MEMORANDUM

To: Grant Webster
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE

Date: June 19, 2024

Subject: Shore Club
Updated Traffic Assessment

Kimley-Horn and Associates, Inc. has prepared an updated traffic assessment for the proposed Shore Club redevelopment located at 1901 Collins Avenue in Miami Beach, Florida. Note that the project was previously approved as part of the *Shore Club Traffic Assessment*, April 16, 2024. The previously approved analysis is provided in Attachment H-1.

The project now proposes to provide four (4) self-park tandem spaces and a seven-space semi-automatic puzzle parking system and one (1) Americans with Disability Act (ADA) parking space on-site, where seven (7) self-park parking spaces were previously provided. The existing valet on 20th Street will service the seven-space semi-automatic puzzle parking system. The valet analysis and valet processing times previously prepared for 20th Street were updated to account for the puzzle parking system. A project location map and conceptual site plan are provided in Attachment A-1. The puzzle parking system specifications and retrieval times are provided in Attachment B-1. A video of the system is provided here https://www.youtube.com/watch?v=2g7fYRZmZUI. Note that the applicant may choose to utilize a different vendor at time of construction. However, the processing times used in the analysis are expected to be similar regardless of vendor.

Currently, the existing site is occupied by a vacant 333-room hotel, two (2) vacant restaurants with a total of 370 seats, and 12,810 square feet of vacant bar/night club space within three (3) venues including a 7,802 square-foot pool venue, a 2,087 square-foot nightclub, and a 2,921 square-foot bar. The existing development also included 1,850 square feet of specialty retail space which is considered ancillary to the hotel and not expected to generate external site traffic. Note that the *Shore Club Traffic Assessment*, April 14, 2022 was previously approved and consisted of a redevelopment program of 80 condominium units, a 110-room hotel, two (2) restaurants with a total of 304 seats, and 5,453 square-feet of bar space.

The currently proposed redevelopment includes 49 condominium units, a 76-room hotel, two (2) restaurants with a total of 207 seats, and 7,471 square-feet of bar space (including the café-bar area). The proposed redevelopment results in a reduction of 31 condominium units, 34 hotel rooms, 97 restaurant seats, and an increase of 2,018 square-feet of bar space when compared to the previously approved development program. All vehicles with the exception of taxi/rideshare vehicles will be valeted. The redevelopment program is consistent with the previously approved *Shore Club Traffic Assessment*, April 16, 2024.

The traffic assessment is consistent with the requirements of the City of Miami Beach. The approved methodology correspondence is included in Attachment C-1. The updated traffic assessment includes trip generation calculations, valet operations analysis, maneuverability analysis, and transportation

demand management strategies as part of the traffic assessment, consistent with the approved traffic assessment and methodology. The following sections summarize the traffic assessment.

VALET SERVICE AND OPERATIONS

The redevelopment will be served by two (2) valet drop-off/pick-up areas. Note that valet vehicles will be parked off-site at 237 20th Street which is located approximately 530 feet from the site. The following assumptions were applied to the valet routing:

- One (1) valet drop-off/pick-up area will be located on-site along Collins Avenue south of 19th Street at the existing porte-cochere and will serve the hotel, restaurant, and bar land uses. The valet drop-off/pick-up area consists of one (1) valet drop-off/pick-up lane with storage for approximately seven (7) vehicles and one (1) by-pass lane. It is assumed that five (5) spaces will be used for valet operations and two (2) spaces will be used for taxi/rideshare vehicles. The drop-off route consists of vehicles exiting the porte-cochere northbound onto Collins Avenue, making a left turn onto 20th Street, and making a right turn to enter the proposed off-site parking garage. The pick-up route consists of vehicles exiting the off-site parking garage eastbound onto 20th Street, making a right turn onto Collins Avenue, and making a southbound left-turn into the porte-cochere.
- One (1) valet drop-off/pick-up area will be located on 20th Street east of Collins Avenue and will serve the residential land use. The valet drop-off/pick-up area consists of one (1) valet drop-off/pick-up lane with storage for approximately two (2) vehicles. It is assumed that one (1) space will be used for valet operations and one (1) space will be used for taxi/rideshare vehicles. The drop-off route consists of vehicles exiting the residential 20th Street valet drop-off/pick-up area, turning around at the 20th Street cul-de-sac, traveling along 20th Street, and making a right turn to enter the proposed off-site parking garage or a left turn to the on-site puzzle parking system. The pick-up route consists of vehicles making a left turn eastbound onto 20th Street from the off-site garage or right turn eastbound onto 20th Street from the on-site puzzle parking system, traveling along 20th Street, and making a right-turn into the valet drop-off/pick-up area.

The project now proposes to provide four (4) self-park tandem spaces and a seven-space semi-automatic puzzle parking system and one (1) Americans with Disability Act (ADA) parking space on-site, where seven (7) self-park parking spaces were previously provided. The valet on 20th Street will service the seven-space semi-automatic puzzle parking system. The valet analysis and valet processing times were updated to include the longer processing times from either the off-site parking garage or on-site puzzle parking system to provide for a conservative analysis. Attachment D-1 contains graphic illustrations of the proposed valet routes to and from the valet drop-off/pick-up areas.

TRIP GENERATION

Trip generation calculations for the existing development and the proposed redevelopment were performed using Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition. The trip generation for the existing development was determined using ITE Land Use Code (LUC) 925 (Drinking Place), LUC 931 (Quality Restaurant), and LUC 310 (Hotel). The trip generation for the proposed redevelopment was determined using ITE LUC 925 (Drinking Place), LUC 931 (Quality Restaurant), LUC 222 (Multifamily Housing – High-Rise), and LUC 310 (Hotel). Project trips were estimated for the weekday A.M. and P.M. peak hours.

A multimodal (public transit, bicycle, and pedestrian) factor of 35.2 percent (35.2%) was calculated using Replica mode-split data. Replica is a publicly available data set that considers the US Census,

land use regulations, aggregate mobile location, credit transaction data, and real estate transaction data. Additionally, Replica data evaluates all trips that enter and exit the census tract in which the redevelopment is located. Note that to provide a conservative analysis, a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations. It is expected that a portion of residents, employees, guests, and patrons will choose to walk, bike, or use public transit to and from the site.

Internal capture is expected between complementary land uses within the project. Internal capture trips for the project were determined based upon methodology contained in the ITE's *Trip Generation Handbook,* 3rd Edition. The expected internal capture rate for the currently proposed redevelopment is 0.0 percent (0.0%) during the A.M. peak hour and 13.8 percent (13.8%) during the P.M. peak hour. The expected of the previously approved redevelopment was 0.0 percent (0.0%) during the A.M. peak hour and 12.6 percent (12.6%) during the P.M. peak hour. The expected internal capture rate for the existing development is 0.0 percent (0.0%) during the A.M. peak hour and 6.3 percent (6.3%) during the P.M. peak hour.

The project results in a reduction of one (1) net new vehicle trip during the weekday A.M. peak hour and a reduction of two (2) net new vehicle trips during the weekday P.M. peak hour as compared to the previously approved development program analyzed in the *Shore Club Traffic Assessment*, April 14, 2022. The project also results in a reduction of 83 net new vehicle trips during the weekday A.M. peak hour and a reduction of 197 net new vehicle trips during the weekday P.M. peak hour when compared to the existing development program.

Detailed trip generation calculations are included as Attachment E-1.

Based on data collected at similar sites, the following assumptions were utilized to determine the valet trip generation:

- 57.4 percent (57.4%) of vehicle trips generated by the hotel land use will be valeted as a 42.6 percent (42.6%) taxi/rideshare factor was determined based on actual field observation from the Cadillac Hotel located at 3925 Collins Avenue, Miami Beach, Florida. A rideshare factor of 64.3 percent (64.3%) was observed during the P.M peak hour at the Shelborne Hotel located at 1801 Collins Ave, Miami Beach, Florida. To provide a conservative analysis, the Cadillac Hotel rideshare factor of 42.6 percent (42.6%) was utilized in the valet trip generation calculations.
- 92.5 percent (92.5%) of A.M. peak hour vehicle trips and 94.3 percent (94.3%) of P.M. peak hour vehicle trips generated by the residential component will be valeted as a 7.5 percent (7.5%) taxi/rideshare factor was determined for the A.M. peak hour and a 5.7 percent (5.7%) taxi/rideshare factor was determined for the P.M. peak hour. The percentage of residential trips is based on peak period vehicle classification counts collected at the Axis Brickell located at 1111 SW 12th Street, Miami, Florida.

The valet analysis was prepared for the weekday A.M. and weekday P.M. peak hours. The proposed redevelopment is expected to generate 39 valet trips during the A.M. peak hour, with 18 trips (10 in/8 out) utilizing the hotel, restaurant, and bar valet drop-off/pick-up area and 21 trips (5 in/16 out) utilizing the residential valet drop-off/pick-up area. The proposed redevelopment is expected to generate 130 valet trips during the P.M. peak hour, with 115 trips (77 in/38 out) utilizing the hotel, restaurant, and bar valet drop-off/pick-up area and 15 trips (9 in/6 out) utilizing the residential valet drop-off/pick-up area. Detailed trip generation calculations, data collected from the Cadillac Hotel, and data collected from the Axis Brickell are included in Attachment E-1.

VALET OPERATIONS ANALYSIS

The valet queuing operations analysis was performed based on the methodology outlined in ITE's *Transportation and Land Development,* 1988. The analysis was performed to determine if valet operations could accommodate vehicular queues without blocking travel lanes on Collins Avenue and 20th Street. Valet operations were analyzed for the number of valet attendants and required vehicle stacking for the project's anticipated valet trip generation.

Valet Assumptions

The queuing analysis used the multiple-channel waiting line model with Poisson arrivals and exponential service times. The queuing analysis is based on the coefficient of utilization, *ρ*, which is the ratio of the average vehicle arrival rate over the average service rate multiplied by the number of channels.

Valet attendants will be stationed at the valet drop-off/pick-up areas. Valet drop-off trip service times were calculated based on the time it would take a valet parking attendant to obtain and park a drop-off vehicle and return to the respective valet drop-off area. Valet pick-up trip service times were calculated based on the time it would take a valet parking attendant to bring a parked vehicle back to a patron at the respective valet pick-up area. The following summarizes the total valet drop-off and pick-up service times. Detailed travel time calculations are also included in Attachment F-1.

Note that the applicant may choose to utilize a different vendor at time of construction. However, the processing times used in the analysis are expected to be similar regardless of vendor.

Hotel, Restaurant, and Bar Valet Drop-off/Pick-up Area

The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off area to off-site parking area (0.4 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant returns to valet station (1.7 minutes)
- **Total service rate: 3.6 minutes**

The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the off-site parking area to retrieve the vehicle (2.1 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant drives vehicle from off-site parking area to the valet pick-up area (0.5 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- **Total service rate: 4.1 minutes**

Residential Valet Drop-off/Pick-up Area Off-Site Parking Garage

The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off area to off-site parking garage (0.6 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant returns to valet station (2.7 minutes)
- **Total service rate: 4.8 minutes**

The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the garage to retrieve the vehicle (1.8 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant drives vehicle from off-site parking garage to the valet pick-up area (0.4 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- **Total service rate: 3.7 minutes**

Residential Valet Drop-off/Pick-up Area On-Site 7 Space Puzzle Parking System

The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off area to puzzle parking system (0.3 minutes)
- Valet attendant parks car into puzzle parking space (1.0 Minutes)
- Valet attendant returns to valet station (1.2 minutes)
- **Total service rate: 3.0 minutes**

The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the garage to retrieve the vehicle (0.4 minutes)
- Valet attendants retrieves vehicle from puzzle parking space (3.0 Minutes)
- Valet attendant drives vehicle from off-site parking garage to the valet pick-up area (0.1 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- **Total service rate: 4.0 minutes**

The longer valet drop-off (4.8 minutes) and pick-up (4.0 minutes) service times were used for the residential valet, in order to provide a conservative analysis.

If the coefficient of utilization (average service rate/valet attendant service capacity) is greater than one (>1), the calculation methodology does not yield a finite queue length. This result indicates overcapacity conditions for the valet area. The valet attendant service capacity is the number of total trips a valet attendant can make in a one-hour period multiplied by the number of valet attendants.

The analysis determined the required queue storage, *M*, which is exceeded *P* percent of the time. This analysis seeks to ensure that the queue length does not exceed the storage provided at a level of confidence of 95 percent (95%). Five (5) vehicle drop-off/pick-up spaces are provided for hotel/restaurant/bar valet operations and two (2) vehicle drop-off/pick-up spaces are provided for the residential valet operations.

Valet Analysis

An iterative approach was used to determine the number of valet attendants required to accommodate the proposed redevelopment demand during the analysis hour and ensure that the 95th percentile valet queue does not extend beyond the designated valet service areas. Detailed valet analysis worksheets are provided in Attachment G-1.

The results of the valet operations analysis demonstrate that a maximum of two (2) valet attendants would be required at the hotel/restaurant/bar valet drop-off/pick-up area and three (3) valet attendants would be required at the residential valet drop-off/pick-up area to not exceed the vehicle

drop-off/pick-up storages during the A.M. peak hour. A maximum of ten (10) valet attendants would be required at the hotel/restaurant/bar valet drop-off/pick-up area and three (3) valet attendants would be required at the residential valet drop-off/pick-up area to not exceed the vehicle drop-off/pick-up storages during the P.M. peak hour.

MANEUVERABILITY ANALYSIS

The maneuverability analysis was prepared for the access to the porte-cochere drop-off area along Collins Avenue, basement parking, and the loading area. The analysis was performed using Transoft's *AutoTurn 11* software design vehicle turning templates and vehicle turning templates consistent with American Association of State Highway and Transportation Officials' (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 2018. The analysis was prepared using passenger car (P) design vehicles for the porte-cochere area. Note that the previous approval accommodated larger SU-40 design vehicles for deliveries and loading activities. The proposed loading area will utilize smaller SU-30 design vehicles and loading vans similar to a P design vehicle will be used for deliveries and loading activities, given the reduced intensity of the currently proposed redevelopment program. The following summarizes the results of this analysis.

VALET PORTE-COCHERE ACCESS AND BASEMENT PARKING

Access to the on-site valet porte-cochere along Collins Avenue is provided via one (1) ingress only (right-in) driveway and one (1) egress only (right-out) driveway located south of 19th Street. A P design vehicle will be able to maneuver into and through the valet porte-cochere without conflicting with oncoming traffic, refer to Attachment G-1.

Access to the basement parking garage is provided by one (1) full access driveway on 20th Street. A P design vehicle will be able to maneuver into and through the basement without conflicting with oncoming traffic, refer to Attachment G-1.

LOADING AREA ACCESS

Access to the loading and delivery area is provided via one (1) full access driveway along 20th Street east of Collins Avenue. SU-30 design vehicles and loading vans similar to a P design vehicle will be able to maneuver into and out of the on-site loading area, refer to Attachment G-1. Note that all loading vehicles will have to reverse off 20th Street to access the loading bays. Therefore, a dockmaster will be provided to ensure reverse maneuvers are conducted safely and without conflict with on-street traffic and pedestrians.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. Additionally, the applicant will commit to providing the following incentives including:

- Creation of an Employee Transportation Coordinator duties for a manager to run the transportation demand management (TDM) programs.
- Provide six (6) short-term bicycle racks and 71 long-term bicycle lockers
- Providing bike sharing/rentals for hotel guests
- Wide hallways that can accommodate bicycles
- Elevators that can accommodate bicycles
- Bicycle workroom or shop
- Bicycle washing stations

- Bicycle drop-off/valet service
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility bicyclists can use will be provided on-site

Additionally, please note that a Citi Bike station with 16 bicycle docks is located along the north side of 21st Street just east of Collins Avenue.

CONCLUSION

The currently proposed redevelopment includes 49 condominium units, a 76-room hotel, two (2) restaurants with a total of 207 seats, and 7,471 square-feet of bar space (including the café-bar area). The proposed redevelopment results in a reduction of 31 condominium units, 34 hotel rooms, 97 restaurant seats, and an increase of 2,018 square-feet of bar space when compared to the previously approved development program.

All vehicles with the exception of taxi/rideshare vehicles will be valeted. Based on the valet operations analysis performed, it was determined that the 95th percentile queues will not extend beyond the valet service areas onto Collins Avenue or 20th Street. Based upon the conservative assumptions applied, it was estimated that a maximum of ten (10) valet attendants would be required at the hotel/restaurant/bar valet drop-off/pick-up area and three (3) valet attendants would be required at the residential valet drop-off/pick-up area to not exceed the vehicle drop-off/pick-up storages during the P.M. peak hour. Note that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis. If it is determined that valet processing times can be performed more efficiently and/or actual traffic volumes are lower than projected, a reduced number of valet attendants may be adequate to serve the site.

Additionally, passenger vehicles and loading vehicles will be able to ingress, egress, and travel through the site, parking, and loading areas without major conflicts with oncoming traffic. Note that the previous approval accommodated larger SU-40 design vehicles for deliveries and loading activities. Given the reduced intensity of the currently proposed redevelopment program, SU-30 design vehicles and loading vans similar to P design vehicles will be used for deliveries and loading activities.

Furthermore, the applicant will commit to providing the following TDM incentives including:

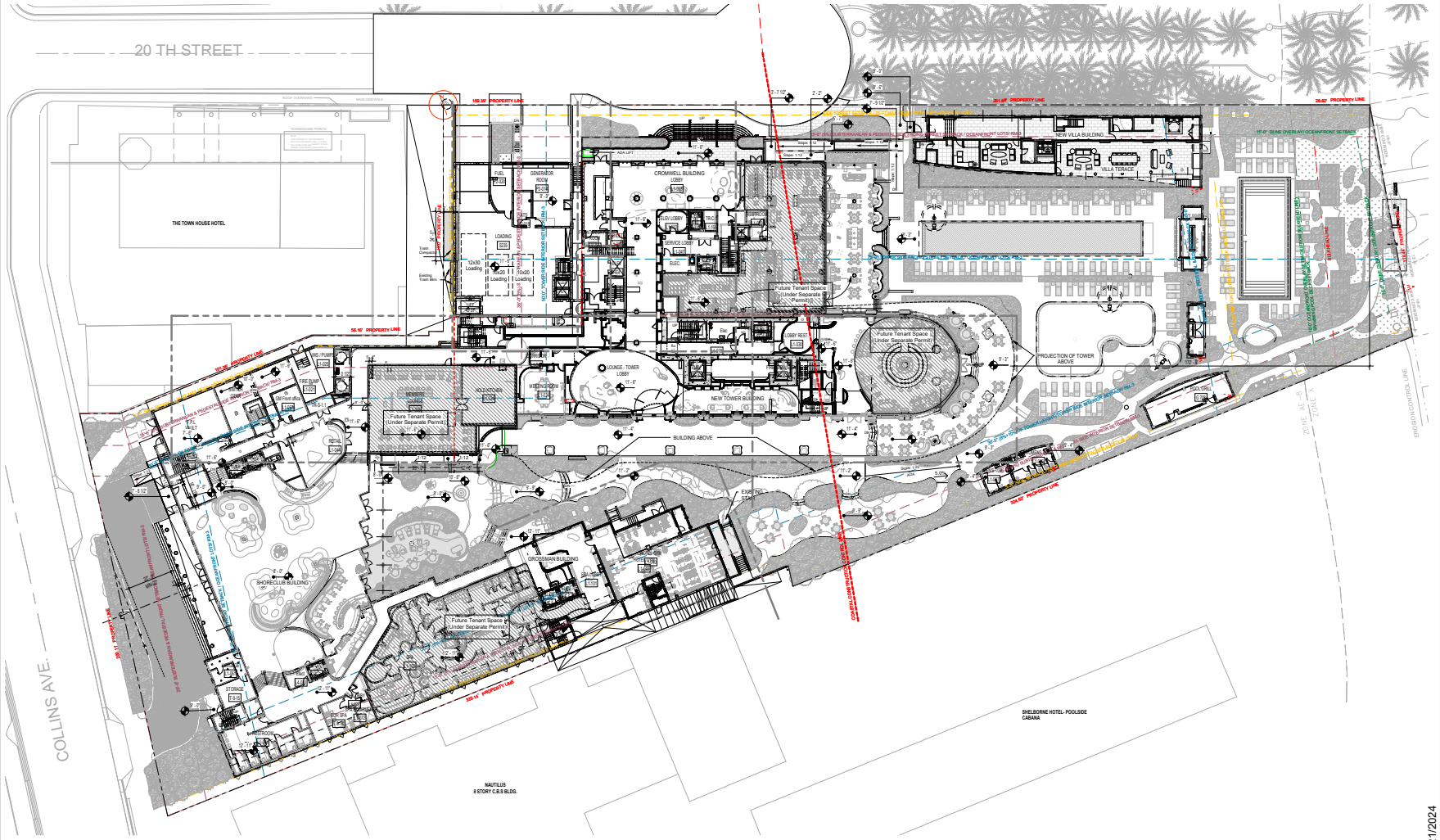
- Creation of an Employee Transportation Coordinator duties for a manager to run the transportation demand management (TDM) programs.
- Provide six (6) short-term bicycle racks and 71 long-term bicycle lockers
- Providing bike sharing/rentals for hotel guests
- Wide hallways that can accommodate bicycles
- Elevators that can accommodate bicycles
- Bicycle workroom or shop
- Bicycle washing stations
- Bicycle drop-off/valet service
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility bicyclists can use will be provided on-site

Attachment A-1

Location Map and Conceptual Site Plan

Kimley»Horn

Project Location Map
Shore Club Redevelopment
Miami Beach, Florida



1 Overall Site Plan
1" = 20'-0"

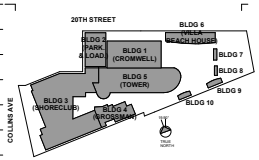
NOTE:

A. A SEPARATE PERMIT FOR FLOOD BARRIERS SHALL BE OBTAINED AND INSPECTED BEFORE ANY CO, TCO IS ISSUED.
B. UPON PLACEMENT OF THE LOWEST FLOOR AND PRIOR TO FURTHER VERTICAL CONSTRUCTION, AN ELEVATION CERTIFICATE AND A FLOOD PROOFING CERTIFICATE FOR BUILDING UNDER CONSTRUCTION SHALL BE SUBMITTED (FBC 2020, BUILDING SECTION 110.3).
C. A FINAL ELEVATION CERTIFICATE FOR FINISHED CONSTRUCTION MUST BE SUBMITTED BEFORE ANY CO, TCO OR BUILDING FINAL INSPECTION IS ISSUED.
D. A FLOOD EMERGENCY OPERATION MANUAL IN COMPLIANCE WITH ASCE 24-14 SECT. 6.2 AND FEMA TB 3-93 MUST BE SUBMITTED BEFORE ANY CO, TCO IS ISSUED OR BEFORE THE BUILDING FINAL INSPECTION.

THE FOLLOWING DOCUMENTS MUST BE ATTACHED IN ADDITION TO ALL OTHER REQUIRED INFORMATION:

A. A FLOOR PLAN OF THE GROUND FLOOR SHOWING THE LOCATION OF THE FLOOD BARRIERS AND THE LOCATIONS OF THE FLOOD EMERGENCY OPERATION PLAN AS PER ASCE 24-14- SECT. 6.2.3.
B. A WRITTEN STATEMENT BY THE ARCHITECT OR ENGINEER OF RECORDS CERTIFYING THAT "THE FLOOD PROOFING DESIGN AND CONSTRUCTION OF THE BUILDING WAS DONE IN COMPLIANCE WITH ASCE 24-14 - SECT 6.2) AND FEMA TECHNICAL BULLETIN 3-93".
C. A FLOOD PROOFING CERTIFICATE MUST BE SUBMITTED BEFORE ANY CO, TCO IS ISSUED, OR BEFORE THE BUILDING FINAL INSPECTION, FOLLOWING THE INSTRUCTIONS ON THE FEMA FORM 086-0-34 (6/15):

PERMIT SET - REVISION 2 - 02/21/2024



Rev.		Date
1	REVISION 1	11/30/2023
2	REVISION 2	02/21/2024
3		

2104

Shore Club
1901 Collins Ave.
Miami Beach, FL 33139

Owner:
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Interior Design: See adjunted set
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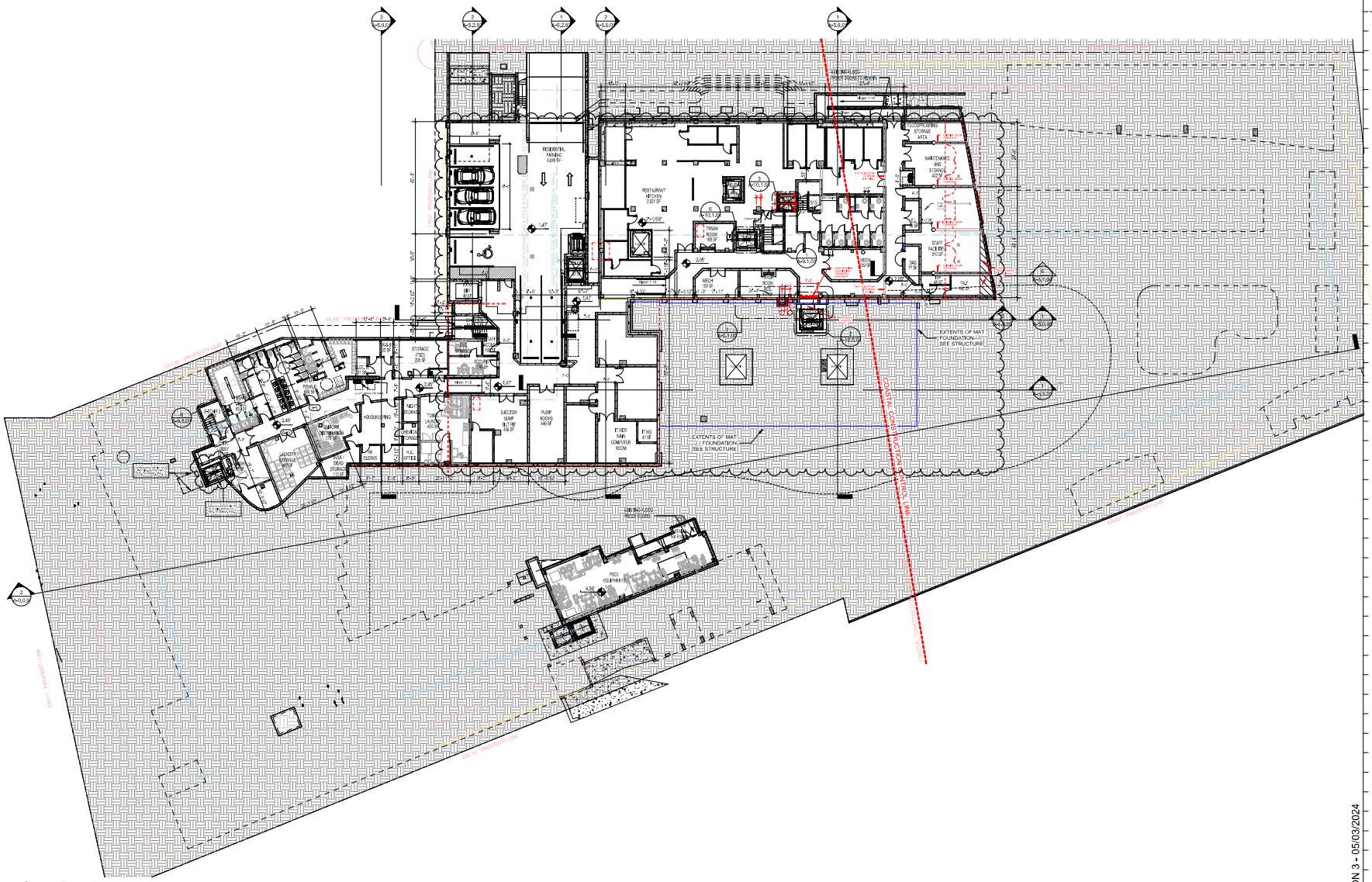
KOBI KARP

SITE PLAN

Date:	02/21/2024	Sheet No. A-1.0.1
Scale:	As indicated	
Project:	2104	



1 **Overall Base -1**
1/16" = 1'-0"

NOTE:

1. ALL CONSTRUCTION AND FINISH MATERIAL BELOW THE DFE (DESIGN FLOOD ELEV.) OR LOWEST FLOOR ELEVATION, WHICHEVER IS HIGHER, SHALL BE FLOOD DAMAGE RESISTANT MATERIAL BELOW AS SPECIFIED IN TABLE 5-1 OF ASCE 24-14.
2. ENCLOSED AREAS BELOW THE DFE SHALL BE USED SOLELY FOR PARKING, BUILDING ACCESS OR STORAGE." (ASCE 24-14, 4.6.2). (IF NOT DRY FLOOD PROOFED.)
3. ALL CONSTRUCTION AND FINISH MATERIAL BELOW THE DESIGN FLOOD ELEVATION (DFE) OR LOWEST FLOOR ELEVATION, WHICHEVER IS HIGHER, OUTSIDE THE DRY-FLOOD PROOFED AREA SHALL BE FLOOD-DAMAGE-RESISTANT MATERIAL ACCORDING TO TABLE 5-1 AND TABLE 1-1 OF ASCE 24-14."

PERMIT SET - REVISION 3 - 05/03/2024

Rev.		Date
1	REVISION 1	11/30/2023
2	REVISION 2	02/21/2024
3	REVISION 3	05/03/2024
4		

2104

Shore Club
1901 Collins Ave.
Miami Beach, FL 33139

Owner:
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Email: d.silberman@ramsa.com

Architect:
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Interior Design: See adjunted set
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Tel: +1 347 778 5979
Email:

Life Safety:
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Address: Coral Cable, FL 33134
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IT Consultant:
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KOBI KARP

OVERALL BASEMENT LEVEL -1

Date: 05/03/2024	Sheet No.
Scale: 1/16" = 1'-0"	A-2.0.01
Project: 2104	

Attachment B-1

Puzzle Parking Specifications

Dabkowski, Adrian

From:	Bruce Roden <bruce@klauspark.com>
Sent:	Thursday, June 13, 2024 12:32 PM
To:	Dabkowski, Adrian; Amanda Roden; Justin Shaffer; Steven Scheppke
Cc:	mpicard; Adam Gottlieb; Jennifer Cristal
Subject:	RE: 1901 Collins Ave Noise and data info -Klaus
Follow Up Flag:	Follow up
Flag Status:	Flagged
Categories:	External

Typically
1 minute to drive in, get out
The system is ready for next user

The system will take 1-3 minutes to retrieve a car depending on where the car is

Bruce E. Roden, Sr. | CEO

KLAUS Parking Systems Atlantic, Inc.
1290 NE 125th Street | North Miami, FL 33161
Office: 305.687.5733 | **Fax**: 305.687.5734
Mobile: 305.807.0064
24hr Emergency: 1.844.552.8775
Email: bruce@klauspark.com
Website: www.multiparkingusa.com

From: Dabkowski, Adrian <Adrian.Dabkowski@Kimley-horn.com>
Sent: Thursday, June 13, 2024 9:56 AM
To: Bruce Roden <bruce@klauspark.com>; Amanda Roden <amanda@klauspark.com>; Justin Shaffer <ShafferJ@WITKOFF.COM>; Steven Scheppke <steven@klauspark.com>
Cc: mpicard <mpicard@kobikarp.com>; Adam Gottlieb <gottlieba@WITKOFF.COM>; Jennifer Cristal <Jennifer.Cristal@cumming-group.com>
Subject: RE: 1901 Collins Ave Noise and data info -Klaus

For the traffic queuing analysis, we need processing time information for the system. Specifically, how long it takes a person to drive a car into one of the bays, get out of the car, and time for the system to be ready to accept the next arriving car.

Please provide that.

Thank you
Adrian

Adrian K. Dabkowski, P.E., PTOE
Kimley-Horn | 8201 Peters Road, Suite 2200, Plantation, FL 33324
Direct: 954-535-5144 | Mobile: 303-990-2761

KLAUS multiparking

Product Data

Dimensions, Technical Information and Performance Specification

trendvario 6300

4400 5720 6600

PARK & SMILE

multiparkingusa.com

Contents

Symbols

Platforms accessible horizontally.

Maximum load per parking space in lbs.
Upweights above 4400 lbs possible with surcharge (*see "Vehicle data", page 3*).

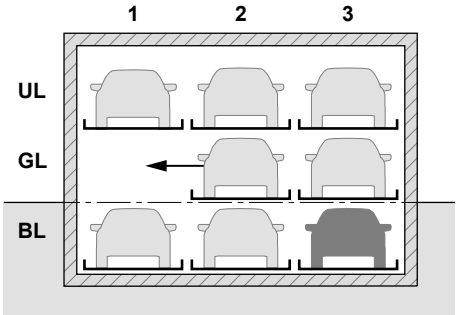
Parking space load can be subsequently upweighted (*see "Vehicle data", page 3*).

Driven-through arrangement and can be combined with other TrendVario systems as a KombiSystem.

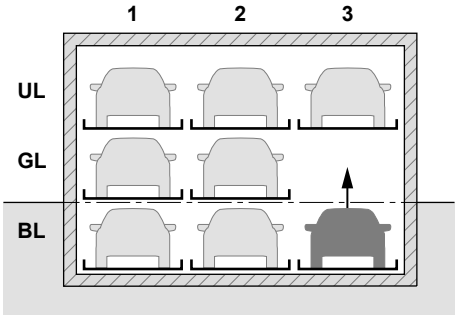
The quoted systems correspond to DIN EN 14010 and EU Machinery Directive 2006/42/EC.
In addition, this system has undergone a voluntary conformity test by TÜV SÜD.

Function diagram with standard designation

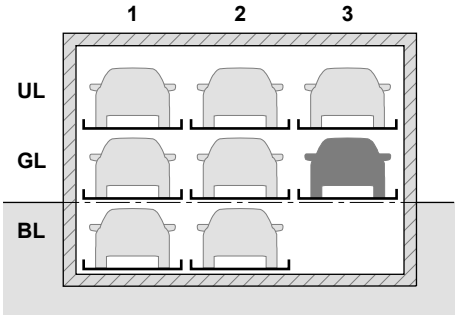
Example for vehicle on basement level (BL) of grid 3:
Selection via the control panel; all doors must be closed.
Representation of parking spaces in a row.



To remove the vehicle from the space in **grid 3/BL**, the GL platforms are moved to the left.



The empty space is now located above the vehicle being removed. The parking space in **grid 3/BL** is raised.



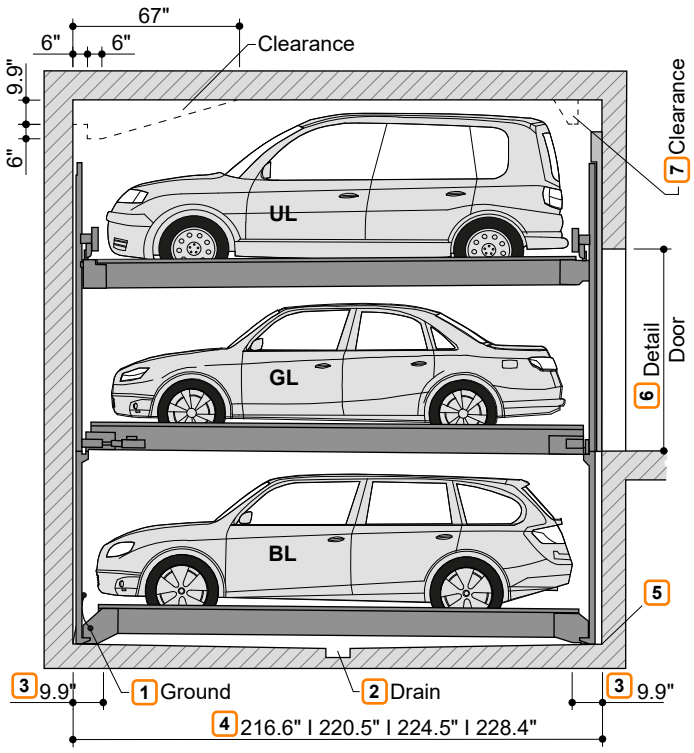
The vehicle in the space in **grid 3/BL** can now be removed.

Dimensional specifications & tolerances

All structural dimensions are minimum finished dimensions.
Tolerance for structural dimensions: +1.2/-0". Dimensions in inches (in).
The tolerances specified in the German Construction Contract Procedures (VOB), Part C (DIN 18330 and 18331) as well as DIN 18202 must also be taken into account in order to adhere to the minimum finish dimensions.

Overview of building design

Building configuration with vertical door 6



1. Equipotential bonding from the foundation ground connection to the system (provided by customer).
2. Slope with water collection channel(*see "Drainage", page 12*).
3. These areas must be horizontal and on the same level in the entire pit.
4.
   - 216.6" for vehicles up to 196.9" in length
   - 220.5" for vehicles up to 200.8" in length
   - 224.5" for vehicles up to 204.8" in length
   - 228.4" for vehicles up to 208.7" in length

   Shorter designs possible upon request. Observe local regulations for parking space length!
   So that you can conveniently use your parking space and due to the ever increasing length of vehicles, we recommend a pit length of at least 224.5".
5. Grooves/concrete haunches are not possible at the transition from the pit floor and the walls. If grooves/concrete haunches are required, then the system must be narrower or the pits wider.
6. Detail of door and additional door variants (*see "Configuration with vertical door", page 5* and *see "Configuration with sliding door", page 6*).

If sprinklers are required, the customer must leave sufficient clearance during the construction phase.

Vehicle data

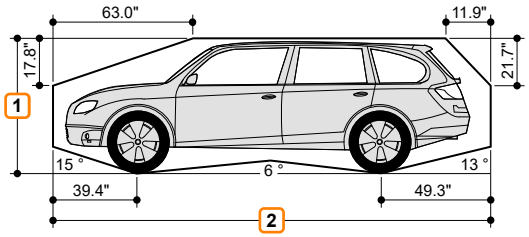
Parking options

Production vehicles:
Sedan, station wagen, SUV, and van as per clearance gauge and maximum parking space load.

	UL | GL | BL 3		
Weight 4	4400 lbs	5720 lbs	6600 lbs
Wheel load	1100 lbs	1430 lbs	1650 lbs

1. Vehicle height (*see "Overview of system types & ceiling heights", page 4*)
2. Vehicle length (*see "Overview of building design", page 3*)
3. UL = upper level | GL = ground level | BL = basement level
4. Individual parking spaces can also be subsequently upweighted to 6,600 lbs.

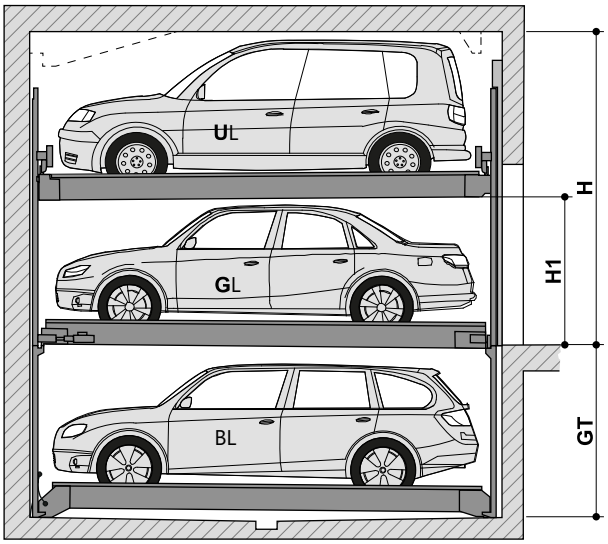
Clearance gauge



Vehicle width of 74.9" with a platform width of 90.6".
Wider platforms allow correspondingly wider vehicles to be parked.

Overview of system types & ceiling heights

The permissible GL vehicle height must be greater than or equal to the BL vehicle height.



Type	GT	BL vehicle height
6300 / 175	68.9"	**59.1"**
6300 / 180	70.9"	**61.1"**
6300 / 185	72.9"	**63.0"**
6300 / 190	74.9"	**65.0"**
6300 / 195	76.8"	**67.0"**
6300 / 200	78.8"	**68.9"**
6300 / 205	80.8"	**70.9"**
6300 / 210	82.7"	**72.9"**
6300 / 215	84.7"	**74.9"**
6300 / 220	86.7"	**76.8"**
6300 / 225	88.6"	**78.8"**
6300 / 230	90.6"	**80.8"**
6300 / 235	92.6"	**82.7"**
6300 / 240	94.5"	**84.7"**

GT: Pit depth **H:** Building height: **H1:** Headroom

H1	GL vehicle height	UL vehicle height 59.1"	61.1"	63.0"	65.0"	67.0"	68.9"	70.9"	72.9"	74.9"	76.8"	78.8"	80.8"	82.7"	84.7"	86.7"
61.1"	59.1"	128.0	130.0	131.9	133.9	135.9	137.8	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6
63.0"	61.1"	130.0	131.9	133.9	135.9	137.8	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5
65.0"	63.0"	131.9	133.9	135.9	137.8	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5
67.0"	65.0"	133.9	135.9	137.8	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5
68.9"	67.0"	135.9	137.8	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4
70.9"	68.9"	137.8	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4
72.9"	70.9"	139.8	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4
74.9"	72.9"	141.8	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3
76.8"	74.9"	143.8	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3	171.3
78.8"	76.8"	145.7	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3	171.3	173.3
80.8"	78.8"	147.7	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3	171.3	173.3	175.2
82.7"	80.8"	149.7	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3	171.3	173.3	175.2	177.2
84.7"	82.7"	151.6	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3	171.3	173.3	175.2	177.2	179.2
86.7"	84.7"	153.6	155.6	157.5	159.5	161.5	163.4	165.4	167.4	169.3	171.3	173.3	175.2	177.2	179.2	181.2

H - Building height

Configuration example

Example configuration 1:

UL vehicle: **59.1"**
GL vehicle: **74.9"**
BL vehicle: **68.9"**

Type: **6300 / 200 - 195**
Height: **143.8"**

Example configuration 2:

UL vehicle: **63"**
GL vehicle: **63.0"**
BL vehicle: **70.9"**

Type: **6300 / 205 - 165**
Height: **Selection not possible!**

Configuration 2 is not possible as the maximum permissible vehicle on GL is smaller than the vehicle on BL.
As such, the larger BL vehicle cannot drive in.

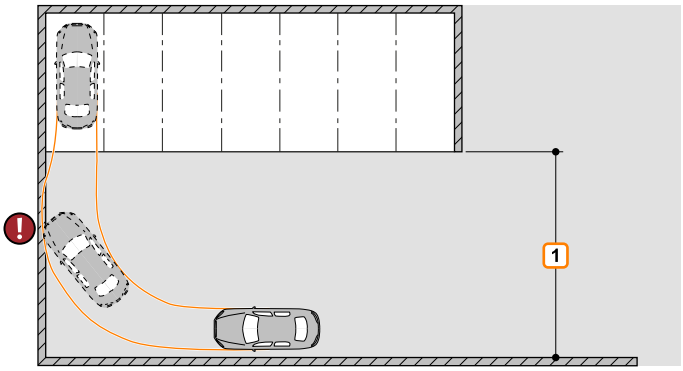
Width and door height

We recommend a platform width of at least 98.5" and driving lane widths of 256" to ensure convenient vehicle access to the multiparking system and easy entry into and exit from the vehicle.

Narrower platforms can make parking more difficult, depending on the following criteria.

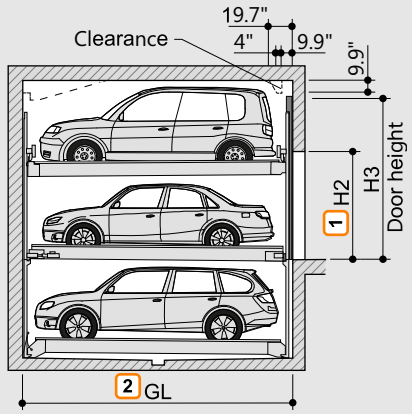
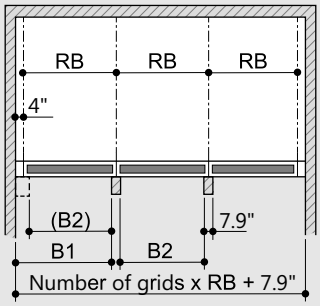
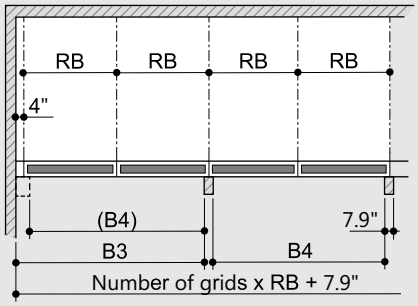
- Driving lane width
- Entry conditions
- Vehicle dimensions

[1] Observe the minimum driving lane width specified by local regulations!



For commercial use of doors with electrical drive systems, an inspection log is required in accordance with ASR A1.7 "Technical Rules for Workplaces" in Germany. The door must be inspected by an expert before commissioning and annually thereafter and the result entered in the inspection log. The inspection must be carried out independently of maintenance. Observe local regulations regarding the operation of electrical doors.

Configuration with vertical door

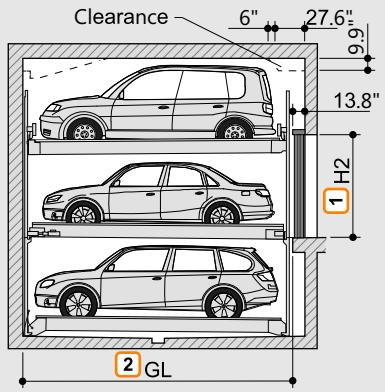
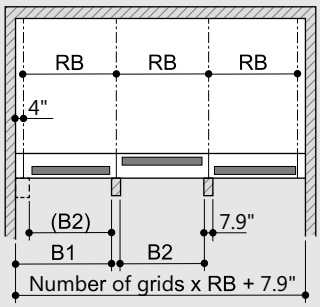
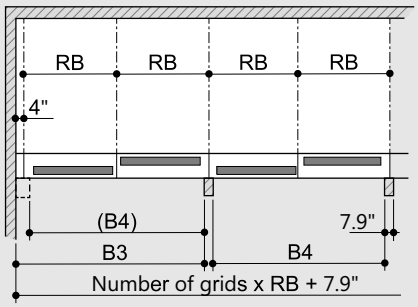
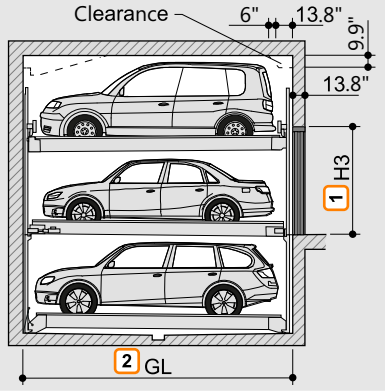
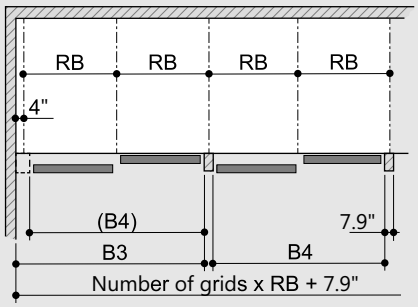
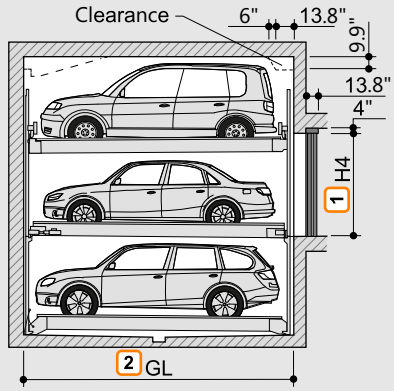
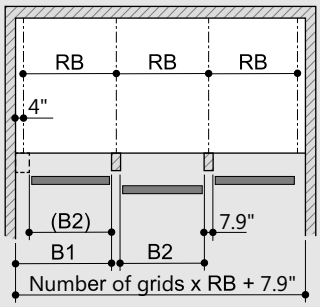
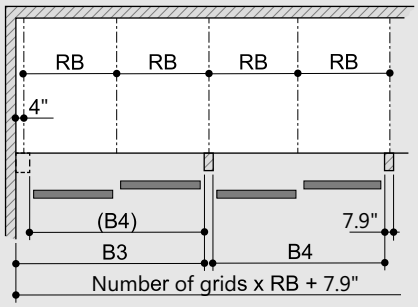
	Door variant	Supports per grid	Supports per second grid
Vertical door			

	Clear platform width	RB [2]	Support per grid		Support per second grid	
			B1	B2	B3	B4
Width dimensions	90.6"	98.5"	98.5"	90.6"	196.9"	189.0"
	94.5"	102.4"	102.4"	94.5"	204.8"	196.9"
	98.5"	106.3"	106.3"	98.5"	212.6"	204.8"
	102.4"	110.3"	110.3"	102.4"	220.5"	212.6"
	106.3"	114.2"	114.2"	106.3"	228.4"	220.5"

	Max. vehicle height UL | GL														
	59.1"	61.1"	63.0"	65.0"	67.0"	68.9"	70.9"	72.9"	74.9"	76.8"	78.8"	80.8"	82.7"	84.7"	86.7"
H2	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	84,7"	86.7"	88.6"	90.6"
H3	128.0"	128.0"	131.9"	131.9"	131.9"	131.9"	131.9"	141.8"	141.8"	141.8"	141.8"	141.8"	149.7"	149.7"	149.7"

[1] Observe the minimum clear height H2 specified by local regulations.
[2] GL: building length (*see "Overview of building design", page 3*).
[3] RB: grid width. This dimension **must** be adhered to!

Configuration with sliding door

	Door variant	Supports per grid	Supports per second grid
Sliding door behind the supports			
Sliding door inside the supports		**Not possible!**	
Sliding door in front of the supports			

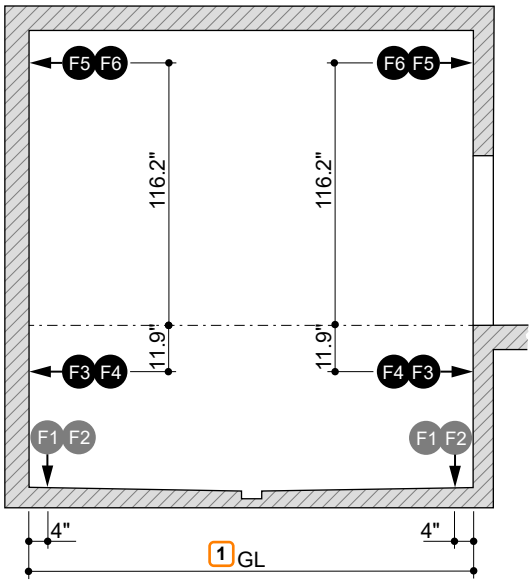
	Clear platform width	RB [3]	Support per grid		Support per second grid	
			B1	B2	B3	B4
Width dimensions	90.6"	98.5"	98.5"	90.6"	196.9"	189.0"
	94.5"	102.4"	102.4"	94.5"	204.8"	196.9"
	98.5"	106.3"	106.3"	98.5"	212.6"	204.8"
	102.4"	110.3"	110.3"	102.4"	220.5"	212.6"
	106.3"	114.2"	114.2"	106.3"	228.4"	220.5"

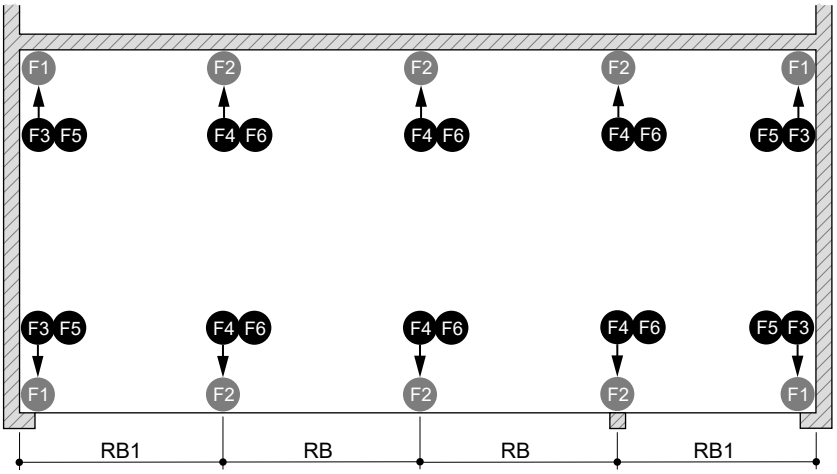
	Max. vehicle height UL | GL														
	59.1"	61.1"	63.0"	65.0"	67.0"	68.9"	70.9"	72.9"	74.9"	76.8"	78.8"	80.8"	82.7"	84.7"	86.7"
H2	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	84.7"	86.7"	88.6"	90.6"	92.6"
H3	86.7"	86.7"	86.7"	86.7"	86.7"	86.7"	86.7"	86.7"	86.7"	86.7"	88.6"	90.6"	92.6"	94.5"	96.5"
H4	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	82.7"	84.7"	86.7"	88.6"	90.6"	92.6"

[1] Observe the minimum clear height H2/H3/H4 specified by local regulations.
[2] GL: building length (*see "Overview of building design", page 3*).
[3] RB: grid width. This dimension **must** be adhered to!

Loading schedule

The systems are doweled to the floor. The drill hole depth in the floor plate is approx. 6", in the walls approx. 4.8".
The floor plate and walls must be of concrete (concrete quality min. C20/25)!
The dimensions for the bearing points have been rounded. If you need to know the exact position, please contact KLAUS Multiparking.





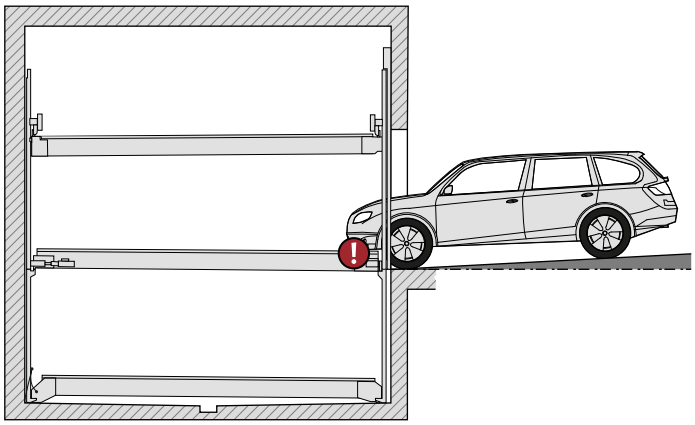
Parking space load	F1	F2	F3	F4	F5	F6
4400 lbs	+ 9218 lbf - 2653 lbf	+ 12140 lbf - 5306 lbf	± 652 lbf	± 1304 lbf	± 113 lbf	± 225 lbf
5720 lbs	+ 10567 lbf - 3193 lbf	+ 21133 lbf - 6340 lbf	± 675 lbf	± 1349 lbf	± 180 lbf	± 360 lbf
6600 lbs	+ 11466 lbf - 3552 lbf	+ 22931 lbf - 7104 lbf	± 697 lbf	± 1394 lbf	± 225 lbf	± 450 lbf

Clear platform width	RB [2]	RB1
90.6"	98.5"	102.4"
94.5"	102.4"	106.3"
98.5"	106.3"	110.3"
102.4"	110.3"	114.2"
106.3"	114.2"	118.2"

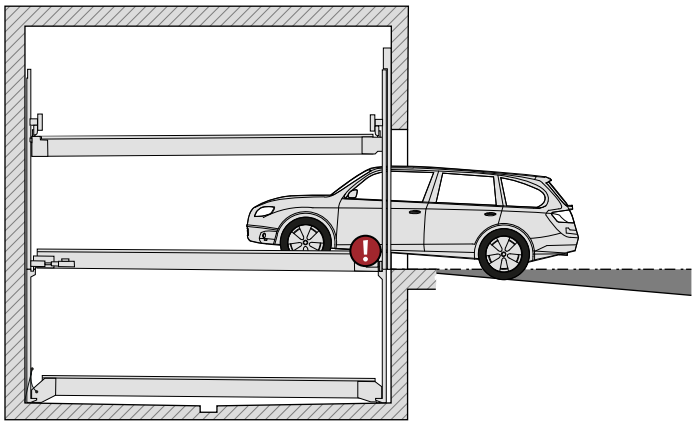
[1] GL: building length
[2] RB = grid width. This dimension **must** be adhered to!

Entrance inclination

The maximum entry inclinations specified in the sketch must not be exceeded.
An incorrect design can make driving into the system considerably more difficult, for which KLAUS Multiparking is not responsible.

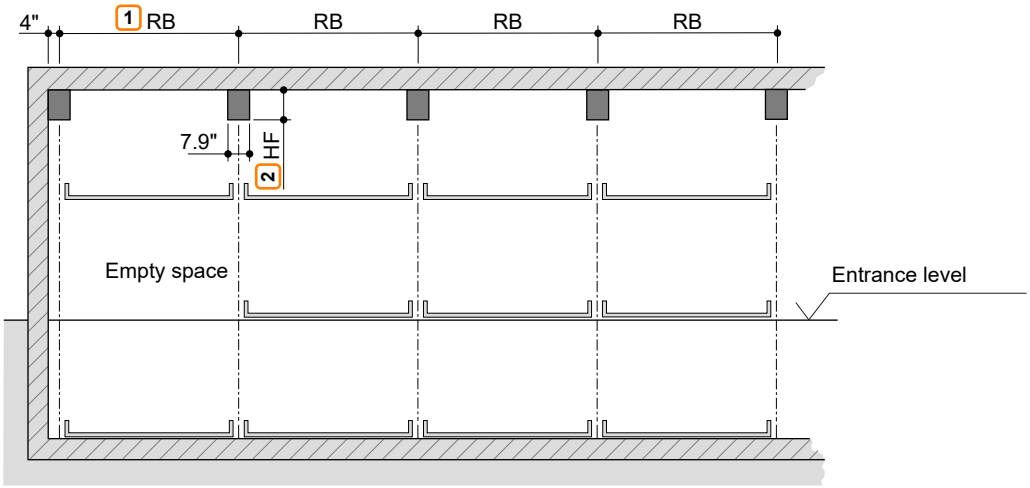


Max. slope: 3%



Max. gradient: 5%

Clearances for installations



1 RB: grid width. This dimension **must** be adhered to!

2 HF: Clearance height = building height (H) - 120.1" | where HF max. = 17.8" (*see "Overview of system types & ceiling heights", page 4*).

Clearance for routing lines lengthways

Electrical installation

Switch cabinet and master switch

Access to the switch cabinet (approx. 60 x 60 x 25 cm) must be possible without danger. The lockable main switch must be positioned in such a way that the entire entrance area of the facility can be overlooked.

With wall opening from switch cabinet to system (consultation with KLAUS Multiparking required).

Supply cable to master switch

Supply cable min. 4 x AWG 10 (3 PH+PE) to switch cabinet with pre-fuse 3 x 25 A (time-lag) or circuit breaker 3 x 25 A (trip characteristic J) to be provided by the customer.
DIN/VDE regulations and the local regulations of the power supply company must be adhered to (*see "Supply cable to the master switch – foundation ground", page 12*).

Hydraulic unit

- 4.0 kW, three-phase current, 120/208 V / 60 Hz

Control panel with emergency-stop

- Attachment at a clear point (e.g. pillar).
- Secured against third-party operation.

Technical information

Area of use

In general, the system is best suited for a fixed group of users.
Where users change (e.g. short-term parking in office buildings or hotels), structural modifications to the Multiparking system are required. If needed, please contact us.

Units

Low-noise power units mounted to rubber-bonded-to metal mountings are installed. Nevertheless, we recommend separating the garage body from the residential building.

Parking space designation

Please consult the function diagram for the standard designation of the parking spaces (*see "Function diagram with standard designation", page 2*).
Alternative designations are only possible with a surcharge.

Please note the following specifications:
- The empty space is situated on the left as standard.
- Notification of alternative designations must be received 8 to 10 weeks before delivery.

Environmental conditions

Environmental conditions for the area of multiparking systems.
Temperature range +14 to +104 °F. Relative humidity 50%and a maximum outside temperature of +104 °F.
If raising and lowering times are specified, they refer to an ambient temperature of +50° F and a system arranged directly next to the hydraulic unit. These times increase at lower temperatures or with longer hydraulic lines.

Building permit documents

Multiparking systems are usually subject to approval. Please observe local regulations and ordinances in this regard.

Care

To prevent corrosion damage, please observe our separate cleaning and care instructions, and make sure that your garage is well ventilated.

Corrosion protection

As per "Corrosion Protection" supplement.

Electrically driven doors

For commercial use of doors with electrical drive systems, an annual inspection is required in accordance with ASR A1.7 "Technical Rules for Workplaces" in Germany. We urgently recommend concluding a maintenance contact as these services are included for the complete system.

CE conformity

The quoted systems correspond to DIN EN 14010 and EU Machinery Directive 2006/42/EC. In addition, this system has undergone a voluntary conformity test by TÜV SÜD.

Noise protection

Normal noise protection:

As per DIN 4109-1 "Sound Insulation in Buildings – Part 1: Minimum Requirements," section 9:
The maximum sound pressure level in living and sleeping spaces is 30 dB (A).
User noises are not subject to the requirements.

The following actions are required to comply with this value:
- Noise protection package as per quotation/order (KLAUS Multiparking)
- Sound reduction index of the structure at least R'w = 57 dB (customer-provided performance)

Increased noise protection (separate agreement):

As per DIN 4109-5 "Sound Insulation in Buildings – Part 5: Increased Requirements," section 8:
Maximum sound pressure level in living and sleeping spaces 25 dB (A).
User noises are not subject to the requirements.

The following actions are required to comply with this value:
- Noise protection package as per quotation/order (KLAUS Multiparking)
- Sound reduction index of the structure at least R'w = 62 dB (customer-provided performance)

Note:
User noises are noises that can be influenced individually by the user of our multiparking systems. This includes, e.g., driving onto the platform, slamming vehicle doors, engine noises and breaking noises.

Performance specification

Description

Multiparking system for independent parking of vehicles one on top of the other and next to one another.
Dimensions as per the underlying pit, width and height dimensions.
Access to the parking spaces horizontally (installation tolerance ±1%).
Access must be provided over the entire width of the system (minimum driving lane width in accordance with local regulations).
The parking spaces are arranged on 3 levels one on top of the other. Vehicles park on stable steel platforms.
The platforms on the basement level (BL) and upper level (UL) move vertically, while the platforms on the ground level (GL) move horizontally. At entrance level (GL), there is always 1 parking space less. This empty space is used for the sideways movement of the GL parking spaces to allow a parking space above on the UL or on the BL below to rise or lower to entrance level. Consequently, 5 parking spaces (2 on UL, 1 on GL, 2 on BL) is the smallest unit for this parking system.
A vehicle positioning aid is mounted on one side of each parking space (must be adjusted as per operating instructions).
For safety reasons, the movement operation of the platforms always takes place behind locked doors.
All requisite safety equipment is integrated into the system. This essentially comprises a chain monitoring system, locking levers for the upper and lower platforms and locked doors. The doors can only be opened when the selected parking space has reached its parking position and all fall openings are secure.

Steel frame (secured in the pit) comprising:

- Supports (arranged in rows)
- Crossbeams and lengthways beams
- Sliding rails for the sideways moving GL platforms

Platform comprising:

- Platform profiles
- Adjustable positioning aid
- Chamfered access plate
- Side beams
- Crossbeams
- Bolts, nuts, washers, spacer tubes, etc.

Lifting equipment for platforms on the UL and BL comprising:

- Hydraulic cylinders with solenoid valves
- Chain wheels
- Chains
- Limit switches
- The platforms are each suspended at 4 points and are guided at the supports by means of plastic plain bearings.

Drive unit for sideways moving platforms on GL:

- Gear motor with chain wheel
- Chains
- Sliding and guide rollers (low-noise)
- Power supply via energy chain

Hydraulic unit consisting of:

- Hydraulic unit (low-noise, mounted on a console with rubber-bonded-to metal mountings)
- Hydraulic oil tank
- Oil fill
- Internal gear pump
- Pump carrier
- Coupling
- Three-phase motor
- Contactor, motor protection switch and control fuse
- Test pressure gage
- Pressure relief valve
- Hydraulic hoses (damping of noise transmission to the hydraulic pipes)

Control:

- Central control point (control panel with emergency-stop) for selecting the desired parking space
- The electrical wiring from the system cabinet is provided by the supplier.

Vertical doors:

Size

Dimensions adjusted to the underlying widths and height dimensions.
The door comprises two door leaves.

Frame

- Frame structure with two vertical center rungs made of extruded aluminum profile (anodized, coating thickness approx. 20 µm)
- There is a rubber lip on the closing edge for a clean seal with the building.

Door filling

Aluminum perforated plate

- Thickness 1.5 mm, RV 8-14 E6/EV1, anodized, coating thickness approx. 20 µm
- Ventilation cross-section of the filling approx. 30%

Guide rails

- The sliding rails of the doors are attached to the steel frame of the system.
- Galvanized steel guide rails (coating thickness approx. 20 µm).

Door actuation

- Electrical drive system by means of electric motor, above the door frame.

For safety reasons, the movement operation of the platforms always takes place behind locked doors. An electrical signal generator is used to query the positions "door open" and "door closed."

Please note:

Door trim (at the side, covers over the sliding rails, etc.) and door suspensions are not included with the standard configuration but can be supplied as special equipment for a surcharge.

Sliding doors:

Size

- Sliding doors, size approx. 98.5" x 78.8" (width x height).

Frame

- Frame structure with one vertical center rung made of extruded aluminum profile (anodized, coating thickness approx. 0.8 mil)
- A handle shell is provided in a vertical aluminum profile for opening the doors.
- There is a rubber lip on the closing edge for a clean seal with the building.

Standard door filling

Aluminum perforated plate

- Thickness 0.1", RV 5-8 E6/EV1, anodized, coating thickness approx. 0.8 mil
- Ventilation cross-section of the filling approx. 40%

Alternative door filling

Plain aluminum sheet

- Thickness 0.1" E6/EV1, anodized, coating thickness approx. 0.8 mil

Corrugated steel sheet

- Thickness 0.05", galvanized, coating thickness approx. 0.8 mil
- Additional powder coating, coating thickness approx. 1 mil on the outside and approx. 0.5 mil on the inside
- Color options on the outside (building view):

RAL 1015 (light ivory)	RAL 3003 (ruby red)
RAL 5014 (pigeon blue)	RAL 6005 (moss green)
RAL 7016 (anthracite grey)	RAL 7035 (light grey)
RAL 7040 (window grey)	RAL 8014 (sepia brown)
RAL 9006 (white aluminum)	RAL 9016 (traffic white)

- Door inside in a light grey tone

Wood filling

- Nordic spruce, grade A
- Vertical tongue and groove boards
- Colorless, pre-impregnated

Composite safety glass

- Composite safety glass made of tempered glass 0.32"/0.16"

Wire mesh

- Mesh size
- Wire diameter 0.1", galvanized, coating thickness approx. 20 µm
- Ventilation cross-section of the filling approx. 70%

Sliding rails

- The running gear comprises 2 double-pair roll systems per door, height-adjustable.
- The sliding rails of the doors are attached to brackets with cover bushings or directly to the concrete lintel or a building-specific door suspension.
- The lower guide comprises 2 plastic rollers on a base plate which is dowelled to the floor.
- Sliding rails, cover bushings, and guide roller base plate are galvanized.

Door actuation

- Electrical drive system by means of electric motor attached to the rail system at the turning point of the sliding doors. The drive pinion engages a chain attached to the door.

For safety reasons, the movement operation of the platforms always takes place behind locked doors. An electrical signal generator is used to query the positions "door open" and "door closed."

Separation (if required)

- On request

Please note:

Door trim (at the side, cover over the sliding rails, etc.) and door suspensions are not included with the standard configuration but can be supplied as special equipment for a surcharge.

Performances provided by customer

Barriers

Any barriers required to secure the parking system pit due to traffic routes located immediately in front of, next to or behind the systems as per DIN EN ISO 13857. This applies during the construction phase as well.

Parking space numbering

Any parking space numbering required.

Technical building systems

Any required lighting, ventilation, fire extinguishing systems and fire alarm systems, as well as clarification and fulfillment of the associated legal requirements.

Lighting

The customer must observe local regulations regarding the lighting of parking spaces and roadways. As per DIN EN 12464-1 "Light and Lighting – Lighting of Work Places – Part 1: Indoor Work Places" an illuminance of at least 200 lx is recommended for parking spaces and the operating area of the system. A dry contact can be provided for actuation of parking space lighting provided by the customer.

Drainage

Functional drainage of the pit must be provided by means of, for example, a water collection channel towards the center that is connected to the sewer system or a pump sump. A lateral slope is possible within the channel but not in the rest of the pit area (a lengthways slope is provided by the structural dimension). As an environmental protection measure, we recommend that the pit floor be painted. Oil or gasoline separators must be appropriately taken into account as per local regulations when the drain is attached to the sewer system.

Strip foundations

If strip foundations are used for structural reasons, the customer must construct a walkable platform at the height of the upper edge of the strip foundations so that the assembly work can be performed.

Wall openings

Wall openings, if required.

Supply cable to the master switch – foundation ground

The customer must provide the supply cable to the master switch during assembly. Our fitter can check functionality on site together with the electronics technician. If this is not possible during assembly due to reasons for which the customer is responsible, then the customer must contract an electronics technician.
The customer must ground the steel structure using the foundation ground connection (max. ground distance 393.8") and equipotential bonding as per DIN EN 60204.

Door suspensions

Please note that if the specified clear heights (*see "Width and door height", page 5*) are not adhered to, additional measures for door attachment (door suspensions) will be required for a surcharge.

Door trim

Door trim, if required. This may be requested from KLAUS Multiparking for a surcharge.

Right to technical changes reserved.

In carrying out its performances in the course of technical progress, KLAUS Multiparking is free to use new or different technologies, systems, processes or standards than those initially quoted, provided this does not result in any disadvantages for the customer.

Product Data
TrendVario 6300
590.00.580 | 06/2021 | English-US

Manufacturer:

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Hermann-Krum-Straße 2
D-88319 Aitrach

Phone: +49 (0) 7565 508-0

info@multiparking.com

www.multiparking.com

Sales office:

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New York, 10118

Fon: +1 848 900 1074
america@multiparking.com

www.multiparkingusa.com

Attachment C-1

Approved Methodology

Kimley»Horn

MEMORANDUM

To: Grant Webster
Otniel Rodriguez, E.I.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE

Date: May 29, 2024

Subject: Shore Club
Response to Comments

We have received comments provided by the City of Miami Beach dated August 24, 2023. We offer the following responses:

TRAFFIC STUDY COMMENTS:

1. Please provide a copy of the mechanical lift specifications/cut sheet as an Appendix to the updated traffic impact study. Please provide a link to a video of the proposed semi-automatic puzzle mechanical lift parking technology.

   Response: The mechanical specifications are provided in the updated methodology in Attachment A and will be included in the updated traffic assessment. If available from the manufacturer, a link to a simulation of the parking system will be provided as part of the traffic assessment update.

2. Please update the Floor Plan and schematics section Detail and remove the proposed bumper blocks in the tandem spaces. Please confirm that the tandem spaces will be assigned to one owner/resident.

   Response: The wheel stops were removed. Refer to the updated methodology in Attachment A. The updated plans will be included as part of the updated traffic assessment. All tandem spaces will be assigned to one condominium.

3. Please provide an updated Maneuverability Analysis for this area of the residential parking area within the parking garage at the semi-automatic puzzle mechanical lift parking technology. This should include AutoTurn tracking for the use of the mechanical lift technology and impacts to the tandem and other nearby parking spaces.

   Response: The maneuverability analysis will be updated to include the area serving the semi-automatic puzzle mechanical lift parking system and tandem residential parking. Refer to the updated methodology in Attachment A.

kimley-horn.com | 8201 Peters Road, Suite 2200, Plantation, FL 33324 | 954 535 5100

Attachment A
Updated Methodology

Kimley»Horn

MEMORANDUM

To: Grant Webster
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE

Date: May 29, 2024

Subject: Shore Club
Miami Beach, Florida
Mechanical Parking Queuing Analysis Methodology

The purpose of this memorandum is to summarize the parking operation queuing analysis methodology for the Shore Club redevelopment located at 1901 Collins Avenue in Miami Beach, Florida. Note that the project was previously approved as part of the *Shore Club Traffic Assessment*, April 16, 2024. At the May 17, 2024 mechanical parking queuing analysis methodology meeting, it was discussed that the *Shore Club Traffic Assessment*, April 16, 2024 should be updated for the mechanical parking queuing analysis. Therefore, this document highlights the sections that will be updated of the previously approved analysis. The previously approved analysis is provided in Attachment 3-3.

The project now proposes to provide four (4) self-park tandem spaces and a seven-space semi-automatic puzzle parking system and one (1) Americans with Disability Act (ADA) parking space on-site, where seven (7) self-park parking spaces were previously provided. The existing valet on 20th Street will service the seven-space semi-automatic puzzle parking system. The valet analysis and valet processing times previously prepared for 20th Street will be updated to account for this parking system. A project location map and conceptual site plan are provided in Attachment 2-2.

The following sections summarize the sections that will be updated of the previously approved analysis.

VALET OPERATIONS ANALYSIS UPDATE

The 20th Street valet operations analysis will be updated for the processing time of the parking system. The valet queuing operations analysis will performed based on the methodology outlined in the Institute of Transportation Engineer's (ITE) *Transportation and Land Development,* 1988. The analysis will be performed to determine if valet operations could accommodate vehicular queues without blocking travel lanes on 20th Street. Valet operations were analyzed for the number of valet attendants and required vehicle stacking for the project's anticipated valet trip generation.

The mechanical specifications of the parking system are provided in Attachment 1-1. If available by the manufacturer, a link to a simulation of the parking system will be provided as part of the traffic assessment update.

MANEUVERABILITY ANALYSIS UPDATE

The maneuverability analysis will be updated to include the area serving the semi-automatic puzzle mechanical lift parking system and tandem residential parking. The analysis will be performed using Transoft's *AutoTurn 11* software design vehicle turning templates and vehicle turning templates

consistent with American Association of State Highway and Transportation Officials' (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 2018. The analysis will prepared passenger car (P) design vehicles for the semi-automatic puzzle mechanical lift parking system and tandem residential parking.

DOCUMENTATION

The previously approved *Shore Club Traffic Assessment*, April 16, 2024 will be updated for the analyses stated in this document. The memorandum will include supporting documents including analysis worksheets. The memorandum will also include text and graphics necessary to summarize the assumptions and analysis.

K:\FTL_TPTO\043118004 - Shore Club\Correspondence\2024 04 Mechanical Parking Methodology\Shore Club Parking Methodology 05 29 2024.docx

Attachments removed to eliminate duplicative data or analyses.

Attachment D-1

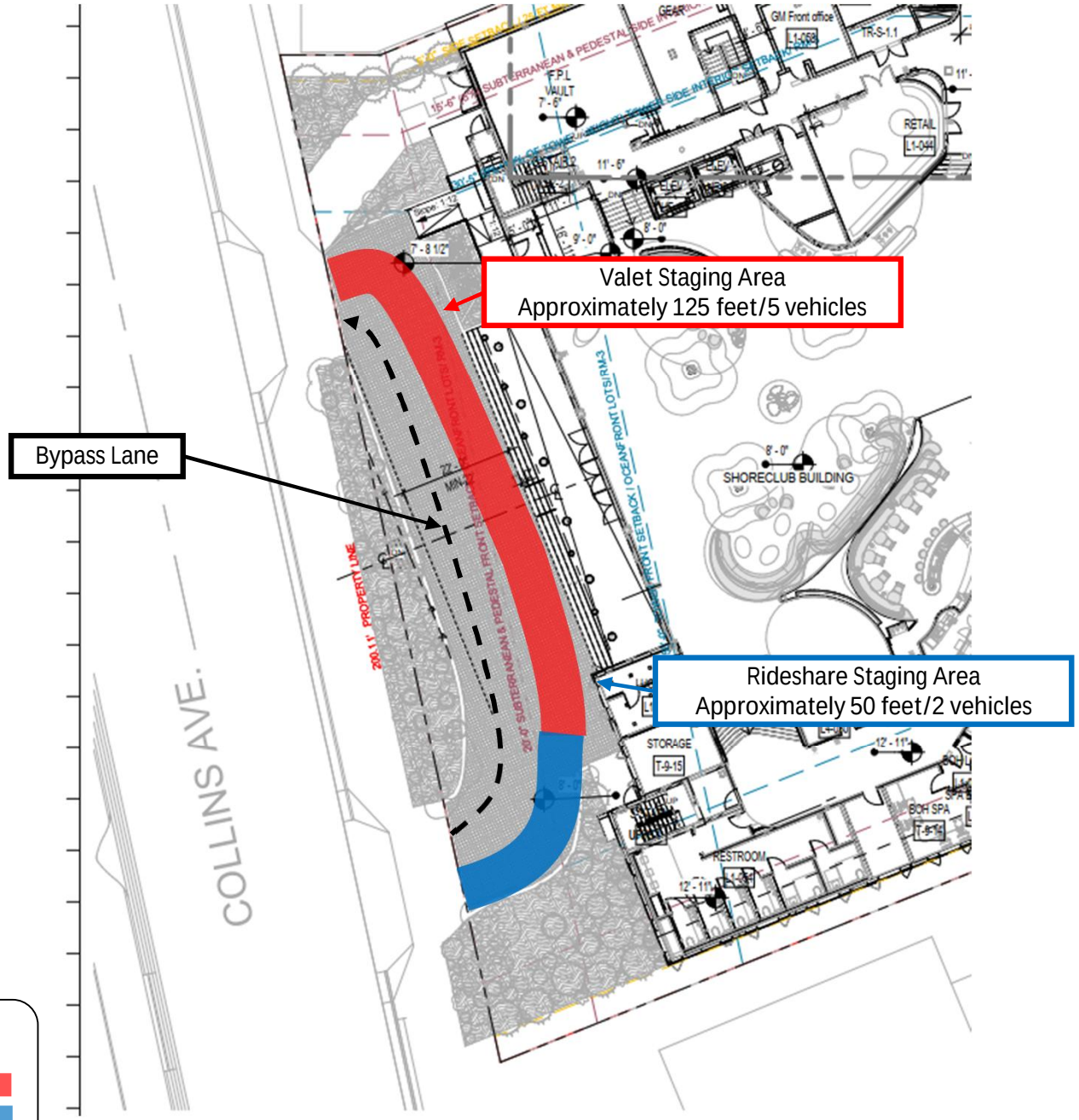
Valet Routes

Kimley»Horn

Hotel/Restaurant/Bar Valet Routing
Shore Club Redevelopment
Miami Beach, Florida

Kimley»Horn

Residential Valet Routing
Shore Club Redevelopment
Miami Beach, Florida



Legend

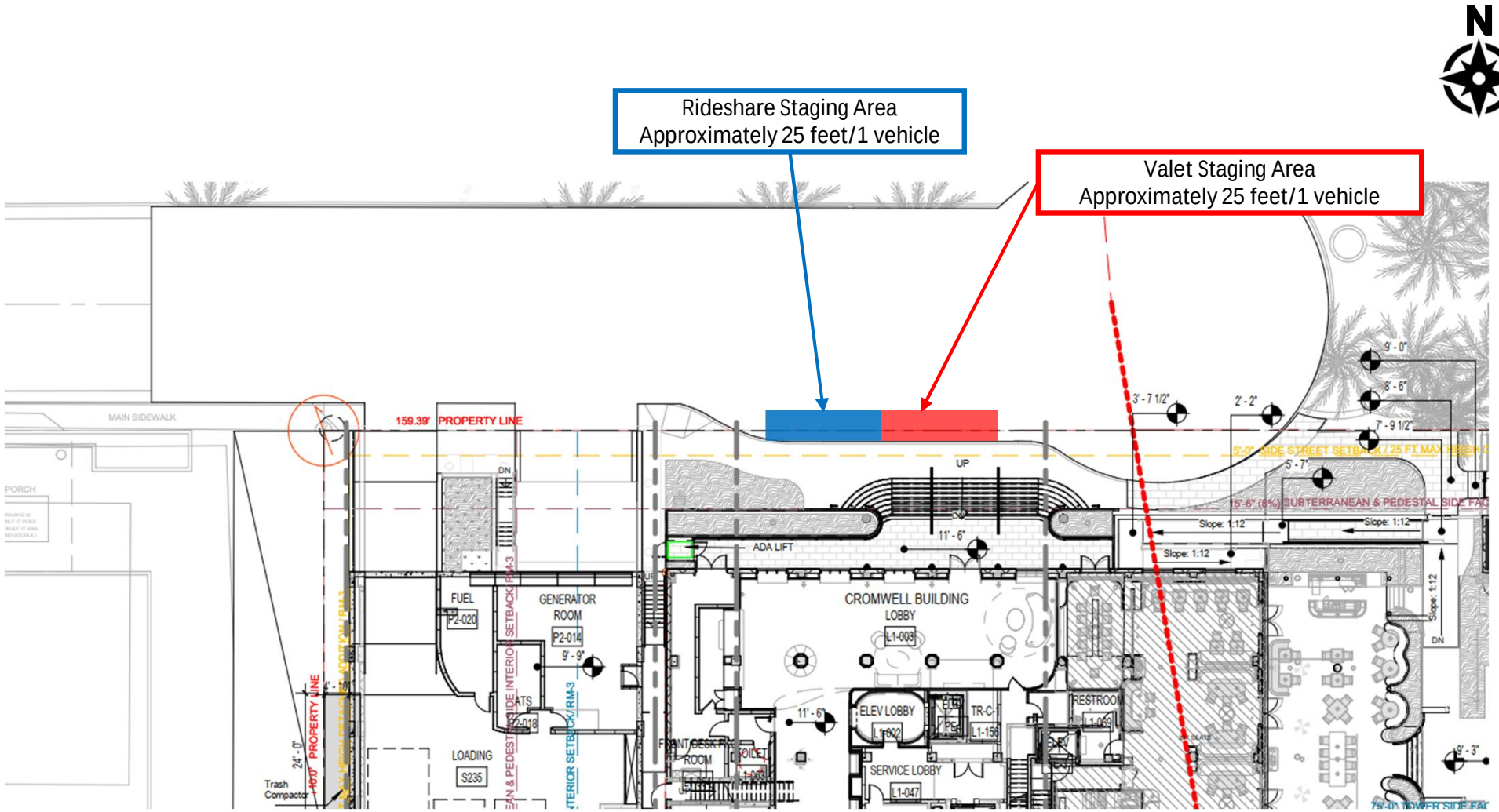
Valet Staging Area

Rideshare Staging Area

***Not to Scale**

Kimley»Horn

Collins Avenue Porte-Cochere Staging
Shore Club
Miami Beach, Florida



Legend

Valet Staging Area

Rideshare Staging Area

***Not to Scale**

Kimley»Horn

20th Street Porte-Cochere Staging
Shore Club
Miami Beach, Florida

Attachment E-1

Trip Generation

AM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Drinking Place	10	925	12.81	ksf	50%	50%	0	0	0	20.0%	0	0	0	0	0.0%	0	0	0	0	0.0%	0	0	0	0
	2	Quality Restaurant	10	931	370	seat	50%	50%	4	3	7	20.0%	2	3	2	5	0.0%	0	3	2	5	0.0%	0	3	2	5
	3	Hotel	10	310	333	room	59%	41%	95	66	161	20.0%	32	76	53	129	0.0%	0	76	53	129	0.0%	0	76	53	129
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
						Total:			99	69	168	20.0%	34	79	55	134	0.0%	0	79	55	134	0.0%	0	79	55	134

ITE Land Use Code	Rate or Equation
925	Y=0(X)[1]
931	Y=0.02(X)
310	Y=0.5*(X)+-5.34

Note: [1] The drinking place land use is closed during the A.M. peak hour

PROPOSED WEEKDAY AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Drinking Place	10	925	7.471	ksf	50%	50%	0	0	0	20.0%	0	0	0	0	0.0%	0	0	0	0	0.0%	0	0	0	0
	2	Quality Restaurant	10	931	207	seat	50%	50%	2	2	4	20.0%	1	1	2	3	0.0%	0	1	2	3	0.0%	0	1	2	3
	3	Multifamily Housing (High-Rise)	10	222	49	du	24%	76%	6	21	27	20.0%	5	5	17	22	0.0%	0	5	17	22	0.0%	0	5	17	22
	4	Hotel	10	310	76	room	59%	41%	19	14	33	20.0%	7	15	11	26	0.0%	0	15	11	26	0.0%	0	15	11	26
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
						Total:			27	37	64	20.0%	13	21	30	51	0.0%	0	21	30	51	0.0%	0	21	30	51

ITE Land Use Code	Rate or Equation
925	Y=0(X)[1]
931	Y=0.02(X)
222	Y=0.28*(X)+12.86
310	Y=0.5*(X)+-5.34

Note: [1] The drinking place land use is closed during the A.M. peak hour

	IN	OUT	TOTAL
NET NEW TRIPS	**-58**	**-25**	**-83**

PM PEAK HOUR TRIP GENERATION COMPARISON

EXISTING WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	Drinking Place	10	925	12.81	ksf	66%	34%	96	50	146	20.0%	29	77	40	117	6.0%	7	73	37	110	44.0%	48	41	21	62
	2	Quality Restaurant	10	931	370	seat	67%	33%	70	34	104	20.0%	21	56	27	83	6.0%	5	53	25	78	0.0%	0	53	25	78
	3	Hotel	10	310	333	room	51%	49%	114	110	224	20.0%	45	91	88	179	6.7%	12	86	81	167	0.0%	0	86	81	167
	4																									
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
								Total:	280	194	474	20.0%	95	224	155	379	6.3%	24	212	143	355	13.5%	48	180	127	307

ITE Land Use Code	Rate or Equation
925	Y=11.36(X)
931	Y=0.28(X)
310	Y=0.75*(X)+-26.02

PROPOSED WEEKDAY PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		BASELINE TRIPS			MULTIMODAL REDUCTION		GROSS TRIPS			INTERNAL CAPTURE		EXTERNAL VEHICLE TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent																			
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	MR Trips	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	Drinking Place	10	925	7.471	ksf	66%	34%	56	29	85	20.0%	17	45	23	68	9.6%	7	41	20	61	44.0%	27	23	11	34
	2	Quality Restaurant	10	931	207	seat	67%	33%	39	19	58	20.0%	12	31	15	46	9.6%	4	29	13	42	0.0%	0	29	13	42
	3	Multifamily Housing (High-Rise)	10	222	49	du	61%	39%	15	10	25	20.0%	5	12	8	20	20.0%	4	10	6	16	0.0%	0	10	6	16
	4	Hotel	10	310	76	room	51%	49%	16	15	31	20.0%	6	13	12	25	28.0%	7	10	8	18	0.0%	0	10	8	18
	5																									
	6																									
	7																									
	8																									
	9																									
	10																									
	11																									
	12																									
	13																									
	14																									
	15																									
								Total:	126	73	199	20.0%	40	101	58	159	13.8%	22	90	47	137	19.7%	27	72	38	110

ITE Land Use Code	Rate or Equation
925	Y=11.36(X)
931	Y=0.28(X)
222	Y=0.34*(X)+8.56
310	Y=0.75*(X)+-26.02

	IN	OUT	TOTAL
NET NEW TRIPS	**-108**	**-89**	**-197**

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour based on the Trip Generation Handbook, 3rd Edition, published by the Institute of Transportation Engineers

SUMMARY (EXISTING)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	3	2	133	67
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	76	53	91	88
	79	55	224	155

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	0	0	7	5
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	0	0	5	7
	0	0	12	12

OUTPUT

Total % Reduction	*0.0%*		*6.3%*	
Office				
Retail				
Restaurant	0.0%		6.0%	
Cinema/Entertainment				
Residential				
Hotel	0.0%		6.7%	

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	3	2	126	62
Cinema/Entertainment	0	0	0	0
Residential	0	0	0	0
Hotel	76	53	86	81
	79	55	212	143

Internal Capture Reduction Calculations

Methodology for A.M. Peak Hour and P.M. Peak Hour based on the Trip Generation Handbook, 3rd Edition, published by the Institute of Transportation Engineers

SUMMARY (PROPOSED)

GROSS TRIP GENERATION

INPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	1	2	76	38
Cinema/Entertainment	0	0	0	0
Residential	5	17	12	8
Hotel	15	11	13	12
	21	30	101	58

INTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	0	0	6	5
Cinema/Entertainment	0	0	0	0
Residential	0	0	2	2
Hotel	0	0	3	4
	0	0	11	11

OUTPUT

Total % Reduction	*0.0%*		*13.8%*	
Office				
Retail				
Restaurant	0.0%		9.6%	
Cinema/Entertainment				
Residential	0.0%		20.0%	
Hotel	0.0%		28.0%	

EXTERNAL TRIPS

OUTPUT

Land Use	A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit
Office	0	0	0	0
Retail	0	0	0	0
Restaurant	1	2	70	33
Cinema/Entertainment	0	0	0	0
Residential	5	17	10	6
Hotel	15	11	10	8
	21	30	90	47

PROPOSED WEEKDAY AM PEAK HOUR NET NEW EXTERNAL RIDESHARE TRIP GENERATION

ITE TRIP GENERATION CHARACTERISTICS					NET NEW EXTERNAL TRIPS			RIDESHARE TRIPS				NET NEW VALET TRIPS		
Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	Total	% Rideshare	In	Out	Total	In	Out	Total
Drinking Place	10	925	7.471	ksf	0	0	0	0.0%	0	0	0	0	0	0
Quality Restaurant	10	931	207	seat	1	2	3	0.0%	0	0	0	1	2	3
Multifamily Housing (High-Rise)	10	222	49	du	5	17	22	7.5%	0	1	1	5	16	21
Hotel	10	310	76	room	15	11	26	42.6%	6	5	11	9	6	15
Total	-	-	-	-	21	30	51	-	6	6	12	15	24	39

PROPOSED WEEKDAY PM PEAK HOUR NET NEW EXTERNAL RIDESHARE TRIP GENERATION

ITE TRIP GENERATION CHARACTERISTICS					NET NEW EXTERNAL TRIPS			RIDESHARE TRIPS				NET NEW VALET TRIPS		
Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	Total	% Rideshare	In	Out	Total	In	Out	Total
Drinking Place	10	925	7.471	ksf	41	20	61	0.0%	0	0	0	41	20	61
Quality Restaurant	10	931	207	seat	29	13	42	0.0%	0	0	0	29	13	42
Multifamily Housing (High-Rise)	10	222	49	du	10	6	16	5.7%	1	0	1	9	6	15
Hotel	10	310	76	room	10	8	18	42.6%	3	3	6	7	5	12
Total	-	-	-	-	90	47	137	-	4	3	7	86	44	130

AM PEAK HOUR VALET TRIPS			
	In	Out	Total
Hotel/Restaurant/Bar	10	8	18
Multifamily Housing (High-Rise)	5	16	21
Total	15	24	39

PM PEAK HOUR VALET TRIPS			
	In	Out	Total
Hotel/Restaurant/Bar	77	38	115
Multifamily Housing (High-Rise)	9	6	15
Total	86	44	130

Prepared by National Data & Surveying Services

Vehicle Classification

Location: The Axis at Brickell- 1111 SW 12th Ave
City: Miami

Day: Tuesday
Date: 7/31/2018

Time	PORTE-COCHERE						PARKING GARAGE	
	DROP OFF/PICK UP						ENTRANCE/EXIT	
	Valet	Taxi	Ride Share (Uber/Lyft)				Valet	Self Parking
			Sticker		No Sticker			
			Driveway	Street	Driveway	Street		
7:30 AM	2	0	0	1	0	1	2	30
7:45 AM	0	0	1	1	0	0	0	26
8:00 AM	2	0	1	1	0	0	2	19
8:15 AM	2	0	0	0	2	1	2	19
8:30 AM	1	0	1	0	2	1	1	15
8:45 AM	1	0	1	0	0	0	1	30
9:00 AM	1	0	1	1	0	0	1	25
9:15 AM	3	0	0	0	0	1	3	35
A.M. Peak Period Total	12	0	5	4	4	4	12	199
	A.M. Peak Period Rideshare %							7.5%
	A.M. Peak Period Self-Park %							87.3%
	A.M. Peak Period Valet %							5.2%
4:00 PM	4	0	0	0	0	1	4	28
4:15 PM	2	0	1	2	1	0	2	17
4:30 PM	1	0	2	0	0	0	1	13
4:45 PM	3	0	2	0	0	0	3	18
5:00 PM	0	0	1	1	0	0	0	24
5:15 PM	3	0	0	0	0	0	3	18
5:30 PM	3	0	0	0	0	0	3	24
5:45 PM	3	0	0	0	0	0	3	19
P.M. Peak Period Total	19	0	6	3	1	1	19	161
	P.M. Peak Period Rideshare %							5.7%
	P.M. Peak Period Self-Park %							84.3%
	P.M. Peak Period Valet %							10.0%

Cadillac Hotel Vehicle Classification Data

Hotel and Restaurant Valet Drop-off and Pick-up Traffic Data Summary
Friday October 22, 2010

Hotel Valet Area Observations									
Time	Hotel Pick-up Maximum Queue	Hotel Pick-Up Volume	Hotel Pick-Up Peak Hour Volume	Hotel Drop-off Maximum Queue	Hotel Drop-off Volume	Hotel Drop-Off Peak Hour Volume	Total Hotel Volume		Total Hotel Peak Hour Volume
18:00	0	0		3	18		18		
18:15	2	4		2	3		7		
18:30	2	6		3	7		13		
18:45	4	23	40	4	13	37	36		77
19:00	3	9		1	3		12		
19:15	2	6		2	7		13		
19:30	1	2		3	14		16		
19:45	0	0		2	4		4		
20:00	1	3		2	7		10		
20:15	1	3		1	2		5		
20:30	3	11		2	7		18		
20:45	3	13		2	6		19		

Restaurant Valet Area Observations						
Time	Restaurnt Pick-up Maximum Queue	Restaurant Pick-Up Volume	Restaurant Pick-Up Peak Hour Volume	Restaurant Drop-off Maximum Queue	Restaurant Drop-off Volume	Restaurant Drop-off Peak Hour Volume
18:00	5	17		0	0	
18:15	4	13		2	7	8
18:30	3	9		0	0	
18:45	3	18		0	0	
19:00	4	15		1	1	
19:15	4	14		1	1	
19:30	5	18		1	1	
19:45	6	27		1	2	
20:00	5	18	81	1	1	
20:15	5	15		0	0	
20:30	5	15		0	1	
20:45	6	33		0	0	

Taxi vs Valet Trips									
Time	Valet Pick-up Trips	Valet Drop-off Trips	Total Valet Trips	Taxi Pick-up Trips	Taxi Drop-off Trips	Total Taxi Pick-up Trips	Total Site Pick-up Trips	Total Site Drop-off Trips	Total Site Trips
18:00	1	11	12	16	7	23	17	18	35
18:15	5	6	11	12	4	16	17	10	27
18:30	3	3	6	12	4	16	15	7	22
18:45	32	10	42	9	3	12	41	13	54
19:00	17	1	18	7	3	10	24	4	28
19:15	12	5	17	8	3	11	20	8	28
19:30	12	12	24	8	3	11	20	15	35
19:45	20	4	24	7	2	9	27	6	33
20:00	10	4	14	11	4	15	21	8	29
20:15	3	1	4	15	1	16	18	2	20
20:30	15	4	19	11	4	15	26	8	34
20:45	35	2	37	11	4	15	46	6	52

Taxi Trips Observed	42.6%

Prepared by National Data & Surveying Services

Trip Gen Study

Location: SR A1A/Florida State Rd & Shelbourne In/Out Dwy
City: Miami Beach, FL

2/26/2022
Saturday

Time	Trip Gen Study	
	INBOUND	
	Rideshare/Taxi	Valet
4:00 PM	4	2
4:15 PM	4	2
4:30 PM	5	3
4:45 PM		4
5:00 PM	3	3
5:15 PM	1	7
5:30 PM	2	3
5:45 PM	3	3
6:00 PM	1	2
6:15 PM	4	2
6:30 PM	4	4
6:45 PM	6	3
7:00 PM	5	2
7:15 PM	3	1
7:30 PM	3	3
7:45 PM	9	
8:00 PM	5	1
8:15 PM	5	2
8:30 PM	5	2
8:45 PM	5	1
9:00 PM	7	2
9:15 PM	3	2
9:30 PM	5	1
9:45 PM	5	
Totals	97	55
Rideshare/Taxi Percentage		63.8%

Prepared by National Data & Surveying Services

Trip Gen Study

Location: SR A1A/Florida State Rd & Shelbourne In/Out Dwy
City: Miami Beach, FL

3/1/2022
Tuesday

Time	Trip Gen Study	
	INBOUND	
	Rideshare/Taxi	Valet
4:00 PM	3	1
4:15 PM	1	2
4:30 PM	3	1
4:45 PM	1	2
5:00 PM		2
5:15 PM	2	2
5:30 PM	5	3
5:45 PM	1	2
6:00 PM	1	1
6:15 PM	5	1
6:30 PM	3	1
6:45 PM	3	1
7:00 PM	5	
7:15 PM	4	2
7:30 PM	7	4
7:45 PM	1	
Totals	45	25
Rideshare/Taxi Percentage		64.3%

Attachment F-1

Valet Analysis

Valet Processing Time

Shore Club Hotel/Restaurant/Bar Off-Site Parking Calculated Average Travel Time

VALET DROP-OFF

VEHICLE TRAVEL TIME

Travel Times (Assume) 15 mph speed)

To Valet Parking Area (In vehicle)

Distance		Travel Time
0.10	miles	0.4 minutes

Controlled Delay	0.5	Minutes
Parking Garage Navigation Time	1.0	Minutes
Total Time	**3.6**	**Minutes**

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume) 5 ft/s speed)

Return from Valet Parking Area (Walk/Run) to Valet Area

Distance		Travel Time
0.10	miles	1.7 minutes

Shore Club Hotel/Restaurant/Bar Off-Site Parking Calculated Average Travel Time

VALET PICK-UP

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume) 5 ft/s speed)

To Valet Parking Area (Walk/Run)

Distance		Travel Time
0.12	miles	2.1 minutes

Controlled Delay	0.5	Minutes
Parking Garage Navigation Time	1.0	Minutes
Total Time	**4.1**	**Minutes**

VEHICLE TRAVEL TIME

Travel Times (Assume) 15 mph speed)

Return from Valet Parking Area (In Vehicle) to Valet Area

Distance		Travel Time
0.12	miles	0.5 minutes

Shore Club Residential Off-Site Parking Calculated Average Travel Time

VALET DROP-OFF

VEHICLE TRAVEL TIME

Travel Times (Assume) 15 mph speed)

To Valet Parking Area (In vehicle)

Distance		Travel Time	
0.15	miles	0.6	minutes
Controlled Delay	0.5	Minutes	
Parking Garage Navigation Time	1.0	Minutes	
Total Time	**4.8**	**Minutes**	

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume) 5 ft/s speed)

Return from Valet Parking Area (Walk/Run) to Valet Area

Distance		Travel Time	
0.15	miles	2.7	minutes

Shore Club Residential Off-Site Parking Calculated Average Travel Time

VALET PICK-UP

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume) 5 ft/s speed)

To Valet Parking Area (Walk/Run)

Distance		Travel Time	
0.10	miles	1.8	minutes
Controlled Delay	0.5	Minutes	
Parking Garage Navigation Time	1.0	Minutes	
Total Time	**3.7**	**Minutes**	

VEHICLE TRAVEL TIME

Travel Times (Assume) 15 mph speed)

Return from Valet Parking Area (In Vehicle) to Valet Area

Distance		Travel Time	
0.10	miles	0.4	minutes
Controlled Delay			

Shore Club Residential Puzzle Parking System Calculated Average Travel Time

VALET DROP-OFF

VEHICLE TRAVEL TIME

Travel Times (Assume) 15 mph speed)

To Valet Parking Area (In vehicle)

Distance		Travel Time	
0.07	miles	0.3	minutes
Controlled Delay	0.5	Minutes	
Parking Puzzle Vehicle Drop-off	1.0	Minutes	
Total Time	**3.0**	**Minutes**	

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume) 5 ft/s speed)

Return from Valet Parking Area (Walk/Run) to Valet Area

Distance		Travel Time	
0.07	miles	1.2	minutes

Shore Club Residential Puzzle Parking System Calculated Average Travel Time

VALET PICK-UP

VALET ATTENDANT TRAVEL TIME

Travel Times (Assume) 5 ft/s speed)

To Valet Parking Area (Walk/Run)

Distance		Travel Time	
0.02	miles	0.4	minutes
Controlled Delay	0.5	Minutes	
Parking Puzzle Vehicle Retrieval	3.0	Minutes	
Total Time	**4.0**	**Minutes**	

VEHICLE TRAVEL TIME

Travel Times (Assume) 15 mph speed)

Return from Valet Parking Area (In Vehicle) to Valet Area

Distance		Travel Time	
0.02	miles	0.1	minutes
Controlled Delay			

Valet Analysis

A.M. Hotel/Restaurant/Bar Valet Analysis

Arrival Rate

IN	OUT	
10	8	veh/hr

Service Rate

IN	OUT	
3.6	4.1	mins/veh

Service Time = 3.82 mins/veh

Number of Valet Attendants (N) =	2	
Level of Confidence =	0.95	
Storage Provided On-Site =	5	vehicles
Total Entering and Exiting Vehicles(q) =	18	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	15.70	veh/hr/pos
Average Service Rate (t) =	3.82	mins/veh
rho (t/Q) =	0.573	

Expected (avg.) number of vehicles in the system	E(m)=	0.56	
Expected (avg.) number of vehicles waiting in queue	E(n)=	1.71	
Mean time in the queue	E(w)=	1.87	mins
Mean time in system	E(t)=	5.69	mins

Proportion of customers who wait (P) (E(w) > 0)=	41.79%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 2.8 vehicles

P.M. Hotel/Restaurant/Bar Valet Analysis

Arrival Rate

IN	OUT	
77	38	veh/hr

Service Rate

IN	OUT	
3.6	4.1	mins/veh

Service Time = 3.77 mins/veh

Number of Valet Attendants (N) =	10		
Level of Confidence =	0.95		
Storage Provided On-Site =	5	vehicles	
Total Entering and Exiting Vehicles(q) =	115	veh/hr	
Service Capacity per N (60 mins/Service Rate) (Q) =	15.94	veh/hr/pos	
Average Service Rate (t) =	3.77	mins/veh	
rho (t/Q) =	0.722		

Expected (avg.) number of vehicles in the system	E(m)=	0.66	
Expected (avg.) number of vehicles waiting in queue	E(n)=	7.88	
Mean time in the queue	E(w)=	0.35	mins
Mean time in system	E(t)=	4.11	mins

Proportion of customers who wait (P) (E(w) > 0)=	25.64%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 4.0 vehicles

A.M. Residential Valet Analysis

Arrival Rate

IN	OUT	
5	16	veh/hr

Service Rate

IN	OUT	
4.8	4.0	mins/veh

Service Time = 4.19 mins/veh

Number of Valet Attendants (N) =	3	
Level of Confidence =	0.95	
Storage Provided On-Site =	2	vehicles
Total Entering and Exiting Vehicles(q) =	21	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	14.32	veh/hr/pos
Average Service Rate (t) =	4.19	mins/veh
rho (t/Q) =	0.489	

Expected (avg.) number of vehicles in the system	E(m)=	0.22	
Expected (avg.) number of vehicles waiting in queue	E(n)=	1.68	
Mean time in the queue	E(w)=	0.62	mins
Mean time in system	E(t)=	4.81	mins

Proportion of customers who wait (P) (E(w) > 0)=	22.51%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

Queue length which is exceeded 5.00% of the times is equal to 1.1 vehicles

P.M. Residential Valet Analysis

Arrival Rate

IN	OUT	
9	6	veh/hr

Service Rate

IN	OUT	
4.8	4.0	mins/veh

Service Time = 4.48 mins/veh

Number of Valet Attendants (N) =	3	
Level of Confidence =	0.95	
Storage Provided On-Site =	2	vehicles
Total Entering and Exiting Vehicles(q) =	15	veh/hr
Service Capacity per N (60 mins/Service Rate) (Q) =	13.39	veh/hr/pos
Average Service Rate (t) =	4.48	mins/veh
rho (t/Q) =	0.373	

Expected (avg.) number of vehicles in the system	E(m)=	0.07	
Expected (avg.) number of vehicles waiting in queue	E(n)=	1.19	
Mean time in the queue	E(w)=	0.29	mins
Mean time in system	E(t)=	4.77	mins

Proportion of customers who wait (P) (E(w) > 0)=	11.97%	
Probability of a queue exceeding a length (M) P(x > M)=	5.00%	

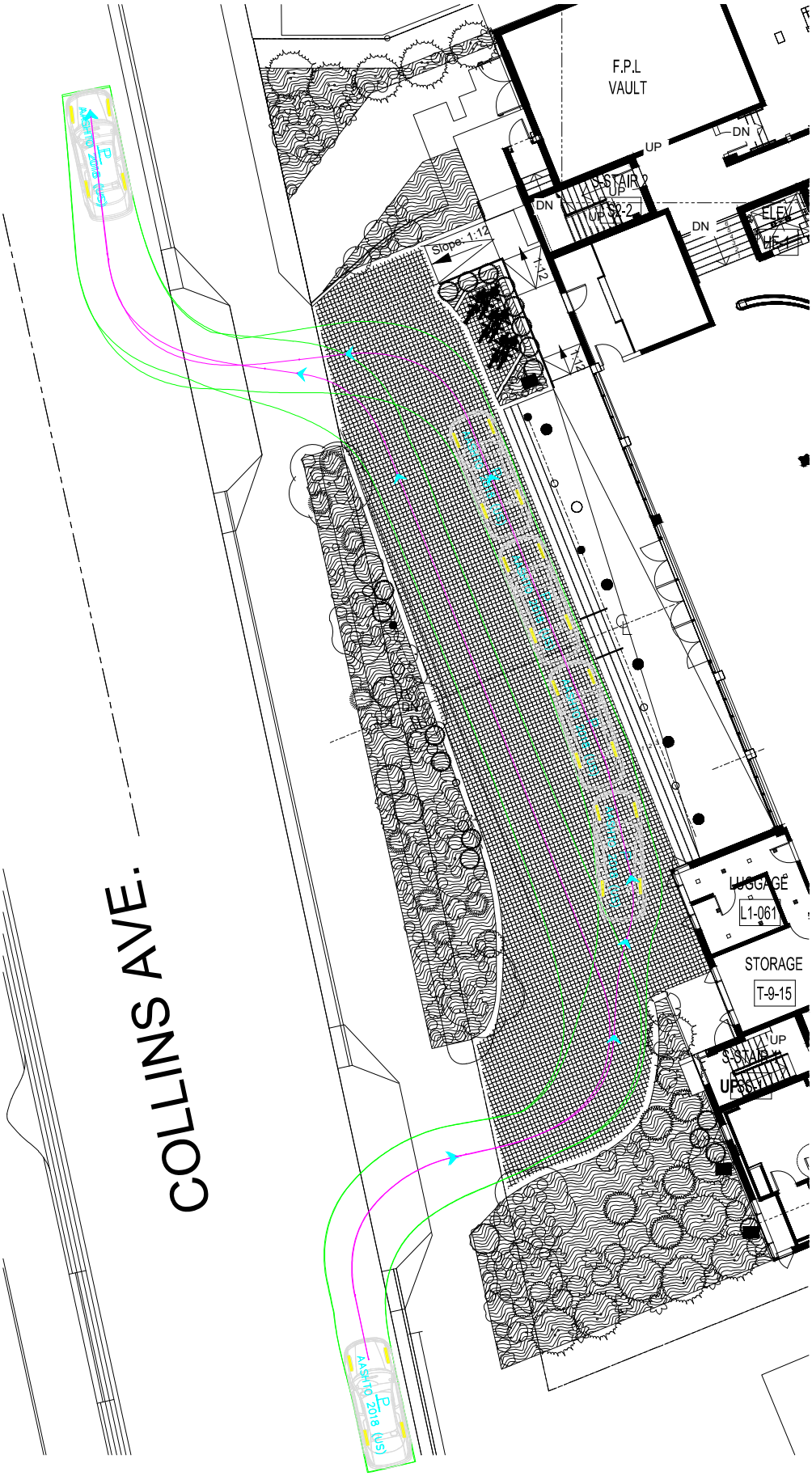
Queue length which is exceeded 5.00% of the times is equal to 0.0 vehicles

Attachment G-1

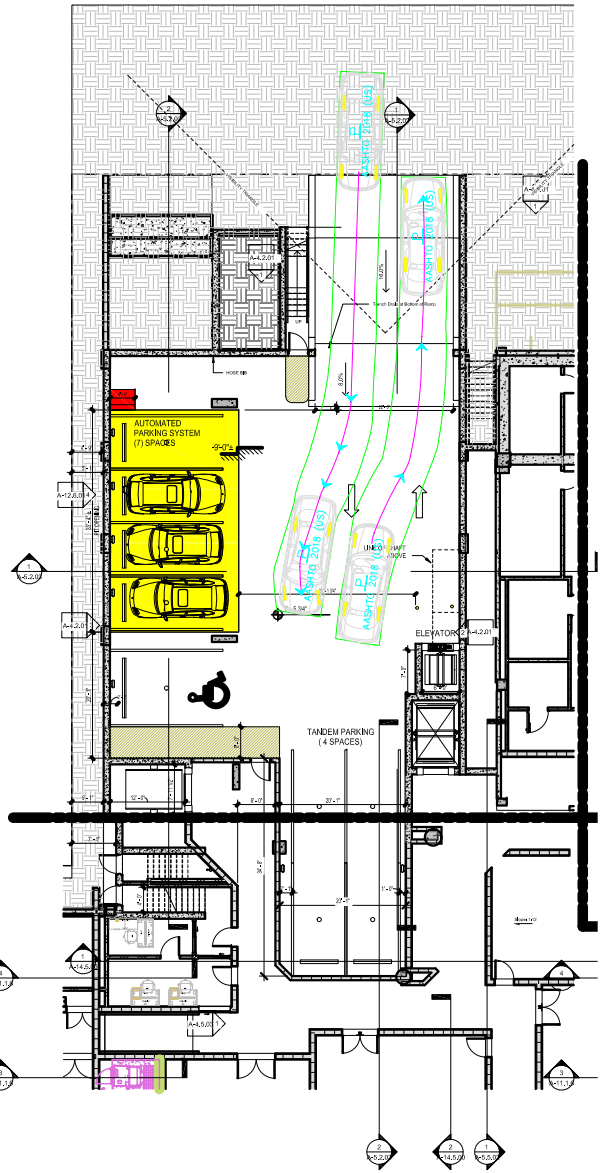
Maneuverability Analysis

Passenger Vehicle Maneuverability Plots

Collins Avenue Porte-Cochere



Basement Parking Level



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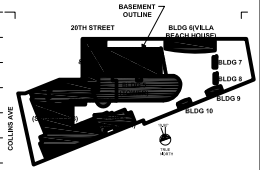
1/8" = 1'-0"



Rev.		Date
1	REVISION 1	11/30/2023
2	REVISION 2	02/21/2024
3	REVISION 3	05/03/2024
4		

2104

Shore Club
1901 Collins Ave.
Miami Beach, FL 33139

Owner:
Name: Shore Club Property Owner LLC
Address: 4400 Biscayne Blvd, Suite 900
Address: Miami, FL 33137
Name: Adam Gottlieb
Email: gottlieba@sbecfl.com

Design Architect:
Name: Robert A.M Stern Architects LLP
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Tel: 212.967.5100
Email: d.uberman@ramsa.com

Architect:
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Address: 571 NW 28th Street
Address: Miami, Florida 33127
Tel: 305.573.1818
Email: kobikarp@kobikarp.com

MEP:
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Email: cdibo@cosentini.com

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Tel: 305.441.0755
Email: aditya.kamodia@de-simone.com

Landscape Architect:
Name: Island Planning Corporation
Address: 248 Washington Ave
Address: Miami Beach, FL 33139
Tel: 305.534.5725
Email: info@islandplanningcorporation.com

Civil:
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Tel: 305-672-2025
Email:

Interior Architect
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Address: New York, NY 10018
Tel: 212-675-8400
Email:

Interior Design: See adjunted set
Name: Bryan O'Sullivan Studio
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Address: Suite 1010 New York, NY 10014
Tel: +1 347 778 5979
Email:

Life Safety:
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Address: 260 Palermo Ave.
Address: Coral Gable, FL 33134
Tel: +1 888 224 9911
Email:

IT Consultant:
Name: Deployed Technologies
Address: 14150 Chapparal Lane
Address: Roanoke, TX 76262
Tel: +1 817 602 1900
Email: shore-club-intern1@deployedtech.com
shore-club-intern2@deployedtech.com
shore-club-intern3@deployedtech.com

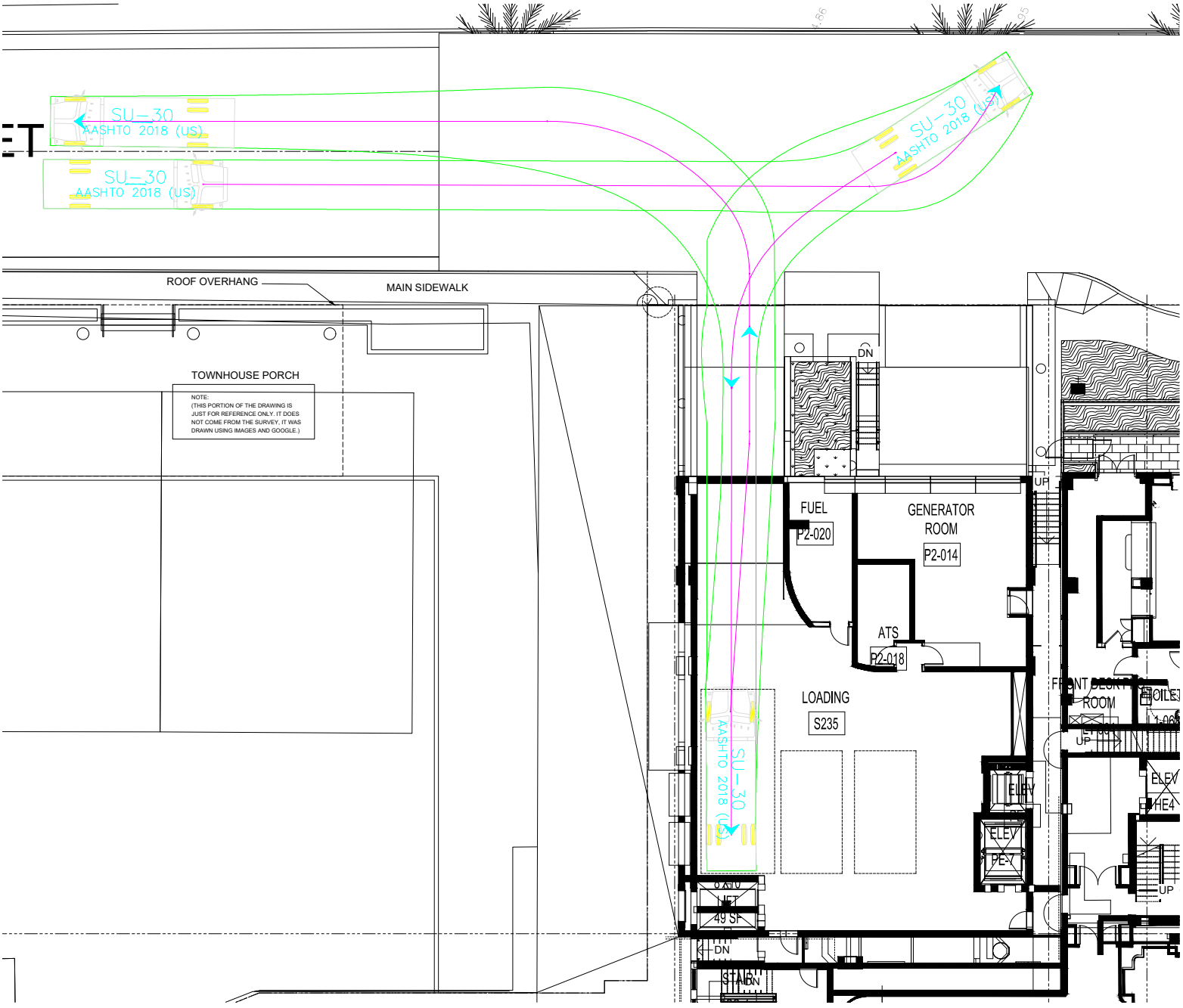
Historic Preservation:
Name: Heritage Architectural Associates
Address: 4300 Biscayne Blvd, Suite 203
Address: Miami, FL 33137
Tel: +1 305 761 3642
Email: savdanov@heritagearchitectural.com

LOADING ENLARGED 1-2

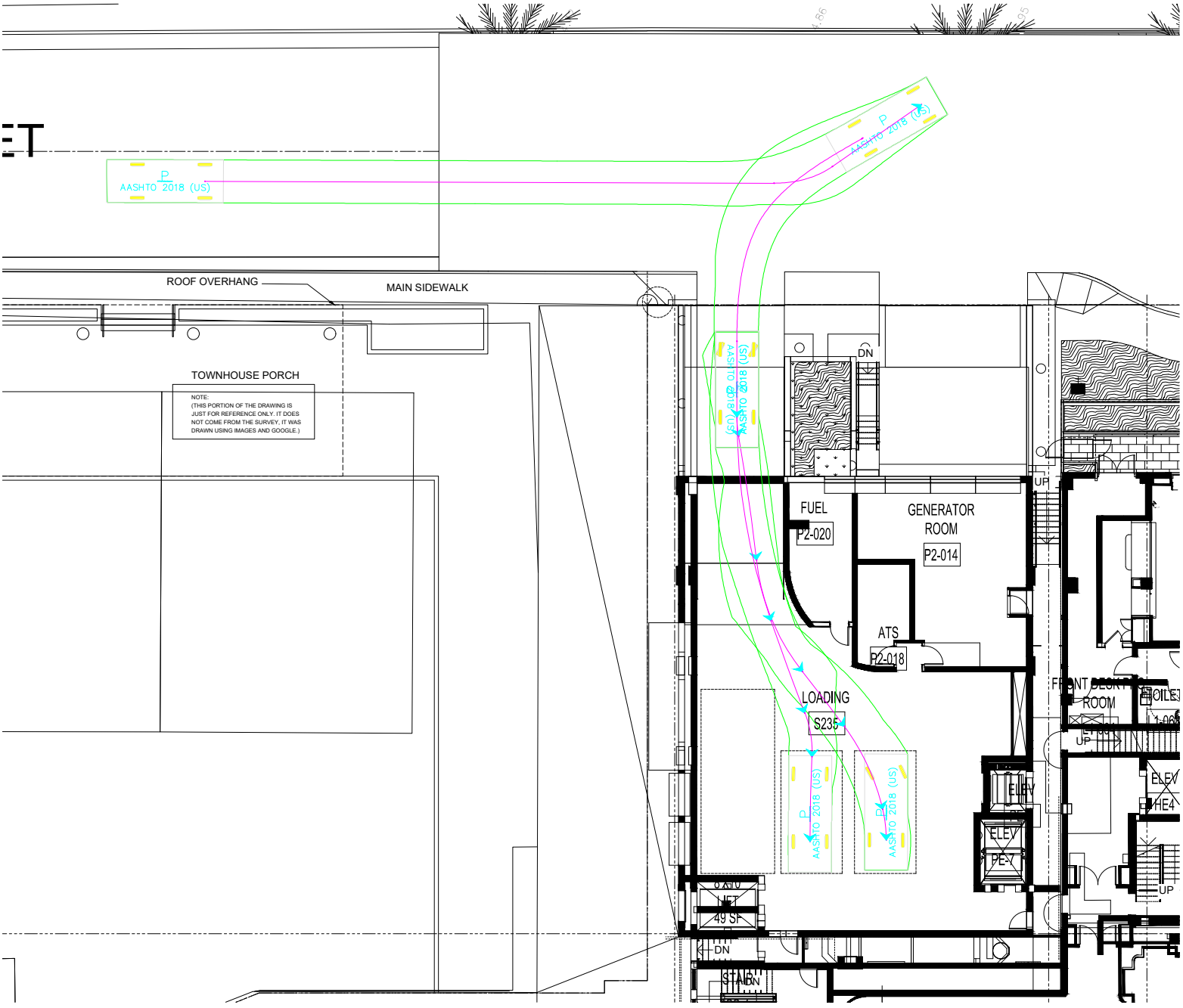
Date:	05/13/2024	Sheet No.
Scale:	1/8" = 1'-0"	A-3.2.01
Project:	2104	

Loading Maneuverability Plots

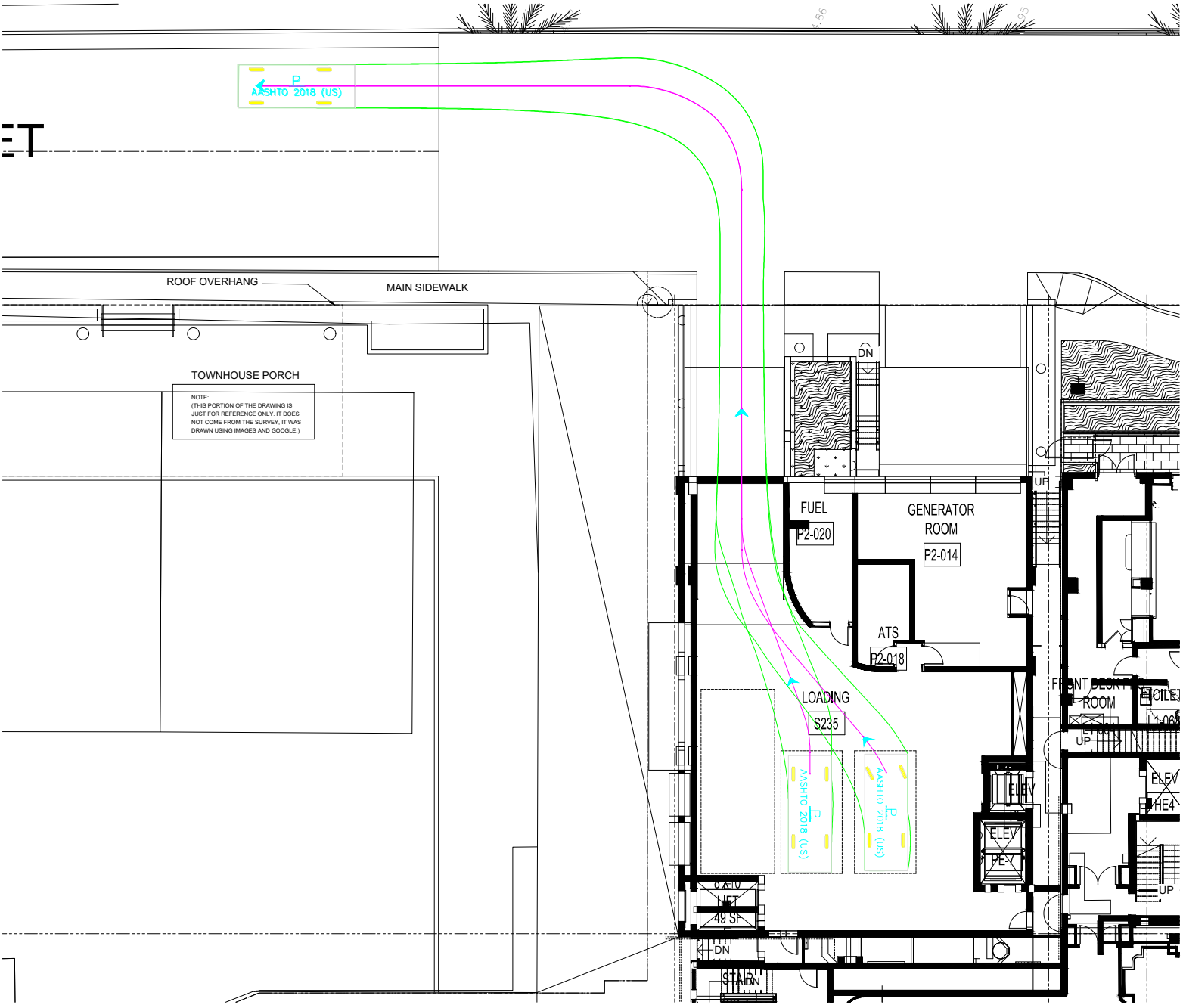
SU-30 Ingress and Egress



Van Ingress


P
AASHTO 2018 (US)
ROOF OVERHANG
MAIN SIDEWALK
TOWNHOUSE PORCH
NOTE:
(THIS PORTION OF THE DRAWING IS JUST FOR REFERENCE ONLY. IT DOES NOT COME FROM THE SURVEY, IT WAS DRAWN USING IMAGES AND GOOGLE.)
DN
UP
FUEL
P2-020
GENERATOR ROOM
P2-014
ATS
P2-018
LOADING
S235
ELEV
HE4
HET
49 SF
STAIR

Van Egress


AASHTO 2018 (US)
ROOF OVERHANG
MAIN SIDEWALK
TOWNHOUSE PORCH
NOTE:
(THIS PORTION OF THE DRAWING IS JUST FOR REFERENCE ONLY. IT DOES NOT COME FROM THE SURVEY, IT WAS DRAWN USING IMAGES AND GOOGLE.)
DN
UP
FUEL
P2-020
GENERATOR ROOM
P2-014
ATS
P2-018
LOADING
S235
AASHTO 2018 (US)
AASHTO 2018 (US)
ELEV
ELEV
PE-1
HET
49 SF
DN
STAIR
ROOM
UP
ELEV
HE4
UP

Attachment H-1

Previously Approved

Shore Club Traffic Assessment, April 16, 2024

MEMORANDUM

To: Otniel Rodriguez, E.I.
City of Miami Beach

From: Adrian K. Dabkowski, P.E., PTOE

Date: April 16, 2024

Subject: Shore Club
Updated Traffic Assessment

Kimley-Horn and Associates, Inc. has prepared an updated traffic assessment for the proposed Shore Club redevelopment located at 1901 Collins Avenue in Miami Beach, Florida. Note that the project and traffic assessment dated April 14, 2022 were previously approved by the City of Miami Beach. A project location map and conceptual site plan are included in Attachment A-1.

Currently, the existing site is occupied by a vacant 333-room hotel, two (2) vacant restaurants with a total of 370 seats, and 12,810 square feet of vacant bar/night club space within three (3) venues including a 7,802 square-foot pool venue, a 2,087 square-foot nightclub, and a 2,921 square-foot bar. The existing development also included 1,850 square feet of specialty retail space which is considered ancillary to the hotel and not expected to generate external site traffic. Note that the *Shore Club Traffic Assessment*, April 14, 2022 was previously approved and consisted of a redevelopment program of 80 condominium units, a 110-room hotel, two (2) restaurants with a total of 304 seats, and 5,453 square-feet of bar space.

The currently proposed redevelopment includes 49 condominium units, a 76-room hotel, two (2) restaurants with a total of 207 seats, and 7,471 square-feet of bar space (including the café-bar area). The proposed redevelopment results in a reduction of 31 condominium units, 34 hotel rooms, 97 restaurant seats, and an increase of 2,018 square-feet of bar space when compared to the previously approved development program. All vehicles with the exception of taxi/rideshare vehicles will be valeted.

The traffic assessment is consistent with the requirements of the City of Miami Beach. The previous approved traffic assessment and methodology correspondence are included in Attachment B-1. The updated traffic assessment includes trip generation calculations, valet operations analysis, maneuverability analysis, and transportation demand management strategies as part of the traffic assessment, consistent with the approved traffic assessment and methodology. The following sections summarize the traffic assessment.

VALET SERVICE AND OPERATIONS

The redevelopment will be served by two (2) valet drop-off/pick-up areas. Note that valet vehicles will be parked off-site at 237 20th Street which is located approximately 530 feet from the site. The following assumptions were applied to the valet routing

- One (1) valet drop-off/pick-up area will be located on-site along Collins Avenue south of 19th Street at the existing porte-cochere and will serve the hotel, restaurant, and bar land uses. The valet drop-off/pick-up area consists of one (1) valet drop-off/pick-up lane with storage for

approximately seven (7) vehicles and one (1) by-pass lane. It is assumed that five (5) spaces will be used for valet operations and two (2) spaces will be used for taxi/rideshare vehicles. The drop-off route consists of vehicles exiting the porte-cochere northbound onto Collins Avenue, making a left turn onto 20th Street, and making a right turn to enter the proposed off-site parking garage. The pick-up route consists of vehicles exiting the off-site parking garage eastbound onto 20th Street, making a right turn onto Collins Avenue, and making a southbound left-turn into the porte-cochere.

- One (1) valet drop-off/pick-up area will be located on 20th Street east of Collins Avenue and will serve the residential land use. The valet drop-off/pick-up area consists of one (1) valet drop-off/pick-up lane with storage for approximately two (2) vehicles. It is assumed that one (1) space will be used for valet operations and one (1) space will be used for taxi/rideshare vehicles. The drop-off route consists of vehicles exiting the residential 20th Street valet drop-off/pick-up area, turning around at the 20th Street cul-de-sac, traveling along 20th Street, and making a right turn to enter the proposed off-site parking garage. The pick-up route consists of vehicles making a left turn eastbound onto 20th Street, traveling along 20th Street, and making a right-turn into the valet drop-off/pick-up area.

Seven (7) self-park parking spaces will be provided on-site for select condominium owners. All other project trips are expected to valet or use taxi/rideshare. In order to provide a conservative valet analysis, all vehicles with the exception of taxi/rideshare vehicles were included in the valet analysis. Attachment C-1 contains graphic illustrations of the proposed valet routes to and from the valet drop-off/pick-up areas.

TRIP GENERATION

Trip generation calculations for the existing development and the proposed redevelopment were performed using Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition. The trip generation for the existing development was determined using ITE Land Use Code (LUC) 925 (Drinking Place), LUC 931 (Quality Restaurant), and LUC 310 (Hotel). The trip generation for the proposed redevelopment was determined using ITE LUC 925 (Drinking Place), LUC 931 (Quality Restaurant), LUC 222 (Multifamily Housing – High-Rise), and LUC 310 (Hotel). Project trips were estimated for the weekday A.M. and P.M. peak hours.

A multimodal (public transit, bicycle, and pedestrian) factor of 35.2 percent (35.2%) was calculated using Replica mode-split data. Replica is a publicly available data set that considers the US Census, land use regulations, aggregate mobile location, credit transaction data, and real estate transaction data. Additionally, Replica data evaluates all trips that enter and exit the census tract in which the redevelopment is located. Note that to provide a conservative analysis, a multimodal factor of 20.0 percent (20.0%) was applied to the trip generation calculations. It is expected that a portion of residents, employees, guests, and patrons will choose to walk, bike, or use public transit to and from the site.

Internal capture is expected between complementary land uses within the project. Internal capture trips for the project were determined based upon methodology contained in the ITE's *Trip Generation Handbook,* 3rd Edition. The expected internal capture rate for the currently proposed redevelopment is 0.0 percent (0.0%) during the A.M. peak hour and 13.8 percent (13.8%) during the P.M. peak hour. The expected of the previously approved redevelopment was 0.0 percent (0.0%) during the A.M. peak hour and 12.6 percent (12.6%) during the P.M. peak hour. The expected internal capture rate for the existing development is 0.0 percent (0.0%) during the A.M. peak hour and 6.3 percent (6.3%) during the P.M. peak hour.

The project results in a reduction of one (1) net new vehicle trip during the weekday A.M. peak hour and a reduction of two (2) net new vehicle trips during the weekday P.M. peak hour as compared to the previously approved development program analyzed in the *Shore Club Traffic Assessment*, April 14, 2022. The project also results in a reduction of 83 net new vehicle trips during the weekday A.M. peak hour and a reduction of 197 net new vehicle trips during the weekday P.M. peak hour when compared to the existing development program.

Detailed trip generation calculations are included as Attachment D-1.

Based on data collected at similar sites, the following assumptions were utilized to determine the valet trip generation:

- 57.4 percent (57.4%) of vehicle trips generated by the hotel land use will be valeted as a 42.6 percent (42.6%) taxi/rideshare factor was determined based on actual field observation from the Cadillac Hotel located at 3925 Collins Avenue, Miami Beach, Florida.
- 92.5 percent (92.5%) of A.M. peak hour vehicle trips and 94.3 percent (94.3%) of P.M. peak hour vehicle trips generated by the residential component will be valeted as a 7.5 percent (7.5%) taxi/rideshare factor was determined for the A.M. peak hour and a 5.7 percent (5.7%) taxi/rideshare factor was determined for the P.M. peak hour. The percentage of residential trips is based on peak period vehicle classification counts collected at the Axis Brickell located at 1111 SW 12th Street, Miami, Florida.

The valet analysis was prepared for the weekday A.M. and weekday P.M. peak hours. The proposed redevelopment is expected to generate 39 valet trips during the A.M. peak hour, with 18 trips (10 in/8 out) utilizing the hotel, restaurant, and bar valet drop-off/pick-up area and 21 trips (5 in/16 out) utilizing the residential valet drop-off/pick-up area. The proposed redevelopment is expected to generate 130 valet trips during the P.M. peak hour, with 115 trips (77 in/38 out) utilizing the hotel, restaurant, and bar valet drop-off/pick-up area and 15 trips (9 in/6 out) utilizing the residential valet drop-off/pick-up area. Detailed trip generation calculations, data collected from the Cadillac Hotel, and data collected from the Axis Brickell are included in Attachment D-1.

VALET OPERATIONS ANALYSIS

The valet queuing operations analysis was performed based on the methodology outlined in ITE's *Transportation and Land Development,* 1988. The analysis was performed to determine if valet operations could accommodate vehicular queues without blocking travel lanes on Collins Avenue and 20th Street. Valet operations were analyzed for the number of valet attendants and required vehicle stacking for the project's anticipated valet trip generation.

Valet Assumptions

The queuing analysis used the multiple-channel waiting line model with Poisson arrivals and exponential service times. The queuing analysis is based on the coefficient of utilization, ρ, which is the ratio of the average vehicle arrival rate over the average service rate multiplied by the number of channels.

Valet attendants will be stationed at the valet drop-off/pick-up areas. Valet drop-off trip service times were calculated based on the time it would take a valet parking attendant to obtain and park a drop-off vehicle and return to the respective valet drop-off area. Valet pick-up trip service times were calculated based on the time it would take a valet parking attendant to bring a parked vehicle back to a patron at the respective valet pick-up area. The following summarizes the total valet drop-off and pick-up service times. Detailed travel time calculations are also included in Attachment E-1.

Hotel, Restaurant, and Bar Valet Drop-off/Pick-up Area

The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off area to off-site parking area (0.4 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant returns to valet station (1.7 minutes)
- **Total service rate: 3.6 minutes**

The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the off-site parking area to retrieve the vehicle (2.1 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant drives vehicle from off-site parking area to the valet pick-up area (0.5 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- **Total service rate: 4.1 minutes**

Residential Valet Drop-off/Pick-up Area

The following summarizes the valet drop-off service time:

- Exchange between valet attendant and driver (0.5 minutes)
- Valet attendant drives vehicle from valet drop-off area to on-site parking garage (0.6 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant returns to valet station (2.7 minutes)
- **Total service rate: 4.8 minutes**

The following summarizes the valet pick-up service time:

- Valet attendant proceeds to the garage to retrieve the vehicle (1.8 minutes)
- Valet attendants navigates parking garage (1.0 Minutes)
- Valet attendant drives vehicle from on-site parking garage to the valet pick-up area (0.4 minutes)
- Exchange between valet attendant and driver (0.5 minutes)
- **Total service rate: 3.7 minutes**

If the coefficient of utilization (average service rate/valet attendant service capacity) is greater than one (>1), the calculation methodology does not yield a finite queue length. This result indicates overcapacity conditions for the valet area. The valet attendant service capacity is the number of total trips a valet attendant can make in a one-hour period multiplied by the number of valet attendants.

The analysis determined the required queue storage, *M*, which is exceeded *P* percent of the time. This analysis seeks to ensure that the queue length does not exceed the storage provided at a level of confidence of 95 percent (95%). Five (5) vehicle drop-off/pick-up spaces are provided for hotel/restaurant/bar valet operations and two (2) vehicle drop-off/pick-up spaces are provided for the residential valet operations.

Valet Analysis

An iterative approach was used to determine the number of valet attendants required to accommodate the proposed redevelopment demand during the analysis hour and ensure that the 95th percentile valet queue does not extend beyond the designated valet service areas. Detailed valet analysis worksheets are provided in Attachment E-1.

The results of the valet operations analysis demonstrate that a maximum of two (2) valet attendants would be required at the hotel/restaurant/bar valet drop-off/pick-up area and three (3) valet attendants would be required at the residential valet drop-off/pick-up area to not exceed the vehicle drop-off/pick-up storages during the A.M. peak hour. A maximum of ten (10) valet attendants would be required at the hotel/restaurant/bar valet drop-off/pick-up area and three (3) valet attendants would be required at the residential valet drop-off/pick-up area to not exceed the vehicle drop-off/pick-up storages during the P.M. peak hour.

MANEUVERABILITY ANALYSIS

The maneuverability analysis was prepared for the access to the porte-cochere drop-off area along Collins Avenue and the loading area. The analysis was performed using Transoft's *AutoTurn 11* software design vehicle turning templates and vehicle turning templates consistent with American Association of State Highway and Transportation Officials' (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 2018. The analysis was prepared using passenger car (P) design vehicles for the porte-cochere area. Note that the previous approval accommodated larger SU-40 design vehicles for deliveries and loading activities. The proposed loading area will utilize smaller SU-30 design vehicles and loading vans similar to a P design vehicle will be used for deliveries and loading activities, given the reduced intensity of the currently proposed redevelopment program. The following summarizes the results of this analysis.

VALET PORTE-COCHERE ACCESS

Access to the on-site valet porte-cochere along Collins Avenue is provided via one (1) ingress only (right-in) driveway and one (1) egress only (right-out) driveway located south of 19th Street. A P design vehicle will be able to maneuver into and through the valet porte-cochere without conflicting with oncoming traffic, refer to Attachment F-1.

LOADING AREA ACCESS

Access to the loading and delivery area is provided via one (1) full access driveway along 20th Street east of Collins Avenue. SU-30 design vehicles and loading vans similar to a P design vehicle will be able to maneuver into and out of the on-site loading area, refer to Attachment G-1. Note that all loading vehicles will have to reverse off 20th Street to access the loading bays. Therefore, a dockmaster will be provided to ensure reverse maneuvers are conducted safely and without conflict with on-street traffic and pedestrians.

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation Demand Management (TDM) strategies are proposed to reduce the impacts of the project traffic on the surrounding roadway network. Typical measures promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours. Additionally, the applicant will commit to providing the following incentives including:

- Creation of an Employee Transportation Coordinator duties for a manager to run the transportation demand management (TDM) programs.
- Provide six (6) short-term bicycle racks and 71 long-term bicycle lockers
- Providing bike sharing/rentals for hotel guests
- Wide hallways that can accommodate bicycles
- Elevators that can accommodate bicycles
- Bicycle workroom or shop
- Bicycle washing stations

- Bicycle drop-off/valet service
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility bicyclists can use will be provided on-site

Additionally, please note that a Citi Bike station with 16 bicycle docks is located along the north side of 21st Street just east of Collins Avenue.

CONCLUSION

The currently proposed redevelopment includes 49 condominium units, a 76-room hotel, two (2) restaurants with a total of 207 seats, and 7,471 square-feet of bar space (including the café-bar area). The proposed redevelopment results in a reduction of 31 condominium units, 34 hotel rooms, 97 restaurant seats, and an increase of 2,018 square-feet of bar space when compared to the previously approved development program.

All vehicles with the exception of taxi/rideshare vehicles will be valeted. Based on the valet operations analysis performed, it was determined that the 95th percentile queues will not extend beyond the valet service areas onto Collins Avenue or 20th Street. Based upon the conservative assumptions applied, it was estimated that a maximum of ten (10) valet attendants would be required at the hotel/restaurant/bar valet drop-off/pick-up area and three (3) valet attendants would be required at the residential valet drop-off/pick-up area to not exceed the vehicle drop-off/pick-up storages during the P.M. peak hour. Note that projected vehicular volumes and estimated valet processing times were conservatively assumed in the analysis. If it is determined that valet processing times can be performed more efficiently and/or actual traffic volumes are lower than projected, a reduced number of valet attendants may be adequate to serve the site.

Additionally, passenger vehicles and loading vehicles will be able to ingress, egress, and travel through the site and loading areas without major conflicts with oncoming traffic. Note that the previous approval accommodated larger SU-40 design vehicles for deliveries and loading activities. Given the reduced intensity of the currently proposed redevelopment program, SU-30 design vehicles and loading vans similar to P design vehicles will be used for deliveries and loading activities.

Furthermore, the applicant will commit to providing the following TDM incentives including:

- Creation of an Employee Transportation Coordinator duties for a manager to run the transportation demand management (TDM) programs.
- Provide six (6) short-term bicycle racks and 71 long-term bicycle lockers
- Providing bike sharing/rentals for hotel guests
- Wide hallways that can accommodate bicycles
- Elevators that can accommodate bicycles
- Bicycle workroom or shop
- Bicycle washing stations
- Bicycle drop-off/valet service
- Lockers for bicyclists to store a change of clothes will be provided on-site
- Shower facility bicyclists can use will be provided on-site

Attachments removed to eliminate duplicative or outdated analyses.