is served by combined sanitary sewer system, maintained by DC WATER. It appears that there is a 42" Storm sewer system in the 395 tunnel that may exist for Storm. Verification of the separate system is require to determine if separate connections will be required. Typically, sanitary sewers are not required by DC WATER to be rebuilt for new developments; however, DC Water may require improvements to the existing system. Additional coordination with DC WATER and the plumbing engineer will be required to determine outfall locations and sizing. The outfalls for the sanitary should be directed to the main in 2nd Street NW.

Existing Water Mains and New Water Connections

There is an 8" watermain located in 2nd Street NW built in 1931 that will serve the site. Provided the new fire and domestic water connections can tap the 8" watermain in 2nd Street NW, DC Water will likely require a portion (approximately 100 linear feet of 8" watermain) of the existing 8" water main in 2nd Street NW to be rebuilt for this development. Typically mains this old are routinely required by DC WATER to be rebuilt for new developments. Without the actual domestic and fire demand for the new building and in the absence of a fire hydrant flow test, we are unable to specifically determine if DC WATER will require the existing 8" line to be rebuilt.

Additional fire hydrants may be required to meet the fire marshal's requirements.

Storm Sewer

The property is served by combined sanitary sewer system, maintained by DC WATER. It appears that there is a 42" Storm sewer system in the 395 tunnel that may exist for Storm. Verification of the separate system is require to determine if separate connections will be required. Typically, sanitary sewers are not required by DC WATER to be rebuilt for new developments; however, DC Water may require improvements to the existing system. Additional coordination with DC WATER and the plumbing engineer will be required to determine outfall locations and sizing. The outfalls for the sanitary should be directed to the main in 2nd Street NW.

PEPCO Facilities

- A PEPCO load letter will need to be generated in order to determine if the existing facilities are adequate for the proposed project or if new Pepco facilities need to be installed. If new/additional underground transformer vaults need to be installed, and in order to meet DDOT's and the Office of Planning's new requirements, they should be installed within the subject property when feasible. DDOT and OP will not allow any new grate top vaults to be installed within the pedestrian sidewalk area or within the actual street. Our office will work with your dry utility consultant to determine if a location in public space can be achieved for the placement of vault(s) to keep their location outside of the actual property. If a location in public space cannot be found that is acceptable to DDOT and OP the vaults may need to be covered with a solid lid which we require a separate air conditioning system for cooling. Any new Pepco vaults would need to have a minimum of 40 feet of vertical clearance.

The current plan does not show any underground PEPCO vault locations. DDOT and OP will not normally allow a top a top vented vault in public space. Any required vaults will need to be located in an area accessible to PEPCO service vehicles on private property. Surface mounted transformers may be allowed however they will need to be installed on private property.

ENTITLEMENT PROCESS

At the time of this report the site was under evaluation for the structural capacity of the existing structure to hold new development. No concept plan was provided for review.

PROPOSED DEVELOPMENT

Development of the subject property will be guided by the 2016 District of Columbia Zoning Ordinance regulations. The site is anticipated to be zoned MU-6.

The MU-6 zone is intended to:

- a. Permit medium- to high-density mixed-use development with a focus on residential use; and
- b. Provide facilities for shopping and business needs, housing, and mixed-uses for large segments of the District of Columbia outside of the central core.

We recommend that you engage a land use attorney familiar with the district to determine the viability of any proposed development with regards to the current zoning. For the purposes of this report the MU-6 zoning criteria is below.

MU-6

- o Maximum Occupancy of 80% (90 with IZ)
- o Maximum FAR = 6.0 (7.2 with IZ) for a residential use. Non-Residential use – 2.0
- o Maximum Stories = No Limit
- o Maximum Height = 90'
- o Penthouse Height = 20' – 1 story plus mezzanine. Second story permitted for penthouse mechanical space.
- o Rear Yard Setback = 15'
 - o In the MU-3 through MU-9 zones, a horizontal plane may be established at twenty-five feet (25 ft.) above the mean finished grade at the middle of the rear of the structure for the purpose of measuring rear yards.
- o Side Yard Setback = No side yard is required for a building or structure other than a detached single dwelling unit or semi-detached single dwelling unit; however, if a side yard is provided it shall be at least two inches (2 in.) wide for each one foot (1 ft.) of height of building but no less than five feet (5 ft.).

- A court is not required in an MU zone, but where it is provided, it shall have the following minimum dimensions:

MINIMUM COURT DIMENSIONS Type of Structure	Minimum Width Open Court	Minimum Width Closed Court	Minimum Area Closed Court
Residential, more than 3 units	4 in./ft. of height of court; 10 ft. minimum	4 in./ft. of height of court; 15 ft. minimum	Twice the square of the required width of court dimension; 350 sq. ft. minimum
Non-Residential and Lodging	2.5 in./ft. of height of court; 6 ft. minimum	2.5 in./ft. of height of court; 12 ft. minimum	Twice the square of the required width of court dimension; 250 sq. ft. minimum

- Minimum Lot Width = N/A
- Minimum Lot Area = N/A

Parking

Parking will be required per the below information. Other parking criteria may be applicable pending the available uses of the site.

Office	0.5 per 1,000 sq. ft. in excess of 3,000 sq. ft., except: a medical or dental office, clinic, or veterinary hospital: 1 per 1,000 sq. in excess of 3,000 sq. ft.
Residential, single dwelling unit	1 per principal dwelling.
Residential, flat	1 per 2 dwelling units.
Residential, multiple dwelling unit	1 per 3 dwelling units in excess of 4 units, except: 1 per 2 dwelling units for any R or RF zone; 1 per 6 units of publicly assisted housing, reserved for the elderly and/or handicapped.
Retail	1.33 per 1,000 sq. ft. in excess of 3,000 sq. ft.

Additionally Handicapped spaces would be required per ADA specifications.

Loading Spaces

Per the District of Columbia Zoning Regulations the development would require the following Loading Spaces and loading dock areas.

Office		
20,000 to 50,000 sq. ft. gross floor area	1	1
More than 50,000 to 200,000 sq. ft. gross floor area	2	1
More than 200,000 sq. ft. gross floor area	3	1
Residential		
More than 50 dwelling units	1	1
Retail		
5,000 to 20,000 sq. ft. gross floor area	1	None

PERVIOUS SURFACE

MU-6 does not have a Pervious Surface requirement.

SURFACE PARKING LOTS LANDSCAPING STANDARDS

This site is not proposing a surface parking lot therefore there would not be a Surface Parking Lot requirement. Should one be proposed it will need to meet this criteria.

Surface parking areas with ten (10) or more parking spaces shall conform to the landscaping, tree canopy cover, screening and Lighting requirements. This states that 10% of the total area devoted to parking including aisles and driveways shall be covered by landscaped areas. Landscaping along the perimeter up to 6' may be included.

GREEN AREA RATIO (GAR)

MU-6 zoning would require a 0.3 Green Area Ratio for the site. Green roofs, bio-retention and other facilities can count toward meeting this zoning requirement.

STREET TREE PERMIT

A street tree permit will be required to remove any tree in public space. The following is the fee for street tree removal:

- 2" to 6" diameter tree = \$90.00 per inch diameter
- 6.1" to 12" diameter tree = \$100.00 per inch diameter
- 12.1" and up diameter tree = \$110.00 per inch diameter

A special tree permit will be required to remove any tree between 44" and 100" located on private property. In addition to the permit a fee of \$55 per circumference inch will need to be paid. There are no special trees located on this site.

A heritage tree permit (signed by the Mayor) will be required to remove any tree with a circumference of 100 inches or more. In addition to the permit a fee of \$55 per circumference inch will need to be paid. There are no heritage trees on the site.

There does not appear to be any DC Street Trees impacted on this site. There are however four Honeylocust – *Gleditsia triacanthos* in the sidewalk area on 2nd Street NW. These trees should not require the fee be paid should they be removed.

Additionally, with any sidewalk revisions the DC urban forester may require planting along the right of way of 2nd Street NW. These street tree plantings will be both in addition to and coordinated with any LID tree pits required by DDOT for Stormwater Management.

SUMMARY

We have provided the above report based on the RFQ DCEB-2016-Q-022 Engineering Analysis for 200 K Street NW Parking Deck dated April 22, 2016 provided by your office. The information on existing and proposed utilities is based on our current experience with the District of Columbia regulations and a meeting with the District would need to occur once a concept plan has been completed to verify our assumed direction from the District.

RECOMMENDATION

We recommend a pre-application conference with you, your land use attorney and our firm with the District of Columbia Office of Planning staff to discuss your proposal. If you then decide to move forward on this project we would suggest a full engineering and architecture/design study be commissioned that will provide you with enough information to enable your office to estimate the civil engineering site development impact and anticipate potential civil engineering issues associated with the development of the subject property.

Should you have any questions or desire additional assistance, please do not hesitate to contact me at 202-244-4140 or by e-mail at oliver@vikacapitol.com

Sincerely,
VIKA Capitol, LLC



Kyle U. Oliver
Member/Principal Associate
TS/mws: