
Transportation Impact Study

for

Hollywood Casino Aurora



Prepared By:
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**November 2022
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I. EXECUTIVE SUMMARY

Overview of Development

Langan prepared the following Transportation Impact Study for the Hollywood Casino development, a proposed entertainment complex, which is expected to include a 2,154-position casino, ancillary hotel, restaurant, and retail stores. The proposed project will be located on approximately five vacant parcels in the southwest quadrant of the intersection of N. Farnsworth Avenue and Bilter Road in Aurora, Illinois.

The approximately 22-acre site is generally bounded by Bilter Road to the north, N. Farnsworth Avenue to the east, Corporate Boulevard to the south, and Church Road and an existing industrial facility to the west. Access to the site is proposed via six access drives distributed around the site frontage.

The proposed access points to the Hollywood Casino are outlined below:

- One full-access signalized driveway along N. Farnsworth Avenue (Site Driveway A)
- One three-quarter unsignalized driveway along N. Farnsworth Avenue prohibiting left turns outbound from the site (Site Driveway B)
 - This access is revised to a Right-In/Right-Out (RIRO) only access drive in the City of Aurora Ultimate Build Out condition, defined later in this report.
- One right-in/right-out unsignalized driveway along Bilter Road (Site Driveway C)
- Two full-access unsignalized driveways along Church Road (Site Driveways D & E)
- One full-access unsignalized driveway along Corporate Boulevard (Site Driveway F)

Full buildout of the proposed development is expected to be in 2025.

Site Trip Generation and Distribution

Langan estimated the trip generation for the proposed entertainment district using trip-generation data contained in the *Trip Generation Manual*, 11th Edition, published by the Institute of Transportation Engineers (ITE).

Based on the proposed site characteristics and the trip-generation manual data, the site is expected to generate 862 AM peak-hour trips (491 in, 371 out), 991 PM peak-hour trips (505 in, 486 out), and 1,335 Saturday peak-hour trips (721 in, 614 out).

ITE does not provide data for AM peak hour trips during the morning peak of the adjacent-street (typically 7:00 to 9:00 AM) and AM peak hour trips of the generator were used and applied to the AM peak hour of adjacent-street, reflecting a conservative analysis. Although bus service is provided on Farnsworth Avenue along the site frontage, no mode-split was applied to the trip generation for the proposed development to provide a conservative analysis.

The proposed site-generated trips were distributed to the study area network based on the location of the site, major routes of expected travel, a journey-to-work model from census data, and engineering judgement.

This site's traffic distribution in numerous directions will minimize site traffic impacts along the surrounding road network. However, given the location of the I-88 interchange and the regional pull typically associated with the proposed subject land use, the majority of site traffic is expected to be to and from the south on N. Farnsworth Avenue and the I-88 Interstate highway.

Update from Original Submittal

As part of the ongoing project review process, the City of Aurora has requested an expansion of the study area studied in the original TIS submittal. This expansion includes:

- Capacity analysis at seven (7) new intersections in the expanded study area
- Investigation into auxiliary turn lane warrants at study area intersections and site access drives.
- Queue Analysis at all study area intersections.
- Crash Analysis in the study area based on the latest available Illinois Department of Transportation (IDOT) crash data.
- Free flow / weaving Level-Of-Service analysis for the westbound I-88 to northbound Farnsworth Avenue ramp assessing the impact of adding a second lane to the off-ramp.
- Assessment and recommendation of improvements at additional study area intersections.

Details on these analysis are discussed later in this report, and the results have been incorporated into the recommendations presented.

City of Aurora Ultimate Build Out Condition

As part of the Redevelopment Agreement between the city of Aurora and the developer, the city has established a number of additional improvements along the Farnsworth Avenue corridor, between Corporate Boulevard and Butterfield Road. The proposed improvements focus on an expanded cross section for Farnsworth Avenue, widening the corridor to carry three through / travel lanes in each direction. Further improvements at the following intersections are summarized below:

N. Farnsworth Avenue with Premium Outlets Blvd / Site Driveway A (Int #5):

- Add dual left turn lanes to all approaches with protected-only phasing.
- Further widen the roadway by adding dedicated right turn lanes to the northbound and southbound approaches

N. Farnsworth Avenue with Bilter Road (Int #7):

- Add an additional through lane on Bilter Road in the eastbound direction along the site frontage.
- Add dual left turn lanes to all approaches with protected-only phasing.
- Add dedicated right turn lanes to all approaches.

Bilter Road with Church Road (Int # 12):

- Add a westbound through lane.
- Add a dedicated northbound right-turn lane & restripe the existing northbound through / right-turn lane into a dedicated through lane.

The analysis section of this report investigates the impact of these changes on the operations of the roadway network under 2030 build conditions.

Conclusions

The results of this study provide a broad overview of the transportation impacts associated with the proposed Hollywood Casino.

The traffic impact of the proposed development can be mitigated on the surrounding road network using the proposed site access system with the following modifications, presented in **Figure A**, to the existing transportation network. These modifications should be considered the minimum necessary to mitigate the impact of the proposed Hollywood Casino development, if the mitigations are superseded by the City of Aurora Ultimate Build Out conditions they are called out in *Italics* below:

N. Farnsworth Avenue with Site Driveway A / Premium Outlet Boulevard (Int #5):

- Extend the northbound left-turn lane striping to provide approximately 275 feet of storage and 75 feet of taper.
 - *The City Ultimate Build Out condition calls for the provision of dual left-turn lanes on the Farnsworth Avenue approaches. These left-turn movements will need to be placed under protected-only phasing/control.*
- Modify signal timings at Farnsworth and Site Driveway A.
- Design the eastbound approach of this intersection to provide a lane configuration consisting of an exclusive outbound left-turn lane, a shared left-turn / through / right-turn lane, and an exclusive right-turn lane.

This lane assignment is conditional on the approach being on its own “split” phase separate from Premium Outlet Boulevard.

N. Farnsworth Avenue with Site Driveway B (Int #6):

- Design this unsignalized access drive to facilitate inbound left-turns, inbound right-turns and outbound right-turns (three-quarter access)
 - *In the City Ultimate Build Out condition this access drive is required to operate as a Right-in / Right-out access drive due to the widening of Farnsworth Avenue.*
- Restripe the existing painted center median and turn lanes at Intersections #5 and #6 to provide an exclusive northbound lane into this access drive.
 - *With the City Ultimate Build Out condition, it is assumed this section of Farnsworth Avenue will provide a raised median to prevent left-turns into or out-of this access drive.*
- A southbound right-turn lane should be considered at this location. The intersection meets a conservative application of IDOT turn lane warrants and other access drives within the vicinity of the site on Farnsworth Avenue provide them.

N. Farnsworth Avenue with Bilter Road (Int #7):

- Modify signal timings at this intersection to improve operations.
- *Under the City Ultimate Build Out condition, in addition to the additional through lane in each direction, this intersection will be significantly expanded to include dual left-turn lanes on all approaches, an additional through lane on Bilter Road, and maintaining exclusive right-turn lanes on all intersection approaches.*
 - *It should be noted that these changes and the associated timing changes required as part of the improvements result in an observable degradation of LOS and Delay of many minor movements at this intersection.*

N. Farnsworth Avenue with Butterfield Road (Int #9):

- Modify signal timings at this intersection to improve operations.

Bilter Road with Site Driveway C (Int #10):

- Provide a right-in/right-out access drive with outbound movements under stop-sign control.

Church Road with Site Driveway D (Int #13):

- Provide a full movement access drive with one inbound lane and one outbound lane, with outbound movements under stop-sign control.
- Ensure that curb radii at this access drive can accommodate a WB-67 design vehicle.

Church Road with Site Driveway E (Int #14):

- Design this access drive to provide one inbound lane and one outbound lane with outbound movements under stop-sign control.
- Ensure that curb radii can accommodate a Fire Truck per City of Aurora ordinance.

Corporate Boulevard with Site Driveway F (Int #17):

- Design this access drive to provide one inbound lane and one outbound lane with outbound movements under stop-sign control.

Finally, it is recommended that a 10-foot-wide multi-use path be provided along the perimeter of the site to facilitate alternate modes of transportation.

All intersections within the study area not discussed above were observed to operate at acceptable levels of service in both the 2022 Existing and 2030 Build conditions. Operational results are presented in the LOS tables. No mitigations or changes are proposed at these intersections to accommodate site traffic.

Additional Area Improvements

In order to further improve non-vehicle access and mobility surrounding the site, a number of additional signal improvements are recommended.

N. Farnsworth Avenue with Site Driveway A / Premium Outlet Boulevard (Int #5):

- In order to facilitate connectivity to the northbound Pace bus stop, a crosswalk and pedestrian signals should be provided across the north leg of the intersection. This improvement can occur in conjunction with any improvements associated with the design of the east leg access drive serving the site.

N. Farnsworth Avenue with Bilter Road (Int #7):

- To improve pedestrian and bicycle connectivity, it is recommended that a crosswalk and pedestrian signal heads be installed across the west and south legs of the intersection.

The capacity analyses indicate that all study-area intersections are projected to operate at an overall Level of Service (LOS) D or better during the AM, PM, and Saturday peak hours under the build-with-improvement conditions and that traffic volumes along N. Farnsworth Avenue will continue to operate efficiently.

With the improvements outlined above, with or without the improvements outlined in the City Ultimate Build Out condition, the traffic associated with the proposed Hollywood Casino can be accommodated on the surrounding roadway network.

Additional Regional Improvements

As part of the expanded study, this report also explored possible improvements that were not required to mitigate the impact of the proposed Hollywood Casino development but would improve existing operations. These mitigations are outlined below and presented in **Figure B**:

It is recommended that missing segments of multi-use path along Farnsworth Avenue on either end of the Farnsworth / I-88 Interchange be constructed. With the addition of these segments and the development of the site, a multi-use path would be present between Bilter Avenue to the north and Molitor Avenue (a listed east-west, on-road, bike route) to the south.

N. Farnsworth Avenue with Molitor Rd (Int #1):

- In conjunction with the installation of the previously mentioned sidewalk on the west side Farnsworth Avenue, add a crosswalk and associated pedestrian signal heads to the west leg of the intersection.
- Consider optimizing signal timings.

N. Farnsworth Avenue with Butterfield Road (Int #9):

- Strip a continental-style crosswalk across the west leg of the intersection.

Church Road with Molitor Rd (Int #16):

- Add a northbound right-turn lane to this intersection. Data indicates that this turn lane is warranted and will have the largest possible impact on intersection operations short of signalization.

Right-of-way issues may complicate installation and may require realignment of the lane striping. Preliminary evaluation of peak hour volumes indicate this intersection meets peak hour traffic

signal warrants outlined in the MUTCD. It is recommended that this intersection continue to be monitored and a complete signal warrant analysis be conducted at this intersection.

Comments on City Ultimate Build Out Condition

The City Ultimate Build Out Condition mitigation are presented in **Figure C**. Analysis of the proposed Ultimate City Build Out improvements indicates the following:

- With the prohibition of northbound left-turns at Site Driveway B, dual left-turns are required at Site Driveway A to accommodate site traffic. Reassigning traffic volumes to reflect this change shows that Site Driveway A will meet IDOT thresholds for the application of dual left-turn lanes.
 - No other location where dual left-turn lanes are proposed meets this recommended IDOT volume threshold under projected 2030 volume conditions.
- The application of these dual-left-turn lanes and associated signal modifications results in increased delays and worse levels-of-service at all other locations where they are proposed.
 - This application is needed on Farnsworth Avenue approaches due to the widening to three travel lanes which requires these these left-turns needing to be restricted to protected-only phasing regardless, but this application is *not* recommended on Bilter Road, where protected/permitted left-turn phasing is still viable.
- Adding a through lane on Bilter Road is not needed operationally based on either existing 2022 or proposed 2030 volumes and has minimal benefit.
- A northbound turn lane on Church Road at Bilter Road is not warranted nor needed operationally based on any volume condition developed in this study, including 2030 Build conditions.

II. INTRODUCTION / PROJECT SUMMARY

Purpose of Report

The purpose of this document is to summarize the findings of the Transportation Impact Study conducted for the proposed Hollywood Casino. As shown in **Figure 1**, the proposed project is located within the southwest quadrant of the N. Farnsworth Avenue and Bilter Road intersection in Aurora, Illinois.

The approximately 22-acre site is generally bounded by Bilter Road to the north, N. Farnsworth Avenue to the east, Corporate Boulevard to the south, and Church Road and an existing industrial facility to the west. The existing site is vacant and originally consisted of four separate parcels and uses. Access to the site is currently provided via six access drives located along the site frontage:

- One full-access, signalized driveway along N. Farnsworth Avenue
- Two full-access, unsignalized driveway along N. Farnsworth Avenue
- One full-access, unsignalized driveway along Bilter Road
- Two full-access, unsignalized driveways along Church Road

As proposed, the developed site is anticipated to adjust the location of the proposed access drives to better conform to current access management practices. The current site plan continues to call for six access drives, but they are to be distributed more evenly around the perimeter of the site and a number of drives will have turning movements restricted. The proposed access points to Hollywood Casino are outlined below:

- One full-access signalized driveway along N. Farnsworth Avenue (Site Driveway A)
- One three-quarter unsignalized driveway along N. Farnsworth Avenue, designed to prohibit left turns outbound from the site (Site Driveway B)
 - *Under the City of Aurora Ultimate Build Out condition, this driveway will be restricted to RIRO operation.*
- One right-in and right-out unsignalized driveway along Bilter Road (Site Driveway C)
- Two full-access unsignalized driveways along Church Road (Site Driveways D & E)
- One full-access unsignalized driveway along Corporate Boulevard (Site Driveway F)

A conceptual site plan is illustrated on **Figure 2**.

This report examines if there are impacts from the proposed development on the surrounding intersections and roads. Based on the results of the analyses, this report recommends improvements.

III. EXISTING STUDY AREA CONDITIONS

Study Area Roadways

N. Farnsworth Avenue is a generally north-south five-lane roadway with two through lanes in each direction, a posted 40 mph speed limit, and dedicated left- and right- turn lanes at intersections. N. Farnsworth Avenue has an Illinois Department of Transportation (IDOT) 2018 Annual Average Daily Traffic (AADT) of 30,700 vehicles, is classified as an “Other Principal Arterial” roadway, and is under the jurisdiction of the City of Aurora within the vicinity of the site. IDOT classifies this section of Farnsworth Road as a Strategic Regional Arterial (SRA) route. Land uses along this road are predominantly commercial.

Biliter Road is an east-west roadway with a posted 35 mph speed limit, one lane in each direction, and, typically, dedicated left- and right-turn lanes at intersections. Biliter Road has an IDOT 2018 AADT of 7,850 vehicles, is classified as a local roadway, and is under the jurisdiction of the City of Aurora. Land uses along this road are predominantly industrial to the west of the site and commercial to the east.

Butterfield Road (IL-56) is an east-west roadway that with one lane in each direction but which opens up into two lanes in each direction near the intersection at N. Farnsworth Avenue. Dedicated left- and right-turn lanes are also generally provided along the road at intersections. Butterfield Road has a posted speed limit of 50 mph and is under the jurisdiction of IDOT. Butterfield Road has an IDOT 2019 AADT of 15,600 vehicles and is classified as an “Other Principal Arterial” roadway and a Strategic Regional Arterial (SRA) route. Land uses along this roadway within the vicinity of the site are predominantly commercial.

Church Road is a north-south road with one lane in each direction and includes a center two-way left-turn lane along the site frontage and dedicated left-turn lanes at the intersection at Biliter Road. Church Road has a posted speed limit of 40 mph, has an IDOT 2018 AADT of 8,000 vehicles, is classified as a major collector roadway, and is under the jurisdiction of the City of Aurora. Land uses along this road within the vicinity of the site are predominantly industrial.

Corporate Boulevard is a local east-west road with one lane in each direction and is under the jurisdiction of the City of Aurora. Corporate Boulevard does not include a posted speed limit, so it was assumed to have a speed limit of 25 mph. Land uses along this road within the vicinity of the site are predominantly industrial.

Molitor Road is a local east-west road with one lane in each direction and is under the jurisdiction of the City of Aurora near Farnsworth Avenue, or Aurora Township further to the west. Molitor Road has a posted speed limit of 30 mph, and is classified as a major collector. Land uses along this road within the study area are predominantly residential in nature.

Area Public Transit

The suburban Pace bus service operates within the area and operates multiple routes on N. Farnsworth Avenue along the site frontage. These routes are summarized as follows:

Route 533 – Northeast Aurora generally runs from the Aurora Transportation Center in downtown Aurora to the Chicago Premium Outlets and the Walmart commercial development in the northwest quadrant of Butterfield Road and N. Farnsworth Avenue/Kirk Road. Service is provided on weekdays and Saturdays, and connections are available to Pace Routes 524, 530, 540, 802, and the BNSF Metra Line.

Route 540 – Farnsworth Avenue generally runs along N. Farnsworth Avenue between the Rush Copley Medical Center and the Walmart commercial development in the northwest quadrant of Butterfield Road and N. Farnsworth Avenue/Kirk Road. Service is provided on weekdays, and connections are available to Pace Routes 530 and 533.

Site layout and design should provide pedestrian accommodations between the Pace bus stops on Farnsworth Avenue and the pedestrian entrance on site, or coordination with Pace to provide a stop on site should be explored.

Area Bicycle and Pedestrian Accommodations

Sidewalks are generally provided on at least one side of the street within the study area with the exception of Corporate Boulevard along the southern border of the proposed site. However, sidewalks are not currently provided along the site frontage.

According to the city of Aurora, Church Road and Bilter Road are both listed as preferred bike routes within the vicinity of the site. Further, an off-road trail is provided along the east side of N. Farnsworth Avenue opposite the proposed site and on the south side of Bilter Road.

If/when a level of connectivity in bicycle infrastructure between the proposed site and downtown Aurora is achieved, partnering with the City of Aurora to provide a bike-sharing station on site could help promote the use of alternate modes of transportation.

Significant Area Land Uses

The primary significant land use in the immediate area surrounding the site is the Chicago Premium Outlets shopping center. This large commercial development is accessed within the study area via the western approaches of N. Farnsworth Avenue with Corporate Boulevard and Premium Outlet Boulevard (Intersections 4 and 5). This development generates significant traffic volume, specifically during the Saturday commercial peak periods.

The stadium for the Kane County Cougars minor-league baseball team is located approximately 5 miles north of the proposed development site. The closest interstate highway interchange to the stadium is the N. Farnsworth Avenue interchange with I-88, south of the proposed development site.

Additionally, while not expected to be a significant generator of traffic, the Department of Energy's Fermilab particle accelerator is located approximately 2 miles north of the proposed site, with N. Farnsworth Avenue expected to be the primary route for regional site traffic to and from the west.

Data Collection

Based upon a review of the surrounding study area, the scope of the study identified to satisfy the City of Aurora requirements included the peak-hour turning-movement counts at the following 17 intersections:

1. N. Farnsworth Avenue & Molitor Road (signalized)
2. N. Farnsworth Avenue & Eastbound I-88 Interchange (signalized / free flow)
3. N. Farnsworth Avenue & Westbound I-88 Interchange (signalized / free flow)
4. N. Farnsworth Avenue & Corporate Boulevard (unsignalized)
5. N. Farnsworth Avenue & Site Driveway A / Premium Outlet Boulevard (signalized)
6. N. Farnsworth Avenue & Site Driveway B¹ (unsignalized)
7. N. Farnsworth Avenue & Bilter Road (signalized)
8. Premium Outlet Boulevard & Bilter Road (signalized)
9. N. Farnsworth Avenue & Butterfield Road (signalized)
10. Bilter Road & Site Driveway C¹ (unsignalized)
11. Church Road & Butterfield Road (signalized)
12. Church Road & Bilter Road (signalized)
13. Church Road & Site Driveway D¹ (unsignalized)
14. Church Road & Site Driveway E¹ (unsignalized)
15. Church Road & Corporate Boulevard (unsignalized)
16. Church Road & Molitor Road (unsignalized)
17. Corporate Boulevard & Site Driveway F¹ (unsignalized)

Counts at Intersections #4, #5, #7, #9, and #12 were collected in late April, and counts at Intersections #1, #2, #3, #8, #11, #15, and #16 were collected in late October. Both sets of counts were collected on a typical weekday when local schools were in session during the AM peak period (7:00 AM to 9:00 AM) and PM peak period (4:00 PM to 6:00 PM), and during the Saturday evening peak period (5:00 PM to 7:00 PM). Weather during both sets of data collection was clear and absent of factors that would limit operations on area roadways. The counts included pedestrian, bicycle, and heavy-vehicle classification. All turning-movement count summaries are included as **Appendix A**.

The AM and PM and Saturday peak hours (four consecutive 15-minute periods comprising the highest volume) from the intersection counts to determine the 2022 Existing Peak Hour Traffic Volumes shown on **Figure 3**. These volumes represent the traffic network used to analyze existing conditions and develop future conditions.

Existing pedestrian and bicycle volumes were collected in conjunction with the vehicle traffic counts. A review of this data indicate that minimal pedestrian and bicycle activity is present within the study area.

1 - Existing mainline through volumes at the site driveways were pulled from the applicable turning movement counts at the nearest upstream or downstream intersection.

A request for projected background growth rates in the study area was submitted to the Chicago Metropolitan Agency for Planning (CMAP), which provided a memorandum summarizing expected background growth in the area. Preliminary submission correspondence is included as **Appendix B**.

A field visit was conducted of the study area to obtain existing intersection geometry, turn-lane lengths, lane widths, and posted speed limits. The field inventory sketches are included in **Appendix C**.

Comparison of October and April Counts

As part of the subsequent data collection effort in October 2022, traffic data was collected for a second time at the intersection of Farnsworth Avenue and Bilter Road. This was done in an effort to ensure that traffic data collected during both count periods was consistent. Both April and October turning movement counts are available in Appendix A, but a comparison of the intersection totals indicates that the total traffic volumes are within approximately 1% of each other during the AM peak hour, 2% during the PM peak hour, and 3% during the Saturday evening peak hour. This is within the expected seasonal variation and indicates that the data sets are consistent. **Exhibit 1** presents the intersection totals and comparative volume differences between the April and October counts.

Exhibit 1: N. Farnsworth Ave and Bilter Rd Traffic Volume Comparison

	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Evening Peak Hour
April 2022	2987	3538	2517
October 2022	3022	3601	2587
Difference	35	63	70
% Difference	1.2%	1.8%	2.7%

Note: Volumes represent sum of all approaches.

IV. DEVELOPMENT DESCRIPTION

The approximately 22-acre site is generally bounded by Bilter Road to the north, N. Farnsworth Avenue to the east, Corporate Boulevard to the south, and Church Road and an existing industrial facility to the west. The site previously consisted of four separate parcels and uses. Access to the site is currently provided via six access drives along the site frontage. As proposed, the development includes a 2,154-gaming-position casino, 300-room hotel, and ancillary restaurant and retail stores. A site plan had not been finalized at the time of this report; however, adequate parking spaces and truck loading spaces will be provided to conform to the zoning code.

The proposed site is to be constructed in a single phase and is expected to open in 2025. For the purposes of this study, Langan analyzed the following design scenarios:

- 2022 Existing Conditions
- 2030 “Build Year + Five” Conditions without Development (2030 No Build)

- 2030 “Build Year + Five” Conditions with Development (2030 Build)
- 2030 “Build Year + Five” Conditions with Development and Developer-Proposed Improvements (2030 Build w/ Improvement)
- 2030 “Build Year + Five” Conditions with Development, Improvements and City of Aurora Proposed Improvements (2030 Build w/ City Improvements)

Site Trip Generation

Langan estimated the trip generation for the proposed entertainment district using trip-generation data contained in the *Trip Generation Manual*, 11th Edition, published by the Institute of Transportation Engineers (ITE).

Based on the proposed site characteristics and the trip generation manual data, the site is expected to generate 862 AM peak-hour trips (491 in, 371 out), 991 PM Peak Hour trips (505 in, 486 out), and 1,335 Saturday peak-hour trips (721 in, 614 out). ITE does not currently provide data for AM peak hour of adjacent street trips; therefore, AM peak hour of the generator trips were used and applied to the AM peak hour of adjacent-street volumes, reflecting a conservative analysis. While bus service is provided on N. Farnsworth Avenue along the site frontage, no mode split was applied to the trip generation to the proposed development for a conservative analysis. The trip-generation calculations for the proposed development are shown in **Table 1**.

Site Access

Six drives described below currently provide access to the site:

- One full-access signalized driveway along N. Farnsworth Avenue
- Two full-access unsignalized driveway along N. Farnsworth Avenue
- One full-access unsignalized driveway along Bilter Road
- Two full-access unsignalized driveways along Church Road

As proposed, development at the site is expected to adjust the location of the proposed access drives to better conform to current access-management practices. The current site plan continues to call for six access drives, but they are to be distributed more evenly around the perimeter of the site, and a number of drives will have high-impact turning movements prohibited. The proposed access points to the Hollywood Casino are outlined below:

- One full access signalized driveway along N. Farnsworth Avenue (Site Driveway A),
- One three-quarter unsignalized driveway along N. Farnsworth Avenue, prohibiting left turns outbound from the site (Site Driveway B),
 - *Under the City Ultimate Build Out condition this access drive will be restricted to RIRO operation.*
- One right-in/right out unsignalized driveway along Bilter Road (Site Driveway C),
- Two full-access, unsignalized driveways along Church Road (Site Driveway D & E),
- One full-access unsignalized driveway along Corporate Boulevard (Site Driveway F).

Site Trip Distribution

The proposed site-generated trips were distributed to the study area network based on the location of the site, major routes of expected travel, a journey-to-work model from census data, and engineering judgement. The anticipated paths of arrival and departure to the subject site are estimated as follows:

- 35% traveling to / from the east via Interstate 88
- 20% traveling to / from the west via Interstate 88
- 10% traveling to / from the south via N. Farnsworth Avenue
- 10% traveling to / from the north via N. Farnsworth Avenue
- 5% traveling to / from the east via Bilter Road
- 5% traveling to / from the east via Butterfield Road
- 5% traveling to / from the west via Butterfield Road
- 5% traveling to / from the south via Church Road
- 5% traveling to / from the east via Molitor Road

This site traffic distribution in numerous directions will minimize site traffic impacts along the surrounding road network. However, given the location of the I-88 interchange and the regional pull typically associated with the subject land use, the majority of site traffic is expected to be to and from the south on N. Farnsworth Avenue.

The proposed site-generated trips and distribution percentages are illustrated on **Figure 5**.

When analyzing the improvements proposed along N. Farnsworth Avenue in the City of Aurora Ultimate Build Out condition, which will restrict Site Driveway B to RIRO operation, the left-turning vehicles were reassigned to N. Farnsworth and Premium Outlet Blvd / Site Driveway A (Intersection #5) as illustrated on **Figure 7**.

V. FUTURE TRAFFIC VOLUMES

Background Traffic Growth

As part of projecting traffic levels into the future, a request for regional background growth information from the Chicago Metropolitan Agency for Planning (CMAP) was submitted. According to the growth conditions outlined in their response, CMAP expects an increase in traffic on surrounding roadways adjacent to the proposed site. According to CMAP, the traffic volumes are expected to grow approximately 1.34% per year from 2022 to 2050 along Bilter Road and Church Road. The traffic volumes along Butterfield Road and N. Farnsworth Avenue are expected to grow approximately 0.69% per year from 2022 to 2050. To present a conservative analysis, a linear regional growth factor of 1.34% was applied to all existing traffic counts out to the 2030 Build Year + Five analysis year. CMAP correspondence and their formal response letter is provided in **Appendix B**.

No-Build Traffic Volumes

We developed 2030 No-Build traffic volumes by adding the 2030 Regional Growth (**Figure 4A**) to the 2022 existing peak-hour traffic volumes (Figure 3). The resulting 2030 No-Build peak-hour traffic volumes are illustrated on **Figure 4**.

Build Traffic Volumes

We developed 2030 Build traffic volumes by adding the total site trips (Figure 5) to the 2030 No-Build peak-hour traffic volumes (Figure 4). The resulting 2030 Build peak-hour traffic volumes are illustrated on **Figure 6**.

City of Aurora Ultimate Build Out Traffic Volumes

At the request of the City of Aurora, Langan evaluated a 2030 build scenario with the proposed city improvements along Farnsworth Avenue, outlined in the approved Redevelopment Agreement (RDA) between the developer and the city. Re-assigned site development trips (Figure 7) were added to the 2030 Build peak-hour traffic volumes (Figure 6) resulting in 2030 build with city improvements peak-hour traffic volumes illustrated on **Figure 8**.

VI. OPERATIONAL ANALYSIS

Auxiliary Turn Lane Warrant Analysis

At locations where they are not currently present, study area intersection approaches were reviewed to determine if they meet IDOT warrants for the provision of an auxiliary turn lanes based on criteria established in Bureau of Design and Environment Manual – Section 36-3.01.

The results of this analysis indicate that both left- and right-turn lanes are warranted based on traffic levels at Site Driveway B & Farnsworth Avenue (Int #6) under the developer-proposed mitigation scenario. This is the only site access drive where auxiliary turn lanes are warranted based on IDOT criteria. In the City Ultimate Build Out scenario, left-turns at Intersection #6 are prohibited on a geometric/operational basis, and would not be permitted.

Additionally, on a regional level, turn lanes appear to be warranted under existing conditions at the intersections of Molitor & Church (Int #16) and under 2030 conditions at the intersection of Molitor & Farnsworth (Int #1).

It is important to note that, as part of the City of Aurora's Ultimate Build Out condition, a northbound right-turn lane is proposed at the intersection of Church Road and Bilter Road, but is *not* warranted under any analysis condition.

A summary of the turn lane warrant analysis results are presented in **Table 2A** and individual left- and right-turn analyses are included in **Appendix E**.

Dual Left-Turn Lane Warrant Analysis

As part of the City of Aurora Ultimate Build Out condition, the city is proposing dual left-turn lanes in a number of locations including on all approaches at Farnsworth Avenue with Bilter Avenue, and on Farnsworth Avenue and Site Driveway A / Premium Outlets Boulevard. Langan conducted an analysis of projected 2030 left-turn volumes on these approaches to determine if they met IDOT volume thresholds for the application of dual-left turns (300 left-turning vehicles / hour).

Table 2B presents the results of this brief analysis and shows that recommended dual left-turn lane thresholds are not met on any approach at the intersection of Farnsworth Avenue and Bilter Road. Dual left-turn lanes are warranted at the intersection of Farnsworth Avenue and Site Driveway A / Premium Outlet Boulevard with the restriction of Site Driveway B to RIRO operation and will be needed to accommodate site traffic with the access changes at Site Driveway B.

Westbound I-88 – Farnsworth Ramp Analysis

At the request of city staff, a preliminary analysis was conducted to explore the impact of returning the westbound I-88 ramp to two-lanes. This effort involved assessing operations as they are currently designed (generally treating the RIRO access at Corporate Boulevard as an “off-ramp” and weaving on-ramp traffic with traffic on Farnsworth Avenue) and comparing them to the previous design (where the interior ramp lane merged with the right-most lane of northbound Farnsworth Avenue).

The results, presented in **Table 3**, show that returning to the two lane ramp design can lower the density of the weaving segment, improve level of service, and increase speeds at the ramp intersection, but also shows that with the peak hour volumes analyzed, the existing ramp configuration is operating acceptably at LOS C or better. Individual capacity analysis reports are included in **Appendix L** and a summary table of LOS/Density criteria is presented in **Appendix G, Table C**. It should be noted that the weaving analysis was performed on a section of roadway (210 ft. segment length) that is outside the typical thresholds (500 ft. minimum segment length) that are used for a weaving analysis and that the results presented should be verified with further analysis and investigation.

Crash Analysis²

A Crash analysis of the study area was also conducted to assist in the turn lane warrant analysis as well as identify any areas of concern and inform mitigations. **Table 4** and **Table 5**, present the results of the analysis at Farnsworth & Bilter (Int #6) and Farnsworth & Premium Outlet Boulevard, respectively.

The results of the analysis show that no fatalities have occurred at these two intersections between 2017 and 2021. Two (2) A-class, incapacitating, injuries were reported at Intersection #5, and one

² DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau of Data Collection uses the exact latitude/longitude supplied by the investigating law enforcement agency to locate crashes. Therefore, location data may vary in previous years since data prior to 2015 was physically located by bureau personnel.

was reported at Intersection #6. The most frequent crash types at both intersections were Turning, Sideswipe Same Direction, and Front-to-Rear crashes.

At Intersection #5 both A-class (incapacitating injury) crashes are turning movement crashes with one occurring during the day in dry conditions and the other at night in wet conditions. No direct connection between the two A-class crashes due to the limited data set. Expanding the crash severity to type B (non-incapacitating injury) crashes approximately 50% of reported crashes involved a left-turning vehicle. Federal Highway Administration data concerning Crash Reduction Factors indicates switching from permitted/protected to protected-only left turn phasing will significantly reduce the occurrence of left-turning crashes. However, detailed analysis of some reports show left-turn crashes occurring on the minor approaches of Site Driveway A and Premium Outlet Boulevard, which operate on a split phase timing plan with left-turn movements operating under what is essentially protected-only phasing currently.

It should be noted that overall injury crash rates at these intersections appear relatively low, with intersection injury crash rates of 0.30 and 0.40 crashes per million entering vehicles at the intersections of Farnsworth Avenue and Premium Outlets Boulevard and Farnsworth Avenue and Bilter Road, respectively. This is in comparison to the latest available *2016-2020 Illinois Crash Data Trends* summary document published by the Illinois Department of Transportation which presented a statewide injury crash rate of 0.84 Crashes per Million Vehicle Miles Traveled (VMT) over the same period. While intersection crash rates and overall network crash rates are not exactly the same³, it can should be stated that the intersection injury crash rate at these study area intersections is less than half of the overall injury crash rate in the Illinois over a comparable time period.

Appendix F contains figures visualizing the IDOT crash data, for the whole study area as well as at individual intersections, by year, crash type, and crash severity.

Capacity and Level of Service Analysis

The turning-movement-count data as well as the existing roadway geometry and characteristics were utilized to perform capacity analyses based on Highway Capacity Manual (HCM) methodology for the study intersections. We used Synchro software to conduct the capacity analyses. Signal timing plans were obtained for the following signalized intersections:

- N. Farnsworth Avenue & Molitor Road (Int #1)
- N. Farnsworth Avenue & Eastbound I-88 Interchange (Int #2)
- N. Farnsworth Avenue & Westbound I-88 Interchange (Int #3)
- N. Farnsworth Avenue & Site Driveway A / Premium Outlet Boulevard (Int #5)
- N. Farnsworth Avenue & Bilter Road (Int #6)
- Premium Outlet Boulevard & Bilter Road (Int #8)
- N. Farnsworth Avenue & Butterfield Road (IL 56) (Int #9)
- Church Road & Butterfield Road (IL 56) (Int #11)

³ Data indicates the majority of crashes occur at intersections, therefore the comparison between intersection crash rate and overall crash rate is conservative.

- Church Road & Bilter Road (Int #12)

All signal-timing plans are provided in **Appendix C**.

These analyses calculate the delay experienced by an average motorist and assigns the appropriate level of service (LOS). There are six LOS that are defined for any intersection, given as letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. Typically, review agencies consider LOS D or better to be acceptable for urban conditions consistent with the area surrounding the proposed site.

Tables A and B in **Appendix G** depict the LOS criteria for signalized and unsignalized intersections.

Existing-, No-Build-, Build-, and City Ultimate Build-condition LOS for the AM and PM peak hours on a typical day and for the typical Saturday evening peak hour were calculated. Lane widths and storage lengths were obtained through a desktop review, verified by field visit, and incorporated them into the calculations. Existing peak-hour factors and heavy-vehicle percentages from the turning-movement counts were also incorporated into the calculations.

The Existing, No-Build, Build, and City Ultimate Build LOS are summarized in the Level of Service Comparison **Tables 6A – 6C** and 95th Percentile Queue comparison tables are provided in **Tables 7A – 7C**. The 2022 Existing, 2030 No-Build, 2030 Build, 2030 Build-with-Improvements, and 2030 Build with City Ultimate Build Out -condition Synchro printouts can be found in **Appendix H – L**, respectively.

Build with Improvement Analyses

Key summaries of the capacity analysis results for intersections within the study area are provided below.

Mitigations Needed for Casino Operations

N. Farnsworth Avenue with Site Driveway A / Premium Outlet Boulevard (Int #5): This intersection serves one of the primary access drives to the Premium Outlets shopping center.

- The westbound left-turn at this signalized intersection is typically operating at LOS E in existing and no build conditions and with the development of the site this degrades to LOS F during the Saturday peak hour. However, with signal-timing modifications, operations can be improved back to the level of operations experienced under no-build conditions.
- Significant northbound left-turn volumes are expected at this intersection with development of the site. It is recommended, therefore, that the existing left-turn lane be extended to accommodate the longer queues expected from site traffic.

N. Farnsworth Avenue with Site Driveway B (Int #6): Designing this intersection to permit three-quarter access (with inbound right-turn, inbound left-turn, and outbound right turns permitted) allows for additional capacity in processing inbound left-turn vehicles. Sufficient spacing is available to permit provision of a northbound left-turn lane into this access drive. This left-turn lane will remove inbound left-turn vehicles from the northbound through movement traffic stream and facilitate

improved operations on northbound N. Farnsworth Avenue. Operations at this access drive indicate all critical movements to operate at LOS D or better.

N. Farnsworth Avenue with Bilter Road (Int #7): This intersection is projected to operate at LOS C during No-Build conditions, with some individual movements operated at saturated conditions (LOS E). These conditions are projected to continue with development of the site, with operations maintained at an equivalent LOS. However, signal-timing modifications are recommended to keep the coordinated north/south movements on N. Farnsworth Avenue operating efficiently.

As shown in **Tables 6A – 6C**, the Build-with-Improvement conditions will have similar or improved LOS as the No-Build condition, and all modified intersections will continue to operate at an overall LOS D or better.

Recommended Regional Area Transportation Improvements

N. Farnsworth Avenue & Molitor Avenue (Int #1): Adding a crosswalk and pedestrian signal heads on the west leg of this intersection will help improve pedestrian connectivity in the area. This improvement should be installed in conjunction with any sidewalk installation along the west side of Farnsworth Avenue.

Church Road & Molitor Avenue (Int #16): This intersection operates at poor level of service (LOS E or F) during weekday commuter peak hours. Adding a northbound right-turn lane can alleviate some of these capacity issues.

Build with City Ultimate Build Out Analyses

N. Farnsworth Avenue with Site Driveway A / Premium Outlet Boulevard (Int #5): Adding the additional through lane in each direction will have a positive impact on northbound and southbound through traffic volumes at this intersection. However, the operational changes required to traffic signal operations resulting from the addition of this through lane result in a noticeable degradation in left-turn movements on these approaches due to these movements needing to operate under protected-only phasing. This is most clearly presented in the southbound left-turn movement which goes from LOS A to LOS E in the AM Peak Hour, LOS C to LOS E during the PM Peak Hour, and LOS D to LOS E during the Saturday Peak Hour.

Operations on the minor approaches at this intersection were observed to operate similarly to the developer build condition with minor changes in delay (typically +/- 5 seconds) observed.

N. Farnsworth Avenue with Bilter Road (Int #7): Adding the City recommended changes to this intersection results in similar changes in operation as described with Intersection #5. Northbound and southbound through movements show a decrease in average delay, and minor street and left-turn movements at this intersection were observed to experience significant increases in delay as a result of the needed operational changes associated with adding a third through lane. Overall delay at this intersection is observed to increase for all three time periods (AM, PM, and Saturday) due to the increased delays on these minor approaches. Left-Turn movements from Farnsworth Avenue to Bilter Road at this intersection were observed to increase by an average of approximately 55 seconds across all three analysis periods.

Further the installation of dual left-turn lanes on Bilter Road, which do not meet typical volume thresholds for this application, result in increases in delay on for these movements as well.

VII. CONCLUSIONS

The traffic impact of the proposed development can be mitigated on the surrounding road network using the proposed site access system with the following modifications, presented in **Figure A**, to the existing transportation network. These modifications should be considered the minimum necessary to mitigate the impact of the proposed Hollywood Casino development, if the mitigations are superseded by the City of Aurora Ultimate Build Out conditions they are called out in *Italics* below:

N. Farnsworth Avenue with Site Driveway A / Premium Outlet Boulevard (Int #5):

- Extend the northbound left-turn lane striping to provide approximately 275 feet of storage and 75 feet of taper.
 - *The City Ultimate Build Out condition calls for the provision of dual left-turn lanes on the Farnsworth Avenue approaches. These left-turn movements will need to be placed under protected-only phasing/control.*
- Modify signal timings at Farnsworth and Site Driveway A.
- Design the eastbound approach of this intersection to provide a lane configuration consisting of an exclusive outbound left-turn lane, a shared left-turn / through / right-turn lane, and an exclusive right-turn lane.

This lane assignment is conditional on the approach being on its own “split” phase separate from Premium Outlet Boulevard.

N. Farnsworth Avenue with Site Driveway B (Int #6):

- Design this unsignalized access drive to facilitate inbound left-turns, inbound right-turns and outbound right-turns (three-quarter access)
 - *In the City Ultimate Build Out condition this access drive is required to operate as a Right-in / Right-out access drive due to the widening of Farnsworth Avenue.*
- Restripe the existing painted center median and turn lanes at Intersections #5 and #6 to provide an exclusive northbound lane into this access drive.
 - *With the City Ultimate Build Out condition, it is assumed this section of Farnsworth Avenue will provide a raised median to prevent left-turns into or out-of this access drive.*
- A southbound right-turn lane should be considered at this location. The intersection meets a conservative application of IDOT turn lane warrants and other access drives within the vicinity of the site on Farnsworth Avenue provide them.

N. Farnsworth Avenue with Bilter Road (Int #7):

- Modify signal timings at this intersection to improve operations.
- *Under the City Ultimate Build Out condition, in addition to the additional through lane in each direction, this intersection will be significantly expanded to include dual left-turn lanes on all approaches, an additional through lane on Bilter Road, and maintaining exclusive right-turn lanes on all intersection approaches.*

- *It should be noted that these changes and the associated timing changes required as part of the improvements result in an observable degradation of LOS and Delay of many minor movements at this intersection.*

N. Farnsworth Avenue with Butterfield Road (Int #9):

- Modify signal timings at this intersection to improve operations.

Bilter Road with Site Driveway C (Int #10):

- Provide a right-in/right-out access drive with outbound movements under stop-sign control.

Church Road with Site Driveway D (Int #13):

- Provide a full movement access drive with one inbound lane and one outbound lane, with outbound movements under stop-sign control.
- Ensure that curb radii at this access drive can accommodate a WB-67 design vehicle.

Church Road with Site Driveway E (Int #14):

- Design this access drive to provide one inbound lane and one outbound lane with outbound movements under stop-sign control.
- Ensure that curb radii can accommodate a Fire Truck per City of Aurora ordinance.

Corporate Boulevard with Site Driveway F (Int #17):

- Design this access drive to provide one inbound lane and one outbound lane with outbound movements under stop-sign control.

Finally, it is recommended that a 10-foot-wide multi-use path be provided along the perimeter of the site to facilitate alternate modes of transportation.

All intersections within the study area not discussed above were observed to operate at acceptable levels of service in both the 2022 Existing and 2030 Build conditions. Operational results are presented in the LOS tables. No mitigations or changes are proposed at these intersections to accommodate site traffic.

Additional Area Improvements

In order to further improve non-vehicle access and mobility surrounding the site, a number of additional signal improvements are recommended.

N. Farnsworth Avenue with Site Driveway A / Premium Outlet Boulevard (Int #5):

- In order to facilitate connectivity to the northbound Pace bus stop, a crosswalk and pedestrian signals should be provided across the north leg of the intersection. This improvement can occur in conjunction with any improvements associated with the design of the east leg access drive serving the site.

N. Farnsworth Avenue with Bilter Road (Int #7):

- To improve pedestrian and bicycle connectivity, it is recommended that a crosswalk and pedestrian signal heads be installed across the west and south legs of the intersection.

The capacity analyses indicate that all study-area intersections are projected to operate at an overall Level of Service (LOS) D or better during the AM, PM, and Saturday peak hours under the build-with-improvement conditions and that traffic volumes along N. Farnsworth Avenue will continue to operate efficiently.

With the improvements outlined above, with or without the improvements outlined in the City Ultimate Build Out condition, the traffic associated with the proposed Hollywood Casino can be accommodated on the surrounding roadway network.

Additional Regional Improvements

As part of the expanded study, this report also explored possible improvements that were not required to mitigate the impact of the proposed Hollywood Casino development but would improve existing operations. These mitigations are outlined below and presented in **Figure B**:

It is recommended that missing segments of multi-use path along Farnsworth Avenue on either end of the Farnsworth / I-88 Interchange be constructed. With the addition of these segments and the development of the site, a multi-use path would be present between Bilter Avenue to the north and Molitor Avenue (a listed east-west, on-road, bike route) to the south.

N. Farnsworth Avenue with Molitor Rd (Int #1):

- In conjunction with the installation of the previously mentioned sidewalk on the west side Farnsworth Avenue, add a crosswalk and associated pedestrian signal heads to the west leg of the intersection.
- Consider optimizing signal timings.

N. Farnsworth Avenue with Butterfield Road (Int #9):

- Strip a continental-style crosswalk across the west leg of the intersection.

Church Road with Molitor Rd (Int #16):

- Add a northbound right-turn lane to this intersection. Data indicates that this turn lane is warranted and will have the largest possible impact on intersection operations short of signalization.

Right-of-way issues may complicate installation and may require realignment of the lane striping. Preliminary evaluation of peak hour volumes indicate this intersection meets peak hour traffic signal warrants outlined in the MUTCD. It is recommended that this intersection continue to be monitored and a complete signal warrant analysis be conducted at this intersection.

Comments on City Ultimate Build Out Condition

The City Ultimate Build Out Condition mitigation are presented in **Figure C**. Analysis of the proposed Ultimate City Build Out improvements indicates the following:

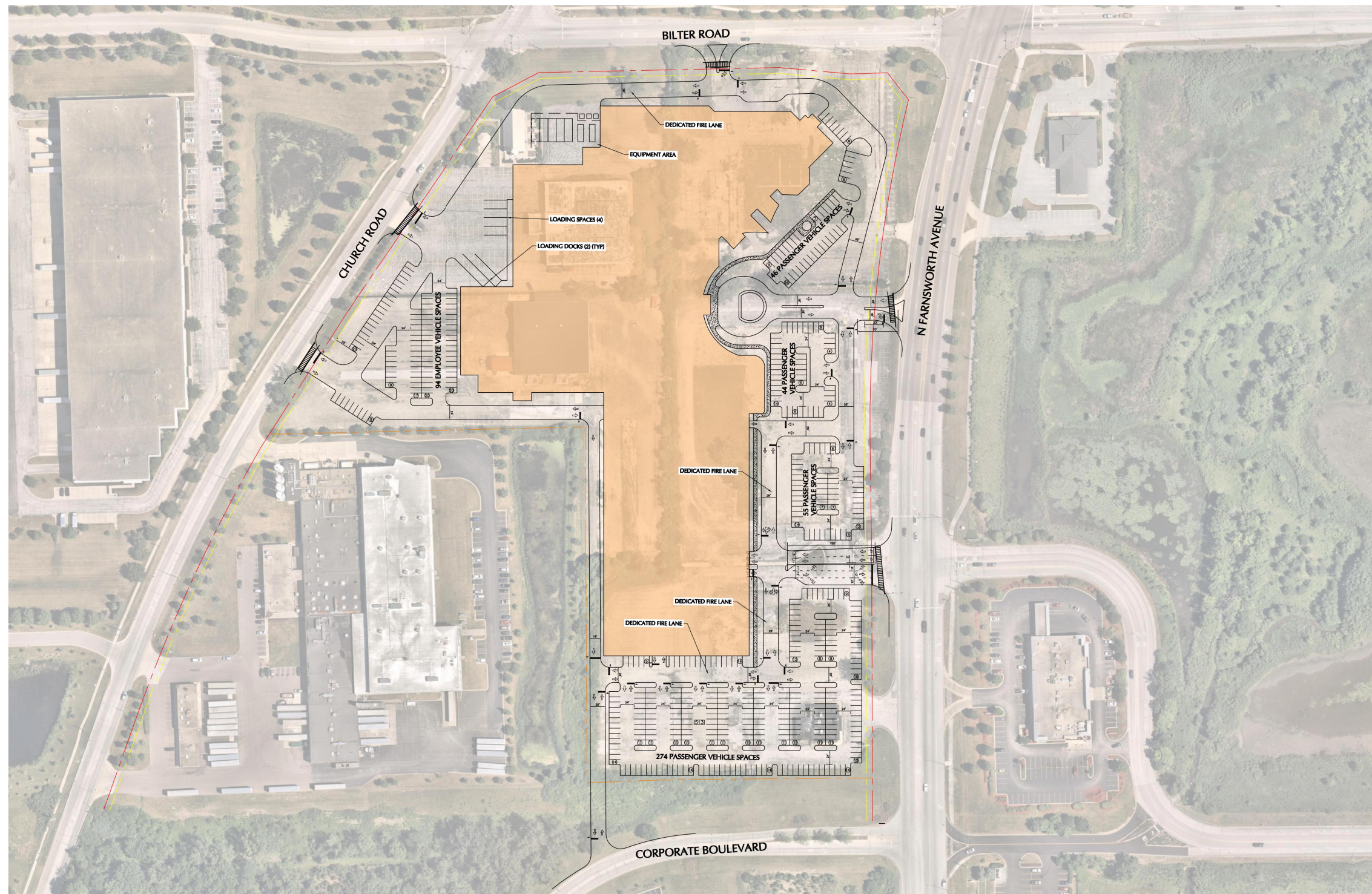
- With the prohibition of northbound left-turns at Site Driveway B, dual left-turns are required at Site Driveway A to accommodate site traffic. Reassigning traffic volumes to reflect this change shows that Site Driveway A will meet IDOT thresholds for the application of dual left-turn lanes.
 - No other location where dual left-turn lanes are proposed meets this recommended IDOT volume threshold under projected 2030 volume conditions.
- The application of these dual-left-turn lanes and associated signal modifications results in increased delays and worse levels-of-service at all other locations where they are proposed.
 - This application is needed on Farnsworth Avenue approaches due to the widening to three travel lanes which requires these left-turns needing to be restricted to protected-only phasing regardless, but this application is *not* recommended on Bilter Road, where protected/permitted left-turn phasing is still viable.
- Adding a through lane on Bilter Road is not needed operationally based on either existing 2022 or proposed 2030 volumes and has minimal benefit.
- A northbound turn lane on Church Road at Bilter Road is not warranted nor needed operationally based on any volume condition developed in this study, including 2030 Build conditions.

FIGURES

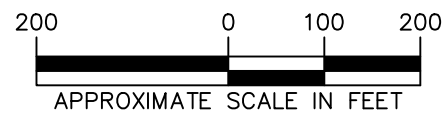
- Figure 1** – Site Location Map
- Figure 2** – Conceptual Site Plan
- Figure 3** – 2022 Existing Peak Hour Traffic Volumes
- Figure 4** – 2030 No Build Peak Hour Traffic Volumes
- Figure 4A** – 2030 Regional Growth
- Figure 5** – Development Site Trips
- Figure 6** – 2030 Build Peak Hour Traffic Volumes
- Figure 7** – Change in Development Site Trips with City of Aurora Improvements
- Figure 8** – 2030 Build Peak Hour Traffic Volumes with City of Aurora Improvements
- Figure A** – Recommended Developer Impact-Mitigating Roadway Improvements
- Figure B** – Additional Identified Regional Transportation Improvements
- Figure C** – City of Aurora Ultimate Build Out Roadway Improvements



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NOTE:
CONCEPTUAL SITE PLAN PROVIDED BY LANGAN ON 1/25/2022



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Project

**HOLLYWOOD
CASINO**

AURORA

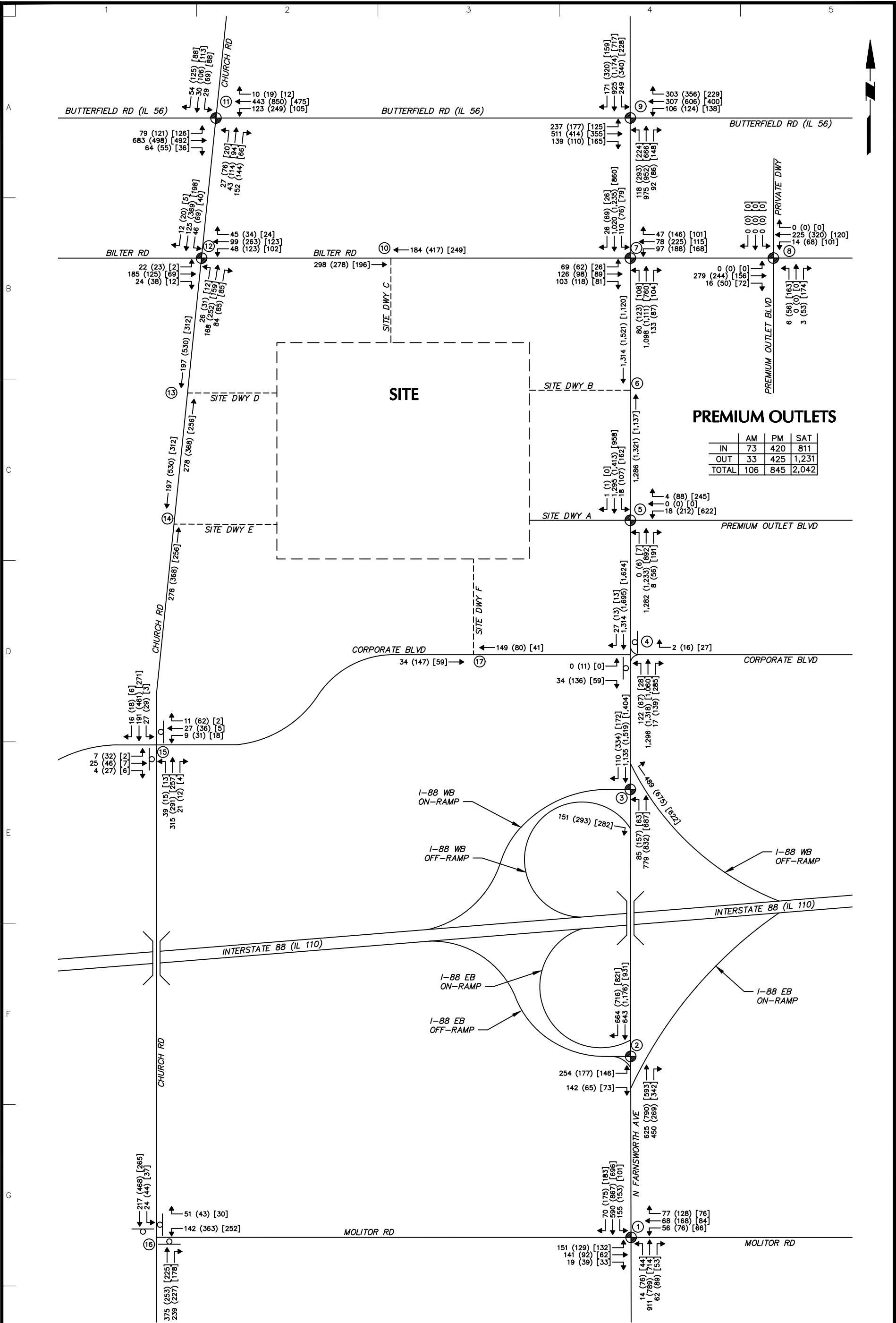
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SITE PLAN

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LEGEND

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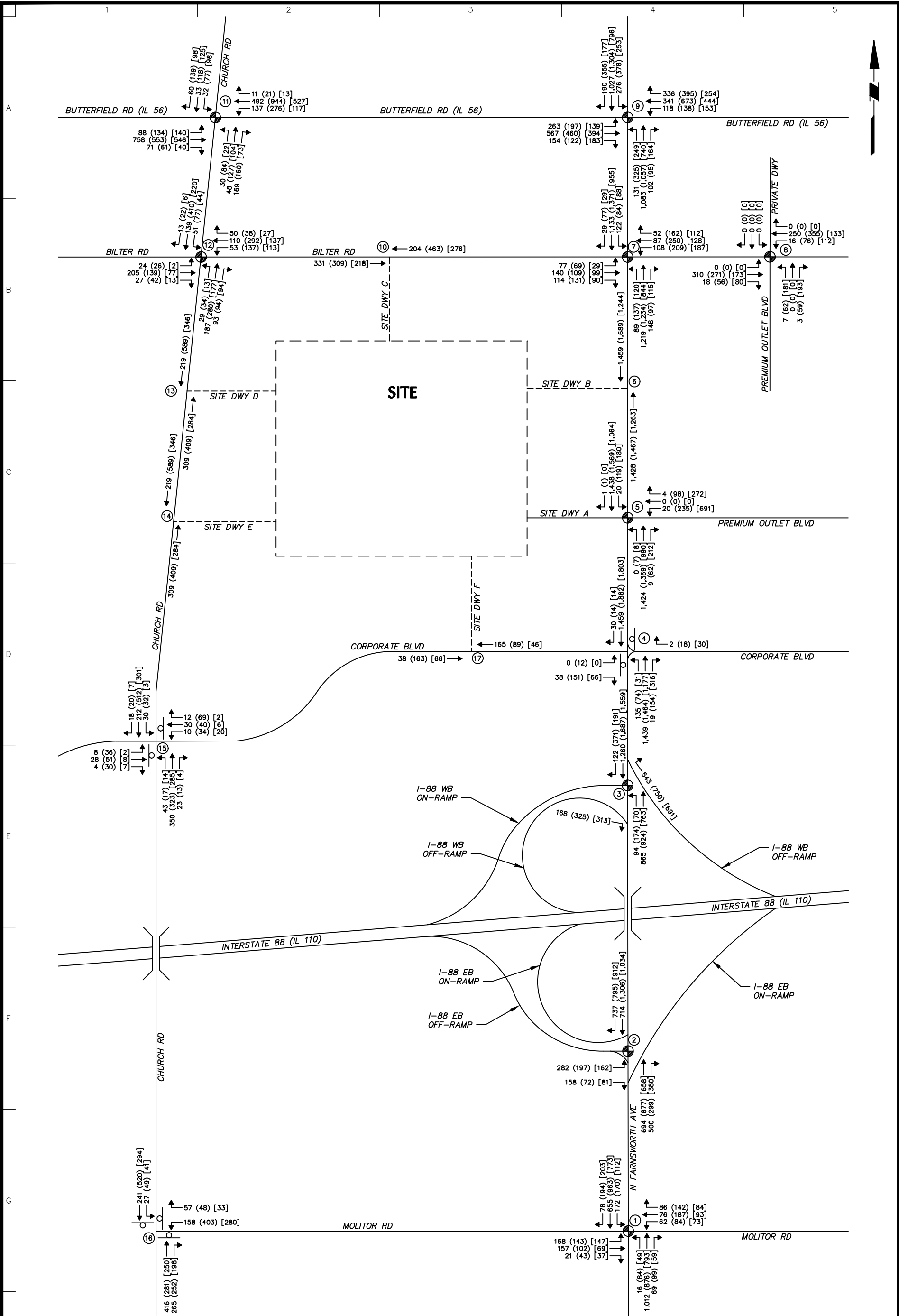
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Project
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AURORA
KANE COUNTY ILLINOIS

Drawing Title
2022 EXISTING PEAK HOUR TRAFFIC VOLUMES

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Figure
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GENERATOR (5:00PM-7:00PM)

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- INTERSECTION ID

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KANE COUNTYILLINOIS

Drawing Title

2030 NO BUILD
PEAK HOUR
TRAFFIC VOLUMES

Project No.

541017801

Date

JANUARY 2023

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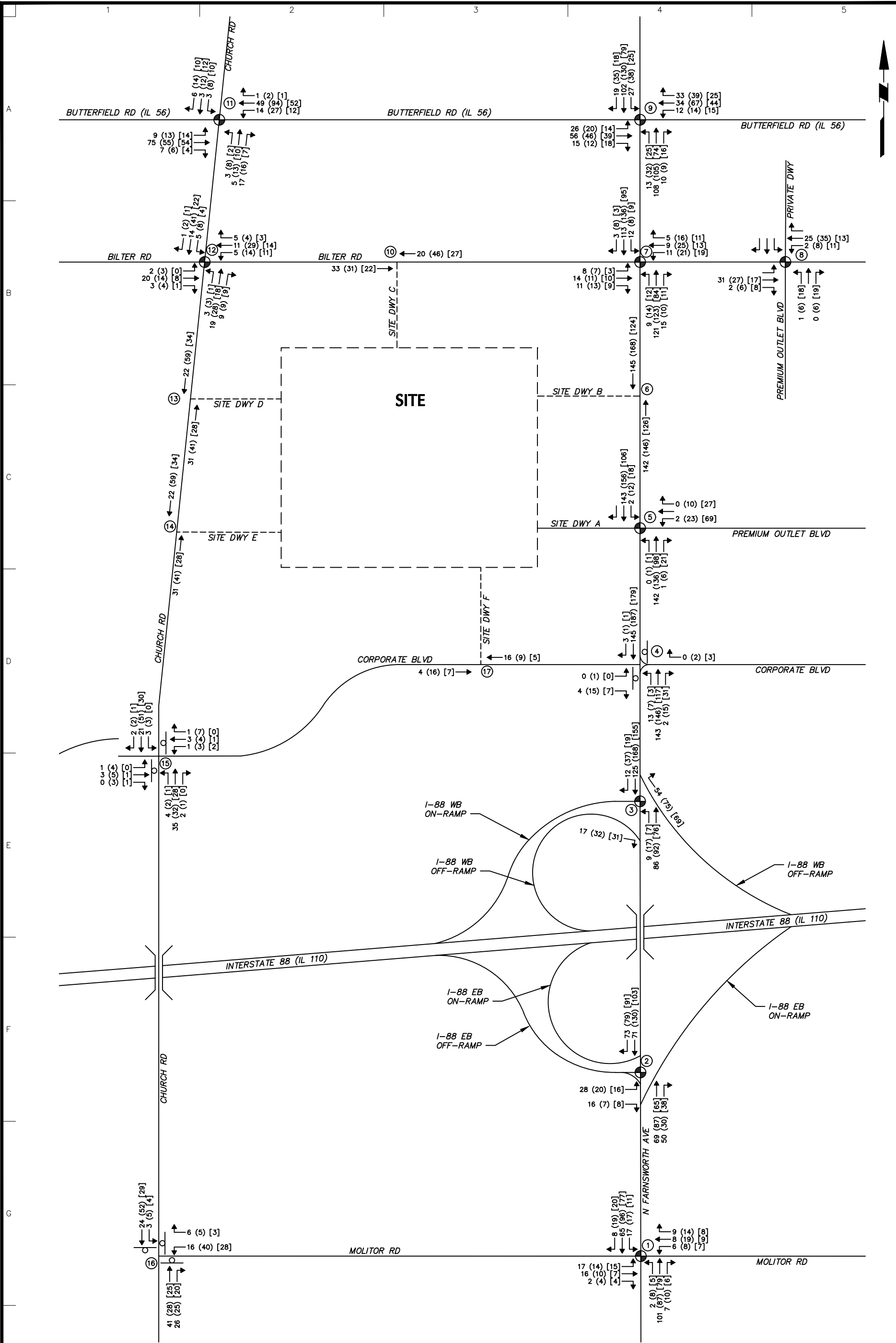
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HOLLYWOOD CASINO

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Drawing Title

2030 REGIONAL GROWTH

Project No.

541017801

Date

JANUARY 2023

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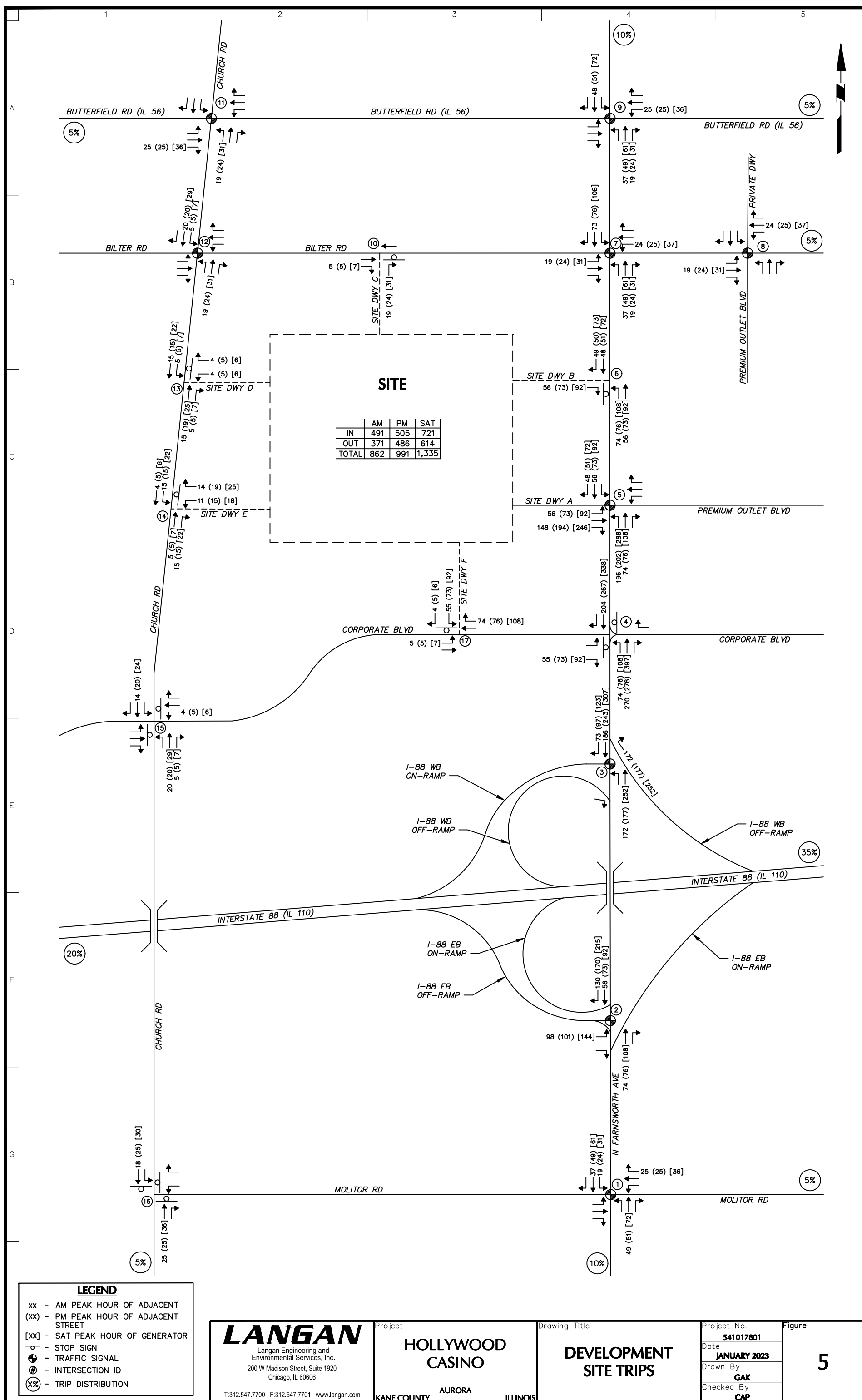
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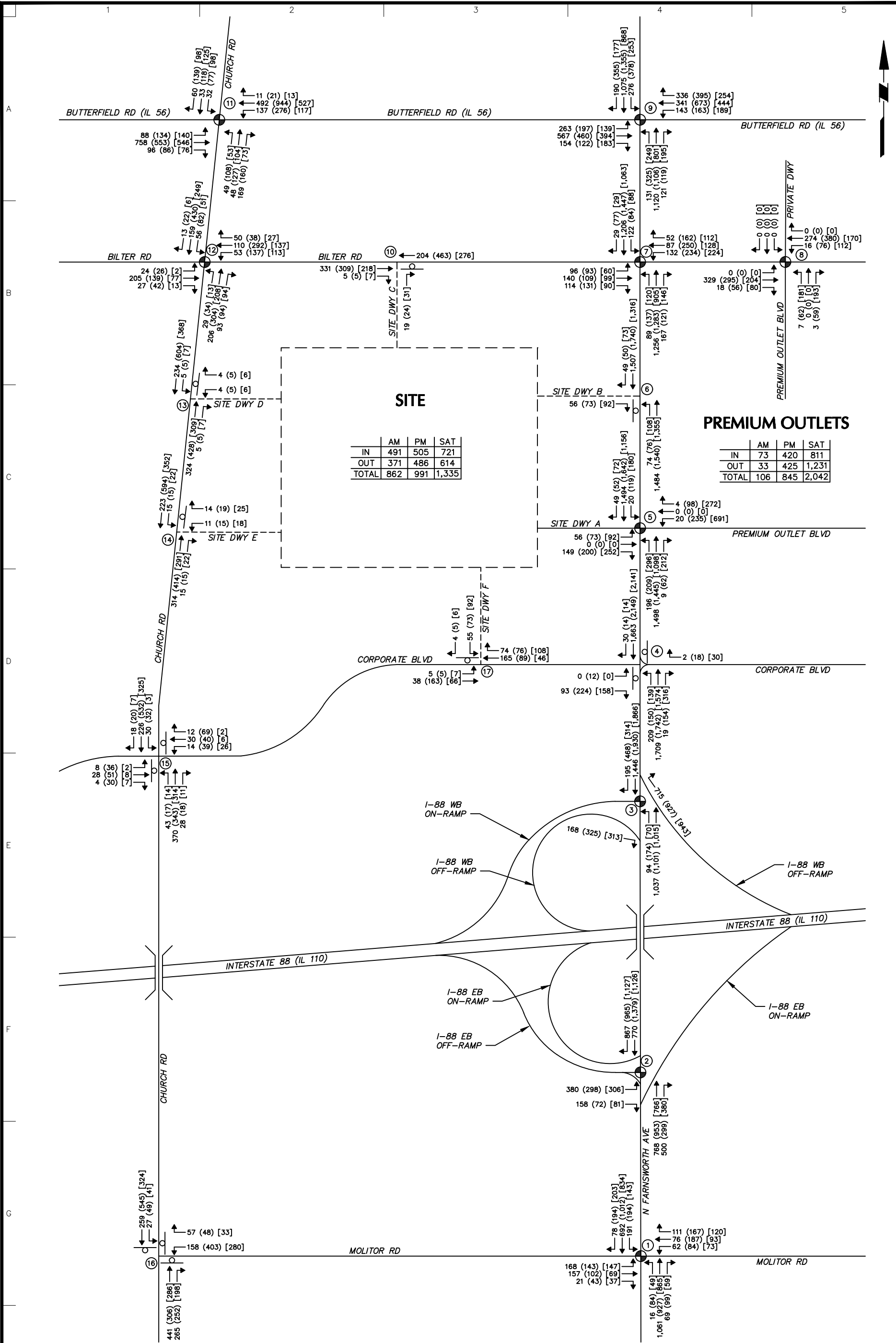
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- TRAFFIC SIGNAL

- INTERSECTION ID

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Drawing Title

2030 BUILD
PEAK HOUR
TRAFFIC VOLUMES

Project No.
541017801

Date
JANUARY 2023

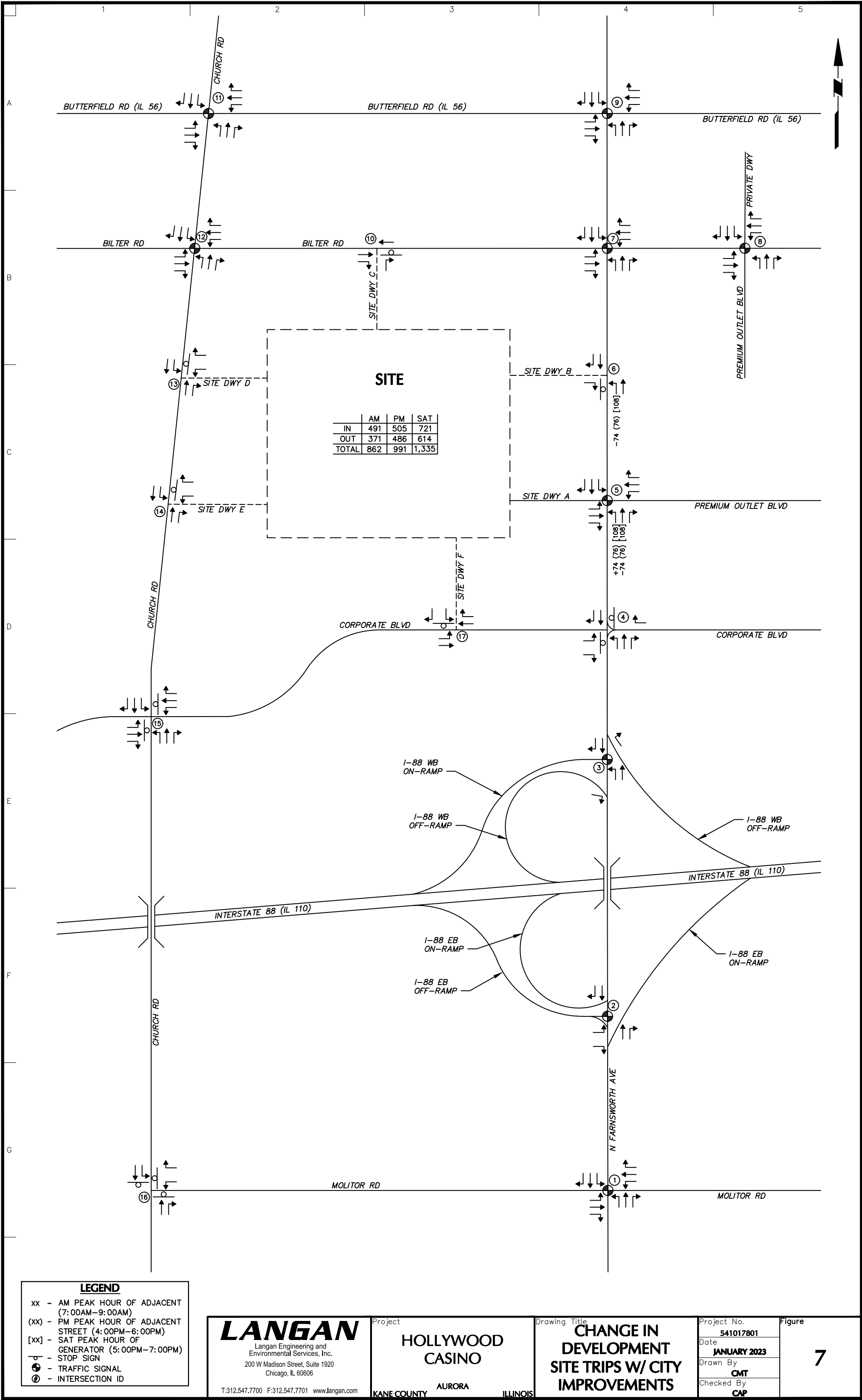
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Figure

6

Date: 6/14/2023 Time: 12:05 User: gkoch Style Table: Langan.stb Layout: FIG 6 Document Code: FG-541017801-0201-KT101-0101



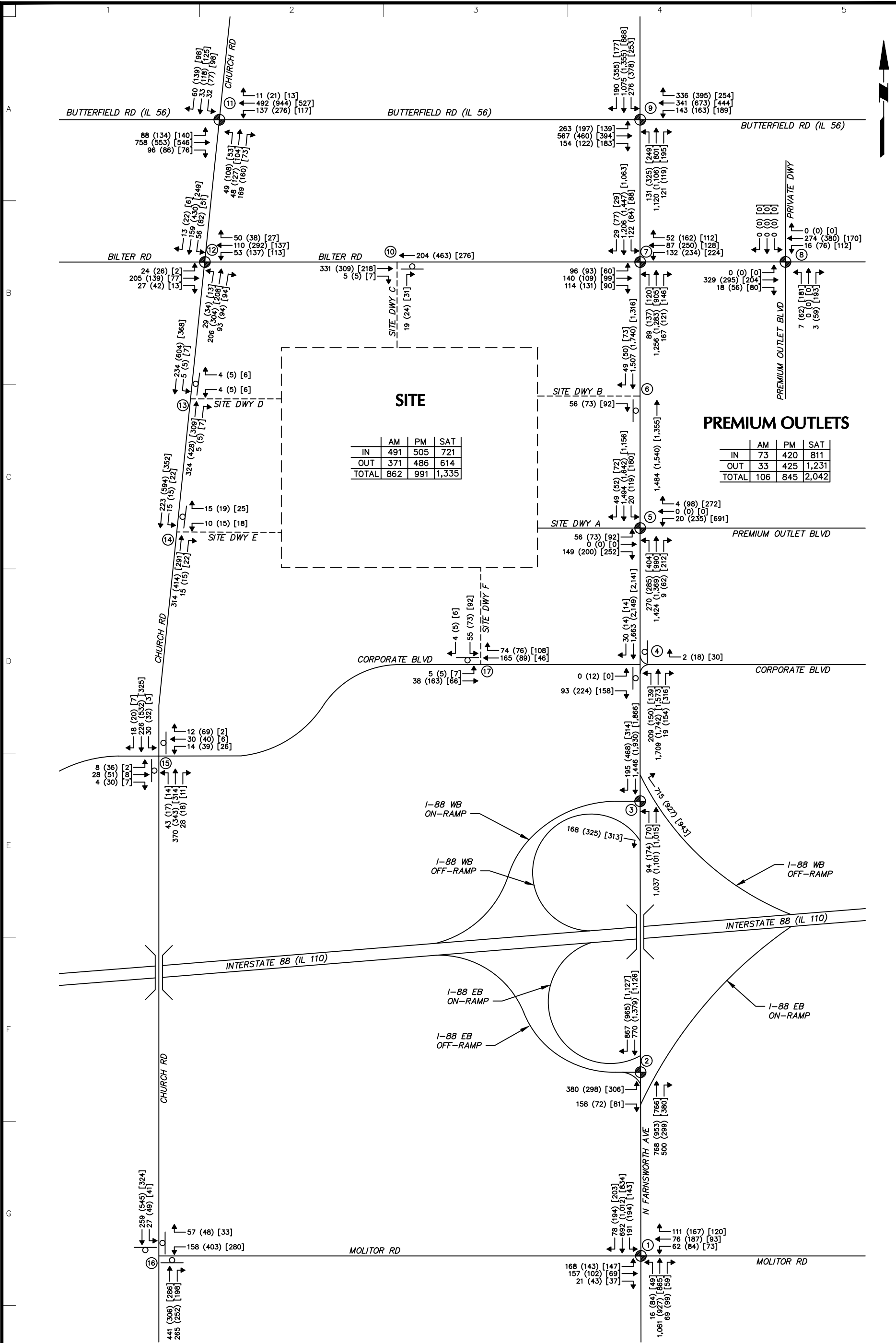
LANGAN
Langan Engineering and
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Project
HOLLYWOOD CASINO
AURORA
ILLINOIS
KANE COUNTY

Drawing Title
**CHANGE IN DEVELOPMENT
SITE TRIPS W/ CITY
IMPROVEMENTS**

Project No.
541017801
Date
JANUARY 2023
Drawn By
CMT
Checked By
CAP

Figure
7



LEGEND

xx

- AM PEAK HOUR OF ADJACENT (7:00AM-9:00AM)

(xx)

- PM PEAK HOUR OF ADJACENT STREET (4:00PM-6:00PM)

[xx]

- SAT PEAK HOUR OF GENERATOR (5:00PM-7:00PM)

- STOP SIGN

- TRAFFIC SIGNAL

- INTERSECTION ID

LANGAN

Langan Engineering and Environmental Services, Inc.
200 W Madison Street, Suite 1920
Chicago, IL 60606

Project

HOLLYWOOD CASINO

AURORA

KANE COUNTY ILLINOIS

Drawing Title

2030 BUILD PEAK HOUR TRAFFIC VOLUMES W/ CITY IMPROVEMENTS

Project No.

541017801

Date

JANUARY 2023

Drawn By

CMT

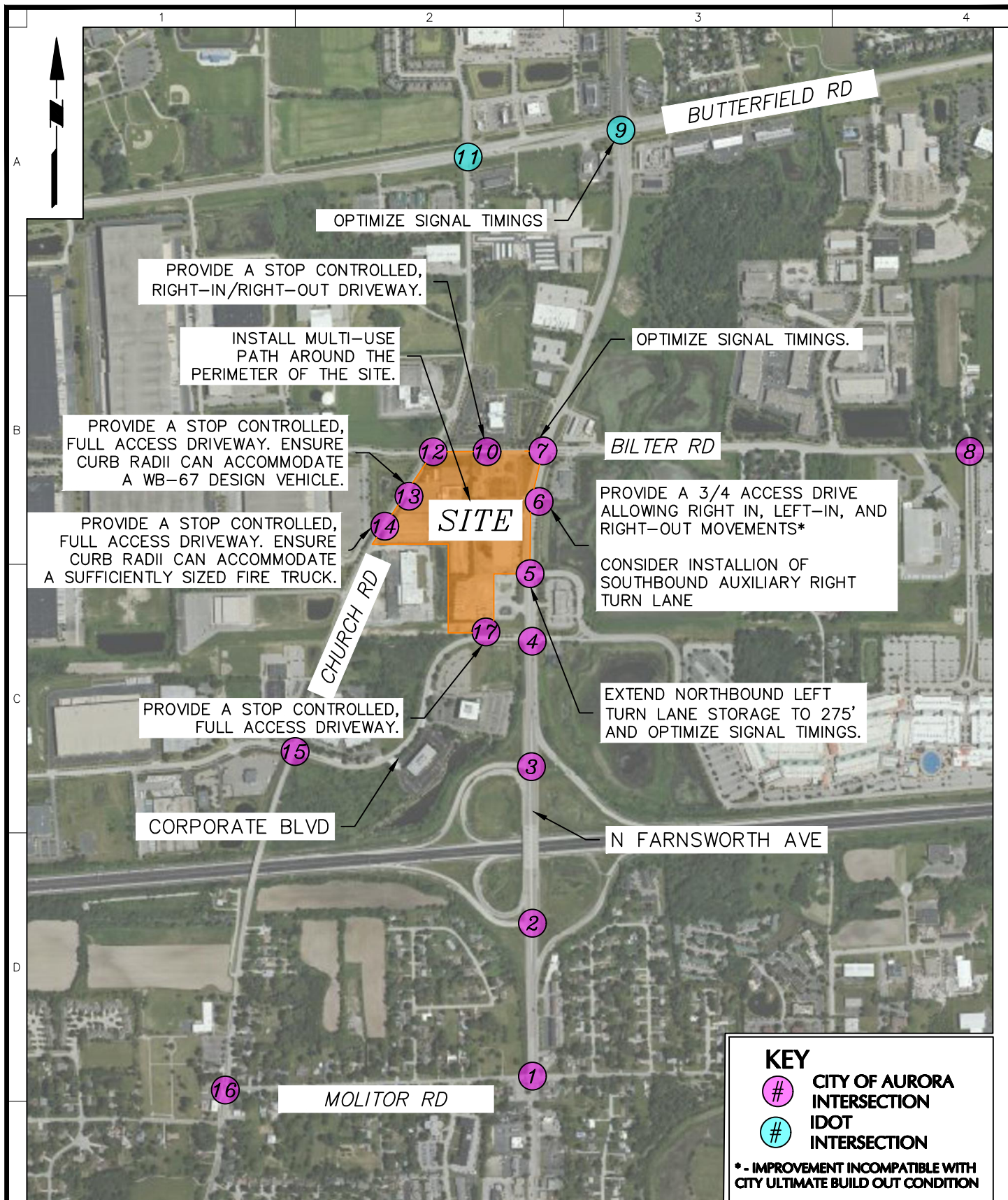
Checked By

CAP

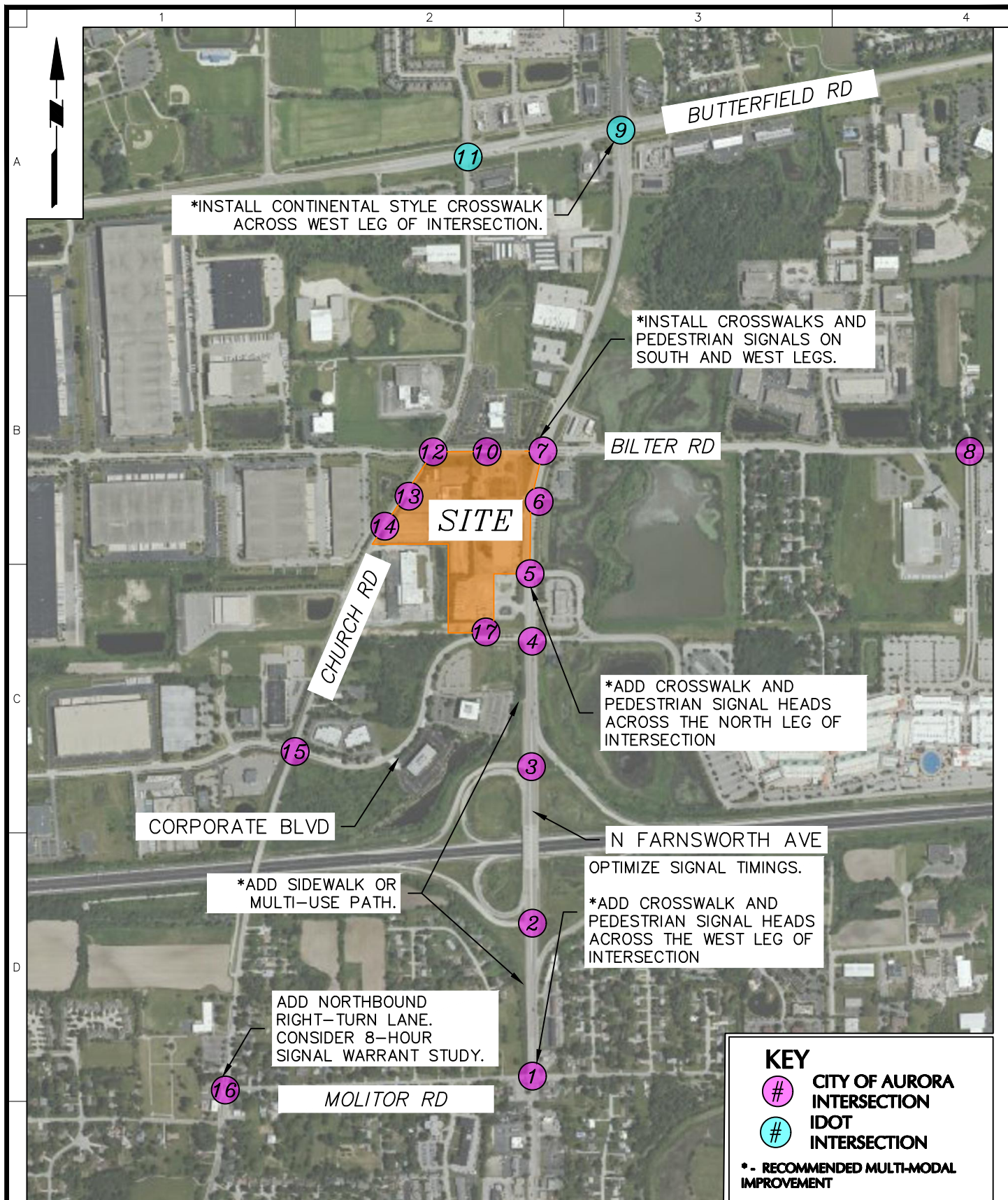
Figure

8

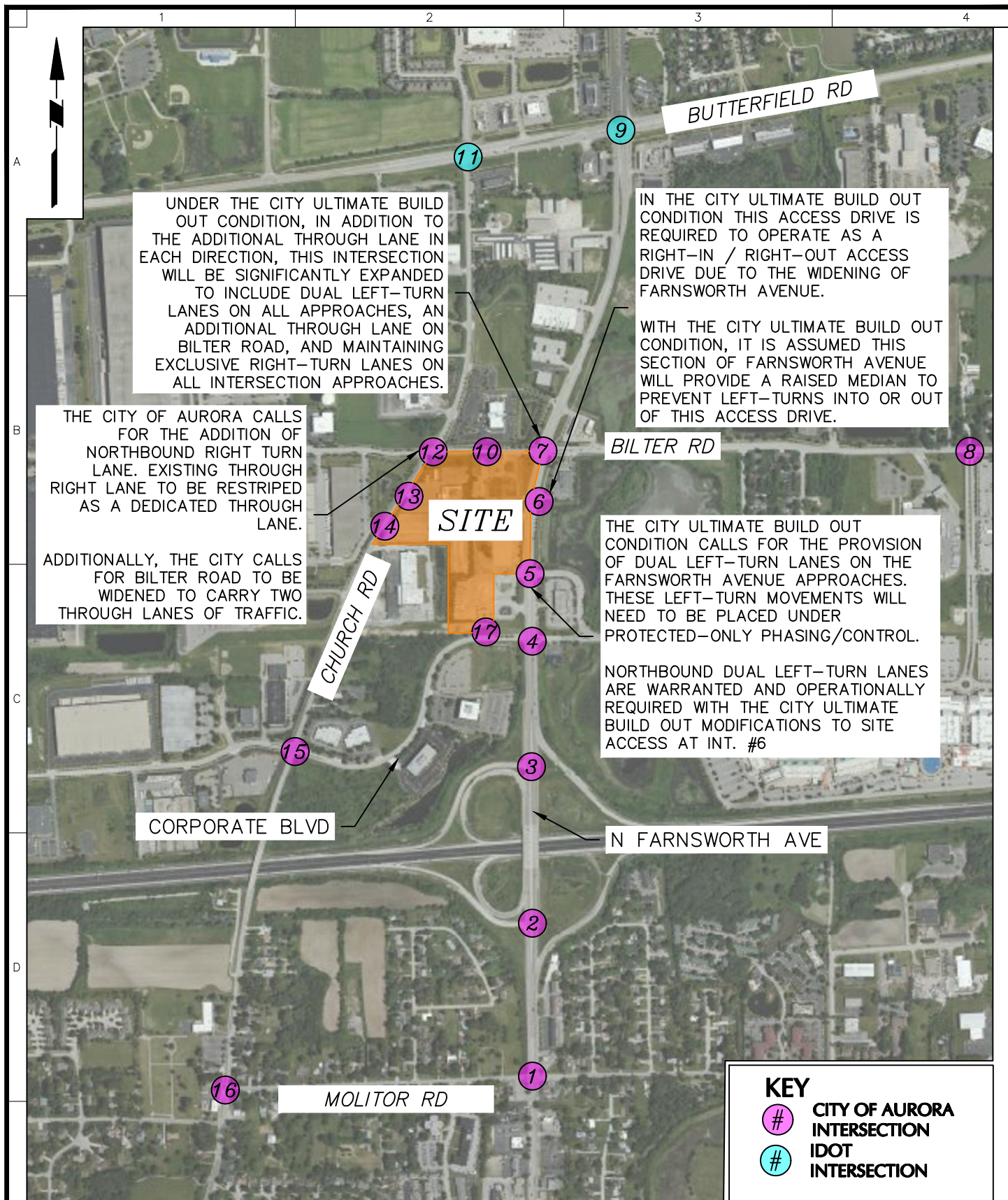
Date: 6/14/2023 Time: 12:05 User: gkoch Style Table: Langan.stb Layout: FIG 8 Document Code: FG-541017801-0201-KT101-0101



LANGAN Langan Engineering and Environmental Services, Inc. 200 W Madison Street, Suite 1920 Chicago, IL 60606 T: 312.547.7700 F: 312.547.7701 www.langan.com	Project HOLLYWOOD CASINO AURORA KANE COUNTY ILLINOIS	Drawing Title RECOMMENDED DEVELOPER IMPACT MITIGATING ROADWAY IMPROVEMENTS	Project No. 541017801 Date JANUARY 2023 Drawn By JAP Checked By MKS	Figure A
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LANGAN Langan Engineering and Environmental Services, Inc. 200 W Madison Street, Suite 1920 Chicago, IL 60606 T: 312.547.7700 F: 312.547.7701 www.langan.com	Project HOLLYWOOD CASINO AURORA KANE COUNTY ILLINOIS	Drawing Title ADDITIONAL IDENTIFIED REGIONAL TRANSPORTATION IMPROVEMENTS	Project No. 541017801 Date JANUARY 2023 Drawn By JAP Checked By MKS	Figure B
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LANGAN Langan Engineering and Environmental Services, Inc. 200 W Madison Street, Suite 1920 Chicago, IL 60606 T: 312.547.7700 F: 312.547.7701 www.langan.com	Project HOLLYWOOD CASINO AURORA KANE COUNTY ILLINOIS	Drawing Title CITY OF AURORA ULTIMATE BUILD OUT ROADWAY IMPROVEMENTS	Project No. 541017801 Date JANUARY 2023 Drawn By JAP Checked By MKS	Figure C
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TABLE I
Hollywood Casino
Site Trip Generation

Land Use	ITE Code	Size	Units	<u>Weekday AM Peak Hour of Generator</u>			<u>Weekday PM Peak Hour of Adjacent Street</u>			<u>Saturday Peak Hour of Generator</u>			<u>Weekday ADT</u>
				IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	
Proposed													
Casino	473	2,154	Gaming Positions	491	371	862	505	486	991	721	614	1,335	17,254
Total External Site Generated Vehicle Trips				491	371	862	505	486	991	721	614	1,335	17,254

Notes:

Trip generation calculations are based on the ITE Trip Generation Manual, 11th Edition.

Gaming Positions include Slots, Tables, and Sportbook seats

A 300 room Hotel is proposed on site; however, it is assumed the Hotel is ancillary in nature to the Casino due to the nature of the Casino land use code (LUC 473).

The associated food, beverage, and entertainment components of the proposed project is assumed to be ancillary in nature to the Casino.

Weekday ADT represents a bi-directional volume (In & Out).

Table 2A
Auxillary Turn Lane Warrant Summary

Intersection	Approach	Left Turn Lane Warrant	Right Turn Lane Warrant
#1 Molitor & Farnsworth (Signalized)	Eastbound	Existing	Not Warranted (Volume)
	Westbound	Existing	Warranted (PM Volume)
	Northbound	Existing	Not Warranted (Volume)
	Southbound	Existing	Not Warranted (Volume)
#4 Corporate Parkway & Farnsworth (Unsignalized)	Eastbound	Existing	Existing
	Westbound	--	Existing
	Northbound	Existing	Existing
	Southbound	--	Not Warranted
#6 Site Driveway B & Farnsworth (Unsignalized)	Eastbound	--	Proposed (Site Drive)
	Westbound	--	--
	Northbound	Warranted (Volume)	--
	Southbound	--	Warranted*
#10 Biliter & Site Driveway C (Unsignalized)	Eastbound	--	--
	Westbound	--	Not Warranted
	Northbound	--	Proposed (Site Drive)
	Southbound	--	--
#12 Biliter & Church (Signalized)	Eastbound	Existing	Not Warranted (Volume)
	Westbound	Existing	Not Warranted (Volume)
	Northbound	Existing	Not Warranted (Volume)
	Southbound	Existing	Not Warranted (Volume)
#13 Site Driveway D & Church (Unsignalized)	Eastbound	--	--
	Westbound	--	--
	Northbound	--	Not Warranted
	Southbound	Existing	--
#14 Site Driveway E Church (Unsignalized)	Eastbound	--	--
	Westbound	--	--
	Northbound	--	Not Warranted
	Southbound	Existing	--
#15 Corporate Boulevard & Church (All Way Stop Control)	Eastbound	Existing	Not Warranted (Volume)
	Westbound	Existing	Not Warranted (Volume)
	Northbound	Existing	Not Warranted (Volume)
	Southbound	Existing	Not Warranted (Volume)
#16 Molitor & Church (All Way Stop Control)	Eastbound	--	--
	Westbound	--	Not Warranted
	Northbound	--	Warranted
	Southbound	Warranted	--
#17 Corporate Boulevard & Site Driveway F (Unsignalized)	Eastbound	--	Not Warranted
	Westbound	Not Warranted	--
	Northbound	--	--
	Southbound	Proposed (Site Drive)	Proposed (Site Drive)

* - Volumes meet threshold but design speed is lower than warrants stipulate.

Table 2B
City of Aurora Proposed Improvements Dual Left Turn Lane Warrant Summary

Intersection	Approach	Highest Projected 2030 Left-Turn Volume	Condition	Dual Left Turn Lane Warrant
#5 Premium Outlet Blvd / Site Dwy A & Farnsworth Ave (Signalized)	Eastbound	92	Sat. Peak	Not Warranted
	Westbound	691	Sat. Peak	Existing
	Northbound	404*	Sat. Peak	Warranted
	Southbound	180	Sat. Peak	To Match
#6 Bilter Rd & Farnsworth Ave (Signalized)	Eastbound	96	Weekday AM	Not Warranted
	Westbound	234	Weekday PM	Not Warranted
	Northbound	137	Weekday PM	Not Warranted
	Southbound	122	Weekday AM	Not Warranted

IDOT warrants recommend a 300 veh/hr threshold for the provision of dual left-turn lanes.

* - Assuming RIRO operation at Site Driveway B

Table 3
Level of Service Comparison - Weaving Analysis

Approach / Movement	2030 No Build			2030 Build		
	Weekday AM Peak	Weekday PM Peak	Saturday PM Peak	Weekday AM Peak	Weekday PM Peak	Saturday PM Peak
INTERSECTION	Farnsworth Avenue with Westbound I-88 Off Ramp					
With One Ramp Lane						
Northbound Weave with One Ramp Lane	B (15.4)	B (19.2)	B (16.3)	C (20.0)	C (24.6)	C (23.6)
With Two Ramp Lanes						
Northbound Weave with Two Ramp Lanes	B (13.0)	B (15.9)	B (14.0)	B (16.2)	B (19.4)	B (19.2)

Notes:

LOS - Level of Service

(XX) - Represents traffic density (pc/mi/ln)

Table 4 - Crash Analysis at the Intersection of Bilter Avenue and Farnsworth Avenue

TABLE 4.1 Crashes by Type Aurora Hollywood Casino - Intersection of Bilter and Farnsworth																	
Year	Turning	Angle	Sideswipe Same Direction	Sideswipe Opposite Direction	Fixed Object	Other Object	Other Non-Collision	Parked Motor Vehicle	Front to Front	Front to Rear	Rear to Side	Overtaken	Other Non-Collision	Pedestrian	Pedalcyclist	Animal	TOTAL
2017	14	1	1	0	0	1	0	0	1	3	0	0	0	0	0	0	21
2018	10	2	1	1	0	0	0	0	0	9	0	0	0	0	0	0	23
2019	11	1	3	0	2	0	0	0	0	2	0	0	0	0	0	0	19
2020	1	1	2	0	0	0	0	0	0	6	0	0	0	0	0	1	11
2021	3	0	4	0	0	0	0	0	0	6	0	0	0	0	0	1	14
Sum	39	5	11	1	2	1	0	0	1	26	0	0	0	0	0	2	88

TABLE 4.2 Crashes by Severity Aurora Hollywood Casino - Intersection of Bilter and Farnsworth						
Year	Fatal	A-Injury	B-Injury	C-Injury	Property Damage Only	TOTAL
2017	0	1	1	8	11	21
2018	0	0	1	6	16	23
2019	0	0	1	3	15	19
2020	0	0	2	1	8	11
2021	0	0	2	2	11	15
Sum	0	1	7	20	61	89

TABLE 4.3								
Crashes by Day of Week								
Aurora Hollywood Casino - Intersection of Bilter and Farnsworth								
Year	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	TOTAL
2017	2	4	8	2	4	1	0	21
2018	6	3	6	2	2	2	2	23
2019	2	4	3	3	6	1	0	19
2020	3	3	2	2	1	0	0	11
2021	2	4	1	5	2	1	0	15
Sum	15	18	20	14	15	5	2	89

TABLE 4.4 Crashes by Light Condition Aurora Hollywood Casino - Intersection of Bilter and Farnsworth							
Year	Daylight	Dawn	Dusk	Darkness	Darkness, Lighted Road	Unknown	TOTAL
2017	18	0	0	1	2	0	21
2018	18	1	0	0	4	0	23
2019	15	0	0	1	3	0	19
2020	9	0	0	0	2	0	11
2021	12	0	0	0	3	0	15
Sum	72	1	0	2	14	0	89

TABLE 4.5 Crashes by Road Surface Condition Aurora Hollywood Casino - Intersection of Bilter and Farnsworth								
Year	Dry	Wet	Snow or Slush	Ice	Sand, Mud, Dirt	Other	Unknown	TOTAL
2017	20	1	0	0	0	0	0	21
2018	20	1	0	2	0	0	0	23
2019	13	4	1	0	0	0	0	18
2020	7	2	0	2	0	0	0	11
2021	12	2	1	0	0	0	0	15
Sum	72	10	2	4	0	0	0	88

TABLE 4.6 Crashes by Weather Aurora Hollywood Casino - Intersection of Bilter and Farnsworth													
Year	Clear	Rain	Snow	Fog/Smoke/Haze	Sleet/Hail	Severe Cross Wind	Other	Cloudy/Overcast	Unknown	Freezing Rain/Drizzle	Blowing Snow	Blowing Sand, Soil, Dirt	TOTAL
2017	19	1	0	0	0	0	0	1	0	0	0	0	21
2018	21	2	0	0	0	0	0	0	0	0	0	0	23
2019	15	3	1	0	0	0	0	0	0	0	0	0	19
2020	10	1	0	0	0	0	0	0	0	0	0	0	11
2021	12	1	2	0	0	0	0	0	0	0	0	0	15
Sum	77	8	3	0	0	0	0	1	0	0	0	0	89

TABLE 4.7 Intersection Related Crashes by Year Aurora Hollywood Casino - Intersection of Bilter and Farnsworth			
Year	Intersection Related	Not Intersection Related	TOTAL
2017	9	12	21
2018	13	10	23
2019	10	9	19
2020	8	3	11
2021	13	2	15
Sum	53	36	89

Note: DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau of Data Collection uses the exact latitude/longitude supplied by the investigating law enforcement agency to locate crashes. Therefore, location data may vary in previous years since data prior to 2015 was physically located by bureau personnel.

Table 5 - Crash Analysis at the Intersection of Premium Outlet Boulevard and Farnsworth Avenue

TABLE 5.1 Crashes by Type Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue																	
Year	Turning	Angle	Sideswipe Same Direction	Sideswipe Opposite Direction	Fixed Object	Other Object	Other Non-Collision	Parked Motor Vehicle	Front to Front	Front to Rear	Rear to Side	Overturned	Other Non-Collision	Pedestrian	Pedalcyclist	Animal	TOTAL
2017	8	0	6	0	0	0	0	0	0	13	0	0	0	0	0	0	27
2018	5	0	3	1	0	0	0	0	0	9	0	0	0	1	0	0	19
2019	4	3	6	0	2	0	0	0	0	6	0	0	0	0	0	0	21
2020	3	0	3	0	0	0	0	0	0	3	0	0	0	0	0	1	10
2021	4	0	6	0	0	0	0	0	0	2	0	0	0	0	0	0	12
Sum	24	3	24	1	2	0	0	0	0	33	0	0	0	1	0	1	89

TABLE 5.2 Crashes by Severity Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue						
Year	Fatal	A-Injury	B-Injury	C-Injury	Property Damage Only	TOTAL
2017	0	1	2	4	20	27
2018	0	1	1	3	14	19
2019	0	0	2	1	18	21
2020	0	0	0	1	9	10
2021	0	0	2	0	11	13
Sum	0	2	7	9	72	90

TABLE 5.3 Crashes by Day of Week Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue								
Year	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	TOTAL
2017	6	3	5	3	6	2	2	27
2018	0	5	4	2	1	3	4	19
2019	6	3	2	3	3	4	0	21
2020	2	1	0	0	0	3	4	10
2021	3	3	1	2	0	3	1	13
Sum	17	15	12	10	10	15	11	90

TABLE 5.4 Crashes by Light Condition Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue							
Year	Daylight	Dawn	Dusk	Darkness	Darkness, Lighted Road	Unknown	TOTAL
2017	18	1	0	1	7	0	27
2018	12	0	0	0	7	0	19
2019	16	0	0	1	4	0	21
2020	7	0	0	1	2	0	10
2021	12	0	0	0	1	0	13
Sum	65	1	0	3	21	0	90

TABLE 5.5 Crashes by Road Surface Condition Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue								
Year	Dry	Wet	Snow or Slush	Ice	Sand, Mud, Dirt	Other	Unknown	TOTAL
2017	23	4	0	0	0	0	0	27
2018	12	5	1	0	0	0	0	18
2019	17	1	3	0	0	0	0	21
2020	7	3	0	0	0	0	0	10
2021	12	0	1	0	0	0	0	13
Sum	71	13	5	0	0	0	0	89

TABLE 5.6													
Crashes by Weather													
Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue													
Year	Clear	Rain	Snow	Fog/Smoke/Haze	Sleet/Hail	Severe Cross Wind	Other	Cloudy/Overcast	Unknown	Freezing Rain/Drizzle	Blowing Snow	Blowing Sand, Soil, Dirt	TOTAL
2017	24	3	0	0	0	0	0	0	0	0	0	0	27
2018	15	2	1	1	0	0	0	0	0	0	0	0	19
2019	17	1	2	0	0	0	1	0	0	0	0	0	21
2020	7	3	0	0	0	0	0	0	0	0	0	0	10
2021	12	0	1	0	0	0	0	0	0	0	0	0	13
Sum	75	9	4	1	0	0	1	0	0	0	0	0	90

TABLE 5.7 Intersection Related Crashes by Year Aurora Hollywood Casino - Intersection of Premium Outlets Boulevard and Farnsworth Avenue			
Year	Intersection Related	Not Intersection Related	TOTAL
2017	13	14	27
2018	12	7	19
2019	11	10	21
2020	4	6	10
2021	7	6	13
Sum	47	43	90

Note: DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau of Data Collection uses the exact latitude/longitude supplied by the investigating law enforcement agency to locate crashes. Therefore, location data may vary in previous years since data prior to 2015 was physically located by bureau personnel.

Table 6A Level of Service Comparison - Weekday Morning Peak Hour						
Peak Hour Analysed		AM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(1) N Farnsworth Ave & Molitor Rd (Signalized)				
Molitor Rd						
Eastbound	Left Turn	D (48.3)	D (51.2)	D (54.0)	D (48.4)	
	Through	E (60.3)	E (61.2)	E (60.9)	D (52.7)	
	Right Turn					
	Approach	D (54.4)	E (56.4)	E (57.5)	D (50.6)	
Westbound	Left Turn	D (39.0)	D (38.7)	D (38.6)	D (39.3)	
	Through	D (52.3)	D (52.9)	E (55.2)	E (60.6)	
	Right Turn					
	Approach	D (48.6)	D (48.9)	D (51.1)	E (55.3)	
N Farnsworth Ave						
Northbound	Left Turn	A (9.2)	B (10.2)	B (10.6)	B (10.6)	
	Through	C (23.1)	C (28.4)	C (31.6)	C (29.2)	
	Right Turn					
	Approach	C (22.9)	C (28.1)	C (31.3)	C (29.0)	
Southbound	Left Turn	C (25.8)	D (35.8)	D (35.5)	D (45.3)	
	Through	A (9.7)	B (14.9)	C (28.5)	C (24.9)	
	Right Turn					
	Approach	B (12.7)	B (18.8)	C (29.9)	C (28.9)	
OVERALL		C (25.8)	C (30.5)	D (36.0)	C (34.1)	
INTERSECTION		(2) N Farnsworth Ave & I-88 Exit 119 EB Off Ramp (Signalized)				
I-88 Exit 119 EB Off Ramp						
Eastbound	Left Turn	E (65.9)	E (63.1)	D (48.9)		D (48.9)
	Right Turn	A (8.0)	A (7.3)	A (5.6)		A (5.6)
	Approach	D (45.1)	D (43.0)	D (36.2)		D (36.2)
N Farnsworth Ave						
Northbound	Through	A (4.3)	A (3.9)	A (9.4)		A (9.1)
	Approach	A (4.3)	A (3.9)	A (9.4)		A (9.1)
Southbound	Through	B (14.0)	B (15.5)	C (26.2)		B (18.2)
	Approach	B (14.0)	B (15.5)	C (26.2)		B (18.2)
OVERALL		B (17.8)	B (17.7)	C (22.6)		B (19.5)
INTERSECTION		(3) N Farnsworth Ave & I-88 Exit 119 WB On Ramp (Signalized)				
N Farnsworth Ave						
Northbound	Left Turn	A (1.0)	A (1.6)	A (3.8)		A (3.5)
	Through	A (.1)	A (.2)	A (.2)		A (.2)
	Approach	A (.2)	A (.3)	A (.5)		A (.5)
Southbound	Through	A (3.9)	A (3.9)	A (4.0)		A (3.0)
	Right Turn	A (1.5)	A (1.4)	A (1.6)		A (.6)
	Approach	A (3.7)	A (3.7)	A (3.7)		A (2.7)
OVERALL		A (2.3)	A (2.3)	A (2.4)		A (1.8)
INTERSECTION		(4) N Farnsworth Ave & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	A (.0)	A (.0)	A (.0)		
	Through	C (16.7)	C (18.7)	D (28.1)		
	Right Turn					
	Approach	C (16.7)	C (18.7)	D (28.1)		
Westbound	Right Turn	C (16.3)	C (17.8)	C (21.0)		
	Approach	C (16.3)	C (17.8)	C (21.0)		
N Farnsworth Ave						
Northbound	Left Turn	C (16.4)	C (19.9)	E (41.2)		
	Through	A (.0)	A (.0)	A (.0)		
	Right Turn					
	Approach	A (1.4)	A (1.7)	A (4.4)		
Southbound	Through	A (.0)	A (.0)	A (.0)		
	Right Turn					
Approach	A (.0)	A (.0)	A (.0)			
OVERALL		A (.9)	A (1.1)	A (3.0)		

Table 6A Level of Service Comparison - Weekday Morning Peak Hour						
Peak Hour Analysed		AM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(5) N Farnsworth Ave & Premium Outlet Blvd / Site Dwy A (Signalized)				
Premium Outlet Blvd / Site Dwy A						
Eastbound	Left Turn	A (.0)	A (.0)	E (67.2)	E (68.4)	E (68.4)
	Through	A (.0)	A (.0)	A (1.3)	A (5.2)	A (3.9)
	Right Turn	A (.0)	A (.0)		A (5.1)	B (14.9)
	Approach	A (.0)	A (.0)	B (19.3)	C (20.7)	C (23.9)
Westbound	Left Turn	E (63.2)	E (63.4)	E (63.4)	E (69.1)	E (67.2)
	Through	A (.0)	A (.0)	A (.0)	A (.2)	A (.2)
	Right Turn					
	Approach	D (52.2)	D (53.6)	D (53.6)	E (58.5)	E (56.9)
N Farnsworth Ave						
Northbound	Left Turn	A (.0)	A (.0)	D (40.5)	D (38.0)	E (71.8)
	Through	A (3.0)	A (3.3)	A (10.0)	B (10.6)	A (6.7)
	Right Turn	A (.0)	A (.0)	A (.0)	A (.0)	A (.0)
	Approach	A (3.0)	A (3.3)	B (13.4)	B (13.7)	B (17.0)
Southbound	Left Turn	A (1.3)	A (1.4)	A (5.6)	A (3.8)	E (73.8)
	Through	A (2.0)	A (2.7)	B (12.6)	B (11.4)	A (9.5)
	Right Turn	A (.0)	A (.0)	A (.2)	A (.1)	A (.1)
	Approach	A (2.0)	A (2.7)	B (12.1)	B (11.0)	B (10.1)
OVERALL		A (2.9)	A (3.4)	B (13.5)	B (13.2)	B (14.6)
INTERSECTION		(6) N Farnsworth Ave & Site Dwy B (Unsignalized)				
Site Dwy B						
Eastbound	Right Turn			C (19.7)	C (18.9)	C (21.9)
	Approach			C (19.7)	C (18.9)	C (21.9)
N Farnsworth Ave						
Northbound	Left Turn			C (17.2)	C (17.2)	
	Through			A (5.0)	A (.0)	A (.0)
	Approach			A (5.6)	A (.8)	A (.0)
OVERALL				A (3.1)	A (.5)	A (.4)
INTERSECTION		(7) N Farnsworth Ave & Bilter Rd (Signalized)				
Bilte Rd						
Eastbound	Left Turn	D (39.8)	D (39.0)	D (39.7)	D (43.5)	E (79.0)
	Through	E (67.7)	E (67.5)	E (67.5)	E (67.7)	E (63.9)
	Right Turn	A (8.0)	A (7.2)	A (7.2)	B (16.4)	C (24.9)
	Approach	D (40.5)	D (40.1)	D (40.2)	D (44.3)	E (55.3)
Westbound	Left Turn	D (42.8)	D (42.4)	D (44.0)	D (48.1)	E (71.5)
	Through	E (56.2)	E (57.3)	E (57.7)	D (54.6)	E (63.6)
	Right Turn	A (7.9)	A (8.4)	A (8.5)	A (8.1)	A (8.3)
	Approach	D (40.1)	D (40.5)	D (41.6)	D (42.5)	E (56.8)
N Farnsworth Ave						
Northbound	Left Turn	A (7.5)	A (9.8)	B (16.3)	B (16.3)	E (78.8)
	Through	B (16.9)	C (21.5)	B (18.2)	B (16.3)	B (13.1)
	Right Turn	A (1.9)	A (2.2)	A (.5)	A (.4)	A (.7)
	Approach	B (14.8)	B (18.8)	B (16.1)	B (14.5)	B (15.6)
Southbound	Left Turn	B (12.1)	B (15.3)	B (17.9)	B (15.4)	E (66.2)
	Through	C (21.5)	C (25.3)	C (27.3)	C (24.6)	B (16.7)
	Right Turn	A (.1)	A (.1)	A (.1)	A (.1)	A (.3)
	Approach	C (20.1)	C (23.8)	C (25.8)	C (23.2)	C (20.8)
OVERALL		C (21.3)	C (24.5)	C (24.3)	C (23.1)	C (24.8)

Table 6A Level of Service Comparison - Weekday Morning Peak Hour						
Peak Hour Analysed		AM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(8) Bilter Rd & Premium Outlet Blvd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	A (5.4)	A (7.8)	A (7.8)		
	Through					
	Right Turn					
	Approach					
Westbound	Left Turn	A (2.7)	A (3.0)	A (2.9)		
	Through					
	Right Turn					
	Approach					
Premium Outlet Blvd						
Northbound	Left Turn	B (17.8)	C (20.3)	C (20.7)		
	Through					
	Right Turn					
	Approach					
Southbound	Left Turn	A (.0)	A (.0)	A (.0)		
	Through					
	Right Turn					
	Approach					
OVERALL		A (4.4)	A (6.0)	A (6.0)		
INTERSECTION		(9) N Farnsworth Ave & Butterfield Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	E (65.9)	E (71.0)	E (70.4)	E (68.2)	E (68.2)
	Through	D (40.0)	D (37.3)	D (36.7)	D (37.0)	D (37.0)
	Right Turn	A (4.8)	A (4.9)	A (4.6)	A (4.9)	A (4.9)
	Approach	D (41.4)	D (41.2)	D (40.7)	D (40.3)	D (40.3)
Westbound	Left Turn	E (64.0)	E (64.9)	E (67.3)	E (75.3)	E (75.3)
	Through	D (48.0)	D (46.4)	D (46.0)	D (48.0)	D (48.0)
	Right Turn	C (23.0)	C (23.5)	C (23.3)	C (25.1)	C (25.1)
	Approach	D (39.8)	D (39.4)	D (40.4)	D (43.4)	D (43.4)
N Farnsworth Ave						
Northbound	Left Turn	E (63.3)	E (65.3)	E (65.3)	E (66.1)	E (66.1)
	Through	C (32.7)	D (37.0)	D (37.8)	D (35.5)	D (35.5)
	Right Turn	A (1.2)	A (1.8)	A (3.1)	A (2.9)	A (2.9)
	Approach	C (33.3)	D (37.1)	D (37.4)	D (35.6)	D (35.6)
Southbound	Left Turn	E (62.6)	E (64.5)	E (64.5)	E (66.3)	E (66.3)
	Through	C (27.5)	C (30.6)	C (31.4)	C (29.6)	C (29.6)
	Right Turn	A (2.5)	A (3.7)	A (3.7)	A (4.7)	A (4.7)
	Approach	C (30.8)	C (33.5)	C (33.9)	C (33.1)	C (33.1)
OVERALL		D (35.3)	D (37.2)	D (37.5)	D (37.1)	D (37.1)
INTERSECTION		(10) Bilter Rd & Site Dwy C (Unsignalized)				
Bilter Rd						
Eastbound	Through			A (.0)		A (.0)
	Right Turn					
Westbound	Approach			A (.0)		A (.0)
	Through			A (.0)		A (.0)
Site Dwy C						
Northbound	Right Turn			B (10.4)		A (9.5)
	Approach			B (10.4)		A (9.5)
OVERALL				A (.4)		A (.3)
INTERSECTION		(11) Butterfield Rd & Church Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	A (4.6)	A (4.9)	A (5.2)		A (5.2)
	Through	B (10.5)	B (11.8)	B (12.5)		B (12.5)
	Right Turn	A (1.6)	A (2.2)	A (2.6)		A (2.6)
	Approach	A (9.2)	B (10.4)	B (10.8)		B (10.8)
Westbound	Left Turn	A (8.2)	A (9.6)	A (10.0)		B (10.2)
	Through	A (9.9)	B (10.8)	B (11.6)		B (11.4)
	Right Turn	A (.1)	A (.1)	A (.1)		A (.1)
	Approach	A (9.3)	B (10.3)	B (11.1)		B (10.9)
Church Rd						
Northbound	Left Turn	D (46.0)	D (45.8)	D (46.7)		D (46.7)
	Through	E (62.1)	E (62.3)	E (58.6)		E (58.6)
	Right Turn	B (19.2)	B (18.9)	B (16.3)		B (16.3)
	Approach	C (30.8)	C (30.6)	C (29.5)		C (29.5)
Southbound	Left Turn	D (46.3)	D (46.0)	D (44.9)		D (44.9)
	Through	E (59.1)	E (58.9)	E (61.2)		E (61.2)
	Right Turn	A (5.9)	A (7.2)	A (7.8)		A (7.8)
	Approach	C (30.5)	C (30.9)	C (31.5)		C (31.5)
OVERALL		B (13.4)	B (14.3)	B (14.7)		B (14.7)

Table 6A Level of Service Comparison - Weekday Morning Peak Hour						
Peak Hour Analysed		AM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(12) Church Rd & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	B (13.4)	B (14.3)	B (15.3)		B (12.8)
	Through	C (30.8)	D (35.1)	D (36.4)		C (33.0)
	Right Turn					
	Approach	C (29.1)	C (33.2)	C (34.4)		C (31.1)
Westbound	Left Turn	B (13.3)	B (14.5)	B (15.4)		B (12.8)
	Through	C (20.3)	C (21.6)	C (22.7)		B (18.3)
	Right Turn	A (1.6)	A (2.0)	A (2.1)		A (2.0)
	Approach	B (14.2)	B (15.2)	B (16.0)		B (13.1)
Church Rd						
Northbound	Left Turn	B (14.2)	B (15.1)	B (15.0)		B (15.2)
	Through	C (24.9)	C (28.8)	C (29.4)		C (28.8)
	Right Turn					
	Approach	C (23.9)	C (27.6)	C (28.2)		C (20.4)
Southbound	Left Turn	B (14.3)	B (15.5)	B (15.5)		B (15.5)
	Through	C (21.4)	C (24.3)	C (24.2)		C (25.3)
	Right Turn					
	Approach	B (19.6)	C (22.0)	C (22.1)		C (22.9)
OVERALL		C (22.3)	C (25.2)	C (25.8)		C (22.1)
INTERSECTION		(13) Church Rd & Site Dwy D (Unsignalized)				
Site Dwy D						
Westbound	Left Turn			B (11.0)		
	Right Turn					
	Approach			B (11.0)		
Church Rd						
Northbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Southbound	Left Turn			A (8.0)		
	Through			A (.0)		
	Approach			A (.2)		
OVERALL				A (.2)		
INTERSECTION		(14) Church Rd & Site Dwy E (Unsignalized)				
Site Dwy E						
Westbound	Left Turn			B (11.1)		
	Right Turn					
	Approach			B (11.1)		
Church Rd						
Northbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Southbound	Left Turn			A (8.0)		
	Through			A (.0)		
	Approach			A (.5)		
OVERALL				A (.7)		

Table 6A Level of Service Comparison - Weekday Morning Peak Hour						
Peak Hour Analysed		AM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(15) Church Rd & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	C (17.7)	C (19.9)	C (21.0)		
	Through	C (16.5)	C (18.2)	C (19.1)		
	Right Turn					
	Approach	C (16.7)	C (18.5)	C (19.5)		
Westbound	Left Turn	C (17.5)	C (19.6)	C (21.0)		
	Through	C (15.8)	C (17.4)	C (18.2)		
	Right Turn					
	Approach	C (16.1)	C (17.8)	C (18.9)		
Church Rd						
Northbound	Left Turn	A (7.8)	A (7.8)	A (7.9)		
	Through	A (.0)	A (.0)	A (.0)		
	Right Turn					
	Approach	A (.8)	A (.8)	A (.8)		
Southbound	Left Turn	A (8.1)	A (8.2)	A (8.3)		
	Through	A (.0)	A (.0)	A (.0)		
	Right Turn					
	Approach	A (.9)	A (.9)	A (.9)		
OVERALL		A (2.7)	A (2.9)	A (3.0)		
INTERSECTION		(16) Church Rd & Molitor Rd (Unsignalized)				
Molitor Rd						
Westbound	Left Turn	B (12.2)	B (13.5)	B (13.9)	B (12.9)	B (13.0)
	Right Turn					
	Approach					
Church Rd						
Northbound	Through	D (28.6)	E (48.5)	F (60.5)	C (21.3)	C (22.1)
	Right Turn				A (9.8)	B (10.7)
	Approach				D (28.6)	E (48.5)
Southbound	Left Turn	B (11.7)	B (13.1)	B (13.6)	B (13.5)	B (13.4)
	Through					
	Approach					
OVERALL		C (21.7)	D (33.9)	E (41.1)	C (15.4)	C (15.9)
INTERSECTION		(17) Corporate Blvd & Site Dwy F (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn			A (7.8)		
	Through			A (.0)		
	Approach			A (.9)		
Westbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Site Dwy F						
Southbound	Left Turn			B (10.5)		
	Right Turn					
	Approach			B (10.5)		
OVERALL				A (1.9)		

Table 6B Level of Service Comparison - Weekday Evening Peak Hour						
Peak Hour Analysed		PM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(1) N Farnsworth Ave & Molitor Rd (Signalized)				
Molitor Rd						
Eastbound	Left Turn	D (39.3)	D (45.4)	D (48.6)	D (42.4)	
	Through					
	Right Turn	D (41.2)	D (43.3)	D (42.9)	D (35.7)	
	Approach	D (40.3)	D (44.4)	D (45.7)	D (39.0)	
Westbound	Left Turn	C (31.0)	C (31.4)	C (31.2)	C (28.8)	
	Through					
	Right Turn	E (71.2)	F (81.2)	F (89.2)	E (63.7)	
	Approach	E (63.1)	E (71.0)	E (78.0)	E (57.0)	
N Farnsworth Ave						
Northbound	Left Turn	B (13.4)	B (15.3)	B (16.4)	C (20.6)	
	Through					
	Right Turn	C (26.9)	C (29.2)	C (31.3)	D (35.4)	
	Approach	C (25.8)	C (28.1)	C (30.1)	C (34.2)	
Southbound	Left Turn	C (24.0)	C (32.9)	D (43.3)	D (44.1)	
	Through					
	Right Turn	C (29.1)	D (39.8)	D (52.3)	D (54.3)	
	Approach	C (28.5)	D (38.9)	D (51.0)	D (52.9)	
OVERALL		C (33.3)	D (40.0)	D (47.0)	D (45.8)	
INTERSECTION		(2) N Farnsworth Ave & I-88 Exit 119 EB Off Ramp (Signalized)				
I-88 Exit 119 EB Off Ramp						
Eastbound	Left Turn	E (62.6)	E (62.3)	E (64.7)		E (64.7)
	Right Turn	B (11.4)	B (13.0)	B (14.4)		B (14.4)
	Approach	D (48.8)	D (49.1)	D (54.9)		D (54.9)
N Farnsworth Ave						
Northbound	Through	A (3.7)	A (3.6)	A (6.0)		A (2.6)
	Approach	A (3.7)	A (3.6)	A (6.0)		A (2.6)
Southbound	Through	A (7.4)	B (10.6)	B (16.5)		B (16.5)
	Approach	A (7.4)	B (10.6)	B (16.5)		B (16.5)
OVERALL		B (10.6)	B (12.4)	B (18.1)		B (16.9)
INTERSECTION		(3) N Farnsworth Ave & I-88 Exit 119 WB On Ramp (Signalized)				
I-88 Exit 119 WB On Ramp						
Westbound	Left Turn					
	Through	A (.0)	A (.0)	A (.0)		A (.0)
	Right Turn					
	Approach	A (.0)	A (.0)	A (.0)		A (.0)
N Farnsworth Ave						
Northbound	Left Turn	A (8.9)	B (13.5)	C (21.5)		D (35.6)
	Through	A (.2)	A (.2)	A (.2)		A (.2)
	Approach	A (1.5)	A (2.3)	A (3.1)		A (5.0)
Southbound	Through	A (4.5)	A (5.9)	A (7.2)		A (7.2)
	Right Turn	A (1.8)	A (2.3)	A (2.9)		A (2.9)
	Approach	A (4.0)	A (5.2)	A (6.4)		A (6.4)
OVERALL		A (3.1)	A (4.2)	A (5.2)		A (5.9)
INTERSECTION		(4) N Farnsworth Ave & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	F (78.2)	F (100+)	F (100+)		
	Right Turn	D (27.0)	E (37.3)	F (100+)		
	Approach	D (30.8)	E (43.6)	F (100+)		
Westbound	Right Turn	C (17.1)	C (18.9)	C (22.5)		
	Approach	C (17.1)	C (18.9)	C (22.5)		
N Farnsworth Ave						
Northbound	Left Turn	C (18.8)	C (22.9)	F (54.5)		
	Through					
	Right Turn	A (.0)	A (.0)	A (.0)		
	Approach	A (.8)	A (1.0)	A (4.0)		
Southbound	Through					
	Right Turn	A (.0)	A (.0)	A (.0)		
	Approach	A (.0)	A (.0)	A (.0)		
OVERALL		A (1.8)	A (2.4)	B (10.7)		

Table 6B Level of Service Comparison - Weekday Evening Peak Hour						
Peak Hour Analysed		PM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(5) N Farnsworth Ave & Premium Outlet Blvd / Site Dwy A (Signalized)				
Premium Outlet Blvd / Site Dwy A						
Eastbound	Left Turn	A (.0)	A (.0)	E (67.8)	E (69.3)	E (69.5)
	Through	A (.0)	A (.0)	A (4.5)	B (10.6)	A (8.9)
	Right Turn	A (.0)	A (.0)		B (10.5)	C (20.1)
	Approach	A (.0)	A (.0)	C (21.4)	C (24.6)	C (27.7)
Westbound	Left Turn	E (61.6)	E (61.1)	E (61.1)	E (70.7)	E (68.0)
	Through	A (.6)	A (.7)	A (.8)	A (2.2)	A (2.2)
	Right Turn					
	Approach	D (43.7)	D (43.3)	D (43.4)	D (50.5)	D (48.7)
N Farnsworth Ave						
Northbound	Left Turn	A (.0)	A (.0)	E (66.9)	E (63.5)	E (70.7)
	Through	B (12.6)	B (15.0)	C (32.2)	C (24.7)	B (18.3)
	Right Turn	A (.4)	A (.7)	A (1.3)	A (.8)	A (1.4)
	Approach	B (12.1)	B (14.4)	D (35.3)	C (28.5)	C (26.4)
Southbound	Left Turn	A (5.6)	B (13.1)	D (35.5)	C (29.3)	E (73.6)
	Through	A (3.4)	A (4.2)	D (49.2)	C (31.0)	C (25.5)
	Right Turn	A (.0)	A (.0)	A (5.1)	A (.4)	A (.3)
	Approach	A (3.6)	A (4.8)	D (47.0)	C (30.0)	C (27.9)
OVERALL		B (11.0)	B (12.5)	D (40.2)	C (30.7)	C (28.9)
INTERSECTION		(6) N Farnsworth Ave & Site Dwy B (Unsignalized)				
Site Dwy B						
Eastbound	Right Turn			D (25.7)	C (24.6)	D (29.5)
	Approach			D (25.7)	C (24.6)	D (29.5)
N Farnsworth Ave						
Northbound	Left Turn			C (21.7)	C (21.7)	
	Through			A (6.3)	A (6.3)	A (.0)
	Approach			A (7.0)	A (7.0)	A (.0)
OVERALL				A (3.8)	A (.7)	A (.6)
INTERSECTION		(7) N Farnsworth Ave & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	D (38.0)	D (38.1)	D (40.7)	D (52.7)	E (72.6)
	Through	E (55.2)	D (54.9)	D (53.7)	E (72.2)	E (56.7)
	Right Turn	B (16.0)	C (20.4)	C (21.0)	C (20.1)	C (25.5)
	Approach	C (34.7)	D (36.5)	D (37.2)	D (46.2)	D (48.9)
Westbound	Left Turn	D (46.7)	D (48.4)	D (49.3)	E (55.5)	E (79.6)
	Through	E (64.4)	E (66.0)	E (71.2)	E (68.1)	E (75.0)
	Right Turn	A (7.8)	B (13.0)	B (18.3)	C (25.1)	C (21.5)
	Approach	D (43.6)	D (46.2)	D (50.0)	D (52.8)	E (63.3)
N Farnsworth Ave						
Northbound	Left Turn	C (29.4)	D (50.8)	E (56.1)	E (57.1)	E (75.6)
	Through	B (14.8)	B (16.3)	B (11.8)	A (8.4)	C (22.3)
	Right Turn	A (.5)	A (.5)	A (.5)	A (.2)	A (1.8)
	Approach	B (15.2)	B (18.4)	B (14.8)	B (12.1)	C (25.4)
Southbound	Left Turn	B (11.7)	B (13.8)	B (14.7)	B (11.9)	E (74.2)
	Through	C (26.7)	C (31.8)	C (34.6)	C (28.3)	C (25.3)
	Right Turn	A (1.1)	A (1.7)	A (1.7)	A (1.3)	A (4.5)
	Approach	C (24.6)	C (29.3)	C (32.0)	C (26.2)	C (26.9)
OVERALL		C (24.9)	C (28.5)	C (28.8)	C (29.1)	C (33.8)

Table 6B Level of Service Comparison - Weekday Evening Peak Hour						
Peak Hour Analysed		PM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(8) Bilter Rd & Premium Outlet Blvd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	B (12.1)	B (12.5)	B (12.6)		
	Through					
	Right Turn					
	Approach					
Westbound	Left Turn	A (4.1)	A (4.3)	A (4.2)		
	Through					
	Right Turn					
	Approach					
Premium Outlet Blvd						
Northbound	Left Turn	B (18.5)	B (19.1)	B (19.5)		
	Through					
	Right Turn					
	Approach					
Southbound	Left Turn	A (.0)	A (.0)	A (.0)		
	Through					
	Right Turn					
	Approach					
OVERALL		A (8.0)	A (8.3)	A (8.4)		
INTERSECTION		(9) N Farnsworth Ave & Butterfield Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	E (72.6)	F (82.2)	F (83.2)	E (79.6)	F (81.9)
	Through	D (39.9)	D (37.3)	D (36.8)	D (38.4)	D (37.7)
	Right Turn	B (10.2)	A (8.9)	A (8.6)	A (8.1)	A (7.8)
	Approach	D (43.5)	D (44.2)	D (44.1)	D (44.1)	D (44.2)
Westbound	Left Turn	F (80.8)	F (84.0)	F (90.6)	E (77.7)	E (74.2)
	Through	E (55.4)	E (55.7)	E (55.7)	E (57.8)	D (54.9)
	Right Turn	C (29.1)	C (29.5)	C (29.5)	C (28.6)	C (27.1)
	Approach	D (49.7)	D (50.4)	D (51.9)	D (51.0)	D (48.6)
N Farnsworth Ave						
Northbound	Left Turn	F (80.6)	F (86.4)	F (86.4)	E (74.9)	E (72.6)
	Through	D (35.8)	D (39.1)	D (39.7)	D (42.1)	D (43.6)
	Right Turn	A (4.6)	A (4.5)	A (6.2)	A (7.6)	A (7.8)
	Approach	D (43.6)	D (47.3)	D (46.9)	D (46.3)	D (47.0)
Southbound	Left Turn	E (78.3)	F (82.0)	F (82.0)	E (72.1)	E (72.1)
	Through	D (35.5)	D (39.0)	D (39.7)	D (42.2)	D (44.6)
	Right Turn	B (18.2)	C (20.1)	C (20.1)	C (20.8)	C (22.7)
	Approach	D (40.4)	D (43.7)	D (44.0)	D (44.0)	D (45.9)
OVERALL		D (43.8)	D (46.2)	D (46.6)	D (46.2)	D (46.5)
INTERSECTION		(10) Bilter Rd & Site Dwy C (Unsignalized)				
Bilter Rd						
Eastbound	Through			A (.0)		A (.0)
	Right Turn					
	Approach					
Westbound	Through			A (.0)		A (.0)
	Approach			A (.0)		A (.0)
Site Dwy C						
Northbound	Right Turn			B (10.3)		A (9.4)
	Approach			B (10.3)		A (9.4)
OVERALL				A (.3)		A (.3)
INTERSECTION		(11) Butterfield Rd & Church Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	A (8.8)	B (10.5)	B (11.2)		B (11.2)
	Through	B (17.2)	B (19.7)	C (20.6)		C (20.6)
	Right Turn	A (2.1)	A (3.4)	A (4.5)		A (4.5)
	Approach	B (14.5)	B (16.7)	B (18.2)		B (17.2)
Westbound	Left Turn	A (9.8)	B (12.6)	B (13.5)		B (11.3)
	Through	B (16.8)	B (17.0)	B (18.3)		B (16.2)
	Right Turn	A (.4)	A (.5)	A (.5)		A (.3)
	Approach	B (14.9)	B (15.8)	B (17.0)		B (14.9)
Church Rd						
Northbound	Left Turn	D (52.8)	D (52.4)	D (53.0)		D (53.0)
	Through	E (79.7)	E (79.8)	E (72.9)		E (72.9)
	Right Turn	B (15.8)	B (15.0)	B (13.7)		B (13.7)
	Approach	D (46.0)	D (45.6)	D (43.4)		D (43.4)
Southbound	Left Turn	D (51.7)	D (51.3)	D (49.1)		D (49.1)
	Through	E (78.5)	E (78.7)	E (79.5)		E (79.5)
	Right Turn	B (15.6)	B (14.8)	B (15.0)		B (15.0)
	Approach	D (46.1)	D (45.8)	D (45.6)		D (45.6)
OVERALL		C (22.9)	C (23.9)	C (24.3)		C (23.4)

Table 6B Level of Service Comparison - Weekday Evening Peak Hour						
Peak Hour Analysed		PM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(12) Church Rd & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	B (17.2)	B (17.8)	B (18.1)		B (17.6)
	Through	D (37.2)	D (39.4)	D (40.0)		D (39.2)
	Right Turn					
	Approach	C (34.8)	D (36.7)	D (37.3)		D (36.5)
Westbound	Left Turn	B (18.1)	B (19.1)	B (19.4)		B (18.6)
	Through	C (26.1)	C (29.8)	C (30.3)		C (24.6)
	Right Turn	A (.2)	A (.2)	A (.2)		A (.2)
	Approach	C (21.6)	C (24.2)	C (24.7)		C (20.9)
Church Rd						
Northbound	Left Turn	B (13.3)	B (13.9)	B (13.9)		B (14.1)
	Through	C (28.1)	C (30.2)	C (31.2)		C (27.4)
	Right Turn					
	Approach	C (26.9)	C (28.8)	C (29.9)		C (20.9)
Southbound	Left Turn	B (13.9)	B (14.6)	B (14.8)		B (14.4)
	Through	C (28.0)	C (30.0)	C (30.4)		C (31.2)
	Right Turn					
	Approach	C (25.8)	C (27.7)	C (28.0)		C (28.6)
OVERALL		C (26.0)	C (28.1)	C (28.7)		C (25.4)
INTERSECTION		(13) Church Rd & Site Dwy D (Unsignalized)				
Site Dwy D						
Westbound	Left Turn			B (13.3)		
	Right Turn					
	Approach			B (13.3)		
Church Rd						
Northbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Southbound	Left Turn			A (8.3)		
	Through			A (.0)		
	Approach			A (.1)		
OVERALL				A (.2)		
INTERSECTION		(14) Church Rd & Site Dwy E (Unsignalized)				
Site Dwy E						
Westbound	Left Turn			B (13.5)		
	Right Turn					
	Approach			B (13.5)		
Church Rd						
Northbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Southbound	Left Turn			A (8.3)		
	Through			A (.0)		
	Approach			A (.2)		
OVERALL				A (.5)		

Table 6B Level of Service Comparison - Weekday Evening Peak Hour						
Peak Hour Analysed		PM PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements and City Improvements
INTERSECTION		(15) Church Rd & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	D (33.1)	E (45.2)	F (51.3)		
	Through	C (20.6)	C (24.6)	D (26.4)		
	Right Turn					
	Approach	C (24.4)	D (30.9)	D (34.1)		
Westbound	Left Turn	D (29.8)	E (39.8)	E (47.1)		
	Through	C (17.0)	C (19.7)	C (21.1)		
	Right Turn					
	Approach	C (20.1)	C (24.5)	D (28.0)		
Church Rd						
Northbound	Left Turn	A (8.6)	A (8.8)	A (8.9)		
	Through	A (.0)	A (.0)	A (.0)		
	Right Turn					
	Approach	A (.4)	A (.4)	A (.4)		
Southbound	Left Turn	A (8.0)	A (8.1)	A (8.2)		
	Through	A (.0)	A (.0)	A (.0)		
	Right Turn					
	Approach	A (.5)	A (.5)	A (.4)		
OVERALL		A (5.2)	A (6.4)	A (6.9)		
INTERSECTION		(16) Church Rd & Molitor Rd (Unsignalized)				
Molitor Rd						
Westbound	Left Turn	D (31.9)	E (46.8)	E (48.8)	E (41.0)	E (42.5)
	Right Turn					
	Approach					
Church Rd						
Northbound	Through	D (35.0)	F (58.2)	F (71.9)	C (20.9)	C (22.3)
	Right Turn				B (14.1)	C (15.4)
	Approach				C (17.9)	C (19.2)
Southbound	Left Turn	E (48.5)	F (97.6)	F (111.5)	F (105.9)	F (100.9)
	Through					
	Approach					
OVERALL		E (39.0)	F (69.3)	F (80.1)	F (57.0)	F (56.0)
INTERSECTION		(17) Corporate Blvd & Site Dwy F (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn			A (7.6)		
	Through			A (.0)		
	Approach			A (.2)		
Westbound	Through			A (.0)		
	Right Turn					
	Approach				A (.0)	
Site Dwy F						
Southbound	Left Turn			B (11.1)		
	Right Turn					
	Approach				B (11.1)	
OVERALL				A (2.2)		

Table 6C Level of Service Comparison - Weekend Evening Peak Hour						
Peak Hour Analysed		SAT PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(1) N Farnsworth Ave & Molitor Rd (Signalized)				
Molitor Rd						
Eastbound	Left Turn	C (31.6)	C (32.2)	C (31.3)	C (32.1)	
	Through					
	Right Turn	C (32.9)	C (33.6)	C (31.7)	C (29.2)	
	Approach	C (32.1)	C (32.8)	C (31.4)	C (30.8)	
	Left Turn	C (27.0)	C (26.4)	C (24.8)	C (26.5)	
	Through					
	Right Turn	D (43.2)	D (44.1)	D (42.9)	D (46.4)	
	Approach	D (38.4)	D (38.9)	D (38.3)	D (41.3)	
	N Farnsworth Ave					
Northbound	Left Turn	B (10.5)	B (11.6)	B (13.0)	B (12.5)	
	Through					
	Right Turn	C (22.4)	C (24.9)	C (28.4)	C (27.6)	
	Approach	C (21.8)	C (24.2)	C (27.6)	C (26.8)	
	Left Turn	B (16.5)	C (22.1)	C (31.0)	C (30.2)	
	Through					
	Right Turn	C (25.2)	C (32.2)	D (43.2)	D (41.3)	
	Approach	C (24.3)	C (31.1)	D (41.8)	D (39.9)	
	OVERALL	C (25.6)	C (29.5)	D (35.3)	C (34.5)	
INTERSECTION		(2) N Farnsworth Ave & I-88 Exit 119 EB Off Ramp (Signalized)				
I-88 Exit 119 EB Off Ramp						
Eastbound	Left Turn	D (50.9)	D (50.7)	D (46.9)		D (46.9)
	Right Turn	B (10.5)	B (16.7)	B (16.0)		B (16.0)
	Approach	D (37.4)	D (39.4)	D (40.5)		D (40.5)
N Farnsworth Ave						
Northbound	Through	A (2.0)	A (2.2)	A (4.4)		A (4.6)
	Approach	A (2.0)	A (2.2)	A (4.4)		A (4.6)
Southbound	Through	A (7.1)	A (9.7)	B (18.3)		B (18.3)
	Approach	A (7.1)	A (9.7)	B (18.3)		B (18.3)
OVERALL		A (9.2)	B (10.9)	B (17.4)		B (17.4)
INTERSECTION		(3) N Farnsworth Ave & I-88 Exit 119 WB On Ramp (Signalized)				
N Farnsworth Ave						
Northbound	Left Turn	A (1.1)	A (1.7)	A (4.1)		A (4.1)
	Through	A (.1)	A (.1)	A (.2)		A (.2)
	Approach	A (.2)	A (.3)	A (.4)		A (.4)
Southbound	Through	A (2.1)	A (2.3)	A (2.9)		A (2.9)
	Right Turn	A (.7)	A (.8)	A (1.1)		A (1.1)
	Approach	A (2.0)	A (2.2)	A (2.7)		A (2.7)
OVERALL		A (1.4)	A (1.6)	A (1.9)		A (1.9)
INTERSECTION		(4) N Farnsworth Ave & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	A (.0)	A (.0)	A (.0)		
	Right Turn	C (20.5)	C (24.5)	F (84.9)		
	Approach	C (20.5)	C (24.5)	F (84.9)		
Westbound	Right Turn	C (17.2)	C (19.1)	D (25.3)		
	Approach	C (17.2)	C (19.1)	D (25.3)		
N Farnsworth Ave						
Northbound	Left Turn	C (15.7)	C (18.0)	E (48.1)		
	Through					
	Right Turn	A (.0)	A (.0)	A (.0)		
	Approach	A (.3)	A (.4)	A (3.3)		
	Through					
	Right Turn	A (.0)	A (.0)	A (.0)		
	Approach	A (.0)	A (.0)	A (.0)		
		A (.7)	A (.8)	A (4.8)		

Table 6C Level of Service Comparison - Weekend Evening Peak Hour						
Peak Hour Analysed		SAT PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(5) N Farnsworth Ave & Premium Outlet Blvd / Site Dwy A (Signalized)				
Premium Outlet Blvd / Site Dwy A						
Eastbound	Left Turn	A (.0)	A (.0)	E (75.4)	E (72.3)	E (72.8)
	Through	A (.0)	A (.0)	C (25.5)	B (19.5)	B (19.6)
	Right Turn	A (.0)	A (.0)		B (15.8)	B (18.9)
	Approach	A (.0)	A (.0)	D (38.9)	C (30.8)	C (32.1)
Westbound	Left Turn	E (57.1)	E (63.4)	F (90.4)	E (75.5)	E (70.5)
	Through	A (1.3)	A (1.6)	A (6.2)	A (2.0)	A (1.9)
	Right Turn					
	Approach	D (41.3)	D (45.9)	E (66.7)	D (54.8)	D (51.2)
N Farnsworth Ave						
Northbound	Left Turn	A (.0)	A (.0)	F (82.4)	E (67.2)	E (66.2)
	Through	B (19.4)	C (21.9)	D (38.1)	D (41.3)	C (30.6)
	Right Turn	A (3.0)	A (4.0)	A (8.8)	A (1.7)	A (1.4)
	Approach	B (16.5)	B (18.7)	D (42.4)	D (40.8)	D (35.7)
Southbound	Left Turn	A (8.0)	A (9.8)	D (51.8)	D (53.4)	E (73.0)
	Through	A (7.7)	A (7.4)	D (38.7)	D (46.8)	C (31.5)
	Right Turn	A (.0)	A (.0)	A (.7)	A (.7)	A (2.9)
	Approach	A (7.8)	A (7.7)	D (38.4)	D (45.2)	D (35.3)
OVERALL		C (20.3)	C (22.4)	D (46.2)	D (44.6)	D (38.7)
INTERSECTION		(6) N Farnsworth Ave & Site Dwy B (Unsignalized)				
Site Dwy B						
Eastbound	Right Turn			C (19.3)	C (18.2)	C (21.3)
	Approach			C (19.3)	C (18.2)	C (21.3)
N Farnsworth Ave						
Northbound	Left Turn			C (16.2)	C (16.2)	
	Through			A (4.3)	A (.0)	A (.0)
	Approach			A (5.2)	A (1.2)	A (.0)
OVERALL				A (3.2)	A (.9)	A (.7)
INTERSECTION		(7) N Farnsworth Ave & Bilter Rd (Signalized)				
Bilte Rd						
Eastbound	Left Turn	D (38.1)	D (38.1)	D (40.0)	D (40.7)	E (70.3)
	Through	E (67.2)	E (67.4)	E (67.2)	E (67.4)	E (63.5)
	Right Turn	A (9.4)	A (8.9)	A (8.8)	A (9.6)	A (9.1)
	Approach	D (39.5)	D (39.3)	D (39.5)	D (40.0)	D (45.5)
Westbound	Left Turn	D (46.5)	D (48.1)	D (52.6)	D (51.1)	E (68.5)
	Through	D (53.0)	D (53.5)	E (58.3)	D (52.7)	E (59.7)
	Right Turn	A (7.3)	A (7.0)	A (7.5)	A (6.5)	B (11.2)
	Approach	D (38.1)	D (38.9)	D (43.2)	D (40.7)	D (52.2)
N Farnsworth Ave						
Northbound	Left Turn	B (10.4)	B (14.7)	B (12.2)	B (10.8)	F (90.5)
	Through	B (18.5)	C (22.4)	B (12.2)	A (5.6)	A (4.7)
	Right Turn	A (1.1)	A (1.0)	A (.2)	A (.3)	A (.3)
	Approach	B (15.8)	B (19.3)	B (10.7)	A (5.5)	B (12.9)
Southbound	Left Turn	A (8.9)	A (9.4)	A (9.6)	A (9.8)	E (65.7)
	Through	B (18.4)	B (19.7)	C (20.9)	C (21.5)	B (16.8)
	Right Turn	A (.1)	A (.1)	A (.1)	A (.1)	A (.0)
	Approach	B (17.1)	B (18.3)	B (19.6)	C (20.1)	C (20.1)
OVERALL		C (21.5)	C (23.5)	C (21.4)	B (19.2)	C (24.3)

Table 6C Level of Service Comparison - Weekend Evening Peak Hour						
Peak Hour Analysed		SAT PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(8) Bilter Rd & Premium Outlet Blvd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	B (16.7)	B (18.0)	B (18.4)		
	Through					
	Right Turn					
	Approach					
Westbound	Left Turn	A (6.8)	A (7.5)	A (7.5)		
	Through					
	Right Turn					
	Approach					
Premium Outlet Blvd						
Northbound	Left Turn	B (19.0)	B (19.5)	B (19.9)		
	Through					
	Right Turn					
	Approach					
Southbound	Left Turn	A (.0)	A (.0)	A (.0)		
	Through					
	Right Turn					
	Approach					
OVERALL		A (9.9)	B (10.5)	B (10.9)		
INTERSECTION		(9) N Farnsworth Ave & Butterfield Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	D (49.8)	E (56.0)	E (56.0)	D (52.6)	D (52.6)
	Through	C (33.0)	C (30.8)	C (31.4)	C (32.1)	C (32.1)
	Right Turn	A (8.6)	A (8.5)	A (9.1)	A (9.5)	A (9.5)
	Approach	C (30.0)	C (30.0)	C (30.5)	C (30.3)	C (30.3)
Westbound	Left Turn	D (54.8)	E (56.6)	E (60.5)	D (52.8)	D (52.8)
	Through	D (40.8)	D (39.6)	D (39.6)	D (39.5)	D (39.5)
	Right Turn	B (16.1)	B (16.2)	B (16.2)	B (16.1)	B (16.1)
	Approach	D (36.0)	D (35.7)	D (37.3)	D (35.6)	D (35.6)
N Farnsworth Ave						
Northbound	Left Turn	D (52.0)	D (52.3)	D (52.3)	D (52.0)	D (52.0)
	Through	C (25.7)	C (28.2)	C (28.7)	C (30.1)	C (30.1)
	Right Turn	A (3.1)	A (4.8)	A (6.4)	A (6.2)	A (6.2)
	Approach	C (28.2)	C (30.1)	C (29.9)	C (30.7)	C (30.7)
Southbound	Left Turn	D (51.8)	D (52.2)	D (52.2)	A (6.2)	D (51.9)
	Through	C (25.9)	C (28.5)	C (29.0)	D (51.9)	C (30.5)
	Right Turn	A (4.4)	A (7.4)	A (7.4)	C (30.5)	A (7.5)
	Approach	C (28.2)	C (30.3)	C (30.6)	A (7.5)	C (31.5)
OVERALL		C (30.2)	C (31.3)	C (31.8)	C (31.5)	C (32.0)
INTERSECTION		(10) Bilter Rd & Site Dwy C (Unsignalized)				
Bilter Rd						
Eastbound	Through			A (.0)		A (.0)
	Right Turn					
	Approach			A (.0)		A (.0)
Westbound	Through			A (.0)		A (.0)
	Approach			A (.0)		A (.0)
Site Dwy C						
Northbound	Right Turn			A (9.7)		A (9.1)
	Approach			A (9.7)		A (9.1)
OVERALL				A (.6)		A (.5)
INTERSECTION		(11) Butterfield Rd & Church Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	A (7.5)	A (8.5)	A (8.3)		A (8.3)
	Through	B (13.6)	B (15.3)	B (15.1)		B (15.1)
	Right Turn	A (.1)	A (.1)	A (2.1)		A (2.1)
	Approach	B (11.7)	B (13.2)	B (12.6)		B (12.6)
Westbound	Left Turn	B (10.6)	B (11.1)	B (10.7)		A (9.4)
	Through	C (20.3)	C (22.2)	C (22.7)		C (20.1)
	Right Turn	A (.2)	A (.1)	A (.1)		A (.1)
	Approach	B (18.2)	B (19.8)	C (20.1)		B (17.8)
Church Rd						
Northbound	Left Turn	C (30.4)	C (29.5)	C (31.7)		C (31.7)
	Through	D (54.8)	E (55.1)	E (55.1)		E (55.1)
	Right Turn	A (4.4)	A (5.6)	A (5.6)		A (5.6)
	Approach	C (33.7)	C (34.1)	C (33.9)		C (33.9)
Southbound	Left Turn	C (34.9)	C (33.6)	C (34.3)		C (34.3)
	Through	D (42.7)	D (40.8)	D (48.8)		D (48.8)
	Right Turn	A (6.4)	A (7.4)	A (8.8)		A (8.8)
	Approach	C (29.3)	C (28.4)	C (32.2)		C (32.2)
OVERALL		B (19.2)	C (20.2)	C (20.8)		B (20.0)

Table 6C Level of Service Comparison - Weekend Evening Peak Hour						
Peak Hour Analysed		SAT PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(12) Church Rd & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	A (9.5)	A (10.0)	B (11.0)		A (9.5)
	Through	C (22.4)	C (24.0)	C (24.7)		C (23.5)
	Right Turn					
	Approach	C (22.1)	C (23.8)	C (34.4)		C (23.2)
Westbound	Left Turn	B (10.4)	B (11.6)	B (12.1)		B (11.1)
	Through	B (13.3)	B (14.4)	B (14.8)		B (12.7)
	Right Turn	A (.1)	A (.1)	A (.1)		A (.1)
	Approach	B (10.9)	B (11.8)	B (12.3)		B (10.8)
Church Rd						
Northbound	Left Turn	A (9.6)	A (9.6)	A (9.6)		A (9.7)
	Through	B (16.1)	B (17.5)	B (18.4)		B (18.3)
	Right Turn					
	Approach	B (15.8)	B (17.2)	B (18.0)		B (13.2)
Southbound	Left Turn	A (9.9)	A (10.0)	B (10.1)		A (10.0)
	Through	B (15.0)	B (14.9)	B (15.1)		B (15.4)
	Right Turn					
	Approach	B (14.1)	B (14.1)	B (14.3)		B (14.5)
OVERALL		B (14.5)	B (15.3)	B (15.8)		B (13.9)
INTERSECTION		(13) Church Rd & Site Dwy D (Unsignalized)				
Site Dwy D						
Westbound	Left Turn			B (11.4)		
	Right Turn					
	Approach			B (11.4)		
Church Rd						
Northbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Southbound	Left Turn			A (8.0)		
	Through			A (.0)		
	Approach			A (.1)		
OVERALL				A (.2)		
INTERSECTION		(14) Church Rd & Site Dwy E (Unsignalized)				
Site Dwy E						
Westbound	Left Turn			B (11.6)		
	Right Turn					
	Approach			B (11.6)		
Church Rd						
Northbound	Through			A (.0)		
	Right Turn					
	Approach			A (.0)		
Southbound	Left Turn			A (8.0)		
	Through			A (.0)		
	Approach			A (.5)		
OVERALL				A (.9)		

Table 6C Level of Service Comparison - Weekend Evening Peak Hour						
Peak Hour Analysed		SAT PEAK HOUR (LOS / Delay)				
Direction	Approach / Movement	2022	2030			
		Existing	No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(15) Church Rd & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	B (14.8)	C (16.0)	C (17.2)		
	Through					
	Right Turn	B (12.6)	B (13.2)	B (14.0)		
	Approach	B (12.9)	B (13.5)	B (14.4)		
Westbound	Left Turn	C (15.5)	B (14.0)	C (18.8)		
	Through					
	Right Turn	B (13.3)	B (14.3)	C (15.1)		
	Approach	B (14.9)	C (16.2)	C (17.9)		
Church Rd						
Northbound	Left Turn	A (7.9)	A (8.0)	A (8.1)		
	Through					
	Right Turn	A (.0)	A (.0)	A (.0)		
	Approach	A (.4)	A (.4)	A (.3)		
Southbound	Left Turn	A (7.8)	A (7.9)	A (8.0)		
	Through					
	Right Turn	A (.0)	A (.0)	A (.0)		
	Approach	A (.1)	A (.1)	A (.1)		
OVERALL		A (1.2)	A (1.3)	A (1.4)		
INTERSECTION		(16) Church Rd & Molitor Rd (Unsignalized)				
Molitor Rd						
Westbound	Left Turn					
	Right Turn	C (15.5)	C (18.6)	C (19.9)	C (18.8)	C (18.8)
	Approach	C (15.5)	C (18.6)	C (19.9)	C (18.8)	C (18.8)
Church Rd						
Northbound	Through					
	Right Turn	C (17.0)	C (22.9)	D (29.7)	C (16.0)	C (16.7)
	Approach	C (17.0)	C (22.9)	D (29.7)	B (10.4)	B (11.3)
Southbound	Left Turn					
	Through	B (14.6)	C (17.6)	C (20.6)	B (13.7)	B (14.5)
	Approach	B (14.6)	C (17.6)	C (20.6)	C (20.7)	C (20.3)
OVERALL		C (15.8)	C (20.1)	C (24.2)	C (17.3)	C (17.5)
INTERSECTION		(17) Corporate Blvd & Site Dwy F (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn			A (7.6)		
	Through			A (.0)		
	Approach			A (.7)		
Westbound	Through					
	Right Turn			A (.0)		
	Approach			A (.0)		
Site Dwy F						
Southbound	Left Turn			B (10.2)		
	Right Turn					
	Approach			B (10.2)		
OVERALL				A (3.2)		

Table 7A Queue Comparison						
Peak Hour Analysed		Storage Length	AM PEAK HOUR (95% Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(1) N Farnsworth Ave & Molitor Rd (Signalized)				
Molitor Rd						
Eastbound	Left Turn	80'	183'	183'	186'	186'
	Through	530'	228'	228'	220'	220'
	Right Turn					
Westbound	Left Turn	80'	78'	78'	79'	79'
	Through	415'	181'	202'	213'	213'
	Right Turn					
N Farnsworth Ave						
Northbound	Left Turn	125'	15'	15'	14'	14'
	Through	>1000'	556'	618'	562'	562'
	Right Turn					
Southbound	Left Turn	155'	190'	187'	222'	198'
	Through	>1000'	285'	447'	405'	405'
	Right Turn					
INTERSECTION		(2) N Farnsworth Ave & I-88 Exit 119 EB Off Ramp (Signalized)				
I-88 Exit 119 EB Off Ramp						
Eastbound	Left Turn	>1000'	342'	449'		449'
	Right Turn	300'	55'	51'		51'
N Farnsworth Ave						
Northbound	Through	1000'	37'	179'		177'
Southbound	Through	1000'	323'	342'		204'
INTERSECTION		(3) N Farnsworth Ave & I-88 Exit 119 WB On Ramp (Signalized)				
I-88 Exit 119 WB On Ramp						
N Farnsworth Ave						
Northbound	Left Turn	195'	0'	14'		13'
	Through	1000'	0'	0'		0'
Southbound	Through	900'	301'	365'		115'
	Right Turn	175'	24'	50'		13'
INTERSECTION		(4) N Farnsworth Ave & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	150'	0'	0'		0'
	Right Turn	850'	13'	45'		45'
Westbound	Right Turn	350'	0'	0'		0'
N Farnsworth Ave						
Northbound	Left Turn	100'	45'	133'		133'
	Through	850'	0'	0'		0'
	Right Turn					
Southbound	Through	160'	0'	0'		0'
	Right Turn					

Table 7A Queue Comparison						
Peak Hour Analysed		Storage Length	AM PEAK HOUR (95% Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(5) N Farnsworth Ave & Premium Outlet Blvd / Site Dwy A (Signalized)				
Premium Outlet Blvd / Site Dwy A						
Eastbound	Left Turn	75'	0'	99'	96'	96'
	Through	350'	0'	0'	9'	3'
	Right Turn	75'	0'	0'	9'	60'
Westbound	Left Turn	415'	24'	24'	25'	25'
	Through	515'	0'	0'	0'	0'
	Right Turn					
N Farnsworth Ave						
Northbound	Left Turn	95'	0'	179'	171'	186'
	Through	365'	169'	451'	407'	197'
	Right Turn	0'	0'	0'	0'	0'
Southbound	Left Turn	200'	2'	7'	5'	23'
	Through	450'	118'	884'	169'	151'
	Right Turn	75'	0'	1'	0'	0'
INTERSECTION		(6) N Farnsworth Ave & Site Dwy B (Unsignalized)				
Site Dwy B						
Eastbound	Right Turn	0'		18'		20'
N Farnsworth Ave						
Northbound	Left Turn	0'		20'		0'
	Through	450'		0'		0'
	Right Turn					
Southbound	Through	470'		0'		0'
	Right Turn					
INTERSECTION		(7) N Farnsworth Ave & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	125'	95'	115'		80'
	Through	275'	199'	199'		105'
	Right Turn	175'	46'	46'		100'
Westbound	Left Turn	225'	127'	152'		102'
	Through	340'	132'	132'		137'
	Right Turn	0'	31'	31'		29'
N Farnsworth Ave						
Northbound	Left Turn	185'	25'	52'		79'
	Through	470'	640'	636'		320'
	Right Turn	0'	51'	0'		0'
Southbound	Left Turn	200'	76'	87'		92'
	Through	250'	572'	630'		294'
	Right Turn	0'	0'	0'		2'

Table 7A Queue Comparison						
Peak Hour Analysed		Storage Length	AM PEAK HOUR (95% Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(8) Bilter Rd & Premium Outlet Blvd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	315'	116'	124'		124'
	Through					
	Right Turn					
Westbound	Left Turn	180'	5'	5'		5'
	Through	280'	55'	60'		60'
	Right Turn					
Premium Outlet Blvd						
Northbound	Left Turn	>1000'	12'	12'		12'
	Through					
	Right Turn					
Southbound	Left Turn	0'	0'	0'		0'
	Through					
	Right Turn					
INTERSECTION		(9) N Farnsworth Ave & Butterfield Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	250'	175'	175'		171'
	Through	830'	137'	137'		150'
	Right Turn	300'	11'	15'		14'
Westbound	Left Turn	225'	858'	100'		107'
	Through	1000'	177'	177'		184'
	Right Turn	475'	227'	227'		245'
N Farnsworth Ave						
Northbound	Left Turn	300'	93'	93'		94'
	Through	>1000'	386'	402'		379'
	Right Turn	425'	17'	31'		29'
Southbound	Left Turn	300'	169'	169'		172'
	Through	950'	330'	349'		331'
	Right Turn	250'	49'	49'		58'
INTERSECTION		(10) Bilter Rd & Site Dwy C (Unsignalized)				
Bilter Rd						
Eastbound	Through	340'		0'		0'
	Right Turn					
Westbound	Through	500'		0'		0'
Site Dwy C						
Northbound	Right Turn	0'		3'		3'
INTERSECTION		(11) Butterfield Rd & Church Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	200'	40'	40'		40'
	Through	300'	256'	255'		255'
	Right Turn	295'	19'	26'		26'
Westbound	Left Turn	230'	64'	64'		68'
	Through	550'	114'	114'		115'
	Right Turn	180'	1'	1'		0'
Church Rd						
Northbound	Left Turn	155'	51'	72'		72'
	Through	155'	83'	83'		83'
	Right Turn	155'	72'	72'		72'
Southbound	Left Turn	240'	52'	53'		53'
	Through	500'	62'	63'		63'
	Right Turn	95'	19'	20'		20'

Table 7A Queue Comparison						
Peak Hour Analysed		Storage Length	AM PEAK HOUR (95% Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(12) Church Rd & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	175'	26'	28'		24'
	Through	500'	235'	245'		219'
	Right Turn					
Westbound	Left Turn	140'	46'	49'		42'
	Through	400'	107'	112'		48'
	Right Turn	140'	10'	11'		11'
Church Rd						
Northbound	Left Turn	225'	30'	30'		29'
	Through	345'	256'	280'		192'
	Right Turn					22'
Southbound	Left Turn	225'	46'	49'		48'
	Through	270'	142'	161'		157'
	Right Turn					
INTERSECTION		(13) Church Rd & Site Dwy D (Unsignalized)				
Site Dwy D						
Westbound	Left Turn	0'		0'		0'
	Right Turn					
Church Rd						
Northbound	Through	285'		0'		0'
	Right Turn					
Southbound	Left Turn	345'		0'		0'
	Through					
INTERSECTION		(14) Church Rd & Site Dwy E (Unsignalized)				
Site Dwy E						
Westbound	Left Turn	0'		3'		3'
	Right Turn					
Church Rd						
Northbound	Through	175'		0'		0'
	Right Turn					
Southbound	Left Turn	100'		0'		0'
	Through	285'		0'		0'

Table 7A Queue Comparison						
Peak Hour Analysed		Storage Length	AM PEAK HOUR (95% Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(15) Church Rd & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	110'	3'	3'		3'
	Through	240'	10'	10'		10'
	Right Turn					
Westbound	Left Turn	140'	3'	5'		5'
	Through	325'	13'	13'		13'
	Right Turn					
Church Rd						
Northbound	Left Turn	220'	3'	3'		3'
	Through	>1000'	0'	0'		0'
	Right Turn					
Southbound	Left Turn	220'	3'	3'		3'
	Through	480'	0'	0'		0'
	Right Turn					
INTERSECTION		(16) Church Rd & Molitor Rd (Unsignalized)				
Molitor Rd						
Westbound	Left Turn	140'	48'	48'		45'
	Right Turn					
Church Rd						
Northbound	Through	650'	378'	440'		155'
	Right Turn					45'
Southbound	Left Turn	350'	58'	65'		63'
	Through					
INTERSECTION		(17) Corporate Blvd & Site Dwy F (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	260'		0'		0'
	Through					
Westbound	Through	615'		0'		0'
	Right Turn					
Site Dwy F						
Southbound	Left Turn	0'		8'		8'
	Right Turn					

Table 7B Queue Comparison						
Peak Hour Analysed		Storage Length	PM PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City
INTERSECTION		(1) N Farnsworth Ave & Molitor Rd (Signalized)				
Molitor Rd						
Eastbound	Left Turn	80'	147'	162'		136'
	Through	530'	167'	167'		149'
	Right Turn					
Westbound	Left Turn	80'	91'	91'		86'
	Through	415'	449'	496'		415'
	Right Turn					
N Farnsworth Ave						
Northbound	Left Turn	125'	52'	52'		80'
	Through	>1000'	417'	448'		497'
	Right Turn					
Southbound	Left Turn	155'	210'	244'		117'
	Through	>1000'	574'	641'		64'
	Right Turn					
INTERSECTION		(2) N Farnsworth Ave & I-88 Exit 119 EB Off Ramp (Signalized)				
I-88 Exit 119 EB Off Ramp						
Eastbound	Left Turn	>1000'	232'	344'		344'
	Right Turn	300'	45'	50'		50'
N Farnsworth Ave						
Northbound	Through	1000'	130'	214'		65'
Southbound	Through	1000'	513'	595'		595'
INTERSECTION		(3) N Farnsworth Ave & I-88 Exit 119 WB On Ramp (Signalized)				
I-88 Exit 119 WB On Ramp						
N Farnsworth Ave						
Northbound	Left Turn	195'	106'	141'		119'
	Through	1000'	0'	0'		0'
Southbound	Through	900'	365'	490'		490'
	Right Turn	175'	65'	98'		98'
INTERSECTION		(4) N Farnsworth Ave & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	150'	25'	55'		55'
	Right Turn	850'	85'	260'		260'
Westbound	Right Turn	350'	5'	8'		8'
N Farnsworth Ave						
Northbound	Left Turn	100'	28'	115'		115'
	Through	850'	0'	0'		0'
	Right Turn					
Southbound	Through	160'	0'	0'		0'
	Right Turn					

Table 7B
Queue Comparison

Peak Hour Analysed		Storage Length	PM PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City
INTERSECTION		(5) N Farnsworth Ave & Premium Outlet Blvd / Site Dwy A (Signalized)				
Premium Outlet Blvd / Site Dwy A						
Eastbound	Left Turn	75'	0'	118'	115'	115'
	Through	350'	0'	0'	40'	34'
	Right Turn	75'	0'	0'	40'	87'
Westbound	Left Turn	415'	148'	148'	160'	159'
	Through	515'	0'	0'	0'	0'
	Right Turn					
N Farnsworth Ave						
Northbound	Left Turn	95'	0'	236'	255'	187'
	Through	365'	531'	902'	647'	324'
	Right Turn	0'	6'	9'	7'	13'
Southbound	Left Turn	200'	44'	112'	86'	92'
	Through	450'	156'	1193'	987'	482'
	Right Turn	75'	0'	6'	0'	2'
INTERSECTION		(6) N Farnsworth Ave & Site Dwy B (Unsignalized)				
Site Dwy B						
Eastbound	Right Turn	0'		33'		38'
N Farnsworth Ave						
Northbound	Left Turn	0'		28'		0'
	Through	450'		0'		0'
	Right Turn					
Southbound	Through	470'		0'		0'
	Right Turn					
INTERSECTION		(7) N Farnsworth Ave & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	125'	84'	108'		78'
	Through	275'	148'	148'		80'
	Right Turn	175'	99'	101'		115'
Westbound	Left Turn	225'	225'	252'		170'
	Through	340'	320'	320'		339'
	Right Turn	0'	87'	108'		123'
N Farnsworth Ave						
Northbound	Left Turn	185'	159'	114'		108'
	Through	470'	228'	112'		357'
	Right Turn	0'	6'	0'		24'
Southbound	Left Turn	200'	53'	53'		74'
	Through	250'	705'	777'		435'
	Right Turn	0'	14'	14'		30'

Table 7B
Queue Comparison

Peak Hour Analysed		Storage Length	PM PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City
INTERSECTION		(8) Bilter Rd & Premium Outlet Blvd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	315'	117'	127'		127'
	Through					
	Right Turn					
Westbound	Left Turn	180'	21'	21'		21'
	Through	280'	96'	103'		103'
	Right Turn					
Premium Outlet Blvd						
Northbound	Left Turn	>1000'	45'	46'		46'
	Through					
	Right Turn					
Southbound	Left Turn	0'	0'	0'		0'
	Through					
	Right Turn					
INTERSECTION		(9) N Farnsworth Ave & Butterfield Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	250'	152'	152'		152'
	Through	830'	172'	125'		127'
	Right Turn	300'	24'	23'		23'
Westbound	Left Turn	225'	109'	139'		120'
	Through	1000'	390'	390'		386'
	Right Turn	475'	347'	347'		319'
N Farnsworth Ave						
Northbound	Left Turn	300'	248'	248'		210'
	Through	>1000'	368'	388'		422'
	Right Turn	425'	33'	48'		55'
Southbound	Left Turn	300'	268'	268'		242'
	Through	950'	453'	475'		534'
	Right Turn	250'	265'	268'		300'
INTERSECTION		(10) Bilter Rd & Site Dwy C (Unsignalized)				
Bilter Rd						
Eastbound	Through	340'		0'		0'
	Right Turn					
Westbound	Through	500'		0'		0'
Site Dwy C						
Northbound	Right Turn	0'		3'		3'
INTERSECTION		(11) Butterfield Rd & Church Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	200'	72'	77'		77'
	Through	300'	236'	243'		243'
	Right Turn	295'	21'	33'		33'
Westbound	Left Turn	230'	173'	180'		150'
	Through	550'	285'	288'		283'
	Right Turn	180'	0'	0'		0'
Church Rd		140'				
Northbound	Left Turn	155'	116'	140'		140'
	Through	155'	194'	189'		189'
	Right Turn	155'	70'	69'		69'
Southbound	Left Turn	240'	106'	103'		103'
	Through	500'	182'	182'		182'
	Right Turn	95'	66'	66'		66'

Table 7B
Queue Comparison

Peak Hour Analysed		Storage Length	PM PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City
INTERSECTION		(12) Church Rd & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	175'	28'	28'		27'
	Through	500'	182'	182'		179'
	Right Turn					
Westbound	Left Turn	140'	105'	105'		101'
	Through	400'	271'	271'		121'
	Right Turn	140'	0'	0'		0'
Church Rd						
Northbound	Left Turn	225'	30'	30'		30'
	Through	345'	325'	353'		260'
	Right Turn					18'
Southbound	Left Turn	225'	55'	58'		59'
	Through	270'	384'	407'		409'
	Right Turn					
INTERSECTION		(13) Church Rd & Site Dwy D (Unsignalized)				
Site Dwy D						
Westbound	Left Turn	0'		3'		3'
	Right Turn					
Church Rd						
Northbound	Through	285'		0'		0'
	Right Turn					
Southbound	Left Turn	345'		0'		0'
	Through					
INTERSECTION		(14) Church Rd & Site Dwy E (Unsignalized)				
Site Dwy E						
Westbound	Left Turn	0'		8'		8'
	Right Turn					
Church Rd						
Northbound	Through	175'		0'		0'
	Right Turn					
Southbound	Left Turn	100'		0'		0'
	Through	285'		0'		0'

Table 7B
Queue Comparison

Peak Hour Analysed		Storage Length	PM PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City
INTERSECTION		(15) Church Rd & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	110'	30'	35'		35'
	Through	240'	35'	38'		38'
	Right Turn					
Westbound	Left Turn	140'	25'	35'		35'
	Through	325'	35'	38'		38'
	Right Turn					
Church Rd						
Northbound	Left Turn	220'	3'	3'		3'
	Through	>1000'	0'	0'		0'
	Right Turn					
Southbound	Left Turn	220'	3'	3'		3'
	Through	480'	0'	0'		0'
	Right Turn					
INTERSECTION		(16) Church Rd & Molitor Rd (Unsignalized)				
Molitor Rd						
Westbound	Left Turn	140'	253'	258'		240'
	Right Turn					
Church Rd						
Northbound	Through	650'	325'	378'		108'
	Right Turn					385'
Southbound	Left Turn	350'	468'	510'		488'
	Through					
INTERSECTION		(17) Corporate Blvd & Site Dwy F (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	260'		0'		0'
	Through					
Westbound	Through	615'		0'		0'
	Right Turn					
Site Dwy F						
Southbound	Left Turn			10'		10'
	Right Turn					

Table 7C Queue Comparison						
Peak Hour Analysed		Storage Length	SAT PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(1) N Farnsworth Ave & Molitor Rd (Signalized)				
Molitor Rd						
Eastbound	Left Turn	80'	128'	123'		131'
	Through	530'	108'	105'		103'
	Right Turn					
Westbound	Left Turn	80'	70'	67'		71'
	Through	415'	169'	190'		202'
	Right Turn					
N Farnsworth Ave						
Northbound	Left Turn	125'	35'	37'		34'
	Through	>1000'	370'	419'		399'
	Right Turn					
Southbound	Left Turn	155'	130'	173'		172'
	Through	>1000'	463'	519'		514'
	Right Turn					
INTERSECTION		(2) N Farnsworth Ave & I-88 Exit 119 EB Off Ramp (Signalized)				
I-88 Exit 119 EB Off Ramp						
Eastbound	Left Turn	>1000'	174'	281'		281'
	Right Turn	300'	56'	55'		55'
N Farnsworth Ave						
Northbound	Through	1000'	27'	88'		100'
Southbound	Through	1000'	312'	452'		452'
INTERSECTION		(3) N Farnsworth Ave & I-88 Exit 119 WB On Ramp (Signalized)				
I-88 Exit 119 WB On Ramp						
N Farnsworth Ave						
Northbound	Left Turn	195'	1'	12'		12'
	Through	1000'	0'	0'		0'
Southbound	Through	900'	128'	182'		182'
	Right Turn	175'	15'	26'		26'
INTERSECTION		(4) N Farnsworth Ave & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	150'	0'	0'		0'
	Right Turn	850'	28'	163'		163'
Westbound	Right Turn	350'	10'	13'		13'
N Farnsworth Ave						
Northbound	Left Turn	100'	10'	103'		103'
	Through	850'	0'	0'		0'
	Right Turn					
Southbound	Through	160'	0'	0'		0'
	Right Turn					

Table 7C Queue Comparison						
Peak Hour Analysed		Storage Length	SAT PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(5) N Farnsworth Ave & Premium Outlet Blvd / Site Dwy A (Signalized)				
Premium Outlet Blvd / Site Dwy A						
Eastbound	Left Turn	75'	0'	149'	142'	142'
	Through	350'	0'	0'	82'	82'
	Right Turn	75'	0'	133'	67'	101'
Westbound	Left Turn	415'	489'	489'	464'	464'
	Through	515'	0'	55'	0'	0'
	Right Turn					
N Farnsworth Ave						
Northbound	Left Turn	95'	0'	436'	345'	246'
	Through	365'	387'	600'	668'	309'
	Right Turn	0'	58'	93'	32'	28'
Southbound	Left Turn	200'	32'	181'	201'	134'
	Through	450'	65'	657'	787'	254'
	Right Turn	75'	0'	2'	2'	14'
INTERSECTION		(6) N Farnsworth Ave & Site Dwy B (Unsignalized)				
Site Dwy B						
Eastbound	Right Turn	0'		30'		33'
N Farnsworth Ave						
Northbound	Left Turn	0'		28'		0'
	Through	450'		0'		0'
	Right Turn					
Southbound	Through	470'		0'		0'
	Right Turn					
INTERSECTION		(7) N Farnsworth Ave & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	125'	45'	49'		55'
	Through	275'	147'	147'		77'
	Right Turn	175'	44'	44'		44'
Westbound	Left Turn	225'	213'	253'		151'
	Through	340'	175'	179'		177'
	Right Turn	0'	46'	47'		60'
N Farnsworth Ave						
Northbound	Left Turn	185'	101'	52'		96'
	Through	470'	286'	220'		61'
	Right Turn	0'	12'	1'		3'
Southbound	Left Turn	200'	50'	50'		70'
	Through	250'	370'	432'		245'
	Right Turn	0'	0'	0'		0'

Table 7C Queue Comparison						
Peak Hour Analysed		Storage Length	SAT PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(8) Bilter Rd & Premium Outlet Blvd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	315'	107'	125'		125'
	Through					
	Right Turn	150'	9'	9'		9'
Westbound	Left Turn	180'	46'	46'		46'
	Through	280'	57'	71'		71'
	Right Turn					
Premium Outlet Blvd						
Northbound	Left Turn	>1000'	109'	113'		113'
	Through					
	Right Turn	350'	27'	28'		28'
Southbound	Left Turn	0'	0'	0'		0'
	Through					
	Right Turn					
INTERSECTION		(9) N Farnsworth Ave & Butterfield Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	250'	86'	85'		86'
	Through	830'	169'	174'		175'
	Right Turn	300'	39'	53'		53'
Westbound	Left Turn	225'	93'	112'		107'
	Through	1000'	195'	195'		195'
	Right Turn	475'	145'	145'		143'
N Farnsworth Ave						
Northbound	Left Turn	300'	139'	139'		139'
	Through	>1000'	205'	223'		236'
	Right Turn	425'	50'	67'		67'
Southbound	Left Turn	300'	141'	141'		140'
	Through	950'	221'	243'		257'
	Right Turn	250'	71'	71'		71'
INTERSECTION		(10) Bilter Rd & Site Dwy C (Unsignalized)				
Bilter Rd						
Eastbound	Through	340'		0'		0'
	Right Turn					
Westbound	Through	500'		0'		0'
Site Dwy C						
Northbound	Right Turn	0'		3'		3'
INTERSECTION		(11) Butterfield Rd & Church Rd (Signalized)				
Butterfield Rd						
Eastbound	Left Turn	200'	70'	69'		69'
	Through	300'	177'	176'		176'
	Right Turn	295'	0'	17'		17'
Westbound	Left Turn	230'	72'	71'		69'
	Through	550'	177'	176'		173'
	Right Turn	180'	0'	0'		0'
Church Rd						
Northbound	Left Turn	155'	30'	58'		58'
	Through	155'	126'	126'		126'
	Right Turn	155'	19'	19'		19'
Southbound	Left Turn	240'	95'	96'		96'
	Through	500'	139'	143'		143'
	Right Turn	95'	39'	40'		40'

Table 7C Queue Comparison						
Peak Hour Analysed		Storage Length	SAT PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(12) Church Rd & Bilter Rd (Signalized)				
Bilter Rd						
Eastbound	Left Turn	175'	4'	4'		4'
	Through	500'	73'	76'		70'
	Right Turn					
Westbound	Left Turn	140'	57'	61'		53'
	Through	400'	86'	91'		40'
	Right Turn	140'	0'	0'		0'
Church Rd						
Northbound	Left Turn	225'	11'	11'		11'
	Through	345'	159'	185'		129'
	Right Turn					17'
Southbound	Left Turn	225'	26'	29'		29'
	Through	270'	136'	156'		154'
	Right Turn					
INTERSECTION		(13) Church Rd & Site Dwy D (Unsignalized)				
Site Dwy D						
Westbound	Left Turn	0'		3'		3'
	Right Turn					
Church Rd						
Northbound	Through	285'		0'		0'
	Right Turn					
Southbound	Left Turn	345'		0'		0'
	Through					
INTERSECTION		(14) Church Rd & Site Dwy E (Unsignalized)				
Site Dwy E						
Westbound	Left Turn	0'		8'		8'
	Right Turn					
Church Rd						
Northbound	Through	175'		0'		0'
	Right Turn					
Southbound	Left Turn	100'		3'		3'
	Through	285'		0'		0'

Table 7C Queue Comparison						
Peak Hour Analysed		Storage Length	SAT PEAK HOUR (Queue Length)			
Direction	Approach / Movement		2030			
			No Build	Build	Build with Improvements (See Figure A)	Build with Improvements & City Improvements
INTERSECTION		(15) Church Rd & Corporate Blvd (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	110'	0'	0'		0'
	Through	240'	3'	3'		3'
	Right Turn					
Westbound	Left Turn	140'	5'	8'		8'
	Through	325'	3'	3'		3'
	Right Turn					
Church Rd						
Northbound	Left Turn	220'	0'	0'		0'
	Through	>1000'	0'	0'		0'
	Right Turn					
Southbound	Left Turn	220'	0'	0'		0'
	Through	480'	0'	0'		0'
	Right Turn					
INTERSECTION		(16) Church Rd & Molitor Rd (Unsignalized)				
Molitor Rd						
Westbound	Left Turn	140'	100'	108'		103'
	Right Turn					
Church Rd						
Northbound	Through	650'	168'	218'		85'
	Right Turn					38'
Southbound	Left Turn	350'	100'	128'		125'
	Through					
INTERSECTION		(17) Corporate Blvd & Site Dwy F (Unsignalized)				
Corporate Blvd						
Eastbound	Left Turn	260'		0'		0'
	Through					
Westbound	Through	615'		0'		0'
	Right Turn					
Site Dwy F						
Southbound	Left Turn	0'		13'		13'
	Right Turn					