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TRANSPORTATION DEPARTMENT

MEMORANDUM

TO: Michael Belush, AICP, Planning and Zoning Manager

FROM: Jose R. Gonzalez, P.E., Director

DATE: April 12, 2019

SUBJECT: Crescent Heights – Traffic Impact Study

The Transportation Department has reviewed the subject traffic impact study (TIS) submitted by the applicant as part of the Planning Board application for the 500 Alton Road project (Project). TrafTech Engineering, Inc. prepared and submitted the TIS for this Project.

The proposed mixed-use Project will span over the 500, 600 and 700 blocks of Alton Road, and will consist of a mixed-use development and a public park. The subject site is currently vacant. The project will be comprised of the following land uses and intensity:

- 337 Residential Units
- 292 Seat Quality Restaurant
- 8,335 Square Feet of Retail

SITE PLAN & ACCESS MANAGEMENT

Residential Use

The residential component of the Project will be located on the 500 block of Alton Road. The high-rise residential building will consist of 337 units and will provide for 577 parking spaces. The residential building will be served by three (3) proposed access points:

1. Valet service and rideshare drop-off/pick-up service ingress/egress access on 6th Street
2. Resident self-park ingress/egress access on West Avenue
3. Delivery vehicle ingress/egress access on Alton Road

The valet and rideshare operations for the residential component of the Project will be 100% internal to the site. Upon drop-off of vehicles, the valet attendant will be able to access the parking garage via an automatic gate. Valet operations are further described under the Valet Analysis section of this memorandum.

Commercial Use

The commercial component of the Project will be located on the east portion of the 600 block of Alton Road. The access to the site will be provided via two (2) full use (ingress/egress) driveways located on Alton Road north of 6 Street and on 6 Street between Alton Road and West Avenue. Delivery operations to the site will be performed via a proposed loading zone on 6 Street west of Alton Road (Attachment A).

TRAFFIC ANALYSIS

The intersection turning movement counts (TMC) performed by Crossroads Engineering Data, Inc. were collected on Wednesday, August 22, 2012 during the typical weekday PM peak period of 4:00 PM to 6:00 PM. The TMC were projected to the analysis years (Existing (2019), Future without Project (2022), and Future with Project (2022)) using an annual growth rate of 1.25%. Subsequently, the PM peak hour volumes were determined and adjusted for peak seasonal variations by utilizing seasonal variations published by the Florida Department of Transportation (FDOT).

TMC were collected at the following intersections:

1. Alton Road & 5 Street (Signalized)
2. Alton Road & 6 Street (Signalized)
3. Alton Road & 8 Street (Signalized)
4. West Avenue & 6 Street (all-way stop control)
5. West Avenue & 8 Street (Signalized)

The trip generation for the Project was based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual (10th Edition). According to the ITE manual, the most appropriate "land use" category for the proposed development are: Land Use 222 – High-Rise Residential, Land Use 820 – Shopping Center, and Land Use 931 – Quality Restaurant. As indicated in Table 1 of the TIS report, the Project is anticipated to generate the following vehicular trips:

- Residential: 1,540 Daily Trips, with 75 inbound and 48 outbound trips during typical weekday PM peak hour
- Retail: 1,110 Daily Trips, with 41 inbound and 45 outbound trips during typical weekday PM peak hour
- Restaurant: 684 Daily Trips, with 54 inbound and 27 outbound trips during typical weekday PM peak hour

Based on the methodology outlined in ITE's Trip Generation Handbook Vol. 3, an internal trip capture matrix was developed to establish a relationship between each proposed land-use type and further determine which trips would be internal to the site (i.e. walking trips). The new trips internally captured are discounted from the gross trips generated by the Project. The following trips were reduced from the proposed development:

- Residential: 23% of the new residential trips would be internal
- Retail: 46% of the new retail trips would be internal
- Restaurant: 45% of the new restaurant trips would be internal

The trip distribution and traffic assignment for the proposed development was based on Miami-Dade County's Cardinal Distribution data for the study area. Table 2 of the TIS report summarizes the County's cardinal distribution data for Traffic Analysis Zone 649, which is applicable to the project site.

The following traffic assignment was estimated for the proposed development:

- 25% to/from the north via Alton Road
- 15% to/from the north via West Avenue

- 5% to/from the south via Alton Road
- 10% to/from the east via 5 Street
- 45% to/from the west via MacArthur Causeway

Intersection Level of Service Analysis

In addition to the five (5) study intersections mentioned above, the intersection of West Avenue and 5 Street was included in the intersection capacity/level of service (LOS) analyses. The analyses were undertaken following the capacity/level of service procedures outlined in the Highway Capacity Manual (HCM) using the SYNCHRO 10 software. The analysis was performed for the existing year, build-out year without Project (background traffic) and with the Project. The consultant was requested to also analyze a scenario that accounts for road closures due to Project construction. This scenario will be used by City staff to determine impact of the proposed closures and the appropriate mitigation strategies to mitigate work zone related congestion. The results of the intersection capacity analyses for the PM peak hour are summarized in Tables 3 and 4 of TIS report and described below:

	Scenario			
Intersection	2019 – Existing	2022 w/o Project	2022 Construction	2022 with Project
Alton Road & 5 St	D	D	D	D
Alton Road & 6 St	B	B	A	B
Alton Road & 8 St	C	C	D	D
West Avenue & 5 St	F	F	F	F
West Avenue & 6 St	A	A	A	A
West Avenue & 8 St	B	B	B	B

Based on the Project trip assignment, the following intersections/movements will be impacted by the new traffic generated by the project:

- Alton Road & 8 Street, Northbound Left: This movement is currently operating adequately under existing condition. This movement, however, is failing under background (LOS E) and future conditions (LOS F). The City is recommending conditions to mitigate this impact.
- West Avenue & 8 Street, Westbound Left: This movement is currently operating adequately under existing conditions; however, the analysis concluded that under future conditions with Project, significant increase in queue length in the westbound approach is anticipated to occur, exceeding the length of this roadway segment. The City is recommending conditions to mitigate this impact.

VALET & RIDESHARE OPERATION

For the residential component of the project, the TIS highlights two (2) separate drop-off areas for valet and ride-share vehicles. The drop-off areas are accessible via an ingress/egress driveway on 6 Street between West Avenue and Alton Road. Each drop-off area is served by two (2) lanes. The valet queueing analysis was based on the methodology outlined in ITE's Transportation and Land Development publication. For the analysis, it was assumed that 30% of residents would choose to use the valet service. The maximum length of queues anticipated at the valet drop-off/pick-up area, at the required 95 percentile confidence level, was found to be one (1) vehicle during the PM peak hour of a weekday utilizing three (3) valet attendants.

The valet and ride-share vehicle drop-off/pick-up area for the restaurant component of the proposed development will take place inside the surface parking lot located on 6 Street between Alton Road and West Avenue. The primary parking location will be at the same surface lot. For additional parking, the valet attendant will store the vehicles in the residential garage. The valet queueing operations analysis was based on the methodology outlined in ITE's Transportation and Land Development publication. For the analysis, it was assumed that 72% of patrons would choose to use the valet service given that the proposed development will provide only 28 spaces for self-parking for the retail/restaurant. The maximum length of queues anticipated at the valet drop-off/pick-up area for the retail/restaurant, at the required 95 percentile confidence level was found to be one (1) vehicle during the PM peak hour of a weekday utilizing eight (8) valet attendants (Attachment B).

LOADING & DELIVERY OPERATIONS

The TIS submitted for the Project proposes that deliveries to the residential component of the Project will utilize the ingress/egress driveway located on Alton Road, south of 6 Street, while the commercial component deliveries will be handled from the on-street loading spaces on 6 Street west of Alton Road. The Project is providing sufficient amount of loading spaces for both the residential and commercial components (Attachment C).

CONDITIONS

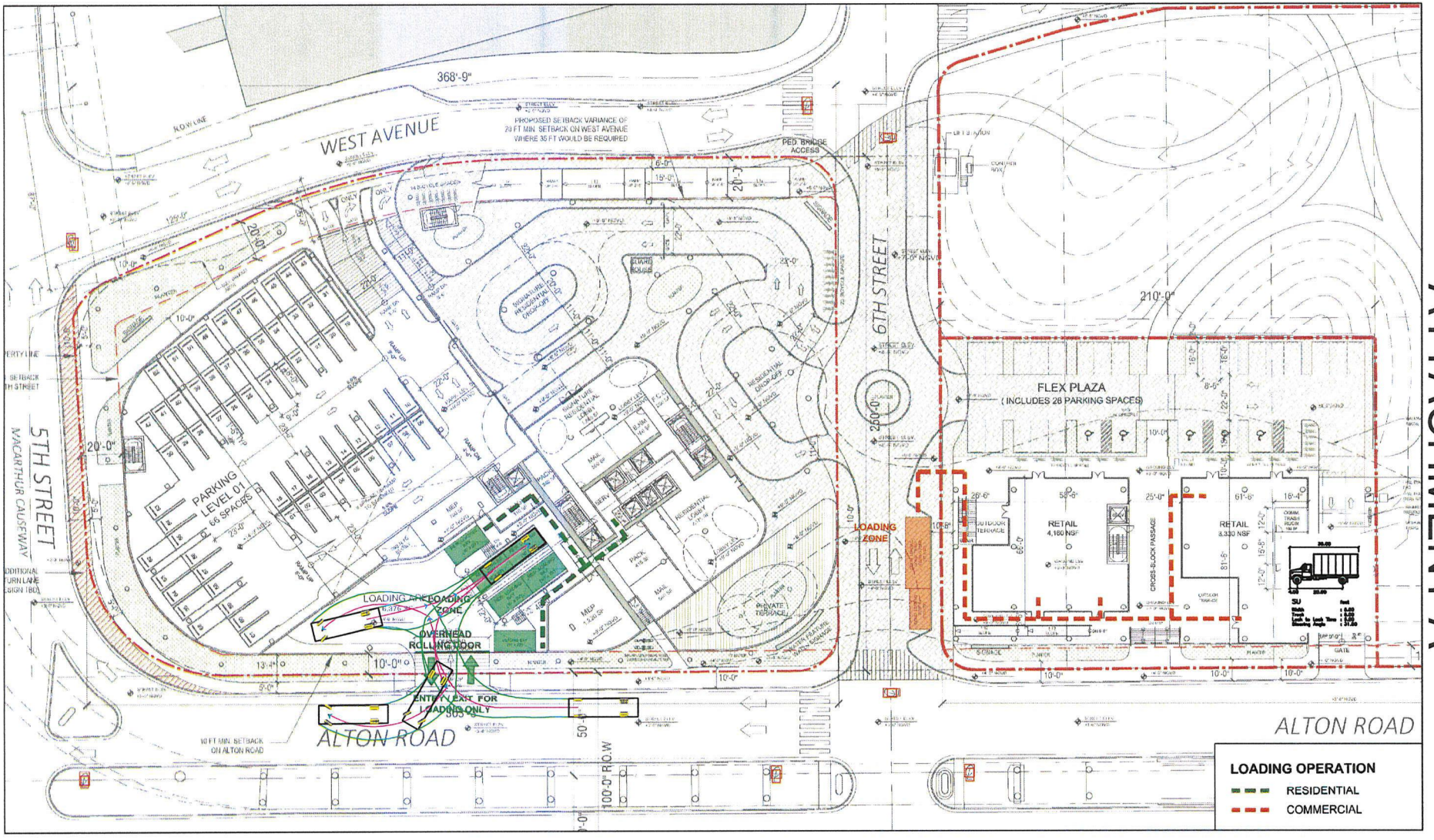
The Transportation Department has reviewed the traffic and parking analysis submitted by the applicant as part of the Planning Board application for the proposed development. The following conditions are proposed:

- The ride-share drop-off/pick-up location for the residential component does not provide a median to allow for safe entry and exit from the ride-share vehicles. The developer shall modify the site plans and mitigate pedestrian/passenger safety concerns at this location.
- The applicant shall further develop the design of the proposed mid-block traffic circle at 6 Street and present to the Transportation Department for review and approval prior to the issuance of a building permit.
- Given that Alton Road is under the jurisdiction of Florida Department of Transportation (FDOT), the proposed loading and delivery access on Alton Road south of 6 Street is subject to FDOT review and approval. The applicant shall provide proof of FDOT approval, specifications for the proposed gate as previously requested by the City, a queueing analysis, and a revised operational plan for the proposed loading and delivery access on Alton Road south of 6 Street prior to the issuance of a building permit.
- The Developer shall coordinate with the Transportation Department to develop a suitable Transportation Demand Management Plan for the Project. Said TDM Plan shall be provided to the City for review and approval prior to the issuance of a building permit.

Please feel free to contact me if you have any questions on the above.

cc: Josiel Ferrer-Diaz, E.I., Assistant Director
Firat Akcay, Transportation Analyst

ATTACHMENT A



ARQUITECTONICA
2900 Oak Avenue, Miami, FL 33133
T 305.372.1812 F 305.372.1175

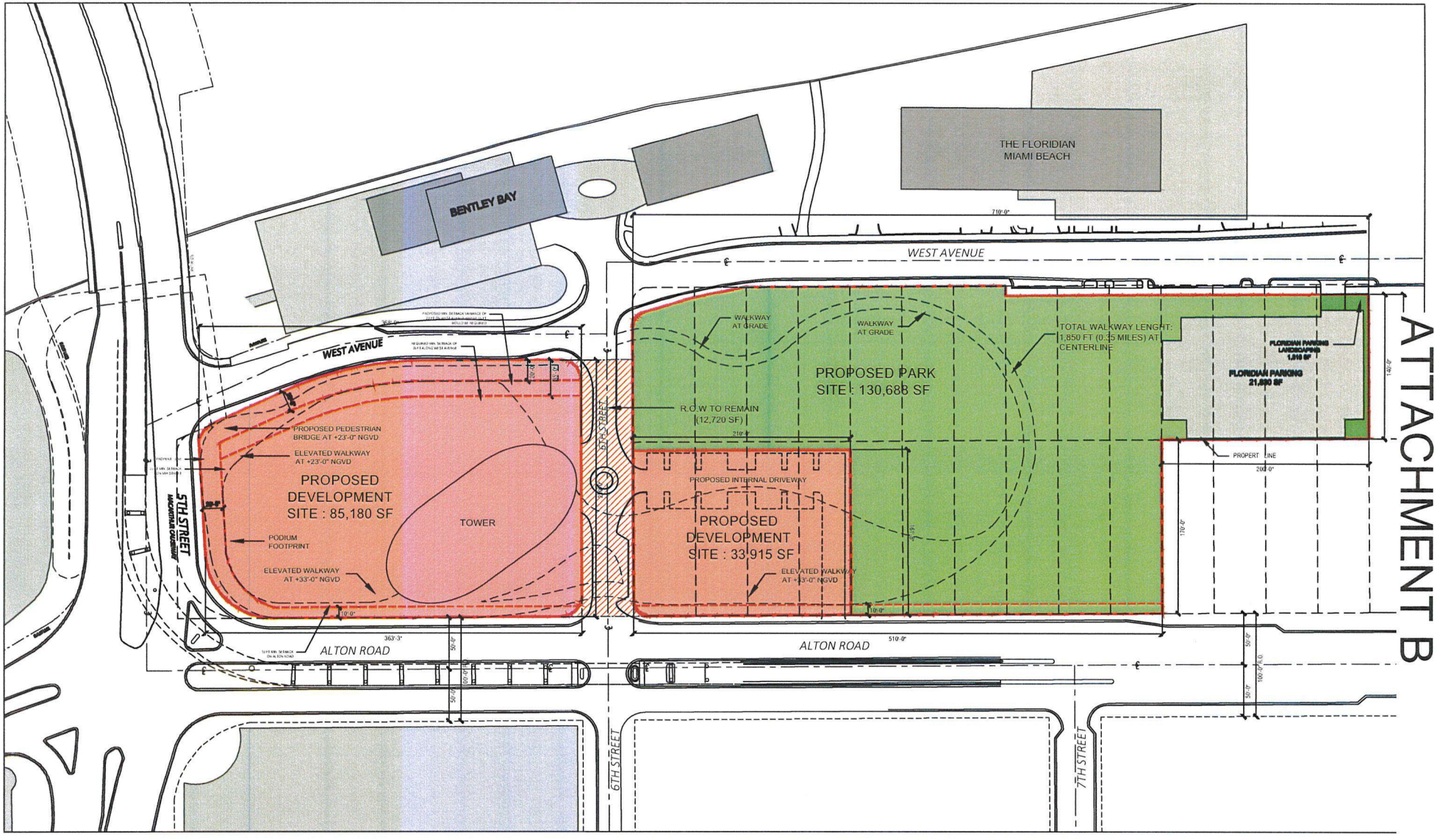
" FIRST SUBMITTAL"
500-600-700 ALTON ROAD
MIAMI BEACH, FL 33139

LOADING OPERATION PLAN - LEVEL 01

SCALE: 1" = 40'

DATE: 02/18/2019

A1-19



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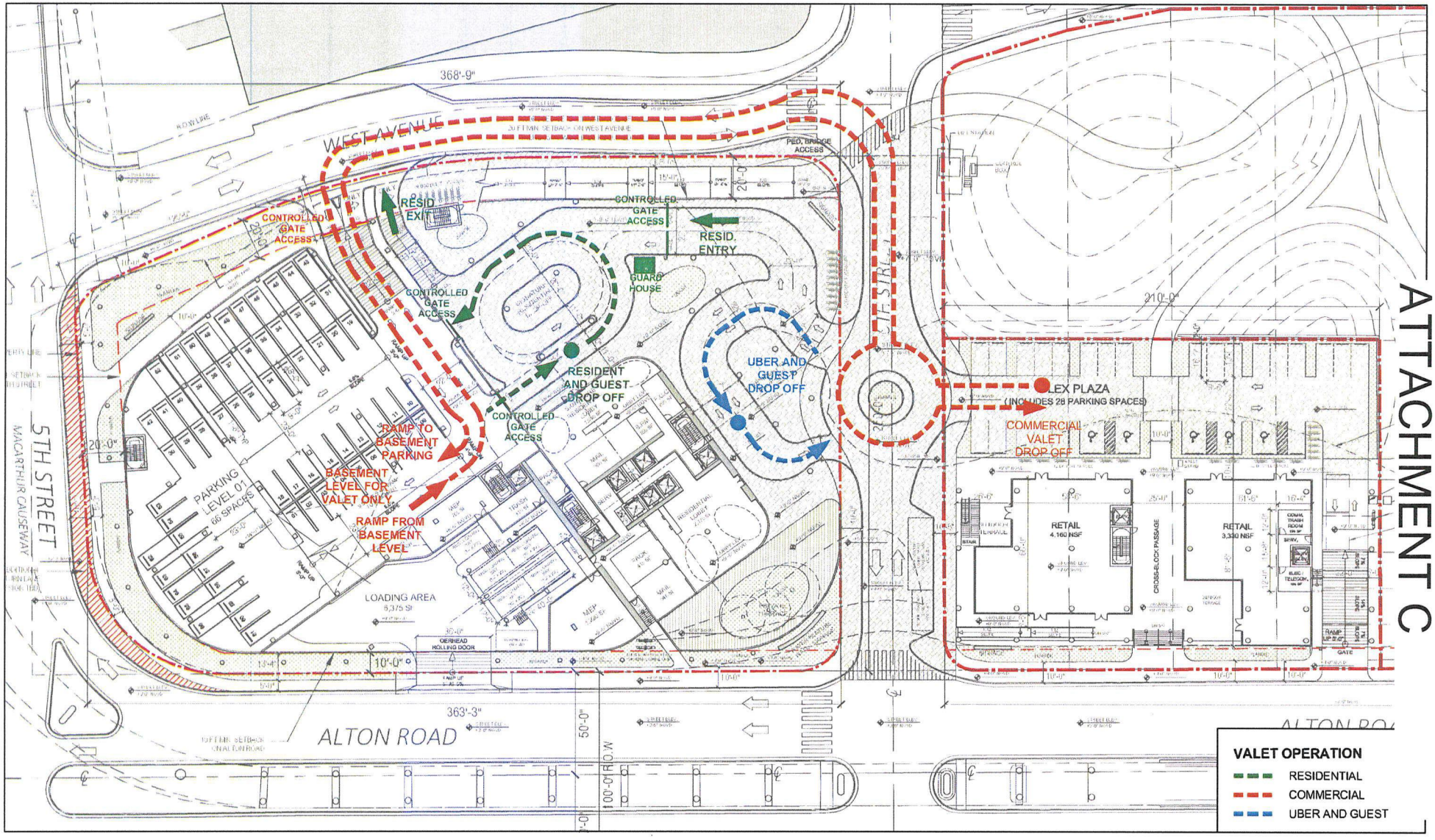
FINAL PB SUBMITTAL
500-600-700 ALTON ROAD
MIAMI BEACH, FL 33139

SITE PLAN

DATE:
03/11/2019

A0-11

ATTACHMENT C



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VALET OPERATION PLAN

0 5 10 20 50 100 ft

DATE: 02/18/2019

A1-18