# TRAFFIC IMPACT ANALYSIS

## 411 Michigan Avenue

**411-419 Michigan Ave**
**Miami Beach, FL 33139**

***Prepared For:***

**Bizzi & Partners Acquisitions, LLC**
**55 East 59th Street, 24th floor**
**New York, NY 10022**


***Prepared By:***

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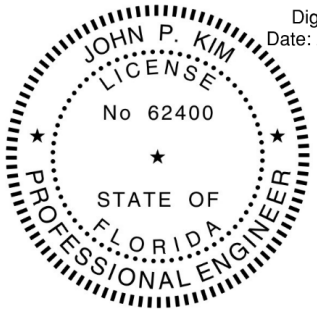


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## EXECUTIVE SUMMARY

Bizzi & Partners Acquisitions, LLC retained Langan Engineering & Environmental Services, Inc. to prepare a traffic-impact analysis for the 411 Michigan mixed-use development. The 0.94-acre vacant site is at 411-419 Michigan Avenue in Miami Beach, Florida. The proposed development comprises 36,442 square feet of general office space, which will have approximately 200-employees, and 4,320 square-feet of retail uses expected to be built by 2023. We analyzed two signalized intersections and one stop-sign controlled intersection for the 2023 build conditions. The peak-hour capacity analyses with the proposed development's impacts in 2023 yielded the following results:

- All study intersections are expected to operate within their adopted Level of Service (LOS) during the morning and afternoon peak-hours with the development's impacts.
- The proposed driveway connection to Michigan Avenue is expected to operate at LOS A during the morning and afternoon peak-hours.
- The proposed development will not have gate-controlled access at any of the proposed site driveways.
- The proposed development will have a have a valet-operation that will control parking throughout the entire day. All patrons will be required to use the valet-operation.
- The proposed connection to Michigan Avenue will operate as an ingress during the morning peak-hours and as an egress for the afternoon peak-hour to avoid using the public roads for site circulation. The change in operation of the driveway will be controlled by the valet operation.
- The development is proposing to change the operation of the alley abutting the site from one-way southbound to a two-way operation between 4$^{th}$ and 5$^{th}$ streets that will allow the valet operation to operate efficiently without impacting the public right-of-way.
- We analyzed multiple access scenarios for the proposed development and determined that proposed two-way operation of the alley and the proposed operation of the driveway connection to Michigan Avenue will allow the valet service to operate efficiently without impacting public right-of-way.
- The valet operation will not cause entering traffic to back into the adjacent public roadways with a minimum of six parking attendants to serve expected demand.
- The development site is within the Urban Infill Area (UIA).
- The development will promote the use of different modes of transportation through the implementation of several TDM strategies.

We conducted intersection-capacity analyses for the existing, no build (future without project) and build (future with project) conditions. The proposed development is expected to generate 1,250 daily, 66 morning peak-hour and 90 afternoon net-new peak-hour trips.

## INTRODUCTION

Langan was retained by Bizzi & Partners Acquisitions, LLC to prepare this impact-analysis report for the 411 Michigan mixed-use development that will be built by 2023. The site will comprise approximately 0.94 acres at 411-419 Michigan Avenue in Miami Beach, Florida. The development will comprise 36,442 square feet of office space, with approximately 200-employess, and 4,320 square feet of retail uses.

We analyzed two signalized intersections and one stop-sign controlled intersection during the morning and afternoon peak hours. We found that all the study intersections are expected to operate within their adopted LOS during the morning and afternoon peak-hours with and without the proposed project's impacts. The valet operation is expected to generate a queue of two vehicles and need a minimum of six parking attendants to serve the expected demand. The development is proposing to change the operation of the abutting alley from one-way to two-way which will allow the valet-operation to operate efficiently without impacting the public right-of-way. This report presents the traffic-data and traffic-impact analysis for this proposed development.

### Project Description

The proposed development will be built on two parcels (Folio Nos.: 02-4203-010-0030 & 02-4203-009-6170). **Appendix A** contains the figures of this report. **Figure 1** illustrates the site location. **Appendix B** contains a copy of the site plans showing the proposed development program and the two proposed driveway connections; one to a public road (Michigan Avenue) and one to an alley. Traffic from the proposed development will enter the site via Michigan Avenue and exit to the alley during the morning peak hours. During the afternoon peak hours, traffic will enter through the alley and exit via Michigan Avenue. The change in direction of traffic circulation will facilitate the valet-parking operation, and will be managed by valet staff throughout the day using signs and verbal communication. The Michigan Avenue driveway will operate as a full access driveway while the alley driveway will operate solely as a right-turn only driveway.

The development will relocate the existing historical house on the site to front Michigan Avenue and will reuse the existing foundations on site. The majority of the 88 parking spaces provided by the proposed development will comprise vehicular lifts which can stack up to three vehicles in one parking space. Three of the 88 parking spaces will be exclusive carpool spaces. The development will also provide 10 bicycle parking spaces and 12 scooter parking spaces. All visitors and employees will have to use the valet-parking service. The maximum acceptable LOS

for roadways and intersections is LOS D for county and city roads and LOS E for State Urban Minor Arterials (SUMA) between Infill Area and Urban Development Boundary.

**Scope of Study**

Langan undertook the following steps to prepare this study in accordance with the methodology discussed with the city's staff. **Appendix C** contains a copy of the methodology letter.

- Collected morning (7 to 9 AM) and afternoon (4 to 6 PM) peak-hour vehicle turning-movement volumes at the following study intersections:
    - Alton Road and 4th Street (signalized)
    - Michigan Avenue and 4th Street (unsignalized)
    - Michigan Avenue and State Road A1A / 5th Street (signalized)
    - Collected 24-Hour bidirectional counts on SR-A1A/5th Street between Meridian and Euclid avenues
- Used Peak Season Conversion Factors (PSCF) from the Florida Department of Transportation (FDOT) to convert the traffic data into peak-season volumes.
- Developed a COVID-adjustment factor by comparing 2020 traffic data to 2021 traffic data along segments of 5th Street to scale the traffic data to account for variations from the true traffic count due to the ongoing Coronavirus pandemic. The COVID-adjustment factor was used in conjunction with the traditional Peak Season Category Factor (PSCF) to estimate the existing traffic data.
- The COVID-adjustment factor calculated for the morning and afternoon peak-hours were 1.46 and 1.62, respectively.
- Prepared trip-generation estimates for the proposed development, based on accepted trip-generation rates developed by the Institute of Transportation Engineers (ITE).
- Calculated a growth rate for background traffic using FDOT historical data from traffic-count stations near the project.
- Developed trip-distribution estimates for the project, based on the cardinal distribution for the corresponding Traffic Analysis Zone of the Miami-Dade County 2045 Long Range Transportation Plan (LRTP). A computer program used to develop the *2045 LRTP Directional Distribution Report* generates directional distributions for each TAZ for the eight secondary-intercardinal directions (NNE; ENE; ESE; SSE; SSW; WSW; WNW; NNW).
- Prepared morning and afternoon peak-hour intersection-capacity analyses for the following conditions at the study intersections: 2021 existing, 2023 future no-build, and 2023 future build.
- Calculated the morning and afternoon peak-hour LOS intersection-capacity analyses of the development's driveways for the 2023 build conditions.

## DESCRIPTION OF EXISTING CONDITIONS

Langan visited the study area to collect the lane-configuration and traffic-control data shown in **Figure 2**. **Appendix D** contains the county's signal-timing data.

### Roads

Alton Road

Alton Road is a four-lane, north-south, divided, city-maintained major collector roadway with a 30 MPH posted speed limit.

4th Street

4th Street is a two-lane, east-west, undivided, city-maintained local collector roadway with a 25 MPH posted speed limit.

Michigan Avenue

Michigan Avenue is a two-lane, undivided, north-south, city-maintained local roadway with a 25 MPH posted speed limit.

SR-A1A / 5th Street

SR-A1A / 5th Street is a six-lane divided, east-west, state-maintained principal arterial roadway with a posted speed limit of 35 MPH.

### Traffic Volumes

Traffic-volume data was collected on Thursday, August 5, 2021 from 7:00 to 9:00 AM and 4:00 to 6:00 PM. We applied FDOT's season adjustment factor (1.05) and a COVID-factor to convert the traffic data into peak-season volumes because the data was collected during the ongoing Coronavirus pandemic. We developed peak-hour COVID-adjustment factors (1.46 morning and 1.62 afternoon) by comparing the traffic data collected on 5th Street to 2021 traffic counts collected on the same roadway segments. We compared the data of each intersection and determined that the peak hour occurred between 8:00 AM and 9:00 AM and between 4:45 PM and 5:45 PM for the study area. **Figure 3** illustrates the existing weekday morning and afternoon peak-hour traffic volumes. Appendix D contains the traffic data and seasonal-adjustment factors.

### Intersection Capacity Analysis (Level of Service)

We conducted 2021 existing-conditions capacity analyses for the study intersections using Synchro software. We found that all study intersections are operating within their adopted LOS.

**Table 1** summarizes the results of the existing-conditions analysis. **Appendix E** contains intersection-volume tables; **Appendix F** contains the capacity-analyses worksheets.

Capacity analyses for stop-sign controlled intersections are calculated for certain intersection approaches, not for the entire intersection. The stop-sign controlled approaches of stop-sign controlled intersections often exceed their adopted LOS during peak hours because all vehicles must stop and incur a delay before proceeding through the intersection. Capacity analysis provides an indication of the adequacy of intersection and roadway facilities to serve traffic demand. The evaluation criteria used to analyze the study intersections is based on the *6th Edition Highway Capacity Manual* published by the Transportation Research Board.

**Table 1 - 2021 Existing Intersection Capacity Analysis Summary**

| Location | Traffic Control | Approach | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) |
| Alton Road & 4th Street | Signalized | Overall | C | 28.9 | C | 27.1 |
| Michigan Avenue & 4th Street | Stop-sign controlled | EB | A | 7.5 | A | 8.4 |
| | | WB | A | 7.5 | A | 8.7 |
| | | NB | A | 7.7 | A | 8.5 |
| | | SB | A | 7.6 | A | 8.4 |
| Michigan Avenue & 5th Street | Signalized | Overall | C | 24.5 | B | 17.5 |

## PLANNED AND PROGRAMMED ROADWAY IMPROVEMENTS

We reviewed the Transportation Planning Organization's 2021 Transportation Improvement Program (2021 through 2025), the county Long Range Transportation Plan (2045) and the FDOT Five Year Work Program (2021 through 2025) and found two planned roadway improvements in the TIP's program network. The proposed improvement project number DT4434321 will construct a pedestrian and bicycle path along the MacArthur Causeway from SR 5/Biscayne Boulevard to SR 907/Alton Road. The second project (No.: TA4466531) will implement the South Beach trolley service route along 5th Street. Appendix C includes excerpts from Miami-Dade TIP showing the proposed improvement information.

## FUTURE CONDITIONS

This section of the report covers background traffic growth, site-generated trips, trip distribution, and future traffic volumes. The project should be completed by the end of 2023. We developed 2023 no-build traffic volumes by applying a compounded growth rate to the 2021 volumes. We added site-generated trips to the 2023 no-build traffic volumes to develop 2023 build traffic volumes.

### Background Traffic

We conducted intersection capacity analyses and found that all study intersections are expected to operate within their adopted LOS. We performed a growth rate analysis for the most recent five and nine year periods (the ten year period was not available) using FDOT historical traffic volumes. We analyzed the growth rate based on linear, exponential, and decay-exponential approaches and determined that the growth rate with the strongest correlation was the nine year linear-trend. This trend yielded a negative result, and as such we used a 0.5 percent annual growth-rate factor to develop future background volumes. The growth-rate factor accounts for increased background traffic volumes and was applied to the existing volumes. **Figure 4** illustrates the 2023 no-build traffic volumes. **Table 2** summarizes the results of the 2023 no-build conditions capacity analysis. Appendix F contains the capacity-analyses worksheets.

**Table 2 - 2023 No Build Intersection Capacity Analysis Summary**

| Location | Traffic Control | Approach | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) |
| Alton Road & 4th Street | Signalized | Overall | C | 28.9 | C | 27.1 |
| Michigan Avenue & 4th Street | Stop-sign controlled | EB | A | 7.5 | A | 8.4 |
| | | WB | A | 7.5 | A | 8.7 |
| | | NB | A | 7.7 | A | 8.5 |
| | | SB | A | 7.6 | A | 8.4 |
| Michigan Avenue & 5th Street | Signalized | Overall | C | 24.5 | B | 17.5 |

## Site-Generated Trips

The proposed development is expected to generate 1,250 daily, 66 morning peak-hour, and 90 afternoon net-new peak-hour trips. We prepared daily, morning peak-hour and afternoon peak-hour trip estimates for the proposed development using equations from the 10th Edition of the ITE *Trip Generation Manual*. We performed the office trip generation calculations based on the expected number of employees to provide a conservative analysis, based on conversations with City Staff. We used the morning rate for the retail uses because the morning peak-hour equation for retail has a 151.78 offset, which results in a minimum trip generation of 152 trips for small area retail buildings. We applied a 34% pass-by rate to retail uses trip generation estimates, based on rates of the ITE Trip Generation Handbook 3rd Edition. We also applied a non-vehicular reduction of 20% based on the parking incentives allowed by the City of Miami Beach. In addition, the Miami Beach 2019 Transportation Plan shows that approximately 26% of its population uses transit, bikes and walks. The development will provide 88 off-street vehicle parking spaces, where three of the 88 parking spaces will be exclusive carpool spaces. In addition the development will provide 10 bicycle long-term parking spaces, 12 scooter parking spaces and four showers within the development to promote the use of non-vehicular transportation. **Table 3** summarizes the trip-generation estimates for the proposed development. **Appendix G** contains the trip-generation data and includes Miami Beach mode-share data.

**Table 3 - Trip Generation Estimates***

| Use | Size | Daily | Weekday Morning Peak Hour | | | Weekday Afternoon Peak Hour | | |
|---|---|---|---|---|---|---|---|---|
| | | | In | Out | Total | In | Out | Total |
| **Proposed Uses** | | | | | | | | |
| General Office | 200 Employees | 853 | 66 | 13 | 79 | 16 | 62 | 78 |
| Shopping Center** | 4,320 SF | 710 | 2 | 2 | 4 | 16 | 19 | 35 |
| **Total** | | **1,563** | **68** | **15** | **83** | **32** | **81** | **113** |
| Non-vehicular reduction (20%) | | 313 | 14 | 3 | 17 | 6 | 16 | 23 |
| **Net New Trips** | | **1,250** | **54** | **12** | **66** | **26** | **65** | **90** |

** Based on Trip Generation Manual 10th Ed.*

*** Shopping Center land use includes 34% afternoon pass-by trip reduction.*

## Trip Distribution

We determined the directional distribution of site-generated trips based on the cardinal distribution data for TAZ 652 from the Miami-Dade County 2045 Transportation Model (see Appendix D) and from the development's access to the surrounding roadway network. We interpolated the 2015 and 2045 average directional-distribution values to develop percentages for 2023. **Table 4** shows the proposed development's trip distributions. **Figures 5a** and **5b** show

the proposed development's traffic distributions to the study intersections. **Figures 6a** and **6b** illustrate the morning and afternoon development-traffic assignments at the study intersections.

**Table 4 - Cardinal Distribution**

| Year | NNE | ENE | ESE | SSE | SSW | WSW | WNW | NNW |
|---|---|---|---|---|---|---|---|---|
| **2015** | 22.90% | 4.10% | 3.50% | 2.80% | 2.50% | 16.70% | 19.40% | 28.10% |
| **2045** | 18.80% | 3.20% | 3.20% | 1.60% | 2.30% | 19.50% | 29.70% | 21.80% |
| **2023** | **21.81%** | **3.86%** | **3.42%** | **2.48%** | **2.45%** | **17.45%** | **22.15%** | **26.42%** |

**Build Traffic Volumes**

We conducted capacity analyses for the study intersections and determined that they are expected to operate within their adopted LOS with the development's impacts. The 2023 build traffic volumes were derived by adding the total site-generated trips to the 2023 no-build traffic volumes. **Figure 7** illustrates the 2023 build morning and afternoon peak-hour traffic volumes. **Table 5** summarizes the 2023 build LOS for the morning and afternoon peak hours.

**Table 5 - 2023 Build Intersection Capacity Analysis Summary**

| Location | Traffic Control | Approach | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (sec/veh) | LOS | Delay (sec/veh) |
| Alton Road & 4th Street | Signalized | Overall | C | 28.8 | C | 27.8 |
| Michigan Avenue & 4th Street | Stop-sign controlled | EB | A | 7.7 | A | 8.5 |
| | | WB | A | 7.5 | A | 8.8 |
| | | NB | A | 7.8 | A | 8.6 |
| | | SB | A | 7.7 | A | 8.5 |
| Michigan Avenue & 5th Street | Signalized | Overall | C | 26.1 | C | 21.2 |
| Site Driveway | Stop-sign controlled | EB | A | 8.3 | | |
| | | WB | | | A | 9.3 |

*The site driveway LOS represents the alley driveway for the AM and Michigan Avenue driveway during the PM.

The analysis for the site driveway at Michigan Avenue was done based on the proposed operation of the driveway, which will operate as an ingress during the morning peak hour and as an egress during the afternoon peak hour.

**Site Access & Circulation**

The proposed development is proposing to change the one-way southbound operation of the abutting alley to a two-way operating roadway between 4th and 5th streets that will allow the valet-operation to use the alley for on-site circulation and operate efficiently without impacting the public roadways. In addition, the proposed connection to Michigan Avenue will operate as an ingress during the morning peak hour and will operate as an egress during the afternoon peak hour. This proposed operation will allow vehicles to use the alley to access the car elevator without the need to use the abutting roadways for site circulation. The proposed connection to Michigan Avenue cannot be widen to operate as a two-way driveway all the time due to the existing building at 411 Michigan Avenue and the existing foundations on site.

To demonstrate that the proposed operation will be the most suitable for the proposed development we analyzed four possible access scenarios to determine which access configuration would best serve the on-site circulation and traffic operations for the proposed development. In addition, we evaluated which configuration will allow the valet-operation to operate efficiently without impacting public roads. The four scenarios evaluated are described below.

- Scenario 1 assumes the driveway connection to Michigan Avenue operates as an ingress only driveway during the morning peak hour and as an egress only driveway in the afternoon; where the proposed access to the alley will operate as two-way during all hours of the day. The alley abutting the site is assumed to operate as a two-way between 4th and 5th streets.
- Scenario 2 assumes all vehicles enter through the access from the alley and exit through the access from Michigan Avenue during all hours of the day. The alley will remain operating one-way southbound.
- Scenario 3 assumes all vehicles enter through the access from Michigan Avenue and exit through the alley during all hours of the day. The alley will remain operating one-way southbound.
- Scenario 4 assumes the driveway on Michigan Avenue operates as an ingress only driveway in the morning, and an egress only driveway in the afternoon; while the alley will remain operating as one-way southbound.

Scenario 1, allows the valet operation to utilize the alley for the site circulation without the need to exit the site to access the car elevator. Additionally, this scenario will allow the valet-operation

to perform their pick-up and drop-off within the site. As such, this operation results in no added delays to the adjacent intersections, and the shortest service time for the entire valet-operation which will allow them to operate efficiently and contain all expected queue onsite. Scenario 2 would require valet to circle around the site during vehicle drop-off, resulting in a longer travel time to the car elevator, and impacting the expected delays to the northbound approach at the intersection of 5th Street and Michigan Avenue. Scenarios 3 & 4 would require valet to circle around the site during vehicle drop-off and pick-up, resulting in a longer travel time to and from the car elevator, and impacting the expected delays at the northbound approach at the intersection of Michigan Avenue and 5th street and the westbound approach at the intersection of Michigan Avenue and 4th Street. Based on the findings, the preferred driveway configuration and access is Scenario 1, where valet can utilize the alley as a two-way roadway, and will not use public roads for site circulation and will not impact the expected delays to Michigan Avenue and 4th Street. The analysis was carried out with the assumption of Scenario 1 as the preferred method. Appendix B contains the vehicle circulation figures showing the different scenarios analyzed and their impacts to public roads. In addition, it contains a sketch of the proposed stripping and signage to convert the alley from a one-way to a two-way operation.

**Driveway Volumes**

We analyzed the development's proposed driveway connections to Michigan Avenue and the alley for the morning and afternoon peak-hour build conditions and found that they will operate at LOS A. Based on the proposed access operation, site traffic will enter the site from Michigan Avenue and exit via the alley driveway during morning peak hours. For the afternoon peak hours, site traffic will enter from the alley and exit via the Michigan Avenue driveway. The alley is assumed to operate as a two-way northbound and southbound road. The proposed morning and afternoon peak hour onsite circulation will facilitate the valet-parking operation and ensure the vehicle queues remain within the site and not back into Michigan Avenue. The change in circulation will be implemented after 4:00 PM when the majority of employees are expected to start departing the site. Valet staff will coordinate the on-site traffic operation patterns, and office employees will learn the operations upon their first time accessing the site. Even though the alley is being proposed to operate as two-way, we assumed that 100% of the traffic will enter through the driveway connection to Michigan Avenue during the morning peak hour and will egress south to the alley. Similarly, we assumed that 100% of the traffic will enter through the alley and exit through Michigan during the afternoon peak hour to provide a conservative analysis. Gate-controlled access is not proposed and circulation will be managed by valet staff using portable signage. Table 5 summarizes the 2023 build LOS of the driveway for the morning and afternoon

peak hours traffic volumes. **Figure 8** shows the project's driveway volumes and Appendix F contains the capacity-analyses worksheets.

All visitors and employees will have to valet park their vehicles. The alley is a 20-foot wide, local road that operates in the southbound direction only. The proposed change to the alley would allow for two-way operations between 4th and 5th streets. The proposed development will have 30 off-street parking spaces on the ground floor and 59 off-street parking spaces on the basement floor with access to the alley through a car elevator. In addition, the development will have three on-street parking spaces on Michigan Avenue. The car elevator will be approximately 50 feet north of the proposed alley driveway. The parking spaces on the ground floor will be for visitors and the basement parking spaces will be for employees. The valet operation station will be located on the ground floor in the morning peak-hour, where employees and visitors will be able to drop-off their vehicles and the operators will then park the vehicles on the ground floor or basement floor using the car elevator. The valet operators will manage traffic flow so as to allow valet operators to travel northbound in the alley to avoid having vehicles recirculating through the public roadways. The valet station will be located along Michigan Avenue during the afternoon peak-hour, where the visitors and employees will be able to drop-off their vehicle at the three on-street parking spaces. The pick-up operation will be handled on the ground floor where the valet operator will retrieve vehicles from the basement and access the site through the alley. Valet patrons will then exit the site through Michigan Avenue. Appendix B includes the circulation diagrams for the valet operation during the morning and afternoon peak hour.

**Valet Operation Queuing Analysis**

We prepared a queuing analysis for the proposed development's valet operation and found that it will not cause entering traffic to back onto the adjacent public roadway (Michigan Avenue). The proposed development will have a valet-parking station on the ground floor with on-site vehicle-stacking area for five vehicles. All visitors and employees will be required to use the valet operation to park their vehicles. The site plan in Appendix B shows the location of the valet booth and the stacking/queuing area. We used the queuing-analysis methodology from the Transportation and Land Development published by the ITE. This methodology requires hourly rates of vehicle arrival and service times for the valet operation to determine vehicle-queue lengths. The queues resulting from this analysis are 95$^{th}$ percentile queues, which are those expected to be generated 95 percent of the time.

The development will provide 10 parking spaces with triple-stack car lifts at the valet court on the ground floor and 29 parking spaces with double-stack car lifts and one regular parking space on the basement floor for a total of 88 parking spaces. Vehicle lifts allow two or three vehicles to occupy one parking space by lifting vehicles above the ground and allowing a second or third vehicle to park underneath one another. The parking spaces on the ground floor will be used exclusively for the visitors and the parking spaces on the basement floor will be for employees. The development will also have three on-street parking spaces along Michigan Avenue. Note that there is more than 125 feet of onsite vehicle stacking between Michigan Avenue and the valet station.

The vehicle-arrival rate was based on the project's peak-hour trip generation, summarized in Table 3. The development is expected to generate 66 (54 ingress and 12 egress) morning peak-hour trips and 105 (33 ingress and 72 egress) afternoon peak hour trips. We estimated the average service time for the valet operation of 3.85 minutes for the drop-off and 4.47 minutes for the pick-up operations. The service time accounts for the time required for the valet attendant to pick-up/drop-off the car, operate the lift, operate the car elevator and return to the valet station. The analysis indicates that the valet operation will need a minimum of five attendants on the ground floor and one parking attendant on the basement floor. We used 25 feet to convert the number of queued vehicles to linear feet. **Table 6** summarizes the results of the queuing analysis and indicates that queues for the proposed valet operation are not expected to exceed three vehicles. The analyses indicate that the expected 95$^{th}$ percentile queue lengths will not exceed the length of the queue-storage area. **Appendix H** contains excerpts from ITE, the queuing-analysis and service-time calculations.

**Table 6 - Queuing Analysis Summary**

| Time | Storage Capacity (feet) | 95th Percentile Queue Length | | Exceeds Capacity? |
|---|---|---|---|---|
| | | Vehicles | Feet | |
| AM | 125 | 1 | 25 | **NO** |
| PM | 125 | 2 | 50 | **NO** |

We also prepared a valet-queueing analysis for the different access scenarios and determined that the valet-service service time will be increased approximately by 1.15 minutes overall which will cause the expected queues to increase from two to three vehicles respectfully. The valet service time to Scenarios 2-4 take into account the expected delays along the intersections that they will impact. Appendix H contains the queuing-analysis and service-time calculations for all scenarios analyzed.

The development will coordinate and setup specific timeframes for the use of the proposed loading area along the alley to avoid any conflict with the valet operation. The specific times frames for the loading are will be outside the expected peak-hours of pick-up and drop-off.

**Transportation Demand Management Strategies**

The site abuts SR-A1A (5th Street) which provides a wide sidewalk, a bicycle lane, special emphasis crosswalks and a transit stop of the southeast corner of Michigan Avenue and 5th Street. The proposed development will provide infrastructure to motivate the use of the available multimodal transportation systems provided by the city and the existing roadway network. This infrastructure will consist of bicycle racks, scooters parking spaces, carpool parking spaces, lockers and showers. In addition, the office spaces will provide Miami-Dade Transit & Miami Beach bus and trolley route information on or near employee bulletin boards to promote the use of public transportation.

The development will work to create Transportation Demand Management (TDM) strategies to support the overall TDM goals of City of Miami Beach and maximize the use of the available transportation systems. The most important action will be doing a regular employees outreach to provide them with the multiple commute options and establish preferences to target TDM efforts. **Table 7** summarizes the proposed TDM strategies.

**Table 7 - Proposed TDM Strategies**

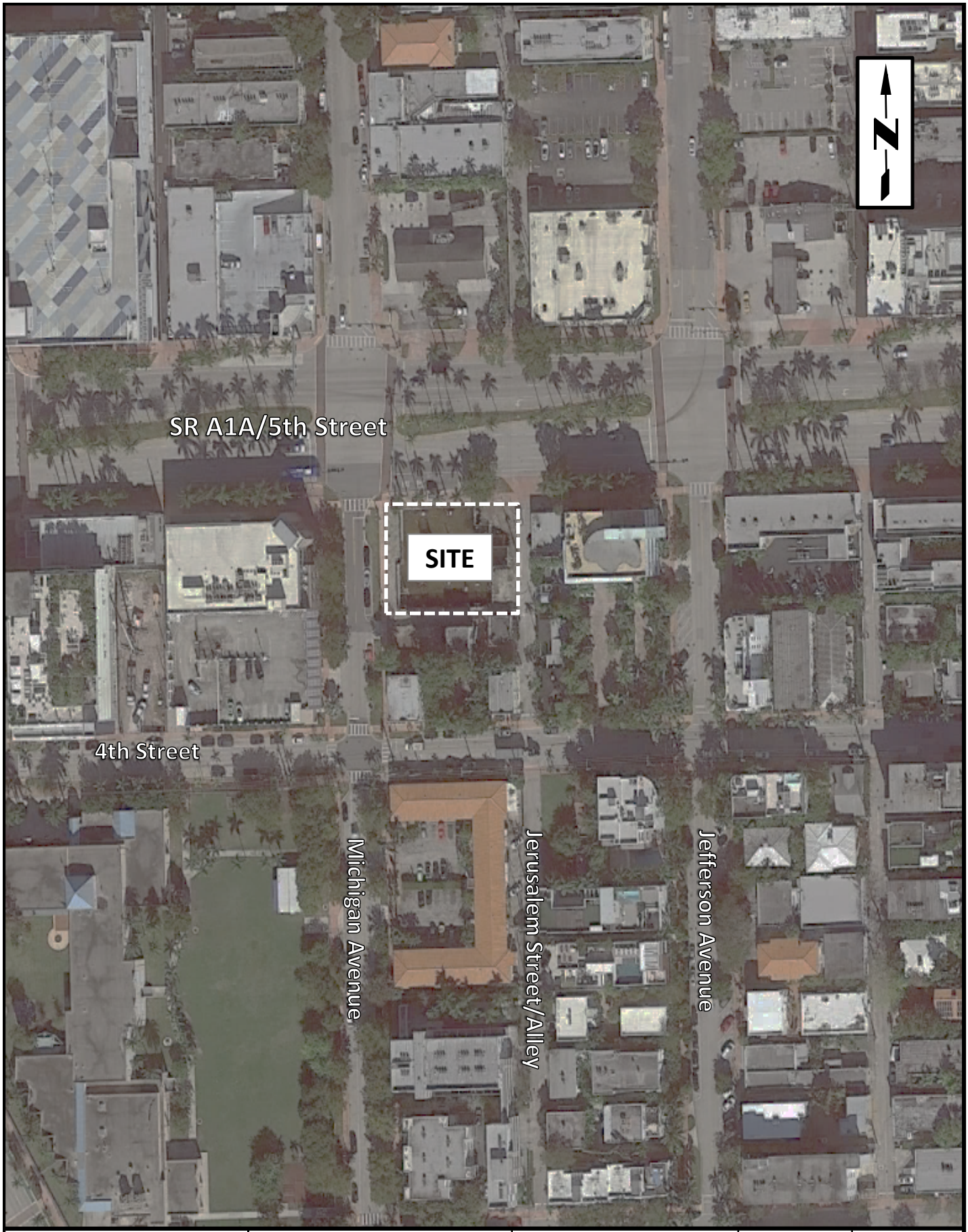
| Action | Details |
|---|---|
| Employee Survey | Survey employees to determine current commute characteristics establish preferences, and target TDM efforts. |
| Employee Outreach | Provide employees with information regarding multimodal commute options. |
| Carpool Support | Provide initial coordination and support in setting up carpool parking spaces for employees. |
| Bicycle Facilities | On-site bike racks will be available for employees who ride their bikes to work. |
| Travel Mapping | Transit route maps and schedules will be made available on site to employees and visitors. |
| Flexible Schedule | On site businesses will be encouraged to offer flexible and compressed work schedules to the extent possible. |
| Loading Area | The loading area will have specific timeframes outside the pick-up/drop-off peak hours to avoid conflicts with the valet-operation. |

## CONCLUSIONS

Langan performed a traffic-impact analysis for the 411 Michigan development expected to be completed by 2023. The analysis shows the following results for the 2023 build conditions:

- All study intersections are expected to operate within their adopted LOS during the morning and afternoon peak-hours with and without the development's impacts.
- The proposed driveway connections to Michigan Avenue and alley are expected to operate at LOS A during the morning and afternoon peak-hours.
- The valet operation will not cause entering traffic to back into the adjacent public roadways with a minimum of six parking attendants to serve expected demand.
- The proposed development will have a have a valet-operation that will control parking throughout the entire day. All patrons will be required to use the valet-operation.
- The proposed connection to Michigan Avenue will operate as an ingress in the morning peak-hours and as an egress for the afternoon peak-hour to avoid using the public roads for site circulation. The change in operation of the driveway will be controlled by the valet operation.
- The development is proposing to change the operation of the alley abutting the site from one-way southbound to a two-way operation between 4$^{th}$ and 5$^{th}$ streets that will allow the valet operation to operate efficiently without impacting the public right-of-way.
- We analyzed multiple access scenarios for the proposed development and determined that proposed two-way operation of the alley and the proposed operation of the driveway connection to Michigan Avenue will allow the valet service to operate efficiently without impacting public right-of-way.
- The development will not have gate-controlled access at the proposed site driveways.
- The development site is within the UIA.
- The development will promote the use of different modes of transportation through the implementation of several TDM strategies.

# APPENDIX A
# FIGURES

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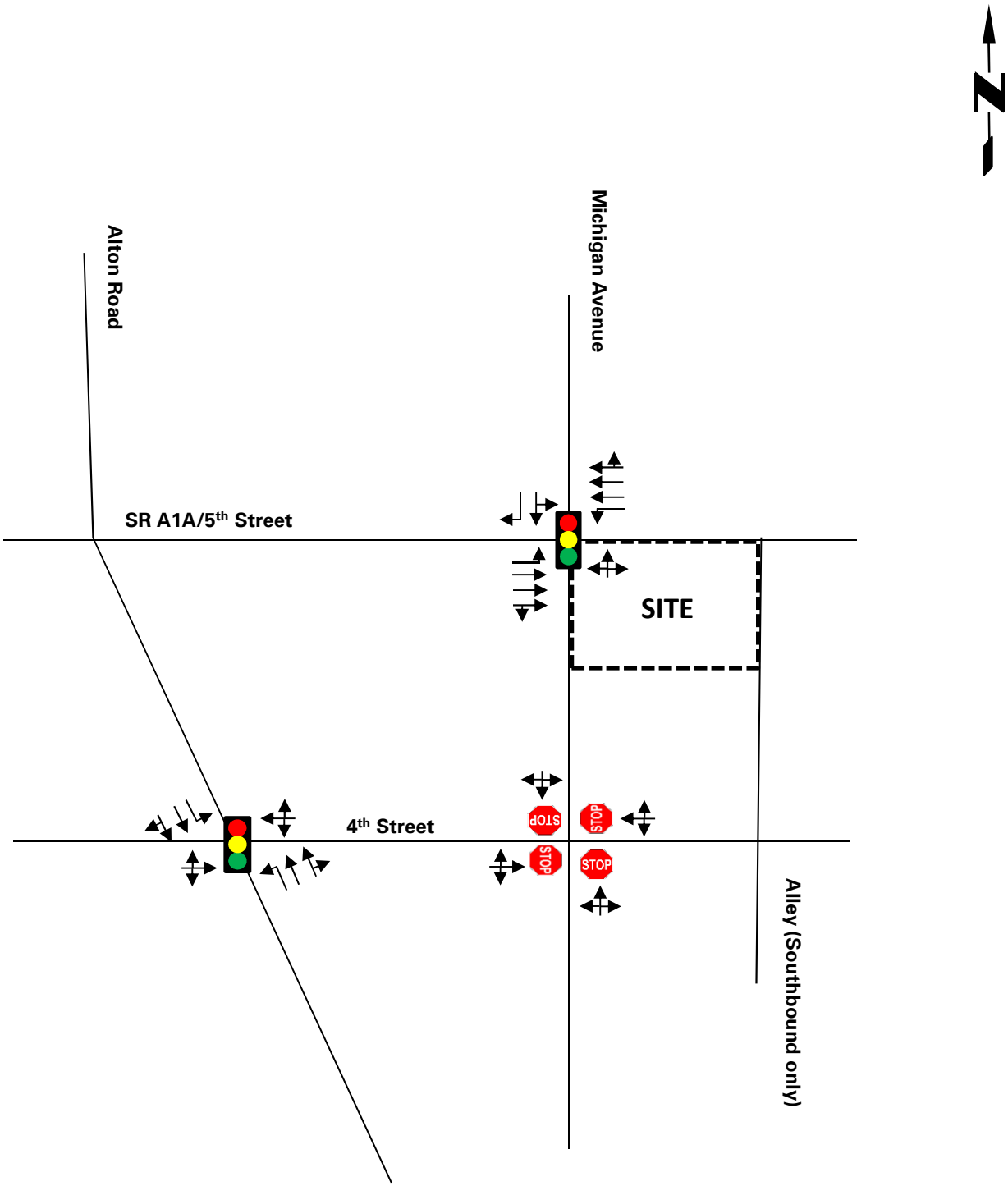
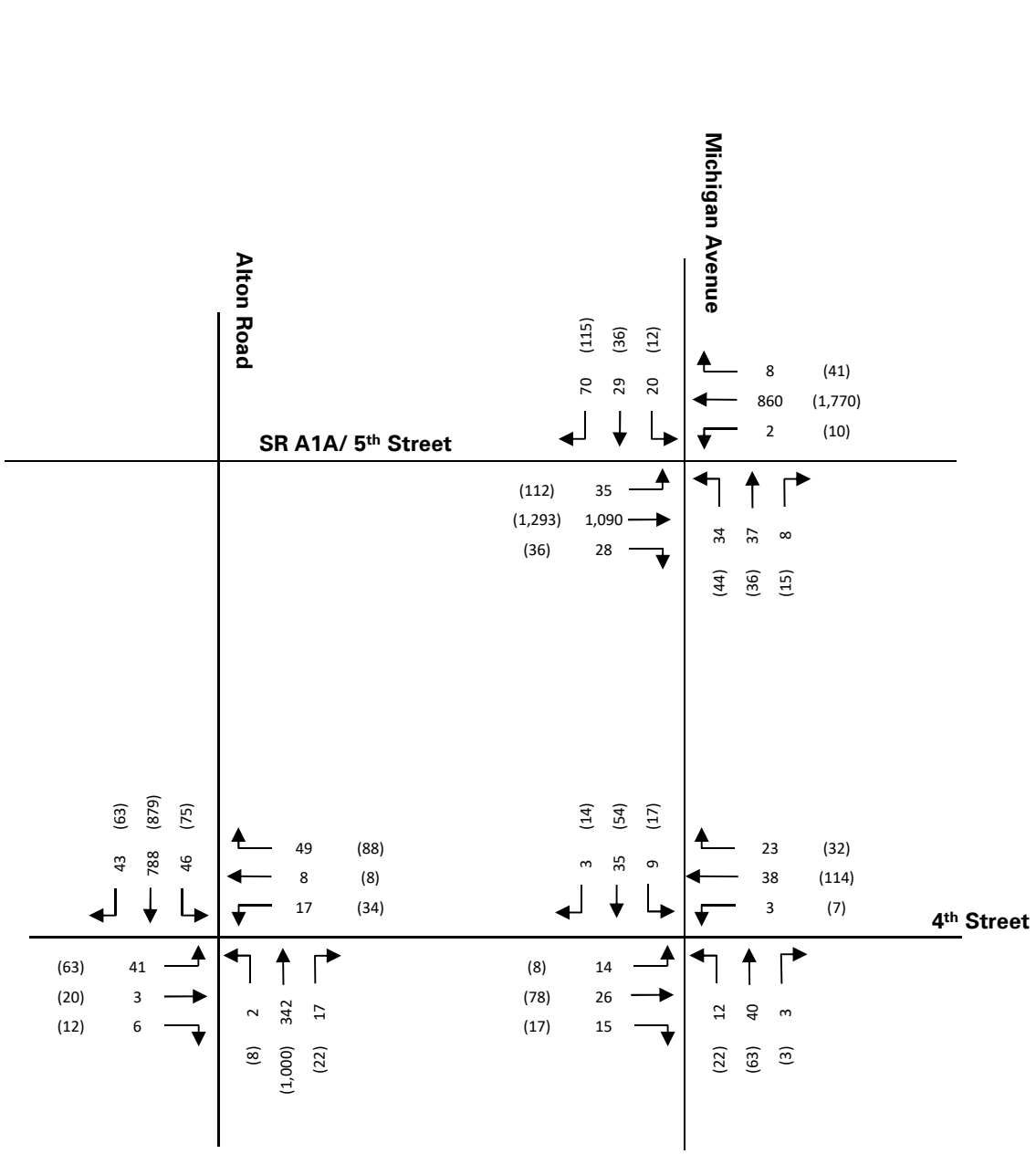
| | |
|---|---|
| Project | 411 MICHIGAN |
| | MIAMI BEACH |
| | MIAMI DADE FLORIDA |
| Figure Title | SITE LOCATION MAP |
| Project No. | 300277901 |
| Date | 10/21/2021 |
| Scale | NTS |

FIGURE 1




| | | | | |
|---|---|---|---|---|
| LANGAN<br>ENGINEERING & ENVIRONMENTAL SERVICES<br>15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016<br>P: 786.264.7221 F: 786.264.7201 www.langan.com<br>FL CERTIFICATE OF AUTHORIZATION No. 00006601 | Project<br>411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | Figure Title<br>INTERSECTION LANE CONFIGURATIONS | Project No.<br>300277901<br>Date<br>10/21/2021<br>Scale<br>NTS | FIGURE 2 |




| LEGEND |
|---|
| # AM Peak Hour |
| (#) PM Peak Hour |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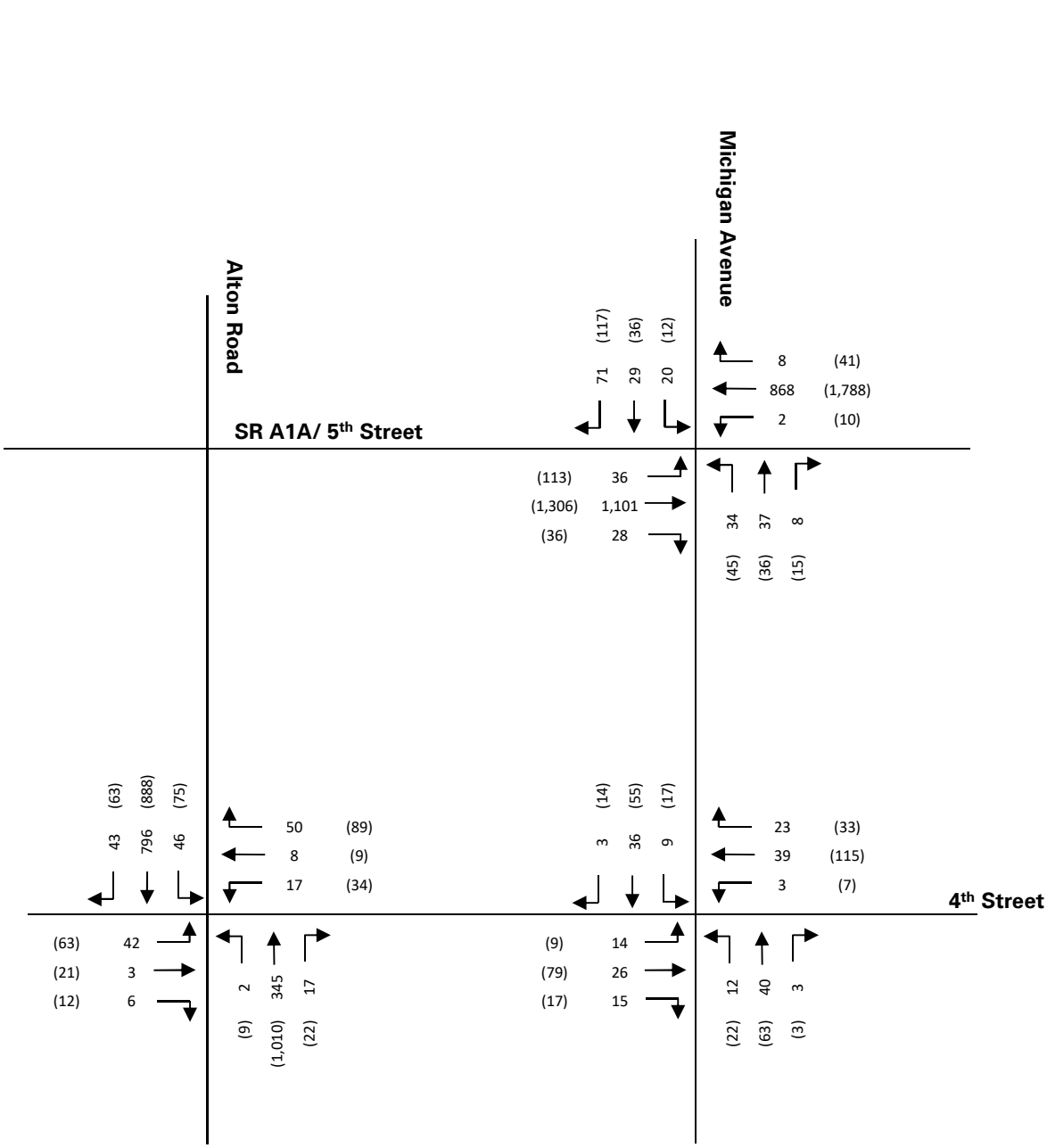
| Project | Figure Title | Project No. | |
|---|---|---|---|
| 411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | 2021 EXISTING TRAFFIC VOLUMES | 300277901 | FIGURE 3 |
| | | Date 10/21/2021 | |
| | | Scale NTS | |




| LEGEND |
|---|
| # AM Peak Hour |
| (#) PM Peak Hour |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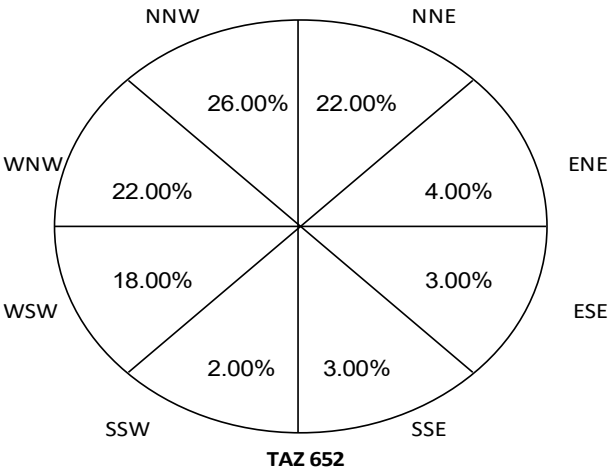
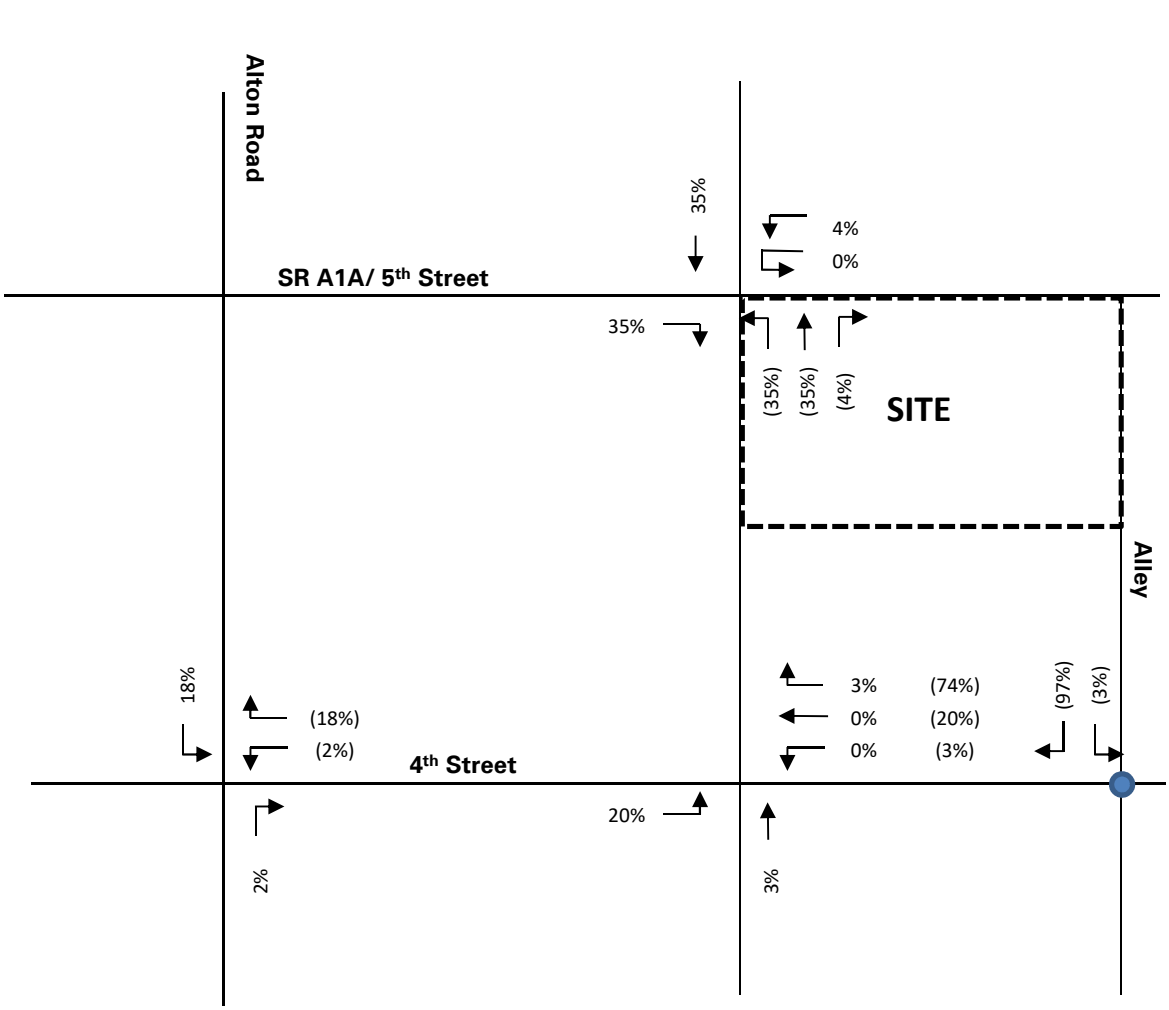
| Project | Figure Title | Project No. | |
|---|---|---|---|
| 411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | 2023 NO BUILD TRAFFIC VOLUMES | 300277901 | FIGURE 4 |
| | | Date 10/21/2021 | |
| | | Scale NTS | |








| LEGEND |
|---|
| # Ingress |
| (#) Egress |
| Not a study intersection |

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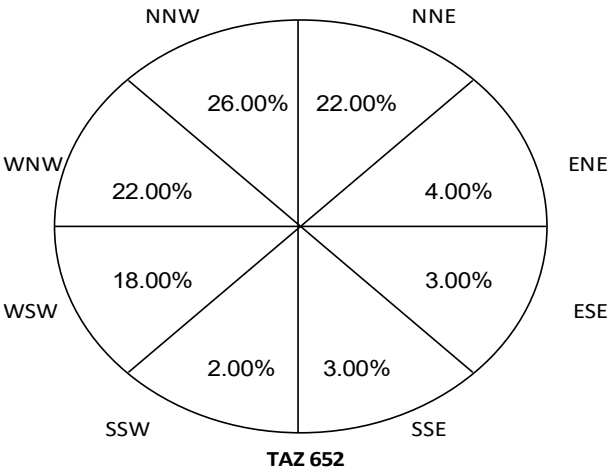
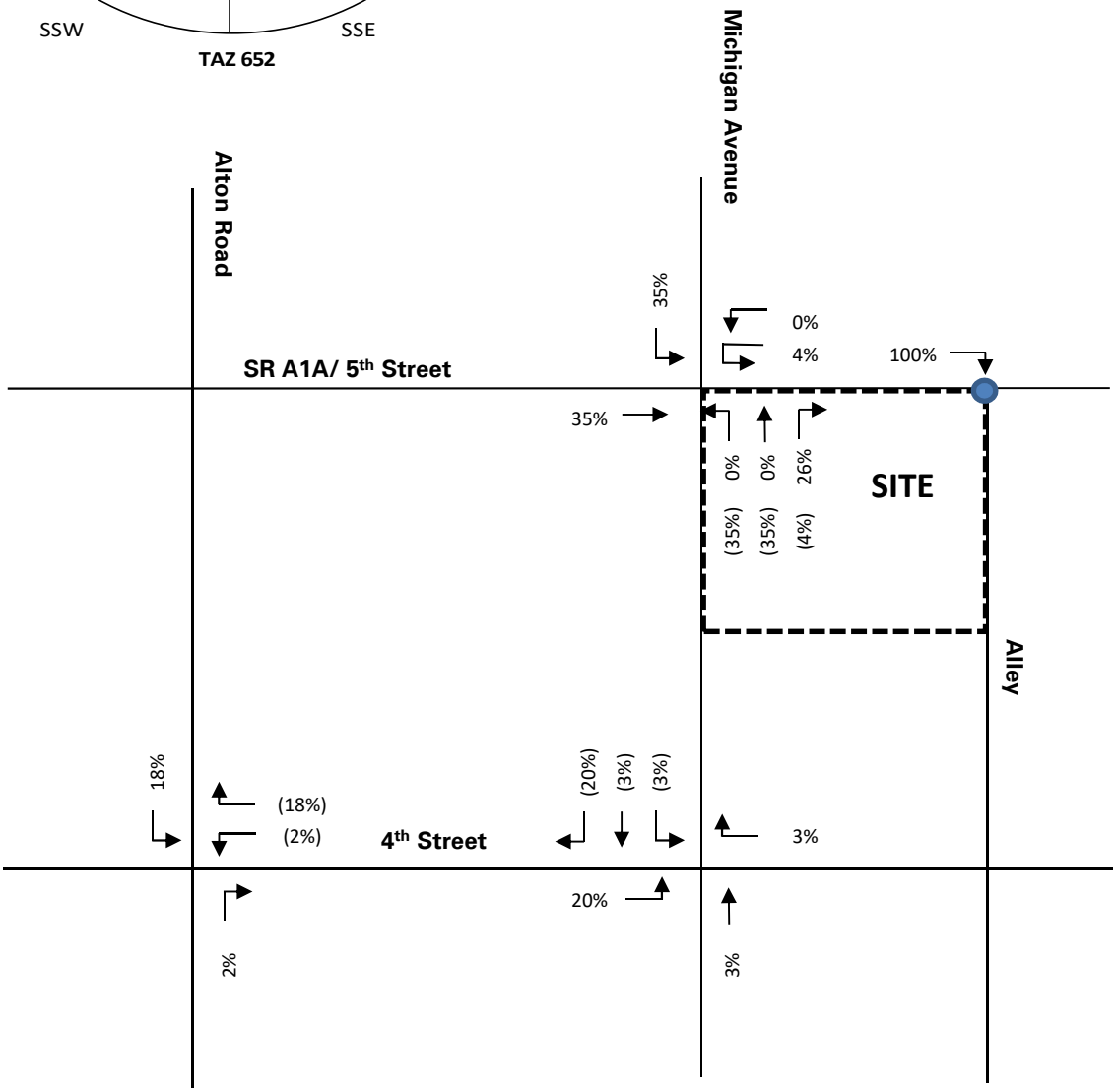
| Project | Figure Title | Project No. | |
|---|---|---|---|
| 411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | PROJECT TRAFFIC DISTRIBUTION - AM | 300277901 | FIGURE 5a |
| | | Date 10/21/2021 | |
| | | Scale NTS | |




| LEGEND |
|---|
| # Ingress |
| (#) Egress |
| Not a study intersection |

| | | | | |
|---|---|---|---|---|
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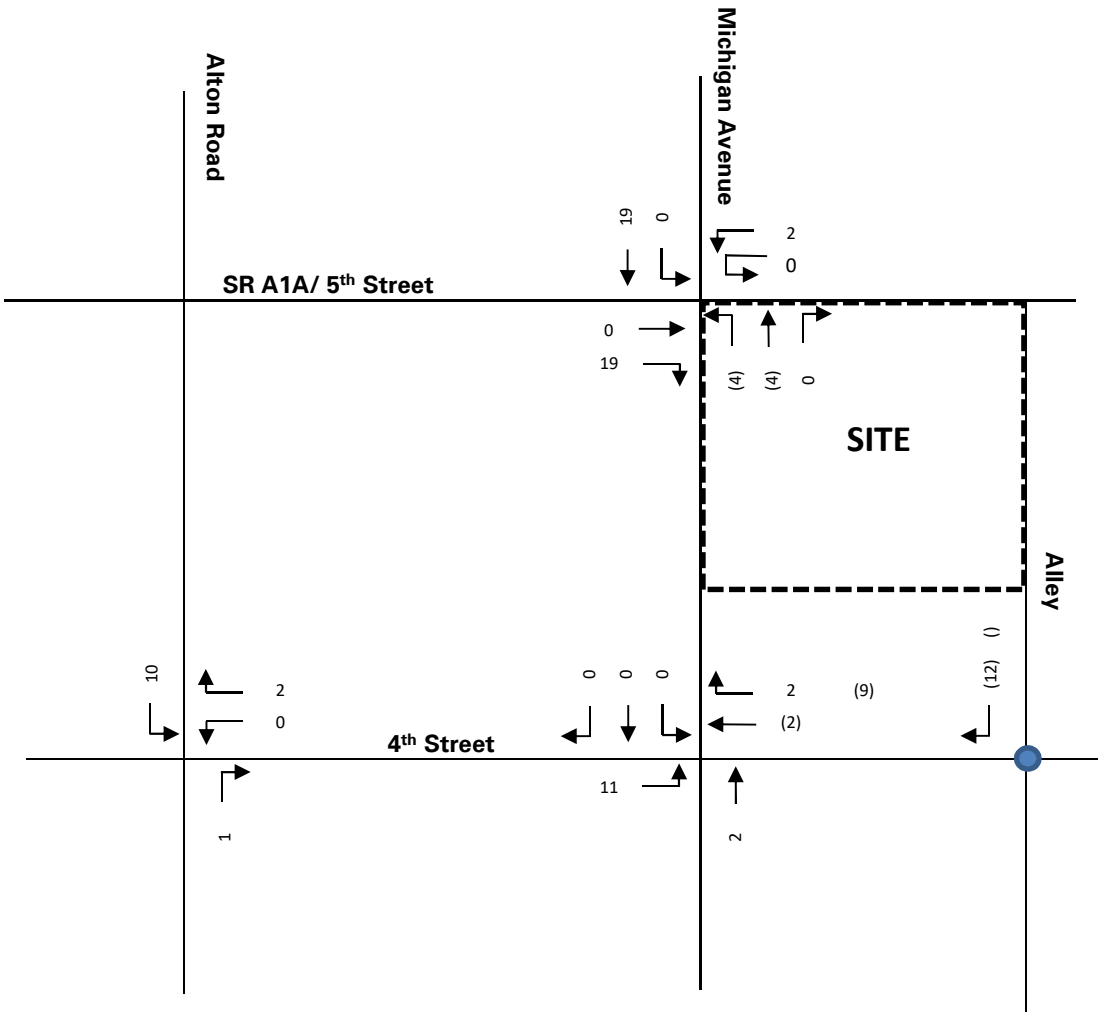


| LEGEND |
|---|
| # Ingress |
| (#) Egress |
| Not a study intersection |

| | | | | |
|---|---|---|---|---|
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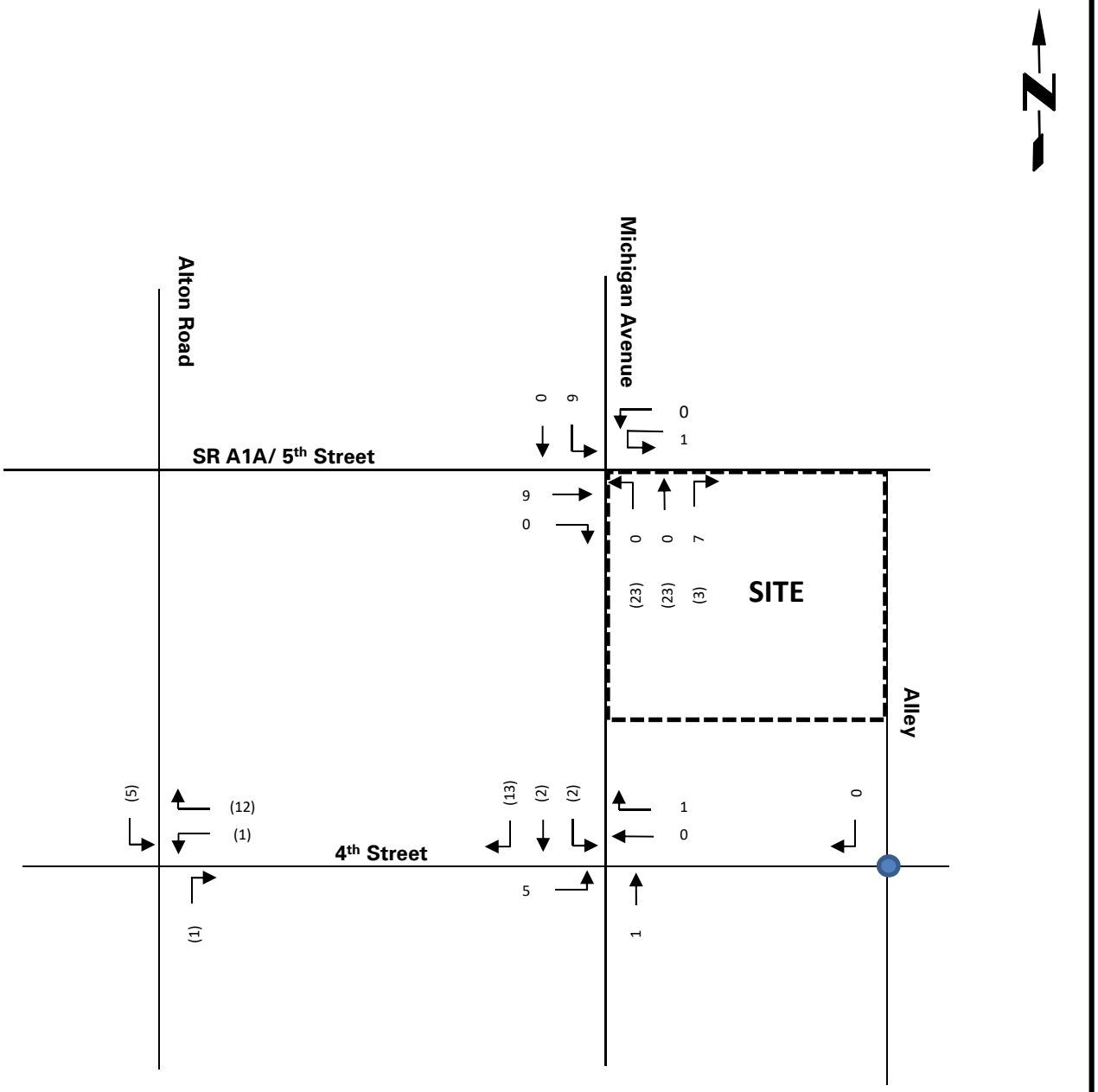
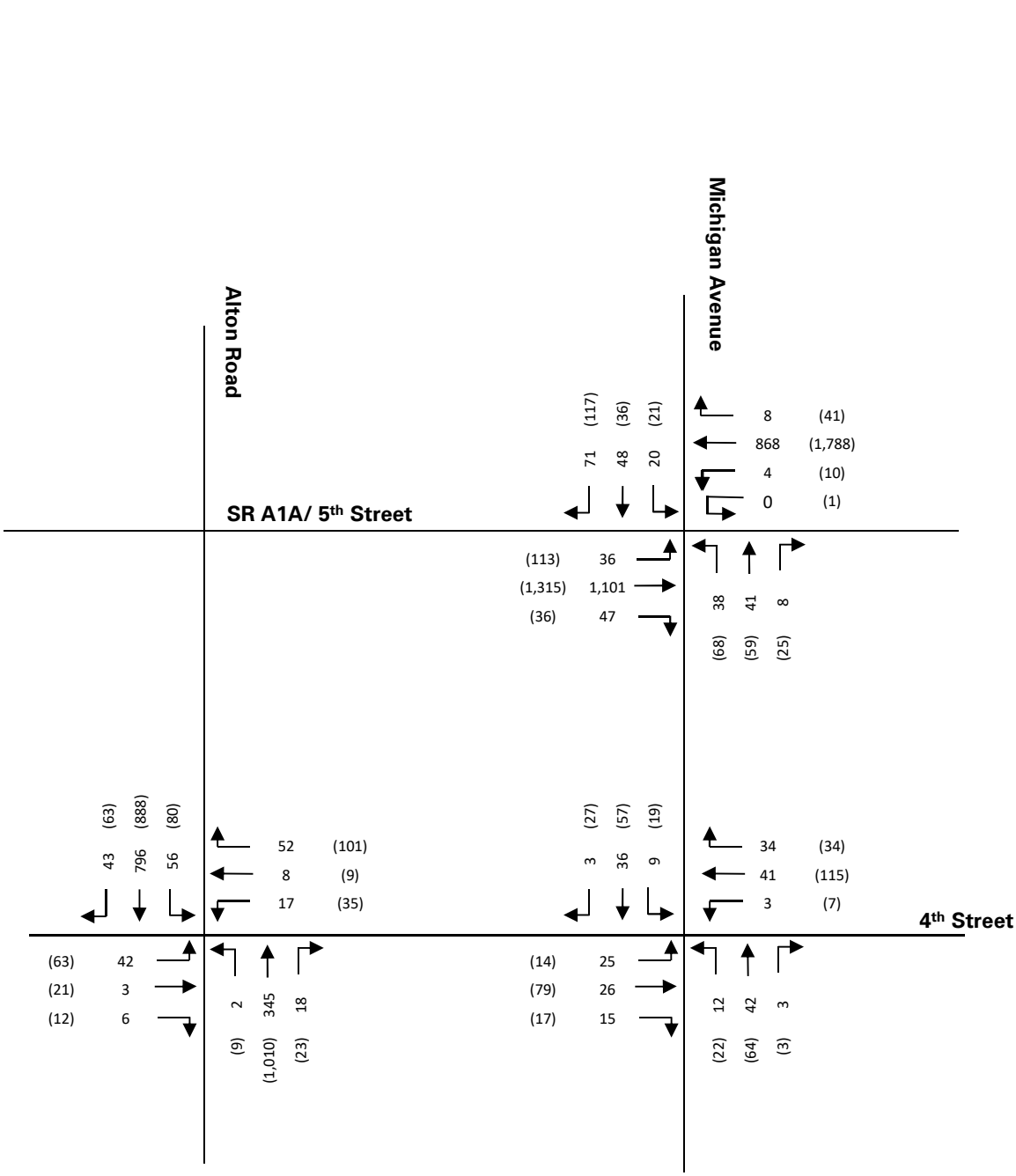



| LEGEND |
|---|
| # Ingress |
| (#) Egress |
| Not a study intersection |

| | | | | |
|---|---|---|---|---|
| LANGAN ENGINEERING & ENVIRONMENTAL SERVICES<br>15150 NW 79th Court, Suite 200, Miami Lakes, FL 33016<br>P: 786.264.7221 F: 786.264.7201 www.langan.com<br>FL CERTIFICATE OF AUTHORIZATION No. 00006601 | Project<br>411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | Figure Title<br>PROJECT TRAFFIC PM | Project No.<br>300277901<br>Date<br>10/21/2021<br>Scale<br>NTS | FIGURE 6b |




| LEGEND |
|---|
| # AM Peak Hour |
| (#) PM Peak Hour |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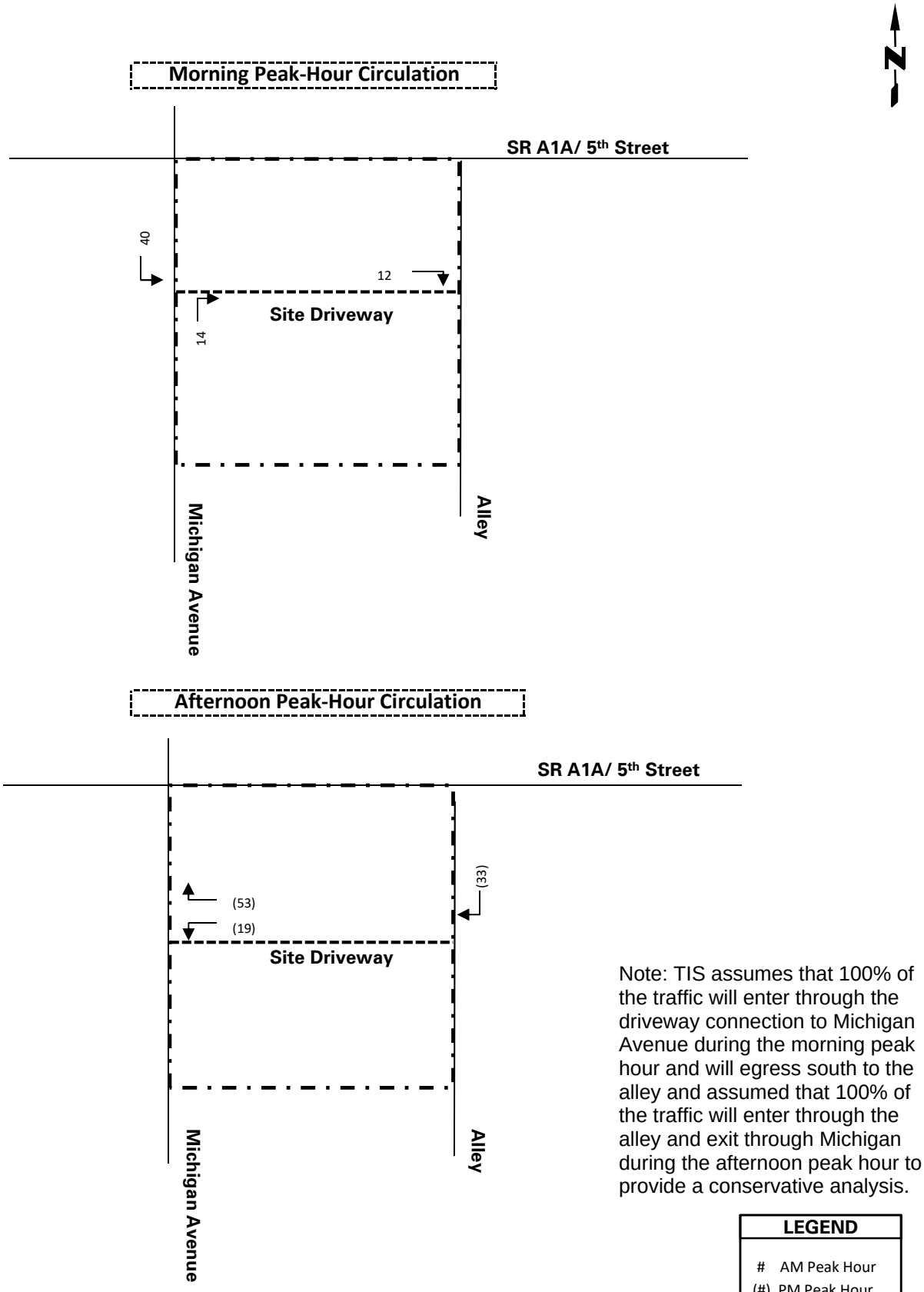
| Project | Figure Title | Project No. | |
|---|---|---|---|
| 411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | 2023 BUILD TRAFFIC VOLUMES | 300277901 | FIGURE 7 |
| | | Date 10/21/2021 | |
| | | Scale NTS | |




Note: TIS assumes that 100% of the traffic will enter through the driveway connection to Michigan Avenue during the morning peak hour and will egress south to the alley and assumed that 100% of the traffic will enter through the alley and exit through Michigan during the afternoon peak hour to provide a conservative analysis.

| LEGEND |
|---|
| # AM Peak Hour |
| (#) PM Peak Hour |
| Driveway |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| Project | Figure Title | Project No. | |
|---|---|---|---|
| 411 MICHIGAN<br>MIAMI BEACH<br>MIAMI DADE FLORIDA | DRIVEWAY VOLUMES | 300277901 | FIGURE 8 |
| | | Date 10/21/2021 | |
| | | Scale NTS | |

# APPENDIX B
# SITE PLAN

CUBE3
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5th STREET (FRONT)
100' R.O.W.

CENTER LINE OF ROAD

CENTER LINE OF ALLEY

MICHIGAN AVENUE
30' R.O.W.

ALLEY
20' R.O.W.

PROPERTY LINE

ADJACENT PROPERTY

RETAIL

LOBBY

CAR ELEVATOR

ELEC. RM.

PAD MOUNTED TRANSFORMER

TRANSFORMER SWITCH GEAR

EM. ELEC. RM

FIRE COMMAND CENTER

MECH.

TRASH RM.

WELL

LOADING SPACE

BREEZEWAY

DRIVEWAY

PARKING STRUCTURE

EXISTING BUILDING

FIRE DEPARTMENT CONNECTIONS

PARKING ENTRANCE

THREE PARKING SPACES

PARKING SPACE

TRAFFIC LIGHT

LIGHT POLE

BUS STOP

ELECTRIC PANE

ELECTRIC PANEL

TRAFFIC SIGN

MANHOLE

POWER POLE

ELEV. 2.70' NGVD
ELEV. 3.19' NGVD
ELEV. 2.79' NGVD
ELEV. 2.75' NGVD
ELEV. 2.78' NGVD
ELEV. 2.84' NGVD
ELEV. 3.08' NGVD
ELEV. 4.31' NGVD
ELEV. 4.28' NGVD
ELEV. 4.14' NGVD
ELEV. 3.94' NGVD
ELEV. 9.00' NGVD
ELEV. 5.5' NGVD
ELEV. 4.00' NGVD

411-419 MICHIGAN

411 MICHIGAN AVENUE
MIAMI BEACH, FL

411 MICHIGAN
SOFI OWNER LLC
55 E 59th St
Floor 24
New York, NY 10022

100% SD
SUBMITTAL

NOT FOR CONSTRUCTION

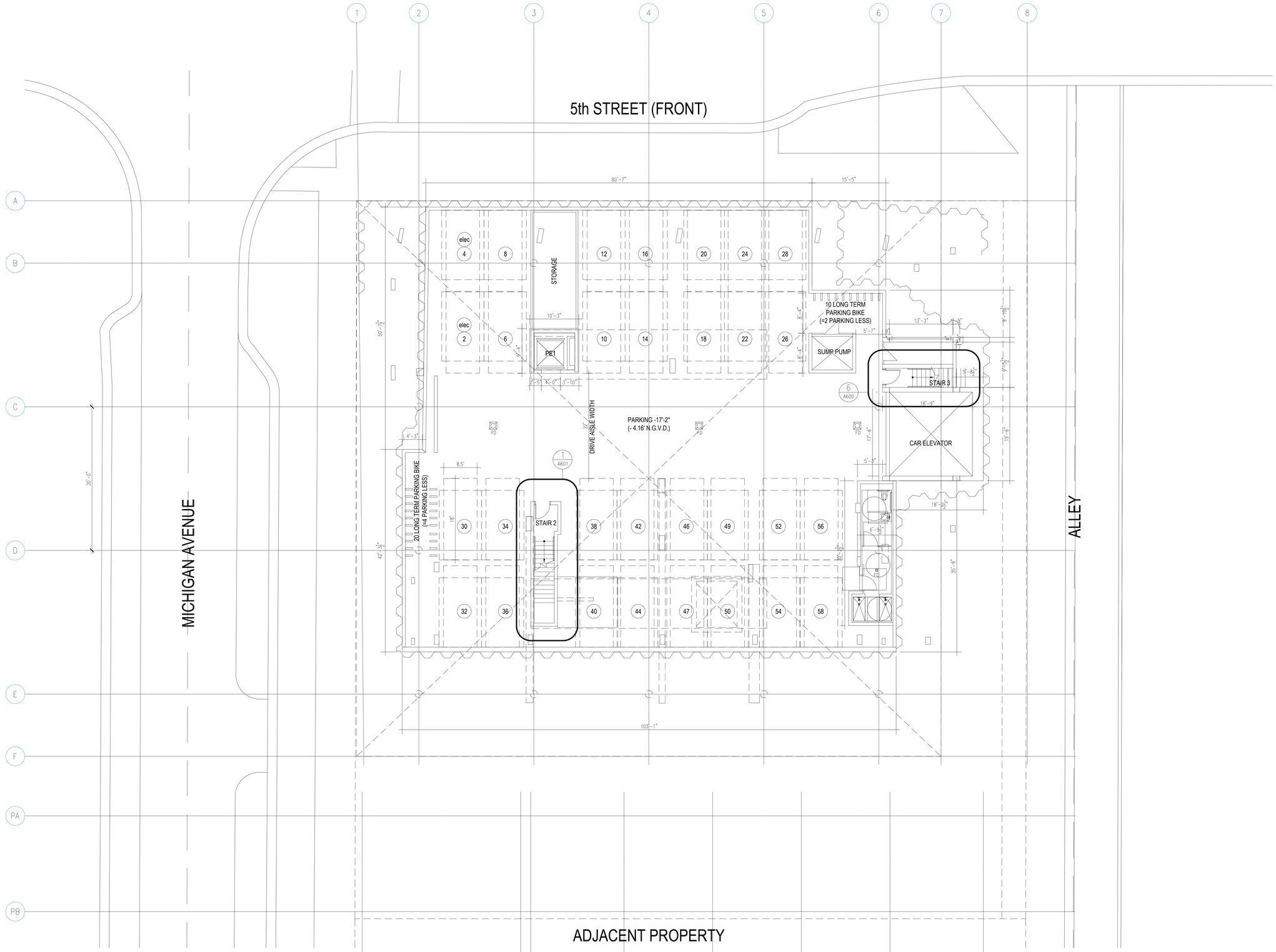
N

drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077
drawing revisions:

| No. | Description | Date |
|---|---|---|

Site Plan

A001





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MIAMI BEACH, FL

client information:

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SOFI OWNER LLC
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Floor 24
New York, NY 10022

consultant information:

issuance:

100% SD SUBMITTAL

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north arrow:

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drawing information:

drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077

drawing revisions:

| No. | Description | Date |
|---|---|---|

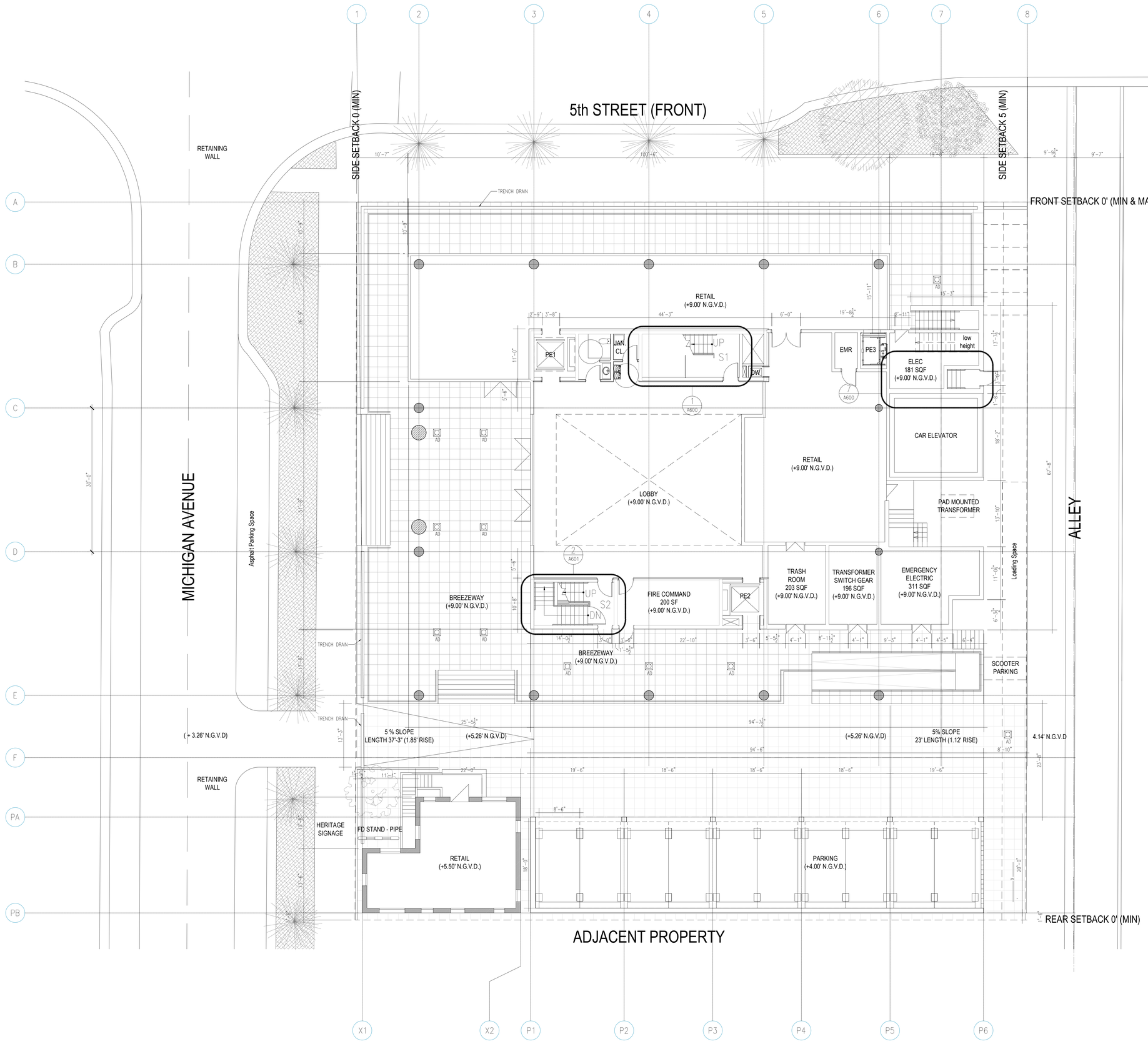
registration:

drawing name:

Garage Plans

drawing number:

A101




1 GROUND FLOOR PLAN
SCALE: 1/8" = 1'-0"

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MIAMI BEACH, FL

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consultant information:

issuance:
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north arrow:
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drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077

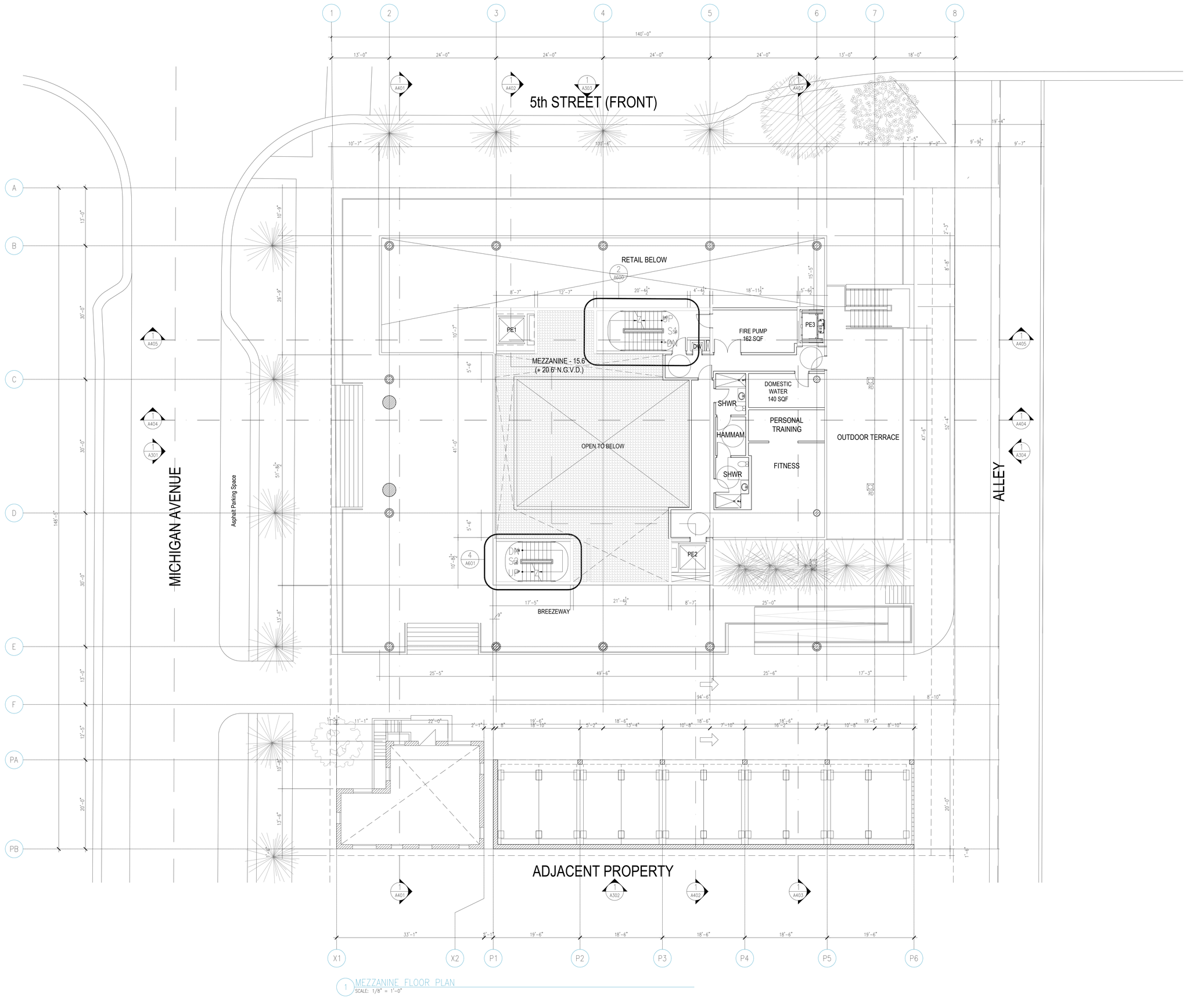
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Ground Floor Plan

drawing number:
A102




1 MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

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client information:
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SOFI OWNER LLC
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Floor 24
New York, NY 10022

consultant information:

issuance:
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CONSTRUCTION

north arrow:
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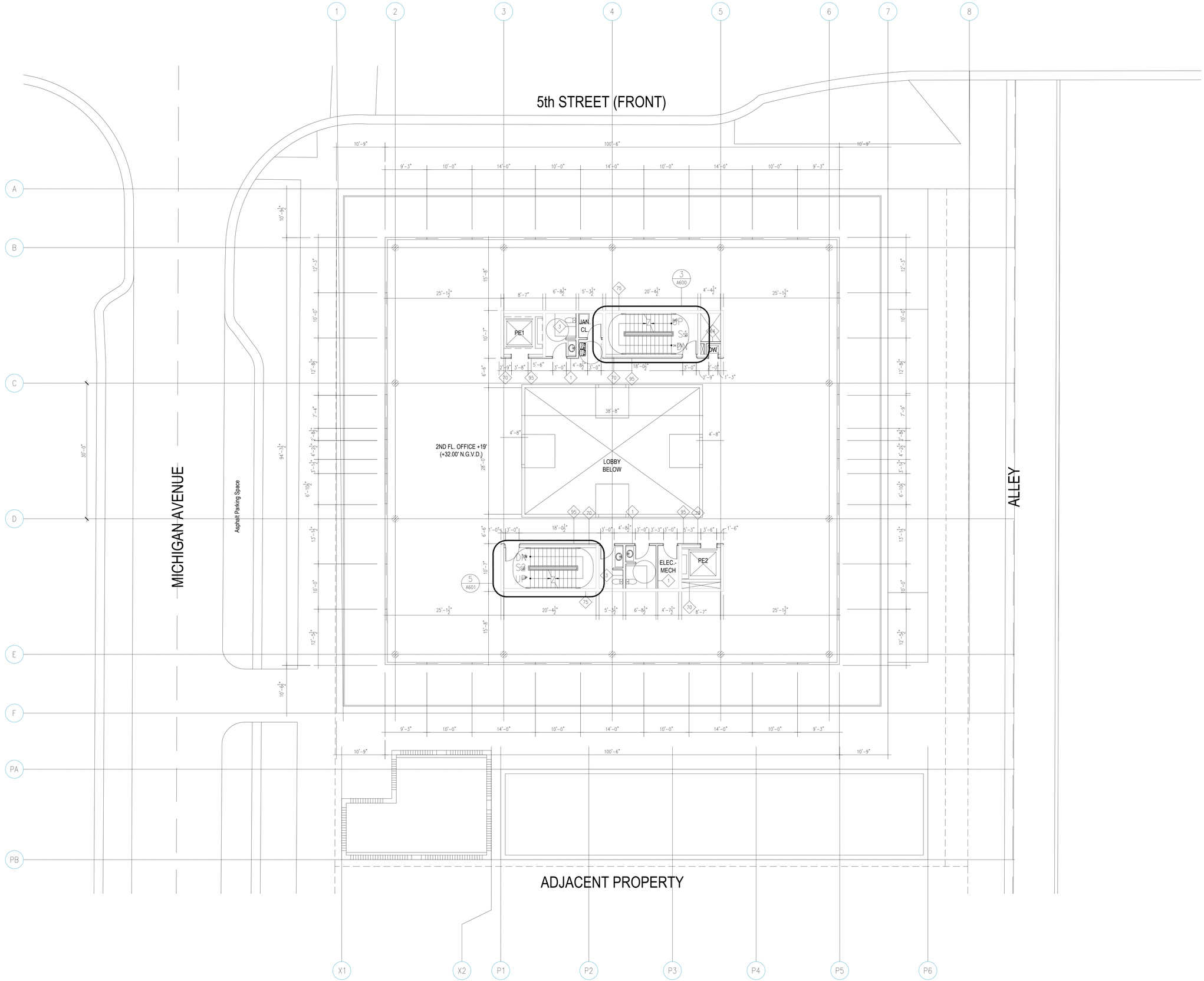
drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Mezzanine Floor Plan

drawing number:
A102M




1 SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

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MIAMI BEACH, FL

client information:
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SOFI OWNER LLC
55 E 59th St
Floor 24
New York, NY 10022

consultant information:

issuance:
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CONSTRUCTION

north arrow:
N

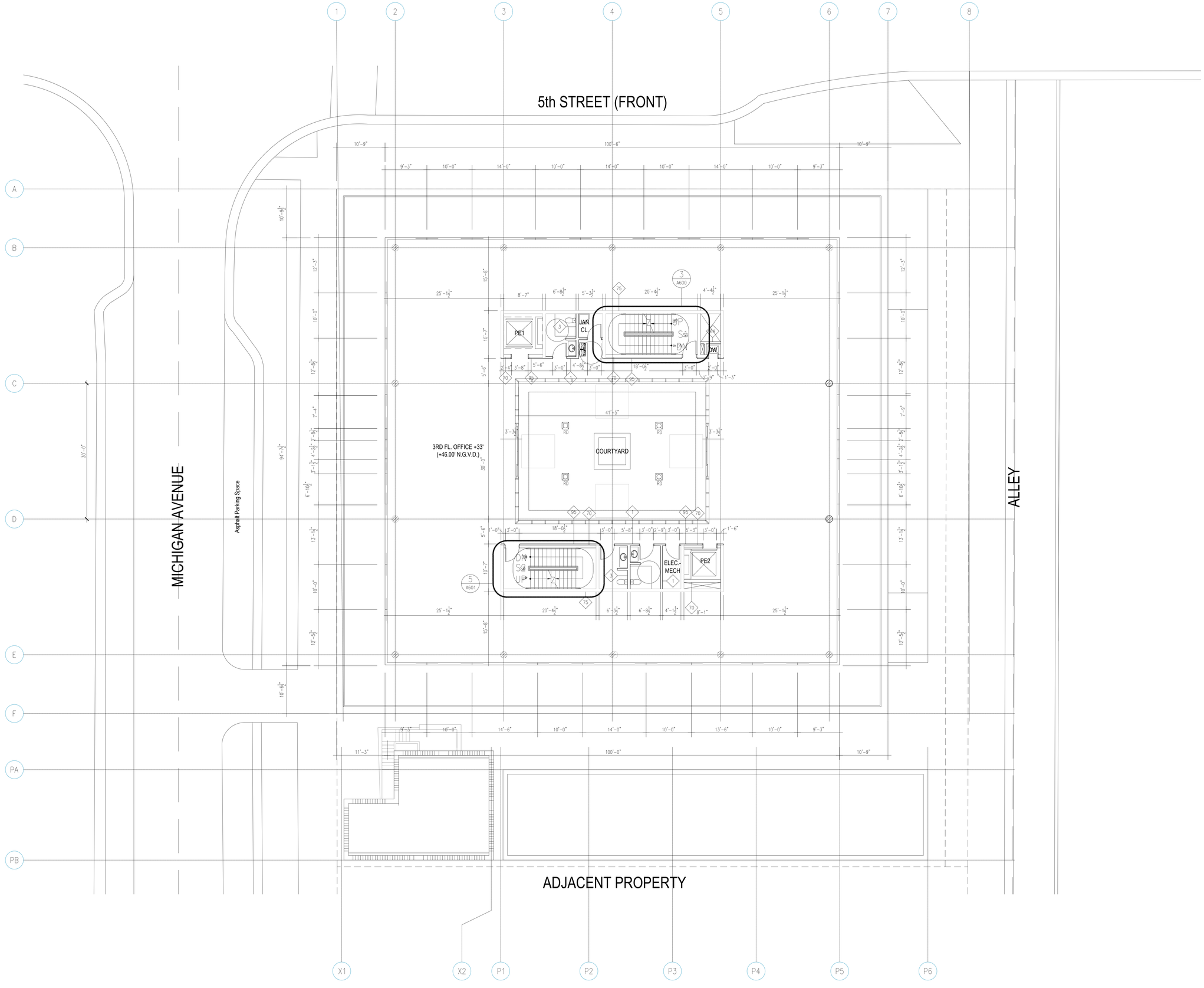
drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Second Floor Plan

drawing number:
A103




1 THIRD FLOOR PLAN
SCALE: 1/8" = 1'-0"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project information:
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411 MICHIGAN AVENUE
MIAMI BEACH, FL

client information:
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SOFI OWNER LLC
55 E 59th St
Floor 24
New York, NY 10022

consultant information:

issuance:
100% SD SUBMITTAL

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north arrow:
N

drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077

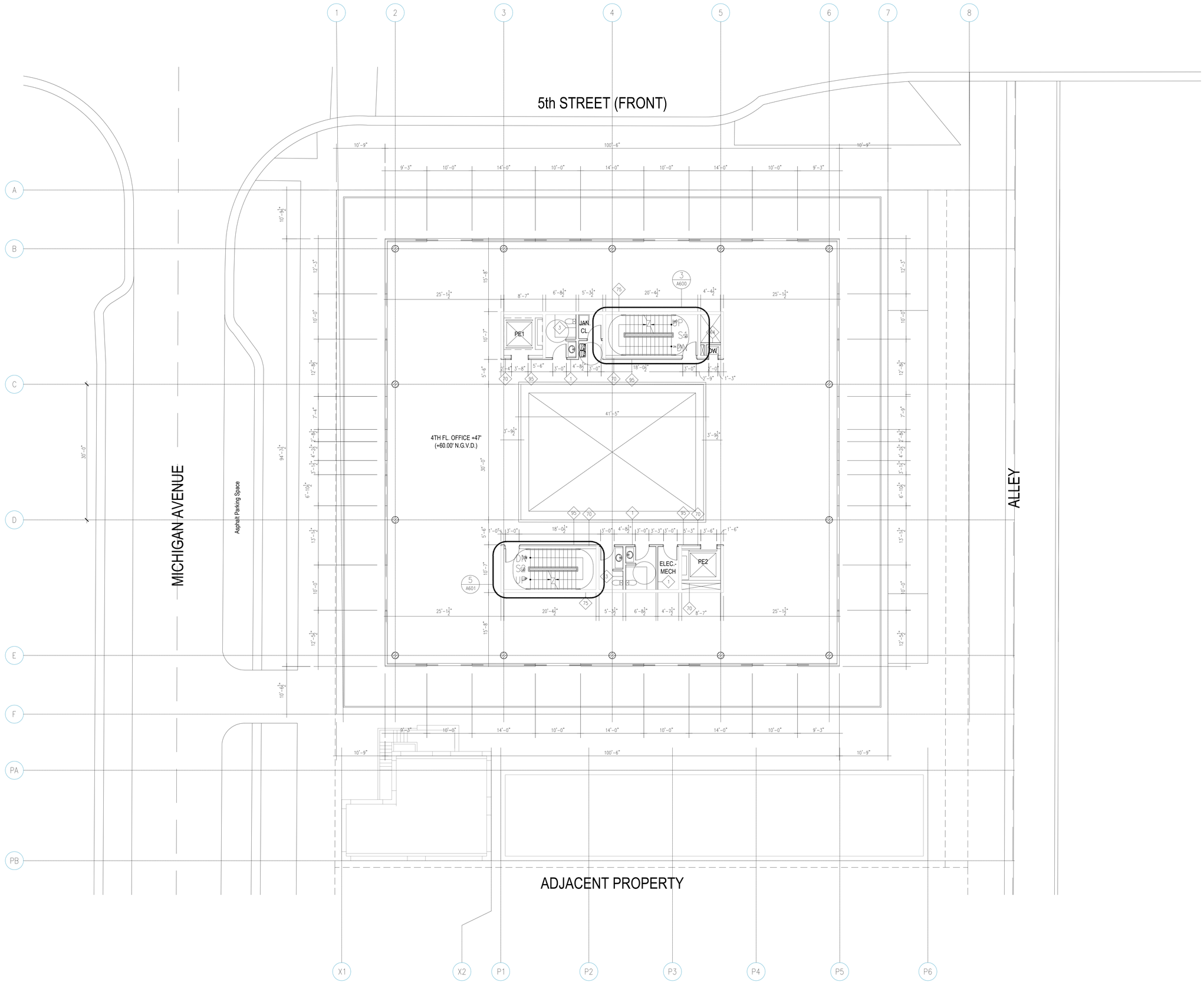
drawing revisions:

| No. | Description | Date |
|---|---|---|
| | | |

registration:

drawing name:
Third Floor Plan

drawing number:
A104

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project information:
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MIAMI BEACH, FL

client information:
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Floor 24
New York, NY 10022

consultant information:

issuance:
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north arrow:
N

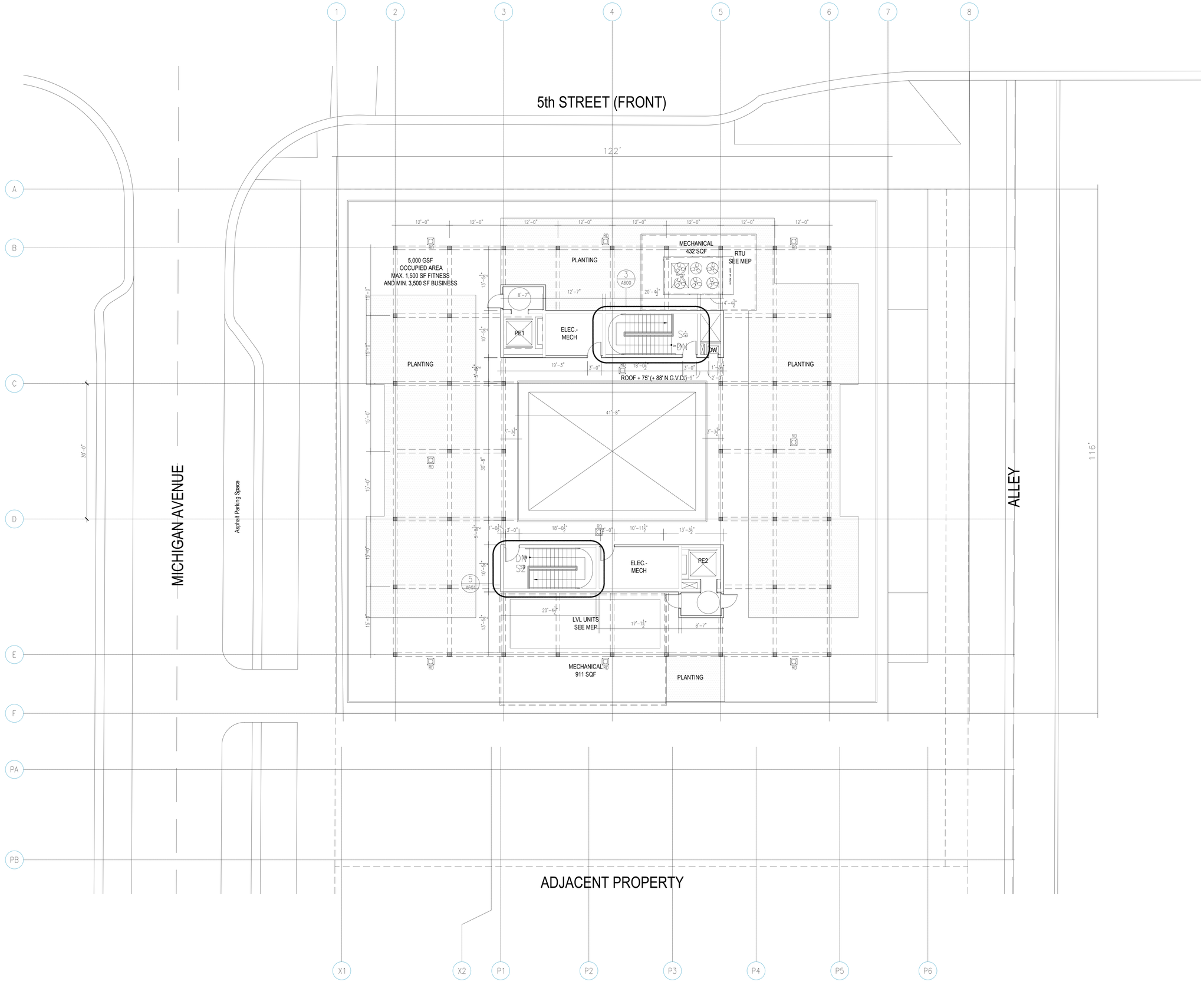
drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Fourth
Floor Plan

drawing number:
A105




1 ROOF PLAN
SCALE: 1/8" = 1'-0"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project information:
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MIAMI BEACH, FL

client information:
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SOFI OWNER LLC
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Floor 24
New York, NY 10022

consultant information:

issuance:
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SUBMITTAL

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north arrow:
N

drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077

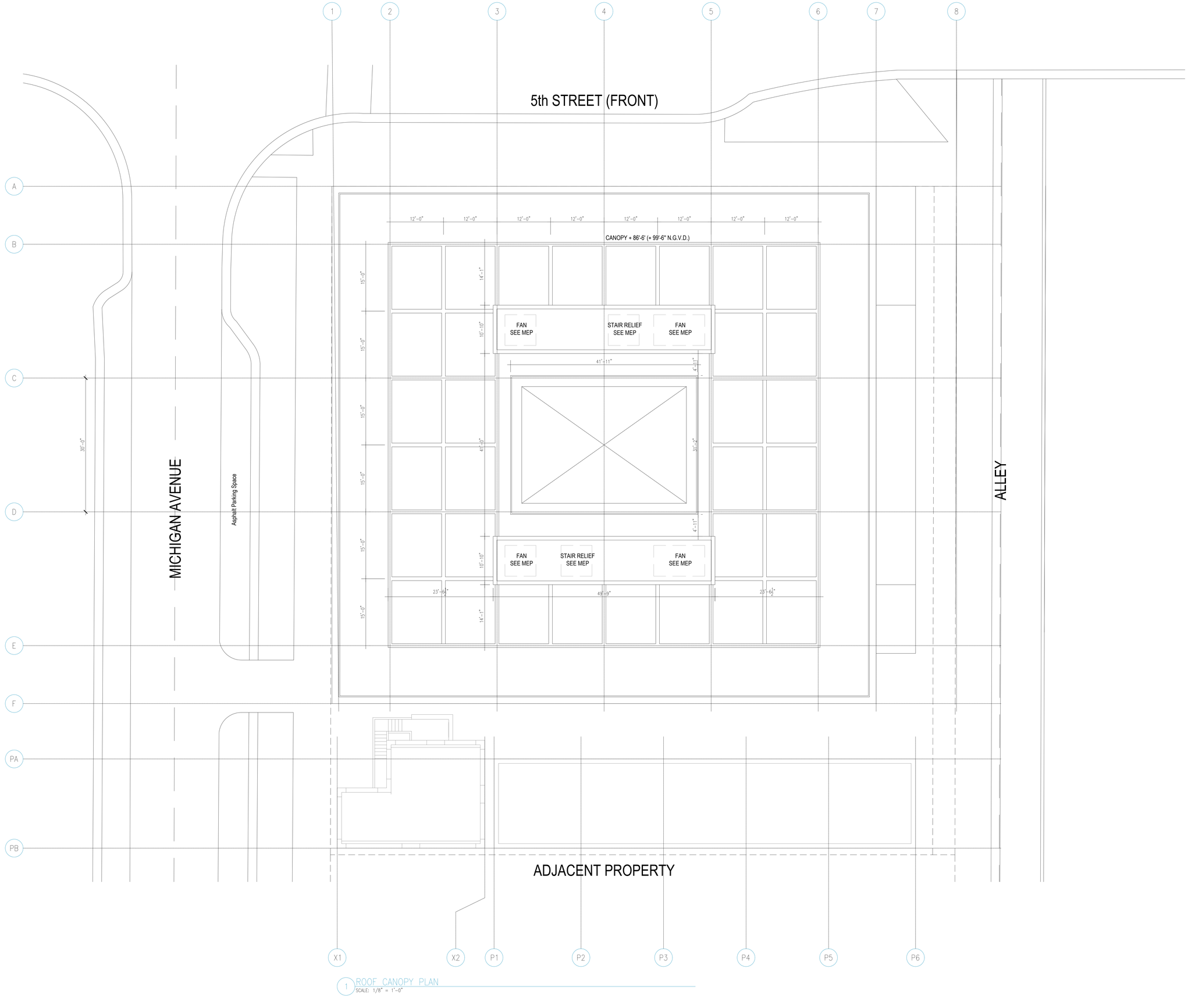
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Roof Plan

drawing number:
A107




1 ROOF CANOPY PLAN
SCALE: 1/8" = 1'-0"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MIAMI BEACH, FL

client information:
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SOFI OWNER LLC
55 E 59th St
Floor 24
New York, NY 10022

consultant information:

issuance:
100% SD
SUBMITTAL

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CONSTRUCTION

north arrow:
N

drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077

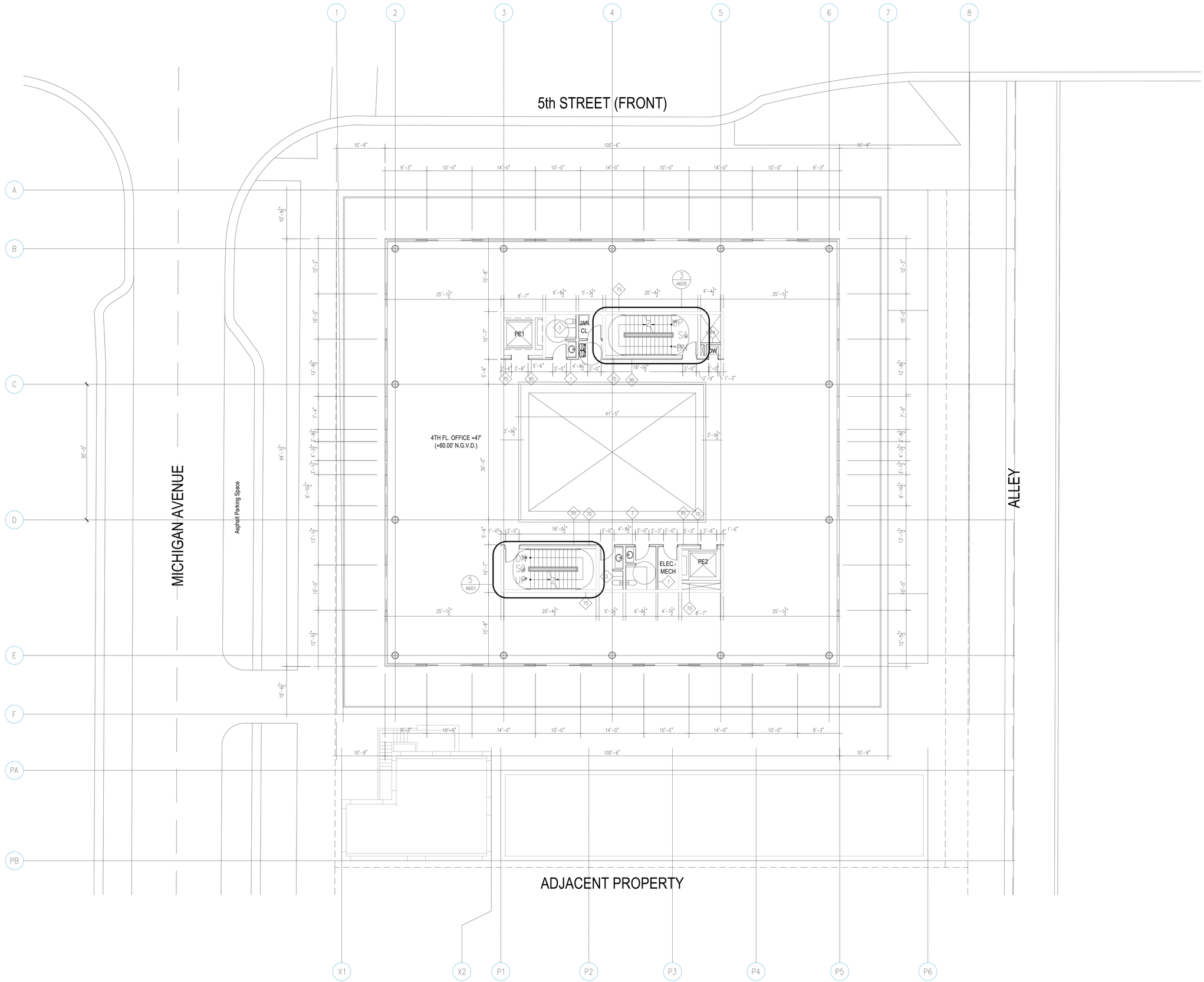
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Roof Canopy Plan

drawing number:
A108




1 FOURTH AND FIFTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

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phone: 305.925.7707 www.cube3.com

project information:
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411 MICHIGAN AVENUE
MIAMI BEACH, FL

client information:
411 MICHIGAN
SOFI OWNER LLC
55 E 59th St
Floor 24
New York, NY 10022

consultant information:

issuance:
100% SD
SUBMITTAL

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CONSTRUCTION

north arrow:
N

drawing information:
drawing by:
drawing checked by:
drawing scale:
drawing date: 10/20/21
project number: 21077
drawing revisions:

| No. | Description | Date |
|---|---|---|

registration:

drawing name:
Fifth
Floor Plan

drawing number:
A106

## ZONING ANALYSIS | 419 Michigan Avenue | Miami Beach, Florida

***Cube3 Project Number:*** 21077_50_FL
***Client: Sumaida + Khurana***

| Zoning Districts | Reference | Required \| Allowed | Provided | | Notes |
|---|---|---|---|---|---|
| 944 5th Street | Folio No. 02-4203-010-0030 | CPS-2 Commercial Performance Standard | CPS-2 Commercial Performance Standard | Record | CPS-2 \| General Mixed-Use Commercial |
| 419 Michigan Avenue | Folio No. 02-4203-009-6170 | CPS-2 Commercial Performance Standard | CPS-2 Commercial Performance Standard | Record | |
| 411 Michigan Avenue | Folio No. 02-4203-009-6160 | CPS-2 Commercial Performance Standard | CPS-2 Commercial Performance Standard | Record | Contributing Structure \| Distict - Ocean Beach Historic District \| Style: Meditterranean Revival \| Year: 1933 |
| Historic District | All Parcels | Ocean Beach Historic District | | | |

| Lot Area Summary | | | | | |
|---|---|---|---|---|---|
| Net Lot Area | | | | | |
| 944 5th Street | Folio No. 02-4203-010-0030 | 7,000 SF | | Record | |
| 419 Michigan Avenue | Folio No. 02-4203-009-6170 | 7,000 SF | | Record | |
| 411 Michigan Avenue | Folio No. 02-4203-009-6160 | 7,000 SF | | Record | |
| **Total Lot Area Before Dedications (SF)** | | **21,000 SF** | | **Record** | |
| **Total Lot Area Before Dedications (Acres)** | | **0.48 Acres** | | **Record** | |

| FEMA Zone | | | | | |
|---|---|---|---|---|---|
| FEMA Zones | | | | | |
| 944 5th Street | | AE-8 \| DBFE with 5'-0" Freeboard = 13 Feet | | Record | *Verify that Planning agrees with 5'-0" Freeboard* |
| 419 Michigan Avenue | | AE-8 \| DBFE with 5'-0" Freeboard = 13 Feet | | Record | |
| 411 Michigan Avenue | | AE-8 \| DBFE with 5'-0" Freeboard = 13 Feet | | Record | |

*Freeboard* means the additional height, usually expressed as a factor of safety in feet, above a flood level for purposes of floodplain management. Freeboard tends to compensate for many unknown factors, such as wave action, blockage of bridge or culvert openings, and hydrological effect of urbanization of the watershed, which could contribute to flood heights greater than the heights calculated for a selected frequency flood and floodway conditions. All new construction and substantial improvements to existing construction shall meet the minimum freeboard requirement, and may exceed the minimum freeboard requirement up to the maximum freeboard without such height counting against the maximum height for construction in the applicable zoning district.

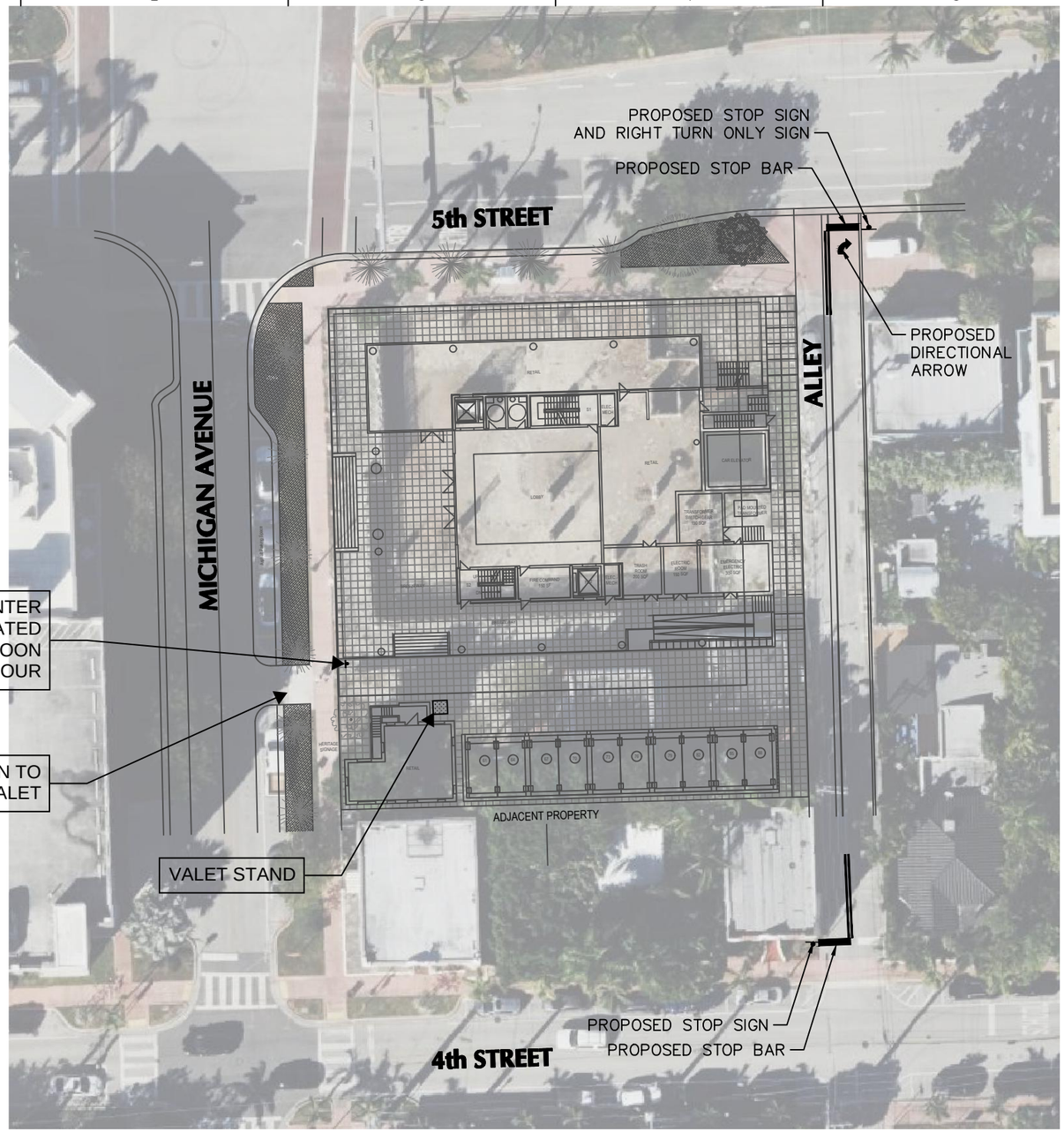
*Freeboard, minimum* equals one (1) foot
*Freeboard, maximum* equals one (1) foot

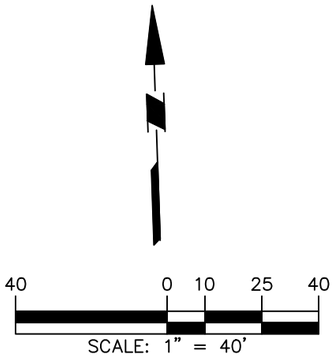
| Commercial Performance Standard Area Requirements - Sec. 142-698 | | | | |
|---|---|---|---|---|
| Minimum Lot Area | | 6,000 SF | 21,000 SF | **Compliant** |
| Minimum Lot Width | | 50 Feet | 140 Feet | **Compliant** |
| Maximum Building Height | | 50 Feet - East of Lenox Avenue \| 75 Feet - West of Lennox Avenue | 50 Feet - East of Lenox Avenue | **Non-Compliant** |
| Maximum Floor Area Ratio | 2.0 | **42,000 SF** | **41,954 SF** | **Compliant** |
| Resdential and/or hotel development | | N/A | N/A | **N/A** |
| Minimum Apartment Unit Size (Square Feet) | | N/A | N/A | **N/A** |
| Average Apartment Unit Size (Square Feet) | | N/A | N/A | **N/A** |
| Minimum Floor Area per Hotel Unit (Square Feet) | | N/A | N/A | **N/A** |
| Minimum Parking Requirements | | Pursuant to Chapter 130 and Chapter 142-702 requirements | See Below | |
| Minimum Off-Street Loading | | Pursuant to Chapter 130 | See Below | |
| Signs | | Pursuant to Chapter 138 | See Below | |

| Setback Requirements in the C-PS2 Districts - Sec. 142-699 | | |
|---|---|---|
| Subterranean | | |
| Front | 0'-0" Minimum | |
| Side, Interior | 0'-0" Minimum | |
| Side, Facing a Street | 0'-0" Minimum | |
| Rear | 0'-0" Minimum | |
| Pedestal and Tower (Non-Oceanfront) | | |
| Front | 0'-0" Minimum | *(b) All required setback shall be considered as minimum requirements except for the pedestal front yard setback and the pedestal side yard facing a street setback, which shall be considered both a minimum and maximum requirements, except for the Goodman and Hinson Parcels; (c) For Lots greater than 100 feet in width the front setback shall be extended to include at least one open court with a minimum of three square feet for every linear foot of lot frontage, except for those properties located in the CPS-1 district.* |
| Side, Interior | 7'-6" feet when abutting a residential district, otherwise none | |
| Side, Facing a Street | 0'-0" Minimum | |
| Rear | 10'-0" feet when abutting a residential district, otherwise 5 feet | |
| Pedestal and Tower (Oceanfront) | | |
| Front | N/A | |
| Side, Interior | N/A | |
| Side, Facing a Street | N/A | |
| Rear | N/A | |
| Parking lots and garages | | |
| General | if located on the same lot as the main structure the above setbacks shall apply | |
| Mixed-use Building - Sec. 142-700 | N/A - no Mixed-Use Component | |

| Parking Requirements - Chapter 130 \| Chapter 142-702 | | | | | |
|---|---|---|---|---|---|
| Parking District | | Parking District No. 01 | | | |
| **Office or Office Building** | Ground Floor \| One Space per 300 square feet of floor area | 3,100 SF<br>10 Parking Spaces | | | *Verify Requirement for Below grade area - only indicates Ground and Upper Floors* |
| | Upper Floors \| One Space per 400 square feet of floor area | 35,310 SF<br>88 Parking Spaces | | | |
| | Historic Property<br>Ground Floor \| One Space per 300 square feet of floor area | 638 SF<br>2 Parking Spaces | | | |
| | **Office or Office Building Required Parking =** | **99 Parking Spaces** | | | |
| **Retail Parking** | Ground Floor \| One Space per 300 square feet of floor area | 2,676 SF<br>9 Parking Spaces | | | |
| | **Retail Required Parking =** | **9 Parking Spaces** | | | |
| | **Total Parking Required =** | **108 Parking Spaces** | | | |
| | **Total Parking Required (after reductions) =** | **88 Parking Spaces** | **89 Parking Spaces** | | |
| **Mechanical Parking - Sec. 130-38** | Two Sets of Schematics must be presented showing traditional parking and parking utilizing Mechanical Lifts | | | | *Has this been done?* |
| **Electric Vehicle Parking - Sec. 130-39** | 2.00% of the Required Parking | **2 Electric Vehicle Parking Spaces** | **0 Electric Vehicle Parking Spaces** | | |
| **Alternative Parking Incentives - Sec. 130-40** | | **Minimum off-street parking may be reduced as follows:** | | | |
| Bicycle Parking - Long-Term | off-street parking may be reduced by one off-street parking space for every five long-term bicycle parking spaces; not to exceed 15 percent of the off-street parking spaces that would otherwise be required | | **10 Bicycle Parking - Long-Term** | | |
| Bicycle Parking - Short-Term | off-street parking may be reduced by one off-street parking space for every ten long-term bicycle parking spaces; not to exceed 15 percent of the off-street parking spaces that would otherwise be required | | **0 Bicycle Parking - Short-Term** | | |
| Carpool/Vanpool Parking | off-street parking may be reduced by three off-street parking space for every one parking space reserved for carpool or vanpool vehicle registered with South Florida Commuter Services; not to exceed 10 percent of the off-street parking spaces that would otherwise be required | | **3 Carpool/Vanpool Parking** | | |
| Drop-off and loading for transportation for compensation vehicles | Not Applicable | | **0 Transportation Loading** | | |
| Scooter, Moped and Motorcycle Parking | off-street parking may be reduced by one off-street parking space for every three scooter, moped or motorcyble parking space; not to exceed 15 percent of the off-street parking spaces that would otherwise be required | | **12 Scooter, Moped and Motorcycle** | | |
| Showers | The minimum off-street parking requirements for noresidential uses that provide showers or changing facilities for bicyclists may be reduced by two off-street parking spaces for each separate shower facility up to a maximum of eight parking spaces. | | **4 Showers** | | |
| **Off-street parking space dimensions** | | **Minimum off-street parking may be reduced as follows:** | | | |
| Standard Space Dimensions | | 8'-6" x 18'--0" | **8'-6" x 18'-0"** | | |
| Standard Parrallel Parking Space Dims. | | 8'-6" x 21'-0" | | | |
| **Interior Drive Aisles** | | **Minimum off-street parking may be reduced as follows:** | | | |
| 90 degree parking | 22 feet, with columns parallel to the interior drive on each side of the required drive, set back an additional one foot six inches, measured from the edge of the required drive to the face of the columns | | | | |
| 45 degree parking | | 11'-0" | | | |
| 60 degree parking | | 17'-0" | | | |
| **Drives** | | **Minimum off-street parking may be reduced as follows:** | | | |
| | Drives shall have a minimum width of 22 feet for two-way traffic | | **22'-0"** | | |

| Loading Requirements - Sec. 130-101 | | | | | |
|---|---|---|---|---|---|
| **Office Buildings** | Over 10,000 but not over 100,000; Two Spaces | | 2 Loading Spaces | | ***Must Be Located Internally unless waived due to being in a locally designated historic district.*** |
| **Retail** | Over 2,000 but not overl 10,000; One Space | | 1 Loading Spaces | | |
| | **Total Loading Berths Required =** | | **3 Loading Spaces** | 1 Pullover space in Alley | ***Suggest proposing 2 Loading Spaces due to the overall areas of the uses.*** |
| **Trash Room** | *A fully enclosed Trash Room is required with Air-Conditioning accessible from street* | | | | |

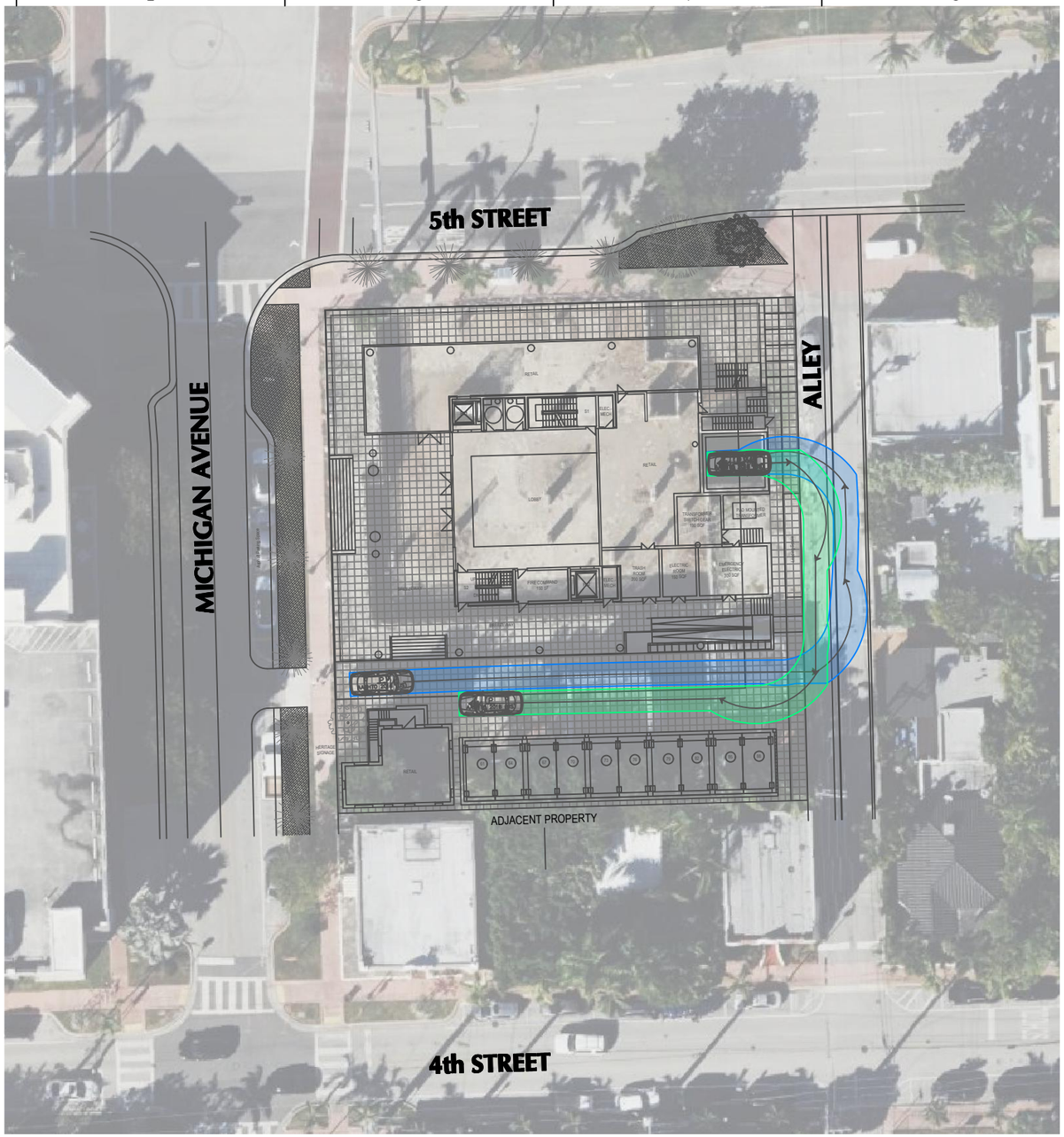


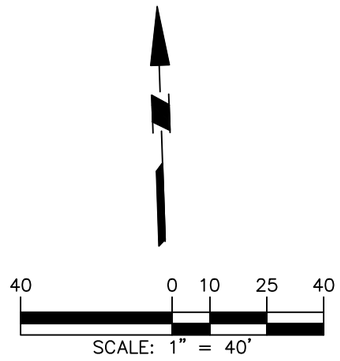




| | |
|---|---|
| LANGAN | Project: 419 MICHIGAN AVENUE |
| Langan Engineering and Environmental Services, Inc. | MIAMI BEACH |
| 15150 NW 79th Court, Suite 200 | MIAMI-DADE FLORIDA |
| Miami Lakes, FL 33016 | Drawing Title: STRIPING FIGURE |
| T: 786.264.7200 F: 786.264.7201 www.langan.com | Project No.: 300277901 |
| FL Certificate of Authorization No. 00006601/LB8172/LB8198 | Date: 09/02/2021 |
| | Drawn By: EC |
| | Checked By: MP |
| | Drawing No.: 1 |



Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 10/21/2021 Time: 16:01 User: ecanela Style Table: Langan.stb Layout: STRIPING




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

Scenario 1: Driveway on Michigan Avenue operates as an ingress only driveway in the morning, and an egress only driveway in the afternoon; while the Michigan Alley operates as an egress only driveway in the morning, and an ingress only driveway in the afternoon. Michigan Alley will operate as two-way between 5th and 4th Streets.

Legend

- Ingress
- Egress

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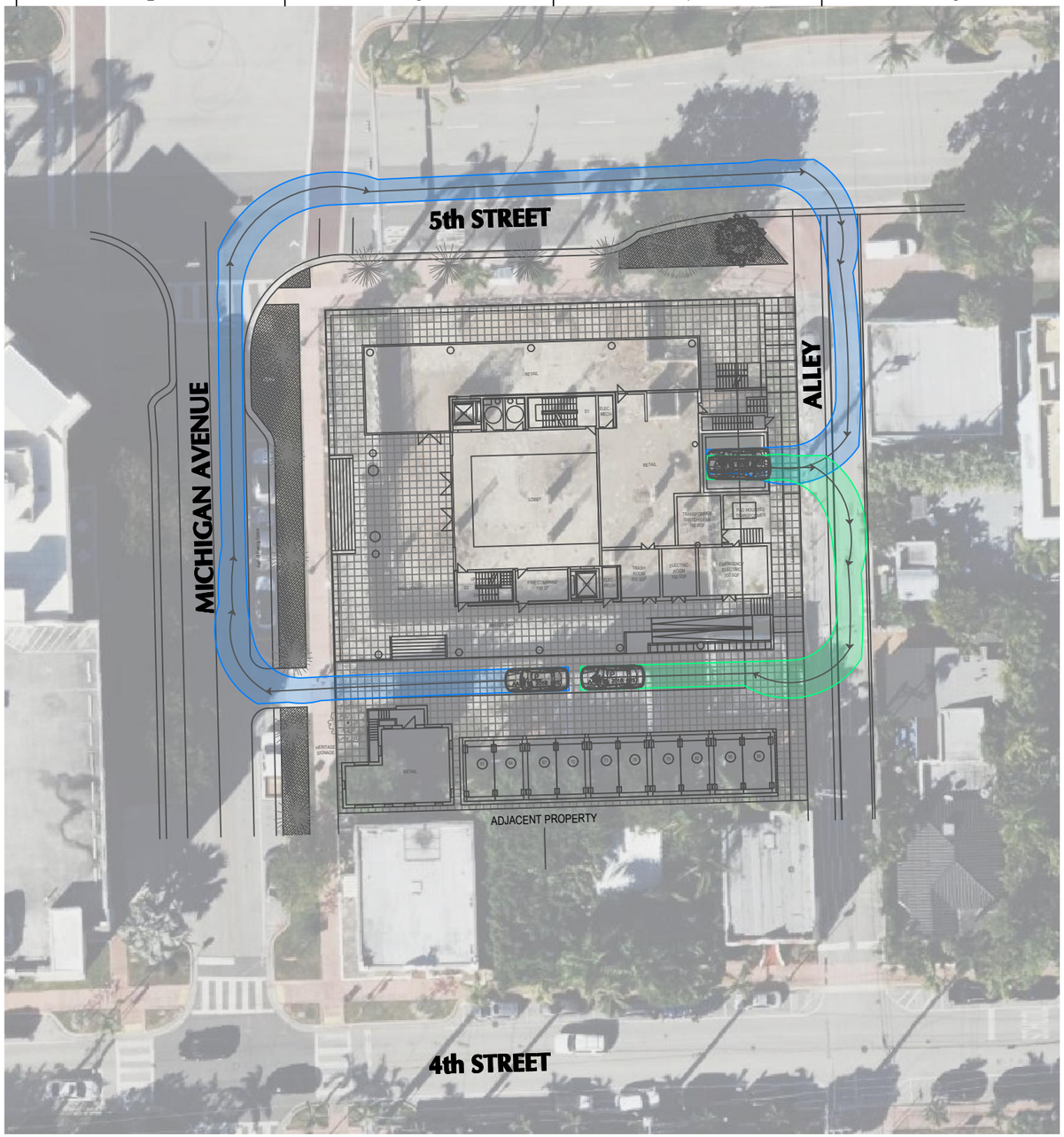
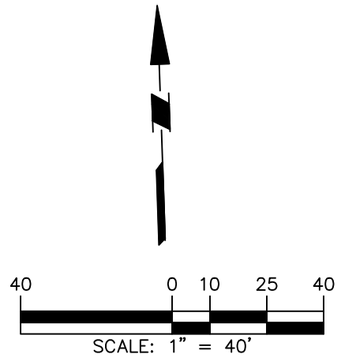
| | |
|---|---|
| Project | 419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA |
| Drawing Title | VEHICLE CIRCULATION FIGURE |
| Project No. | 300277901 |
| Date | 09/02/2021 |
| Drawn By | EC |
| Checked By | MP |
| Drawing No. | SCENARIO 1 |



Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 10/21/2021 Time: 16:01 User: ecanela Style Table: Langan.stb Layout: ITERATION 1




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

Scenario 2: All vehicles will enter through the Alley and exit through the Driveway on Michigan Avenue during all hours of the day.

Legend

Ingress

Egress

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Project
419 MICHIGAN AVENUE
MIAMI BEACH
MIAMI-DADE FLORIDA

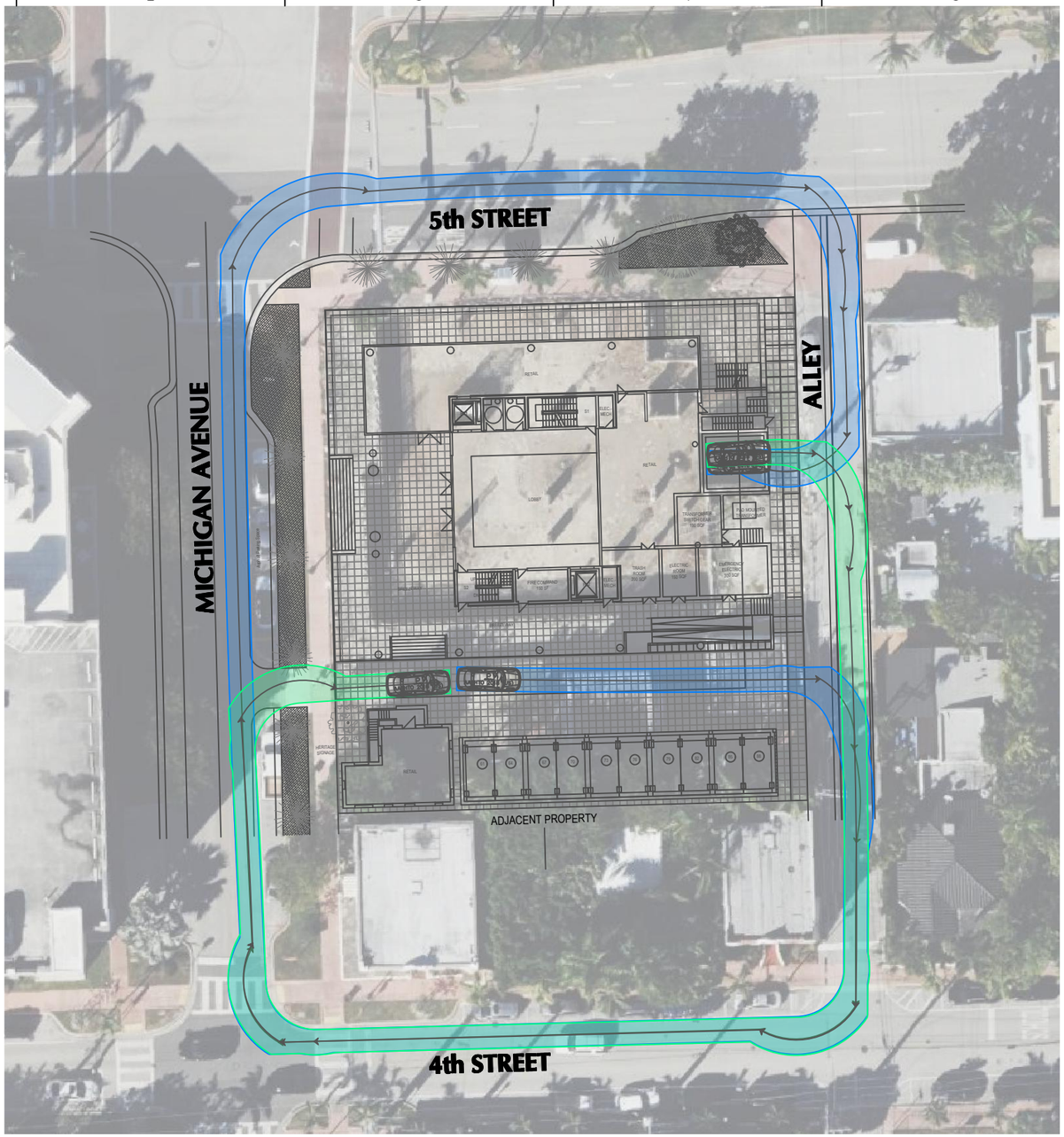
Drawing Title
VEHICLE CIRCULATION FIGURE

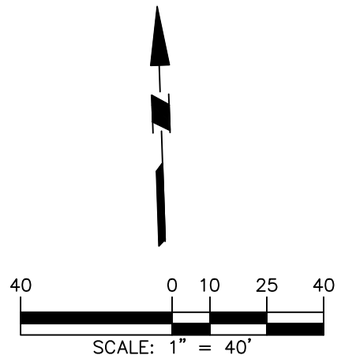
Project No. 300277901
Date 09/02/2021
Drawn By EC
Checked By MP

Drawing No.
SCENARIO 2



Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 10/21/2021 Time: 16:01 User: ecanela Style Table: Langan.stb Layout: ITERATION 2




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

Scenario 3: All vehicles will enter through the Driveway on Michigan Avenue and exit through the Alley during all hours of the day.

Legend

Ingress

Egress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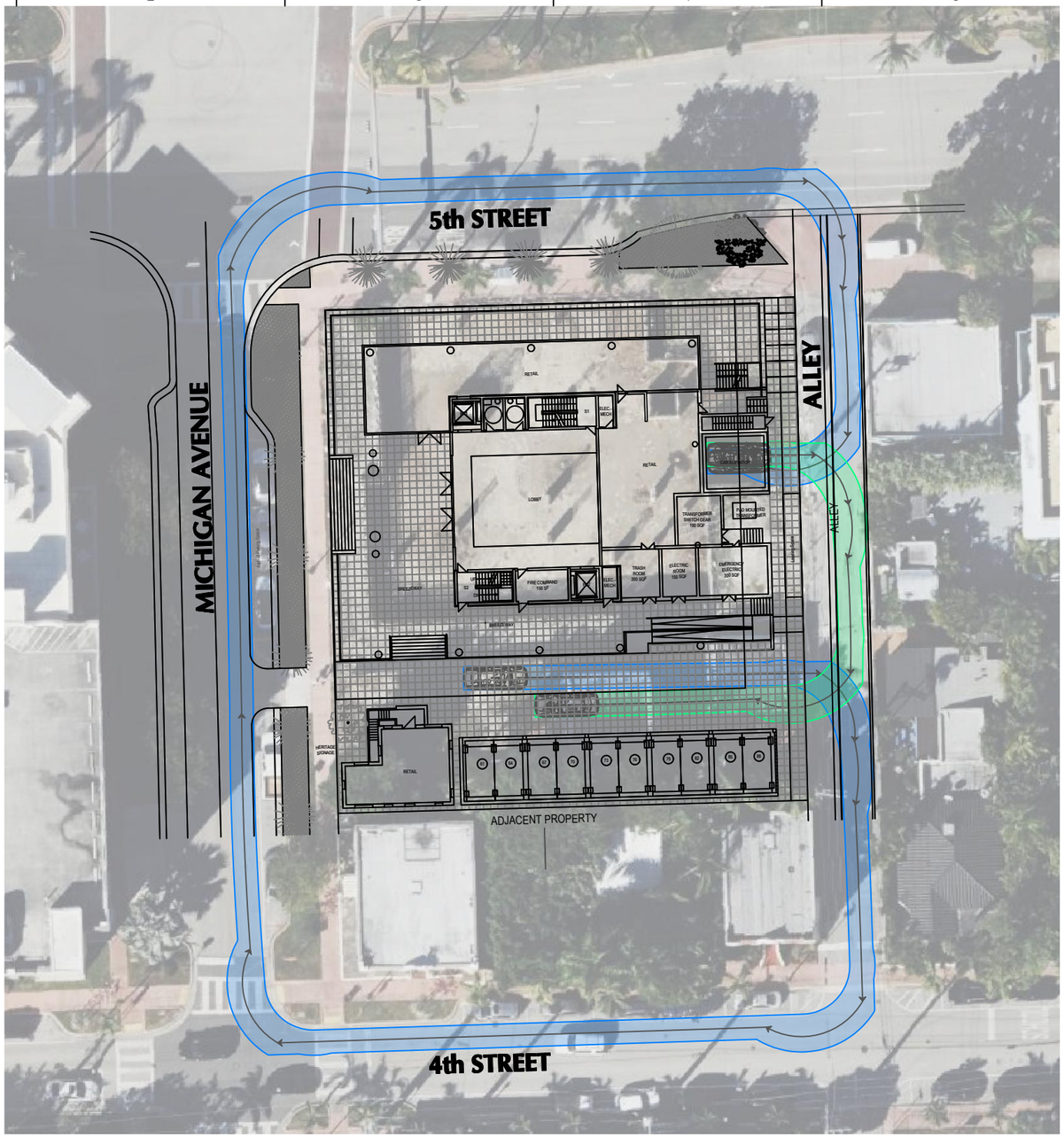
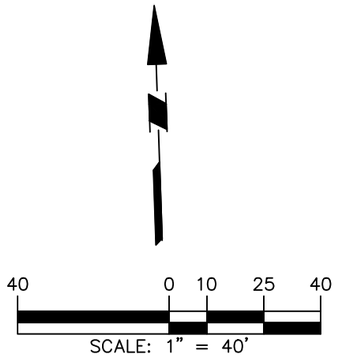
| | |
|---|---|
| Project | 419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA |
| Drawing Title | VEHICLE CIRCULATION FIGURE |
| Project No. | 300277901 |
| Date | 09/02/2021 |
| Drawn By | EC |
| Checked By | MP |
| Drawing No. | SCENARIO 3 |



Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 10/21/2021 Time: 16:01 User: ecanela Style Table: Langan.stb Layout: ITERATION 3




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

Scenario 4: Driveway on Michigan Avenue operates as an ingress only driveway in the morning, and an egress only driveway in the afternoon; while the Michigan Alley operates as an egress only driveway in the morning, and an ingress only driveway in the afternoon. Michigan Alley will operate as one-way southbound between 5th and 4th Streets.

Legend

- Ingress
- Egress

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Project
419 MICHIGAN AVENUE
MIAMI BEACH
MIAMI-DADE FLORIDA

Drawing Title
VEHICLE CIRCULATION FIGURE

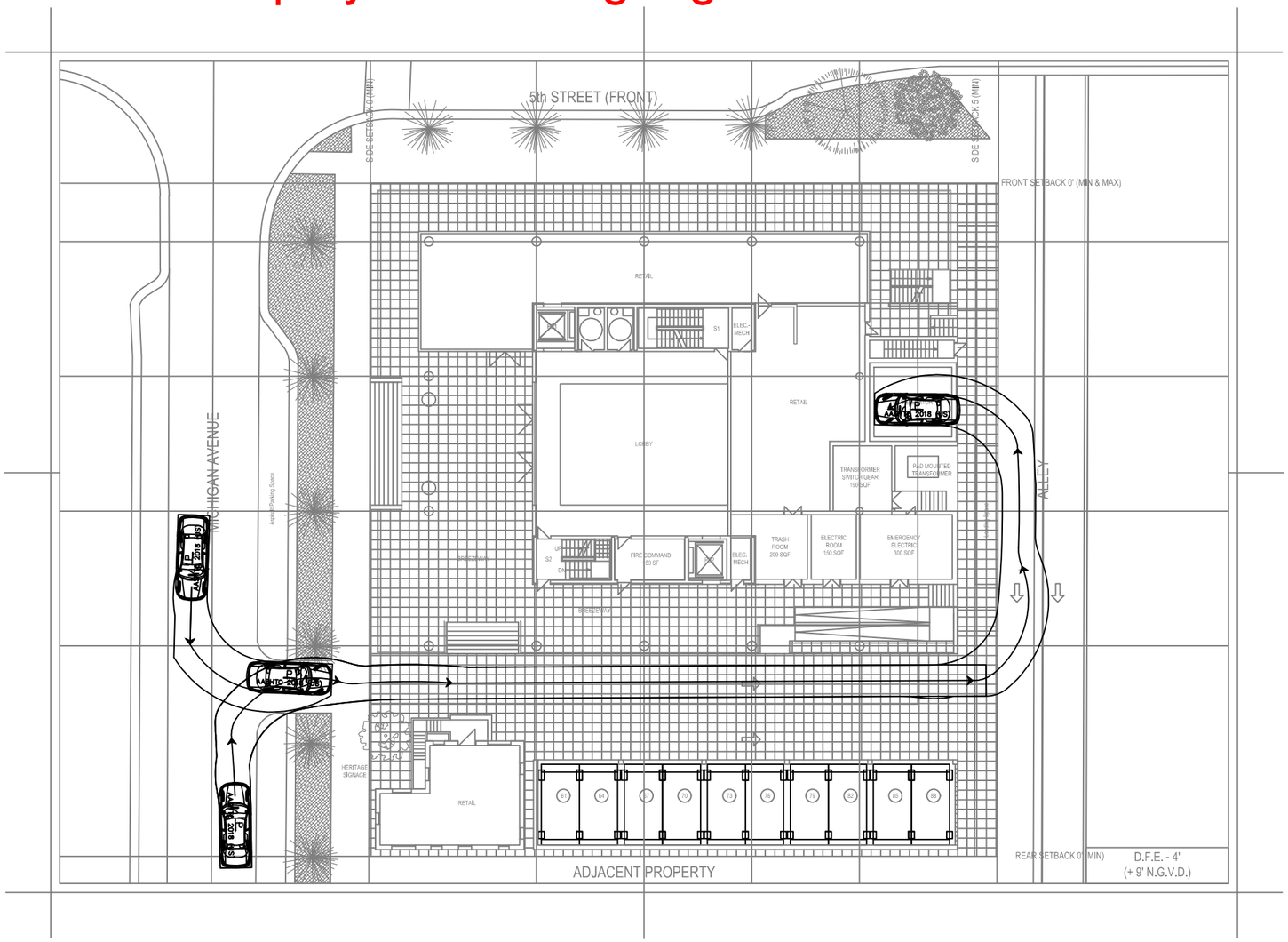
Project No. 300277901
Date 09/02/2021
Drawn By EC
Checked By MP

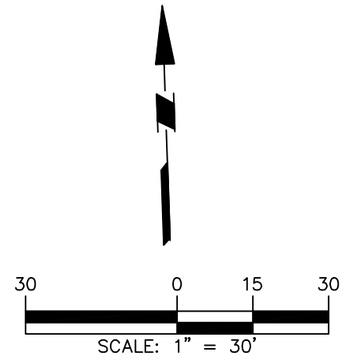
Drawing No.
SCENARIO 4

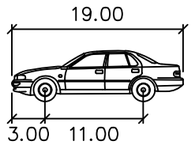


Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 10/21/2021 Time: 16:01 User: ecanela Style Table: Langan.stb Layout: ITERATION 4

# Employee Morning Ingress Circulation




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

| | | | | |
|---|---|---|---|---|
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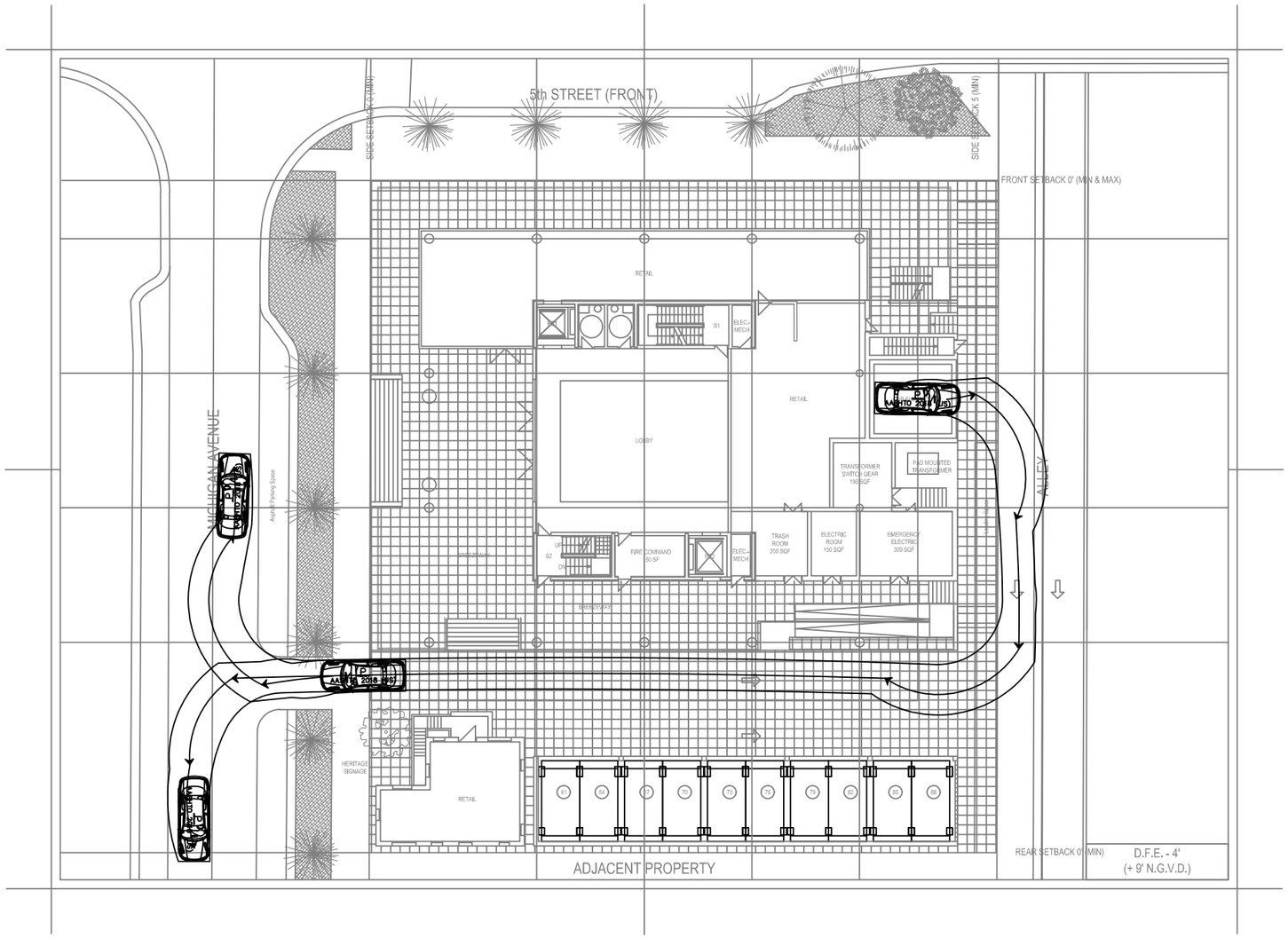
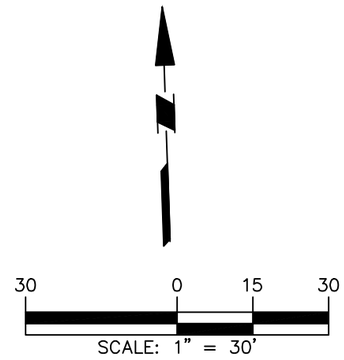
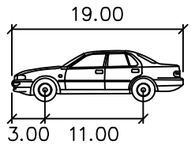
Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 9/2/2021 Time: 11:36 User: ecanela Style Table: Langan.stb Layout: ANSIB-BL

# Employee Afternoon Egress Circulation




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |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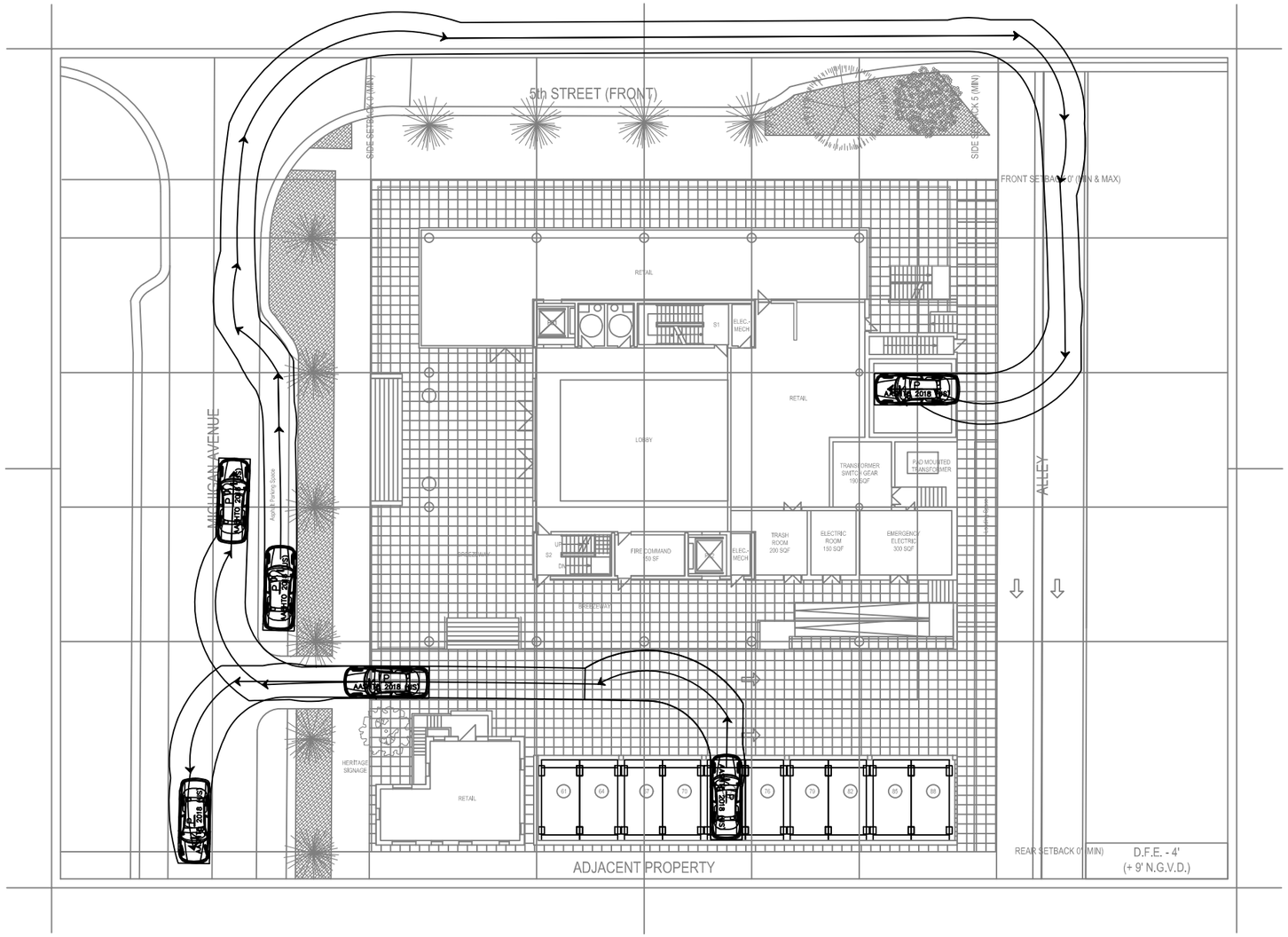
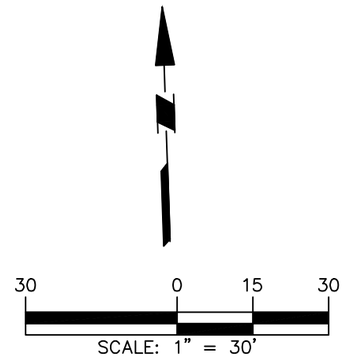
| | |
|---|---|
| Project | 419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA |
| Drawing Title | VEHICLE CIRCULATION FIGURE |
| Project No. | 300277901 |
| Date | 09/02/2021 |
| Drawn By | EC |
| Checked By | MP |
| Drawing No. | Fig-002 |

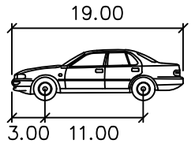


Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 9/2/2021 Time: 11:36 User: ecanela Style Table: Langan.stb Layout: ANSIB-BL (2)

# Visitors Afternoon Ingress/Egress Circulation




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |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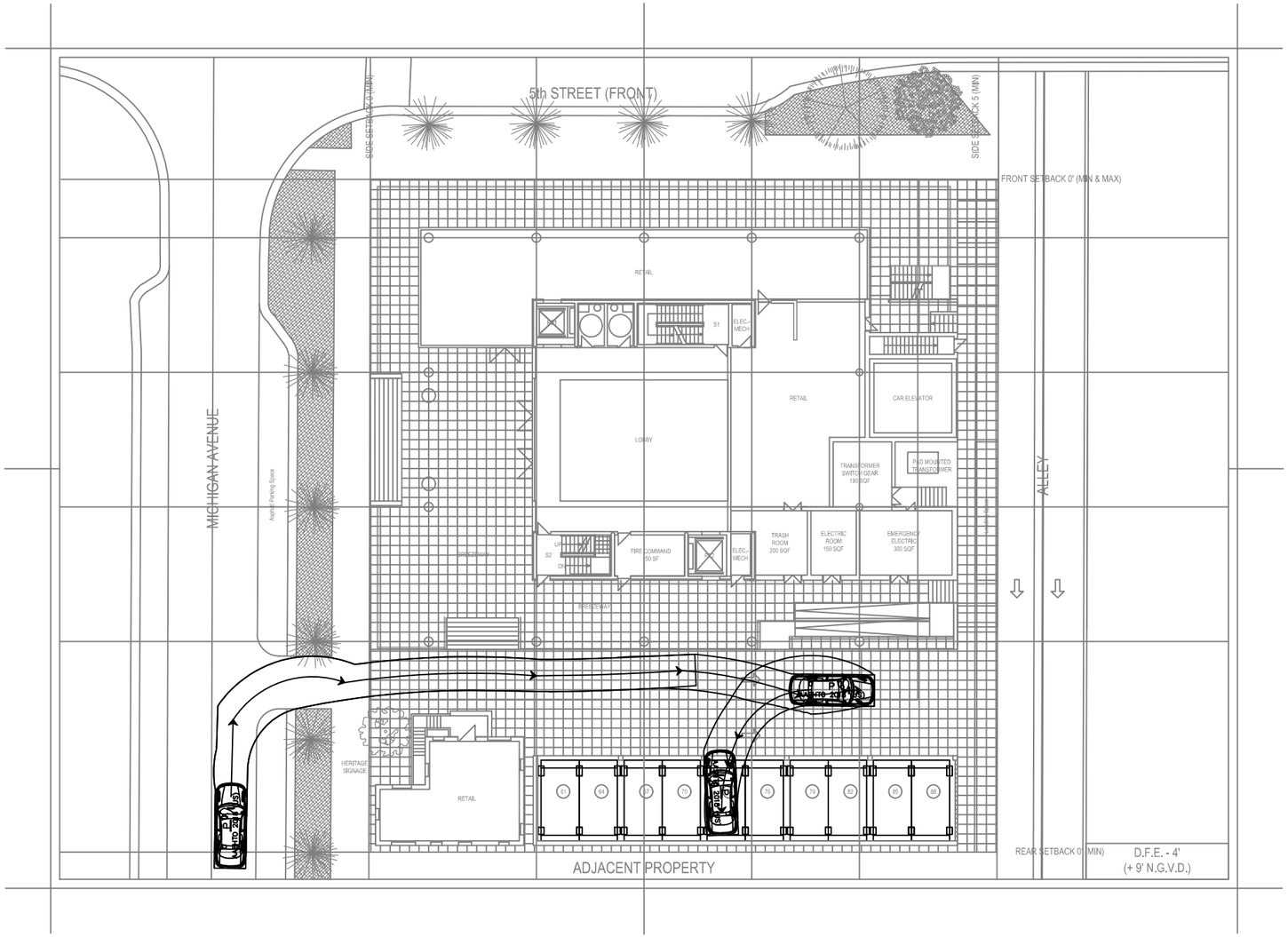
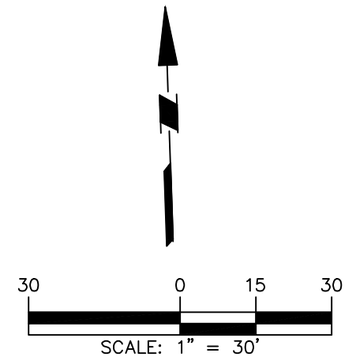
| | |
|---|---|
| Project | 419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA |
| Drawing Title | VEHICLE CIRCULATION FIGURE |
| Project No. | 300277901 |
| Date | 09/02/2021 |
| Drawn By | EC |
| Checked By | MP |
| Drawing No. | Fig-003 |

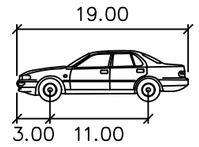


Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 9/2/2021 Time: 11:36 User: ecanela Style Table: Langan.stb Layout: ANSIB-BL (3)

# Visitors Morning Ingress Circulation




PASSENGER VEHICLE

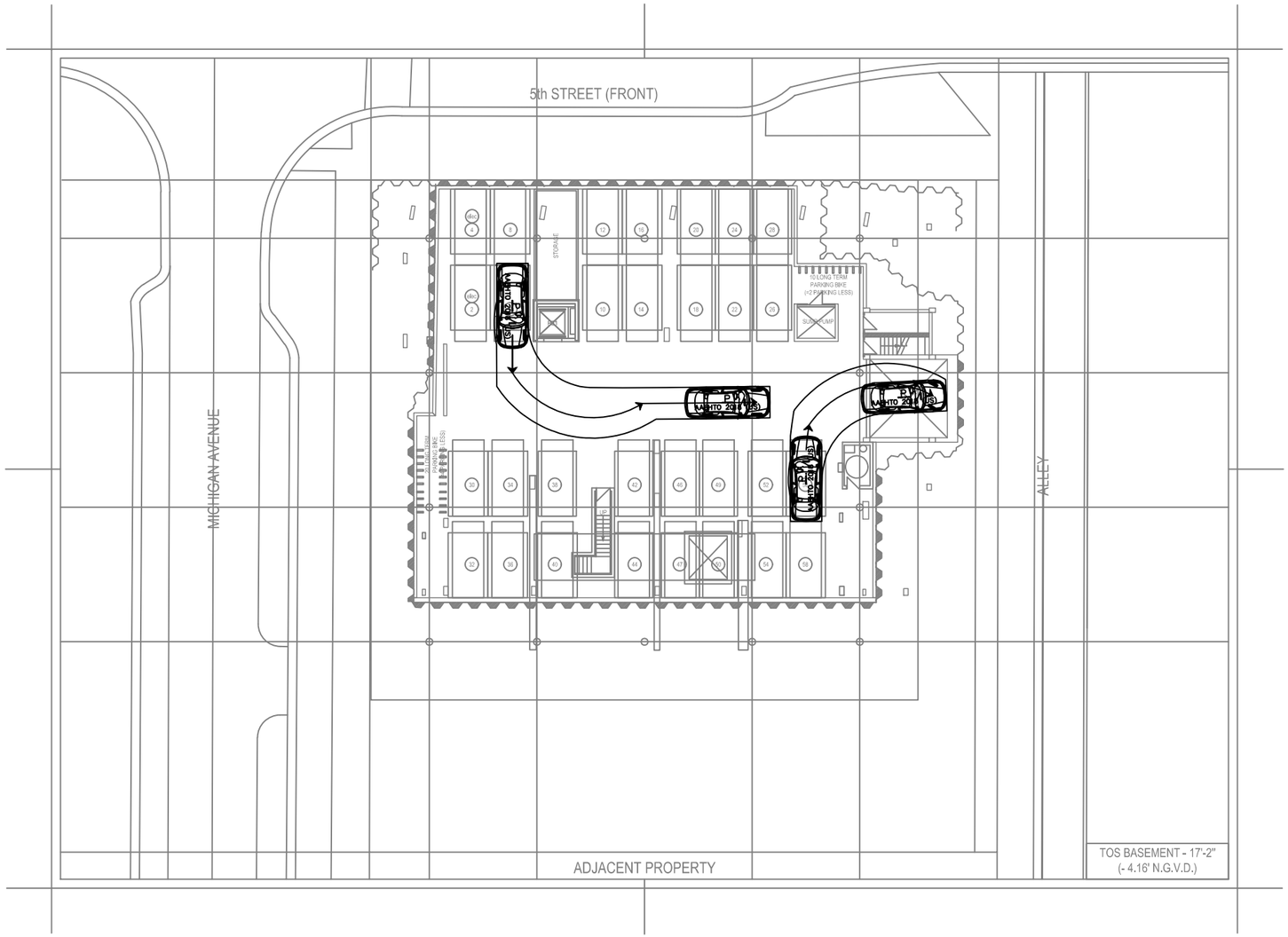
| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |

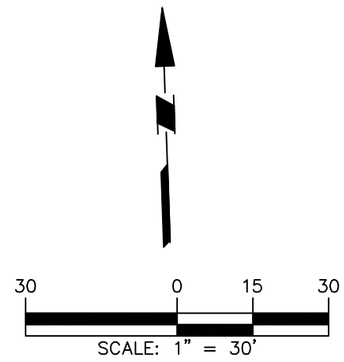
| | | | | |
|---|---|---|---|---|
| LANGAN<br>Langan Engineering and Environmental Services, Inc.<br>15150 NW 79th Court, Suite 200<br>Miami Lakes, FL 33016<br>T: 786.264.7200 F: 786.264.7201 www.langan.com<br>FL Certificate of Authorization No. 00006601/LB8172/LB8198 | Project<br>419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA | Drawing Title<br>VEHICLE CIRCULATION FIGURE | Project No. 300277901<br>Date 09/02/2021<br>Drawn By EC<br>Checked By MP | Drawing No.<br>Fig-004 |

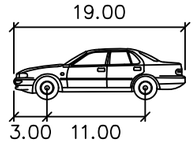


Filename: \\langan.com\data\MIA\data9\300277901\Project Data\CAD\01\SheetFiles_Drafts\300277901-CS101-0101.dwg Date: 9/2/2021 Time: 11:36 User: ecanela Style Table: Langan.stb Layout: ANSIB-BL (4)

# Basement Parking Circulation




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |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FL Certificate of Authorization No. 00006601/LB8172/LB8198


| | |
|---|---|
| Project | 419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA |
| Drawing Title | VEHICLE CIRCULATION FIGURE |
| Project No. | 300277901 |
| Date | 09/02/2021 |
| Drawn By | EC |
| Checked By | MP |
| Drawing No. | Fig-005 |



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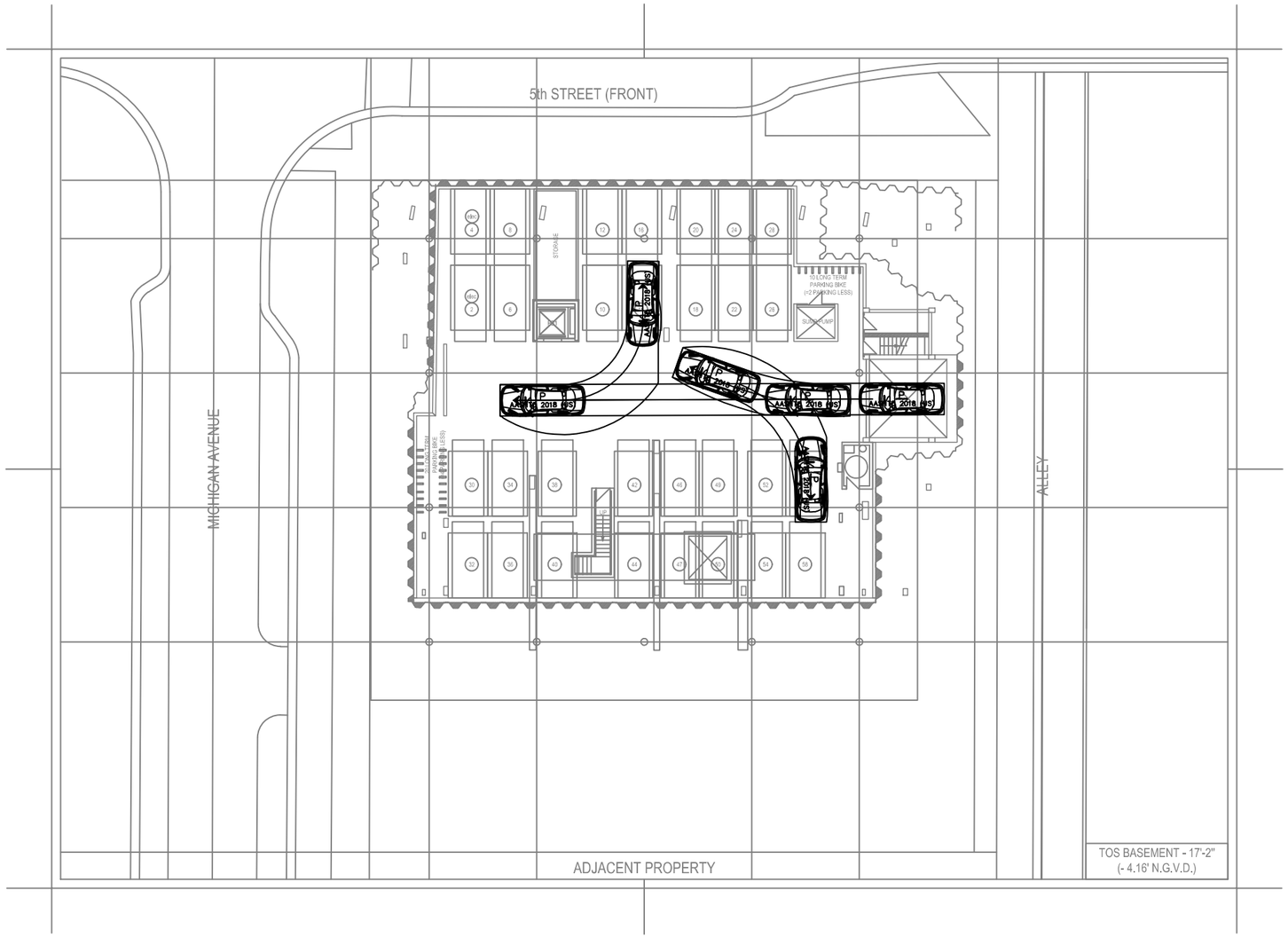
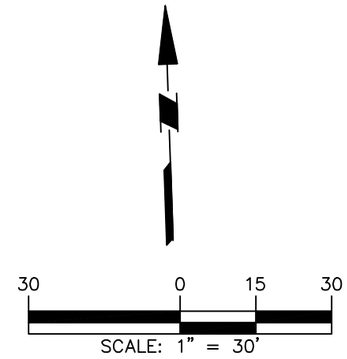
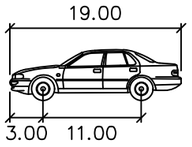
# Basement Parking Circulation




PASSENGER VEHICLE

| | feet |
|---|---|
| Width | : 7.00 |
| Track | : 6.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.6 |


LANGAN
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15150 NW 79th Court, Suite 200
Miami Lakes, FL 33016
T: 786.264.7200 F: 786.264.7201 www.langan.com
FL Certificate of Authorization No. 00006601/LB8172/LB8198


| | |
|---|---|
| Project | 419 MICHIGAN AVENUE<br>MIAMI BEACH<br>MIAMI-DADE FLORIDA |
| Drawing Title | VEHICLE CIRCULATION FIGURE |
| Project No. | 300277901 |
| Date | 09/02/2021 |
| Drawing By | EC |
| Checked By | MP |
| Drawing No. | Fig-006 |



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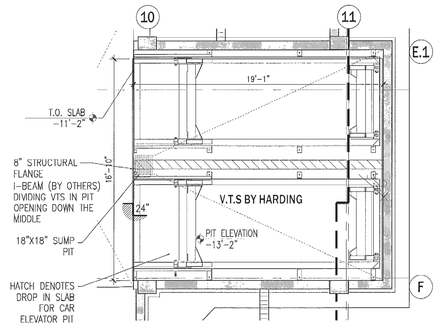
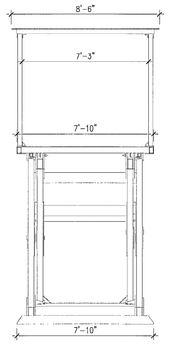
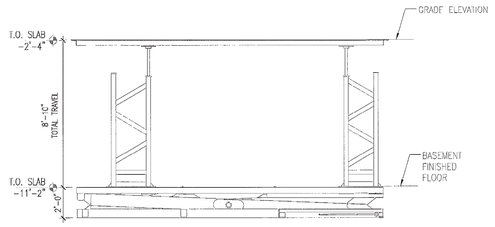


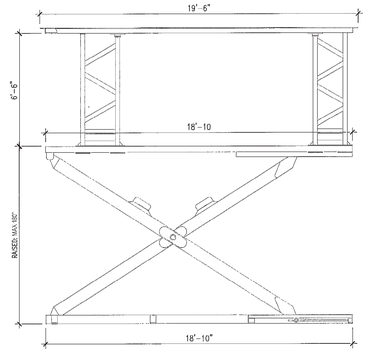

1 PARTIAL GROUND FLOOR PLAN
SCALE:3/16"=1'-0"



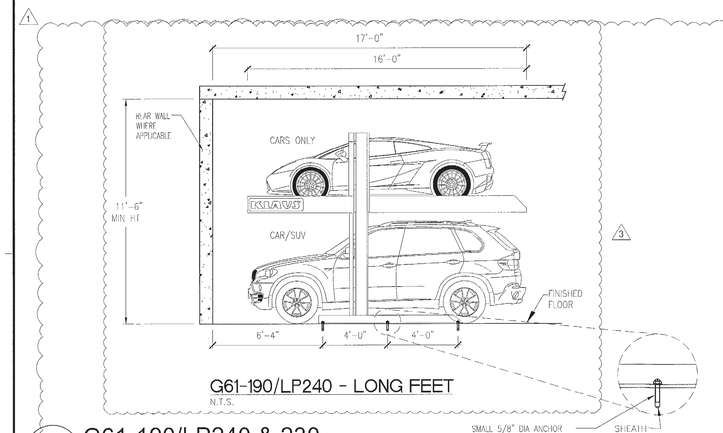

2 HARDING VTS FRONT VIEW (RAISED)
SCALE: 1/4"=1'-0"




3 HARDING VTS SIDE VIEW (LOWERED)
SCALE:1/4"=1'-0"




4 HARDING VTS SIDE VIEW (RAISED)
SCALE:1/4"=1'-0"

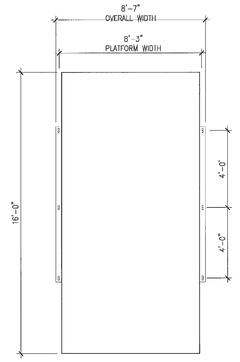



G61-190/LP240 - LONG FEET
N.T.S.

5 G61-190/LP240 & 230
SCALE:NTS

NOTE:
REFER TO FIRE SPRINKLER DRAWINGS FOR THE FIRE SUPPRESSION REQUIREMENTS AT THE CAR LIFTS

3




6 G61-190/LP240 PLAN VIEW
SCALE:1/4"=1'-0"

GENERAL NOTES

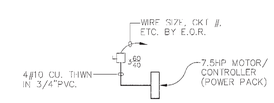
1. CLIENT MUST PROVIDE (1) DISCONNECT, 3P, 208V, 60A W/ 40A FUSE.
2. 24 VOLT CONTROL LINES BY KLAUS
3. 13 KLAUS LIFTS AND 1 POWER PACK
4. KLAUS LIFT WEIGHS 2,000 LBS
5. HYDRAULIC TANK CAPACITY 100 LITERS
6. NOT USED
7. ALL HYDRAULIC FITTINGS, PIPES, HOSES, PISTONS, CYLINDERS, AND VALVES ARE PROVIDED BY THE MANUFACTURER AS A COMPLETE SYSTEM
8. ALL CONNECTION HARDWARE AND ANCHORAGE PROVIDED BY MANUFACTURER
9. ONE HUNDRED POUNDS PER SQ-FT LOAD CAPACITY REQUIRED
10. KLAUS MODEL G01 SHALL BE IN THE LOWERED POSITION DURING A HURRICANE EVENT

LEGEND

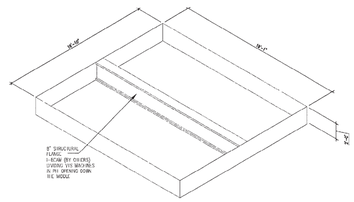
| | |
|---|---|
| K | KEY SWITCH |
| FJB | FLOOR JUNCTION BOX |
| WJB | WALL MOUNTED JUNCTION BOX |
| PP | POWER PACK W/ S.D. TRANSFORMER |
| | 3P, 208V, 60A W/ 40A FUSE DISC. |
| | ELECT./HYD. CONTROL LINE 24 VOLTS IN 3/4"C |

CAR LIFT SCHEDULE

| LIFT MODEL | OVERALL WIDTH | MIN. CEILING HT. | # OF LIFTS |
|---|---|---|---|
| G61-190 LP240 | 8'-7" | 11'-6" | 13 |
| TOTAL # OF PARKING SPACES | | | 26 |




9 ELECTRIC RISER DIAGRAM - KLAUS SYSTEM
SCALE:NTS




7 PIT INTERIOR DIMENSIONS
SCALE:1/8"=1'-0"

SEQUENCE OF OPERATIONS FOR CAR LIFT GATES

- WHEN VALET PULLS UP TO GATE THEY CAN OPEN THE GARAGE DOOR WITH A CLICKER
  IF THE LIFTS ARE NOT IN THE CORRECT POSITION THE DOOR WILL NOT OPEN
- THEY DRIVE CAR ONTO CAR LIFT
- GET OUT OF CAR AND EXIT THE LIFT
  THERE SHALL BE A SENSOR INDICATING THAT THE CAR IS PULLED FAR ENOUGH IN TO ALLOW THE GARAGE DOOR TO CLOSE FULLY.
- ONCE GATE IS FULLY CLOSED THEY CAN USE LIFT CONTROLS TO LOWER CAR LIFT TO BASEMENT
  THE LIFT IS OPERATED BY A DEAD MAN'S SWITCH LOCATED ON THE COLUMN IN THE BASEMENT
- ONCE CAR LIFT IS COMPLETELY LOWERED TO BASEMENT
  DEAD MAN'S SWITCH IS RELEASED
- VALET ENTERS CAR LIFT, ENTERS CAR AND DRIVES IT OUT OF CAR LIFT
- NOW CAR LIFT IS READY TO RECEIVE CAR TO BE SENT BACK TO VALET AT STREET LEVEL USING SEQUENCE OF OPERATION IN REVERSE ORDER

NOTE: IF THE STREET LEVEL GARAGE DOORS ARE OPEN, THE LIFT SYSTEM WILL STOP WORKING
NOTE: CAR LIFT AND CAR ELEVATOR SYSTEM UNDER SEPARATE PERMIT

2

City of Miami Beach
Fire Prevention Division
PLANS APPROVED

# OFFICE OF THE PROPERTY APPRAISER

## Summary Report

Generated On : 8/17/2021

| Property Information | |
|---|---|
| **Folio:** | 02-4203-010-0030 |
| **Property Address:** | 944 5 ST<br>Miami Beach, FL 33139-6514 |
| **Owner** | 411 MICHIGAN SOFI OWNER LLC |
| **Mailing Address** | 520 W 27 ST<br>NEW YORK, NY 10022 USA |
| **PA Primary Zone** | 6503 COMMERCIAL |
| **Primary Land Use** | 1081 VACANT LAND - COMMERCIAL : VACANT LAND |
| **Beds / Baths / Half** | 0 / 0 / 0 |
| **Floors** | 0 |
| **Living Units** | 0 |
| **Actual Area** | 0 Sq.Ft |
| **Living Area** | 0 Sq.Ft |
| **Adjusted Area** | 0 Sq.Ft |
| **Lot Size** | 7,000 Sq.Ft |
| **Year Built** | 0 |


| Assessment Information | | | |
|---|---|---|---|
| Year | 2021 | 2020 | 2019 |
| **Land Value** | $3,500,000 | $3,500,000 | $3,500,000 |
| **Building Value** | $0 | $0 | $0 |
| **XF Value** | $0 | $0 | $0 |
| **Market Value** | $3,500,000 | $3,500,000 | $3,500,000 |
| **Assessed Value** | $3,500,000 | $2,818,392 | $2,562,175 |

| Taxable Value Information | | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| **County** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $2,818,392 | $2,562,175 |
| **School Board** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $3,500,000 | $3,500,000 |
| **City** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $2,818,392 | $2,562,175 |
| **Regional** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $2,818,392 | $2,562,175 |

| Benefits Information | | | | |
|---|---|---|---|---|
| Benefit | Type | 2021 | 2020 | 2019 |
| **Non-Homestead Cap** | Assessment Reduction | | $681,608 | $937,825 |

Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).

| Short Legal Description |
|---|
| 3-4 54 42 34 53 42 |
| WITHAMS RE-SUB PB 9-10 |
| LOTS 1 TO 5 INC LESS N90FT |
| THEREOF FOR R/W BLK 83 |
| LOT SIZE 140.000 X 50 |

| Sales Information | | | |
|---|---|---|---|
| Previous Sale | Price | OR Book-Page | Qualification Description |
| 06/11/2021 | $7,000,000 | 32578-2150 | Qual on DOS, multi-parcel sale |
| 11/05/2020 | $2,100 | 32194-4520 | Federal, state or local government agency |
| 06/11/2014 | $4,250,000 | 29190-2460 | Qual on DOS, multi-parcel sale |
| 08/01/2000 | $765,000 | 19257-3689 | Sales which are qualified |



Version:

# OFFICE OF THE PROPERTY APPRAISER

## Summary Report

Generated On : 8/17/2021

| Property Information | |
|---|---|
| **Folio:** | 02-4203-009-6170 |
| **Property Address:** | 419 MICHIGAN AVE<br>Miami Beach, FL 33139-6509 |
| **Owner** | 411 MICHIGAN SOFI OWNER LLC |
| **Mailing Address** | 520 W 27 ST<br>NEW YORK, NY 10022 USA |
| **PA Primary Zone** | 6503 COMMERCIAL |
| **Primary Land Use** | 1081 VACANT LAND - COMMERCIAL : VACANT LAND |
| **Beds / Baths / Half** | 0 / 0 / 0 |
| **Floors** | 0 |
| **Living Units** | 0 |
| **Actual Area** | 0 Sq.Ft |
| **Living Area** | 0 Sq.Ft |
| **Adjusted Area** | 0 Sq.Ft |
| **Lot Size** | 7,000 Sq.Ft |
| **Year Built** | 0 |


| Assessment Information | | | |
|---|---|---|---|
| Year | 2021 | 2020 | 2019 |
| **Land Value** | $3,500,000 | $3,500,000 | $3,500,000 |
| **Building Value** | $0 | $0 | $0 |
| **XF Value** | $0 | $0 | $0 |
| **Market Value** | $3,500,000 | $3,500,000 | $3,500,000 |
| **Assessed Value** | $3,500,000 | $2,137,837 | $1,943,489 |

| Benefits Information | | | | |
|---|---|---|---|---|
| Benefit | Type | 2021 | 2020 | 2019 |
| **Non-Homestead Cap** | Assessment Reduction | | $1,362,163 | $1,556,511 |

Note: Not all benefits are applicable to all Taxable Values (i.e. County, School Board, City, Regional).

| Short Legal Description |
|---|
| OCEAN BEACH ADD NO 3 PB 2-81<br>LOT 9 BLK 83<br>LOT SIZE 50.000 X 140<br>OR 19588-3015 0301 6 |

| Taxable Value Information | | | |
|---|---|---|---|
| | 2021 | 2020 | 2019 |
| **County** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $2,137,837 | $1,943,489 |
| **School Board** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $3,500,000 | $3,500,000 |
| **City** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $2,137,837 | $1,943,489 |
| **Regional** | | | |
| Exemption Value | $0 | $0 | $0 |
| Taxable Value | $3,500,000 | $2,137,837 | $1,943,489 |

| Sales Information | | | |
|---|---|---|---|
| Previous Sale | Price | OR Book-Page | Qualification Description |
| 06/11/2021 | $7,000,000 | 32578-2150 | Qual on DOS, multi-parcel sale |
| 11/05/2020 | $2,100 | 32194-4520 | Federal, state or local government agency |
| 06/11/2014 | $4,250,000 | 29190-2460 | Qual on DOS, multi-parcel sale |
| 03/01/2001 | $870,000 | 19588-3015 | Other disqualified |



Version:

# APPENDIX C
# METHODOLOGY LETTER

## Maximo Polanco

**From:** Akcay, Firat <FiratAkcay@miamibeachfl.gov>
**Sent:** Friday, July 23, 2021 10:56 AM
**To:** Maximo Polanco
**Cc:** John Kim; Joe Goldberg
**Subject:** [External] RE: 419 Michigan Avenue Traffic Methodology

Maximo,

Pleasure to speak with you and your team. Please see notes from today's meeting. Please let me know if I missed anything that was discussed.

Parking queueing:
Triple Stacker: Parking queueing study.
Car elevator: Number of spaces is the limiting factor, provide queueing study. Identify alternative parking for spill over.
Narrative on identifying users of parking locations.
Circulation diagram for parking of vehicles.
Valet operations plan and assumptions
Breezeway stacking diagram.

Roadway & Circulation:
Based on your queueing please indicate if the alley (Jerusalem Street) should be converted to NB instead.
Maneuverability Diagrams for the breezeway, alley loading and elevators and basement parking.

Intersection LOS Study:
Intersections: Michigan Ave x 4th and 5th Streets, and Alton Road and 4th Street.
Trip Distribution: Agreed on the methodology below.

Trip Gen:
Develop matrix with # of employees as well.
Average x fitted trip generation figures, assume fitted curve for a conservative analysis

Multimodal:
Provide bicycle parking.
Provide lockers and bicycle facilities, if feasible.

Clarification:
Retail portion will be restricted to shopping or other uses will be evaluated.

MIAMIBEACH RISING ABOVE

*Firat Akcay, M.S.C.E. MBA*
*Transportation Engineer*
*Transportation and Mobility Department*
*1688 Meridian Avenue, Suite 801, Miami Beach, FL 33139*
*Tel: 305-673-7000, ext 26839*

**From:** Maximo Polanco <mpolanco@langan.com>
**Sent:** Tuesday, July 20, 2021 9:59 AM
**To:** Akcay, Firat <FiratAkcay@miamibeachfl.gov>
**Cc:** John Kim <jkim@langan.com>; Joe Goldberg <jgoldberg@langan.com>
**Subject:** RE: 419 Michigan Avenue Traffic Methodology



Hi Firat,

We have scheduled the meeting for Friday 23rd at 10:00 AM. Here is a narrative and plans to discuss in our meeting.

Proposed Traffic Methodology for 419 Michigan

The proposed development is a mixed-use development of office uses and retail uses to be constructed on three parcels (Folio Nos. 02-4203-010-0030; 02-4203-009-6170 and 02-4203-009-6160). The proposed development will move the existing historical house to be adjacent to Michigan Avenue to maximize the developable area of the site. The development will use the existing foundations of the previously approved development and construct a parking lot in the basement that will be accessed through a vehicle elevator. The proposed development will be served by a valet parking operation that all patrons will be have to use. The development will have triple vehicle stackers on the ground floor and double stackers in most of the spaces of the basement floor. Please find attach a schematic design of the proposed development.

Based on our understanding we propose the following tasks for the traffic-impact analysis for the proposed mixed-use development at 419 Michigan Avenue, Miami Beach, FL.

- **Data Collection**
  - Collect morning (7 to 9 AM) and afternoon (4 to 6 PM) peak-hour vehicle turning-movement volumes at the following study intersections:
    - Michigan Avenue & SR-A1A
    - Michigan Avenue & 4th Street
  - Collect 24-hour bidirectional counts at the roadway segment of SR-A1A between Michigan & Washington avenues.
  - Develop a COVID-adjustment factor by comparing PRE-COVID traffic data to 2021 traffic data along the segment of SR-A1A to convert the traffic data into peak-season volumes.
  - Adjust the peak-season volumes with FDOT's 2019 PSCF.
- **Trip Generation** will be based on information contained in the Institute of Transportation Engineer's (ITE), Trip Generation Manual, 10th Edition.
- **Project Distribution** will be based on the cardinal distribution of the Traffic Analysis Zone 652 of the Miami-Dade County 2045 Transportation Model.
- **Future traffic** volumes will be developed by applying a compound growth rate to the collected traffic data. The growth rate will be based on a FDOT historical data from traffic count stations in the vicinity of the project. A one-half percent annual growth rate will be used if a negative growth rate is determined.
  - We will include any approved and unbuilt projects that can be provided by the City of Miami Beach.

- We will include any roadway improvement planned within the first three years of the county's Transportation Improvement Program.

- **Intersection capacity analyses** will be performed for the study intersections using software based on the Highway Capacity Manual methodology. The analysis will be performed for the morning and afternoon peak-hours conditions using Synchro software.
  - The analysis scenarios will include the existing (2021), no-build (2023 without project) and build (2023 with project). Conditions.
  - Project Driveways will be analyzed for the build conditions.
- **Queueing Analysis** We will prepare a queuing analysis for the proposed valet operation to determine the number of required valet-parking attendant to avoid traffic to queue back onto the adjacent public roadways.
  - The analysis will be based on the queuing-analysis methodology from the Transportation and Land Development published by the ITE. This methodology requires hourly rates of arrival and service times for the valet parking to determine queue lengths.

**Table 1 - Trip Generation Estimates ***

| Use | Size | Daily | Weekday Morning Peak Hour | | | Weekday Afternoo | |
|---|---|---|---|---|---|---|---|
| | | | In | Out | Total | In | Out |
| **Proposed Uses** | | | | | | | |
| General Office | 36,442 SF | 399 | 36 | 6 | 42 | 7 | 35 |
| Shopping Center** | 4,320 SF | 710 | 2 | 2 | 4 | 16 | 18 |
| | **Total** | **1,109** | **38** | **8** | **46** | **23** | **53** |

** Based on Trip Generation Manual 10th Ed.*

*** Includes 36% afternoon pass-by.*

Regards,

**Maximo Polanco**
**Senior Staff Engineer**

LANGAN

Direct: 954.320.2155
Mobile: 305.570.8593
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www.langan.com

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VIRGINIA OHIO ILLINOIS TEXAS ARIZONA COLORADO WASHINGTON CALIFORNIA
ATHENS CALGARY DUBAI LONDON PANAMA



---

**From:** Akcay, Firat <FiratAkcay@miamibeachfl.gov>
**Sent:** Monday, July 19, 2021 2:54 PM
**To:** Maximo Polanco <mpolanco@langan.com>
**Cc:** John Kim <jkim@langan.com>; Joe Goldberg <jgoldberg@langan.com>
**Subject:** [External] RE: 419 Michigan Avenue Traffic Methodology

Maximo,

Please see my availability via the attached link: https://calendly.com/d/xfxb-s823/30-minute-meeting
Thank you

MIAMIBEACH RISING ABOVE

*Firat Akcay, M.S.C.E. MBA*
*Transportation Engineer*
*Transportation and Mobility Department*
*1688 Meridian Avenue, Suite 801, Miami Beach, FL 33139*
*Tel: 305-673-7000, ext 26839*

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**From:** Maximo Polanco <mpolanco@langan.com>
**Sent:** Wednesday, July 14, 2021 9:08 AM
**To:** Akcay, Firat <FiratAkcay@miamibeachfl.gov>
**Cc:** John Kim <jkim@langan.com>; Joe Goldberg <jgoldberg@langan.com>
**Subject:** 419 Michigan Avenue Traffic Methodology

**[ THIS MESSAGE COMES FROM AN EXTERNAL EMAIL - USE CAUTION WHEN REPLYING AND OPENING LINKS OR ATTACHMENTS ]**

Good morning Firat,

Can we schedule a conference call to discuss a proposed mixed-use development at 419 Michigan Avenue.

Please let us know your availability.

Regards,

**Maximo Polanco**
**Senior Staff Engineer**

LANGAN

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