

**VILLAGE OF BARTLETT**

**COMMITTEE AGENDA**

**JULY 19, 2016**

**PLANNING & ZONING**

Ashton Gardens Preliminary/Final PUD Plan & Special Uses

BAPS Final PUD Plan – Phase 4

**PUBLIC WORKS**

Mosquito Funding

Sewer Rate Study



# Agenda Item Executive Summary

Item Name Ashton Gardens Committee or Board Committee

## BUDGET IMPACT

Amount:	N/A	Budgeted	N/A
List what fund	N/A		

## EXECUTIVE SUMMARY

The Petitioner is requesting a **Preliminary/Final PUD Plan** review, **Special Uses** for a PUD, a banquet facility, the serving of liquor and building height, and **Variations** to reduce the number of parking spaces, to reduce the 20' interior parkway and to allow one tree for each double parking island for a wedding chapel, office and banquet facility to be located at the southwest corner of Devon and Prospect Avenues.

## ATTACHMENTS (PLEASE LIST)

CD Memo, Application, Location Map, Preliminary/Final PUD Plan, Color Rendering, Building Elevations, Landscape Plan, Floor Plan, Photos of Existing Facilities, a Traffic Study (Eriksson) and Comments from the Village's Traffic Consultant (Coulter)

## ACTION REQUESTED

- For Discussion Only - To discuss the Petitioner's requests and forward to the Zoning Board of Appeals and the Plan Commission for further review and to conduct the required public hearings.
- Resolution
- Ordinance
- Motion

Staff: Jim Plonczynski, Com Dev Director Date: July 11, 2016

**COMMUNITY DEVELOPMENT MEMORANDUM**

**16-142**

DATE: July 11, 2016  
TO: Valerie L. Salmons, Village Administrator  
FROM: Jim Plonczynski, CD Director  
RE: **(#16-05) Ashton Gardens**

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**PETITIONER**

Brad Schreiber on behalf of Ashton Gardens

**SUBJECT SITE**

Southwest corner of Devon and Prospect Avenues

**REQUEST**

**Preliminary/Final PUD Plan, Special Uses** for a (a) PUD, (b) reception/banquet hall (c) the serving of liquor and (d) building height and **Variations** for (a) reduction in the number of required parking spaces (b) reduction from the 20' interior parkway requirement and (c) to allow one tree for each double parking island

**SURROUNDING LAND USES**

	<b><u>Land Use</u></b>	<b><u>Comprehensive Plan</u></b>	<b><u>Zoning</u></b>
<b>Subject Site</b>	<b>Vacant</b>	<b>Commercial</b>	<b>B-3 PUD</b>
North	Attached Residential	Attached Residential (Medium Density)	PD
South	Single Family	Suburban Residential	SR-2 PUD
East	Vacant/Single Family	Open Space/ Suburban Residential	SR-4
West	Single Family	Suburban Residential	SR-2 PUD

**DISCUSSION**

1. The Petitioner is requesting a **Preliminary/Final PUD** Plan review for a proposed wedding and special event facility catering exclusively to high end wedding ceremonies and receptions. The plan includes a chapel, reception/banquet hall and small office to be located on the 3.8 acre piece of vacant property located at the southwest corner of Devon and Prospect Avenues.
2. The Petitioner currently has similar venues in Houston and Dallas, Texas as well as Sugar Hill, Georgia and three projects under development review in Cedar Park, Texas, Marietta, Georgia and here in Bartlett.

3. The Petitioner is also requesting **Special Uses** for a Planned Unit Development (three principal structures located on one zoning lot), a reception/banquet hall, the serving of liquor and building height (Chapel – 35 feet, 3 ½ inches).
4. The 14,367 square foot **reception/banquet hall** would be constructed with off-white stucco veneer on three exterior elevations and hardiplank siding in white along the rear/west elevation. Cast stone columns and a canopy would provide an inviting and elegant front entrance for the guests. The roof line would have a decorative cornice and parapet wall with white railing/baluster accents which would screen the rooftop mechanicals. This reception hall would be 28 feet at its highest point, while the majority of the building would be 22 feet in height. The **chapel**, consisting of 4,576 square feet, would have an off-white EIFS and Texas White Limestone veneer exterior with a grey shingled roof. Arched decorative windows as well as an arched entrance door would accent the front elevation. The highest point of the chapel would be 35 feet, 3 ½ inches with the lower roof line sitting at 15 feet, 7 inches. The small **office** building, consisting of 1,337 square feet, would architecturally complement the reception hall and chapel buildings; incorporating the off-white EIFS on the exterior, the decorative columns along the front elevation and the grey shingles on the roof. The overall height of this building would be 15 feet, 7 inches.
5. The typical hours of operation would be Monday – Thursday 9:00 a.m. – 7:00 p.m. for touring the facilities. If an event were to be scheduled, it would typically end before Midnight. Friday, Saturday and Sunday hours would typically be from 9:00 a.m. until 12:30 a.m. (An event may last longer if a patron pays for the extra time.) Liquor service would end ½ hour prior to the event end time and rarely would there be Sunday evening weddings.
6. A four (4) foot high decorative metal fence is proposed along the north and east property lines (Devon and Prospect Avenue frontages) with matching gates across each entrance drive for security when the facilities are closed. Emergency responders would have access to the lock boxes at these locations. Trees and an eight (8) foot high solid wood fence would be located along the south and west property lines to buffer these uses from the adjacent residential properties.
7. The Plan identifies three access points; two along Devon Avenue (the far west access is for loading and garbage pick-up) and the third along Prospect Avenue. *(Please note: Devon Avenue is under the jurisdiction of DuPage County and at this time the County is requiring a right-in/right-out for the eastern access drive. Discussions are continuing with the County Highway Department regarding this issue.)* A two-way drop-off and pick-up drive is located directly in front of both the chapel and reception hall to accommodate those guests requiring easier access to the entrances of each building.
8. A Traffic Study, prepared by Eriksson Engineering Associates, Ltd. (Eriksson), has been submitted for the Staff to review (see attached) and the Village's Traffic Consultant, Brent Coulter of Coulter Transportation Consulting, LLC (Coulter) has reviewed and commented on the study (see attached comments).

9. In summary, Eriksson states that **"the Devon/Prospect intersection operates at a Level of Service B and this development will not have an adverse impact on the intersection. The Devon access would be 270 feet west of Prospect and the Prospect access will be 300 feet south of Devon; both will operate well within the projected traffic volumes of these uses. Weddings and receptions will primarily be held on Friday and Saturday evenings after the peak hour (5:00 p.m. – 6:00 p.m.)."**
10. The Village's Traffic Consultant concurs with the applicant's Traffic Study stating that **"both (Devon and Prospect) are low volume streets and that left and right turn lanes do not appear to be warranted at the site's access drives."**
11. The Petitioner is requesting a **variation** to allow for a reduction in the required number of parking spaces. This request is primarily due to the fact that the **Zoning Ordinance requires parking to be calculated for each individual use (Office=5, Chapel=63 and Reception Hall=90) and does not account for multiple uses sharing parking on one site.** As a result, the Zoning Ordinance would require 158 parking spaces. The PUD Plan identifies 136 spaces (22 short of the requirement). Based upon the Petitioner's observations at their other venues currently in operation, they believe 125 spaces would be the maximum number needed for this site. This is due in part that many guests will be proceeding directly from the chapel to the reception hall and that the Zoning Ordinance double counts these patrons. The Petitioner states that the 136 spaces provided on this plan are more than adequate to meet their needs. **Staff concurs and believes that those attending the chapel service (63) will primarily be double counted and that the strict interpretation of the Zoning Ordinance provides a hardship for the Petitioner.**
12. Below is a summary of the parking spaces provided on the site and those required in strict accordance with the Zoning Ordinance.

**Parking Summary**

	<b>Parking Provided</b>	<b>Parking Required</b>
Office	136	5 (1,337 sq. ft./275)
Reception/Banquet Hall		90 (300 occ/30%)
<b>Chapel</b>		<b>63</b> (252/4 seats)
	<b>Total = 136</b>	<b>Total = 158</b>
		<b>DEFICIT = 22 spaces</b> (158 - 136= 22)

13. If the 63 required spaces for the chapel are deleted, the calculation would be as follows: Office (5) + Reception Hall (90) = 95 vs. 158 (Zoning Ordinance)  
**However, Staff believes the 30 employees working at the Reception Hall should also be calculated in addition to the 300 maximum occupancy, and as a result, the REVISED calculation should be:**

**Office (5) + Reception Hall (99) = 104 TOTAL PARKING SPACES REQUIRED (well below the 136 parking spaces provided on the PUD plan.)**

14. Coulter concurs that double counting may occur, however he suggests particular attention be given to the scheduling of events to provide a "sufficient time gap to allow those leaving a wedding and not attending a reception to have an adequate time to leave and for reception guests to arrive without an overlap." He also states that because no overflow parking will be allowed on either Devon or Prospect Avenues, and it would seem obvious to most visitors to not park on Devon, No Parking signs may need to be posted on Prospect due to its "more residential feel".
15. Landscape **variations** being requested include a reduction from the interior parkway requirement from 20 feet to 16 ½ feet along Devon Avenue and to allow one tree rather than two trees on each double parking island. The Petitioner has stated that they would prefer to plant larger trees in and around the chapel and reception hall for aesthetic purposes and to beautify these areas rather than the parking lot.
16. Revised Engineering, Landscaping, Lighting and Truck Turning Plans are currently being reviewed by the Staff. *Please Note: Since the time of Coulter's traffic review, the Petitioner has submitted revised plans to incorporate several additional traffic comments, especially regarding truck turning movements for fire vehicles on the site.*

#### **RECOMMENDATION**

1. Staff recommends forwarding the Petitioner's requests to the Zoning Board of Appeals and the Plan Commission for further review and to conduct the public hearings.
2. A copy of the Preliminary/Final PUD Plan, Building Elevations, Landscape Plan, a Traffic Study, Traffic Comments, Photos of existing facilities and additional background information are attached for your review.

rbg/attachments

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April 26, 2016

Village of Bartlett, Illinois  
228 S. Main Street  
Bartlett, IL 60103

Attention: Mr. Kevin Wallace, Village President  
Village Board of Trustees

Mr. Wallace & Trustees,

Thank you for taking time to review our development application

Below are specifics for the development application to add Bartlett as the newest home to an Ashton Gardens, a nationally branded wedding and special event facilities company.

We are under contract on the property at the corner of Devon Ave. and Prospect Ave. and, as a condition of the purchase, we must obtain local government approval for the project.

The property will be home to 3 buildings, described as follows.

The office building will be occupied by our operations management and our sales and coordinating teams as well as private guest conference rooms.

The 4500 square foot chapel features a European-inspired design of carved stone, natural timber buttresses, and soaring floor-to-ceiling glass windows furnished with ceramic tile floors and upholstered pews, plus private dressing suites for the brides and grooms.

The reception facility is 14,000 square feet and seats up to 300 guests in an elegant ballroom with crystal chandeliers, elegant décor, built in bars, and a finely appointed entry "gallery". As all food preparation is conducted in-house, there is a fully equipped commercial kitchen.

The grounds will be tastefully landscaped and well maintained.

Because the property is adjacent and open to single family homes, Ashton Gardens will provide a privacy fence behind each house, the full length of the South and West perimeters of the site. The North and East property lines (along Devon Avenue and Prospect Avenue) will be protected by a decorative fence and separate accesses to the property.

We are very conscious of the concerns of the neighbors as we have 3 other properties built adjacent to neighborhoods and we have never had an incident where a resident be disturbed or inconvenienced. All activities are conducted indoors, so there is not the opportunity for excessive noise on the outside...and the building is constructed in such a way as to ensure music cannot be detected outside the building. All events are required to have private security to assist with traffic control and to monitor all outside activity.

We will have 142 parking spaces, which is quite adequate as there would never be a situation when the chapel and reception areas would be occupied to capacity at the same time. The reason is that during a wedding, guests would attend a ceremony in the chapel, then proceed to the reception building for a reception. Therefore, one or the other building would not be occupied at some point during an event and the maximum number of guests on site at any time would be the capacity of the reception building.

The trash receptacle will be a sealed container with a water tight hinged top and will be enclosed in a secured, approved structure on the service drive closest to the reception building. All deliveries are scheduled weekdays, later in the mornings.

The great majority of the events occur from Friday evening through Sunday evening and with two access points (one each on Devon and Prospect), the effect on local traffic at will be very minimal.

I would like to thank you for all of your valuable assistance throughout this process and look forward to meeting with you to further our development.

Regards,

Brad Schreiber, President  
Ashton Gardens



# VILLAGE OF BARTLETT DEVELOPMENT APPLICATION

For Office Use Only  
Case # 16-05  
**RECEIVED  
COMMUNITY DEVELOPMENT**  
**MAY 16 2016**  
VILLAGE OF  
BARTLETT

PROJECT NAME ASHTON GARDENS

PETITIONER INFORMATION (PRIMARY CONTACT)

Name: Brad Schreiber

Street Address: 525 N. Sam Houston Pkwy, Suite 405

City, State: Houston, TX

Zip Code: 77060

Email Address: bradschreiber@ashtongardens.com

Phone Number: 281-445-6935

Preferred Method to be contacted: See Dropdown

PROPERTY OWNER INFORMATION

Name: RB Resolution Properties, LLC - Prospect Series

Street Address: 2221 Camden Court

City, State: Oak Brook, IL

Zip Code: 60523

Phone Number: 630-570-7776

OWNER'S SIGNATURE: [Signature]

Date: 5/3/16

(OWNER'S SIGNATURE IS REQUIRED or A LETTER AUTHORIZING THE PETITION SUBMITTAL.)

ACTION REQUESTED (Please check all that apply)

- Annexation
- PUD (preliminary)
- PUD (final)
- Subdivision (preliminary)
- Subdivision (final)
- Site Plan (please describe use: commercial, industrial, square footage):  
Commercial w/ 3 buildings of approx 4,000, 11,000, & 1,500 sq ft
- Unified Business Center Sign Plan
- Other (please describe) \_\_\_\_\_
- Text Amendment
- Rezoning See Dropdown to See Dropdown
- Special Use for: Wedding & Special Events
- Variation: \_\_\_\_\_

**RECEIVED  
COMMUNITY DEVELOPMENT**  
**MAY 13 2016**  
VILLAGE OF  
BARTLETT

**SIGN PLAN REQUIRED?** No

(Note: A Unified Business Center Sign Plan is required for four or more individual offices or businesses sharing a common building entrance or private parking lot.)

**PROPERTY INFORMATION**

**Common Address/General Location of Property:** Southwest corner of Devon & Prospect

**Property Index Number ("Tax PIN"/"Parcel ID"):** 01-02-109-013

**Zoning:** Existing: B-3 PUD  
(Refer to Official Zoning Map)

**Land Use:** Existing: Vacant

Proposed: B-3 PUD

Proposed: Commercial

**Comprehensive Plan Designation for this Property:** Commercial  
(Refer to Future Land Use Map)

**Acreage:** 3.84

**For PUD's and Subdivisions:**

No. of Lots/Units: One

Minimum Lot: Area \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_

Average Lot: Area \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_

**APPLICANT'S EXPERTS** (If applicable, including name, address, phone and email)

**Attorney** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Engineer** Eriksson Engineering Associates, Ltd. Chris Keppner  
601 W Randolph Street, Suite 500  
Chicago, Illinois 60661 c.keppner@eea-ltd.com

**Other** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FINDINGS OF FACT FOR PLANNED UNIT DEVELOPMENTS

Both the Plan Commission and Village Board must decide if the requested Planned Unit Development meets the standards established by the Village of Bartlett Zoning Ordinance.

The Plan Commission shall make findings based upon evidence presented on the following standards: (Please respond to each of these standards in writing below as it relates to your case. It is important that you write legibly or type your responses as this application will be included with the staff report for the Plan Commission and Village Board to review.)

1. The proposed Planned Unit Development is desirable to provide a mix of uses which are in the interest of public convenience and will contribute to the general welfare of the community.

With all existing locations, Ashton Gardens has proven to be a convenient and cooperative destination for local community organizations, governmental agencies, and the business community for social and professional uses. The high end quality of the facility will enhance the perception of the Village, substantial sales tax revenues will be generated, local businesses will benefit from more than 40,000 visitors to the area each year, and will be an eager participant in the community.

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2. The Planned Unit Development will not under the circumstances of the particular case be detrimental to the health, safety, morals, or general welfare of persons residing or working in the vicinity or be injurious to property value or improvement in the vicinity.

Ashton Gardens takes pride in extensive measures which we employ to ensure the safety of our guests through active event security; including close management of alcohol consumption; activities on the property, yet outside of the buildings as not to be disruptive to neighbors; and the practice of managing our business with the highest level of professionalism and integrity. At our other locations, Ashton Gardens has been well received by our neighbors especially when given consideration to possible alternative businesses that are not at the level of quality as our concept.

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3. The Planned Unit Development shall conform to the regulations and conditions specified in the Title for such use and with the stipulation and conditions made a part of the authorization granted by the Village Board of Trustees.

With the Village staff's excellent communication and eagerness to help, we have been, and will continue to ensure our project development is in full compliance with Title specifications and requirements. Where we have areas of uncertainty, we contact the Village and get immediate direction so our progress stays on the correct path.

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4. The proposed uses conform to the Comprehensive Plan and the general planning policies of the Village for this parcel.

Ashton Gardens has received confirmation on the use of parcel via concept plan submittal and attendance of Village Board meetings. The project conforms with the Comprehensive Plan which identifies this property for commercial use.

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5. Each of the proposed uses is a permitted or special use in the district or districts in which the Planned Unit Development would be located.

The site will consist of a small administrative office building, a chapel in which to host wedding ceremonies, and a reception building to host wedding receptions (following the ceremonies), corporate and social events, meetings, etc.

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6. The Planned Unit Development is designed, located and proposed to be operated and maintained so that the public health, safety and welfare will not be endangered or detrimentally affected.

The project will not be detrimental to the public health, safety, and welfare nor be detrimental in any fashion. The design and aesthetics of the facilities and the site convey a high end, high quality image that compliments the community. Every possible measure is taken to ensure that all event activities are managed so as not to effect or disturb the community or our neighbors in any way.

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7. It shall not substantially lessen or impede the suitability for permitted use and development of, or be injurious to the use and enjoyment of, or substantially diminish or impair the value of, or be incompatible with, other property in the immediate vicinity.

The project will not be injurious and will not impede enjoyment of other property owners using their yards or property within the immediate vicinity. Ashton Gardens improves the public perception of the area in which we develop a business. The parcel could be home to many other types of businesses such as convenience stores, strip centers, or other entities that have a far less public perception. There is an added value to local businesses, increased tax base, and the community as a whole given consideration to the quality and number of guests that will seek out Ashton Gardens in Bartlett.

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8. Impact donations shall be paid to the Village in accordance with all applicable Village ordinances in effect at the time of approval.

Ashton Gardens will comply with any ordinances related to the impact of this development.

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9. The plans provide adequate utilities, drainage and other necessary facilities.

The engineering of the project will provide all necessary utilities, infrastructure, and other requirements as dictated by local ordinances and direction of Village staff. There will be more than ample parking for the proposed uses.

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10. The plans provide adequate parking and ingress and egress and are so designed as to minimize traffic congestion and hazards in the public streets.

Traffic entering and exiting the property will be eased to the best possible extent with the use of two access points, one on Devon Ave. and one on Prospect Ave. per the recommendation of Village staff. Also very few of the days and times the facility is in use does not coincide with "rush hour".

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11. The plans have adequate site area, which area may be greater than the minimum in the district in which the proposed site is located, and other buffering features to protect uses within the development and on surrounding properties.

The residential sites adjacent to the parcel do not have a barrier at the adjoining property line. Ashton Gardens will build provide a landscape buffer, a fence along said property lines, or a combination of both.

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12. There is reasonable assurance that, if authorized, the PUD will be completed according to schedule and adequately maintained.

When developing an Ashton Gardens facility, it is critical that the construction be completed on or before the scheduled date, because for months before opening, we sell dates for events beginning very close to the completion date, thus, should we go beyond the scheduled completion date, events must be cancelled...which would be very detrimental to our reputation. The appearance and upkeep of the property is key to maintaining our upscale, professional image and is never compromised.

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ACKNOWLEDGEMENT

I understand that by signing this form, that the property in question may be visited by village staff and Board/Commission members throughout the petition process and that the petitioner listed above will be the primary contact for all correspondence issued by the village.

I certify that the information and exhibits submitted are true and correct to the best of my knowledge and that I am to file this application and act on behalf of the above signatures.

Any late, incomplete or non-conforming application submittal will not be processed until ALL materials and fees have been submitted.

SIGNATURE OF PETITIONER: Brad Schreiber

PRINT NAME: Brad Schreiber

DATE: 5.11.16

REIMBURSEMENT OF CONSULTANT FEES AGREEMENT

The undersigned hereby acknowledges his/her obligation to reimburse the Village of Bartlett for all necessary and reasonable expenses incurred by the Village for review and processing of the application. Further, the undersigned acknowledges that he/she understands that these expenses will be billed on an ongoing basis as they are incurred and will be due within thirty days. All reviews of the petition will be discontinued if the expenses have not been paid within that period. Such expenses may include, but are not limited to: attorney's fees, engineer fees, public advertising expenses, and recording fees. Please complete the information below and sign.

NAME OF PERSON TO BE BILLED: Brad Schreiber

ADDRESS: 525 N Sam Houston Parkway East, Suite 405  
Houston, Texas 77060

PHONE NUMBER: 281-445-6935

EMAIL: bradschreiber@ashtongardens.com

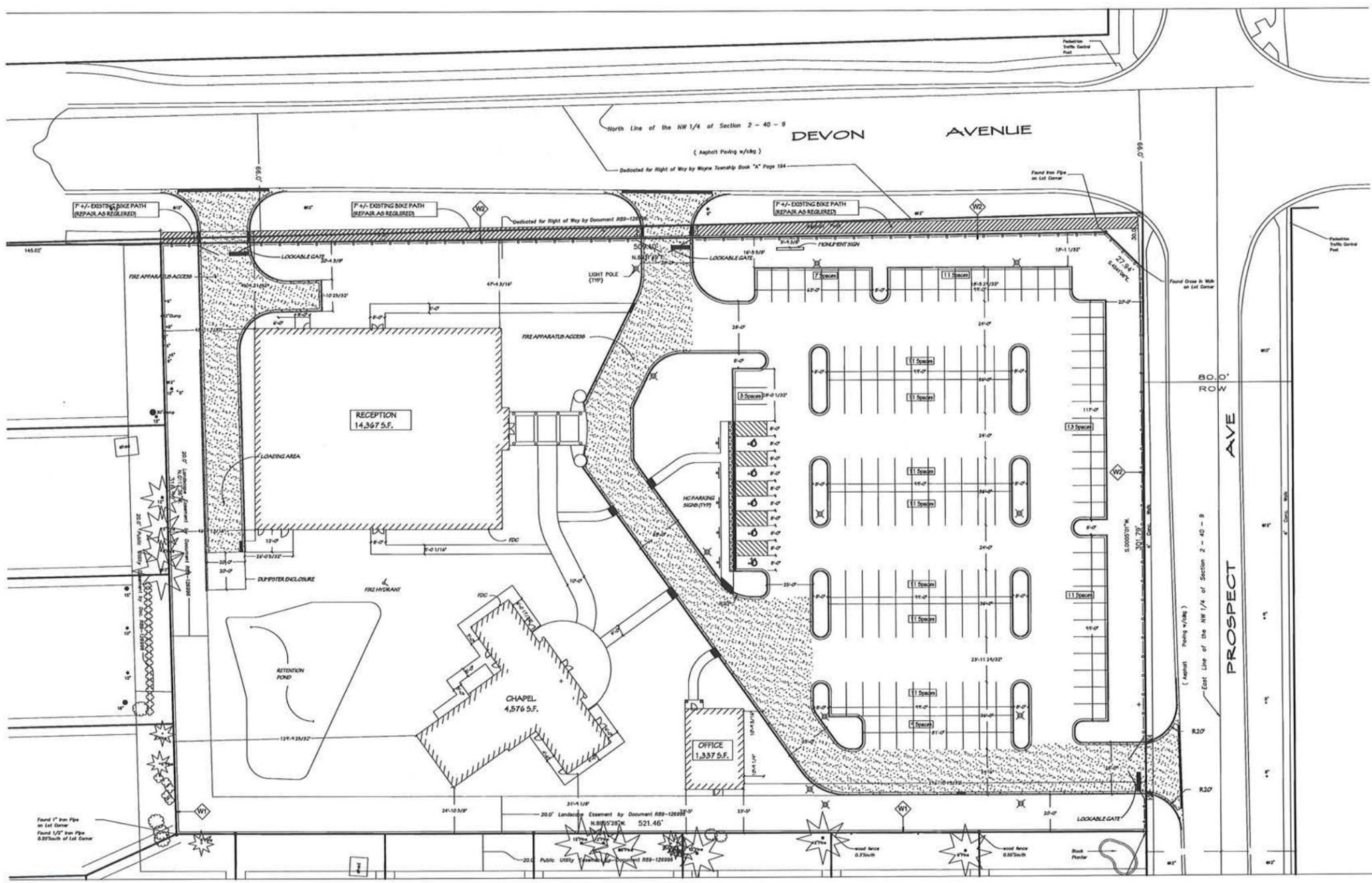
SIGNATURE: Brad Schreiber

DATE: 5.11.16

# Case #16-05

## Ashton Gardens





**GENERAL NOTES:**

- This drawing is based on survey by MM Surveying Co., Inc. (Design Firm No. 184-003233) titled "ALTA/ACSM Land Title Survey" dated March 07, 2012.
- Site Description: Lot 60 in Bartlett East Pointe Estates, a Planned Development in the Northwest 3/4 of Section 2, Township North, Range 9, East of the Third Principal Meridian, according to the plat recorded February 10, 1989 as document R89-126996 and Certificates of Correction recorded February 21, 1990 and May 30, 1990 as Document R90-22098 and R90-055461, respectively, in Dupage County, Illinois.
- Property PIN Number: 01-02-109-013-0000
- Total Land Area: 3.84 Acres
- Zoning Category: B-3 PUD Neighborhood Commercial  
Maximum Building Height per Ordinance - 25'

**PROJECT DATA:**  
Total Land Area: 3.84 Acres

**Building(s) Analysis:**

Building I - Reception Facility (Assembly Use):  
300 Seats

Building II - Chapel (Assembly Use):  
252 Seats

Building III - Administration Building (Business Use):  
1337 SF @ 1/100 SF = 13 Occupants

**Proposed Parking Provided:**  
136 spaces (6'x16') including 5 ADA Compliant spaces (6'x16' with 6' access)

**Required Parking:**  
Reception Facility - 1/4 seats = 300 x .3 = 90 Spaces PLUS 30 Employees x .30 = 99 Total  
Chapel - 1/4 seats = 252 x .25 = 63 Spaces (Not used in addition to the Reception Facility)  
Administration Building - 1/275 S.F. = 1337/275 = 5 Spaces  
TOTAL REQUIRED BY ORDINANCE = 99 + 5 = 104 Spaces

**Floor Areas:**  
Reception - 14,367 S.F.  
Chapel - 4,576 S.F.  
Office - 1,337 S.F.  
Total Building Gross Floor Areas: 20,280 S.F.

Floor Area to Land Area Ratio: 20,280 / 167,363 = 0.12

**SYMBOL LEGEND:**

**FENCING:**

- W1 8' High Solid Wood Fencing
- W2 4' High Decorative Metal Picket Fencing

**MISCELLANEOUS:**

- Site Light/Pole (Reference CIV Drawings)



DENNIS L. NORTON  
1121 Liberty Lane  
Bogart Georgia 30622  
PHONE: (678) 462-5253  
dnorton@nortonarchitect.com  
nortonarchitect.com  
Illinois Architectural License  
001.023227

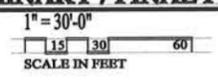
**PRELIMINARY / FINAL PUD PLAN**

Ashton Gardens - Chicago West  
Ashton Gardens - South Prospect Avenue  
Village of Bartlett, Dupage County, Illinois

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ASHTON GARDENS, LLC

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**PRELIMINARY / FINAL PUD PLAN**



RECEIVED  
COMMUNITY DEVELOPMENT  
JUL 01 2016

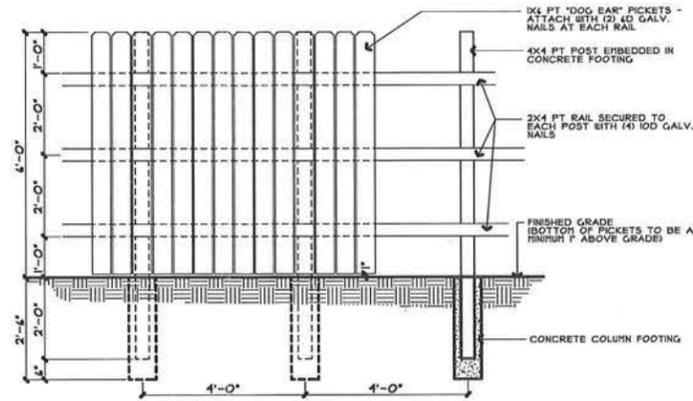
VILLAGE OF  
BARTLETT

DESCRIPTION	DATE
REVIEW	30 JUNE 2016



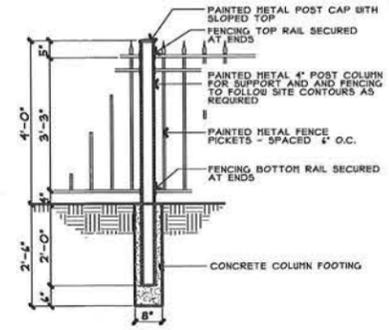
DENNIS L. NORTON  
 1121 Liberty Lane  
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 Georgia 30622  
 PHONE:  
 (678) 462-5253  
 dnorton@nortonarchitect.com  
 Illinois Architectural License  
 001.023227

E:\Dated\ADUG\Ashton Gardens - Bartlett\Site\



**WOOD FENCE/SCREEN ELEVATION/DETAIL**

1/2" = 1'-0"



**DECORATIVE FENCE DETAIL**

1/2" = 1'-0"

**PRELIMINARY / FINAL PUD PLAN**



Ashton Gardens - Chicago West  
 SW Corner Devon Avenue & South Prospect Avenue  
 Village of Bartlett, Dupage County, Illinois

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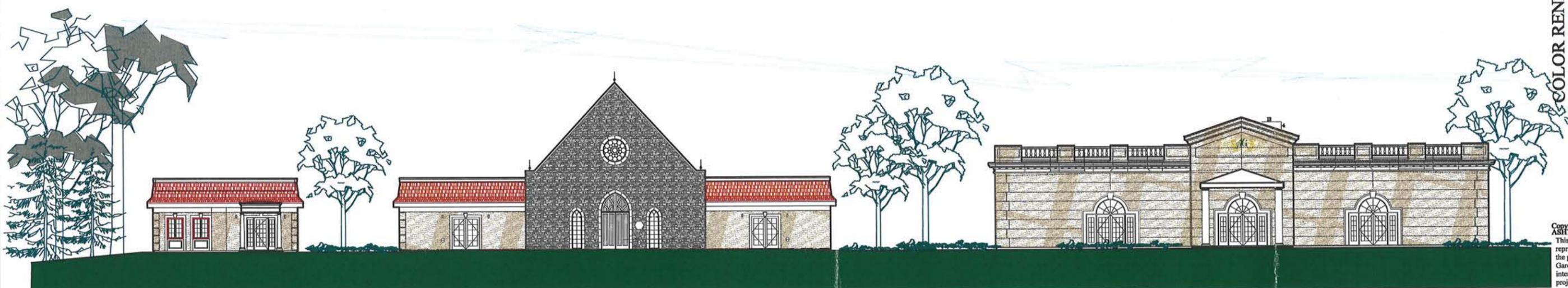
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DESCRIPTION	DATE
REVIEW	30 JUNE 2016



DENNIS L. NORTON  
 1121 Liberty Lane  
 Bogart Georgia 30622  
 PHONE:  
 (678) 462-5253  
 dnorton@nortonarchitect.com

E:\Data\2016\110116\Ashton Gardens - Bartlett\



OFFICE

CHAPEL

RECEPTION

COLOR RENDERING



Ashton Gardens  
 Ashton Gardens Village of Bartlett  
 Corner of Devon Ave. & South Prospect Ave.  
 Bartlett, DuPage County, Illinois

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# COLOR RENDERING OF BUILDING EXTERIORS

DESCRIPTION	DATE
REVIEW	10 MAY 2016

RECEIVED  
 COMMUNITY DEVELOPMENT

JUL 01 2016

VILLAGE OF  
 BARTLETT

1 OF 1  
 COLOR RENDERING



DENNIS L. NORTON  
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 Illinois Architectural License Number 01-023227

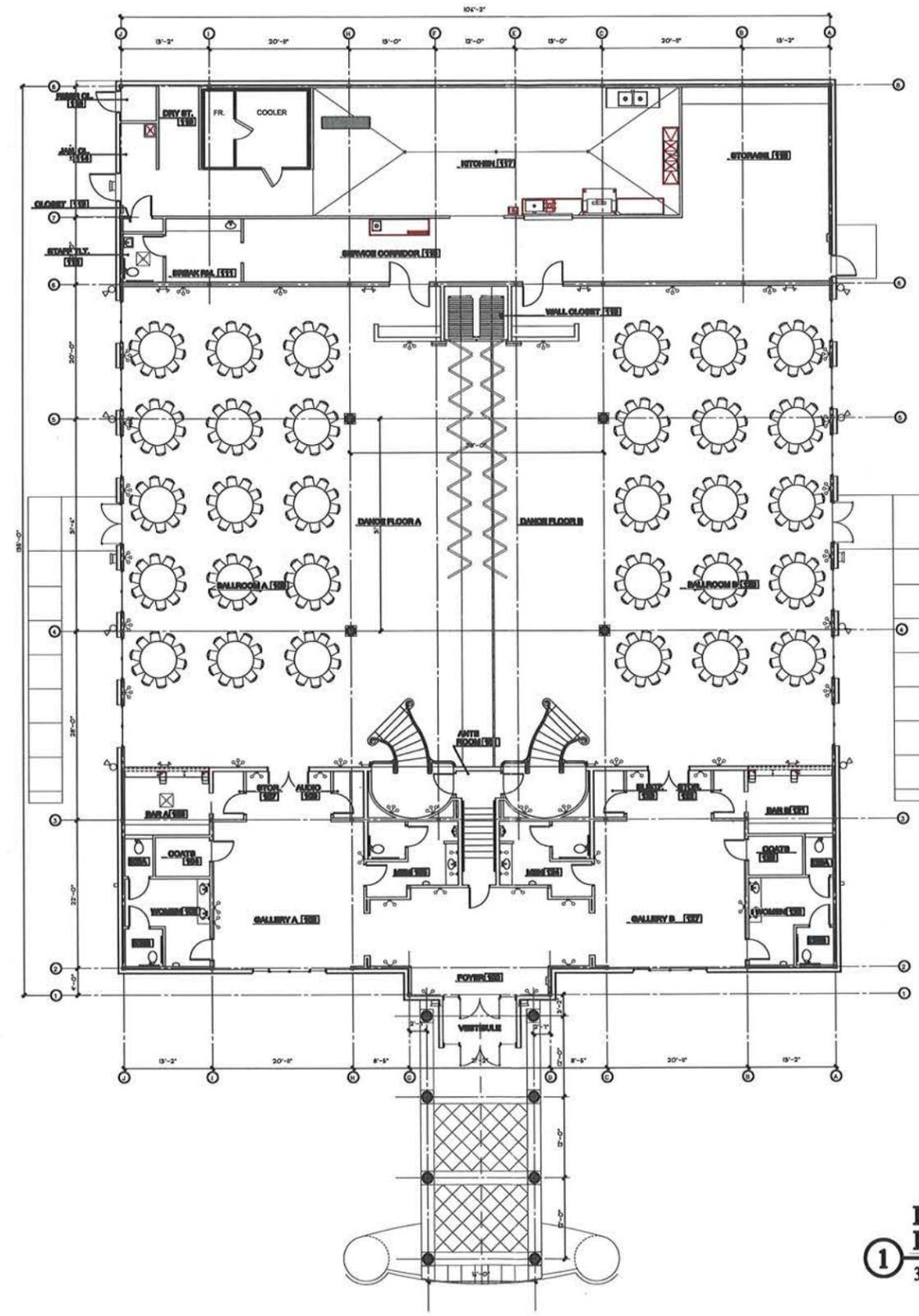
RECEIVED COMMUNITY DEVELOPMENT

JUL 01 2016

VILLAGE OF BARTLETT

RECEPTION FACILITY for

Ashton Gardens Village of Bartlett  
 Corner of Devon Ave. & South Prospect Ave.  
 Bartlett, DuPage County, Illinois



**CODE CRITERIA**

**GENERAL DESCRIPTION:**  
 OCCUPANCY USE: WEDDING RECEPTION FACILITY  
 OCCUPANCY CLASSIFICATION: ASSEMBLY A-2 W/ BUSINESS (B) ACCESSORY USE (KITCHEN)  
 CONSTRUCTION TYPE: TYPE II-B (STEEL FRAME)  
 SPRINKLER REQUIRED: YES  
 FIRE ALARM SYSTEM REQUIRED: YES

**HEIGHT & AREA LIMITATIONS:**  
 Actual Building Area: 14,367 S.F.  
 Actual Building Height: 21'-9"  
 Actual Number of Stories: 1  
 Permitted Building Area (IBC Table 503): 9500 x 3 = 28,500 S.F.  
 Permitted Building Height: 55'  
 Permitted Number of Stories: 2

NOTE: The allowable area is based on 200% increase due to the facility being fully sprinklered, per IBC 506.3.

**STRUCTURAL FIRE RESISTANCE:**  
 Construction Type: II-B  
 Structural Frame (IBC Table 601): 0 Hours  
 Bearing Walls Exterior / Interior: 0 Hours  
 Non-Bearing Exterior / Interior Walls: 0 Hours  
 Floor Construction: 0 Hours  
 Roof Construction: 0 Hours

**FIRE RESISTANCE RATED WALLS & SMOKE PARTITIONS:**  
 None, No Fire Walls, No Occupancy Separation/vertical openings, or exit enclosures provided for this project.

**RECEPTION OCCUPANCY LOADS (OCCUPIED SPACE ONLY)**

ROOM NO	ROOM NAME	S.F.	OCC/SF	TOTAL OCC.	EXIT WIDTH
<b>GROUP A-2 ASSEMBLY USE OCCUPANCY (based on NET Floor Area)</b>					
.15/OCC					
115	BALLROOM A	2637	1/15	175.8	26.37"
116	DANCE FLOOR A	951	1/15	63.4	9.51"
117	DANCE FLOOR B	951	1/15	63.4	9.51"
118	BALLROOM B	2637	1/15	175.8	26.37"
<b>A-2 MAXIMUM OCCUPANCY LOAD</b>				478.4	71.76" TOTAL
<b>GROUP B BUSINESS USE OCCUPANCY (based on GROSS Floor Area)</b>					
.20/OCC					
112	STORAGE	84	1/300	0.3	0.06"
113	BAR B	141	1/100	1.4	0.28"
114	BAR A	141	1/100	1.4	0.28"
120	SERVICE CORRIDOR	920	1/100	9.2	1.84"
122	DRY STORAGE	85	1/300	0.3	0.06"
123	JANITOR CLOSET	62	1/300	0.2	0.04"
124	COOLER / FREEZER	336	1/300	1.1	0.22"
125	KITCHEN	1331	1/100	13.3	2.66"
127	BREAK ROOM	221	1/100	2.2	0.44"
128	STORAGE	653	1/300	2.8	0.56"
<b>B MAXIMUM OCCUPANCY LOAD</b>				32.5	6.50"
<b>MAXIMUM OCCUPANCY LOAD</b>				511	78.26"

**RECEPTION SEATING CAPACITY**

ROOM NO	ROOM NAME	NUMBER TABLES	SEATS PER TABLE	TOTAL SEATS
109	BALLROOM A	15	10	150
120	BALLROOM B	15	10	150
<b>TOTAL</b>		30	10	300

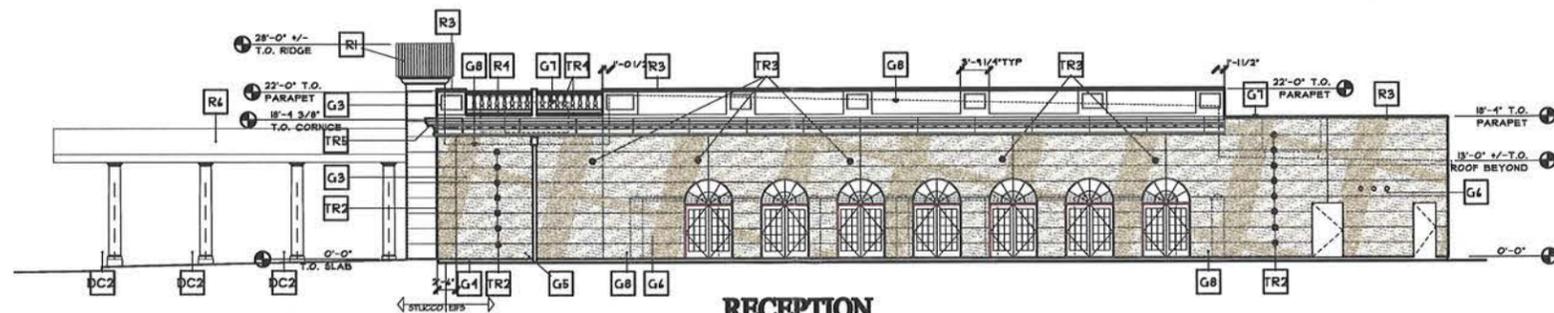
**APPLICABLE CODES:**  
 ICC 2012 International Building Code w/ Amendments  
 ICC 2012 International Residential Code w/ Amendments  
 ICC 2012 International Fire Code w/ Amendments  
 ICC 2012 International Mechanical Code w/ Amendments  
 ICC 2012 International Fuel Gas Code w/ Amendments  
 NEC 2011 National Electric Code w/ Amendments  
 Illinois State Plumbing Code, 2014 or latest edition w/ Amendments  
 The International Property Maintenance Code, 2012 edition (the "IPMC") w/ Amendments  
 Illinois Energy Conservation Code, latest edition (the State Energy Conservation Code "SECC") or ANSI/ASHRAE/IES Standard 90.1-2010 w/ Amendments  
 Village of Bartlett Zoning Code (Current Edition)  
 DuPage County Countywide Stormwater Floodplain Ordinance, 2013

**RECEPTION FLOOR PLAN**  
 3/32" = 1'-0"  
 NORTH →

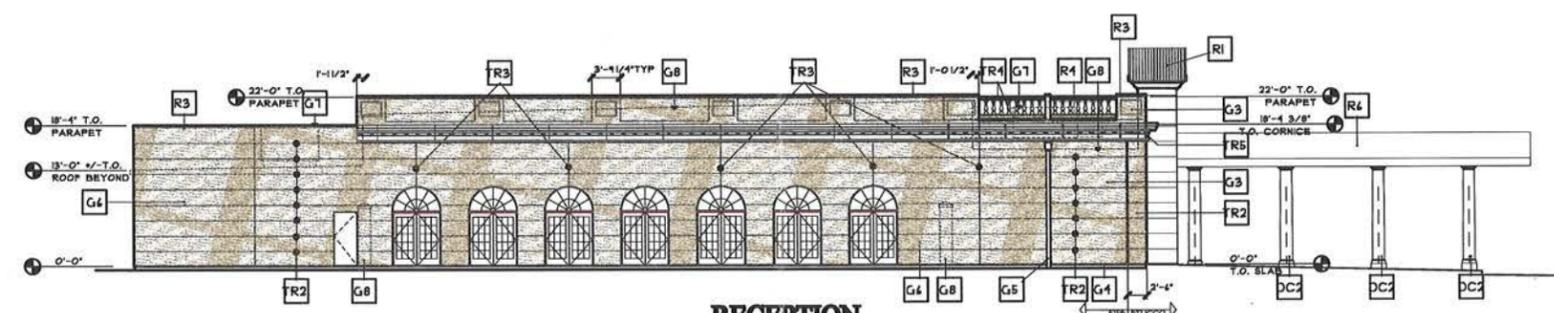
DESCRIPTION	DATE
REVIEW	10 MAY 2016

**A-1**  
 RECEPTION FLOOR PLAN

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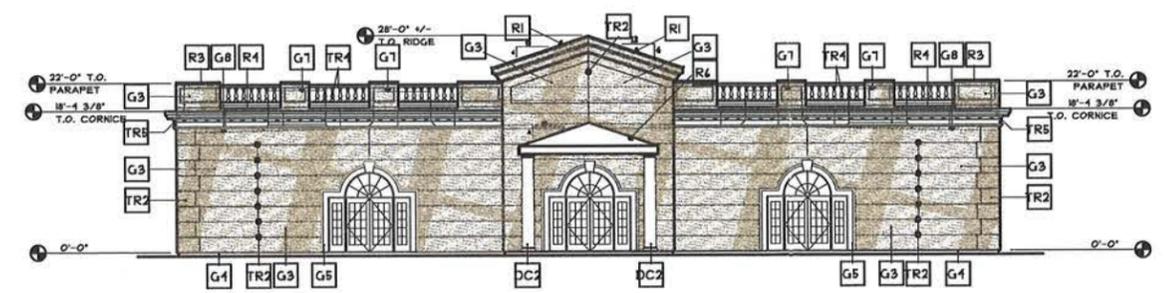
**RECEPTION NORTH ELEVATION**  
 4  
 3/32" = 1'-0"



**RECEPTION SOUTH ELEVATION**  
 3  
 3/32" = 1'-0"



**RECEPTION WEST ELEVATION**  
 2  
 3/32" = 1'-0"



**RECEPTION EAST ELEVATION**  
 1  
 3/32" = 1'-0"

- G GENERAL ITEMS**
- G1 DOOR / FRAME - TO MATCH EIFS/STUCCO COLOR
  - G2 CLAD WINDOW AND GLAZING SYSTEM - WHITE
  - G3 STUCCO VENEER: 3/4" 3-PART STUCCO OVER METAL LATH OVER 30# FELT - ALL JOINTS/HOLDINGS SHALL BE PVC - OFF WHITE
  - G4 CONCRETE FOUNDATION: PAINT EXPOSED SURFACES TO MATCH STUCCO COLOR
  - G5 STUCCO SURROUND - WHITE
  - G6 1-1/2" EIFS CLASS PB DRAINABLE SYSTEM (PAREX WATERMASTER) - OFF WHITE
  - G7 LINE OF ROOF TOP UNIT BEYOND
  - G8 LINE OF ROOF BEYOND
  - G9 STAINLESS WATER HEATER VENTS
  - G10 "HARDPLANK" SIDING OVER BUILDING WRAP-WHITE
  - G11 STEEL LADDER w/ LOCKABLE SECURITY CAGE - DARK BRONZE COLOR
- DC DECORATIVE COLUMN**
- DC1 12" DIA CAST STONE COLUMN - CORBELSTONE - SAND COLOR
- R ROOFING**
- R1 STANDING SEAM METAL: .040" ALUMINUM WITH KYNAR 500 FINISH (GEORGETOWN GRAY) - ENGLERT A100/A101 SERIES 1" TALL X 12" WITH FLASH TYPE "A" - INSTALL OVER 30# FELT.
  - R2 SINGLE PLY ROOFING: ULTRA-PLY TPO (20 YR. WARRANTY) SINGLE PLY MEMBRANE - WHITE.
  - R3 COPING: PREFINISHED METAL COPING TO MATCH SHINGLE COLOR
  - R4 METAL EAVE TRIM: 24 GA PERFINISHED TO MATCH SHINGLE COLOR
  - R5 METAL GUTTER AND DOWNSPOUT: PREFINISHED WHITE ALUMINUM 24 GAUGE
  - R6 CUSTOM CANOPY FRAME/COVER - HARY GROVE AWBINGS COVER: VINYL-COATED POLYESTER, FERRARI 502, COLOR SANDY BEIGE #502-0235 FRAME: 1" X 1" ALUMINUM TUBING, MILL FINISH. ALL FASTENERS AND BRACKETS SHALL BE ALUMINUM.
  - R7 METAL LEADER BOX AND DOWNSPOUT (TIE TO STORM SEWER) - WHITE
- TRIM / MISC.**
- TR1 STUCCO BASE TRIM (PVC - DRAINABLE) VINYL CORP R56458-15 - WHITE
  - TR2 EIFS QUINS (3/4" THICK) - WHITE
  - TR3 CONTROL JOINT: 3/16" V REVEAL - VINYL CORP CJV14 WITH REMOVABLE TAPE
  - TR4 PVC RAILING/BALUSTER SYSTEM (MELTON CLASSICS) - WHITE
  - TR5 FRP CORNICE ASSEMBLY (MELTON CLASSICS TC-4) - WHITE



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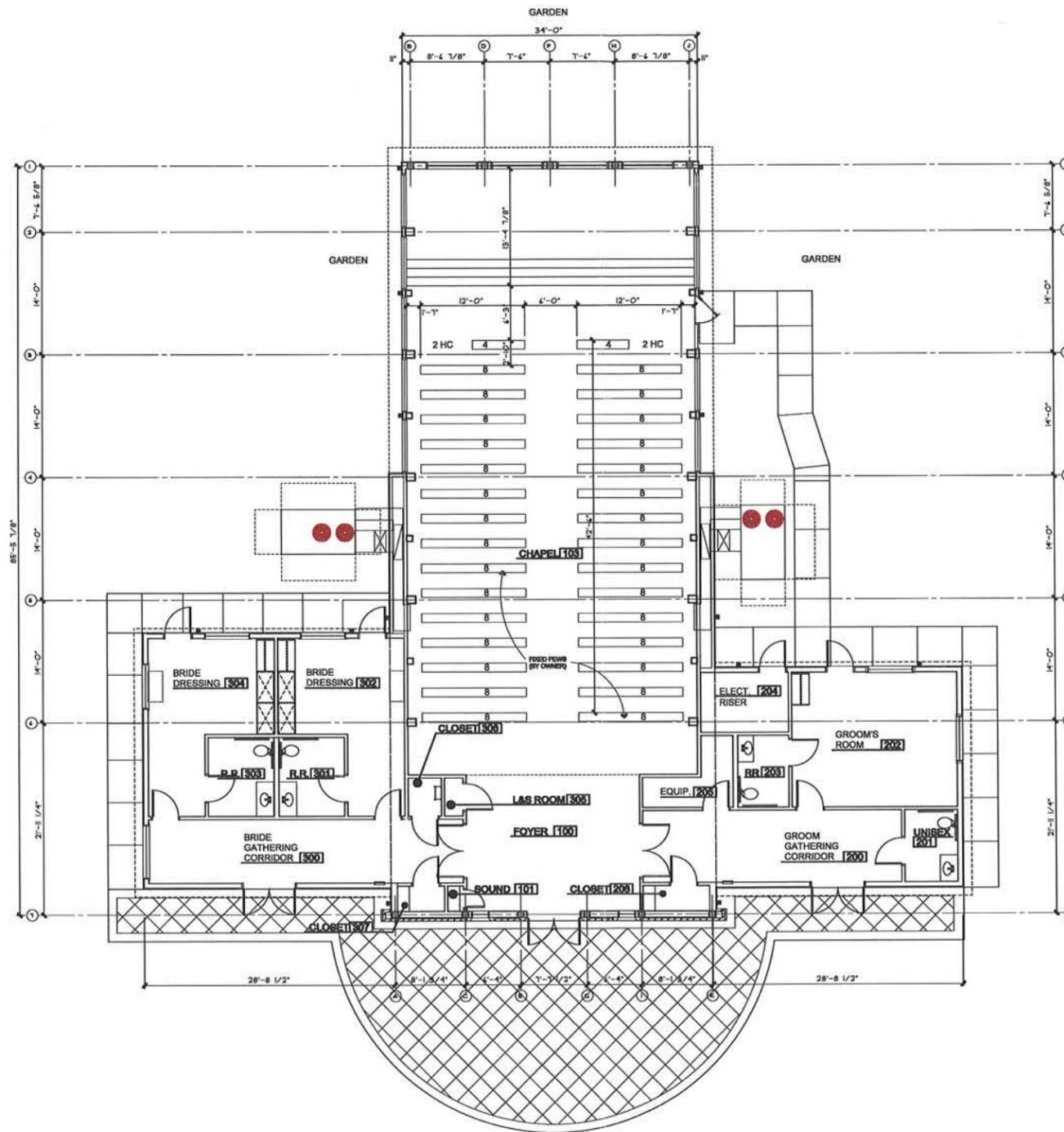
RECEPTION FACILITY for



Ashton Gardens Village of Bartlett  
 Corner of Devon Ave. & South Prospect Ave.  
 Bartlett, DuPage County, Illinois

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DESCRIPTION	DATE
REVIEW	10 MAY 2016



**1 CHAPEL FLOOR PLAN**  
 1/8" = 1'-0"  
 NORTH →

**CODE CRITERIA**

**GENERAL DESCRIPTION:**

OCCUPANCY USE: WEDDING FACILITY  
 OCCUPANCY CLASSIFICATION: ASSEMBLY A-3 W/ BUSINESS (B) ACCESSORY USE (DRESSING AREAS)  
 CONSTRUCTION TYPE: TYPE II-B (STEEL & TIMBER FRAME)  
 SPRINKLER REQUIRED: YES PER VILLAGE OF BARTLETT ZONING  
 FIRE ALARM SYSTEM REQUIRED: YES (Per Bartlett Ordinance)

**HEIGHT & AREA LIMITATIONS:**

Actual Building Area: 4,576 S.F.  
 Actual Building Height: 35'-3 1/2"  
 Building Height (to Average Roof Height): 24'-8"  
 Actual Number of Stories: 1

Permitted Building Area (IBC Table 503): 9,500 S.F.  
 Permitted Building Height: 55'  
 Permitted Number of Stories: 2

**STRUCTURAL FIRE RESISTANCE:**

Construction Type: II-B  
 Structural Frame (IBC Table 601): 0 Hours  
 Bearing Walls Exterior / Interior: 0 Hours  
 Non-Bearing Exterior / Interior Walls: 0 Hours  
 Floor Construction: 0 Hours  
 Roof Construction: 0 Hours

**FIRE RESISTANCE RATED WALLS & SMOKE PARTITIONS:**

None, No Fire Walls, No Occupancy Separation/vertical openings, or exit enclosures provided for this project.

**OCCUPANCY LOADS (OCCUPIED SPACE ONLY)**

ROOM NO	ROOM NAME	S.F.	OCC/SF	TOTAL OCC.	EXIT WIDTH
<b>GROUP A-3 ASSEMBLY USE OCCUPANCY (based on NET Floor Area)</b>					
100	FOYER	403	N/A	N/A	.16"/OCC
103	CHAPEL	2058	1/18"	244	38.6"
<b>A-3 MAXIMUM OCCUPANCY LOAD</b>					
<b>GROUP B BUSINESS USE OCCUPANCY (based on GROSS Floor Area)</b>					
<b>202</b>					
202	GROOMS ROOM	290	1/100	2.9	0.58"
302	BRIDE DRESSING	213	1/100	2.1	0.42"
304	BRIDE DRESSING	211	1/300	2.1	0.42"
<b>B MAXIMUM OCCUPANCY LOAD</b>					
<b>8</b>					
<b>1.42"</b>					
<b>MAXIMUM OCCUPANCY LOAD</b>					
<b>262</b>					
<b>38.0"</b>					

**CHAPEL SEATING CAPACITY**

ROOM NO	ROOM NAME	PEW LENGTH	18" PER SEAT	TOTAL SEATS
103	CHAPEL PEW SEATING	240 FT.	8	248
103	WHEELCHAIR SPACES	-	-	4
<b>TOTAL</b>				<b>252</b>

**APPLICABLE CODES:**

ICC 2012 International Building Code w/ Amendments  
 ICC 2012 International Residential Code w/ Amendments  
 ICC 2012 International Fire Code w/ Amendments  
 ICC 2012 International Mechanical Code w/ Amendments  
 ICC 2012 International Fuel Gas Code w/ Amendments  
 NEC 2011 National Electric Code w/ Amendments  
 Illinois State Plumbing Code, 2014 or latest edition w/ Amendments  
 The International Property Maintenance Code, 2012 edition (the "IPMC") w/ Amendments  
 Illinois Energy Conservation Code, latest edition (the "IECC") or  
 ANSI/APA/EPA/ES Standard 90.1-2010 w/ Amendments  
 Village of Bartlett Zoning Code (Current Edition)  
 DuPage County Countywide Stormwater Floodplain Ordinance, 2013



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CHAPEL for



Ashton Gardens Village of Bartlett  
 Corner of Devon Ave. & South Prospect Ave.  
 Bartlett, DuPage County, Illinois

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DESCRIPTION	DATE
REVIEW	10 MAY 2016

**A-3**  
 CHAPEL  
 FLOOR PLAN

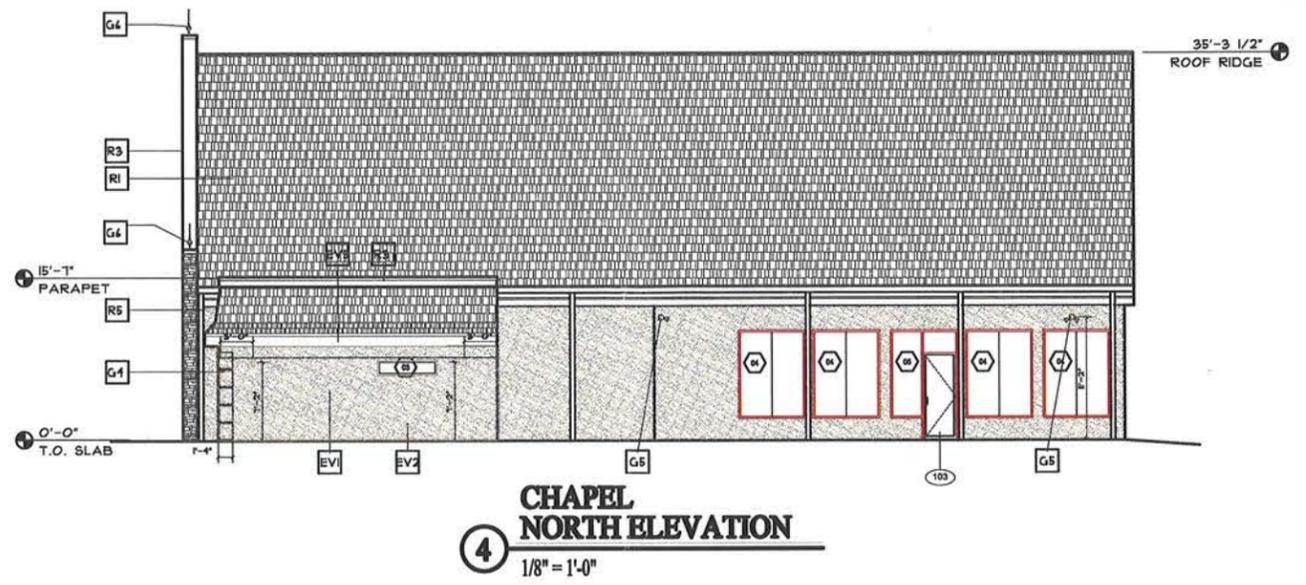


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CHAPEL for  
 Ashton Gardens  
 Ashton Gardens Village of Bartlett  
 Corner of Devon Ave. & South Prospect Ave.  
 Bartlett, DuPage County, Illinois

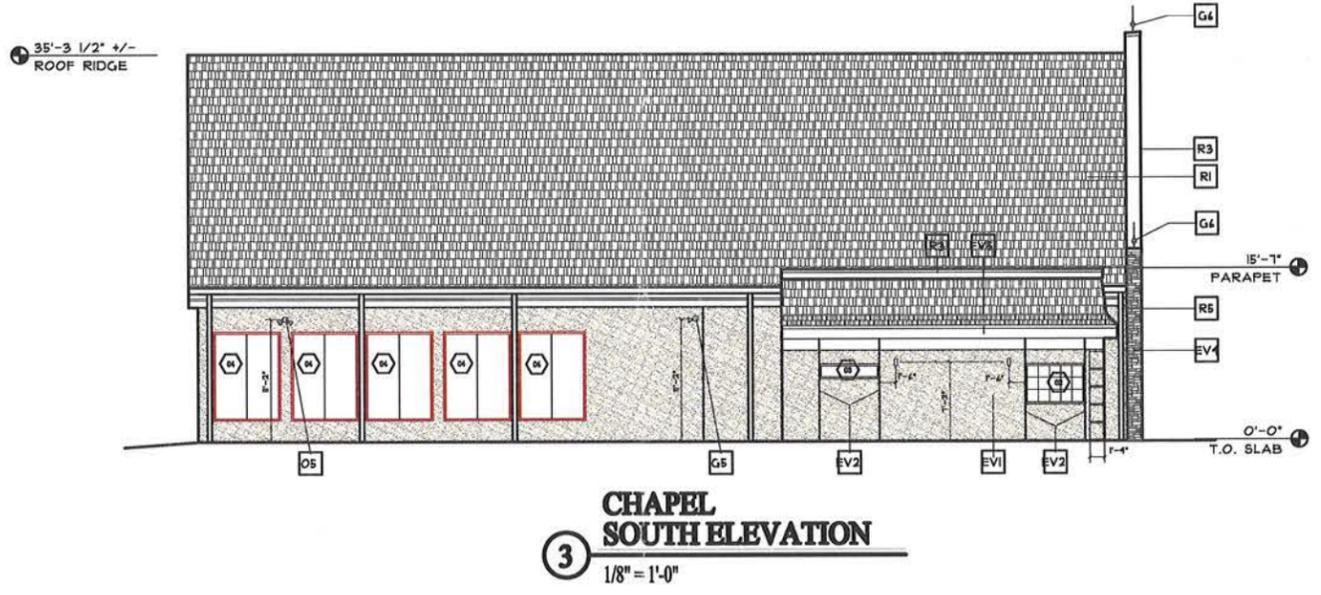
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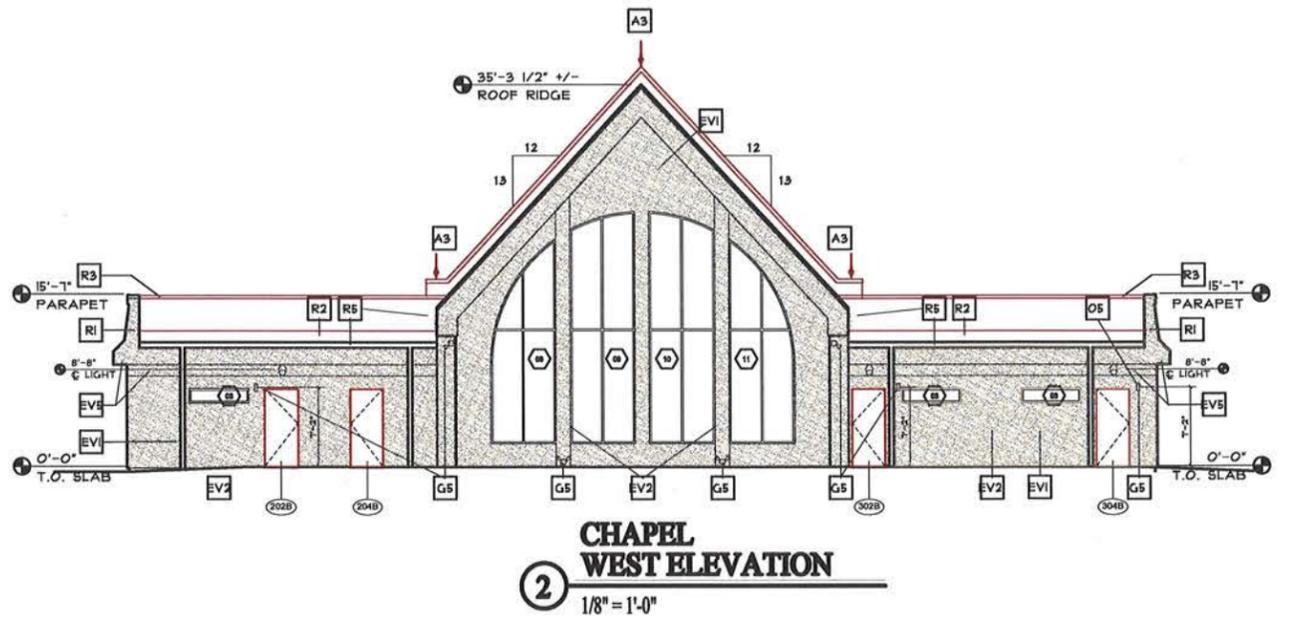


**4**  
**CHAPEL NORTH ELEVATION**  
 1/8" = 1'-0"

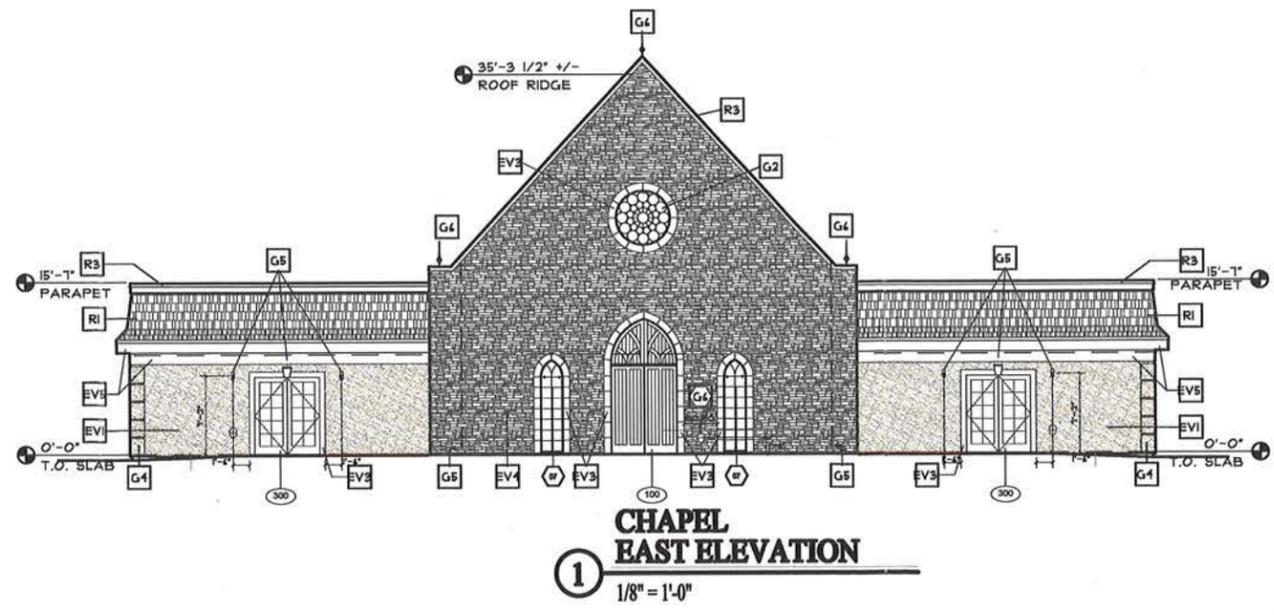
- G GENERAL ITEMS**
- G4 DOOR / FRAME (TO MATCH EIFS/STUCCO COLOR)
  - G4 CLAD WINDOW - WHITE
  - G4 CONCRETE FOUNDATION; PAINT EXPOSED SURFACES TO MATCH STUCCO COLOR
  - G4 EIFS QUOINS: WHITE
  - G4 LIGHT FIXTURE
  - G4 COPPER FINIAL
- R ROOFING**
- R1 ARCHITECTURAL SHINGLES (CLASS A) OVER 30# FELT; CERTAINTED "INDEPENDENCE" GEORGETOWN GRAY
  - R2 SINGLE PLY ROOFING: ULTRA-PLY TPO (20 YR. WARRANTY) SINGLE PLY MEMBRANE - WHITE.
  - R3 COPING: PREFINISHED METAL COPING TO MATCH SHINGLE COLOR
  - R4 METAL TRIM: 24 GA. PREFINISHED TO MATCH SHINGLE COLOR
  - R5 METAL GUTTER AND DOWNSPOUT: PREFINISHED WHITE ALUMINUM 24 GAUGE
- EV - EXTERIOR VENEER**
- EV1 EIFS CLASS PB SYSTEM WITH WATER DRAINAGE COMPONENTS (PAREX OPTIMUM WATERMASTER) - OFF WHITE
  - EV2 CONTROL JOINT: 3/16" 'V' REVEAL - VINYL CORP CJV14 WITH REMOVABLE TAPE
  - EV3 8" WIDE EIFS SURROUND - WHITE
  - EV4 TEXAS WHITE LIMESTONE
  - EV5 EIFS TRIM - WHITE



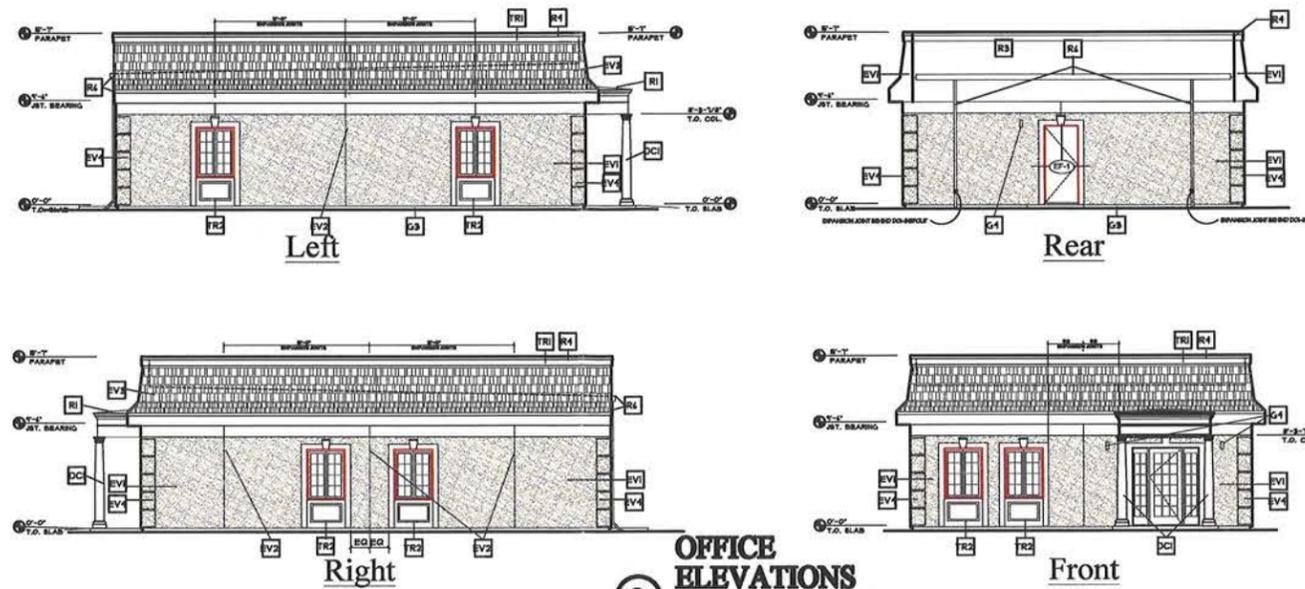
**3**  
**CHAPEL SOUTH ELEVATION**  
 1/8" = 1'-0"



**2**  
**CHAPEL WEST ELEVATION**  
 1/8" = 1'-0"



**1**  
**CHAPEL EAST ELEVATION**  
 1/8" = 1'-0"



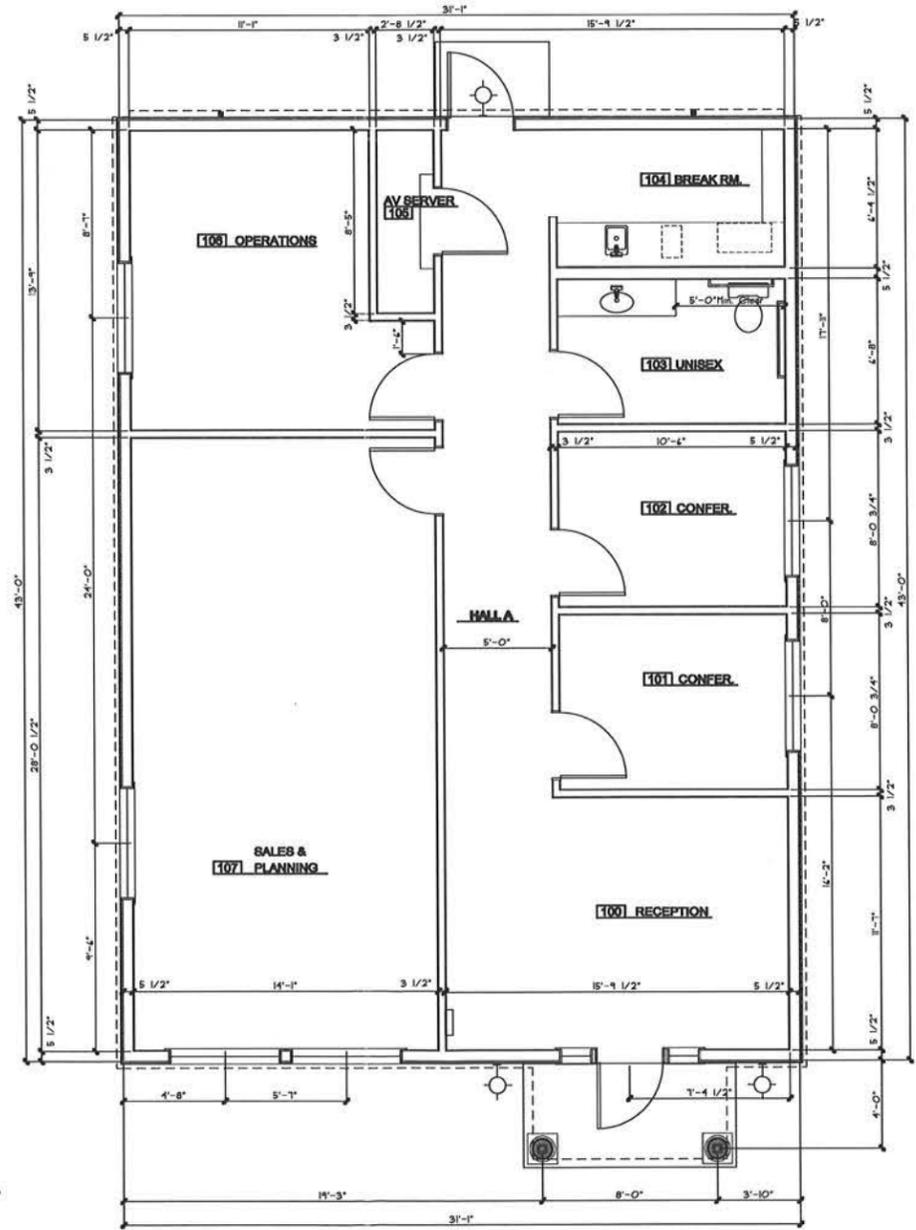
**2**  
OFFICE ELEVATIONS  
1/8" = 1'-0"

- G GENERAL ITEMS**
- G1 DOOR /FRAME - TO MATCH EIFS COLOR
  - G2 CLAD WINDOW AND GLAZING SYSTEM - WHITE
  - G3 CONCRETE FOUNDATION: PAINT EXPOSED SURFACES TO MATCH STUCCO COLOR
  - G4 LIGHT FIXTURE
- DC DECORATIVE COLUMN**
- DC 10" DIA CAST STONE TAPERED COLUMN (CORBLESTONE - SAND COLOR)
- R ROOFING**
- R1 STANDING SEAM METAL .040" ALUMINUM WITH KYNAR 500 FINISH (SILHOUETTE GRAY) - ENGLERT A1300/A1301 SERIES 1" TALL X 12" WITH FLASH TYPE "A" - INSTALL OVER 30# FELT.
  - R2 ARCHITECTURAL SHINGLES OVER 30# FELT, CERTAINTED "INDEPENDENT" GEORGETOWN GRAY
  - R3 SINGLE PLY ROOFING: ULTRA-PLY TPO (20 YR. WARRANTY) SINGLE PLY REHBRANE - WHITE.
  - R4 COPING: PREFINISHED METAL COPING TO MATCH SHINGLE COLOR
  - R5 METAL TRIM: 24 GA. PREFINISHED TO MATCH SHINGLE COLOR
  - R6 METAL GUTTER AND DOWNSPOUT: PREFINISHED WHITE ALUMINUM 24 GAUGE
- EV - EXTERIOR VENEER**
- EV1 EIFS CLASS PB SYSTEM (PAREX WATERMASTER/OVER BUILDING WRAP - OFF WHITE - ALL JOINTS/HOLDINGS SHALL BE PVC
  - EV2 EIFS CONTROL/EXPANSION JOINT
  - EV3 EIFS TRIM W/ KEYSTONE - WHITE
  - EV4 EIFS QUON - WHITE
- TR TRIM**
- TR 1/8" CEMENTITIOUS BOAD - WHITE
  - TR2 WINDOW PANEL: EIFS - WHITE



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E:\Dashed\DWG\Ashton Gardens - Bartlett\



**APPLICABLE CODES :**

- ICC 2012 International Building Code w/ Amendments
- ICC 2012 International Residential Code w/ Amendments
- ICC 2012 International Fire Code w/ Amendments
- ICC 2012 International Mechanical Code w/ Amendments
- ICC 2012 International Fuel Gas Code w/ Amendments
- NEC 2011 National Electric Code w/ Amendments
- Illinois State Plumbing Code, 2014 or latest edition w/ Amendments
- The International Property Maintenance Code, 2012 edition (the "IPMC") w/ Amendments
- Illinois Energy Conservation Code, latest edition (the State Energy Conservation Code, "ECCC") or ANSI/ASHRAE/IES Standard 90.1-2010 w/ Amendments
- Village of Bartlett Zoning Code (Current Edition)
- DuPage County Countywide Stormwater Floodplain Ordinance, 2013

**1**  
OFFICE FLOOR PLAN  
1/4" = 1'-0"

**CODE CRITERIA**

**GENERAL DESCRIPTION:**

OCCUPANCY USE: GENERAL OFFICE  
OCCUPANCY CLASSIFICATION: BUSINESS (B)  
CONSTRUCTION TYPE: TYPE V-B (WOOD FRAME)  
SPRINKLER REQUIRED: NO PER IBC TABLE 503  
FIRE ALARM SYSTEM REQUIRED: NO

**HEIGHT & AREA LIMITATIONS:**

Actual Building Area: 1,337 S.F. (GROSS)  
Actual Building Height: 15'-7"  
Actual Number of Stories: 1

Permitted Building Area (IBC Table 503): 9,000 S.F.  
Permitted Building Height: 40'  
Permitted Number of Stories: 2

**STRUCTURAL FIRE RESISTANCE:**

Construction Type: V-B  
Structural Frame (IBC Table 601): 0 Hours  
Bearing Walls Exterior / Interior: 0 Hours  
Non-Bearing Exterior / Interior Walls: 0 Hours  
Floor Construction: 0 Hours  
Roof Construction: 0 Hours

**FIRE RESISTANCE RATED WALLS & SMOKE PARTITIONS:**

None, No Fire Walls, No Occupancy Separation/vertical openings, or exit enclosures provided for this project.

**OFFICE OCCUPANCY LOADS**

ROOM NO	ROOM NAME	S.F.	OCC/SF	TOTAL OCC.	NOTES
100	RECEPTION	124	100	1.2	-
101	CONFERENCE	83	100	.8	-
102	CONFERENCE	83	100	.8	-
103	AV SERVER	-	-	-	NON-OCCUPIED SPACE
104	BREAK ROOM	65	100	.7	-
105	UNSEX TOILET ROOM	-	-	-	NON-OCCUPIED SPACE
106	OPERATIONS	165	100	1.7	-
107	SALES & PLANNING	361	100	3.6	-
<b>TOTAL</b>				<b>8.8</b>	

Number of Exits Required (LSC 38.2.4.3): 1  
Actual Provided: 2

Maximum Travel Distance Allowed (LSC 38.2.6.2): 200'  
Actual Provided: 70'-6"

Maximum Common Path (LSC 38.2.5.3.2): 100'  
Actual Provided: 0'

Maximum Dead End (LSC 38.2.5.2.2): 20'

Minimum Separation of Exits Required (LSC 7.5.4.2):  
Diagonal x 1/2 Maximum Diagonal (88'-9" x 1/2 = 44'-5")  
Actual Each Ballroom Provided: 66'-10"

Panic Hardware Required: Not Required

INTERIOR FINISHES (Shall comply w/ LSC Chapt. 8) Class A, B, or C.

OFFICE for



Ashton Gardens  
Ashton Gardens Village of Bartlett  
Corner of Devon Ave. & South Prospect Ave.  
Bartlett, DuPage County, Illinois

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DESCRIPTION	DATE
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**ASHTON GARDENS**  
SW Corner of Devon Avenue & South  
Prospect Avenue  
Village of Bartlett, DuPage County Illinois

Reserved for Seal:

Expiration Date:

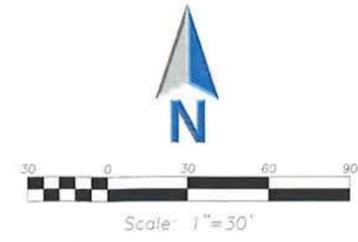
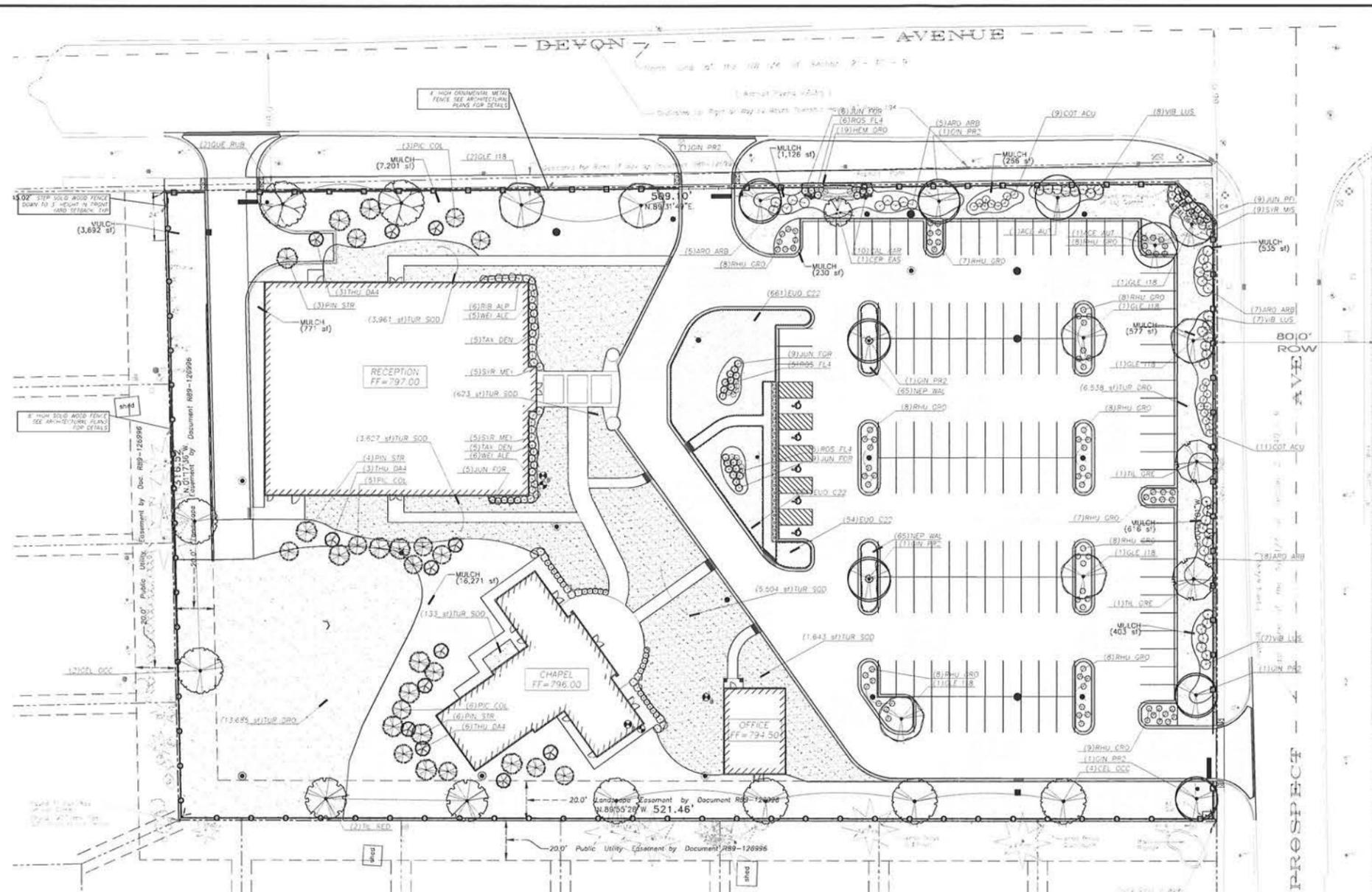
No.	Date	Description
05/15/16		Development Review Submittal
06/29/16		Development Review Submittal

Design By: SSG Date: 04/19/16  
Approved By: XXX Project No.: 0000.00

Sheet Title:

**LANDSCAPE  
PLAN**

Sheet No.: **L100**



**LANDSCAPE NOTES**

1. PLANT QUALITIES SHOWN IN THE PLANT SCHEDULE ARE FOR CONVENIENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIALS SHOWN ON THE PLAN AND SHOULD NOT RELY ON THE PLANT SCHEDULE FOR DETERMINING QUALITIES.
2. ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE FROM ANY DEFORMITIES, DISEASES OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR CROOKED/DISTORTED LEADERS, BARK ABRASION, SUNSCALD, INSECT DAMAGE, ETC ARE NOT ACCEPTABLE AND WILL BE REJECTED. TREES WITH MULTIPLE LEADERS WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT SCHEDULE AS MULTI-STEM.
3. ALL LANDSCAPE IMPROVEMENTS SHALL MEET MUNICIPALITY REQUIREMENTS AND GUIDELINES, WHICH SHALL BE VERIFIED BY MUNICIPAL AUTHORITIES.
4. ALL PLANTING OPERATIONS SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICES. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, PROPER PLANTING BED AND TREE PIT PREPARATION, PLANTING MIX, PRUNING, STAKING AND CURVING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE OF MATERIALS DURING CONSTRUCTION ACTIVITIES.
5. ALL PLANT MATERIALS SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. ANY MATERIALS INSTALLED WITHOUT APPROVAL MAY BE REJECTED.
6. THE CONTRACTOR SHALL GUARANTEE PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. THE CONTRACTOR SHALL OBTAIN PROPER MAINTENANCE PROCEDURES TO THE OWNER AT THE TIME OF ACCEPTANCE. DURING THE GUARANTEE PERIOD, DEAD OR DISEASED MATERIALS SHALL BE REPLACED AT NO COST TO THE OWNER. AT THE END OF THE GUARANTEE PERIOD THE CONTRACTOR SHALL OBTAIN FINAL ACCEPTANCE FROM THE OWNER.
7. ANY EXISTING TREES TO BE RETAINED SHALL BE PROTECTED FROM SOIL COMPACTION AND OTHER DAMAGES THAT MAY OCCUR DURING CONSTRUCTION ACTIVITIES BY ERECTING FENCING AROUND SUCH MATERIALS AT A DISTANCE OF 8'-0" FROM THE TRUNK.
8. ALL GRASS, CLUMPS, OTHER VEGETATION, DEBRIS, STONES, ETC. SHALL BE RAKED OR OTHERWISE REMOVED FROM PLANTING AND LAWN AREAS PRIOR TO INITIATION OF INSTALLATION PROCEDURES.
9. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INITIATING PLANTING OPERATIONS. THE CONTRACTOR SHALL REPAIR/REPLACE AND UTILITY, PAVING, CURBING, ETC. WHICH IS DAMAGED DURING PLANTING OPERATIONS.
10. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST EDITION OF ANSI Z60.1, AMERICAN STANDARDS FOR NURSERY STOCK, BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
11. REFER TO PLAT OF SURVEY FOR LEGAL DESCRIPTION, BOUNDARY DIMENSIONS AND EXISTING CONDITIONS.
12. ALL PLANT MATERIAL ON THIS PLANTING PLAN REPRESENTS THE INTENTION AND INTENSITY OF THE PROPOSED LANDSCAPE MATERIAL. THE EXACT SPECIES AND LOCATIONS MAY VARY IN THE FIELD DO TO MODIFICATIONS IN THE SITE IMPROVEMENTS AND THE AVAILABILITY OF PLANT MATERIAL AT THE TIME OF INSTALLATION. ANY SUCH CHANGES MUST FIRST BE APPROVED BY THE VILLAGE IN WRITING.
13. ALL PLANT MATERIAL SHALL BE PLANTED WITH A MINIMUM OF SIX INCHES OF ORGANIC SOIL AND MULCHED WITH A SHREDDED BARK MATERIAL TO A MINIMUM 3" DEPTH.
14. ALL BEDS SHALL BE EDGED, HAVE WEED PREEMERGENTS APPLIED AT THE RECOMMENDED RATE.
15. ALL PARKWAYS AND PARKING LOT ISLANDS SHALL HAVE LAWN ESTABLISHED WITH SEED AS A GROUND COVER UNLESS OTHERWISE NOTED.
16. ALL LAWN AREAS ON THIS PLAN SHALL BE GRADED SMOOTH AND TOPPED WITH AT LEAST 4" OF TOPSOIL. ALL LAWN AREAS TO BE ESTABLISHED USING SEED BLANKET UNLESS OTHERWISE NOTED. BLANKET TO BE STS OR APPROVED EQUAL.
17. THIS LANDSCAPE PLAN ASSUMES THE SITE WILL BE PREPARED WITH TOP SOIL SUITABLE FOR THE ESTABLISHMENT OF THE LANDSCAPE MATERIAL PRESENTED ON THIS PLAN. IF ADDITIONAL TOP SOIL IS REQUIRED IT IS UP TO THE LANDSCAPE CONTRACTOR ON THE PROJECT TO PROVIDE, SPREAD AND PREPARE THE SITE AS NEEDED FOR THE IMPLEMENTATION OF THIS LANDSCAPE PLAN.
18. CONTRACTORS MUST VERIFY ALL QUANTITIES AND OBTAIN ALL PROPER PERMITS AND LICENSES FROM THE PROPER AUTHORITIES.
19. ALL MATERIAL MUST MEET INDUSTRY STANDARDS AND THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REFUSE ANY POOR MATERIAL OR WORKMANSHIP.
20. LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR UNSEEN SITE CONDITIONS.
21. ALL PLANTINGS SHALL BE SPACED EQUAL DISTANT, BACK FILLED WITH AMENDED SOIL IN A HOLE TWICE THE ROOTBALL DIAMETER, WATERED, FERTILIZED, PRUNED, AND HAVE ALL TAGS AND ROPES REMOVED.
22. TREES SHALL BE STAKED AND GUYED, AND HAVE A WATERING SAUCER AT BASE.
23. ALL BEDS TO BE RAISED 2" ABOVE EXISTING GRADE AND MEET DRAINAGE REQUIREMENTS.
24. LAWN AND BED AREAS SHALL BE ROTOTILLED, RAKED OF CLUMPS AND DEBRIS.
25. REMOVE ALL DEAD AND DISEASED PLANT MATERIAL FROM SITE AND DISPOSE OF PROPERLY.
26. PRUNE AND FERTILIZE ALL EXISTING VEGETATION TO REMAIN ON SITE.

**J.U.L.I.E.**

Note: The exact location of all utilities shall be verified by the contractor prior to construction activities. For utility locations call J.U.L.I.E. 1 (800) 892-0123

**PLANT SCHEDULE**

COND.	SIZE	QTY
<b>CANOPY TREES</b>		
ACE JUN	ACER RUBRUM / AUTUMN FLAME / AUTUMN FLAME MAPLE	8 x 8 2.5' CAL 2
CEL OCC	CELIS OCCIDENTALIS / COMMON HICKBERRY	8 x 8 2.5' CAL 6
GIN PR2	GINKGO BILOBA / PRINCETON SENTRY / PRINCETON SENTRY GINKGO	8 x 8 2.5' CAL 6
GLE H3	GLEICIA TRICHANTHUS NERANS 'SKYLINE' / THORNLESS SKYLINE HONEYLOCUST	8 x 8 2.5' CAL 2
QUE RWB	QUERCUS RUBRA / RED OAK	8 x 8 2.5' CAL 2
TL RED	THUJA AMERICANA 'REDWAX' / REDMOND AMERICAN LINDEN	8 x 8 2.5' CAL 2
TL GRE	THUJA COORDATA 'GREENSPIRE' / GREENSPIRE LITTLELEAF LINDEN	8 x 8 2.5' CAL 2
<b>EVERGREEN TREES</b>		
PIC COL	PICEA PUNGENS 'COLORADO GREEN' / BLUE SPRUCE	8 x 8 10' - 12' HT 2
PIN STR	PICEA PUNGENS 'COLORADO GREEN' / BLUE SPRUCE	8 x 8 12' - 16' HT 5
THU DA4	THUJA STROBILUS / WHITE PINE	8 x 8 12' - 16' HT 6
	THUJA OCCIDENTALIS 'DARK GREEN' / DARK AMERICAN ARBORVITAE	8 x 8 10' - 12' HT 6
	THUJA OCCIDENTALIS 'DARK GREEN' / DARK AMERICAN ARBORVITAE	8 x 8 12' - 16' HT 6
<b>UNDERSTORY TREES</b>		
CER EAS	CERIS CANADENSIS / EASTERN REDBUD MULTI-TRUNK	15 GAL 1
<b>DECIDUOUS SHRUBS</b>		
ARO ARB	ARONIA ARBURICOLA 'BRILLIANTISSIMA' / BRILLIANT RED CHINESE BERRY	8 x 8 38 HT 25
COT ACU	CORONASTER ACUTIFOLIUS / BEKING CORONASTER	8 x 8 36 HT 20
RHU DRU	RHUS ARAMITICA 'ORO-LOW' / ORO-LOW FRAGRANT SUMAC	8 x 8 24" SPREAD 57
ROS ALP	ROSA ALPINUM / ALPINE CURRANT	8 x 8 50" HT 6
ROS FL4	ROSA X FLOWER CARPET PINK / ROSE	CONT #3 16
STR MEY	SYRINGA MEYERI 'PAUBIN' / DWARF KOREAN LILAC	8 x 8 30 HT 22
STR MS	SYRINGA PARULA 'MISS KIM' / MISS KIM LILAC	8 x 8 30 HT 9
VB LUS	VIBURNUM DECATUM 'CHICAGO LUSTER' / CHICAGO LUSTER ARROWWOOD	8 x 8 36 HT 22
WEI ALE	WEIGELA FLORIDA 'ALEXANDRA TM' / WEIGELA	8 x 8 24 HT 11
<b>EVERGREEN SHRUBS</b>		
BUX NOR	BUXUS X NORTHERN SHARPY TM / WILSON BOXWOOD	3 GAL 21 HT 22
JUN PR1	JUNIPERUS CHINENSIS 'HALLAYS COMPACT' / HALLAY COMPACT PRYZER JUNIPER	8 x 8 24 SPREAD 9
JUN FOR	JUNIPERUS CHINENSIS 'SEA GREEN' / SEA GREEN JUNIPER	8 x 8 24 SPREAD 29
TAX DEN	TAXUS X MEDIA 'DENSIFORMIS' / DENSE YEW	8 x 8 50" HT 10
<b>GRASSES</b>		
CAL KAR	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	CONT #1 10
<b>GROUND COVERS</b>		
EVO C22	EGONOPSIS FORTUNEI 'COLORATUS' / COLORATUS PURPLE ANTI-CREEPER	CONT 5' POTS 966
TUR DR0	TURF SEED / DROUGHT TOLERANT DWARF FESCUE BLEND	SEED SF 18,599 SF
TUR S00	TURF SOD / DROUGHT TOLERANT FESCUE BLEND	SOD SF 15,493 SF
<b>PERENNIALS</b>		
MEY OR0	HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY	CONT #1 19
NEP WAL	HEPETA X 'FASSENH' 'WALKERS LOW' / WALKERS LOW CATMINT	CONT #1 130

**MULCH SCHEDULE**

MULCH	40,339 SF
-------	-----------

RECEIVED  
COMMUNITY DEVELOPMENT

JUL 07 2016

VILLAGE OF  
BARTLETT

EEA - C:\PROJECTS\EEA\Bartlett\2016-06-22\_Ashton Gardens\_Landscape Plan.dwg  
Plotted: 6/29/16 @ 10:52am By: sgrejpy



**ERIKSSON  
ENGINEERING  
ASSOCIATES, LTD.**

145 COMMERCE DRIVE, SUITE A  
GRAYSLAKE, ILLINOIS 60030  
PHONE (847) 233-4804  
FAX (847) 233-4854  
EMAIL: INFO@EEA-LTD.COM  
PROFESSIONAL DESIGN FIRM  
LICENSE NO. 184-003220  
EXPIRES: 04/30/2011

**ASHTON GARDENS**  
SW Corner of Devon Avenue & South  
Prospect Avenue  
Village of Bartlett, DuPage County Illinois

Reserved for Seal:

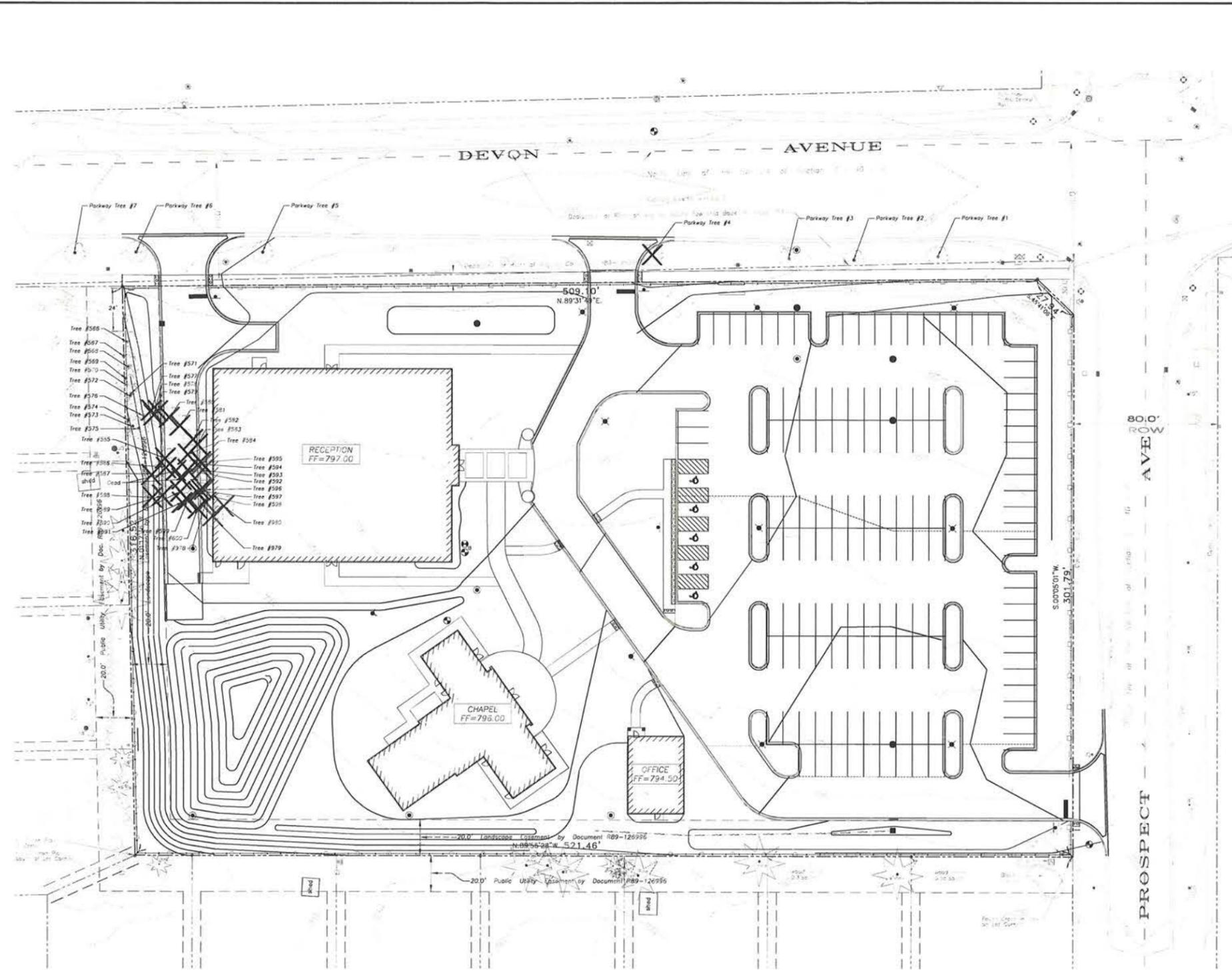
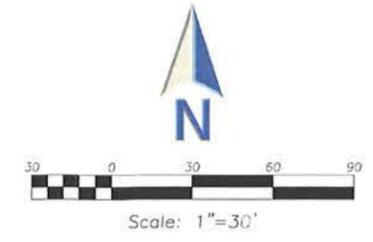
Expiration Date:

No.	Date	Description
03/10/16	03/10/16	Development Review Submittal
06/29/16	06/29/16	Development Review Submittal

Design By: SSG Date: 04/19/16  
Approved By: XXX Project No: 0000.00

Sheet Title:  
**TREE  
PRESERVATION  
PLAN**

Sheet No:  
**L300**

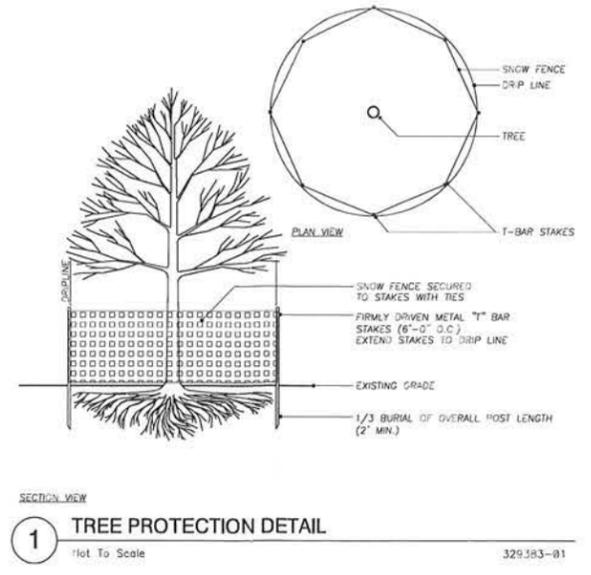


**EXISTING TREE INVENTORY**

TREE #	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	COMMENTS
566	Robinia pseudoacacia	Black Locust	6' Cal.	Good	
567	Robinia pseudoacacia	Black Locust	12' Cal.	Good	Mark trunk
568	Robinia pseudoacacia	Black Locust	8' Cal.	Good	
569	Robinia pseudoacacia	Black Locust	15' Cal.	Fair	
570	Robinia pseudoacacia	Black Locust	8' Cal.	Good	
571	Robinia pseudoacacia	Black Locust	8' Cal.	Good	
572	Robinia pseudoacacia	Black Locust	6' Cal.	Good	
573	Robinia pseudoacacia	Black Locust	10' Cal.	Good	
574	Robinia pseudoacacia	Black Locust	12' Cal.	Good	
575	Robinia pseudoacacia	Black Locust	5' Cal.	Good	
576	Robinia pseudoacacia	Black Locust	8' Cal.	Good	
577	Robinia pseudoacacia	Black Locust	4' Cal.	Good	Multi-trunk
578	Robinia pseudoacacia	Black Locust	9' Cal.	Good	
579	Robinia pseudoacacia	Black Locust	10' Cal.	Good	
580	Robinia pseudoacacia	Black Locust	12' Cal.	Good	
581	Robinia pseudoacacia	Black Locust	15' Cal.	Good	
582	Robinia pseudoacacia	Black Locust	7' Cal.	Good	
583	Robinia pseudoacacia	Black Locust	5' Cal.	Fair	
584	Robinia pseudoacacia	Black Locust	12' Cal.	Good	
585	Robinia pseudoacacia	Black Locust	15' Cal.	Fair	Multi-trunk one segment dead
586	Robinia pseudoacacia	Black Locust	15' Cal.	Good	
587	Robinia pseudoacacia	Black Locust	24' Cal.	Good	Multi-trunk
588	Robinia pseudoacacia	Black Locust	30' Cal.	Good	Multi-trunk
589	Robinia pseudoacacia	Black Locust	18' Cal.	Good	
590	Robinia pseudoacacia	Black Locust	4' Cal.	Good	
591	Robinia pseudoacacia	Black Locust	9' Cal.	Good	
592	Robinia pseudoacacia	Black Locust	12' Cal.	Good	
593	Robinia pseudoacacia	Black Locust	9' Cal.	Good	
594	Robinia pseudoacacia	Black Locust	6' Cal.	Good	
595	Robinia pseudoacacia	Black Locust	6' Cal.	Fair	
596	Robinia pseudoacacia	Black Locust	6' Cal.	Good	
597	Robinia pseudoacacia	Black Locust	6' Cal.	Good	
598	Robinia pseudoacacia	Black Locust	6' Cal.	Good	
599	Robinia pseudoacacia	Black Locust	4' Cal.	Good	
600	Robinia pseudoacacia	Black Locust	5' Cal.	Good	
BREAK					
978	Robinia pseudoacacia	Black Locust	15' Cal.	Good	Multi-trunk
979	Robinia pseudoacacia	Black Locust	15' Cal.	Good	Multi-trunk
980	Robinia pseudoacacia	Black Locust	24' Cal.	Fair	Multi-trunk
Parkway Trees					
1	Prunus celtica	Bradford Pear	12' Cal.	Fair	Growing into overhead lines
2	Prunus celtica	Bradford Pear	12' Cal.	Fair	Growing into overhead lines
3	Prunus celtica	Bradford Pear	12' Cal.	Good	Growing into overhead lines
4	Gymnocladia dioica	Kentucky Coffee Tree	9' Cal.	Good	Growing into overhead lines
5	Cedrus thurcivora	Thornless Honeylocust	12' Cal.	Good	Growing into overhead lines
6	Cedrus thurcivora	Thornless Honeylocust	12' Cal.	Fair	Growing into overhead lines
7	Cedrus thurcivora	Thornless Honeylocust	12' Cal.	Fair	Growing into overhead lines

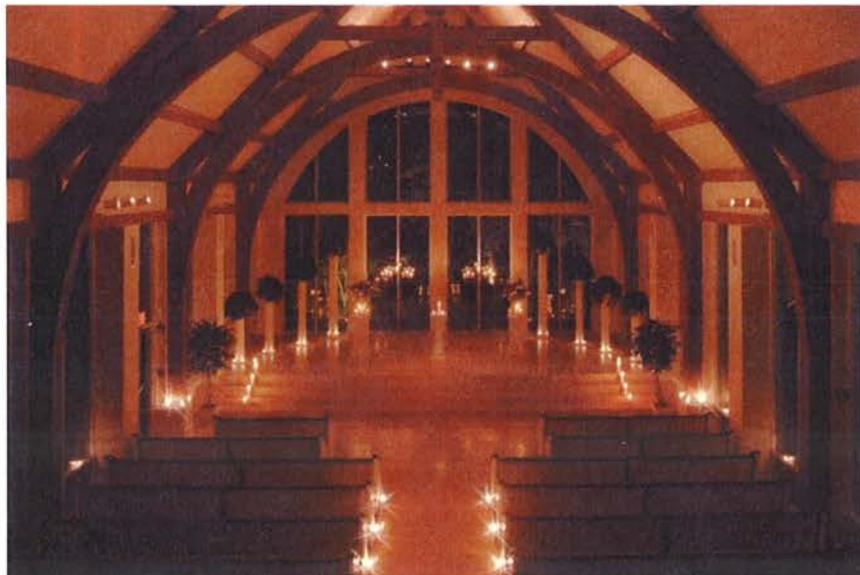
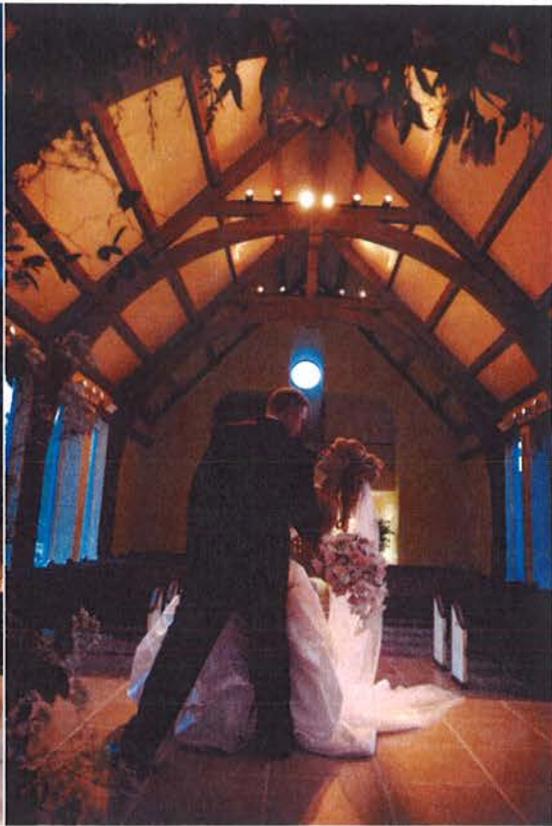
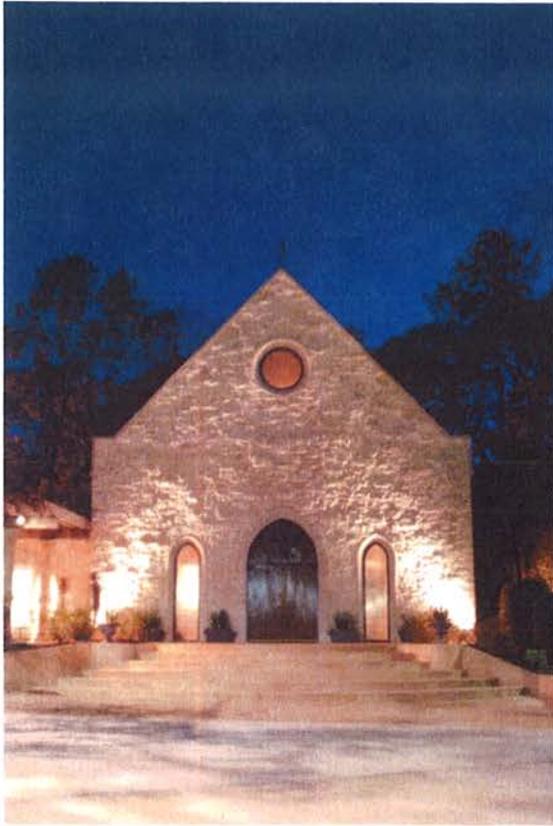
**TREE PRESERVATION NOTES**

- ANY EXISTING TREES TO BE REMOVED SHALL BE PROTECTED FROM SOIL COMPACTION AND OTHER DAMAGES THAT MAY OCCUR DURING CONSTRUCTION BY ERECTING FENCING AROUND SUCH MATERIALS AT A DISTANCE OF 8.5' FROM THE TRUNK.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INITIATING PLANTING OPERATIONS. THE CONTRACTOR SHALL REPAIR, REPLACE AND UTILITY, PAVING, CURBING, ETC WHICH IS DAMAGED DURING PLANTING AND TREE REMOVAL ACTIVITIES.
- REFER TO PLAN OF SURVEY FOR LEGAL DESCRIPTION, BOUNDARY DIMENSIONS AND EXISTING CONDITIONS.
- CONTRACTORS MUST VERIFY ALL QUANTITIES AND OBTAIN ALL PROPER PERMITS AND LICENSES FROM THE PROPER AGENCIES.
- LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR UNSEEN SITE CONDITIONS.
- REMOVE ALL DEAD AND DISEASED PLANT MATERIAL FROM SITE AND DISPOSE OF PROPERLY.
- PRUNE AND FERTILIZE ALL EXISTING VEGETATION TO REMAIN ON SITE.
- TREE SYMBOL WITH NUMBER AND AN "X" INDICATES EXISTING TREE TO BE REMOVED.



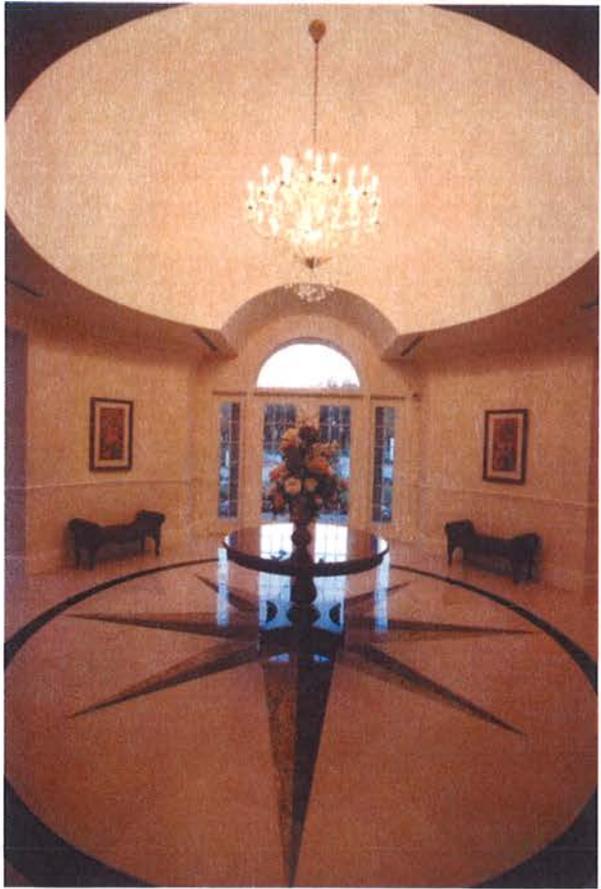
SECTION VIEW  
**1 TREE PROTECTION DETAIL**  
Not To Scale

# *Intimate Ceremonies*



# *Elegant Receptions*

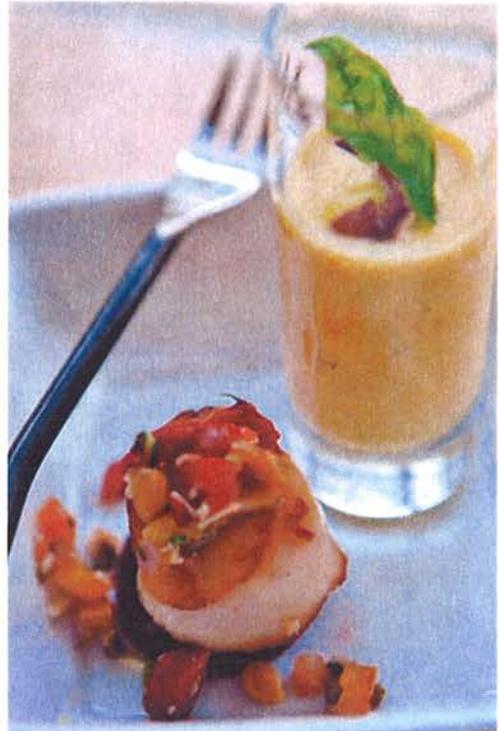
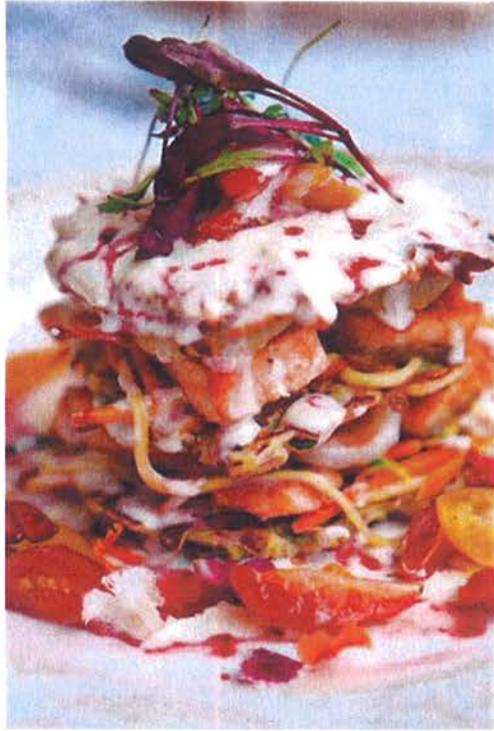








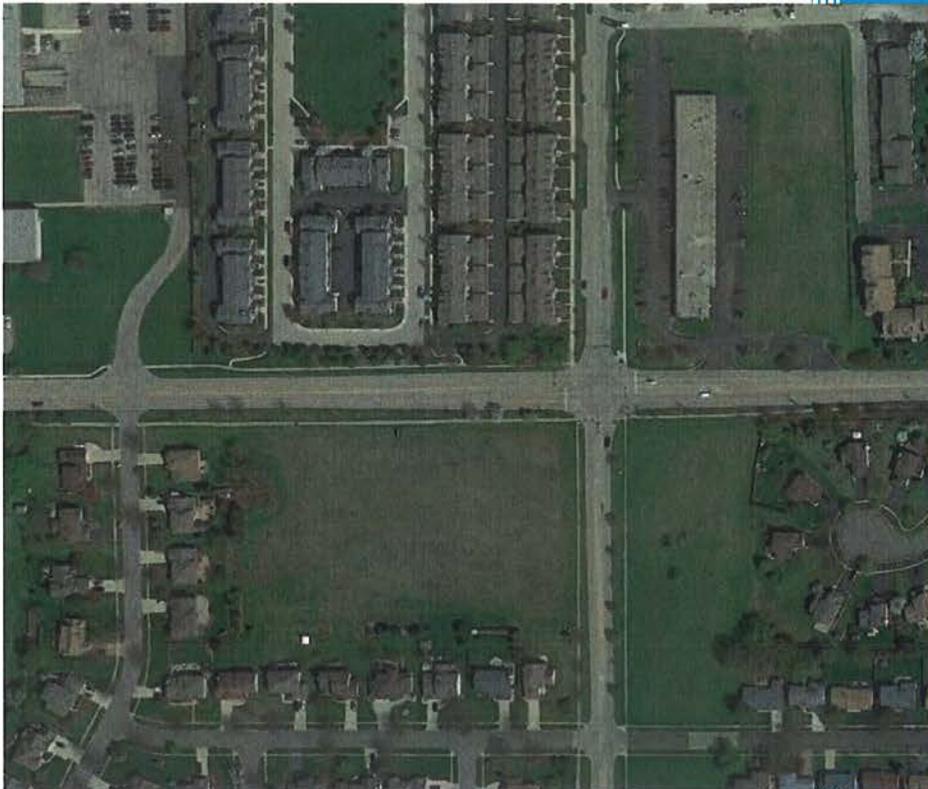
*Exquisite Cuisine*



April 2016

*Ashton Gardens*

*Traffic and Parking Study*



*Prepared for:*

**Dennis L. Norton  
Architect**

**Eriksson Engineering Associates, Ltd.**

145 Commerce Drive, Suite A

Grayslake, IL 60030

(847) 223-4804

601 W. Randolph St., Suite 500

Chicago, IL 60661

(312) 463-0551

## INTRODUCTION

Eriksson Engineering Associates, Ltd. was retained by Dennis L. Norton Architect to conduct a traffic impact and parking demand study for a proposed wedding chapel and reception hall in Bartlett, Illinois. The proposed site is located on the south side of Devon Avenue and west of Prospect Avenue.

The purpose of the study was to observe the existing traffic patterns around the site, determine the traffic characteristics of the proposed development, review the parking needs, and develop roadway and parking recommendations.

## EXISTING CONDITIONS

### Site Location and Area Land-Use

The subject site is currently vacant and located at the southwest corner of Devon and Prospect Avenues in Bartlett, Illinois. Uses around the site include single-family residential to the west and south, multi-family residential to the north, and vacant land/single-family residential to the east. Industrial buildings are located to the northwest and a retail building to the northeast. **Figure 1** illustrates the site and the surrounding land-uses and roads (All figures are located at the end of the report).

### Bicycle and Pedestrian Routes

Designated bike routes are located on the south side of Devon Avenue and on Prospect Avenue north of Devon Avenue. Public sidewalks are provided along the site's frontage on both sides of each road.

### Roadway Characteristics

A description of the area roadways providing access to the site is provided below:

**Devon Avenue (DuPage County 6)** is a four-lane east-west undivided arterial with a posted speed limit of 35 mph. A multi-use path is provided along the south side of Devon Avenue adjacent to the site. At its signalized intersection with Prospect Avenue, it widens out to provide separate left-turn lanes. Devon Avenue is under the jurisdiction of DuPage County Division of Transportation.

**Prospect Avenue** is a three-lane north-south collector with a striped center median and a posted speed limit of 30 mph south of Devon Avenue and 25 mph north of Devon Avenue. Sidewalks are provided on both sides of the street. A left-turn lane is provided at the Devon Avenue intersection. Prospect Avenue is under the jurisdiction of Village of Bartlett.

### Existing Traffic Volumes

Friday evening (4:00 to 7:00 PM) and Saturday evening (4:00 to 7:00 PM) manual traffic counts were conducted in April, 2016 at the intersection of Devon and Prospect Avenues. These counts showed the **peak-hours of traffic occurring 5:00 to 6:00 PM** on Friday and 5:30 PM to 6:30 PM on Saturday. At the intersection of Devon and Prospect Avenues, the Saturday counts were 39% lower than the Friday volumes. The existing traffic volumes are shown in **Figure 2** and included in the **Appendix**.

## SITE TRAFFIC CHARACTERISTICS

### Site Plan

Ashton Gardens is a wedding chapel and banquet facility that provides a single location for a wedding party and their guests to attend a ceremony and then stay for the reception. The site plan calls for the construction of three buildings on the property with a small 1,000 square foot office, a wedding chapel accommodating up to 244 persons, and the banquet hall holding 300 persons with 30 serving staff. A total of 142 parking spaces are proposed with six accessible spaces. A combined drop-off/loading lane is located in the front of the chapel and banquet hall. Refuse pick-up will be located on the west side of the building. Full access points are proposed Devon and Prospect Avenues.

### Trip Generation

Weddings and the receptions are mostly held in the evenings after peak commuter traffic. The busiest days will be Fridays and Saturdays. Approximately 85% of the guests will arrive for the wedding ceremony while the rest come later for the reception. The vehicle occupancy rate is 3 persons per vehicle. The resulting site traffic volumes are shown in Table 1.

**Table 1**  
**Ashton Gardens Site Traffic Volumes**

Friday Evening			Saturday Evening		
In	Out	Total	In	Out	Total
70	10	80	70	10	80

To be conservative, these volumes were combined with the peak-hour traffic volumes from the counts. Event start times will vary on a day to day basis.

### Trip Distribution

The trip distribution to the site is based on a combination of the existing traffic volumes, the distribution of residences in the area, and the regional road network. The distribution of traffic is shown on Table 2 and Figure 3.

**Table 2**  
**Directional Distribution**

Direction	Distribution
North on Prospect Avenue	10%
South on Prospect Avenue	10%
East on Devon Avenue	50%
West on Devon Avenue	30%
<b>Total</b>	<b>100%</b>

### Trip Assignment

The future vehicular trips that are generated by the development were distributed to the adjacent roadways based on the directional distribution analysis and the proposed site plan. **Figure 4** displays the trip assignment for the development's traffic volumes. **Figure 5** shows the Total Traffic volumes, which is the sum of the existing traffic volumes and the projected site traffic volumes.

## ANALYSES

### Intersection Capacity Analyses

An intersection's ability to accommodate traffic flow is based on the average control delay experienced by vehicles passing through the intersection. The intersection and individual traffic movements are assigned a level of service (LOS), ranging from A to F based on the control delay created by a traffic signal or stop sign. Control delay consists of the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS A has the best traffic flow and least delay. LOS E represents saturated or at capacity conditions. LOS F experiences oversaturated conditions and extensive delays. The Highway Capacity Manual definitions for levels of service and the corresponding control delay for both signalized and unsignalized intersections are shown in **Table 3**.

Capacity analyses were conducted for each intersection using the HCS computer program to determine the existing and future operating conditions of the access system. These analyses were performed for the weekday peak-hours. Copies of the capacity analysis summaries are included in the **Appendix**. **Table 4** shows the existing and projected level of service and vehicular delay results for each intersection.

**Table 3**  
**Level of Service Criteria for Intersections**

Level of Service	Description	Control Delay (seconds/vehicle)	
		Signals	Stop Signs
A	Minimal delay and few stops	<10	<10
B	Low delay with more stops	>10-20	>10-15
C	Light congestion	>20-35	>15-25
D	Congestion is more noticeable with longer delays	>35-55	>25-35
E	High delays and number of stops	>55-80	>35-50
F	Unacceptable delays and over capacity	>80	>50

Source: Highway Capacity Manual 2010

### Devon Avenue Access Drive

The proposed driveway on Devon Avenue will have one inbound lane and one outbound lane under stop sign control. It is 270 feet west of Prospect Avenue and will operate well with the projected traffic volumes. A separate left-turn lane is not required on Devon Avenue.

### Prospect Avenue Access Drive

The proposed driveway on Prospect Avenue will have one inbound lane and one outbound lane under stop sign control. It is 300 feet south of Devon Avenue and will operate well with the projected traffic volumes.

**Table 4  
Intersection Level of Service and Delay**

Intersection	Friday Evening		Saturday Evening	
	Existing	Total	Existing	Total
Devon Avenue at Prospect Avenue (Signalized)	LOS B-16.5	LOS B-16.5	LOS B-18.8	LOS B-18.5
Ashton Gardens Access On Devon Avenue (Stop Controlled)		Nb Lt/Rt-LOS B-12.1 Wb Lt -LOS A-0.5		Nb Lt/Rt-LOS B-10.2 Wb Lt -LOS A-0.8
Ashton Gardens Access On Prospect Avenue (Stop Controlled)		Eb Lt/Rt-LOS B-10.3 Nb Lt -LOS A-0.4		Eb Lt/Rt-LOS B-10.1 Nb Lt -LOS A-0.4

**Devon Avenue at Prospect Avenue**

The signalized intersection works well today with a good level of service and minimal vehicular delays. The proposed development will not have an adverse impact on the intersection.

**Delivery/Refuse Access**

The proposed delivery/refuse driveway on Devon Avenue will have one inbound lane and one outbound lane under stop sign control. It is 500 feet west of Prospect Avenue. Deliveries will be between 9:00 AM and 1:00 PM. Approximately eight trucks will make deliveries throughout the week.

**PARKING**

Parking requirements for the development were calculated based on the Village of Bartlett Zoning Code. Table 5 shows the parking required by code for each component of the project.

**Table 5  
Zoning Code Parking Requirements**

Use	Size	Zoning Code	Required Parking
Chapel	244 seats	One spaces for every 4 seats	61 spaces
Reception Hall	300 persons and 30 staff	Parking space shall be provided equal to 30 per cent of the capacity of the facility in persons.	99 spaces
Office	1,000 sq. ft.	One Space for every 275 sq. ft.	4 spaces
<b>Parking Required</b>			<b>164 spaces</b>
<b>Parking Provided</b>			<b>142 spaces</b>

The proposed site plan has a total of 142 parking spaces, including 6 accessible spaces, and provides 86% of the zoning code requirement. It exceeds the accessible requirement of 5 spaces. A small parking variation is required for 16 spaces.

Zoning codes are based the assumption that the individual components of a development are occupied at the same time. Ashton Gardens provides the convenience of a single-location for a wedding and reception so the guests can drive and park once. The peak use of the office space is during the day when staff is planning for upcoming events. During events, the staff will be assisting at the chapel and reception hall and not in the office. **The chapel and the reception hall will only be used in conjunction with one event.** They are not going to schedule two different events at the same times that could create a parking problem. With the reception hall as the biggest user on the site, the code would require **99 spaces** which is less than the 142 spaces provided.

Discussions with the Ashton Gardens operator indicate that the **peak parking demand is 125 vehicles** at their other facilities.

## SUMMARY

This report summarizes the results of traffic and parking study for a proposed Ashton-Garden wedding chapel and reception hall in Bartlett, Illinois. The findings of the study are:

- The volume of traffic generated by the development **will have no adverse impact on peak-hour traffic conditions on Devon or Prospect Avenues.**
- Access to the site will be provided by three full access drives:
  - A delivery/refuse drive on the west side of the building on Devon Avenue.
  - **A full access drive on Devon Avenue**
  - **A full access Drive on Prospect Avenue.**
- An on-site loading space is provided in on the west side of the reception hall for deliveries and refuse pick-up.
- The Village Zoning Code requires 164 parking spaces based on the simultaneous usage of all three buildings on the site. With 142 parking spaces provided, a parking variation of 16 spaces is required.
- The proposed usage of the development and the parking information **from other facilities** indicate the **parking demand would be less than 125 vehicles.**



# LEGEND

00 Friday Peak

(00) Saturday Peak



Traffic Signal



60 (20)  
65 (71)  
91 (62)

125 (63)  
344 (165)  
85 (60)

Devon Avenue

(26) 65  
(141) 233  
(34) 64

SITE

(31) 39  
(40) 59  
(66) 37

Prospect Avenue



ERIKSSON  
ENGINEERING  
ASSOCIATES, LTD.

Existing Traffic Volumes

Figure 2

**LEGEND**

00% Directional Distribution



10%

50%

Devon Avenue

30%

SITE

10%

Prospect Avenue



ERIKSSON  
ENGINEERING  
ASSOCIATES, LTD.

**Directional Distribution**

**Figure 3**

# LEGEND

- Stop Sign
- 00 Friday Peak
- (00) Saturday Peak
- ◐ Traffic Signal



20 (20)  
15 (15)

(3) 3

Prospect Avenue

4 (4)  
3 (3)

(1) 1  
(2) 2

19 (19)

(7) 7

(3) 3  
(1) 1

Devon Avenue

23 (23)

(3) 3  
(3) 3

SITE

(21) 21

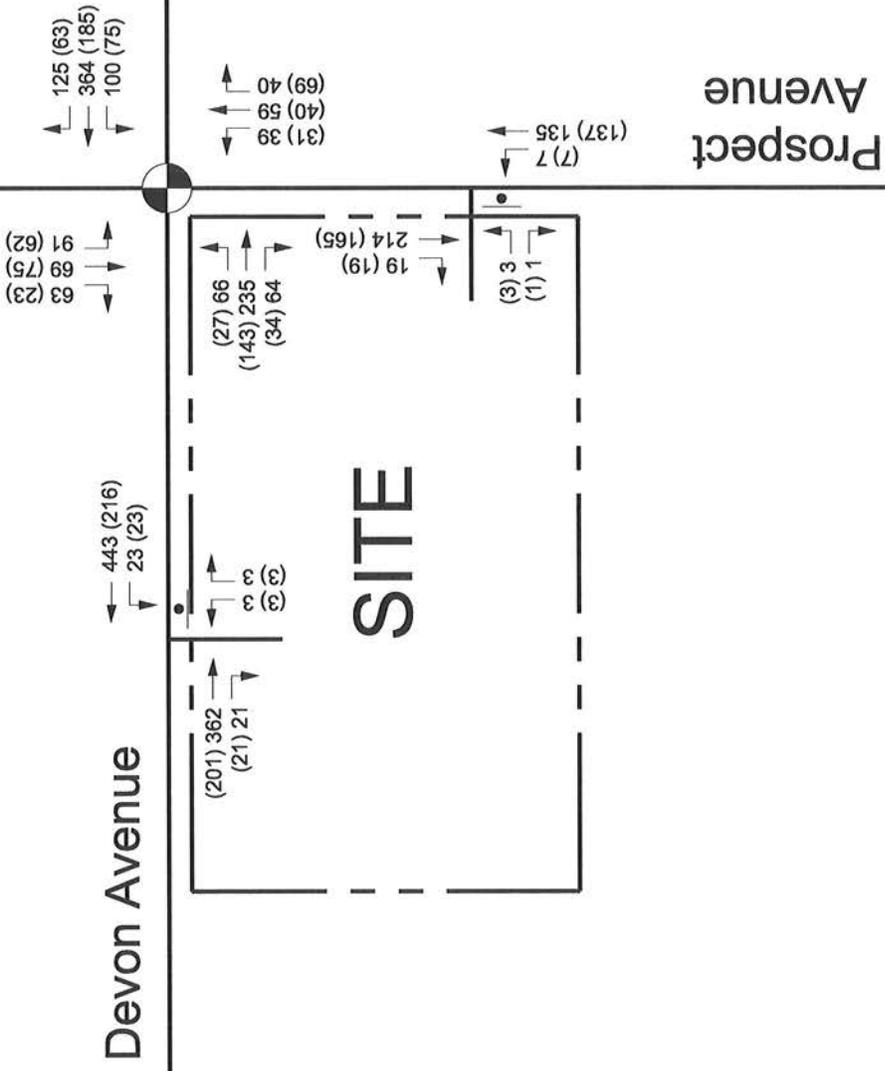


ERIKSSON  
ENGINEERING  
ASSOCIATES, LTD.

Site Traffic Volumes  
Figure 4

# LEGEND

- Stop Sign
- 00 Friday Peak
- (00) Saturday Peak
-  Traffic Signal



**Total Traffic Volumes**  
**Figure 5**



# Traffic and Parking Study Appendix

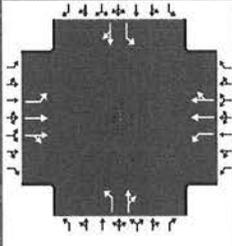
- **2016 Existing Traffic Counts**
- **Existing Capacity Analyses**
- **Total Capacity Analyses**



## Devon Avenue at Prospect Avenue

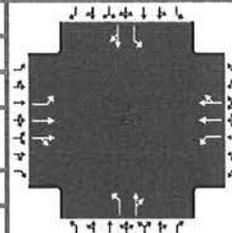
Begin Time		Bartlett, Illinois												15 Minute Totals	60 Minute Totals	Peak Hour Factor					
		Prospect Avenue Southbound				Devon Avenue Westbound				Prospect Avenue Northbound							Devon Avenue Eastbound				
		Right Turn	Through	Left Turn		Right Turn	Through	Left Turn		Right Turn	Through	Left Turn					Right Turn	Through	Left Turn		
<b>Friday April 8, 2016</b>		8	10	15		27	73	17		9	11	13		10	48	10		251	1072	0.85	
4:00 PM		14	17	15		19	77	22		8	13	9		14	32	10		250	1120	0.89	
4:15 PM		20	15	15		18	60	17		9	22	9		8	51	13		257	1194	0.92	
4:30 PM		9	11	30		37	88	25		9	13	16		20	45	11		314	1254	0.97	
4:45 PM		15	10	21		26	72	12		7	17	7		18	75	19		299	1267	0.97	
5:00 PM		16	17	31		38	84	26		5	14	10		17	49	17		324	1254	0.96	
5:15 PM		13	18	18		33	84	16		11	17	14		14	63	16		317	1165	0.89	
5:30 PM		16	20	21		28	104	31		14	11	8		15	46	13		327	1115	0.85	
5:45 PM		12	18	23		32	80	21		10	12	15		17	38	8		286	1022	0.89	
6:00 PM		6	13	16		27	61	21		8	16	11		12	38	6		235			
6:15 PM		11	19	17		30	64	20		8	17	7		13	53	8		267			
6:30 PM		9	13	12		25	74	18		9	9	8		7	43	7		234			
6:45 PM		149	181	234		340	921	246		107	172	127		165	581	138					
<b>Total</b>		<b>60</b>	<b>65</b>	<b>91</b>		<b>125</b>	<b>344</b>	<b>85</b>		<b>37</b>	<b>59</b>	<b>39</b>		<b>64</b>	<b>233</b>	<b>65</b>		<b>1267</b>			
<b>5:00-6:00 PM</b>																					
<b>Saturday April 9, 2016</b>		4	11	15		22	44	10		20	15	3		7	48	7		206	777	0.94	
4:00 PM		7	12	10		16	44	10		8	14	7		4	40	8		180	749	0.92	
4:15 PM		6	11	18		15	41	14		13	20	6		4	31	9		188	741	0.91	
4:30 PM		13	11	10		21	29	16		18	23	5		8	38	11		203	754	0.93	
4:45 PM		8	7	18		15	40	17		9	10	8		5	36	5		178	753	0.93	
5:00 PM		11	7	14		7	43	9		12	8	6		9	37	9		172	769	0.95	
5:15 PM		3	13	17		18	49	15		16	11	8		8	38	5		201	779	0.96	
5:30 PM		4	10	12		23	44	18		20	12	11		9	30	9		202	734	0.91	
5:45 PM		7	27	22		8	32	12		20	8	6		12	35	5		194	675	0.87	
6:00 PM		6	21	11		14	40	15		10	9	6		5	38	7		182			
6:15 PM		6	4	15		14	33	13		12	13	6		6	29	5		156			
6:30 PM		6	4	15		14	33	13		12	13	6		6	29	5		156			
6:45 PM		4	7	8		16	36	12		6	14	6		7	24	3		143			
<b>Total</b>		<b>79</b>	<b>141</b>	<b>170</b>		<b>189</b>	<b>475</b>	<b>161</b>		<b>164</b>	<b>157</b>	<b>78</b>		<b>84</b>	<b>424</b>	<b>83</b>		<b>779</b>			
<b>5:30-6:30 PM</b>		<b>20</b>	<b>71</b>	<b>62</b>		<b>63</b>	<b>165</b>	<b>60</b>		<b>66</b>	<b>40</b>	<b>31</b>		<b>34</b>	<b>141</b>	<b>26</b>					

## HCS 2010 Signalized Intersection Input Data

General Information					Intersection Information												
Agency	Eriksson Engineering				Duration, h	0.25											
Analyst	SBC	Analysis Date	4/7/2016		Area Type	Other											
Jurisdiction	DuPage/Bartlett		Time Period	Friday Existing Peak	PHF	0.97											
Urban Street	Devon Avenue		Analysis Year	2016	Analysis Period	1 > 17:00											
Intersection	Prospect Avenue		File Name	Friday Existing.xus													
Project Description	Friday Existing Volumes																
Demand Information					EB			WB			NB			SB			
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h					65	233	64	85	344	125	39	59	37	91	65	60	
Signal Information																	
Cycle, s	100.0	Reference Phase	2														
Offset, s	0	Reference Point	End														
Uncoordinated	No	Simult. Gap E/W	On		Green	5.1	0.4	64.5	15.0	0.0	0.0						
Force Mode	Fixed	Simult. Gap N/S	On		Yellow	3.0	0.0	4.0	4.0	0.0	0.0						
					Red	0.0	0.0	2.0	2.0	0.0	0.0						
Traffic Information					EB			WB			NB			SB			
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h					65	233	64	85	344	125	39	59	37	91	65	60	
Initial Queue (Q <sub>b</sub> ), veh/h					0	0	0	0	0	0	0	0	0	0	0	0	
Base Saturation Flow Rate (s <sub>0</sub> ), veh/h					1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Parking (N <sub>m</sub> ), man/h					None			None			None			None			
Heavy Vehicles (P <sub>HV</sub> ), %					3	3		3	3		3	3		3	3		
Ped / Bike / RTOR, /h					0	0	0	0	0	0	0	0	0	0	0	0	
Buses (N <sub>b</sub> ), buses/h					0	0	0	0	0	0	0	0	0	0	0	0	
Arrival Type (AT)					3	3	3	3	3	3	3	3	3	3	3	3	
Upstream Filtering (f)					1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Width (W), ft					12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0		
Turn Bay Length, ft					135	0		135	0		100	0		125	0		
Grade (P <sub>g</sub> ), %						3			0			0			0		
Speed Limit, mi/h					35	35	35	35	35	35	30	30	30	25	25	25	
Phase Information					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT					
Maximum Green (G <sub>max</sub> ) or Phase Split, s					20.0	45.0	20.0	45.0		35.0		35.0					
Yellow Change Interval (Y), s					3.0	4.0	3.0	4.0		4.0		4.0					
Red Clearance Interval (R <sub>c</sub> ), s					0.0	2.0	0.0	2.0		2.0		2.0					
Minimum Green (G <sub>min</sub> ), s					6	6	6	6	6	15	6	15					
Start-Up Lost Time (l), s					2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0					
Extension of Effective Green (e), s					2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0					
Passage (PT), s					2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0					
Recall Mode					Off	Min	Off	Min	Off	Off	Off	Off					
Dual Entry					No	Yes	No	Yes	No	Yes	No	Yes					
Walk (Walk), s					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Pedestrian Clearance Time (PC), s					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Multimodal Information					EB			WB			NB			SB			
85th % Speed / Rest in Walk / Corner Radius					0	No	25	0	No	25	0	No	25	0	No	25	
Walkway / Crosswalk Width / Length, ft					9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0	
Street Width / Island / Curb					0	0	No	0	0	No	0	0	No	0	0	No	
Width Outside / Bike Lane / Shoulder, ft					12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	
Pedestrian Signal / Occupied Parking					No	0.50		No	0.50		No	0.50		No	0.50		

## HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	Eriksson Engineering			Duration, h	0.25		
Analyst	SBC	Analysis Date	4/7/2016	Area Type	Other		
Jurisdiction	DuPage/Bartlett	Time Period	Friday Existing Peak	PHF	0.97		
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:00		
Intersection	Prospect Avenue	File Name	Friday Existing.xus				
Project Description	Friday Existing Volumes						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	65	233	64	85	344	125	39	59	37	91	65	60

Signal Information				Signal Phases									
Cycle, s	100.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		5.1	0.4	64.5	15.0	0.0	0.0				
		Yellow		3.0	0.0	4.0	4.0	0.0	0.0				
		Red		0.0	0.0	2.0	2.0	0.0	0.0				

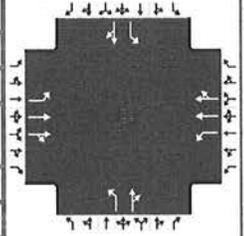
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		6.0		6.0
Phase Duration, s	8.1	70.5	8.5	70.9		21.0		21.0
Change Period, (Y+R <sub>c</sub> ), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g <sub>s</sub> ), s	3.2		3.6			12.0		14.3
Green Extension Time (g <sub>e</sub> ), s	0.1	0.0	0.1	0.0		0.7		0.7
Phase Call Probability	0.84		0.91			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	67	156	150	88	250	233	40	99		94	129	
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1817	1684	1757	1845	1678	1244	1725		1278	1698	
Queue Service Time (g <sub>s</sub> ), s	1.2	3.3	3.5	1.6	5.5	5.7	3.1	5.2		7.1	7.0	
Cycle Queue Clearance Time (g <sub>c</sub> ), s	1.2	3.3	3.5	1.6	5.5	5.7	10.0	5.2		12.3	7.0	
Green Ratio (g/C)	0.70	0.65	0.65	0.70	0.65	0.65	0.15	0.15		0.15	0.15	
Capacity (c), veh/h	667	1172	1086	814	1198	1089	172	259		198	255	
Volume-to-Capacity Ratio (X)	0.100	0.133	0.138	0.108	0.209	0.214	0.234	0.382		0.475	0.506	
Back of Queue (Q), ft/ln (95 th percentile)	17.2	56.5	54.7	22.2	94.6	88.9	43.9	101.3		106	136.3	
Back of Queue (Q), veh/ln (95 th percentile)	0.7	2.2	2.1	0.9	3.7	3.5	1.7	4.0		4.1	5.3	
Queue Storage Ratio (RQ) (95 th percentile)	0.13	0.00	0.00	0.16	0.00	0.00	0.44	0.00		0.85	0.00	
Uniform Delay (d <sub>1</sub> ), s/veh	5.1	6.9	6.9	4.8	7.1	7.1	43.7	38.3		43.9	39.1	
Incremental Delay (d <sub>2</sub> ), s/veh	0.0	0.2	0.3	0.0	0.4	0.4	0.3	0.3		0.7	0.6	
Initial Queue Delay (d <sub>3</sub> ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	5.1	7.1	7.2	4.8	7.5	7.6	44.0	38.7		44.5	39.7	
Level of Service (LOS)	A	A	A	A	A	A	D	D		D	D	
Approach Delay, s/veh / LOS	6.8		A	7.1		A	40.2		D	41.7		D
Intersection Delay, s/veh / LOS	16.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.2	B	2.2	B	2.9	C	2.9	C
Bicycle LOS Score / LOS	0.8	A	1.0	A	0.7	A	0.9	A

## HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	4/7/2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Friday Existing Peak	PHF	0.97
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:00
Intersection	Prospect Avenue	File Name	Friday Existing.xus		
Project Description	Friday Existing Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	65	233	64	85	344	125	39	59	37	91	65	60

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	5.1	0.4	64.5	15.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.0	0.0	4.0	4.0	0.0	0.0		
				Red	0.0	0.0	2.0	2.0	0.0	0.0		

Saturation Flow / Delay	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor ( $f_w$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
Approach Grade Adjustment Factor ( $f_g$ )	0.985	0.985	0.985	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor ( $f_p$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor ( $f_{bb}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor ( $f_a$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor ( $f_{LU}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor ( $f_{LT}$ )	0.952	0.000		0.952	0.000			0.000			0.000	
Right-Turn Adjustment Factor ( $f_{RT}$ )		0.927			0.909			0.935			0.920	
Left-Turn Pedestrian Adjustment Factor ( $f_{Lpb}$ )	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor ( $f_{Rpb}$ )			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1730	2760		1757	2595			1060			883	
Proportion of Vehicles Arriving on Green (P)	0.05	0.65	0.65	0.05	0.65	0.65	0.15	0.15	0.15	0.15	0.15	0.15
Incremental Delay Factor (k)	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04		0.04	0.04	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time ( $t_L$ )	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio ( $g/C$ )	0.70	0.65	0.70	0.65		0.15		0.15
Permitted Saturation Flow Rate ( $s_0$ ), veh/h/ln	886	0	1058	0		1244		1278
Shared Saturation Flow Rate ( $s_{sh}$ ), veh/h/ln								
Permitted Effective Green Time ( $g_0$ ), s	64.5	0.0	64.5	0.0		15.0		15.0
Permitted Service Time ( $g_u$ ), s	57.3	0.0	61.0	0.0		8.0		9.8
Permitted Queue Service Time ( $g_{qs}$ ), s	0.6		0.3			3.1		7.1
Time to First Blockage ( $g_r$ ), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Service Time Before Blockage ( $g_{fs}$ ), s								
Protected Right Saturation Flow ( $s_R$ ), veh/h/ln								
Protected Right Effective Green Time ( $g_R$ ), s								

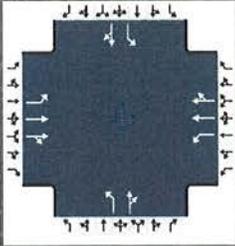
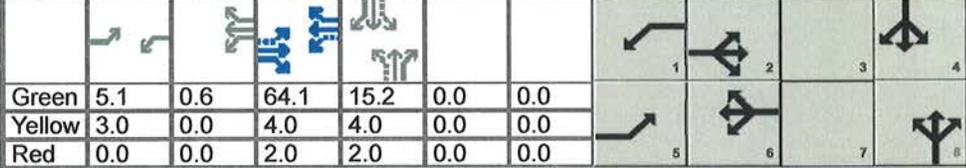
Multimodal	EB		WB		NB		SB	
Pedestrian $F_w / F_v$	1.557	0.00	1.557	0.00	2.107	0.00	2.107	0.00
Pedestrian $F_s / F_{delay}$	0.000	0.074	0.000	0.073	0.000	0.144	0.000	0.144
Pedestrian $M_{comer} / M_{cw}$								
Bicycle $c_b / d_b$	1290.52	6.29	1298.65	6.15	300.00	36.13	300.00	36.13
Bicycle $F_w / F_v$	-3.64	0.31	-3.64	0.47	-3.64	0.23	-3.64	0.37

--- Messages ---

No errors or warnings exist.

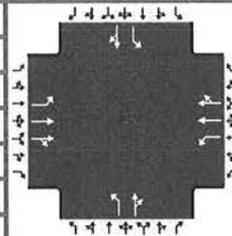
--- Comments ---

## HCS 2010 Signalized Intersection Input Data

General Information						Intersection Information								
Agency	Eriksson Engineering					Duration, h	0.25							
Analyst	SBC	Analysis Date	4/7/2016			Area Type	Other							
Jurisdiction	DuPage/Bartlett		Time Period	Friday Total Peak		PHF	0.97							
Urban Street	Devon Avenue		Analysis Year	2016		Analysis Period	1 > 17:00							
Intersection	Prospect Avenue		File Name	Friday Total.xus										
Project Description	FridayTotal Volumes													
Demand Information			EB			WB			NB			SB		
Approach Movement			L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h			66	235	64	100	364	125	39	59	40	91	69	63
Signal Information														
Cycle, s	100.0	Reference Phase	2											
Offset, s	0	Reference Point	End											
Uncoordinated	No	Simult. Gap E/W	On											
Force Mode	Fixed	Simult. Gap N/S	On											
Green	5.1	0.6	64.1	15.2	0.0	0.0								
Yellow	3.0	0.0	4.0	4.0	0.0	0.0								
Red	0.0	0.0	2.0	2.0	0.0	0.0								
Traffic Information			EB			WB			NB			SB		
Approach Movement			L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h			66	235	64	100	364	125	39	59	40	91	69	63
Initial Queue (Q <sub>b</sub> ), veh/h			0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s <sub>0</sub> ), veh/h			1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N <sub>m</sub> ), man/h			None			None			None			None		
Heavy Vehicles (P <sub>HV</sub> ), %			3	3		3	3		3	3		3	3	
Ped / Bike / RTOR, /h			0	0	0	0	0	0	0	0	0	0	0	0
Buses (N <sub>b</sub> ), buses/h			0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)			3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft			12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft			135	0		135	0		100	0		125	0	
Grade (Pg), %				3			0			0			0	
Speed Limit, mi/h			35	35	35	35	35	35	30	30	30	25	25	25
Phase Information			EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Maximum Green (G <sub>max</sub> ) or Phase Split, s			20.0	45.0	20.0	45.0		35.0		35.0				
Yellow Change Interval (Y), s			3.0	4.0	3.0	4.0		4.0		4.0				
Red Clearance Interval (R <sub>c</sub> ), s			0.0	2.0	0.0	2.0		2.0		2.0				
Minimum Green (G <sub>min</sub> ), s			6	6	6	6	6	15	6	15				
Start-Up Lost Time (I <sub>t</sub> ), s			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Extension of Effective Green (e), s			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Passage (PT), s			2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Recall Mode			Off	Min	Off	Min	Off	Off	Off	Off				
Dual Entry			No	Yes	No	Yes	No	Yes	No	Yes				
Walk (Walk), s			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Pedestrian Clearance Time (PC), s			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Multimodal Information			EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius			0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft			9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb			0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft			12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking			No	0.50	No	0.50	No	0.50	No	0.50	No	0.50		

## HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	4/7/2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Friday Total Peak	PHF	0.97
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1> 17:00
Intersection	Prospect Avenue	File Name	Friday Total.xus		
Project Description	Friday Total Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	66	235	64	100	364	125	39	59	40	91	69	63

Signal Information				Signal Phases											
Cycle, s	100.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On												
		Green		5.1	0.6	64.1	15.2	0.0	0.0						
		Yellow		3.0	0.0	4.0	4.0	0.0	0.0						
		Red		0.0	0.0	2.0	2.0	0.0	0.0						

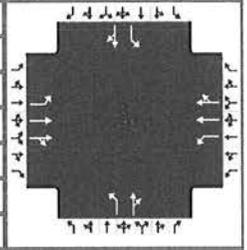
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		6.0		6.0
Phase Duration, s	8.1	70.1	8.7	70.7		21.2		21.2
Change Period, (Y+R <sub>c</sub> ), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0		3.4		3.4
Queue Clearance Time (g <sub>s</sub> ), s	3.3		3.9			12.5		14.5
Green Extension Time (g <sub>e</sub> ), s	0.1	0.0	0.2	0.0		0.7		0.7
Phase Call Probability	0.85		0.94			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	68	157	151	103	261	243	40	102		94	136	
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1817	1684	1757	1845	1684	1236	1720		1275	1699	
Queue Service Time (g <sub>s</sub> ), s	1.3	3.4	3.5	1.9	5.8	6.0	3.1	5.3		7.2	7.4	
Cycle Queue Clearance Time (g <sub>c</sub> ), s	1.3	3.4	3.5	1.9	5.8	6.0	10.5	5.3		12.5	7.4	
Green Ratio (g/C)	0.69	0.64	0.64	0.70	0.65	0.65	0.15	0.15		0.15	0.15	
Capacity (c), veh/h	653	1165	1080	812	1193	1089	169	262		198	259	
Volume-to-Capacity Ratio (X)	0.104	0.135	0.140	0.127	0.219	0.223	0.238	0.389		0.474	0.526	
Back of Queue (Q), ft/ln (95 th percentile)	17.8	58	56.1	26.7	100.3	94.4	44.1	104.4		106.1	144.4	
Back of Queue (Q), veh/ln (95 th percentile)	0.7	2.3	2.2	1.0	3.9	3.7	1.7	4.1		4.1	5.6	
Queue Storage Ratio (RQ) (95 th percentile)	0.13	0.00	0.00	0.20	0.00	0.00	0.44	0.00		0.85	0.00	
Uniform Delay (d <sub>1</sub> ), s/veh	5.2	7.1	7.1	4.9	7.3	7.3	43.9	38.2		43.9	39.0	
Incremental Delay (d <sub>2</sub> ), s/veh	0.0	0.2	0.3	0.0	0.4	0.5	0.3	0.4		0.7	0.6	
Initial Queue Delay (d <sub>3</sub> ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	5.3	7.3	7.3	5.0	7.7	7.8	44.2	38.5		44.5	39.7	
Level of Service (LOS)	A	A	A	A	A	A	D	D		D	D	
Approach Delay, s/veh / LOS	6.9		A	7.3		A	40.1		D	41.6		D
Intersection Delay, s/veh / LOS	16.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.2	B	2.2	B	2.9	C	2.9	C
Bicycle LOS Score / LOS	0.8	A	1.0	A	0.7	A	0.9	A

## HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	4/7/2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Friday Total Peak	PHF	0.97
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:00
Intersection	Prospect Avenue	File Name	Friday Total.xus		
Project Description	FridayTotal Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	66	235	64	100	364	125	39	59	40	91	69	63

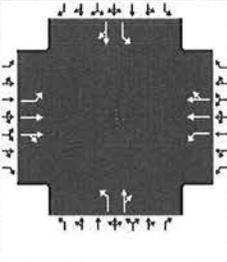
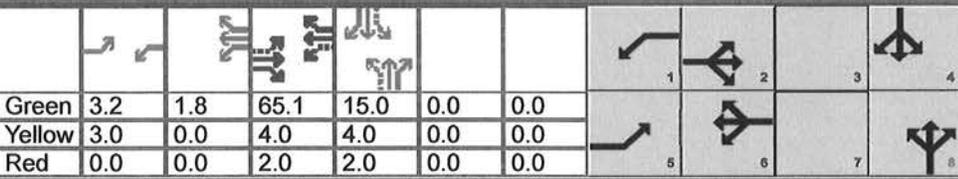
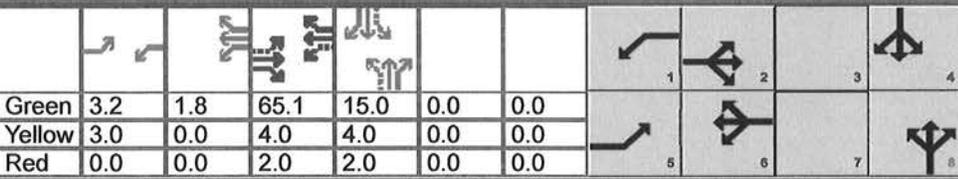
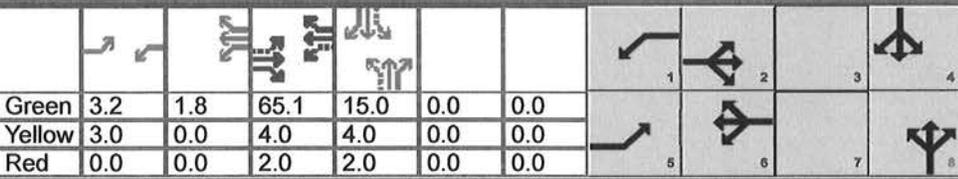
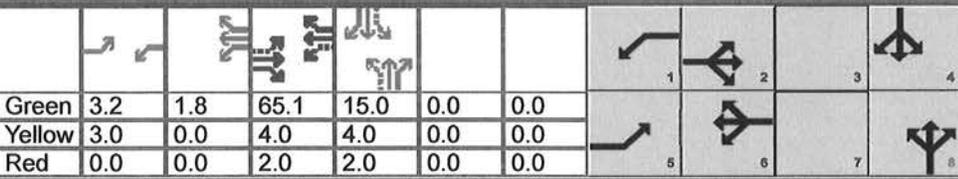
Signal Information													
Cycle, s	100.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	5.1	0.6	64.1	15.2	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.0	0.0	4.0	4.0	0.0	0.0			
				Red	0.0	0.0	2.0	2.0	0.0	0.0			

Saturation Flow / Delay	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor ( $f_w$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
Approach Grade Adjustment Factor ( $f_g$ )	0.985	0.985	0.985	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor ( $f_p$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor ( $f_{bb}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor ( $f_a$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor ( $f_{LU}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor ( $f_{LT}$ )	0.952	0.000		0.952	0.000			0.000			0.000	
Right-Turn Adjustment Factor ( $f_{RT}$ )		0.927			0.913			0.932			0.921	
Left-Turn Pedestrian Adjustment Factor ( $f_{Lpb}$ )	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor ( $f_{Rpb}$ )			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1730	2765		1757	2636			1025			888	
Proportion of Vehicles Arriving on Green (P)	0.05	0.64	0.64	0.06	0.65	0.65	0.15	0.15	0.15	0.15	0.15	0.15
Incremental Delay Factor (k)	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04		0.04	0.04	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time ( $t_L$ )	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio ( $g/C$ )	0.69	0.64	0.70	0.65		0.15		0.15
Permitted Saturation Flow Rate ( $s_p$ ), veh/h/ln	869	0	1056	0		1236		1275
Shared Saturation Flow Rate ( $s_{sh}$ ), veh/h/ln								
Permitted Effective Green Time ( $g_e$ ), s	64.1	0.0	64.1	0.0		15.2		15.2
Permitted Service Time ( $g_u$ ), s	56.7	0.0	60.6	0.0		7.8		9.9
Permitted Queue Service Time ( $g_{qs}$ ), s	0.6		0.4			3.1		7.2
Time to First Blockage ( $g_t$ ), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Service Time Before Blockage ( $g_{fs}$ ), s								
Protected Right Saturation Flow ( $s_R$ ), veh/h/ln								
Protected Right Effective Green Time ( $g_R$ ), s								

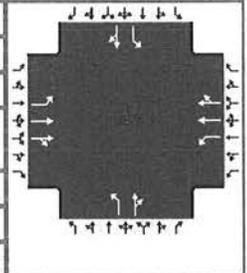
Multimodal	EB		WB		NB		SB	
Pedestrian $F_w / F_v$	1.557	0.00	1.557	0.00	2.107	0.00	2.107	0.00
Pedestrian $F_s / F_{delay}$	0.000	0.075	0.000	0.073	0.000	0.144	0.000	0.144
Pedestrian $M_{comer} / M_{cw}$								
Bicycle $c_b / d_b$	1281.96	6.44	1293.24	6.24	304.88	35.92	304.88	35.92
Bicycle $F_w / F_v$	-3.64	0.31	-3.64	0.50	-3.64	0.23	-3.64	0.38

## HCS 2010 Signalized Intersection Input Data

General Information					Intersection Information											
Agency	Eriksson Engineering				Duration, h	0.25										
Analyst	SBC		Analysis Date	Apr 12, 2016		Area Type	Other									
Jurisdiction	DuPage/Bartlett		Time Period	Saturday Existing Peak		PHF	0.96									
Urban Street	Devon Avenue		Analysis Year	2016		Analysis Period	1 > 17:30									
Intersection	Prospect Avenue		File Name	Friday Existing.xus												
Project Description	Saturday Existing Volumes															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					26	141	34	60	165	63	31	40	66	62	71	20
Signal Information																
Cycle, s	100.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green					3.2	1.8	65.1	15.0	0.0	0.0						
Yellow					3.0	0.0	4.0	4.0	0.0	0.0						
Red					0.0	0.0	2.0	2.0	0.0	0.0						
Traffic Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					26	141	34	60	165	63	31	40	66	62	71	20
Initial Queue (Q <sub>b</sub> ), veh/h					0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s <sub>0</sub> ), veh/h					1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N <sub>m</sub> ), man/h					None			None			None			None		
Heavy Vehicles (P <sub>HV</sub> ), %					3	3		3	3		3	3		3	3	
Ped / Bike / RTOR, /h					0	0	0	0	0	0	0	0	0	0	0	0
Buses (N <sub>b</sub> ), buses/h					0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)					3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)					1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft					12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft					135	0		135	0		100	0		125	0	
Grade (P <sub>g</sub> ), %						3			0			0			0	
Speed Limit, mi/h					35	35	35	35	35	35	30	30	30	25	25	25
Phase Information					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Maximum Green (G <sub>max</sub> ) or Phase Split, s					20.0	45.0	20.0	45.0		35.0		35.0				
Yellow Change Interval (Y), s					3.0	4.0	3.0	4.0		4.0		4.0				
Red Clearance Interval (R <sub>c</sub> ), s					0.0	2.0	0.0	2.0		2.0		2.0				
Minimum Green (G <sub>min</sub> ), s					6	6	6	6	6	15	6	15				
Start-Up Lost Time (I <sub>t</sub> ), s					2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Extension of Effective Green (e), s					2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Passage (PT), s					2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Recall Mode					Off	Min	Off	Min	Off	Off	Off	Off				
Dual Entry					No	Yes	No	Yes	No	Yes	No	Yes				
Walk (Walk), s					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Pedestrian Clearance Time (PC), s					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Multimodal Information					EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius					0	No	25	0	No	25	0	No	25	0	No	25
Walkway / Crosswalk Width / Length, ft					9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb					0	0	No	0	0	No	0	0	No	0	0	No
Width Outside / Bike Lane / Shoulder, ft					12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking					No	0.50	No	0.50	No	0.50	No	0.50	No	0.50		

# HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	Apr 12, 2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Saturday Existing Peak	PHF	0.96
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:30
Intersection	Prospect Avenue	File Name	Friday Existing.xus		
Project Description	Saturday Existing Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	26	141	34	60	165	63	31	40	66	62	71	20

Signal Information				Signal Phases							
Cycle, s	100.0	Reference Phase	2								
Offset, s	0	Reference Point	End	Green	3.2	1.8	65.1	15.0	0.0	0.0	
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.0	0.0	4.0	4.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	2.0	2.0	0.0	0.0	

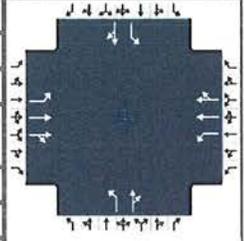
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	4.0		6.0		6.0
Phase Duration, s	6.2	71.1	7.9	72.8		21.0		21.0
Change Period, (Y+R <sub>c</sub> ), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	3.1	0.0	3.1	0.0		3.3		3.3
Queue Clearance Time (g <sub>s</sub> ), s	2.5		3.1			9.1		13.0
Green Extension Time (g <sub>e</sub> ), s	0.0	0.0	0.1	0.0		0.6		0.6
Phase Call Probability	0.53		0.82			1.00		1.00
Max Out Probability	0.00		0.00			0.00		0.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	27	92	90	63	121	116	32	110		65	95	
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1817	1697	1757	1845	1674	1283	1659		1265	1774	
Queue Service Time (g <sub>s</sub> ), s	0.5	1.9	2.0	1.1	2.3	2.5	2.3	6.1		4.9	4.8	
Cycle Queue Clearance Time (g <sub>c</sub> ), s	0.5	1.9	2.0	1.1	2.3	2.5	7.1	6.1		11.0	4.8	
Green Ratio (g/C)	0.68	0.65	0.65	0.71	0.67	0.67	0.15	0.15		0.15	0.15	
Capacity (c), veh/h	819	1182	1104	907	1233	1119	203	249		185	266	
Volume-to-Capacity Ratio (X)	0.033	0.078	0.082	0.069	0.098	0.104	0.159	0.444		0.349	0.356	
Back of Queue (Q), ft/ln (95 th percentile)	7.3	31.5	31	14.9	39	37.8	34	114.5		71.9	97.7	
Back of Queue (Q), veh/ln (95 th percentile)	0.3	1.2	1.2	0.6	1.5	1.5	1.3	4.5		2.8	3.8	
Queue Storage Ratio (RQ) (95 th percentile)	0.05	0.00	0.00	0.11	0.00	0.00	0.34	0.00		0.58	0.00	
Uniform Delay (d <sub>1</sub> ), s/veh	5.2	6.4	6.4	4.5	5.9	5.9	41.4	38.7		43.7	38.2	
Incremental Delay (d <sub>2</sub> ), s/veh	0.0	0.1	0.1	0.0	0.2	0.2	0.1	0.5		0.4	0.3	
Initial Queue Delay (d <sub>3</sub> ), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh	5.2	6.6	6.6	4.5	6.0	6.1	41.5	39.2		44.1	38.5	
Level of Service (LOS)	A	A	A	A	A	A	D	D		D	D	
Approach Delay, s/veh / LOS	6.4		A	5.7		A	39.7		D	40.8		D
Intersection Delay, s/veh / LOS	18.8						B					

Multimodal Results	EB	WB	NB	SB
Pedestrian LOS Score / LOS	2.2 / B	2.2 / B	2.9 / C	2.9 / C
Bicycle LOS Score / LOS	0.7 / A	0.7 / A	0.7 / A	0.8 / A

## HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	Apr 12, 2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Saturday Existing Peak	PHF	0.96
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:30
Intersection	Prospect Avenue	File Name	Friday Existing.xus		
Project Description	Saturday Existing Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	26	141	34	60	165	63	31	40	66	62	71	20

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	3.2	1.8	65.1	15.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.0	0.0	4.0	4.0	0.0	0.0		
				Red	0.0	0.0	2.0	2.0	0.0	0.0		

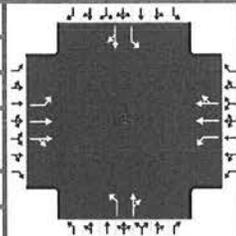
Saturation Flow / Delay	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor ( $f_w$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
Approach Grade Adjustment Factor ( $f_g$ )	0.985	0.985	0.985	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor ( $f_p$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor ( $f_{bb}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor ( $f_a$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor ( $f_{LU}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor ( $f_{LT}$ )	0.952	0.000		0.952	0.000			0.000			0.000	
Right-Turn Adjustment Factor ( $f_{RT}$ )		0.934			0.908			0.899			0.962	
Left-Turn Pedestrian Adjustment Factor ( $f_{Lob}$ )	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor ( $f_{Rob}$ )			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1730	2847		1757	2574			626			1384	
Proportion of Vehicles Arriving on Green (P)	0.03	0.65	0.65	0.05	0.67	0.67	0.15	0.15	0.15	0.15	0.15	0.15
Incremental Delay Factor (k)	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04		0.04	0.04	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time ( $t_L$ )	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.68	0.65	0.71	0.67		0.15		0.15
Permitted Saturation Flow Rate ( $s_o$ ), veh/h/ln	1110	0	1185	0		1283		1265
Shared Saturation Flow Rate ( $s_{sh}$ ), veh/h/ln								
Permitted Effective Green Time ( $g_o$ ), s	65.1	0.0	65.8	0.0		15.0		15.0
Permitted Service Time ( $g_u$ ), s	62.3	0.0	63.1	0.0		10.2		8.9
Permitted Queue Service Time ( $g_{os}$ ), s	0.1		0.2			2.3		4.9
Time to First Blockage ( $g_l$ ), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Service Time Before Blockage ( $g_{fs}$ ), s								
Protected Right Saturation Flow ( $s_R$ ), veh/h/ln								
Protected Right Effective Green Time ( $g_R$ ), s								

Multimodal	EB		WB		NB		SB	
Pedestrian $F_w / F_v$	1.557	0.00	1.557	0.00	2.107	0.00	2.107	0.00
Pedestrian $F_s / F_{delay}$	0.000	0.073	0.000	0.068	0.000	0.144	0.000	0.144
Pedestrian $M_{comer} / M_{cw}$								
Bicycle $c_b / d_b$	1301.20	6.10	1336.60	5.50	299.94	36.13	299.94	36.13
Bicycle $F_w / F_v$	-3.64	0.17	-3.64	0.25	-3.64	0.24	-3.64	0.26

## HCS 2010 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	Apr 12, 2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Saturday Total Peak	PHF	0.96
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:30
Intersection	Prospect Avenue	File Name	Friday Existing.xus		
Project Description	Saturday Total Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	27	143	34	75	185	63	31	40	69	62	75	23

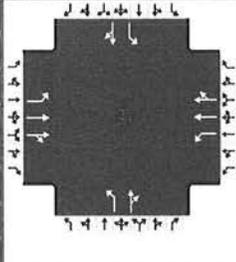
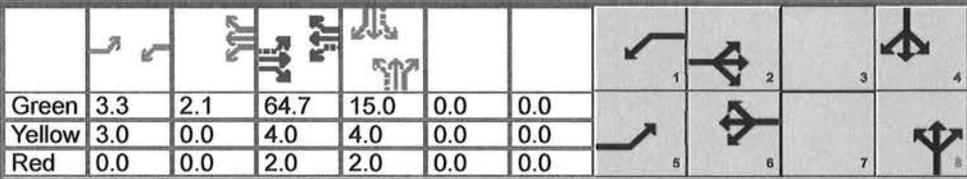
Signal Information				Signal Phases										
Cycle, s	100.0	Reference Phase	2											
Offset, s	0	Reference Point	End	Green	3.3	2.1	64.7	15.0	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.0	0.0	4.0	4.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	2.0	2.0	0.0	0.0				

Traffic Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	27	143	34	75	185	63	31	40	69	62	75	23
Initial Queue (Q <sub>b</sub> ), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s <sub>b</sub> ), veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Parking (N <sub>m</sub> ), man/h		None			None			None			None	
Heavy Vehicles (P <sub>HV</sub> ), %	3	3		3	3		3	3		3	3	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N <sub>b</sub> ), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Turn Bay Length, ft	135	0		135	0		100	0		125	0	
Grade (P <sub>g</sub> ), %		3			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	30	30	30	25	25	25

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G <sub>max</sub> ) or Phase Split, s	20.0	45.0	20.0	45.0		35.0		35.0
Yellow Change Interval (Y), s	3.0	4.0	3.0	4.0		4.0		4.0
Red Clearance Interval (R <sub>c</sub> ), s	0.0	2.0	0.0	2.0		2.0		2.0
Minimum Green (G <sub>min</sub> ), s	6	6	6	6	6	15	6	15
Start-Up Lost Time (I <sub>t</sub> ), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (Walk), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

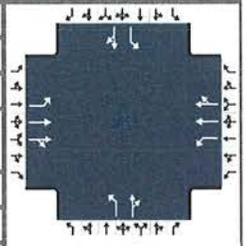
Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0	No	25									
Walkway / Crosswalk Width / Length, ft	9.0	12	0	9.0	12	0	9.0	12	0	9.0	12	0
Street Width / Island / Curb	0	0	No									
Width Outside / Bike Lane / Shoulder, ft	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0	12	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50										

## HCS 2010 Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	Eriksson Engineering				Duration, h	0.25										
Analyst	SBC	Analysis Date	Apr 12, 2016		Area Type	Other										
Jurisdiction	DuPage/Bartlett		Time Period	Saturday Total Peak	PHF	0.96										
Urban Street	Devon Avenue		Analysis Year	2016	Analysis Period	1 > 17:30										
Intersection	Prospect Avenue		File Name	Friday Existing.xus												
Project Description	Saturday Total Volumes															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					27	143	34	75	185	63	31	40	69	62	75	23
Signal Information																
Cycle, s	100.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
Green	3.3	2.1	64.7	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Yellow	3.0	0.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Red	0.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					5	2	1	6		8		4				
Case Number					1.1	4.0	1.1	4.0		6.0		6.0				
Phase Duration, s					6.3	70.7	8.3	72.7		21.0		21.0				
Change Period, (Y+R <sub>c</sub> ), s					3.0	6.0	3.0	6.0		6.0		6.0				
Max Allow Headway (MAH), s					3.1	0.0	3.1	0.0		3.3		3.3				
Queue Clearance Time (g <sub>s</sub> ), s					2.5		3.3			9.5		13.2				
Green Extension Time (g <sub>e</sub> ), s					0.0	0.0	0.1	0.0		0.6		0.6				
Phase Call Probability					0.54		0.89			1.00		1.00				
Max Out Probability					0.00		0.00			0.00		0.00				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h					28	93	91	78	132	126	32	114		65	102	
Adjusted Saturation Flow Rate (s), veh/h/ln					1730	1817	1698	1757	1845	1687	1275	1656		1262	1770	
Queue Service Time (g <sub>s</sub> ), s					0.5	1.9	2.0	1.3	2.6	2.7	2.3	6.3		4.9	5.2	
Cycle Queue Clearance Time (g <sub>c</sub> ), s					0.5	1.9	2.0	1.3	2.6	2.7	7.5	6.3		11.2	5.2	
Green Ratio (g/C)					0.68	0.65	0.65	0.71	0.67	0.67	0.15	0.15		0.15	0.15	
Capacity (c), veh/h					804	1175	1098	907	1231	1126	197	248		182	265	
Volume-to-Capacity Ratio (X)					0.035	0.079	0.083	0.086	0.107	0.112	0.164	0.457		0.354	0.385	
Back of Queue (Q), ft/ln (95 th percentile)					7.7	32.4	31.8	18.6	42.9	41.4	34.2	118		72.2	105.8	
Back of Queue (Q), veh/ln (95 th percentile)					0.3	1.3	1.2	0.7	1.7	1.6	1.3	4.6		2.8	4.1	
Queue Storage Ratio (RQ) (95 th percentile)					0.06	0.00	0.00	0.14	0.00	0.00	0.34	0.00		0.58	0.00	
Uniform Delay (d <sub>1</sub> ), s/veh					5.3	6.6	6.6	4.4	6.0	6.0	41.7	38.8		43.9	38.3	
Incremental Delay (d <sub>2</sub> ), s/veh					0.0	0.1	0.1	0.0	0.2	0.2	0.1	0.5		0.4	0.3	
Initial Queue Delay (d <sub>3</sub> ), s/veh					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh					5.3	6.7	6.7	4.4	6.1	6.2	41.9	39.3		44.3	38.7	
Level of Service (LOS)					A	A	A	A	A	A	D	D		D	D	
Approach Delay, s/veh / LOS					6.5		A	5.8		A	39.9		D	40.9		D
Intersection Delay, s/veh / LOS					18.5						B					
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.2		B	2.2		B	2.9		C	2.9		C
Bicycle LOS Score / LOS					0.7		A	0.8		A	0.7		A	0.8		A

## HCS 2010 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	Eriksson Engineering			Duration, h	0.25
Analyst	SBC	Analysis Date	Apr 12, 2016	Area Type	Other
Jurisdiction	DuPage/Bartlett	Time Period	Saturday Total Peak	PHF	0.96
Urban Street	Devon Avenue	Analysis Year	2016	Analysis Period	1 > 17:30
Intersection	Prospect Avenue	File Name	Friday Existing.xus		
Project Description	Saturday Total Volumes				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	27	143	34	75	185	63	31	40	69	62	75	23

Signal Information												
Cycle, s	100.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Green	3.3	2.1	64.7	15.0	0.0	0.0						
Yellow	3.0	0.0	4.0	4.0	0.0	0.0						
Red	0.0	0.0	2.0	2.0	0.0	0.0						

Saturation Flow / Delay	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor ( $f_w$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicle Adjustment Factor ( $f_{HV}$ )	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971	0.971
Approach Grade Adjustment Factor ( $f_g$ )	0.985	0.985	0.985	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Parking Activity Adjustment Factor ( $f_p$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor ( $f_{bb}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor ( $f_a$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor ( $f_{LU}$ )	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor ( $f_{LT}$ )	0.952	0.000		0.952	0.000			0.000			0.000	
Right-Turn Adjustment Factor ( $f_{RT}$ )		0.935			0.915			0.898			0.959	
Left-Turn Pedestrian Adjustment Factor ( $f_{LPB}$ )	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor ( $f_{RPB}$ )			1.000			1.000			1.000			1.000
Movement Saturation Flow Rate (s), veh/h	1730	2855		1757	2656			608			1355	
Proportion of Vehicles Arriving on Green (P)	0.03	0.65	0.65	0.05	0.67	0.67	0.15	0.15	0.15	0.15	0.15	0.15
Incremental Delay Factor (k)	0.04	0.50	0.50	0.04	0.50	0.50	0.04	0.04		0.04	0.04	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time ( $t_L$ )	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio ( $g/C$ )	0.68	0.65	0.71	0.67		0.15		0.15
Permitted Saturation Flow Rate ( $s_p$ ), veh/h/ln	1089	0	1183	0		1275		1262
Shared Saturation Flow Rate ( $s_{sh}$ ), veh/h/ln								
Permitted Effective Green Time ( $g_p$ ), s	64.7	0.0	65.7	0.0		15.0		15.0
Permitted Service Time ( $g_u$ ), s	62.0	0.0	62.7	0.0		9.8		8.7
Permitted Queue Service Time ( $g_{qs}$ ), s	0.1		0.2			2.3		4.9
Time to First Blockage ( $g_j$ ), s	0.0	0.0	0.0	0.0		0.0		0.0
Queue Service Time Before Blockage ( $g_{ts}$ ), s								
Protected Right Saturation Flow ( $s_R$ ), veh/h/ln								
Protected Right Effective Green Time ( $g_R$ ), s								

Multimodal	EB		WB		NB		SB	
Pedestrian $F_w / F_v$	1.557	0.00	1.557	0.00	2.107	0.00	2.107	0.00
Pedestrian $F_s / F_{delay}$	0.000	0.073	0.000	0.069	0.000	0.144	0.000	0.144
Pedestrian $M_{corner} / M_{cw}$								
Bicycle $c_b / d_b$	1293.73	6.24	1334.97	5.53	299.96	36.13	299.96	36.13
Bicycle $F_w / F_v$	-3.64	0.18	-3.64	0.28	-3.64	0.24	-3.64	0.28

**--- Messages ---**

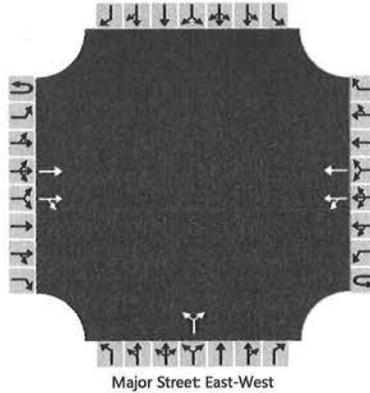
No errors or warnings exist.

**--- Comments ---**

# HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	SBC	Intersection	Devon Ave/Site Drive
Agency/Co.	Eriksson Engineering	Jurisdiction	DuPage County
Date Performed	4/12/2016	East/West Street	Devon Avenue
Analysis Year	2016	North/South Street	Ashton Gardens Drive
Time Analyzed	Friday Total Peak	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Ashton Gardens		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	2	0	0	0	2	0		0	0	0		0	0	0
Configuration			T	TR		LT	T				LR					
Volume (veh/h)			362	21		23	443			3		3				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

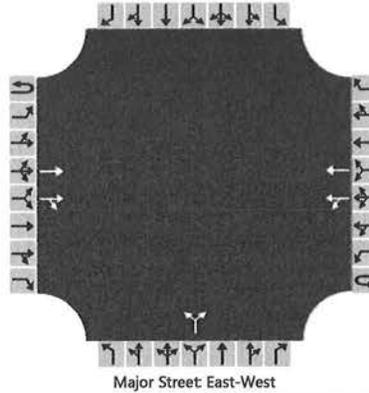
## Delay, Queue Length, and Level of Service

Flow Rate (veh/h)					253						6					
Capacity					1153						513					
v/c Ratio					0.22						0.01					
95% Queue Length					0.1						0.0					
Control Delay (s/veh)					8.2						12.1					
Level of Service (LOS)					A						B					
Approach Delay (s/veh)					0.5				12.1							
Approach LOS									B							

# HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	SBC	Intersection	Devon Ave/Site Drive
Agency/Co.	Eriksson Engineering	Jurisdiction	DuPage County
Date Performed	4/12/2016	East/West Street	Devon Avenue
Analysis Year	2016	North/South Street	Ashton Gardens Drive
Time Analyzed	Saturday Total Peak	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Ashton Gardens		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	2	0	0	0	2	0		0	0	0		0	0	0
Configuration			T	TR		LT	T				LR					
Volume (veh/h)			201	21		23	216			3		3				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

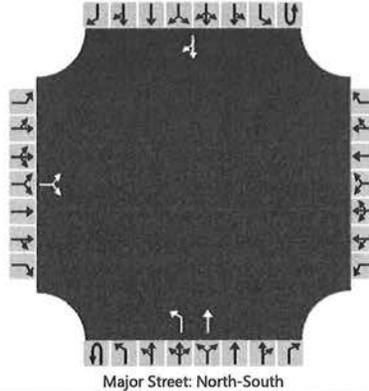
## Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						137						6				
Capacity						1327						700				
v/c Ratio						0.10						0.01				
95% Queue Length						0.1						0.0				
Control Delay (s/veh)						7.8						10.2				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					0.8				10.2							
Approach LOS									B							

# HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	SBC	Intersection	Prospect Ave/Site Drive
Agency/Co.	Eriksson Engineering	Jurisdiction	Village of Bartlett
Date Performed	4/12/2016	East/West Street	Ashton Gardens Drive
Analysis Year	2016	North/South Street	Prospect Avenue
Time Analyzed	Friday Total Peak	Peak Hour Factor	0.97
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Ashton Gardens		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		3		1						7	135				214	19
Percent Heavy Vehicles		3		3						3						
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Left Only															
Median Storage	1															

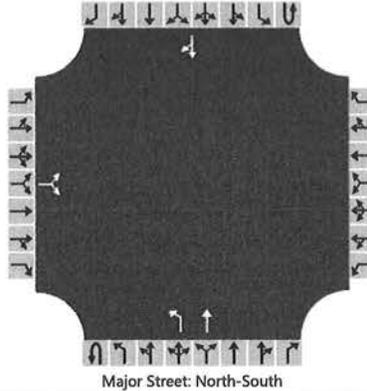
## Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			4							7						
Capacity			682							1318						
v/c Ratio			0.01							0.01						
95% Queue Length			0.0							0.0						
Control Delay (s/veh)			10.3							7.7						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)	10.3								0.4							
Approach LOS	B															

# HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	SBC	Intersection	Prospect Ave/Site Drive
Agency/Co.	Eriksson Engineering	Jurisdiction	Village of Bartlett
Date Performed	4/12/2016	East/West Street	Ashton Gardens Drive
Analysis Year	2016	North/South Street	Prospect Avenue
Time Analyzed	Saturday Total Peak	Peak Hour Factor	0.97
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Ashton Gardens		

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	0	0	0	1	1	0	0	0	1	0	
Configuration			LR							L	T					TR	
Volume (veh/h)		3		1						7	137					165	19
Percent Heavy Vehicles		3		3						3							
Proportion Time Blocked																	
Right Turn Channelized	No				No				No				No				
Median Type	Left Only																
Median Storage	1																

## Delay, Queue Length, and Level of Service

Flow Rate (veh/h)			4							7							
Capacity			715							1376							
v/c Ratio			0.01							0.01							
95% Queue Length			0.0							0.0							
Control Delay (s/veh)			10.1							7.6							
Level of Service (LOS)			B							A							
Approach Delay (s/veh)	10.1								0.4								
Approach LOS	B																

JUN 07 2016

VILLAGE OF  
BARTLETT



**MEMO**

To: Roberta Grill, Village of Bartlett

From: Brent Coulter, PE, PTOE

Date: 6/7/2016

Re: **Traffic Engineering Review of the Proposed Ashton Gardens Wedding Chapel and Banquet Facility (Devon Ave. at Prospect Ave. in Bartlett, IL).**

Per your request I have prepared this review of traffic and parking for the proposed Ashton Gardens based on the Site Plan, Traffic Impact Study prepared by Eriksson Engineering Associates, Ltd., "Autoturn" exhibits and other reports and plans provided by the Village for the proposed development. The following specific areas were addressed:

- Traffic generation and assignment and subsequent capacity and impact analysis at site driveways and the off-site intersection of Devon and Prospect.
- Overall site accessibility, driveway sight lines and access routing.
- Internal circulation including emergency vehicle accessibility.
- Proposed site parking supply and demand.

**I. Site Accessibility and Offsite Intersection Traffic (Capacity) Impact**

The site Traffic Impact Study analyzes proposed site driveway access on Devon Avenue and on Prospect Avenue, as well as the adjacent off-site signalized intersection of Devon and Prospect with and without the proposed wedding/reception use. The traffic study assumed, as a worst-case scenario, that the proposed use would coincide with the peak hour of background traffic counted on a Friday afternoon (as discussed later in the parking review, the projected site trip estimates are also high because they assume the wedding and reception facilities as separate trip generating entities when in fact many wedding guests will stay on site and not generate a "new" second inbound trip for the reception).

a. Site and Off-Site Capacity (Level of Service)

Both the 4-lane Devon Ave. (+/- 4,500 vpd west of Prospect based on factoring up from peak hour counts) and the 3-lane Prospect Ave. (2,400 vpd south of Devon) are relatively low-volume streets for their cross-sections. The applicant's traffic study found that the proposed use would not measurably change the existing level of service at the Devon/Prospect intersection (operating at a good overall Level of Service B) and that each unsignalized site driveway access would operate at a very good LOS A/B (with no left-turn lanes on either Devon or Prospect serving site access points).

This analysis Site traffic was assigned primarily to Devon Avenue (80%). Only 10% of site traffic was assigned to/from the north on Prospect which connects with Lake Street (US 20) a major east-west arterial. I think this estimate to/from the north could be significantly higher but do not believe it will appreciably impact the findings of the capacity analysis.

b. Overall Site Accessibility (Wayfinding)

Trips to and from the east via US 20 (Lake Street) encounter a rather circuitous routing via Ontarioville Road at US 20, and then a jog at Newport Blvd. that could be confusing to those unfamiliar with the area. Trips to/from the NW could come down Oak Avenue and then are faced with a variety of street routings (North Ave. to Prospect, or Railroad Ave. to S. Main to Devon, or Railroad Avenue to Prospect) to access the site, while trips from the west on West Bartlett Road could continue onto Railroad Ave. to Prospect or down S. Bartlett Road to Devon Avenue. It would be desirable for Ashton Gardens management to consult with Village staff on preferred access routings displayed on their web site.

**II. Driveway Access Design/Internal Circulation**

a. Turn Lane Warrants

The TIS concludes that no left-turn lanes are warranted on Devon Avenue or Prospect Avenue but no supporting warrant analysis was provided. A quick check of IDOT BDE Manual Figures 36-3.A and 36-3.B indicate that right-turn lanes are not warranted on either Devon Avenue or Prospect Avenue. A left-turn lane is not warranted on Prospect Avenue based on a volume check (assuming a conservatively volume on Prospect at the site access drive) based on IDOT BDE Figure 36-3.G. *The combination of opposing EB peak hour volume on Devon and projected WB site access left turns on the Harmelink warrant charts for 4-lane arterials show the combination right at, or slightly below warranting left-turn storage (but as noted earlier site trips may be overestimated).*

b. Site Access Location/Design

As shown in Figure 1., the Devon Avenue access is located approximately 220 feet west of Prospect and falls opposite the striped taper median area for the EB left-turn lane on Devon at Prospect. At this point the EB taper width is approximately 9 feet and in such cases there may be a tendency for WB left-turns into the site to straddle this median area as they wait to make their turn. One consideration would be to relocate this access to the west as shown in Figure 1. This could also result in the addition of +/- 6 parking spaces (see parking review that follows). In any event, this part of Devon Avenue is under the jurisdiction of DuPage County and they would have final authority on access location. Relocation of the driveway to the west also improves exiting sight lines relative to vehicle queued on red indications on Devon at the Prospect Ave. signal.

The Prospect Avenue access shown on the Site Plan falls generally opposite a diagonally striped median and beginning of a SB left-turn lane taper serving Lido Terrace. Under the same rationale as discussed above, it may be advantageous to consider restriping this median area on Prospect to provide a legal left-turn storage area for inbound site left-turns while still maintaining the SB left-turn lane (with reduced taper length) for Lido Terrace as shown in Figure 1.

c. Internal Circulation and (Fire) Truck Access

A separate truck service berth and refuse truck access is provided by a separate truck-only access on the west side (rear) of the reception hall building. This would require service vehicles or fire trucks to back out onto Devon Ave., but maximizes green area on the site and separates trucks from guest traffic. A turn-around pad for smaller delivery trucks could be considered south of Devon on this service drive (see Figure 1.).

An aerial fire truck turning path exhibit was provided in support of the Site Plan and shows a vehicle just able to navigate the around the winding parking access aisle at the south end of the site near the office building. The Village should determine if this design vehicle adequately reflects wheelbase, length and turning radii of their own fire equipment. I would suggest consideration of modifying the curb line near the office building area if possible, as shown in Figure 1 (this may require some minor shifting of the office building further west).

**III. Parking Supply**

The applicant's traffic and parking study suggests that their parking analysis may be overstated (double-counted) since they treat the wedding chapel function and the reception hall as separate and distinct parking generators even though it appears that these two functions are generally codependent, with most guests attending the wedding also remaining parked and staying for the reception. I concur with the possibility that the applicant's report may have double-counted parking demand but only if a sufficient time-gap is scheduled between the end of the wedding service and the beginning of the reception to allow those wedding service attendees not staying to leave prior to reception guests arriving.

Based on the above, I have reflected in Table 1., below, the Village staff's calculation of required parking supply based only on the reception facility. These calculations appear to reflect a high occupancy of 3.3 person per vehicle (PPV) for social-recreational trips. I have added in two additional "demand" scenarios based on typical auto occupancies for social-recreation events of in the range of 2.5 to 3.0 persons per vehicle (PPV). The Demand Scenario 1 in Table 1 assumes an average occupancy of 2.5 (PPV) based on the 2.34 PPV from a 2009 study of auto occupancy study at various churches within the County, by DuPage County. Demand Scenario 2 assumes a higher occupancy of 3.0 PPV. In both scenarios, employee parking demand was based on an average suburban Chicago occupancy of 1.2 PPV. In my scenarios, projected parking demand was adjusted to a recommended parking supply by dividing demand by a design supply factor of ".85" to help assure that finding a space is convenient and does not require constant recirculation, and that also takes into account snow removal needs, etc.

The parking supply sensitivity analysis above shows a range of a parking shortfall of 25 spaces under Demand Scenario 1 to a surplus of 12 and 36 spaces for Demand Scenario 2 and the Village Ordinance respectively. In my opinion therefore, the possibility of a parking shortfall exists in cases where the reception hall is fully occupied and/or insufficient time gap is scheduled to allow wedding service only guests to exit the site before the arrival of post wedding reception guests. *To be fair, the applicant's report does state that Ashton Gardens reports a peak parking demand of 125 spaces at other of their facilities in the United States, however, no specific documentation of this was included in my review materials.*

As noted earlier an additional/ +/- 6 parking spaces if the main access drive were relocated further west and consideration of land-banked employee spaces (a one-way aisle to minimize depth) may be of interest on the north side of the building (see Figure 1.).

Scenario	Projected Demand (spaces)	Req'd Parking Supply (spaces)	Spaces Provided On Current Plan	Shortfall(-)/ Surplus(+)
Village Ordinance (3.3 persons/vehicle)		104 <sup>1</sup>	140	+36
Derived Demand Scenario 1 (2.5 persons/guest vehicle) (1.2 persons/employee veh.)	300/2.50 = 120 30/1.2 = 29 Total = 149	149/.9 = 165 <sup>2</sup>	140	-25
Derived Demand Scenario 2 (3.0 persons/guest vehicle) (1.2 persons/employee veh.)	300/3.00 = 90 30/1.2 = 25 Total = 115	115/.9 = 128 <sup>2</sup>	140	+12

<sup>1</sup> Calculated by Village staff based on Village Ord.  
<sup>2</sup> Required parking supply assumes a 10% design surplus factor to support ease of space finding and user convenience.

Certain events with a higher number of children in attendance than a wedding (such as quinceaneras) or lower adult auto occupancies (i.e. after work office banquets where auto occupancies are more like the typical employee commute) may generate parking demand significantly higher than assumed by the Village ordinance or demand scenarios above.

The corner site is located at the intersection of two arterial streets with no on-street parking permitted and with no on-street parking capability on within reasonable walking distance. As a result careful attention must be paid to parking demand and on-site supply to insure that all parking can be accommodated without parking spilling over onto private parking lots or residential streets or where guest vehicles are forced to circulate continuously through the site (or worse, in and out of the site on adjacent streets) in their search for a parking space. Devon Avenue seems to be the type of 4-lane street that most guests would not associate with on-street parking, however, the three-lane Prospect Avenue has a local residential feel to it that may not convey “no parking” as strongly. No parking signs on Prospect should be installed if this were to become a problem.

Initial wedding events could be scheduled so that they fall below the maximum legal occupancy of the reception hall in order to verify parking demand. Subsequent events which may be anticipated to generate a higher level of parking demand than a traditional wedding could also have occupancy caps.

Opportunities for valet parking for larger events using remote lots under agreement with other commercial property owners appear to be limited but could be considered.

**IV. Review Findings/Recommendations**

**1.a. Site and Off-Site Capacity (Level of Service)**

Site driveway capacity (level of service) are projected to be good, and offsite operations at the signalized intersection of Devon and Prospect will not be adversely impacted by the proposed use.

1.b. Overall Site Accessibility (Wayfinding)

Access routing options from the west, northwest and east may be somewhat confusing to some guests. It would be desirable for Ashton Gardens management to consult with Village staff on preferred routings displayed on their web site.

2.a. Turn Lane Warrants

I would concur with the applicant's traffic report that left- and right-turn lanes do not appear to be warranted at site access drives on Devon and on Prospect.

2.b. Site Access Location/Design

Consider relocating the main access on Devon further west (Figure 1.) to move it away from the EB left-turn lane entry taper on Devon at Prospect (this could also create potential for added parking spaces internally). Consider restriping the median area north of Lido Terrace to maintain the existing SB left-turn lane but add legal median left-turn storage for the proposed site access (see Figure 1.).

c. Internal Circulation and (Fire) Truck Access

There is no internal connection for the rear (reception hall) loading berth. Service trucks will be forced to back out onto Devon. A truck turn-around pad could be considered near the northwest corner of the reception hall (Figure 1.).

Fire truck access through the main parking access aisle is tight. Verify that the design fire vehicle is compatible with the Village design fire truck and consider a slight modification to the curb line in the vicinity of the office building (see Figure 1.).

3. Parking

In my opinion, in the absence of strong internal scheduling controls, there may be some potential for event parking to exceed supply, especially when at maximum legal reception hall occupancy and for certain events with a higher number of children in attendance than a typical wedding (such as quinceaneras) or where lower adult auto occupancies could be expected (i.e. after work office banquets where auto occupancies are more like the typical employee commute). Since there is no overflow on-street parking available on adjacent and nearby appropriate (i.e. non-residential) public streets, certain management considerations should be considered if the development is approved:

- Initial wedding events could be scheduled so that they fall below the maximum legal occupancy of the reception hall in order to verify actual parking demand. Subsequent events which may be anticipated to generate a higher level of parking demand than a traditional wedding could also have temporary occupancy caps below the legal limit of the reception hall.
- A sufficient time-gap should be scheduled between the end of a wedding service and the beginning of the reception to allow those wedding service attendees not staying for the reception to leave the site prior to reception-only guests arriving.

- *Prospect Avenue has a local residential feel to it that may not convey "no on-street parking" to guests as strongly as Devon Avenue. No parking signs on Prospect should be installed if this were to become a problem.*

*Relocation of the main Devon access drive to the west would create an additional +/- 6 guest parking spaces. Land banked employee parking (one-way aisle) could be considered on the north side of the reception hall connecting the service drive to the main Devon access drive (Figure 1.).*

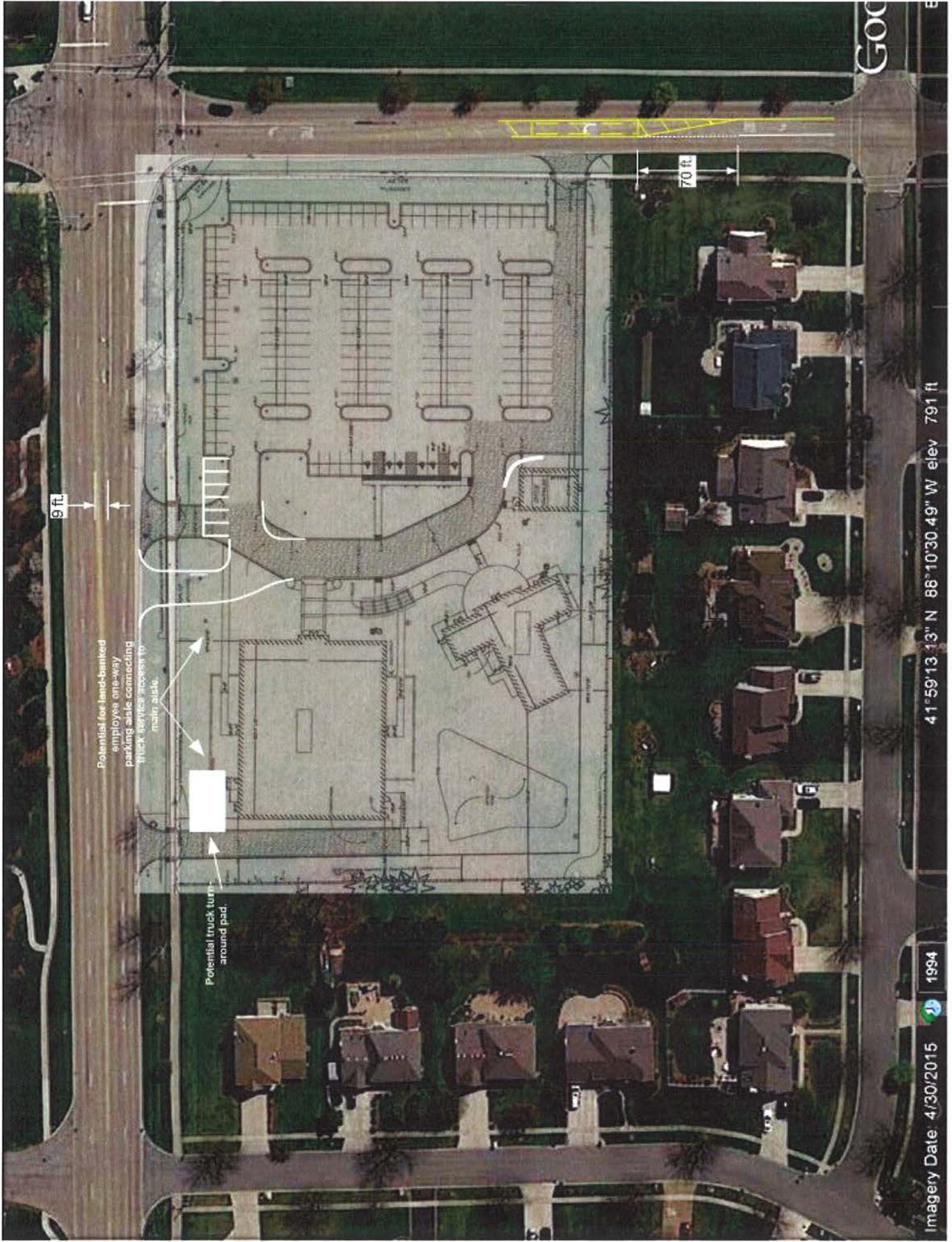


FIGURE 1. Ashton Gardens – Site Plan Considerations



# Agenda Item Executive Summary

Item Name      BAPS Final PUD Plan - Phase 4      Committee  
or Board      Committee

## BUDGET IMPACT

*Amount:*      N/A      *Budgeted*      N/A  
*List what*  
*fund*      N/A

## EXECUTIVE SUMMARY

The Petitioner is requesting a **Final PUD Plan** review for Phase 4 for a Family Activity Center to be constructed on the BAPS property located along the east side of Rt. 59 and south of Army Trail Road.

## ATTACHMENTS (PLEASE LIST)

Memo, Applicant's Letter, Application, Location Map, Concept Plan (2012), Phasing Plan (2012), Final PUD Plan, Building Elevations, Landscape Plan, Floor Plans, the Gewalt Hamilton Traffic Study and Comments from the Village's Traffic Consultant (Coulter Transportation)

## ACTION REQUESTED

- For Discussion Only - To discuss the Petitioner's request and forward to the Plan Commission for further review.
- Resolution
- Ordinance
- Motion

Staff:      Jim Plonczynski, Com Dev Director

Date:      7/11/2016

**COMMUNITY DEVELOPMENT MEMORANDUM**

**16-136**

DATE: July 11, 2016  
TO: Valerie L. Salmons, Village Administrator  
FROM: Jim Plonczynski, CD Director  
RE: **(#15-13) BAPS**

---

**PETITIONER**

BAPS Chicago, LLC

**SUBJECT SITES**

1851 S. Route 59 (Pramukh Swami Road)

**REQUESTS**

Final PUD Plan for Phase 4

**SURROUNDING LAND USES**

	<b><u>Land Use</u></b>	<b><u>Comprehensive Plan</u></b>	<b><u>Zoning</u></b>
<b>Subject Site</b>	<b>Religious</b>	<b>Municipal/Institutional</b>	<b>ER-1 PUD</b>
North	Single Family, Vacant	Mixed Use Business Park	B-3 PUD, R-3*
South	Residential	Estate Residential	R-2*
East	Residential	Estate Residential	R-2*
West	Residential/	N/A (Wayne)/	W-2** W-4**

\* DuPage County  
\*\*Village of Wayne

**DISCUSSION**

1. The 38 acre BAPS property was annexed to the Village and rezoned in September of 2012 by Ordinances #2012-70, 71 & 72. Phases 1, 2 & 3A were approved as part of a Preliminary/Final PUD Plan that included the existing buildings and an expanded parking area. Phases 4, 5 and 6 were approved as part of the PUD in Concept and identified on the Phasing Plan for the future development of the BAPS property (see attached Concept and Phasing Plans).

2. The Petitioner is now requesting a Final PUD Plan review for Phase 4 which would include the construction of a Family Activity Center. This building, located north of the Temple, would mirror the exterior appearance, size, height and footprint of the existing Cultural Center located south of the Temple. Per the Building Elevations, the overall height would be 53'4" (below the maximum height of 71'9" of the Temple) and the size of the building would be approximately 100,000 sq. ft. (110,020 sq. ft. including storage areas in the lower level).
3. The Family Activity Center would consist of an indoor gymnasium, including a track and basketball court, boys' and girls' classrooms, a lounge, play area, youth workshop, exhibit display area, along with a number of offices and substantial storage space. A specialty kitchen and food prep area along with the Nilkanthvarni (small prayer area) would be moved from the Cultural Center to the lower level of the Youth Activity Center to free up space in the Cultural Center's lower level.
4. Phase 3B has been completed and consisted of the BAPS property connecting to the Village's water and sewer systems. These connections included both on-site and off-site improvements outlined in the Annexation Agreement.
5. Phase 3A is the last phase of parking on the BAPS (Mandir) Site and would include an additional 96 parking spaces. These spaces have not been completed due to this being the former septic field area. As required in the Annexation Agreement, this phase would need to be completed prior to the occupancy of the Phase 4 building and the Petitioner has agreed to this requirement.
6. As stated in the Annexation Agreement, a Traffic Study would need to accompany the Phase 4 application to verify that the parking needs on this property would be satisfied. A Traffic Study prepared by Gewalt Hamilton Associates, Inc. (GHA) has been submitted for the Staff to review (see attached) and the Village's Traffic Consultant, Brent Coulter with Coulter Transportation Consulting, LLC (Coulter) has reviewed and commented on the study (see attached comments).
7. In summary, GHA states "the proposed expansion is not anticipated to be a significant generator of new site traffic, but would serve the current site uses and demand. The new facility will provide extra space for the overcrowded girls' classrooms, the boys instruction, which is taking place in the priest's residences and the dining area which is currently too small to accommodate the Sunday activities. ***The Family Activity Center will allow for the current spaces in the Cultural Center to be utilized for their original intended uses.***"
8. The Petitioner has stated minimal activity will occur in the Family Activity Center during the week and the primary use of the building will take place on Sundays when all of the facilities are being utilized simultaneously by existing guests/worshippers.

9. Below is a summary of the parking spaces provided on the site and those required in strict accordance with the Zoning Ordinance.

**Parking Summary**

	<b>Parking Provided</b>	<b>Parking Required</b>
Phases 1 & 2	725*	745
Phase 3A	96	
<b>Phase 4 (Per Zoning Ord)</b>	0	410
	<b>Total = 821</b>	<b>Total = 1155</b>
		<b>DEFICIT = 334 spaces</b> (1155 - 821 = 334)

(\*Modification granted for a reduction in parking (20 spaces) by Ord. #2012-72)

10. As part of the PUD, the Petitioner would be requesting a modification to reduce the required number of parking spaces. The above chart identifies a deficit of 334 parking spaces due to the Zoning Ordinance requiring 410 additional parking spaces for the new building and its uses. However, once the 96 parking spaces are constructed as part of Phase 3A; the parking on site will total 821 spaces. These additional spaces will provide for an increase in available parking of approximately **29% above the current peak demand of 637 vehicles. Future peak parking in the year 2020 will be 757 parking spaces, still below the 821 provided.** According to GHA, **"the proposed on-site parking supply will accommodate the peak parking demand on-site for approximately 7 years."**

**With the historical demand in membership growth at 3.5% annually, the 821 spaces should accommodate the peak on-site parking for this time period. The Village's Consultant (Coulter) concurs with the majority of GHA's findings and agrees that "the Petitioner makes a strong argument that parking demand may in some instances be double counted and some adjustment of the aggregate parking required by the strict parking requirements outlined in the Zoning Ordinance is appropriate."**

11. **Staff concurs with Coulter's comments and believes that the Family Activity Center will primarily be double counting those currently attending Sunday Services and that the strict interpretation of the Zoning Ordinance provides a hardship for the Petitioner.** The Village's Consultant also states, that it may be important to look at providing an additional parking supply in 3 to 4 years rather than 7 and conditions for future parking on Phase 5 may need to be reviewed sooner so that future demand for parking can be met in a timely manner.
12. As in the past, during special events/festivals, overflow parking was available on the future Yogi Plaza Site and arrangements were made with St. Andrews Golf Course, Resurrection Church and Bartlett High School that provided additional parking with groups being bussed to the Mandir Site during these infrequent peak times.

13. There is one existing curb cut along Rt. 59 for ingress and egress to the Temple Property. However, when the future commercial phases are developed, additional curb cuts may be provided along Army Trail Road providing additional access to both the Future Yogi Plaza and the BAPS Mandir Site.
14. Landscaping and Lighting Plans are currently being reviewed by the Staff.

**RECOMMENDATION**

1. The Staff recommends forwarding the Petitioner's request for a Final PUD Plan to the Plan Commission for further review.
2. The Final PUD Plan, Concept Plan, Phasing Plan, Traffic Study and the Village's Traffic Consultant's comments and additional background material is attached for your review.

rbg/attachments

x:\comdev\mem2016\136\_baps\_vbc.docx



233 SOUTH WACKER DRIVE  
SUITE 6600  
CHICAGO, ILLINOIS 60606  
t 312.258.5500  
f 312.258.5600  
www.schiffhardin.com

June 26, 2015

**BY HAND DELIVERY**

Village President Kevin Wallace  
Members of the Board of Trustees  
228 South Main Street  
Bartlett, Illinois 60103

**Re: BAPS Chicago, LLC -- Request for Final PUD Plan Approval for  
BAPS Mandir Phase 4**

Dear President Wallace and Members of the Board of Trustees:

Schiff Hardin LLP represents BAPS Chicago, LLC ("BAPS"), the current owner of a tract of land comprised of approximately 38.95± acres that is located on the east side of Illinois Route 59 near in intersection of Illinois Route 59 and Army Trail Road in an unincorporated area of DuPage County (the "Property"), which was annexed to the Village of Bartlett by Ordinance No. 2012-71, pursuant to an Annexation Agreement approved by Ordinance No. 2012-70, and zoned by Ordinance No. 2012-72.

**Description of Overall Property**

The Property consists of the following large tracts (each comprised of multiple lots of record):

1. Mandir Site: Approximately 29.954 acres of the land is presently occupied by the BAPS Mandir, an architecturally significant, beautiful Hindu Temple, and associated cultural center, a residence for the priests and another small residence used from time to time to house volunteers/priests (the "Mandir Site"). It also contains a stormwater detention basin that was constructed with excess capacity to serve both the current structures and the future proposed structures on the Mandir Site and the Yogi Plaza Site (described in paragraph 2 below), as well as off-site areas tributary to the existing facility (approximately 2.28 acre feet of excess storm water capacity is contained in this facility). The Mandir Site has approximately 700 feet of frontage along Illinois Route 59 and is located approximately 1,000 feet south of the intersection of Illinois Route 59 and Army Trail Road. All planned future improvements and uses for the Mandir Site are consistent with and an expansion of the presently permitted religious institutional uses on the site. The zoning district into which the Mandir Site has been zoned upon annexation was the

Village President, Kevin Wallace  
Members of the Board of Trustees  
June 26, 2015  
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ER-1 Estate Residence District, including a Special Use Permit for a Planned Unit Development (“PUD”). (See Section Three of Ordinance No. 2012-72) In addition, Section Six of Ordinance No. 2012-72 approved a Concept Plan for Phases 4 (for which final approval is now being sought in this Application), 5 and 6. Phase 4 is described below.

2. Yogi Plaza Site: Approximately 7.46 acres of the land (“Yogi Plaza Site”) is presently mostly vacant (portion designated for Phase 5), although one small portion of the land (designated for Phase 6) contains a residence that is used from time to time by BAPS to house volunteers/priests. The Yogi Plaza Site is on the south side of Army Trail Road, approximately 725 feet east of Illinois Route 59, and has approximately 600 feet of frontage on Army Trail Road, which makes the site well-suited for a retail shopping center use. Section Two of Ordinance No. 2012-72 rezoned the Yogi Plaza Site into the B-3 Neighborhood Shopping Zoning District, which BAPS intends to redevelop for a commercial shopping center. Section Six B of Ordinance No. 2012-72 approved a Concept Plan for Phases 5 and 6.

#### **Specific Plan Approval and Parking Relief Requests**

Specifically the request on behalf of BAPS is for the Village of Bartlett (the “Village”) to approve the Final PUD Plan for the Phase 4 development on the Mandir Site, and to grant it relief from the requirements of the Village’s Zoning Code to allow the construction of fewer parking spaces than are normally required. The following describes the items BAPS is requesting the Village Plan Commission and Board review and approve.

1. Phase 4 Final PUD: Phase 4 will consist of a fourth building on the Mandir Site (the “Family Activity Center”), which will be constructed to mirror the existing Cultural Center building that was previously completed in Phase 1 in footprint, height and architectural style and appearance, and will be located to the north of the Temple so that both the Cultural Center and the new Family Activity Center flank the Temple in an aesthetically harmonious way. The Family Activity Center will house such uses as a gymnasium, family life center/auditorium (multi-purpose room), and meeting/conference or class rooms, and a small amount of office spaces to house the staff involved in the programming for the Family Activity Center. It will not house any residences. Some of the activities presently housed in the existing Cultural Center (Haveli), including the existing auditorium, will be relocated to the Family Activity Center in order to utilize the existing Cultural Center more efficiently for visitors to the BAPS Property. Please refer to the architect’s rendering of the existing Cultural Center, Temple and proposed Family Activity Center for a perspective as to the appearance of the Project after completion of

Village President, Kevin Wallace  
Members of the Board of Trustees  
June 26, 2015  
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the Phase 4 Family Activity Center. The Phase 4 PUD Plan shows the location for the Family Activity Center, which is in the same area designated for this building on the previously approved Concept Plans.

2. Modification of PUD to Allow Phase 3A Parking and No Additional Spaces: Final plans for the parking portions of Phase 2 on the Mandir Site were approved at the time of the Annexation Agreement, and that portion of the parking lot and related improvements have been completed (presently there are a total of 725 spaces on the Mandir Site), including related landscaping and lighting plans, all of which was completed. In addition to these improvements, Phase 3B which consisted of the connection of the Property to the Village water and sewer systems and removal of the existing septic field and system that served the Mandir Site (formerly located under the area designated for the Phase 3A portions of the parking lot) have been completed. Construction of the 96 additional Phase 3A parking spaces will be coordinated with the construction of the Phase 4 Family Activity Center so that they are completed by that date (final engineering for these spaces was approved at the time the Phase 2 final engineering was completed). Upon completion of these additional 96 parking spaces, the Mandir Site will contain 821 spaces in total (see Phase 4 Final PUD Plan).

BAPS is seeking approval of the Final Phase 4 PUD with a total of 821 spaces rather than the number required under the Village's Zoning Code. Due to the unique nature of the proposed Family Activity Center, at this time, BAPS does not have the precise number of spaces the Village's Zoning Code requires. It is waiting for the Village staff to advise BAPS as to the number of spaces the Village's Zoning Code will require after the staff's preliminary review of the Application and Plans submitted. However, BAPS does not expect additional passenger cars needing to be parked will be generated by the additional Phase 4 Building, due to the fact that the programming is primarily for children who will arrive with their parents, and many of the activities are currently housed in other existing buildings.

#### **Short Rationale for Approvals Requested**

As will be demonstrated at the public hearings and meetings that will be scheduled to review BAPS requests, the requests will meet the various standards established by the Village's Zoning Ordinance, and will enhance the quality of commercial development and growth of the Village. Each of the standards to be met when the Village reviews a final PUD and a request for a modification of the type being requested here (required number of parking spaces). BAPS has provided a traffic study dated June 25, 2015 conducted by Gewalt Hamilton Associates, Inc. ("GWA") which demonstrates that, except during certain peak times, the 821

Village President, Kevin Wallace  
Members of the Board of Trustees  
June 26, 2015  
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spaces will be more than adequate to serve the needs of BAPS even after construction of the Family Activity Center. Even during the peak time periods noted in GWA's traffic study, the 821 spaces that will be provided on-site after the completion of the Phase 4 Building and the Phase 3A spaces, will exceed anticipated demand for more than 7 years. There is no certainty as to whether the growth that has occurred in the past, which GWA relied upon to draw its conclusion as to the capacity, will continue. During those few times where BAPS existing parking spaces are not sufficient (on weekends or legal holidays), BAPS has traditionally obtained the right to use additional parking from the nearby high school, golf course or churches, depending on the needs, and shuttle buses are provided by BAPS to bring people into and out of the Property.

The Mandir Site is large and heavily landscaped with front and side yards well in excess of those required under the Zoning Code – even exceeding those required for buildings that are the height of the Temple and the Cultural Center. The architecture is stunningly unique and draws many visitors from the Chicago metropolitan area and around the world. Approving the development of the Phase 4 Family Activity Center for the Property will complete the symmetry that was envisioned by BAPS for the Mandir Site (see concept elevation plan submitted) and the types of uses planned for the Family Activity Center will allow BAPS to provide for additional programming for its members and guests and enhance the health, safety, morals and general welfare of the Village. Taken together, the entire Project, including its existing and proposed Phase 4 Family Activity Center uses, is compatible with and consistent with the mix of residential and commercial uses in the vicinity.

The existing and proposed uses for the Mandir Site are also consistent with the Village's Comprehensive Plan, as well as the Preliminary PUD approved by the Village in 2012. The Mandir Site was designated by the Village in 2004 for Municipal/Institutional uses, and the existing and proposed future uses for the Mandir Site are institutional – a religious institution.

The Project will not in any way impede or injure the use of other properties in the area. The Mandir Site is already partially developed and the proposed future buildings and other projects are within the site itself and set back significant distances from the neighboring properties. Beautifully landscaped perimeters will be added adjacent to the additional parking spaces added as part of Phase 2 for the Mandir Site, and with the construction of the Phase 4 Family Activity Center, additional landscaping will be added to the Mandir Site (see Land scape Plan submitted). The location of the Property is appropriate for the current and planned uses, as it fronts on two major streets/highways near their intersection, but far enough away that the drives into the Property do not interfere with traffic on these roadways. The developments are also of a size and scale that they will not impair or injure the development or use of other nearby properties.



Village President, Kevin Wallace  
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BAPS has more than a decade-long track record of operating and maintaining the Mandir Site to the highest standards. Immaculate landscaping, beautiful and unique architecture and careful stewardship of the land and all of the other structures and improvements on the Property demonstrate the commitment BAPS has and will continue to focus on high-quality maintenance and care for the facilities on the Mandir Site.

Additional testimony and evidence addressing the standards to be met will be provided at the public hearings. Such testimony and evidence will demonstrate the existing and proposed development will fully comply with the Village's requirements.

**Summary of Enclosures**

Enclosed please find the Development Application signed on behalf of BAPS, along with the Development Application Packet Checklist that has been annotated as to the items included (or not included and the reasons why). BAPS looks forward to working with the staff and appointed and elected officials of the Village to obtain the approvals that are required for BAPS to take the next step to completing the development of the Mandir Site.

We would also appreciate it if you could initiate the Village procedures for processing the Development Application. Please let me know if you need additional information.

Very truly yours,

A handwritten signature in black ink that reads 'Janet M. Johnson'.

Janet M. Johnson

Enclosures

cc: Yagnesh Patel  
BAPS Mandir Management  
Thakor Patel  
Roberta Grill



# VILLAGE OF BARTLETT DEVELOPMENT APPLICATION

(Please type or complete in blue or black ink.)

For Office Use Only  
Case # 15-13

RECEIVED  
COMMUNITY DEVELOPMENT

JUN 29 2015

VILLAGE OF  
BARTLETT

**PROJECT NAME** BAPS Chicago- Phase 4

**PETITIONER INFORMATION**

**Name:** BAPS Chicago, LLC **Phone:** 630-213-2277

**Address:** 1851 S IL 59 (Pramukh Swami Road) **Fax:** 630-213-2088

Bartlett, IL 60103 **Mobile:** 630-740-7876

**Attn:** Yagnesh Patel **Email:** yagnesh.patel@gmail.com

**PROPERTY OWNER INFORMATION**

**Name:** Same as Above **Phone:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

\_\_\_\_\_ **Mobile:** \_\_\_\_\_

\_\_\_\_\_ **Email:** \_\_\_\_\_

**ACTION REQUESTED** (Please check all that apply.)

- Annexation
- PUD (preliminary)
- PUD (final)
- Subdivision (preliminary)
- Subdivision (final)
- Site Plan
- Unified Business Center Sign Plan
- Other (please describe) \_\_\_\_\_
- Special Use (please describe) \_\_\_\_\_
- Variation (please describe) \_\_\_\_\_
- Rezoning from \_\_\_\_\_ to \_\_\_\_\_
- Text Amendment

**SIGN PLAN REQUIRED?** (Please Circle.) Yes or **No**

*(Note: A Unified Business Center Sign Plan is required for four or more individual offices or businesses sharing a common building entrance or private parking lot.)*

**PROPERTY INFORMATION**

**Common Address/General Location of Property:** 1851 S. Rt. 59  
(EAST OF RT. 59, SOUTH OF ARMY TRAIL RD.)

**Property Index Number ("Tax PIN"/"Parcel ID"):** See Attached Exhibit A

**Zoning:** Existing: ER-1  
(Refer to Official Zoning Map)  
Proposed: ER-1

**Land Use:** Existing: Religious Instituion  
Proposed: Religious Institution

**Comprehensive Plan Designation for this Property:** Municipal/Institutional  
(Refer to Future Land Use Map)

**Acreage:** 29.954

**For PUD's and Subdivisions:**

No. of Lots/Units: 1

Minimum Lot: Area See PUD Plan Width \_\_\_\_\_ Depth \_\_\_\_\_

Average Lot: Area \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_

**APPLICANT'S EXPERTS** (Including name, address, phone, fax and email; mobile phone is optional)

**Attorney** Janet M. Johnson

Schiff Hardin LLP

233 South Wacker Drive, Suite 6600

Chicago, Illinois 60606

**Engineer** VantagePoint Engineering, LLC

18311 North Creek Drive, Suite F

Tinley Park, IL 60477

Thakor Patel - Phone: 630-520-2227 Email - patel@vpeng.com

**Surveyor** VantagePoint Engineering, LLC

18311 North Creek Drive, Suite F

Tinley Park, IL 60477

**Land Planner** N/A

\_\_\_\_\_

\_\_\_\_\_

Other

---

---

---

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**FINDINGS OF FACT (Standards)**

The Village of Bartlett Zoning Ordinance requires that certain findings of fact, or standards, must be met before a special use permit, variation, site plan or planned unit development may be granted. Each application for a hearing before the Plan Commission or Zoning Board of Appeals for a special use, variation, site plan or planned unit development must address the required findings of fact for each particular request. The petitioner should be aware that he or she must present specific testimony at the hearing with regards to the findings. **(On the following pages are the findings of fact, or standards, to be met. Please respond to each standard, in writing, as it relates to the case.)**

**\*\*PLEASE FILL OUT THE FOLLOWING FINDINGS OF FACT AS THEY\*\*  
**\*\*RELATE TO YOUR CASE.\*\*****

## FINDINGS OF FACT FOR PLANNED UNIT DEVELOPMENTS

Both the Plan Commission and Village Board must decide if the requested Planned Unit Development meets the standards established by the Village of Bartlett Zoning Ordinance.

The Plan Commission shall make findings based upon evidence presented on the following standards: **(Please respond to each of these standards in writing below as it relates to your case. It is important that you write legibly or type your responses as this application will be included with the staff report for the Plan Commission and Village Board to review.)**

1. The proposed Planned Unit Development is desirable to provide a mix of uses which are in the interest of public convenience and will contribute to the general welfare of the community.

The location for the Phase 4 Building was approved under Village Ordinance # 2012-72.

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See Preliminary/Final PUD Plan BAPS Phases 1, 2 and 3A prepared by SPACECO, Inc. dated September 30, 2011,

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last revised May 25, 2012 ("Approved PUD") attached as Exhibit D to Ordinance #2012-72 and the Phasing Plan BAPS Temple and

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Yogi Plaza prepared by SPACECO, Inc. dated September 30, 2011, last revised May 25, 2012 ("Approved Phasing Plan").

---

See also Phase 4 Concept Elevation attached as Exhibit F-1 to Village Ordinance # 2012-72. The uses planned are for family friendly activities and religious instruction classrooms.

2. The Planned Unit Development will not under the circumstances of the particular case be detrimental to the health, safety, morals, or general welfare of persons residing or working in the vicinity or be injurious to property value or improvement in the vicinity.

The location for the Phase 4 Building was approved under Village Ordinance # 2012-72 via

---

the Approved PUD (Exhibit D), the Approved Phasing Plan (Exhibit E) and the Phase 4 Concept Elevation attached as Exhibit F-1 to

---

Village Ordinance # 2012-72. There is no on-street parking on any of the highways and roads surrounding the Mandir

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Site (the 29.95 +/- acre site of which the Phase 4 tract of land is a part), the peak time periods for use of the Phase 4 building

---

will be evenings and weekends. It is intended to be a facility for use by families, guests and worshippers at the BAPS Mandir. The building will not be very visible from most neighbors due to existing landscaping, distance from property lines and land elevation.

3. The Planned Unit Development shall conform to the regulations and conditions specified in the Title for such use and with the stipulation and conditions made a part of the authorization granted by the Village Board of Trustees.

The Preliminary PUD and special use in the Village's ER-1 Zoning District for the Phase 4

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Building was approved under Village Ordinance # 2012-72 ("Special Use Permit"). The only variation requested in this Application

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is to approve a reduction in the required number of parking spaces because the same individuals who attend worship services

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and other events at the existing Phase 1 Buildings are expected to use the Phase 4 Building on weekends, and the other

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peak times for use of the Phase 4 Building will be evenings when there are fewer worshippers at the Mandir. Another key reason for building the Phase 4 Building is to alleviate crowding of existing facilities at the weekend peak times (i.e., to spread out the current attendees among more square feet), which will not require additional parking spaces.

4. The proposed uses conform to the Comprehensive Plan and the general planning policies of the Village for this parcel.

The proposed uses for the Phase 4 Building (family life center) were approved in concept under Village Ordinance # 2012-72 and are consistent with a religious institutional uses allowed under the Special Use Permit. The proposed uses for the Phase 4 Building were also approved pursuant to Paragraph 14.B of the Annexation Agreement approved under Village Ordinance # 2012-70 ("Annexation Agreement").

5. Each of the proposed uses is a permitted or special use in the district or districts in which the Planned Unit Development would be located.

The Phase 4 Building proposed uses are consistent with those allowed under the Special Use Permit, and are consistent with the uses permitted under Paragraph 14.B of the Annexation Agreement, which approved the use as a "family activity center, including all or any of the following uses: gymnasium, auditorium, meeting rooms and other uses consistent with those appropriate for family activities offered to BAPS' members and the community."

6. The Planned Unit Development is designed, located and proposed to be operated and maintained so that the public health, safety and welfare will not be endangered or detrimentally affected.

The Phase 4 Building location is as approved under Village Ordinance # 2012-72 and the Annexation Agreement. See also responses to Items 2, 3 and 5 above. Providing a secure location where families can participate in age-appropriate activities either together or at the same time will benefit the health, safety and welfare of the entire community.

7. It shall not substantially lessen or impede the suitability for permitted use and development of, or be injurious to the use and enjoyment of, or substantially diminish or impair the value of, or be incompatible with, other property in the immediate vicinity.

The location of the Phase 4 Building hundreds of feet inside the boundaries of a parcel exceeding 29 acres in size will not affect the future development or use of the surrounding properties. Its height will be shorter than that of the Mandir and its position within the overall Mandir site is such that it will not be readily visible outside the boundaries of the Mandir site, and those boundaries closest to the Phase 4 Boundaries are currently planted with numerous trees and other landscaping.

8. Impact donations shall be paid to the Village in accordance with all applicable Village ordinances in effect at the time of approval.

Per Paragraph 2.H of the Annexation Agreement approved and recorded under Village

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Ordinance # 2012-70, impact fees are only required for new commercial buildings

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developed in Phases 5 and 6. Accordingly, only normal building permits and plan review fees  
are required for the Phase 4 Building and any other buildings on the Mandir Property.

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9. The plans provide adequate utilities, drainage and other necessary facilities.

The drainage and other utilities, including water, sanitary sewer and storm water detention

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have been previously constructed as part of Phases 1 through 3, other than customary service lines

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to serve the Phase 4 Building. The Storm Water Management Report for PHases 1, 2 and 3A prepared by

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SPACECO, Inc. dated October 2011 and last revised June 27, 2012 has been updated by the storm water

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calculations on the Preliminary Engineering Plan dated June 26, 2015 prepared by VantagePoint Engineering.

10. The plans provide adequate parking and ingress and egress and are so designed as to minimize traffic congestion and hazards in the public streets.

Parking to serve the Phase 4 Building has been provided in Phases 2 and 3. Access to the

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Phase 4 Building site was provided in Phase 1. A variance is being sought to allow existing

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and new Phase 3A parking (previously engineered, but to be constructed at the same time as Phase 4) to suffice. A traffic impact study

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as required pursuant to Paragraph 14.B of the Annexation Agreement prepared by Gewalt Hamilton Associates, Inc.

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dated June 15, 2015 is attached.

11. The plans have adequate site area, which area may be greater than the minimum in the district in which the proposed site is located, and other buffering features to protect uses within the development and on surrounding properties.

The Phase 4 building site is part of a large PUD comprising approximately 37.41 acres, of

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which approximately 29.95 acres (the "Mandir Property" as defined in the Annexation Agreement) are within the ER-1 Zoned Portion

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that includes the approximately 1.53 acre Phase 4 building site. The size of the Mandir Property exceeds the minimum

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acres required for the approved Special Use in the ER-1 Zoning District under Village Ordinance # 2012-72.

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**ACKNOWLEDGEMENT**

The undersigned hereby acknowledges he/she is familiar with the code requirements which relate to this petition and certifies that this submittal is in conformance with such code(s). He/she further understands that any late, incomplete or non-conforming submittal will not be scheduled on an agenda.

SIGNATURE: Vikram Patel

PRINT NAME: VIKRAM PATEL

DATE: June 26, 2015

**REIMBURSEMENT OF CONSULTANT FEES AGREEMENT**

The undersigned hereby acknowledges his/her obligation to reimburse the Village of Bartlett for all necessary and reasonable expenses incurred by the Village for review and processing of the application. Further, the undersigned acknowledges that he/she understands that these expenses will be billed on an ongoing basis as they are incurred and will be due within thirty days. All reviews of the petition will be discontinued if the expenses have not been paid within that period. Such expenses may include, but are not limited to: attorney's fees, engineer fees, consulting planner's fees, public advertising expenses, court reporter fees and recording expenses. Please complete (print) the information requested below and provide a signature.

NAME OF PERSON TO BE BILLED: BAPS Chicago, LLC

ADDRESS: 1851 S IL 59 (Pramukh Swami Road)  
Bartlett, IL 60103

PHONE NUMBER: 630-213-2277

SIGNATURE: Vikram Patel

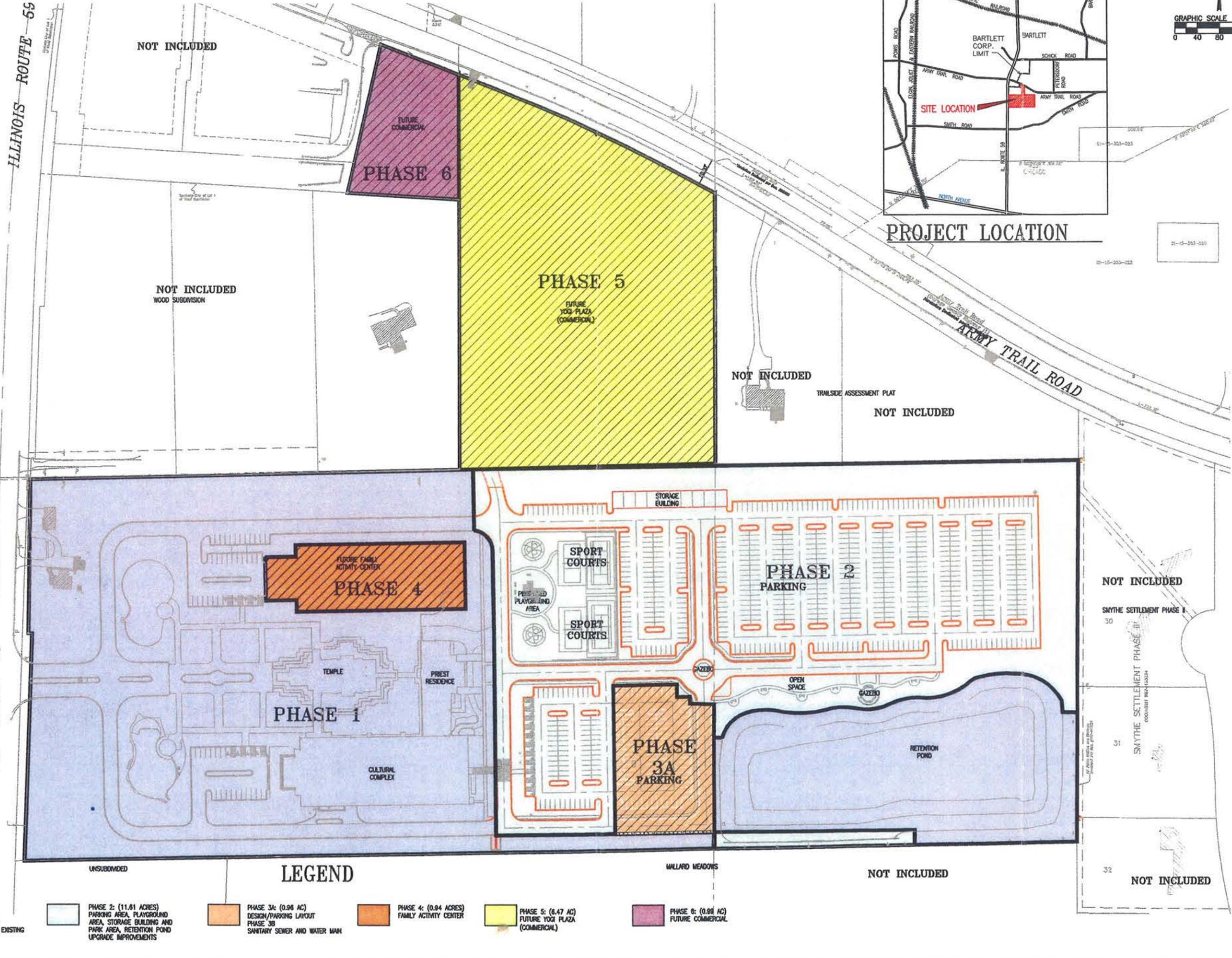
DATE: June 26, 2015

# Case #2015-13

## BAPS-Phase 4

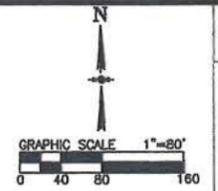


ILLINOIS ROUTE 59



LEGEND

- PHASE 1: (16.38 AC) ALL EXISTING IMPROVEMENTS INCLUDING TEMPLE, CULTURAL COMPLEX, PRIEST RESIDENCE, EXISTING PARKING, RETENTION POND IMPROVEMENTS
- PHASE 2: (11.61 ACRES) PARKING AREA, PLAYGROUND AREA, STORAGE BUILDING AND PARK AREA, RETENTION POND UPGRADE IMPROVEMENTS
- PHASE 3a: (0.98 AC) DESIGN/PARKING LAYOUT PHASE 3b SANITARY SEWER AND WATER MAIN
- PHASE 4: (0.94 ACRES) FAMILY ACTIVITY CENTER
- PHASE 5: (6.47 AC) FUTURE YOGI PLAZA (COMMERCIAL)
- PHASE 6: (0.98 AC) FUTURE COMMERCIAL



PHASING PLAN  
B.A.P.S. TEMPLE & YOGI PLAZA

B.A.P.S. HINDU TEMPLE  
BARTLETT, ILLINOIS

CONSULTING ENGINEER  
S&B ENGINEERING INC.  
1416 S. MICHIGAN ST.  
CHICAGO, IL 60605  
9571 W. Higgins Lane, Suite 703  
Cicero, IL 60618  
Phone: (847) 646-7000 Fax: (847) 646-7002

B.A.P.S. CHICAGO, LLC  
4 N 739 IL ROUTE 59  
BARTLETT, IL 60103

6324  
PH1  
1 OF 1



PHASE 4 CONCEPT EVALUATION

EXHIBIT F.



PROJECT LOCATION

PARKING SUMMARY - REQUIRED			
BUILDING	OCCUPANCY	REQUIRED PARKING SPACES	PROVIDED SPACES PROVIDED
ETHEL BROS/DEKA PHASE 1	1,800	304 SF CAPACITY x 40	
PHASE 1 RESIDENCE	20	1 SPACE FOR EVERY 5 UNITS x 5	15 BICYCLE STALLS
TEMPLE PHASE 1	800	1 SPACE FOR EVERY 5 SEATS x 200	
YOUTH CENTER PHASE 4	1,550	4TH DEE CR. CLEARANCE	
TOTAL		1105	151

PARKING SUMMARY - PROVIDED			
PHASE	RESERVED	TOTAL PROVIDED	TOTAL
PHASE 1	115	10	375
PHASE 2/3/4	100	6	400
PHASE 5A	50	5	10
TOTAL	265	11	675

NOTE: UPON YOUR QUALITY CONTROL, THE MINIMUM REQUIRED SHALL BE MAXIMUM REQUIRED FOR YOUTH CENTER OR CULTURAL COMPLEX. SAME SHALL APPLY TO ALL OF OTHER AT CULTURAL, COMPLEX OR FAMILY ACTIVITY CENTER.

EXISTING BUILDINGS

EX. BUILDING	FLOOR AREA (S.F.)	MAX. OCCUPANCY	HEIGHT (FT)	NO. OF STORIES
CULTURAL COMPLEX	99,513 S.F.	1,800	55'	2
TEMPLE	12,500 S.F.	800	75'	2
PRIEST RESIDENCE	28,012 S.F.	25	36'	3

PROPOSED BUILDINGS

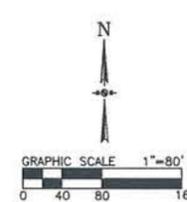
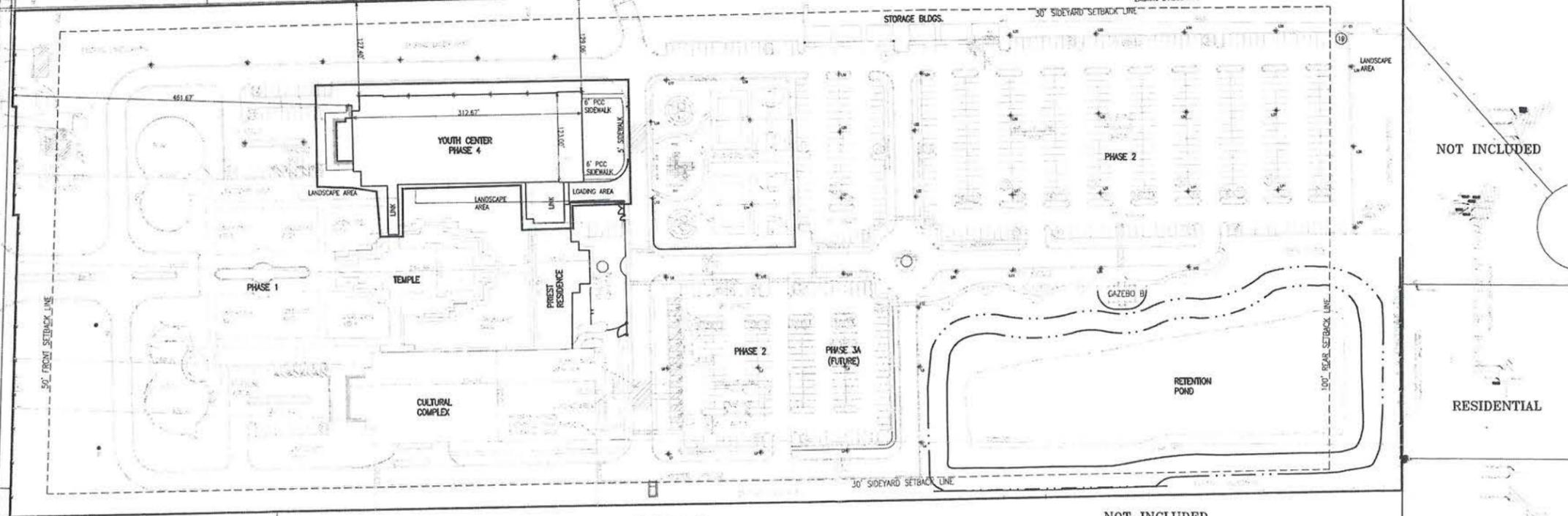
PR. BUILDING	FLOOR AREA (S.F.)	MAX. OCCUPANCY	HEIGHT (FT)	NO. OF STORIES
STORAGE	6,000 S.F.	0	20'	1
YOUTH CENTER	110,020 S.F.	1,550	55'	2

YOUTH CENTER					
A/G/A DESCRIPTION	AREA (S.F.)	OCCUPANCY RATE	OCCUPANCY	PARKING RATE	PARKING REQUIRED
BASEMENT	3,382				
DISPLAY AREA	1,019	1.5	15	300	38
RESTROOMS AND STAIRS	1,636	0			
KITCHEN	7,820	300 SF/EA	23	300	7
STORAGES, COOLERS, FREEZERS	25,288	0			
WORKSHOP	2,639	300 SF/EA	9	300	3
MEZZANINE					
OFFICES - 3 EA	718	5 EA/OFFICE	5	275 SF/EA	3
MECH. ROOM/BUNKER ROOM/STORAGE	8,069	0			
MAIN LEVEL					
OFFICES - 3 EA	2,104	5 EA/OFFICE	15	275 SF/EA	8
RESTROOMS AND STAIRS	2,845	0			
GYMNASIUM AND PLAY AREA	14,203	50 SF/EA	285	250 SF/EA	57
CLASSROOMS	8,209	30 SF/EA	413	300	135
COMMON AREAS	10,620	0			
LINK TO PRIEST RESIDENCE	1,482	0			
UPPER LEVEL					
RESTROOMS AND STAIRS	2,238	0			
CLASSROOMS	11,733	20 SF/EA	588	300	178
OFFICES	365	5 EA/OFFICE	15	275 SF/EA	2
TRUCK	2,232	1.5	140	250 SF/EA	11
COMMON AREAS	4,000	0			
MECHANICAL/STORAGE	1,750	0			
TOTAL	110,020		1,550		410

SITE DATA:

- PROPOSED ZONING: ER-1(PUD)
- TOTAL SITE AREA: 29.95 AC
- PHASE 1 AREA: 16.38 AC (1.6 AC PH 4)
- PHASE 2 AREA: 11.51 AC
- PHASE 3A AREA: 0.96 AC
- TOTAL BUILDING AREA: 256,045 S.F.
- FAR: 0.196
- PARKING REQUIRED: 1,155
- PARKING PROVIDED: 821
- DETENTION AREA: 3.91 AC
- FRONT SETBACK: 50'
- SIDEYARD SETBACK: 30'
- REAR YARD: 100'

ILLINOIS ROUTE 59



RECEIVED  
COMMUNITY DEVELOPMENT  
JUL 07 2016  
VILLAGE OF  
BARTLETT

NOT INCLUDED  
RESIDENTIAL

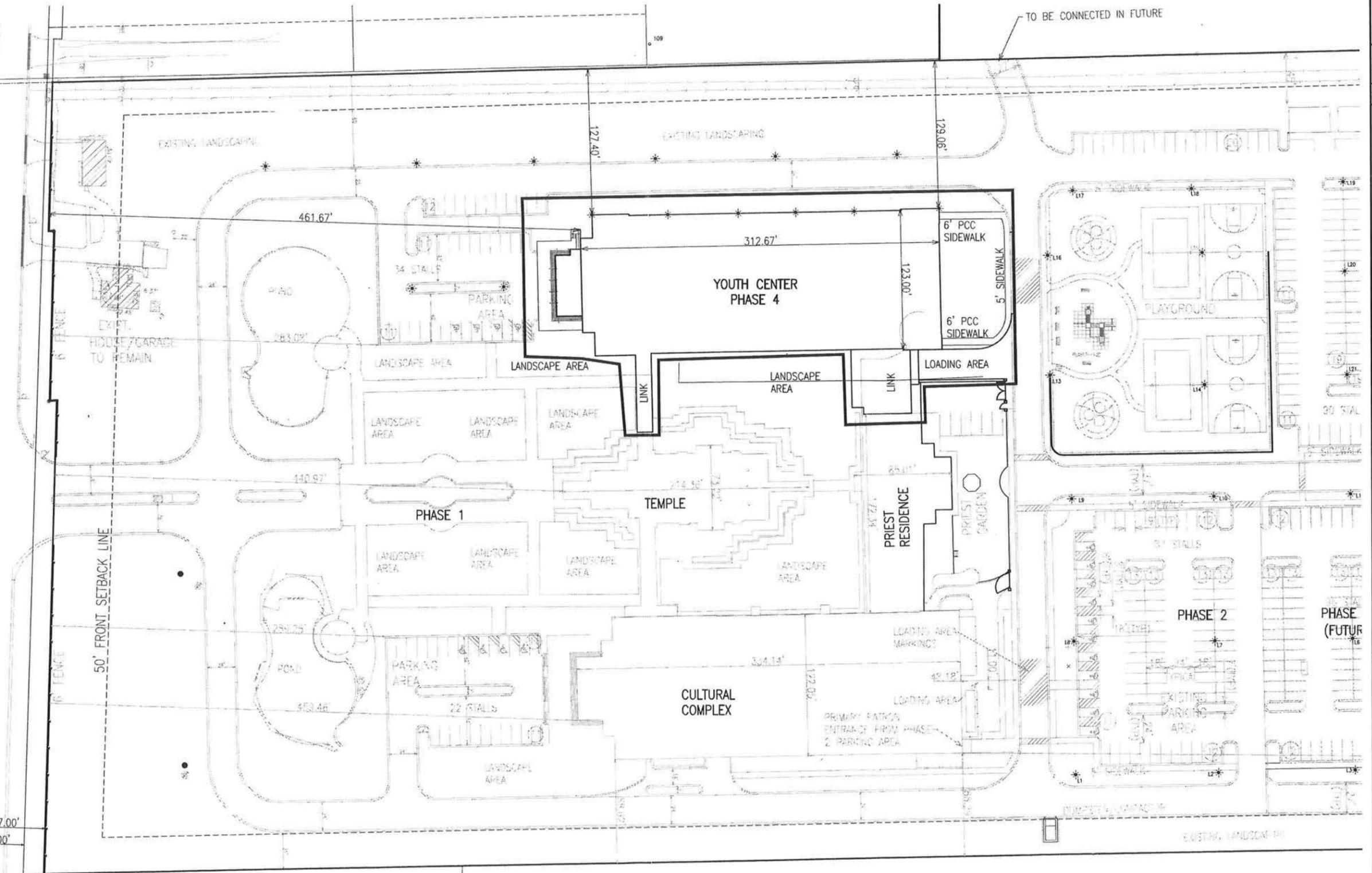
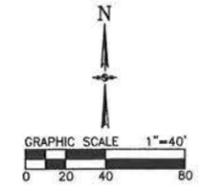
ADVANTAGE CONSULTING ENGINEERS, LLC  
80 MAIN STREET, SUITE 17  
LEMONT, IL 60439  
847-260-4758

PRELIMINARY/FINAL PUD PLAN  
BAPS - PHASE 4  
BAPS HINDU TEMPLE  
BARTLETT, IL

B.A.P.S. DEVELOPMENT, LLC  
1851 S. ILL. ROUTE 59  
BARTLETT, IL 60103

JUNE 9, 2016  
JOB: 16-009  
SHEET:  
PUD1  
1 OF 2

ILLINOIS ROUTE 59

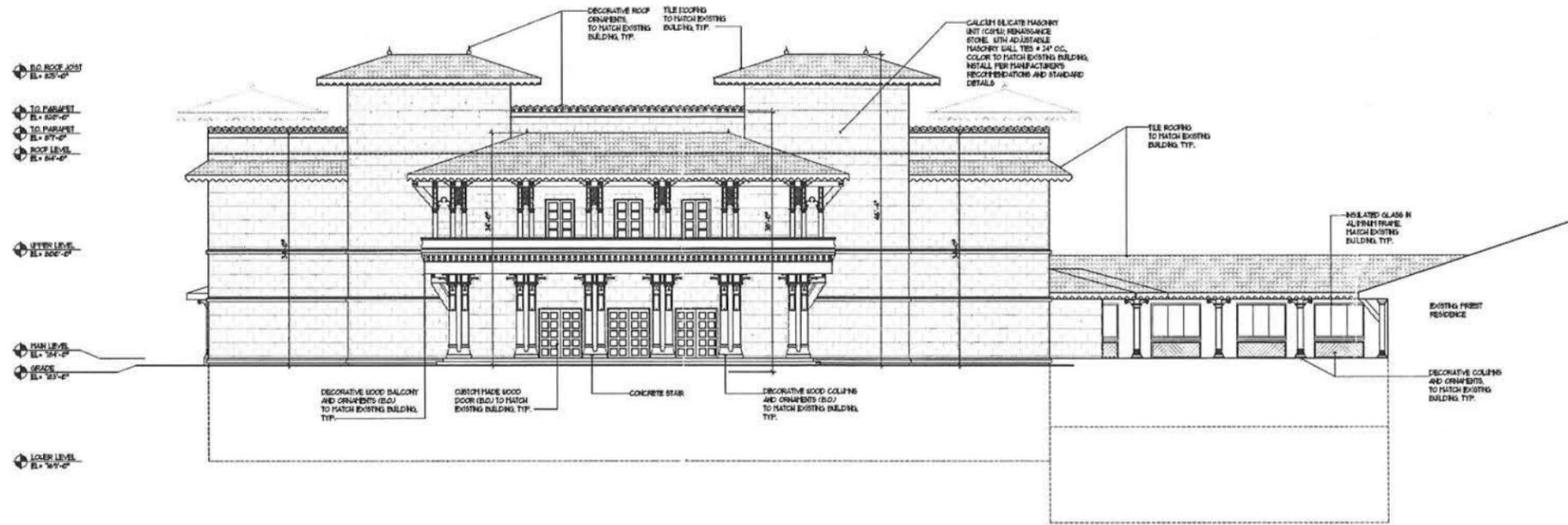


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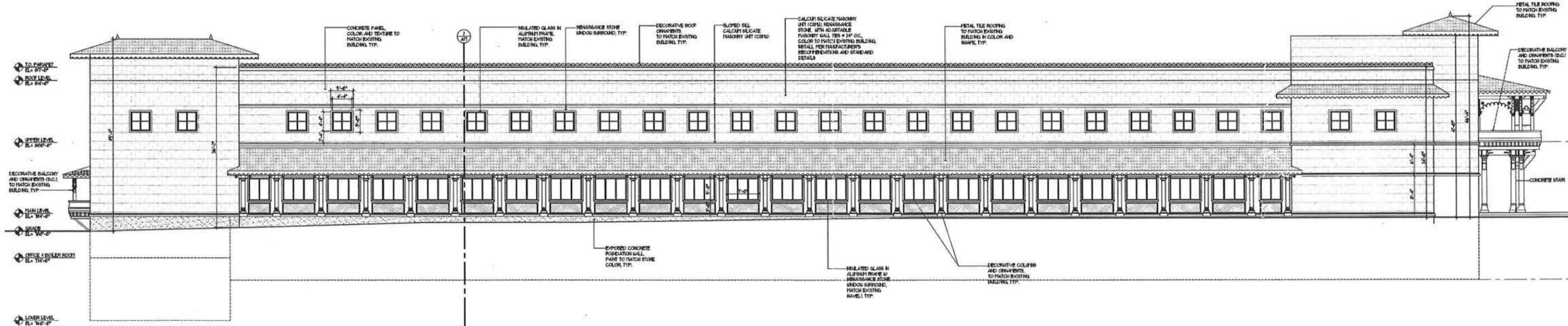
**ADVANTAGE CONSULTING ENGINEERS, LLC**  
 80 MAIN STREET, SUITE 17  
 LEMONT, IL 60439  
 847-260-4758

PRELIMINARY/FINAL PUD PLAN  
 BAPS - PHASE 4  
**BAPS HINDU TEMPLE**  
 BARTLETT, IL

**B.A.P.S. DEVELOPMENT, INC.**  
 1651 S. IL. ROUTE 59  
 BARTLETT, IL 60103



1 WEST ELEVATION  
SCALE: 1/8" = 1'-0"



2 NORTH ELEVATION  
SCALE: 1/8" = 1'-0"

**RANGWALA ARCHITECTS**  
ARCHITECTURE SITE PLANNING  
181 S. CENTRAL AVE. SUITE 605, ST. LOUIS, MO 63108  
(314) 862-2118

PROPOSED BUILDING DESIGN FOR:  
**BAPS FAC**  
1851 S. RTE 59 PRANUKHA SWAMI ROAD  
BARTLETT, ILLINOIS 60103

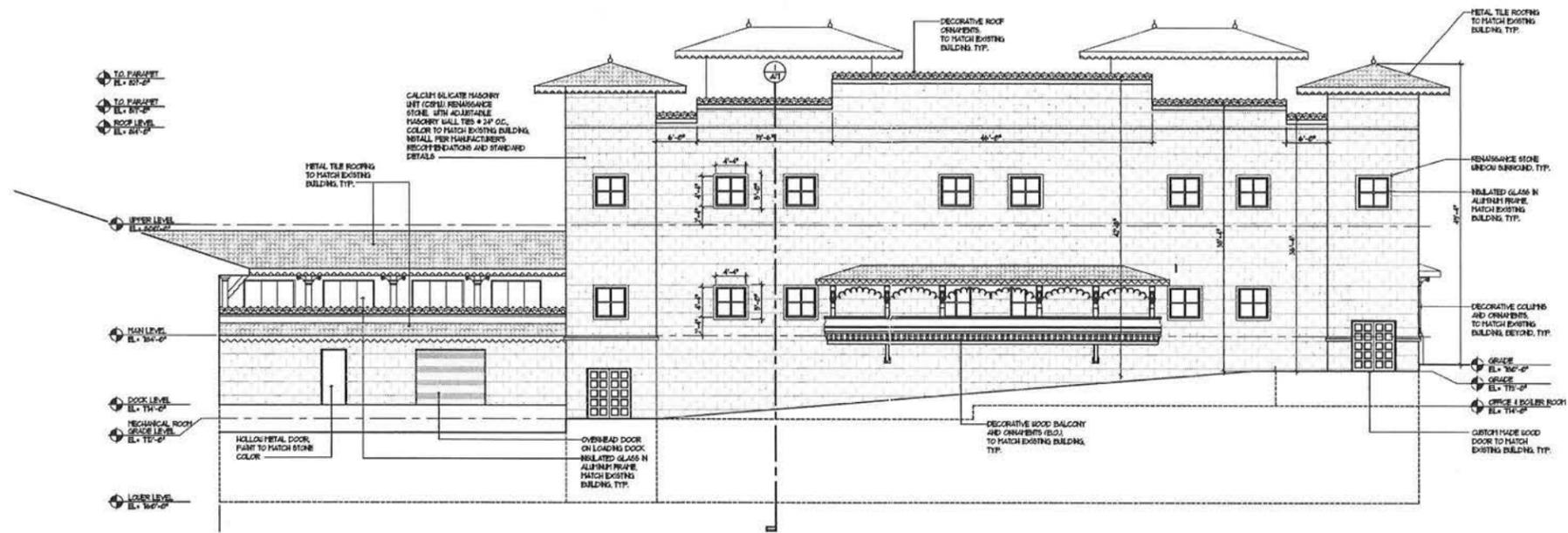
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2. 05-20-16  
3. 05-27-16  
4. 06-07-16  
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8. 07-05-16

Sheet Title:  
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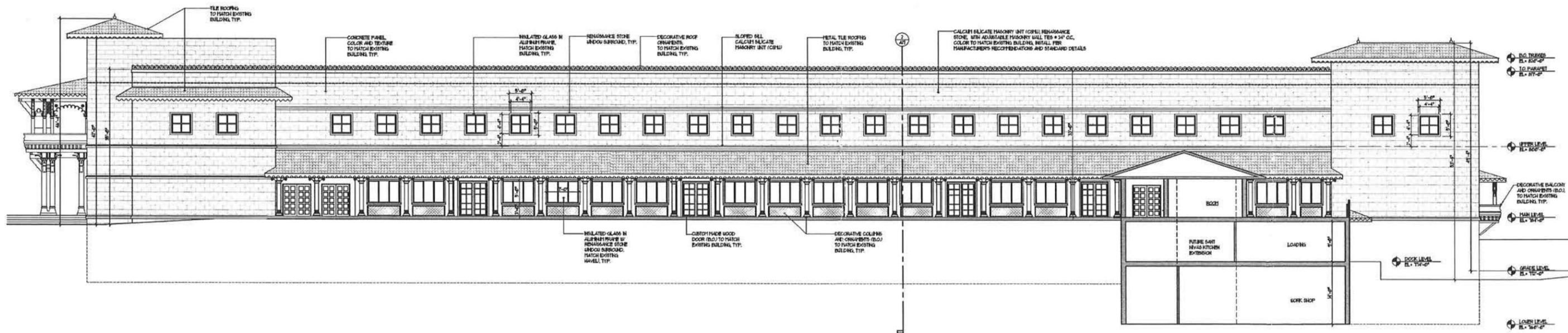
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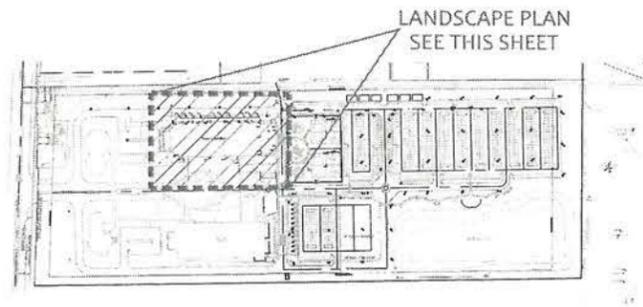
Date: 03-22-16  
Project Number:



1 EAST ELEVATION  
SCALE: 1/8" = 1'-0"



2 SOUTH ELEVATION  
SCALE: 1/8" = 1'-0"



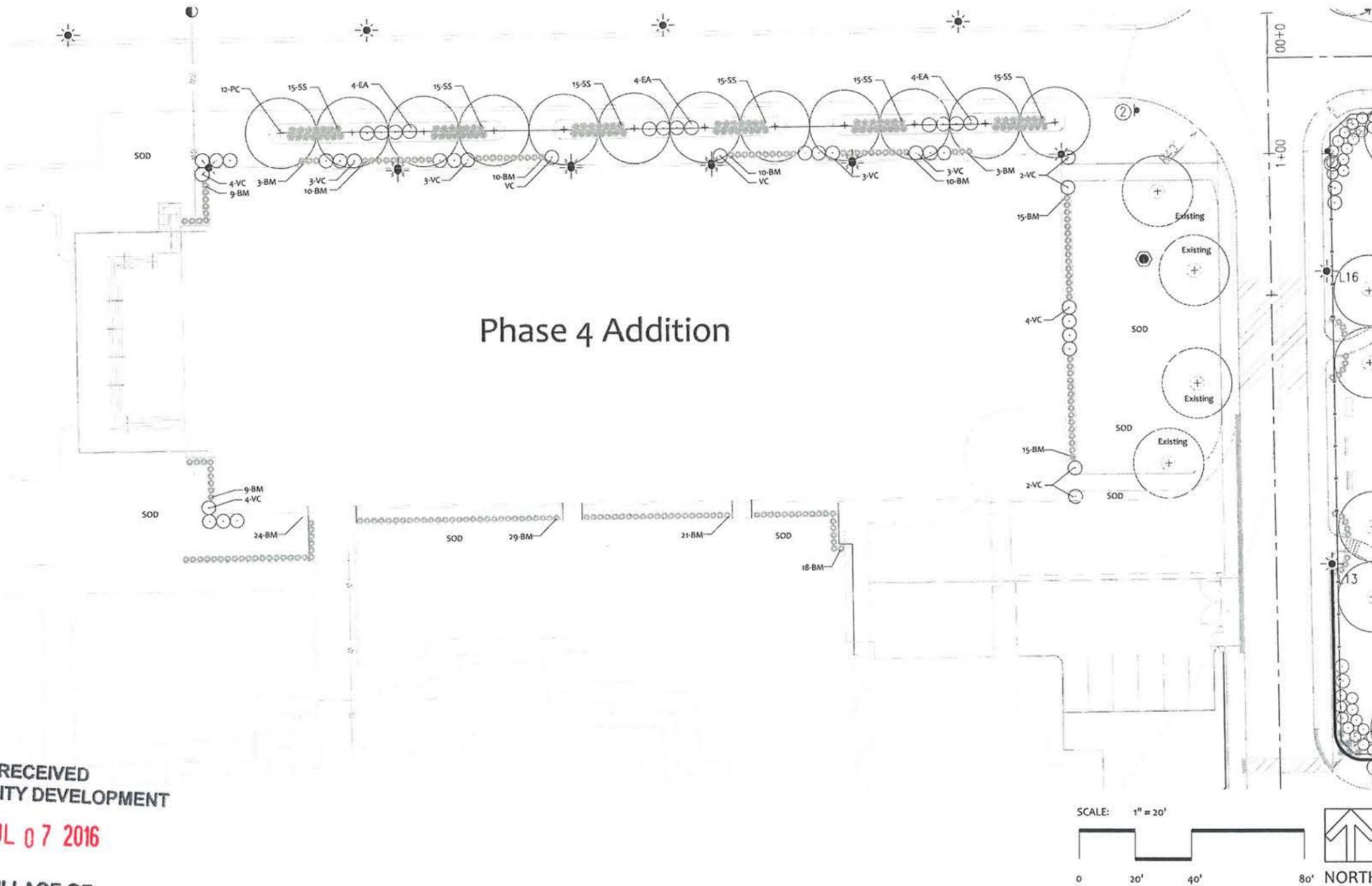
LANDSCAPE PLAN  
SEE THIS SHEET

LOCATION PLAN NTS

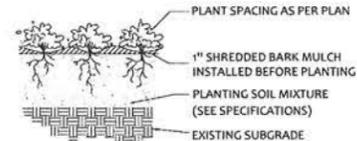
QTY.	SYM.	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
<b>PLANT LIST</b>					
<b>SHADE TREES</b>					
12	PC	<i>Pyrus callieriana</i> 'Chanticleer'	Chanticleer Pear	2-1/2	
<b>EVERGREEN SHRUBS</b>					
186	BM	<i>Buxus microphylla</i> 'Wintergreen'	Wintergreen Boxwood	3 Gal.	
<b>DECIDUOUS SHRUBS</b>					
12	EA	<i>Euonymus alatus</i>	Burning Bush	30"	
30	VC	<i>Viburnum carlesii compactum</i>	Compact Kpreanspice Viburnum	30"	
<b>ORNAMENTAL GRASSES</b>					
90	SS	<i>Schizachyrium scoparium</i>	Little Blue Stem	3 Gal.	
<b>MISC. MATERIALS</b>					
1,740		Sod		S.Y.	
40		Shredded Hardwood Mulch		C.Y.	

**GENERAL NOTES**

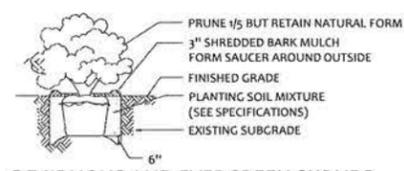
- QUANTITIES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES, AND FOR PROVIDING SUFFICIENT MATERIALS TO COMPLETE THE JOB PLAN. LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY VARIATION TO QUANTITIES.
- CONTRACTOR SHALL VERIFY UNDERGROUND UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL AVOID ALL EXISTING UTILITIES UNDERGROUND AND OVERHEAD WHERE APPLICABLE, AND IS RESPONSIBLE FOR ANY DAMAGE, IF ANY CONFLICTS SHOULD EXIST BETWEEN UTILITIES AND PROPOSED MATERIAL LOCATIONS. FIELD ADJUSTMENTS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION, AND SHALL REPORT TO LANDSCAPE ARCHITECT ANY VARIANCE OR CONDITION WHICH WOULD PREVENT ADHERENCE TO SCHEDULE, PLANS OR SPECIFICATIONS.
- WORK SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK, STATE OF ILLINOIS HORTICULTURAL STANDARDS, AND LOCAL MUNICIPAL REQUIREMENTS.
- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT LANDSCAPE MATERIAL ON SITE WHETHER STOCKPILED OR INSTALLED IN PLACE.
- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT ALL PLANTED MATERIALS EITHER AT PLACE OF GROWTH OR AT SITE BEFORE PLANTING, FOR COMPLIANCE WITH REQUIREMENTS OF VARIETY, SIZE AND QUALITY.
- ALL PLANTS SHALL BE INSTALLED PER THE LANDSCAPE PLAN AND SPECIFICATIONS. PLANTINGS NOT FOUND TO BE IN COMPLIANCE SHALL BE REPLANTED CORRECTLY AT NO ADDITIONAL EXPENSE TO THE OWNER.
- FINE GRADE, FERTILIZE AND SOD/SEED ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS AS SHOWN. ALL AREAS SHALL DRAIN COMPLETELY AND SHALL NOT FOND OR PUDDLE.
- WHERE PLANTINGS BEDS MEET TURF AREAS, THE CONTRACTOR SHALL PROVIDE A CULTIVATED EDGE. MULCH ALL SHRUB BEDS TO THE LINE SHOWN.
- FOR TREES PLANTED IN TURF AREAS, PROVIDE 5'-0" DIA. MULCH RING AT 3" THICK WITH A CULTIVATED EDGE.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION OF THIS WORK AND COMPLY WITH ALL CODES APPLICABLE TO THIS WORK.
- ENSURE ALL TREES ARE 25 FEET FROM LIGHT POLES, 4 FEET FROM DRIVES, 8 FEET FROM HYDRANTS AND 5 FEET FROM MANHOLES, OR UTILITIES IN ROW, AND 6 FEET FROM B.O.C.
- MATERIAL QUALITY AND MEASUREMENT SHOULD CONFORM TO THE MOST RECENT EDITION OF THE AMERICAN STANDARDS FOR NURSERY STOCK, ANSIZ60 BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
- ALL SHADE/OVERSTORY TREES SHALL HAVE A 'CENTRAL LEADER'.
- ALL PLANT MATERIAL SHALL BE OBTAINED FROM LOCALLY GROWN SOURCES WITHIN 500 MILES OF THE SITE.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGH THE WARRANTY PERIOD. STAKING AND GUYING SHALL BE PERFORMED AT THE CONTRACTORS DISCRETION.



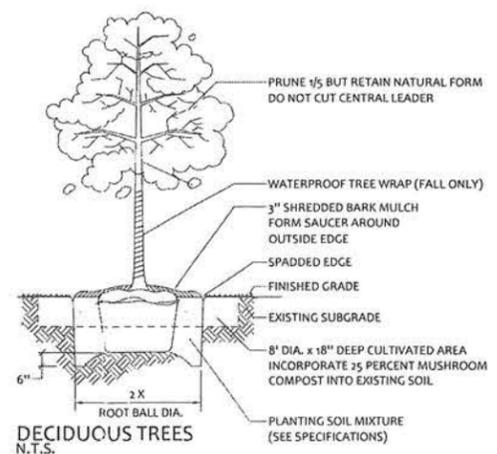
Phase 4 Addition



PERENNIALS AND GRASSES  
N.T.S.



DECIDUOUS AND EVERGREEN SHRUBS  
N.T.S.



DECIDUOUS TREES  
N.T.S.

BAPS Hindu Temple  
Bartlett, IL  
**PHASE 4 LANDSCAPE PLAN**

KROGSTAD  
LAND DESIGN LIMITED  
LANDSCAPE ARCHITECTURE • CONSULTING  
3117 FARMINGTON • FARMINGTON, ILLINOIS 62521  
PH: 618-357-4741  
WWW.KROGSTADLANDSCAPE.COM

BAPS CHICAGO, LLC  
4 N. 739 IL ROUTE 59  
BARTLETT, IL 60103

REVISIONS	
Per Village	6/02/16
Per 2nd Review	7/05/16

DATE	February 13, 2015
PROJECT	SC1001
DRAWN	KTK
CHECKED	KTK

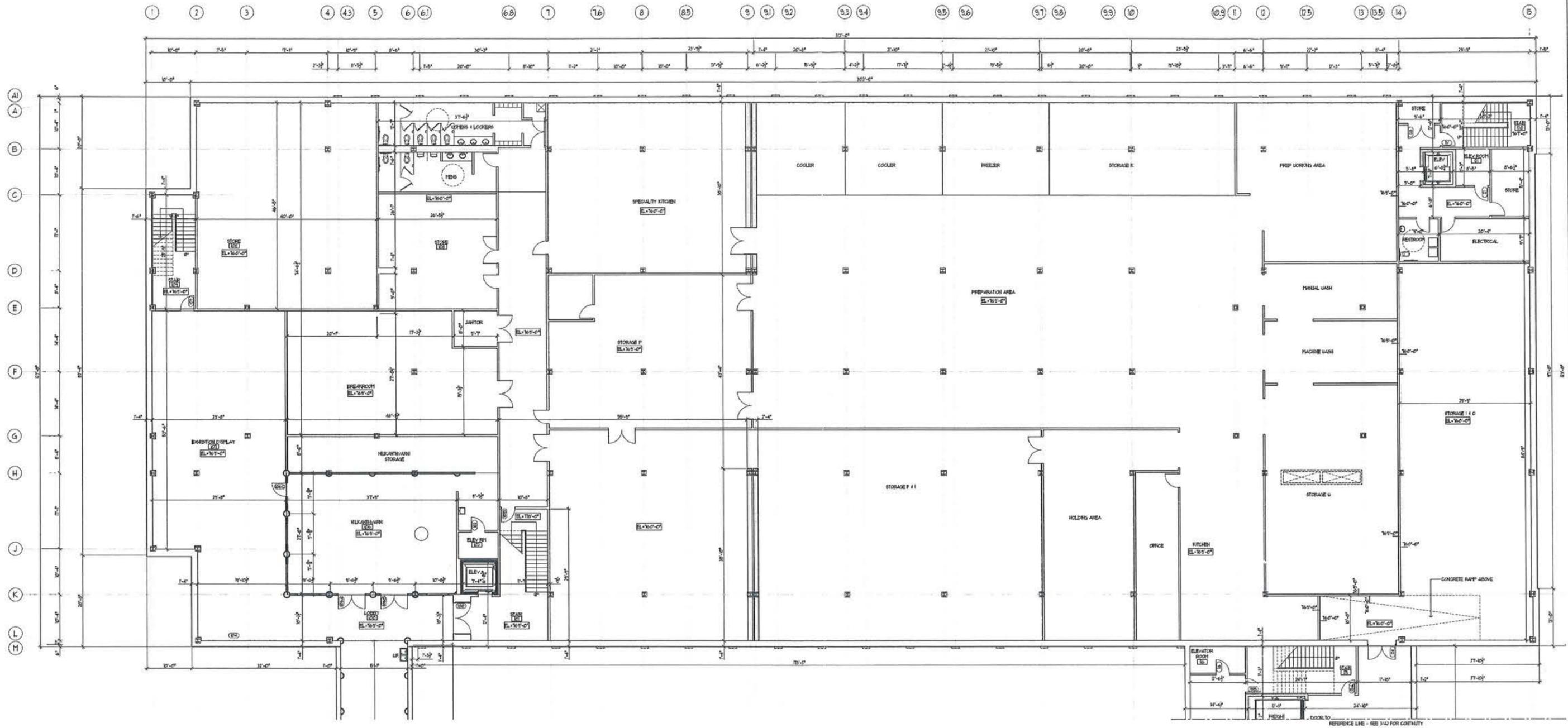
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1 of 1

RECEIVED  
COMMUNITY DEVELOPMENT

JUL 07 2016

VILLAGE OF  
BARTLETT



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

**RANGWALA ARCHITECTS**  
ARCHITECTURE SITE PLANNING  
201 S. CENTER ST. SUITE 202, ST. LOUIS, MISSOURI  
PH: 314.644.8027 FAX: 314.644.8027

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PROPOSED BUILDING DESIGN FOR:  
**BAPS FAC**  
1851 S. RTE 99 PRANUKHA SWAMI ROAD  
BARTLETT, ILLINOIS 60103

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Revisions:  
1. 05-05-16  
2. 05-20-16  
3. 05-27-16  
4. 06-07-16  
5. 06-17-16  
6. 06-23-16  
7. 06-27-16  
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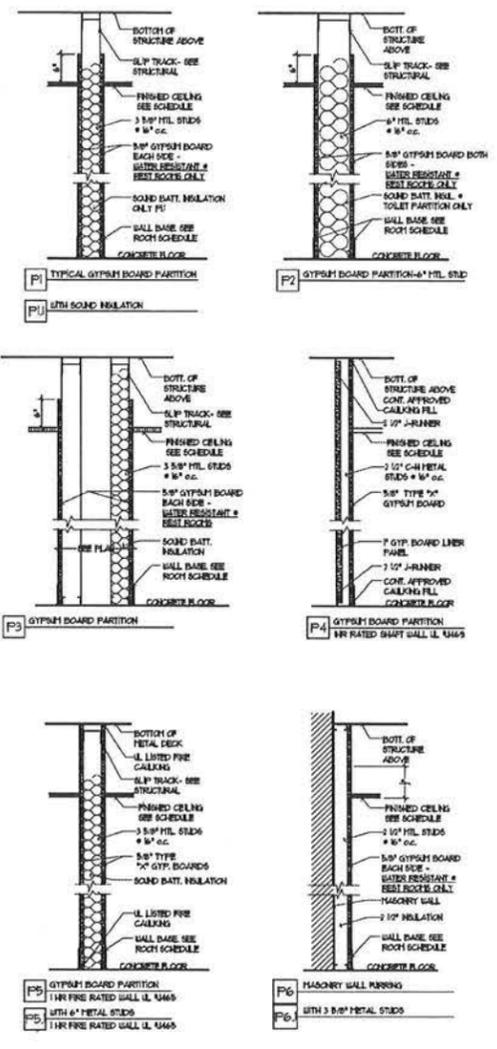
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Floor Plan  
Partition Types

Drawn By:  
EC

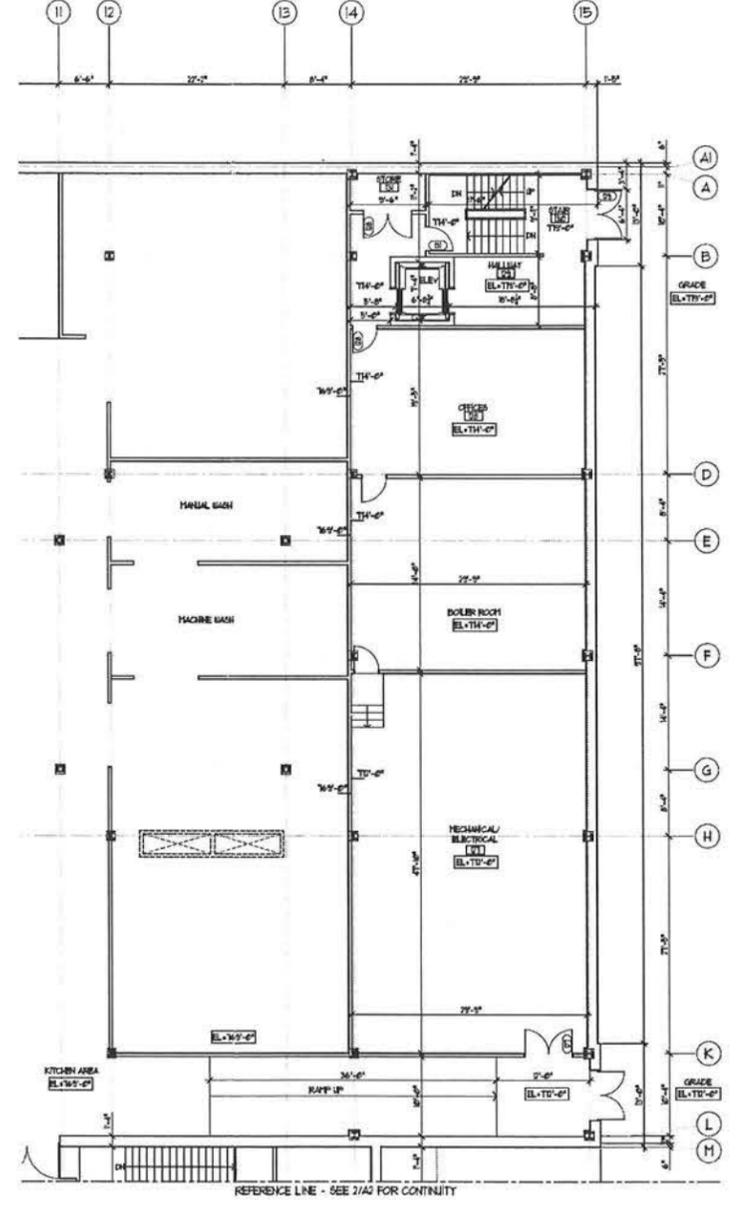
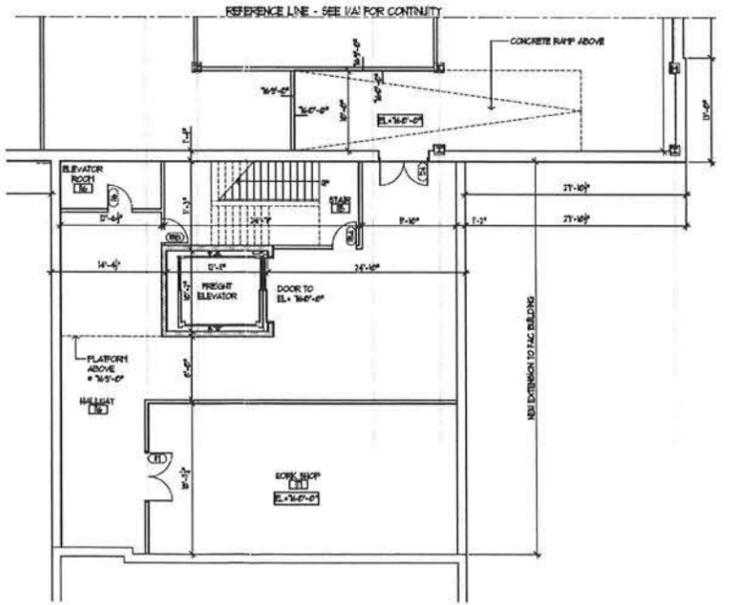
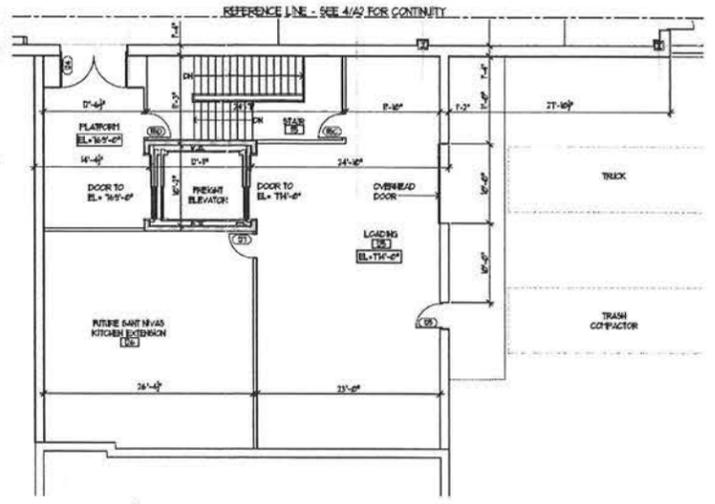
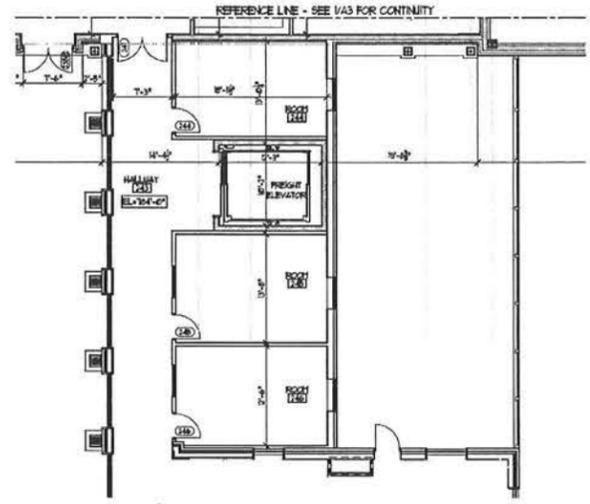
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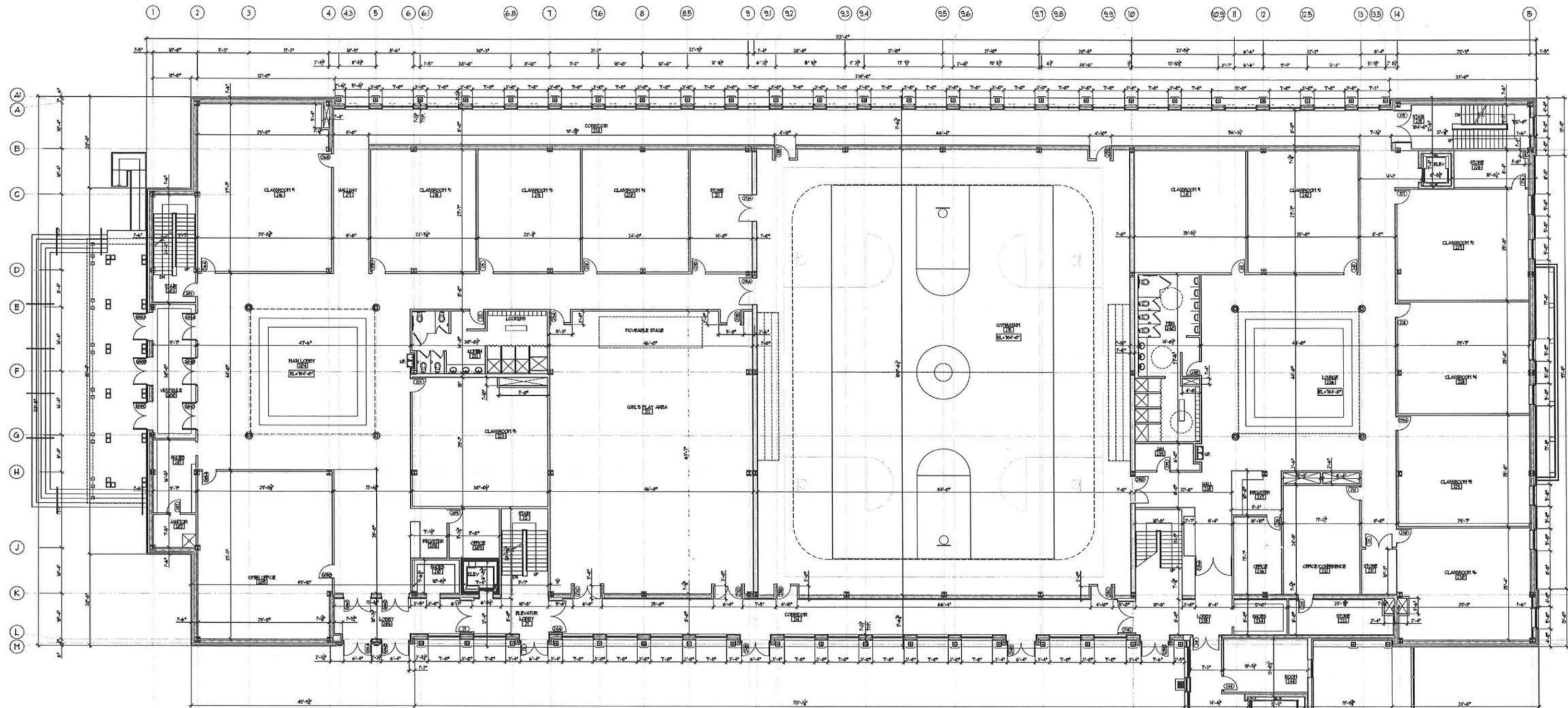
Date: 03-22-16  
Project Number:

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COMMUNITY DEVELOPMENT  
JUL 07 2016  
VILLAGE OF  
BARTLETT



**5 PARTITION TYPES**  
 SCALE: 1" = 1'-0"





1  
A3 MAIN LEVEL FLOOR PLAN  
SCALE: 1/8" = 1'-0"

**RANGWALA ARCHITECTS**  
ARCHITECTURE SITE PLANNING  
2014 SOUTHWEST AVE. SUITE 200 ST. LOUIS, MISSOURI 63105  
PH: 314.591.4411 FAX: 314.591.4412

PROPOSED BUILDING DESIGN FOR:  
**BAPS FAC**  
1851 S. RTE 59 PRANUKHA SWAMI ROAD  
BARTLETT, ILLINOIS 60103

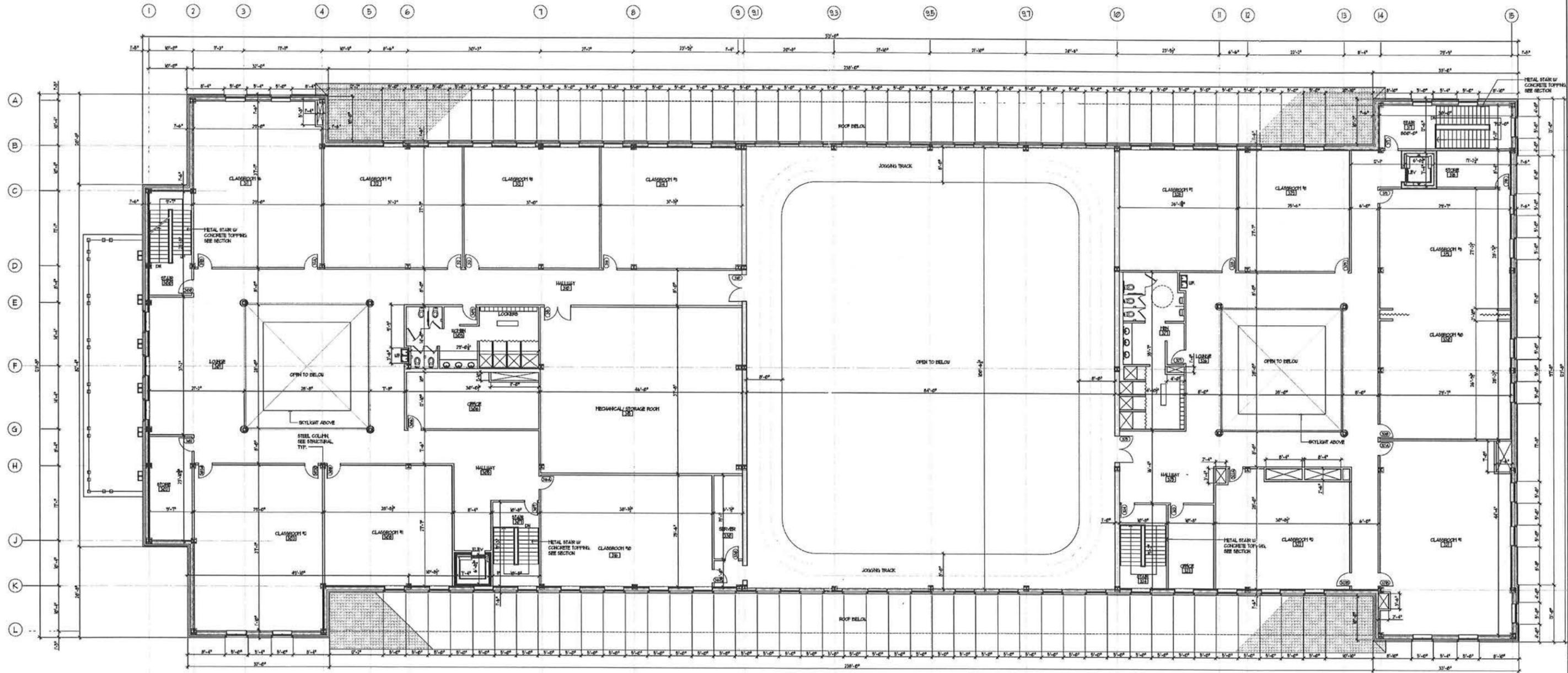
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2. 05-20-16  
3. 05-27-16  
4. 06-07-16  
5. 05-17-16  
6. 06-23-16  
7. 06-27-16  
8. 07-05-16

Sheet Title:  
Floor Plan  
Partition Types

Drawn By:  
EC

Sheet Number  
**A-3**

Date: 03-22-16  
Project Number:




**UPPER LEVEL FLOOR PLAN**  
 SCALE: 1/8" = 1'-0"

**RANGWALA ARCHITECTS**  
 ARCHITECTURE SITE PLANNING  
201 S. CENTRAL AVE. SUITE 202 ST. LOUIS, MO 63105  
 (314) 863-7400 FAX (314) 863-7401

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**PROPOSED BUILDING DESIGN FOR:**  
**BAPS FAC**  
 1851 S. RTE 59 PRANUKHA SWAMI ROAD  
 BARTLETT, ILLINOIS 60103

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Revisions  
 1. 05-05-16  
 2. 05-20-16  
 3. 05-27-16  
 4. 06-07-16  
 5. 06-17-16  
 6. 06-23-16  
 7. 06-27-16  
 8. 07-05-16

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Sheet Title:  
 Floor Plan  
 Partition Types

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Drawn By:  
 EC

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Sheet Number  
**A-4**

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Date: 03-22-16  
 Project Number:

## Traffic Impact and Parking Study

To: Mr. Thakor Patel  
BAPS Development, Inc.

From: Lynn M. Means, P.E., PTOE  
Senior Transportation Engineer

Tim Doron  
Director of Transportation Planning

Date: June 15, 2015

Subject: Proposed Family Activity Center  
BAPS Hindu Temple  
1851 South Illinois Route 59  
Bartlett, Illinois

RECEIVED  
COMMUNITY DEVELOPMENT

JUN 29 2015

VILLAGE OF  
BARTLETT

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### Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact and Parking Study for the above captioned project. The BAPS Hindu Temple (site) currently operates on the approximately 30 acre site located along the east side of Illinois Route 59 (Sutton Road), south of Army Trail Road (DuPage County Route 11), in Bartlett, Illinois. The proposed expansion of the site includes the construction of a two-story, approximately 93,500 square-foot Family Activity Center (FAC). It will also add 96 parking spaces, bringing the site total to 821 spaces.

The following summarizes our findings and provides various recommendations for your consideration. *Exhibits* and *Appendices* referenced are located at the end of this document.

### Part II. Background Information

#### *Site Location Map and Roadway Inventory*

*Exhibits 1* and *2* provide a location map and aerial photography of the site vicinity. Pertinent comments to the adjacent roadways include:

- IL Route 59 is a north-south principal arterial, providing a five lane cross-section (two through lanes in each direction and a center turn lane/median). At its unsignalized intersection with the site access driveway, IL Route 59 provides a left-turn lane in the southbound direction; northbound right-turns are shared with the through movements. IL Route 59 is under the jurisdiction of the Illinois Department of Transportation (IDOT) with a posted speed limit of 45 miles per hour.
- The average daily traffic (ADT) on IL Route 59 in the vicinity of the site is 33,300 vehicles with 3,450 trucks (10.4%).

- A single access point on IL Route 59 serves the BAPS Hindu Temple, providing two exiting lanes (a separate right- and left-turn lane) and two inbound lanes, operating under Stop sign control.

### **Current Site Characteristics**

Information on prayer services and classes was provided by the BAPS Hindu Temple staff.

- Five scheduled prayer (Arti) services are held seven days a week at 6:00 AM, 7:30 AM, 11:15 AM, 7:00 PM and 8:30 PM, as well as Sunday school classes from 11:00 AM to 3:00 PM. The service with the highest attendance occurs on Sunday at 7:00 PM.
- Weekday (Monday through Friday) attendance for the aforementioned prayer services is, on average, 15, 25, 30, 100 and 10 persons, respectively, including both adults and children.
- On Saturday, attendance for the 6:00 AM, 7:30 AM, 11:15 AM, 7:00 PM and 8:30 PM services is, on average, 15, 30, 200, 200 and 25, respectively, again including both adults and children.
- On Sunday, attendance for the aforementioned services is 15, 30, 250, 1,400 and 50, respectively, including both adults and children. An additional 200 to 300 persons are typically present on site during the Sunday peak service.
- Parents typically drop off their children prior to 11:00 AM for Sunday school and return after 4:00 PM for the 7:00 PM assembly.
- Classes for girls are held in the lower level of the Haveli (Cultural Complex), with the space currently too small to accommodate classroom needs.
- Classes for boys are currently held in the Priest residence.
- Assembly for women and girls (Sabha) is currently held in the main assembly hall prior to the regular Sunday assembly.
- The dining area located in the Haveli is too small to accommodate the current Sunday activities.
- The site is also open to visitor from 9:00 AM to 7:00 PM daily throughout the year. On weekdays, typical visitor attendance is 200 persons, while Saturday and Sunday visitor attendance ranges from 300 to 600 persons.

The site currently provides 725 parking spaces.

### **Existing Parking Demand and Vehicle Occupancy**

*Exhibit 3* graphically depicts the parking areas surveyed. GHA conducted a parking demand survey on Sunday, May 3, 2015 to determine the existing site parking characteristics. The parking demand was recorded every hour from 3:00 to 9:00 PM. This time period coincides with the scheduled services and the anticipated peak arrival and departure. *Exhibit 4* presents a summary of the parking survey results. As shown on *Exhibit 4*, the peak parking demand occurred at 6:00 PM, with 637 spaces occupied, representing approximately 88 percent of the available parking supply (725 spaces).

In an effort to determine the average occupancy of vehicles accessing the site, a count of the worship attendance for the peak service was conducted. The attendance count was performed by BAPS staff and included all staff and visitors (including the service, education and children/youth activities) on campus. On Sunday, May 3, 2015, approximately 1,400 people, including children, were present in the assembly hall and

300 people located in other areas of the campus, for a total of 1,700 people. Based on the aforementioned peak parking demand of 637 vehicles, the vehicle occupancy rate was determined to be 2.67 persons per vehicle (attendance divided by demand =  $1,700/637 = 2.67$ ).

### **Existing Traffic**

*Exhibit 5* summarizes the existing Sunday evening, weekday morning and weekday evening peak hour traffic volumes. Peak period traffic turning movement counts were conducted by GHA on Sunday, May 3, 2015 from 3:00 to 9:00 PM and on Tuesday, May 5, 2015 from 7:00 to 9:00 AM and 4:00 to 6:00 PM. The observed Sunday worship entering (pre-service) and exiting (post-service) peak hours occurred from 4:00 to 5:00 PM and 7:15 to 8:15 PM, respectively, while the weekday morning and evening peak hours occurred from 7:00 to 8:00 AM and 4:45 to 5:45 PM, respectively. *Exhibit 5* also provides the ADT 24-hour volume along IL Route 59 from 2013 as published by IDOT on their website [www.gettingaroundillinois.com](http://www.gettingaroundillinois.com).

No unusual activities (e.g. roadway construction, or inclement weather) were observed during our counts that would be expected to impact traffic volumes or travel patterns in the vicinity. Summaries of the existing traffic counts can be found in Appendix I.

### **2020 No-Build (Non-Site) Traffic**

*Exhibit 6* summarizes the 2020 No-Build Sunday evening, weekday morning and weekday evening peak hour traffic volumes. In accordance with IDOT requirements, future traffic volume conditions were developed for the year 2020, build-out plus five years. For the purpose of this study and based on a review of historical IDOT traffic volumes and recent studies performed in the area, traffic volumes along the roadways surrounding the site are assumed to experience an overall annual, compounded growth rate of approximately three percent per year. Accordingly, the 2020 No-Build peak hour traffic volumes were developed by applying a three percent compounded annual growth rate to the existing traffic (*Exhibit 5*).

## **Part III. Traffic Evaluation**

### **Future Site Characteristics**

*Exhibit 7* depicts the proposed site plan. As shown, the development consists of the construction of a two-story, approximately 93,500 square-foot FAC on the north side of the Mandir (place of worship and prayer). It also includes an expansion to the existing parking facilities, adding 96 parking spaces, bringing the site total to 821 spaces. Access to the site is provided via one driveway on IL Route 59. Additional access to the site via Army Trail Road may be provided when future expansion and/or growth in membership warrants.

The proposed expansion is not anticipated to be a significant generator of new site traffic, but to serve the current site uses and demand. As previously indicated, the girls classrooms are overcrowded, the boys classes are being held in the priest's residence, the dining area is too small to accommodate the Sunday activities and the girls and ladies Sabha is held in the main assembly hall, which often must be rushed to get the hall ready for regular Sunday assembly. The new facility will provide extra space for the aforementioned uses and permit the current spaces to be used for their intended use. A gymnasium is also proposed within

the FAC, which will be used by boys and girls following their classes and before Sunday assembly. The FAC is not anticipated to be used except on Sundays, other than for storage or minimal activity.

*Exhibit 8 – Part A* tabulates the traffic generation calculations for the proposed development. Typically, the trip generation rates published by the Institute of Transportation Engineers (ITE) in the 9<sup>th</sup> Edition of the Manual *Trip Generation* are used to determine the anticipated traffic from a development; however, because the expansion is proposed to serve the existing use and not a source of new site, local membership data was used instead. Based on historical data, the BAPS Hindu Temple has been experiencing a membership growth of approximately 3.5 percent annually. The membership growth calculations are provided in *Appendix II*.

*Exhibit 8 – Part B* provides the anticipated trip distribution. This was based on existing site travel patterns. As shown, majority of the site traffic arrives and departs to the north.

### **Site and Total Traffic Assignments**

*Exhibit 9* illustrates the site traffic assignment which is based on the traffic characteristics summarized in *Exhibit 8* (traffic generation and trip distribution) and assigned to the area roadways. Four peak hours are shown, including the weekday morning and evening street peak traffic and the Sunday evening worship entering (pre-service) and exiting (post-service) peak traffic.

Site traffic and 2020 No-Build traffic (see *Exhibits 9 and 6*, respectively) were combined to produce the 2020 Total traffic, which is illustrated on *Exhibit 10*.

As previously stated, the FAC will not be a significant generator of traffic, increases in traffic are only anticipated with regular membership growth. As shown on *Exhibits 8 and 9*, the development will have almost a negligible impact on operations along IL Route 59. During the weekday morning and evening peak hours virtually no site traffic will be generated, with one additional vehicle every 7 to 15 minutes. During the Sunday pre- and post-service peak periods, the increase in traffic represents, on average, one additional vehicle per minute.

### **Future Parking Demand**

*Exhibit 11* summarizes the future on-site parking and attendance characteristics. As previously indicated, the existing total parking demand observed on Sunday was 637 vehicles, occurring at 6:00 PM. Therefore, the existing parking demand can be accommodated within the proposed 821 parking spaces on site.

Based on historical data, the BAPS Hindu Temple has been experiencing an annual, compounded growth in membership of approximately 3.5 percent. As membership and attendance of assembly services grow, the occupancy of the on-site parking will also increase. The proposed 821 parking spaces provides for an increase in parking of approximately 29 percent above the current peak parking demand. Given the historical growth in membership, the proposed on-site parking supply will accommodate the peak parking demand on-site for just beyond seven years.

## Capacity Analyses

Capacity analyses are a standard measurement in the industry that identifies how a particular intersection operates. *Exhibit 12 – Part A* lists the analysis parameters, as published in the Transportation Research Board's (TRB) 2010 Highway Capacity Manual (HCM). They are measured in terms of level of service (LOS). LOS A is the best rating, with LOS F being the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. LOS E and F are usually considered unacceptable.

For Two Way Stop Controlled (TWSC) intersections, LOS is reported for conflicting movements on the major street (i.e. left turns onto the minor approach) and for each movement on the stopped approach. Approach "control delay" is also reported in seconds per vehicle.

*Exhibit 12 - Part B* summarizes the intersection capacity analysis results. As shown, all approaches at the study intersection operate at or above an acceptable LOS D before and after the expansion during all four peak hours studied. It should be noted, the westbound left-turn from the site access onto IL Route 59 southbound currently operates at a LOS E and a LOS E/F under future conditions, with the anticipated traffic growth within the area and the addition of the site-generated traffic, during the weekday morning, weekday evening and Sunday worship entering (pre-service) peak hours. The delay experienced by this movement is typical for a minor street intersection with a major street with heavy through volumes. Left-turning vehicles have to wait longer to find an acceptable gap in both north and southbound traffic on IL Route 59.

Capacity analysis summary printouts are provided in *Appendix III*.

## Gap Study

*Exhibit 13* provides the results of a gap study performed at the site access location with IL Route 59. A gap study was conducted by GHA on Sunday, May 3, 2015 from 3:00 to 9:00 PM for the existing five-lane cross section (two through lanes in each direction and a center turn-lane) on IL Route 59. The data collected from the gap study is included in *Appendix IV*.

Gap studies are conducted to determine the duration and frequency of gaps, or interruptions in the through traffic stream, which permits vehicles on side streets site access to turn and enter the through traffic stream or vehicles on the mainline to cross the traffic stream to access a side street. The following three types of gaps were analyzed:

- The number of gaps in the northbound traffic stream on IL Route 59 to provide for a southbound left-turn movement from IL Route 59 onto the site access eastbound (*Exhibit 13 – Part A*).
- The number of gaps in the northbound traffic stream on IL Route 59 to provide for a westbound right-turn movement from the site to northbound IL Route 59 (*Exhibit 13 – Part B*).
- The number of gaps in the combined northbound and southbound traffic streams on IL Route 59 to provide for a westbound left-turn movement from the site to southbound IL Route 59 (*Exhibit 13 – Part C*).

During the critical Sunday peak periods, the types of vehicles performing the above movements is passenger cars only. A minimum clearance time (critical gap) of 6.0 seconds, 7.5 seconds and 8.5 seconds is required for one single passenger car to make a left-turn into the site, right-turn out of the site and a left-turn out of the site, respectively. The minimum timeframe between the departure of one vehicle making a left-turn into the site, right-turn out of the site and a left-turn out of the site and the departure of the next vehicle using the same gap (follow-up time) is 2.2 seconds, 3.3 seconds and 3.5 seconds, respectively.

The available gaps, which were identified by the data collection, were measured against the required amount of time for each movement, as described above. The following summarizes the results during the critical peak hour, as shown on *Exhibit 13 – Part D*:

- Southbound left-turns into the site: 261 required, 284 gaps available during the Sunday worship entering (pre-service) peak hour.
- Westbound right-turns out of the site: 424 required, 515 gaps available during the Sunday worship exiting (post-service) peak hour.
- Westbound right-turns out of the site: 25 required and 46 available during the Sunday worship entering (pre-service) peak hour and 107 required, 164 gaps available during the Sunday worship exiting (post-service) peak hour.

Given the historical growth in membership, the available gaps within the existing IL Route 59 northbound and southbound traffic stream will accommodate the Sunday pre-service and post-service peak hour traffic volumes for just beyond seven years.

#### **Part IV. Recommendations and Conclusions**

Based on GHA's data collection, review and analysis, the proposed Family Activity Center and expansion of on-site parking at BAPS Hindu Temple will be effectively served by the existing roadway network and site access system. The existing access system and roadway lane configurations will continue to effectively serve the projected Sunday pre-service and post-serve peak hour traffic volumes, as well as the weekday morning and evening street peak hour traffic volumes. The proposed expansion to 821 parking spaces on-site will initially accommodate the existing parking demand of 637 vehicles and future (year 2020) peak parking demand of 757 vehicles. However, given the historical growth in membership, the proposed on-site parking is expected to be fully utilized in seven to eight years. At this seven to eight year timeframe, the Sunday pre-service and post-service peak hour traffic volumes are anticipated to exceed the available gaps within the IL Route 59 northbound and southbound traffic stream.

Accordingly, at that time, consideration should be given to expanding the parking supply on-site to accommodate the projected parking demand and/or implement measures to improve vehicle occupancy (rideshare) or to shift attendance to less attended Sunday service. Also at this time, due to the anticipated limited availability of gaps in the IL Route 59 traffic stream, consideration should be given to providing police detail during the Sunday pre- and post-service peak periods (3:00 to 9:00 PM) to facilitate traffic entering and exiting the site (operating similar to traffic signal control) or a second site access to the site should be provided onto Army Trail Road.

## **Part V. Technical Addendum**

The following Exhibits and Appendices were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

### Exhibits

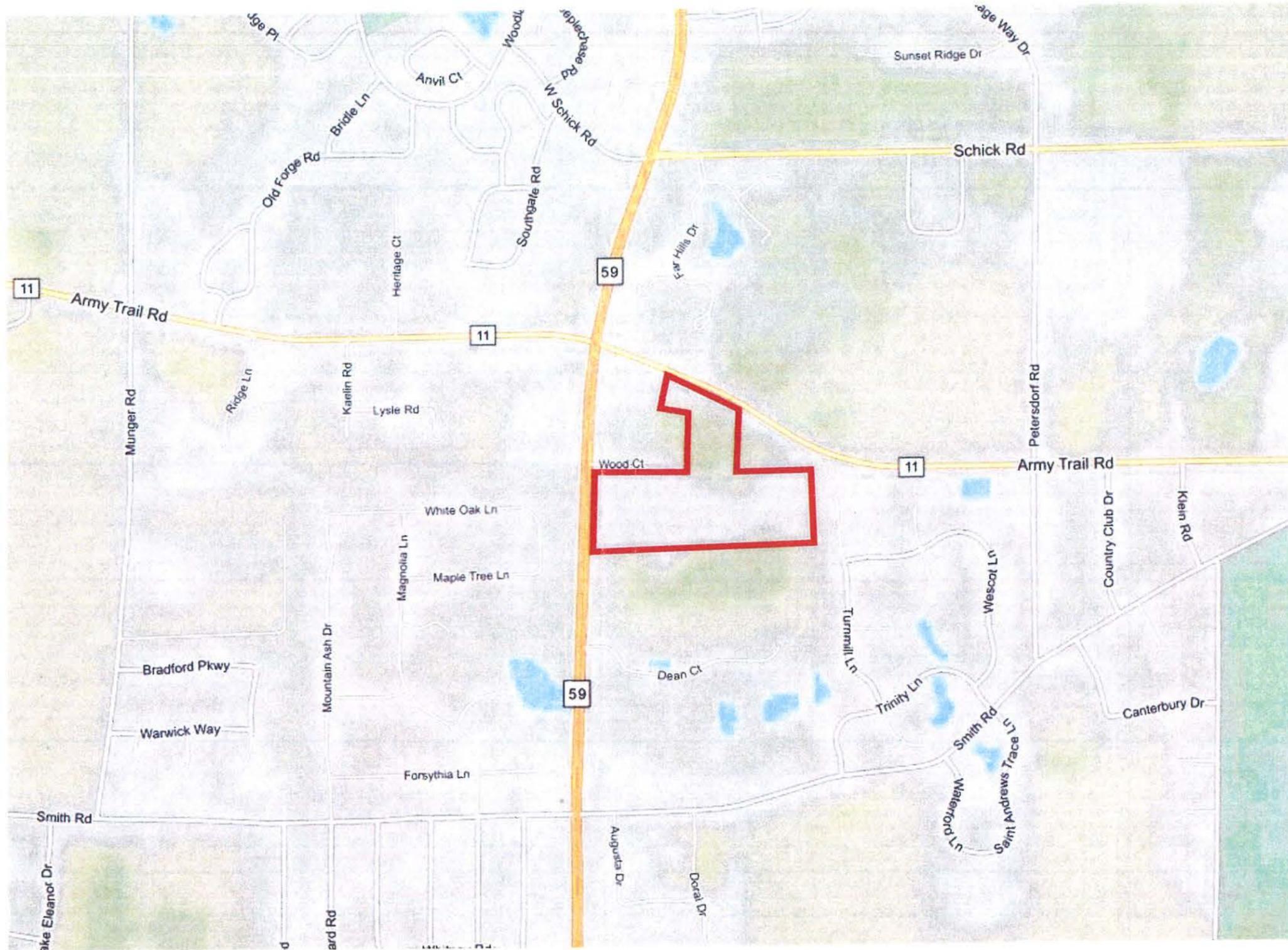
1. Site Location Map
2. Aerial Location Map
3. Parking Survey Locations
4. Parking Occupancy Survey
5. Existing Traffic
6. 2020 No-Build Traffic
7. Site Plan
8. Traffic Characteristics
9. Additional Site Traffic
10. 2020 Total Traffic
11. Project Parking Characteristics
12. Capacity Analysis
13. Gap Analysis

### Appendices

- I. Traffic Count Summaries
- II. Membership Growth Calculations
- III. Capacity Analysis Worksheets
- IV. Gap Study Data

# Technical Addendum

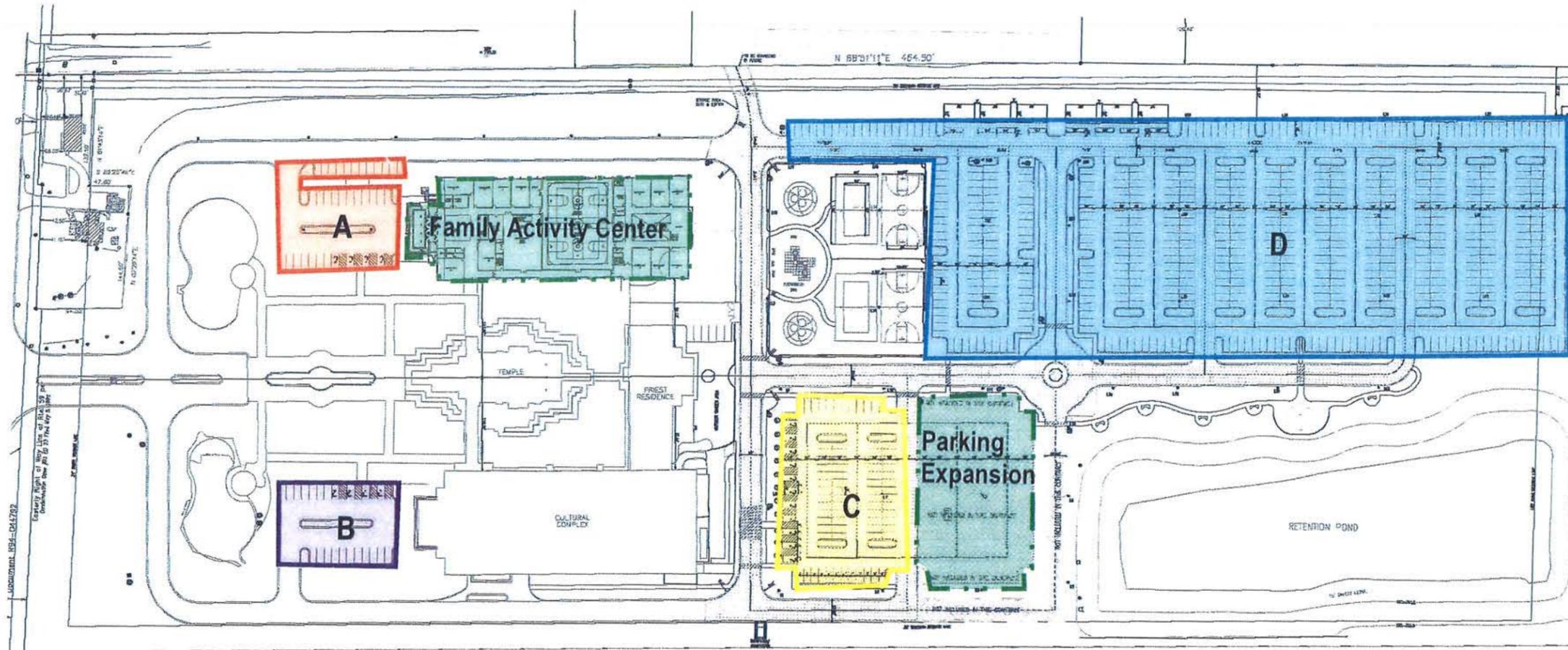
# Exhibits



Proposed Expansion BAPS Hindu Temple – Bartlett, IL



Proposed Expansion BAPS Hindu Temple – Bartlett, IL



Proposed Expansion BAPS Hindu Temple – Bartlett, IL

**Exhibit 4 - Parking Occupancy Survey  
BAPS Hindu Temple - Bartlett, Illinois  
3:00 PM - 9:00 PM**

Parking Location See Exhibit 3 for Map	Parking Description	Parking Type	Parking Supply	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM
A	Northwest Lot - West of Future Family Activity Center	Regular Spaces	30	38	44	44	45	39	7	0
		ADA Spaces	4	4	4	4	3	0	0	0
B	Southwest Lot - West of Cultural Complex	Regular Spaces	19	19	19	19	19	20	4	0
		ADA Spaces	3	3	3	3	3	3	1	1
C	Southeast Lot - East of Cultural Complex	Regular Spaces	76	76	76	76	76	77	31	20
		ADA Spaces	11	9	11	11	11	11	6	1
D	Northeast Lot - East of Future Family Activity Center	Regular Spaces	582	30	262	426	480	427	54	18
Totals =			725	179	419	583	637	577	103	40
Overall Percent Occupied =				25%	58%	80%	88%	80%	14%	6%

**Key**

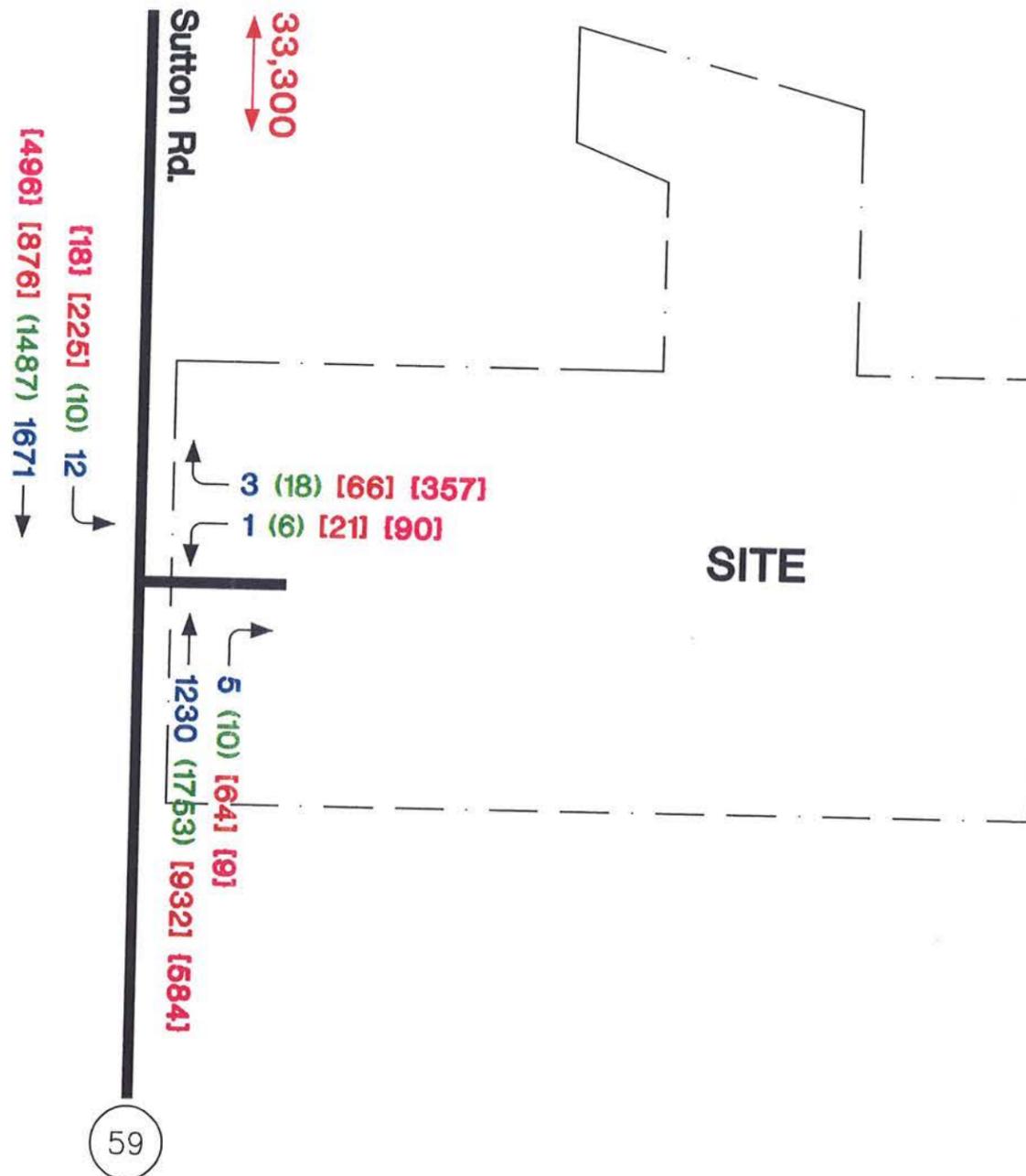
	100%-85% Occupied
	85%-60% Occupied
	Below 60% Occupied

**Legend:**

- XX** - Weekday AM Peak Hour (7:30–8:30 AM)
- (XX)** - Weekday PM Peak Hour (5:00–6:00 PM)
- [XX]** - Sunday Entering (Pre-Service) Peak Hour (4:00–5:00 PM)
- [XX]** - Sunday Exiting (Post-Service) Peak Hour (7:15–8:15 PM)
- XX** - Average Daily Traffic

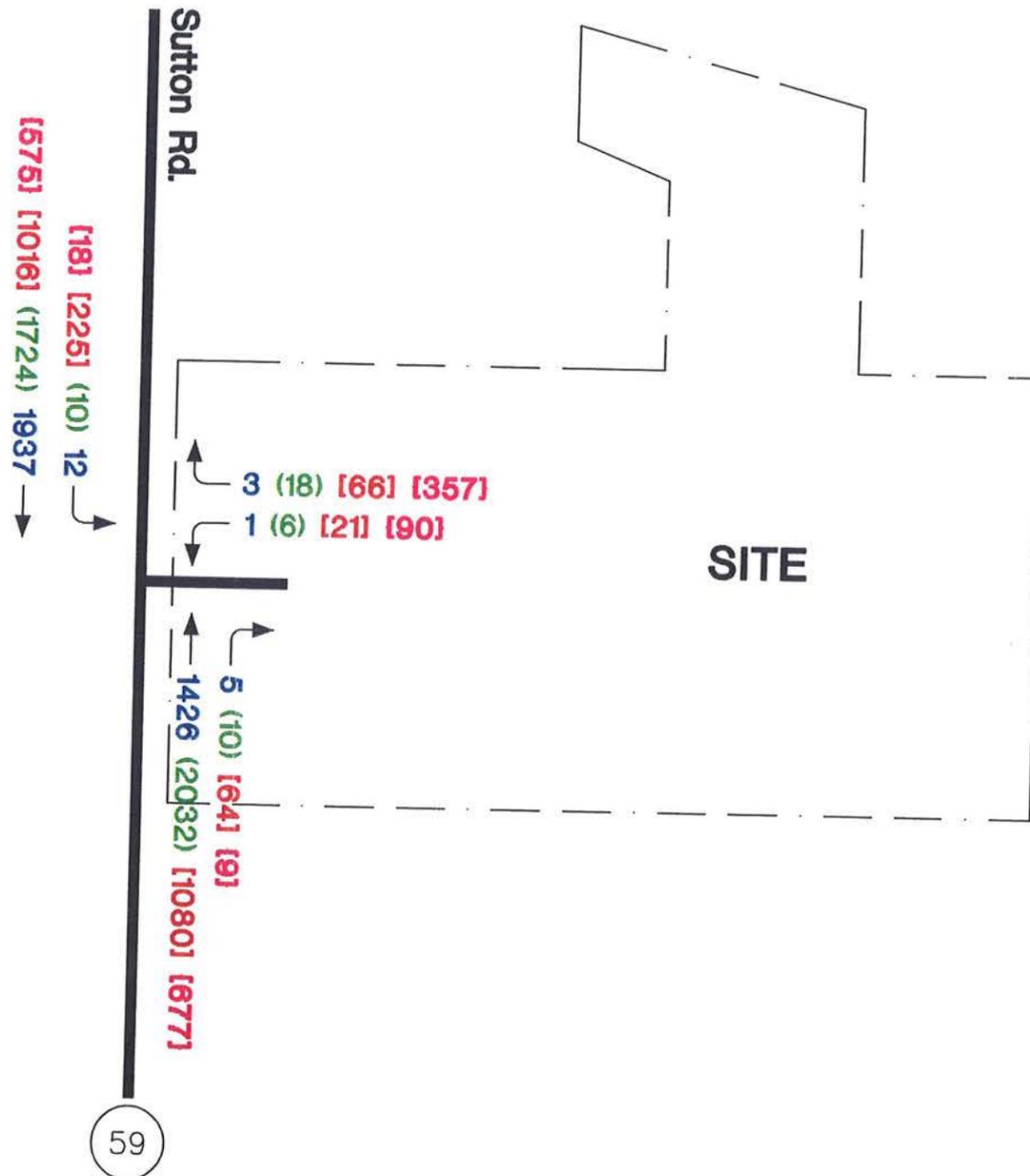


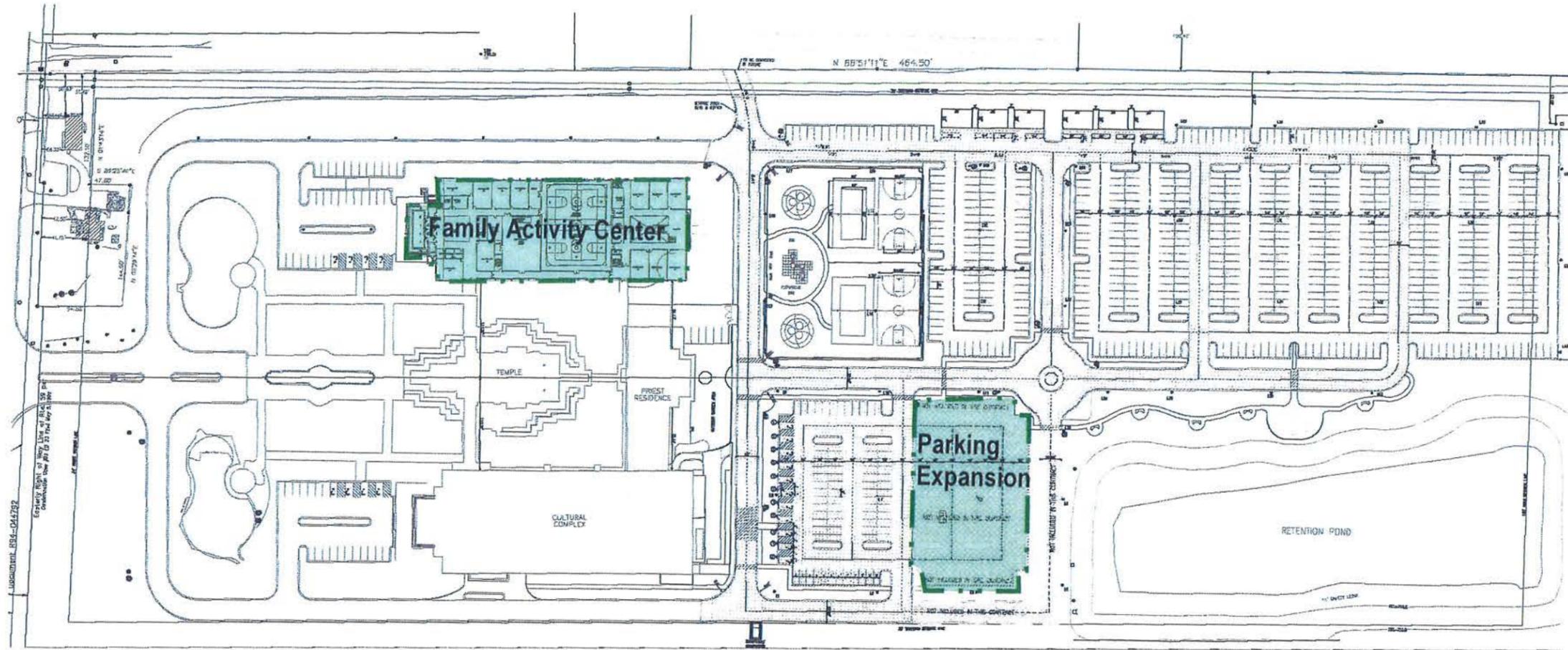
Not to Scale



**Legend:**

- XX** - Weekday AM Peak Hour (7:30–8:30 AM)
- (XX)** - Weekday PM Peak Hour (5:00–6:00 PM)
- [XX]** - Sunday Entering (Pre-Service) Peak Hour (4:00–5:00 PM)
- [XX]** - Sunday Exiting (Post-Service) Peak Hour (7:15–8:15 PM)





Proposed Expansion BAPS Hindu Temple – Bartlett, IL

**Exhibit 8**  
**Project Traffic Characteristics**  
*BAPS Hindu Temple Expansion - Bartlett, Illinois*

**Part A. Traffic Generation Calculations**

	Weekday AM Peak Hour			Weekday PM Peak Hour			Sunday Pre-Service Peak Hour			Sunday Post-Service Peak Hour		
	In	Out	Sum	In	Out	Sum	In	Out	Sum	In	Out	Sum
Existing	17	4	21	20	24	44	289	87	376	27	447	474
2020 Total Traffic (5 years)	20	5	25	24	28	52	343	103	446	32	531	563
<b>Total Additional Site Traffic=</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>54</b>	<b>16</b>	<b>70</b>	<b>5</b>	<b>84</b>	<b>89</b>

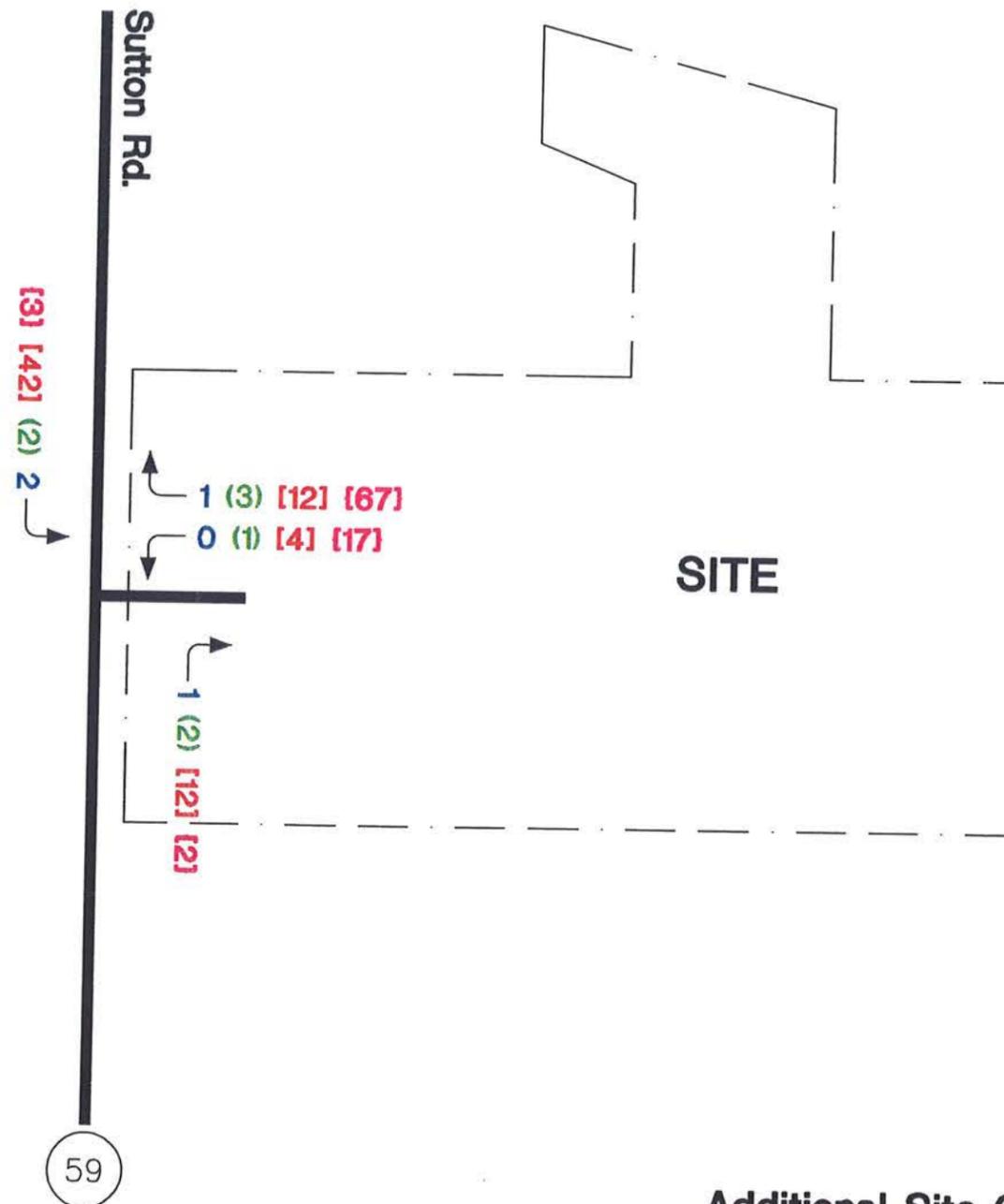
Source: GHA Intersection Turning Movement Counts (May 3, 2015) - Existing; and BAPS Historical Membership Attendance (3.5% compounded annual growth rate) - 2020 Total.

**Part B. Trip Distribution**

Route & Direction	Percent Use by Route								
	Approach Site From				Depart Site To				
	Weekday		Sunday		Weekday		Sunday		
	AM	PM	Pre-Service	Post-Service	AM	PM	Pre-Service	Post-Service	
IL Route 59									
- North of Site	70%	50%	80%	65%	75%	65%	75%	75%	
- South of Site	30%	50%	20%	35%	25%	35%	25%	25%	
<b>Totals =</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	

**Legend:**

- XX** - Weekday AM Peak Hour (7:30–8:30 AM)
- (XX)** - Weekday PM Peak Hour (5:00–6:00 PM)
- [XX]** - Sunday Entering (Pre-Service) Peak Hour (4:00–5:00 PM)
- [XX]** - Sunday Exiting (Post-Service) Peak Hour (7:15–8:15 PM)

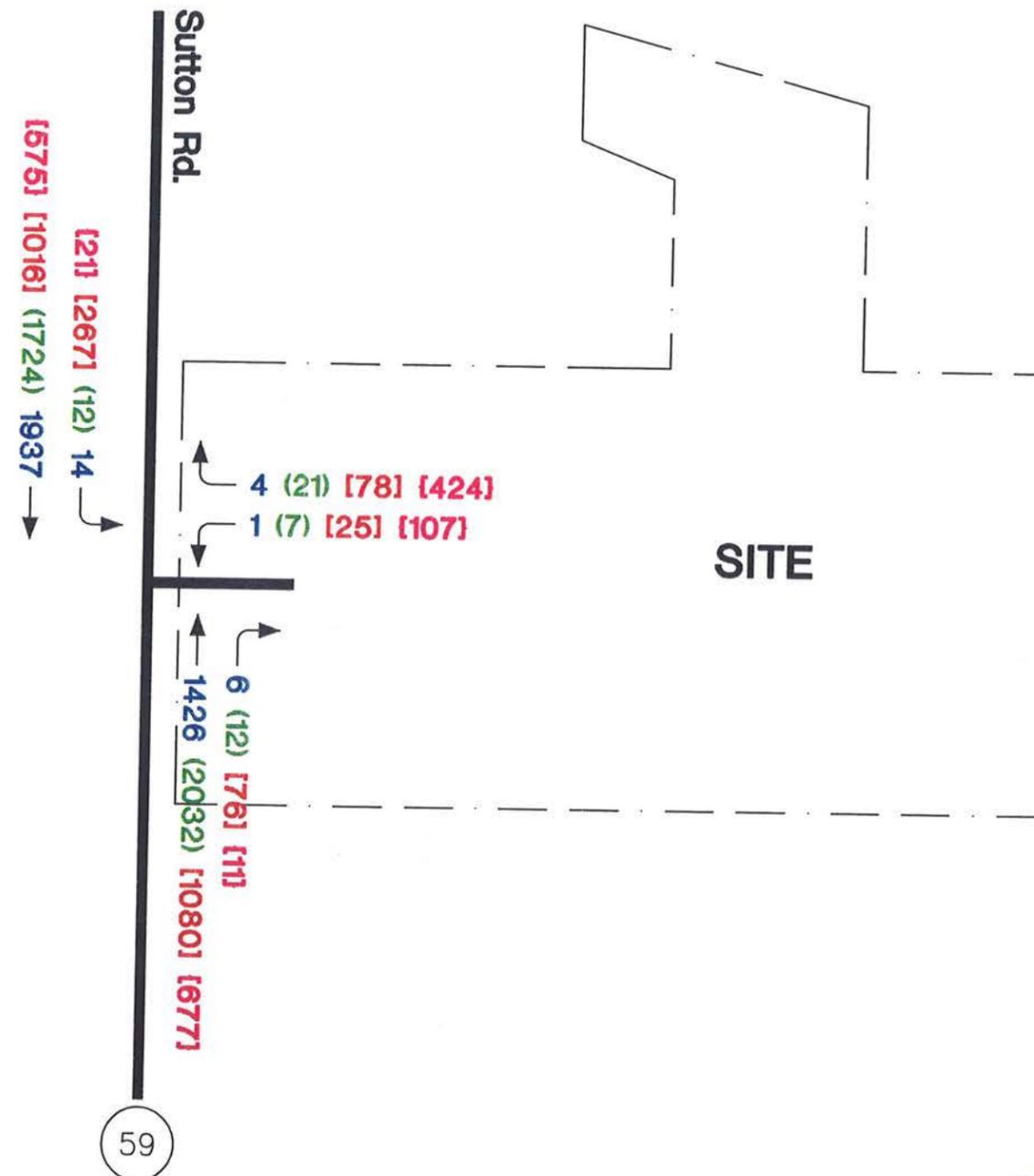


**Legend:**

- XX** - Weekday AM Peak Hour (7:30–8:30 AM)
- (XX)** - Weekday PM Peak Hour (5:00–6:00 PM)
- [XX]** - Sunday Entering (Pre-Service) Peak Hour (4:00–5:00 PM)
- [XX]** - Sunday Exiting (Post-Service) Peak Hour (7:15–8:15 PM)



Not to Scale



**Exhibit 11**  
**Project Parking Characteristics**  
*BAPS Hindu Temple Expansion - Bartlett, Illinois*

Service	Parking Demand <sup>1</sup>	Parking Occupancy	Attendance	Average Vehicle Occupancy (persons/vehicle)
<b>Existing Parking Demand and Proposed Parking Supply</b>				
7:00 PM	637 vehicles	78%	1,700	2.67
<b>Future (Year 2020) Parking Demand and Proposed Parking Supply</b>				
7:00 PM	757 vehicles	92%	2,020	2.67

<sup>1</sup> Represents peak parking demand observed at 6:00 PM, corresponding with the Sunday 7:00 PM Service.

## Exhibit 12 Intersection Capacity Analyses

*Proposed Expansion BAPS Hindu Temple - Bartlett, Illinois*

### Part A. Parameters - Type of Traffic Control (Source: 2010 Highway Capacity Manual)

#### I. Traffic Signals

LOS	Delay (sec / veh)	Description
A	≤ 10	All signal phases clear waiting vehicles without delay
B	>10 and ≤ 20	Minimal delay experienced on select signal phases
C	>20 and ≤ 35	Some delay experienced on several phases; often used as design criteria
D	>35 and ≤ 55	Usually considered as the acceptable delay standard
E	>55 and ≤ 80	Very long delays experienced during the peak hours
F	>80	Unacceptable delays experienced throughout the peak hours

#### II. Stop Sign

LOS	Delay (sec / veh)
A	≤ 10
B	>10 and ≤ 15
C	>15 and ≤ 25
D	>25 and ≤ 35
E	>35 and ≤ 50
F	>50

### Part B. Results

	Roadway Conditions	LOS Per Movement By Approach												Intersection / Approach		
		> = Shared Lane - = Non Critical or not Allowed Movement												Delay (sec / veh)	LOS	
		Eastbound			Westbound			Northbound			Southbound					
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
<b>1. IL Route 59 @ Site Access</b>																
<b>A. Weekday Morning Peak Hour</b>																
Existing Traffic (See Exhibit 5)		-	-	-	D	-	B	-	-	-	-	B	-	-	17.0	C
2020 No-Build Traffic (See Exhibit 6)		-	-	-	E	-	B	-	-	-	-	B	-	-	19.7	C
2020 Total Traffic (See Exhibit 10)		-	-	-	E	-	B	-	-	-	-	B	-	-	18.5	C
<b>B. Weekday Evening Peak Hour</b>																
Existing Traffic (See Exhibit 5)		-	-	-	E	-	C	-	-	-	-	C	-	-	25.0	C
2020 No-Build Traffic (See Exhibit 6)		-	-	-	F	-	C	-	-	-	-	C	-	-	32.1	D
2020 Total Traffic (See Exhibit 10)		-	-	-	F	-	C	-	-	-	-	C	-	-	32.4	D
<b>C. Sunday Entering (Pre-Service) Peak Hour</b>																
Existing Traffic (See Exhibit 5)		-	-	-	E	-	B	-	-	-	-	B	-	-	19.0	C
2020 No-Build Traffic (See Exhibit 6)		-	-	-	E	-	B	-	-	-	-	C	-	-	21.2	C
2020 Total Traffic (See Exhibit 10)		-	-	-	F	-	B	-	-	-	-	C	-	-	24.2	C
<b>D. Sunday Exiting (Post-Service) Peak Hour</b>																
Existing Traffic (See Exhibit 5)		-	-	-	C	-	C	-	-	-	-	A	-	-	15.9	C
2020 No-Build Traffic (See Exhibit 6)		-	-	-	C	-	C	-	-	-	-	A	-	-	17.5	C
2020 Total Traffic (See Exhibit 10)		-	-	-	C	-	C	-	-	-	-	A	-	-	20.5	C

**Exhibit 13**  
**Peak Hour Gap Study**  
*Proposed Expansion BAPS Hindu Temple - Bartlett, Illinois*  
*Sunday, May 3, 2015*

**Part A. Northbound Gap Distribution (for Left Turns In)**

Gap Interval	Gaps in Northbound Traffic on IL Route 59					
	No. of Vehicles per Gap Interval		Total Effective Gaps		Total Effective Gaps	
	No. Gaps	No. Gaps	Gaps	No. Gaps	No. Gaps	Gaps
6.0 to 8.1	37	26	37	26	26	26
8.2 to 10.3	14	33	28	33	66	66
10.4 to 12.5	21	22	63	22	66	66
12.6 to 14.7	12	22	48	22	88	88
14.8 to 16.9	11	11	55	11	55	55
17.0 to 19.1	7	9	42	9	54	54
19.2 to 21.3	1	10	7	10	70	70
>21.4	13	42	104	42	336	336
Total Peak Hour Gaps =					<b>384</b>	<b>761</b>

**Part B. Northbound Gap Distribution (for Right Turns Out)**

Gap Interval	Gaps in Northbound Traffic on IL Route 59					
	No. of Vehicles per Gap Interval		Total Effective Gaps		Total Effective Gaps	
	No. Gaps	No. Gaps	Gaps	No. Gaps	No. Gaps	Gaps
7.5 to 10.7	23	46	23	46	46	46
10.8 to 14.0	28	31	56	31	62	62
14.1 to 17.3	15	22	45	22	66	66
17.4 to 20.6	6	13	24	13	52	52
20.7 to 23.9	4	16	20	16	80	80
24.0 to 27.2	7	14	42	14	84	84
27.3 to 30.5	0	3	0	3	21	21
>30.6	2	13	16	13	104	104
Total Peak Hour Gaps =					<b>226</b>	<b>515</b>

**Part C. Northbound and Southbound Gap Distribution (for Left Turns Out)**

Gap Interval	Gaps in Northbound and Southbound Traffic on IL Route 59					
	No. of Vehicles per Gap Interval		Total Effective Gaps		Total Effective Gaps	
	No. Gaps	No. Gaps	Gaps	No. Gaps	No. Gaps	Gaps
8.5 to 11.9	13	39	13	39	39	39
12.0 to 15.4	7	22	14	22	44	44
15.5 to 18.9	1	9	3	9	27	27
19.0 to 22.4	4	7	16	7	28	28
22.5 to 25.9	0	2	0	2	10	10
26.0 to 29.4	0	1	0	1	0	0
29.5 to 32.9	0	0	0	0	0	0
>33.0	0	2	0	2	16	16
Total Peak Hour Gaps =					<b>46</b>	<b>164</b>

**Part D. Gap Supply and Demand Summary**

		Number of Vehicles Needing a Gap	Number of Gaps Available
<b>Site Access - Left Turns In</b>			
Sunday Entering (Pre-Service)	Peak Hour (4:00 -5:00 PM)	261	384
Sunday Exiting (Post-Service)	Peak Hour (7:15-8:15 PM)	21	761
<b>Site Access - Right Turns Out</b>			
Sunday Entering (Pre-Service)	Peak Hour (4:00 -5:00 PM)	45	226
Sunday Exiting (Post-Service)	Peak Hour (7:15-8:15 PM)	424	515
<b>Site Access - Left Turns Out</b>			
Sunday Entering (Pre-Service)	Peak Hour (4:00 -5:00 PM)	25	46
Sunday Exiting (Post-Service)	Peak Hour (7:15-8:15 PM)	107	164

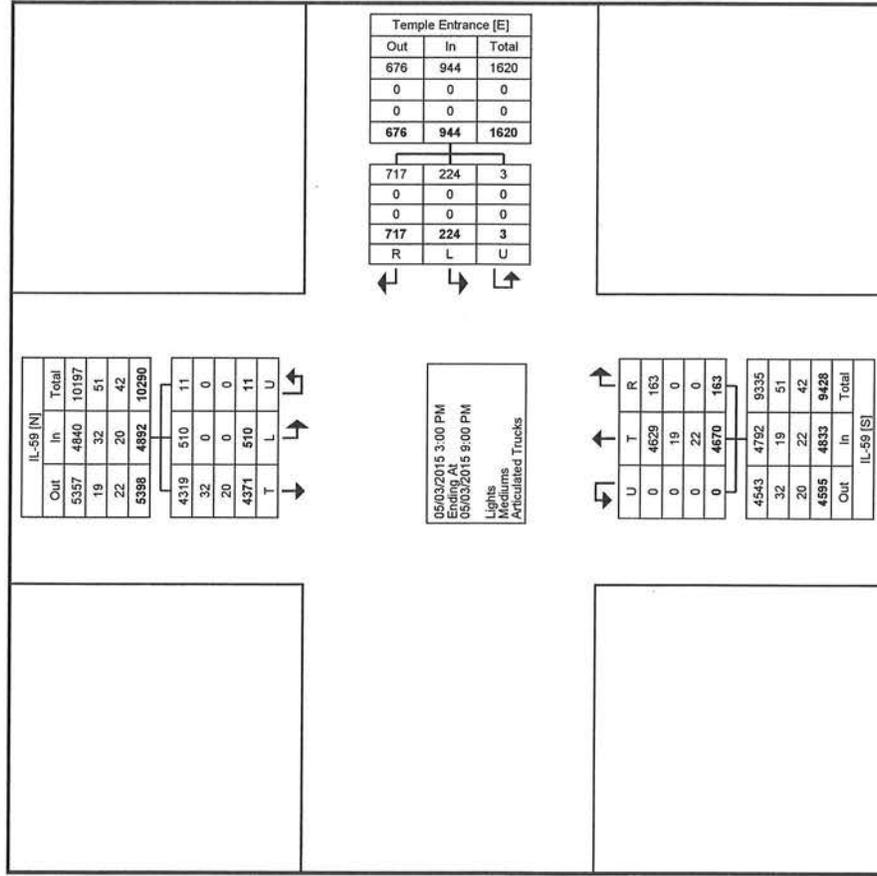
Source: Illinois Bureau of Design and Environment Manual, 2010 (gap acceptance time,  $t_c$ ) and Highway Capacity Manual, 2010 (follow-up time,  $t_f$ ).

# Appendices

**Appendix I**  
**Existing Traffic Count Summaries**

### Turning Movement Data

Start Time	IL-59 Southbound				Temple Entrance Westbound				IL-59 Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
3:00 PM	0	15	219	234	0	5	7	12	0	228	12	240	486
3:15 PM	0	33	210	243	0	6	11	17	0	240	6	246	506
3:30 PM	0	28	233	261	0	6	12	18	0	224	11	235	514
3:45 PM	3	37	205	245	0	7	18	25	0	240	10	250	520
<b>Hourly Total</b>	<b>3</b>	<b>113</b>	<b>867</b>	<b>983</b>	<b>0</b>	<b>24</b>	<b>48</b>	<b>72</b>	<b>0</b>	<b>932</b>	<b>39</b>	<b>971</b>	<b>2026</b>
4:00 PM	1	51	225	277	0	3	16	19	0	229	16	245	541
4:15 PM	0	72	238	310	0	10	19	29	0	230	14	244	563
4:30 PM	0	61	205	266	0	5	21	26	0	213	17	230	522
4:45 PM	0	41	208	249	1	3	10	14	0	280	17	277	540
<b>Hourly Total</b>	<b>1</b>	<b>225</b>	<b>876</b>	<b>1102</b>	<b>1</b>	<b>21</b>	<b>66</b>	<b>88</b>	<b>0</b>	<b>932</b>	<b>64</b>	<b>996</b>	<b>2186</b>
5:00 PM	2	33	221	256	0	8	14	22	0	236	12	248	526
5:15 PM	1	25	207	233	0	5	11	16	0	250	8	258	507
5:30 PM	0	19	281	280	0	3	9	12	0	252	5	257	549
5:45 PM	0	17	215	232	0	8	12	20	0	193	11	204	456
<b>Hourly Total</b>	<b>3</b>	<b>94</b>	<b>904</b>	<b>1001</b>	<b>0</b>	<b>24</b>	<b>46</b>	<b>70</b>	<b>0</b>	<b>931</b>	<b>36</b>	<b>967</b>	<b>2038</b>
6:00 PM	1	13	197	211	0	3	9	12	0	214	3	217	440
6:15 PM	0	15	170	185	0	3	23	26	0	212	2	214	425
6:30 PM	0	14	191	205	2	8	24	34	0	188	2	190	429
6:45 PM	0	8	155	163	0	14	12	26	0	170	6	176	365
<b>Hourly Total</b>	<b>1</b>	<b>50</b>	<b>713</b>	<b>764</b>	<b>2</b>	<b>28</b>	<b>66</b>	<b>98</b>	<b>0</b>	<b>784</b>	<b>13</b>	<b>797</b>	<b>1659</b>
7:00 PM	0	7	203	210	0	13	37	50	0	163	1	164	414
7:15 PM	1	7	148	156	0	15	77	92	0	168	2	170	418
7:30 PM	1	5	105	111	0	24	101	125	0	142	1	143	379
7:45 PM	1	3	127	131	0	22	74	96	0	145	2	147	374
<b>Hourly Total</b>	<b>3</b>	<b>22</b>	<b>583</b>	<b>608</b>	<b>0</b>	<b>74</b>	<b>289</b>	<b>383</b>	<b>0</b>	<b>608</b>	<b>6</b>	<b>614</b>	<b>1585</b>
8:00 PM	0	3	116	119	0	29	105	134	0	129	4	133	386
8:15 PM	0	2	96	98	0	17	66	83	0	117	0	117	298
8:30 PM	0	0	120	120	0	5	19	24	0	125	0	125	289
8:45 PM	0	1	96	97	0	2	10	12	0	112	1	113	222
<b>Hourly Total</b>	<b>0</b>	<b>6</b>	<b>428</b>	<b>434</b>	<b>0</b>	<b>53</b>	<b>200</b>	<b>253</b>	<b>0</b>	<b>483</b>	<b>5</b>	<b>488</b>	<b>1175</b>
<b>Grand Total</b>	<b>11</b>	<b>510</b>	<b>4371</b>	<b>4882</b>	<b>3</b>	<b>224</b>	<b>717</b>	<b>944</b>	<b>0</b>	<b>4670</b>	<b>163</b>	<b>4833</b>	<b>10669</b>
Approach %	0.2	10.4	89.3	-	0.3	23.7	76.0	-	0.0	96.6	3.4	-	-
Total %	0.1	4.8	41.0	45.9	0.0	2.1	6.7	8.8	0.0	43.8	1.5	45.3	-
Lights	11	510	4319	4840	3	224	717	944	0	4629	163	4792	10576
% Lights	100.0	100.0	98.8	98.9	100.0	100.0	100.0	100.0	-	99.1	100.0	99.2	99.1
Mediums	0	0	32	32	0	0	0	0	0	19	0	19	51
% Mediums	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	-	0.4	0.0	0.4	0.5
Articulated Trucks	0	0	20	20	0	0	0	0	0	22	0	22	42
% Articulated Trucks	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.0	-	0.5	0.0	0.5	0.4



Turning Movement Data Plot

5003 902 Bartlett, IL  
 IL-59 and Hindu Temple Weekrmd  
 6-hr  
 GHA MIO

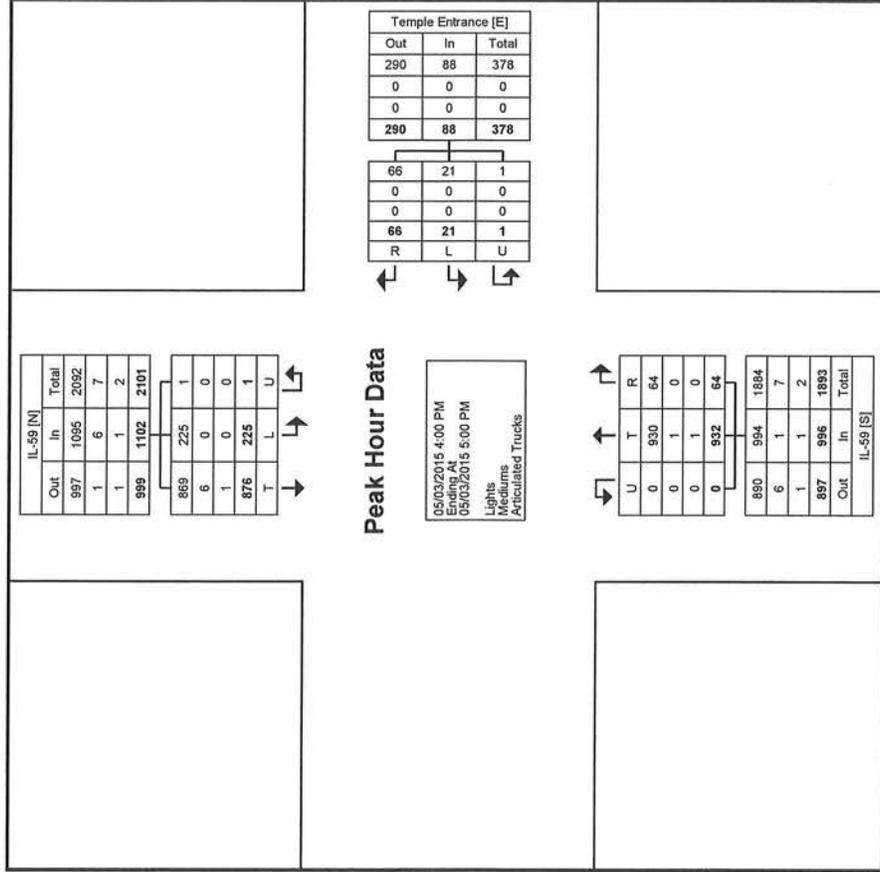
Gewalt Hamilton Associates Inc.  
 625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061  
 (847) 478-9700 beckham@gha-engineers.com

Count Name: IL-59 and Hindu Temple Entrance  
 Weekend  
 Site Code:  
 Start Date: 05/03/2015  
 Page No: 3

### Turning Movement Peak Hour Data (4:00 PM)

Start Time	IL-59 Southbound				Temple Entrance Westbound				IL-59 Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
4:00 PM	1	51	225	277	0	3	16	19	0	229	16	245	541
4:15 PM	0	72	238	310	0	10	19	29	0	230	14	244	583
4:30 PM	0	61	205	266	0	5	21	26	0	213	17	230	522
4:45 PM	0	41	208	249	1	3	10	14	0	280	17	277	540
Total	1	225	876	1102	1	21	66	88	0	932	64	996	2186
Approach %	0.1	20.4	79.5	-	1.1	23.9	75.0	-	0.0	93.6	6.4	-	-
Total %	0.0	10.3	40.1	50.4	0.0	1.0	3.0	4.0	0.0	42.8	2.9	45.6	-
PHF	0.250	0.781	0.920	0.889	0.250	0.525	0.786	0.759	0.000	0.896	0.941	0.899	0.937
Lights	1	225	889	1095	1	21	66	88	0	930	64	994	2177
% Lights	100.0	100.0	99.2	99.4	100.0	100.0	100.0	100.0	-	99.8	100.0	99.8	99.6
Mediums	0	0	6	6	0	0	0	0	0	1	0	1	7
% Mediums	0.0	0.0	0.7	0.5	0.0	0.0	0.0	0.0	-	0.1	0.0	0.1	0.3
Articulated Trucks	0	0	1	1	0	0	0	0	0	1	0	1	2
% Articulated Trucks	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	-	0.1	0.0	0.1	0.1



Turning Movement Peak Hour Data Plot (4:00 PM)

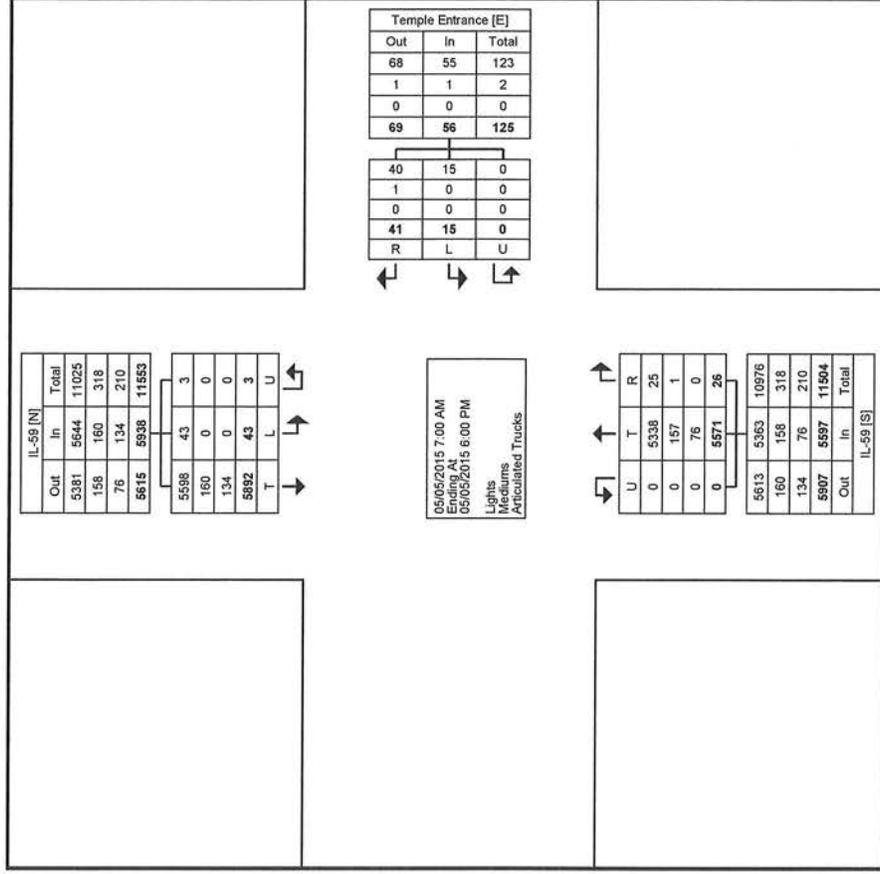
5003.902 Bartlett, IL  
 IL-59 and Hindu Temple Weekday  
 4-hr  
 GHA MIO

Gewalt Hamilton Associates Inc.  
 625 Forest Edge Drive  
 Vernon Hills, Illinois, United States 60061  
 (847) 478-9700 lbeckham@gha-engineers.com

Count Name: IL-59 and Hindu Temple Entrance  
 Weekday  
 Site Code:  
 Start Date: 05/05/2015  
 Page No: 1

### Turning Movement Data

Start Time	IL-59 Southbound				Temple Entrance Westbound				IL-59 Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
7:00 AM	0	2	397	399	0	0	0	0	0	300	1	301	700
7:15 AM	0	7	424	431	0	0	0	0	0	329	3	332	763
7:30 AM	0	2	434	436	0	0	1	1	0	291	0	291	728
7:45 AM	0	1	416	417	0	1	2	3	0	310	1	311	731
<b>Hourly Total</b>	<b>0</b>	<b>12</b>	<b>1671</b>	<b>1683</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>1230</b>	<b>5</b>	<b>1235</b>	<b>2922</b>
8:00 AM	0	0	382	382	0	3	3	6	0	312	0	312	700
8:15 AM	0	1	372	373	0	0	3	3	0	254	1	255	631
8:30 AM	0	4	378	382	0	0	2	2	0	282	0	282	666
8:45 AM	1	4	274	279	0	0	0	0	0	215	0	215	494
<b>Hourly Total</b>	<b>1</b>	<b>9</b>	<b>1406</b>	<b>1416</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>11</b>	<b>0</b>	<b>1083</b>	<b>1</b>	<b>1084</b>	<b>2491</b>
*** BREAK ***													
4:00 PM	1	4	276	281	0	2	4	6	0	337	2	339	626
4:15 PM	0	2	347	349	0	0	3	3	0	392	1	393	745
4:30 PM	0	2	361	363	0	1	2	3	0	401	2	403	769
4:45 PM	0	0	333	333	0	2	5	7	0	449	3	452	792
<b>Hourly Total</b>	<b>1</b>	<b>8</b>	<b>1317</b>	<b>1326</b>	<b>0</b>	<b>5</b>	<b>14</b>	<b>19</b>	<b>0</b>	<b>1579</b>	<b>8</b>	<b>1587</b>	<b>2922</b>
5:00 PM	0	2	388	390	0	0	4	4	0	435	5	440	834
5:15 PM	0	4	384	388	0	3	5	8	0	467	1	468	864
5:30 PM	0	4	382	386	0	1	4	5	0	402	1	403	794
5:45 PM	1	4	344	349	0	2	3	5	0	395	5	400	754
<b>Hourly Total</b>	<b>1</b>	<b>14</b>	<b>1488</b>	<b>1513</b>	<b>0</b>	<b>6</b>	<b>16</b>	<b>22</b>	<b>0</b>	<b>1699</b>	<b>12</b>	<b>1711</b>	<b>3246</b>
<b>Grand Total</b>	<b>3</b>	<b>43</b>	<b>5892</b>	<b>5938</b>	<b>0</b>	<b>15</b>	<b>41</b>	<b>56</b>	<b>0</b>	<b>5571</b>	<b>26</b>	<b>5597</b>	<b>11591</b>
Approach %	0.1	0.7	99.2	-	0.0	26.8	73.2	-	0.0	99.5	0.5	-	-
Total %	0.0	0.4	50.8	51.2	0.0	0.1	0.4	0.5	0.0	49.1	0.2	48.3	-
Lights	3	43	5598	5644	0	15	40	55	0	5338	25	5363	11062
% Lights	100.0	100.0	95.0	95.0	-	100.0	97.6	98.2	-	95.8	96.2	95.8	95.4
Mediums	0	0	160	160	0	0	1	1	0	157	1	158	319
% Mediums	0.0	0.0	2.7	2.7	-	0.0	2.4	1.8	-	2.8	3.8	2.8	2.8
Articulated Trucks	0	0	134	134	0	0	0	0	0	76	0	76	210
% Articulated Trucks	0.0	0.0	2.3	2.3	-	0.0	0.0	0.0	-	1.4	0.0	1.4	1.8



Turning Movement Data Plot

Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive

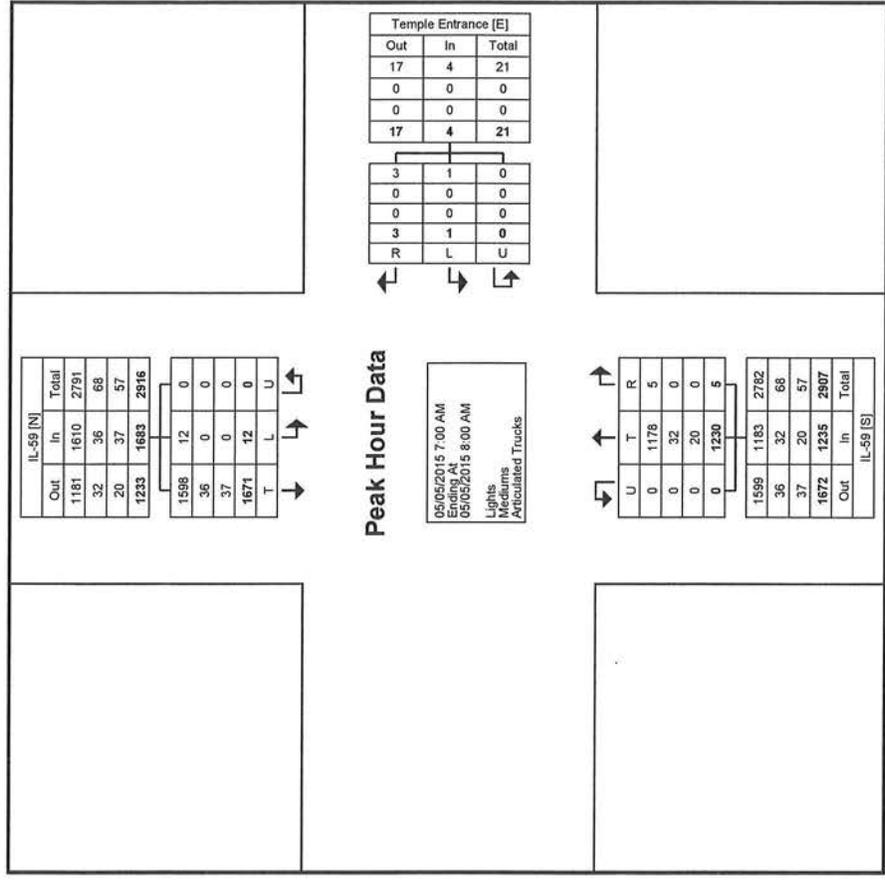
Count Name: IL-59 and Hindu Temple Entrance  
Weekday  
Site Code:  
Start Date: 05/05/2015  
Page No: 3

5003.902 Bartlett, IL  
IL-59 and Hindu Temple Weekday  
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Vernon Hills, Illinois, United States 60061  
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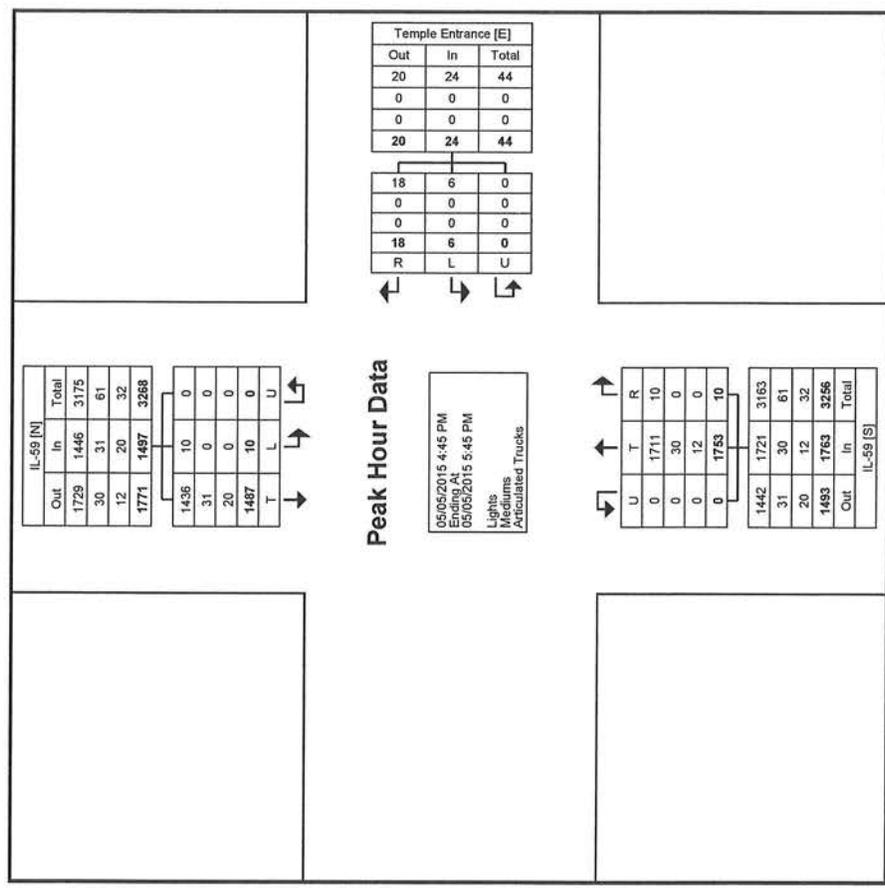
### Turning Movement Peak Hour Data (7:00 AM)

Start Time	IL-59 Southbound				Temple Entrance Westbound				IL-59 Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
7:00 AM	0	2	397	399	0	0	0	0	0	300	1	301	700
7:15 AM	0	7	424	431	0	0	0	0	0	329	3	332	763
7:30 AM	0	2	434	436	0	0	1	1	0	281	0	281	728
7:45 AM	0	1	416	417	0	1	2	3	0	310	1	311	731
Total	0	12	1671	1683	0	1	3	4	0	1230	5	1235	2922
Approach %	0.0	0.7	99.3	-	0.0	25.0	75.0	-	0.0	99.6	0.4	-	-
Total %	0.0	0.4	57.2	57.6	0.0	0.0	0.1	0.1	0.0	42.1	0.2	42.3	-
PHF	0.000	0.429	0.963	0.965	0.000	0.250	0.375	0.333	0.000	0.935	0.417	0.930	0.957
Lights	0	12	1598	1610	0	1	3	4	0	1178	5	1183	2797
% Lights	-	100.0	95.6	95.7	-	100.0	100.0	100.0	-	95.8	100.0	95.8	95.7
Mediums	0	0	36	36	0	0	0	0	0	32	0	32	68
% Mediums	-	0.0	2.2	2.1	-	0.0	0.0	0.0	-	2.6	0.0	2.6	2.3
Articulated Trucks	0	0	37	37	0	0	0	0	0	20	0	20	57
% Articulated Trucks	-	0.0	2.2	2.2	-	0.0	0.0	0.0	-	1.6	0.0	1.6	2.0



Turning Movement Peak Hour Data Plot (7:00 AM)





Turning Movement Peak Hour Data Plot (4:45 PM)

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	Existing Conditions
Analysis Time Period	Weekday AM Peak		

Project Description 5003.900	
East/West Street: Site Access	North/South Street: IL Route 59
Intersection Orientation: North-South	Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1230	5	12	1671	
Peak-Hour Factor, PHF	1.00	0.96	0.96	0.96	0.96	1.00
Hourly Flow Rate, HFR (veh/h)	0	1281	5	12	1740	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.96	1.00	0.96
Hourly Flow Rate, HFR (veh/h)	0	0	0	1	0	3
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		12	1		3			
C (m) (veh/h)		546	144		477			
v/c		0.02	0.01		0.01			
95% queue length		0.07	0.02		0.02			
Control Delay (s/veh)		11.7	30.2		12.6			
LOS		B	D		B			
Approach Delay (s/veh)	--	--	17.0					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information				Site Information				
Analyst	GHA			Intersection	IL 59 at Site Access			
Agency/Co.	GHA			Jurisdiction	IDOT			
Date Performed	6/4/2015			Analysis Year	Existing Conditions			
Analysis Time Period	Weekday PM Peak							
Project Description 5003.900								
East/West Street: Site Access				North/South Street: IL Route 59				
Intersection Orientation: North-South				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		1753	10	10	1487			
Peak-Hour Factor, PHF	1.00	0.95	0.95	0.95	0.95	1.00		
Hourly Flow Rate, HFR (veh/h)	0	1845	10	10	1565	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				6		18		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.95	1.00	0.95		
Hourly Flow Rate, HFR (veh/h)	0	0	0	6	0	18		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		10	6		18			
C (m) (veh/h)		331	86		328			
v/c		0.03	0.07		0.05			
95% queue length		0.09	0.22		0.17			
Control Delay (s/veh)		16.2	50.0		16.6			
LOS		C	E		C			
Approach Delay (s/veh)	--	--	25.0					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	Existing Conditions
Analysis Time Period	Sunday Entering		
Project Description 5003.900			
East/West Street: Site Access		North/South Street: IL Route 59	
Intersection Orientation: North-South		Study Period (hrs): 0.25	

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		932	64	225		
Peak-Hour Factor, PHF	1.00	0.94	0.94	0.94	0.94	1.00
Hourly Flow Rate, HFR (veh/h)	0	991	68	239	1080	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				21		66
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.94	1.00	0.94
Hourly Flow Rate, HFR (veh/h)	0	0	0	22	0	70
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		239	22		70			
C (m) (veh/h)		665	125		553			
v/c		0.36	0.18		0.13			
95% queue length		1.63	0.61		0.43			
Control Delay (s/veh)		13.4	39.9		12.5			
LOS		B	E		B			
Approach Delay (s/veh)	--	--	19.0					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	Existing Conditions
Analysis Time Period	Sunday Exiting		
Project Description 5003.900			
East/West Street: Site Access		North/South Street: IL Route 59	
Intersection Orientation: North-South		Study Period (hrs): 0.25	

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		584	9	18		
Peak-Hour Factor, PHF	1.00	0.93	0.93	0.93	0.93	1.00
Hourly Flow Rate, HFR (veh/h)	0	627	9	19	618	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				90		357
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.93	1.00	0.93
Hourly Flow Rate, HFR (veh/h)	0	0	0	96	0	383
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		19	96		383			
C (m) (veh/h)		957	370		727			
v/c		0.02	0.26		0.53			
95% queue length		0.06	1.02		3.11			
Control Delay (s/veh)		8.8	18.1		15.3			
LOS		A	C		C			
Approach Delay (s/veh)	--	--	15.9					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	2020 No-Build
Analysis Time Period	Weekday AM Peak		

Project Description 5003.900	
East/West Street: Site Access	North/South Street: IL Route 59
Intersection Orientation: North-South	Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1426	5	12	1937	
Peak-Hour Factor, PHF	1.00	0.96	0.96	0.96	0.96	1.00
Hourly Flow Rate, HFR (veh/h)	0	1485	5	12	2017	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		3
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.96	1.00	0.96
Hourly Flow Rate, HFR (veh/h)	0	0	0	1	0	3
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		12	1		3			
C (m) (veh/h)		457	111		417			
v/c		0.03	0.01		0.01			
95% queue length		0.08	0.03		0.02			
Control Delay (s/veh)		13.1	37.7		13.7			
LOS		B	E		B			
Approach Delay (s/veh)	--	--	19.7					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	2020 No-Build
Analysis Time Period	Weekday PM Peak		

Project Description 5003.900	
East/West Street: Site Access	North/South Street: IL Route 59
Intersection Orientation: North-South	Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		2032	10	10	1724	
Peak-Hour Factor, PHF	1.00	0.95	0.95	0.95	0.95	1.00
Hourly Flow Rate, HFR (veh/h)	0	2138	10	10	1814	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				6		18
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.95	1.00	0.95
Hourly Flow Rate, HFR (veh/h)	0	0	0	6	0	18
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		10	6		18			
C (m) (veh/h)		255	61		270			
v/c		0.04	0.10		0.07			
95% queue length		0.12	0.31		0.21			
Control Delay (s/veh)		19.7	70.4		19.3			
LOS		C	F		C			
Approach Delay (s/veh)	--	--	32.1					
Approach LOS	--	--	D					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	2020 No-Build
Analysis Time Period	Sunday Entering		
Project Description 5003.900			
East/West Street: Site Access		North/South Street: IL Route 59	
Intersection Orientation: North-South		Study Period (hrs): 0.25	

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1080	64	225	1016	
Peak-Hour Factor, PHF	1.00	0.94	0.94	0.94	0.94	1.00
Hourly Flow Rate, HFR (veh/h)	0	1148	68	239	1080	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				21		66
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.94	1.00	0.94
Hourly Flow Rate, HFR (veh/h)	0	0	0	22	0	70
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		239	22		70			
C (m) (veh/h)		581	109		499			
v/c		0.41	0.20		0.14			
95% queue length		2.00	0.71		0.49			
Control Delay (s/veh)		15.5	46.2		13.4			
LOS		C	E		B			
Approach Delay (s/veh)	--	--	21.2					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information					
Analyst	GHA		Intersection	IL 59 at Site Access				
Agency/Co.	GHA		Jurisdiction	IDOT				
Date Performed	6/4/2015		Analysis Year	2020 No-Build				
Analysis Time Period	Sunday Exiting							
Project Description 5003.900								
East/West Street: Site Access			North/South Street: IL Route 59					
Intersection Orientation: North-South			Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		677	9	18	575			
Peak-Hour Factor, PHF	1.00	0.93	0.93	0.93	0.93	1.00		
Hourly Flow Rate, HFR (veh/h)	0	727	9	19	618	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				90		357		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.93	1.00	0.93		
Hourly Flow Rate, HFR (veh/h)	0	0	0	96	0	383		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		19	96		383			
C (m) (veh/h)		879	334		682			
v/c		0.02	0.29		0.56			
95% queue length		0.07	1.16		3.51			
Control Delay (s/veh)		9.2	20.1		16.8			
LOS		A	C		C			
Approach Delay (s/veh)	--	--	17.5					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	2020 Total Traffic
Analysis Time Period	Weekday AM Peak		

Project Description 5003.900	
East/West Street: Site Access	North/South Street: IL Route 59
Intersection Orientation: North-South	Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		1426	6	14	1937	
Peak-Hour Factor, PHF	1.00	0.96	0.96	0.96	0.96	1.00
Hourly Flow Rate, HFR (veh/h)	0	1485	6	14	2017	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				1		4
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.96	1.00	0.96
Hourly Flow Rate, HFR (veh/h)	0	0	0	1	0	4
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		14	1		4			
C (m) (veh/h)		456	111		417			
v/c		0.03	0.01		0.01			
95% queue length		0.09	0.03		0.03			
Control Delay (s/veh)		13.1	37.7		13.7			
LOS		B	E		B			
Approach Delay (s/veh)	--	--	18.5					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information			Site Information					
Analyst	GHA		Intersection	IL 59 at Site Access				
Agency/Co.	GHA		Jurisdiction	IDOT				
Date Performed	6/4/2015		Analysis Year	2020 Total Traffic				
Analysis Time Period	Weekday PM Peak							
Project Description 5003.900								
East/West Street: Site Access			North/South Street: IL Route 59					
Intersection Orientation: North-South			Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments								
Major Street	Northbound			Southbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)		2032	12	12	1724			
Peak-Hour Factor, PHF	1.00	0.95	0.95	0.95	0.95	1.00		
Hourly Flow Rate, HFR (veh/h)	0	2138	12	12	1814	0		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Raised curb							
RT Channelized			0			0		
Lanes	0	2	0	1	2	0		
Configuration		T	TR	L	T			
Upstream Signal		0			0			
Minor Street	Eastbound			Westbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)				7		21		
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.95	1.00	0.95		
Hourly Flow Rate, HFR (veh/h)	0	0	0	7	0	22		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	1	0	1		
Configuration				L		R		
Delay, Queue Length, and Level of Service								
Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L	L		R			
v (veh/h)		12	7		22			
C (m) (veh/h)		254	60		269			
v/c		0.05	0.12		0.08			
95% queue length		0.15	0.38		0.26			
Control Delay (s/veh)		19.9	72.8		19.6			
LOS		C	F		C			
Approach Delay (s/veh)	--	--	32.4					
Approach LOS	--	--	D					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	2020 Total Traffic
Analysis Time Period	Sunday Entering		

Project Description 5003.900	
East/West Street: Site Access	North/South Street: IL Route 59
Intersection Orientation: North-South	Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound			
	Movement	1	2	3	4	5	6
		L	T	R	L	T	R
Volume (veh/h)			1080	76	261	1016	
Peak-Hour Factor, PHF		1.00	0.94	0.94	0.94	0.94	1.00
Hourly Flow Rate, HFR (veh/h)		0	1148	80	277	1080	0
Percent Heavy Vehicles		0	--	--	0	--	--
Median Type	Raised curb						
RT Channelized				0			0
Lanes		0	2	0	1	2	0
Configuration			T	TR	L	T	
Upstream Signal			0			0	

Minor Street	Eastbound			Westbound			
	Movement	7	8	9	10	11	12
		L	T	R	L	T	R
Volume (veh/h)					25		78
Peak-Hour Factor, PHF		1.00	1.00	1.00	0.94	1.00	0.94
Hourly Flow Rate, HFR (veh/h)		0	0	0	26	0	82
Percent Heavy Vehicles		0	0	0	0	0	0
Percent Grade (%)			0			0	
Flared Approach			N			N	
Storage			0			0	
RT Channelized				0			0
Lanes		0	0	0	1	0	1
Configuration					L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement								
Lane Configuration		L	L		R			
v (veh/h)		277	26		82			
C (m) (veh/h)		575	94		496			
v/c		0.48	0.28		0.17			
95% queue length		2.61	1.02		0.59			
Control Delay (s/veh)		16.9	57.3		13.7			
LOS		C	F		B			
Approach Delay (s/veh)	--	--	24.2					
Approach LOS	--	--	C					

## TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	GHA	Intersection	IL 59 at Site Access
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	6/4/2015	Analysis Year	2020 Total Traffic
Analysis Time Period	Sunday Exiting		

Project Description 5003.900	
East/West Street: Site Access	North/South Street: IL Route 59
Intersection Orientation: North-South	Study Period (hrs): 0.25

### Vehicle Volumes and Adjustments

Major Street Movement	Northbound			Southbound		
	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		677	11	21	575	
Peak-Hour Factor, PHF	1.00	0.93	0.93	0.93	0.93	1.00
Hourly Flow Rate, HFR (veh/h)	0	727	11	22	618	0
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	0	2	0	1	2	0
Configuration		T	TR	L	T	
Upstream Signal		0			0	

Minor Street Movement	Eastbound			Westbound		
	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				107		424
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.93	1.00	0.93
Hourly Flow Rate, HFR (veh/h)	0	0	0	115	0	455
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

### Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
	1	4	7	8	9	10	11	12
Movement								
Lane Configuration		L	L		R			
v (veh/h)		22	115		455			
C (m) (veh/h)		877	332		681			
v/c		0.03	0.35		0.67			
95% queue length		0.08	1.51		5.11			
Control Delay (s/veh)		9.2	21.5		20.3			
LOS		A	C		C			
Approach Delay (s/veh)	--	--	20.5					
Approach LOS	--	--	C					

**Appendix IV**  
**Gap Study Summary**



Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061  
(847) 478-9700 lmeans@gha-engineers.com

Count Name: IL-59 and Hindu Temple Entrance  
GAP  
Site Code:  
Start Date: 05/03/2015  
Page No: 2

5003.902 Bartlett, IL  
IL-59 and Hindu Temple Entrance  
6-hr  
GHA MIO

**Southbound (Southbound)**

Start Time	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0	10.0-11.0	11.0-12.0	12.0-13.0	13.0-14.0	14.0-15.0	15.0-16.0	16.0-17.0	17.0-18.0	18.0-19.0	19.0-20.0	20.0-21.0	21.0-22.0	22.0-23.0	23.0-24.0	24.0-25.0	25.0-26.0	26.0-27.0	27.0-28.0	28.0-29.0	Total			
3:00 PM	30	9	6	7	4	7	5	1	0	1	3	0	1	4	1	0	2	1	1	1	1	0	1	0	0	0	0	0	3	89	
3:15 PM	19	11	12	3	4	6	2	6	2	2	2	1	2	1	1	2	0	1	3	1	1	0	0	0	0	0	0	0	3	85	
3:30 PM	25	8	6	4	5	7	4	4	2	5	0	0	1	2	0	0	1	0	2	0	0	1	2	0	0	0	0	0	4	83	
3:45 PM	25	16	13	7	9	9	1	2	5	1	3	2	3	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	3	103	
4:00 PM	22	9	7	6	6	4	7	3	0	1	2	3	0	0	0	2	0	2	0	0	0	2	1	0	2	0	0	0	4	83	
4:15 PM	21	9	6	2	5	7	1	3	0	3	0	2	2	0	1	1	0	1	2	0	0	2	0	1	1	0	0	0	4	74	
4:30 PM	28	15	4	8	2	3	3	4	3	2	2	1	2	2	3	0	0	1	2	1	1	0	0	0	0	0	0	0	3	90	
4:45 PM	29	15	11	8	6	7	2	2	1	3	1	0	1	1	1	3	0	1	1	2	0	0	1	0	0	0	0	0	3	99	
5:00 PM	22	19	9	7	8	3	1	3	0	1	3	0	2	3	1	0	1	3	0	1	0	0	2	0	0	0	0	0	3	92	
5:15 PM	30	11	9	11	6	4	2	2	3	1	2	2	1	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	3	92
5:30 PM	19	20	18	6	4	4	0	1	1	2	3	2	0	0	0	1	0	3	3	1	1	0	0	0	0	0	0	0	1	5	95
5:45 PM	29	10	9	10	4	5	6	2	3	5	1	2	0	1	3	1	2	0	0	1	1	0	0	0	0	0	0	0	2	93	
6:00 PM	31	15	7	8	3	2	2	2	2	5	1	1	1	4	0	3	0	0	0	0	3	1	0	0	1	0	0	0	3	95	
6:15 PM	31	12	10	11	4	3	1	1	0	3	3	1	2	3	2	0	3	0	0	0	0	1	2	1	0	0	0	0	3	97	
6:30 PM	25	6	12	3	2	2	3	5	1	3	2	2	0	1	3	0	2	0	2	0	2	0	1	3	0	0	0	0	2	93	
6:45 PM	17	15	3	2	2	3	3	1	2	4	1	0	1	0	1	3	0	2	1	1	2	0	2	1	0	1	0	1	0	5	72
7:00 PM	18	10	6	6	1	1	4	1	0	1	2	3	2	4	1	1	0	2	2	1	0	1	0	1	0	0	0	0	1	6	74
7:15 PM	24	11	8	8	3	1	6	4	1	5	1	1	3	0	2	1	2	0	3	1	0	0	0	0	0	0	0	0	4	90	
7:30 PM	20	10	13	4	2	3	2	3	0	6	0	4	4	2	1	0	1	0	1	0	0	0	1	0	0	0	0	0	5	83	
7:45 PM	13	11	7	6	5	5	6	7	3	0	1	0	1	3	2	0	0	2	1	0	1	2	1	0	1	1	0	0	4	83	
8:00 PM	20	14	11	4	4	9	3	2	5	1	3	0	0	2	3	0	1	1	2	2	0	1	0	1	0	1	1	0	4	94	
8:15 PM	12	4	7	5	1	7	1	2	2	3	1	4	1	1	0	1	1	0	3	1	0	0	1	2	1	0	1	0	7	66	
8:30 PM	14	10	9	6	3	2	1	2	0	2	6	3	1	4	2	0	1	2	0	0	1	1	0	0	1	0	0	1	1	5	77
8:45 PM	8	6	7	2	4	7	7	3	1	2	3	0	1	1	3	2	1	1	1	0	0	2	0	1	0	0	0	0	7	70	
Total	532	276	210	144	105	112	74	67	39	54	55	31	34	42	29	25	17	28	30	18	13	16	12	11	8	6	95	2081			
Total %	25.6	13.3	10.1	6.9	5.0	5.4	3.6	3.2	1.9	2.6	2.6	1.5	1.6	2.0	1.4	1.2	0.8	1.2	1.4	0.9	0.6	0.8	0.6	0.5	0.4	0.3	4.6	100.0			

5003.902 Bartlett, IL  
 IL-59 and Hindu Temple Entrance  
 6-hr  
 GHA M/O

Gewalt Hamilton Associates Inc.  
 625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061  
 (847) 478-9700 lmeans@gha-engineers.com

Count Name: IL-59 and Hindu Temple Entrance  
 GAP  
 Site Code:  
 Start Date: 05/03/2015  
 Page No: 3

**Northbound (Northbound)**

Start Time	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0	10.0-11.0	11.0-12.0	12.0-13.0	13.0-14.0	14.0-15.0	15.0-16.0	16.0-17.0	17.0-18.0	18.0-19.0	19.0-20.0	20.0-21.0	21.0-22.0	22.0-23.0	23.0-24.0	24.0-25.0	25.0-26.0	26.0-27.0	27.0-28.0	28.0-29.0	Total			
3:00 PM	27	15	7	7	5	5	3	2	1	4	3	3	1	2	1	2	1	1	1	0	1	0	0	1	0	0	0	0	97		
3:15 PM	35	18	12	4	4	1	4	3	3	3	1	2	4	1	2	0	0	0	0	1	1	1	0	0	0	0	0	1	113		
3:30 PM	30	13	7	12	3	4	4	1	3	3	4	0	2	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	96		
3:45 PM	20	9	7	11	5	5	7	0	1	2	2	0	2	3	3	1	0	2	1	0	2	0	0	0	0	0	0	2	85		
4:00 PM	33	18	8	8	8	0	4	1	1	4	1	2	1	1	2	3	2	1	0	0	0	0	0	0	0	0	0	1	99		
4:15 PM	31	20	13	7	7	2	1	1	1	1	2	1	0	0	1	0	0	0	0	0	0	0	0	1	1	3	0	0	93		
4:30 PM	34	14	13	7	4	5	3	2	2	4	2	2	0	2	1	0	0	0	0	0	0	2	0	0	0	0	0	0	97		
4:45 PM	20	13	15	6	5	4	3	0	1	3	2	3	1	4	0	0	2	0	0	0	0	2	0	1	1	0	1	0	87		
5:00 PM	28	15	10	4	7	3	7	2	3	1	1	0	2	2	0	1	1	2	2	0	1	0	1	0	1	0	1	0	1	95	
5:15 PM	25	11	13	5	4	8	7	2	3	0	6	4	1	1	1	2	0	0	1	0	0	1	0	1	1	1	1	1	0	98	
5:30 PM	20	14	12	7	5	7	4	0	3	1	0	2	3	3	1	2	0	1	1	0	0	1	0	0	1	0	0	0	1	88	
5:45 PM	18	6	8	7	5	2	6	0	1	2	5	0	2	2	2	0	1	0	0	0	0	0	0	0	1	0	0	0	4	72	
6:00 PM	22	22	3	7	7	4	4	3	1	1	2	1	1	1	3	3	1	1	1	1	1	0	0	3	0	1	0	2	95		
6:15 PM	26	16	5	6	7	1	4	1	2	3	2	1	1	1	1	2	0	1	1	1	1	0	0	3	0	1	0	4	89		
6:30 PM	19	12	14	8	5	4	1	4	2	1	0	5	1	1	5	0	3	1	2	1	1	3	0	0	0	0	0	0	93		
6:45 PM	10	13	6	7	3	5	1	1	4	1	1	0	1	1	2	2	2	1	1	2	2	2	0	0	0	0	0	5	73		
7:00 PM	25	17	8	3	7	2	2	5	1	2	2	3	2	2	0	1	1	2	0	0	1	2	0	1	2	0	1	4	0	1	94
7:15 PM	17	19	7	5	4	2	4	6	3	2	2	4	2	1	2	1	0	0	1	2	0	1	0	1	0	0	1	0	4	90	
7:30 PM	11	7	4	3	4	1	3	2	5	2	0	2	3	4	0	1	1	2	1	1	1	2	4	0	0	0	2	3	69		
7:45 PM	20	10	4	2	0	9	5	2	0	1	4	2	2	2	1	2	0	0	2	1	2	1	0	3	1	2	1	2	80		
8:00 PM	13	5	9	3	2	1	4	7	2	3	5	1	2	1	0	1	0	1	3	1	2	2	1	2	0	1	2	0	4	75	
8:15 PM	10	5	7	4	5	2	3	2	1	2	2	0	2	4	2	1	2	1	1	0	1	0	1	0	2	0	1	1	6	67	
8:30 PM	18	9	9	5	5	0	3	3	2	4	3	2	3	2	4	0	4	0	0	0	0	0	0	2	1	0	1	5	85		
8:45 PM	10	9	3	5	2	2	5	3	6	1	2	2	3	1	1	0	1	0	1	2	2	3	0	0	0	0	2	5	71		
Total	522	310	207	151	113	81	91	58	51	48	54	46	42	43	37	27	26	18	16	16	16	21	21	8	16	8	54	2101			
Total %	24.8	14.8	9.9	7.2	5.4	3.9	4.3	2.8	2.4	2.3	2.6	2.2	2.0	2.0	1.8	1.3	1.2	0.9	0.8	0.8	0.8	1.0	1.0	0.4	0.8	0.4	2.6	100.0			

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Count Name: IL-59 and Hindu Temple Entrance  
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5003 902 Bartlett, IL  
IL-59 and Hindu Temple Entrance  
6-hr  
GHA MIO

**Combined Direction (Southbound)**

Start Time	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0	10.0-11.0	11.0-12.0	12.0-13.0	13.0-14.0	14.0-15.0	15.0-16.0	16.0-17.0	17.0-18.0	18.0-19.0	19.0-20.0	20.0-21.0	21.0-22.0	22.0-23.0	23.0-24.0	24.0-25.0	25.0-26.0	26.0-27.0	27.0-28.0	28.0-29.0	Total
3:00 PM	46	22	10	12	5	4	2	2	2	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111
3:15 PM	56	24	24	10	3	1	3	1	0	1	1	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	128
3:30 PM	38	20	7	7	3	2	4	1	3	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	96
3:45 PM	46	22	11	12	8	5	1	1	4	3	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	115
4:00 PM	40	19	10	12	8	1	7	2	1	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	103
4:15 PM	42	20	11	7	7	3	0	1	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95
4:30 PM	52	14	13	6	2	0	2	0	2	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	97
4:45 PM	38	21	20	15	3	5	0	1	1	1	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	108
5:00 PM	45	24	10	7	6	3	3	0	1	4	0	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	107
5:15 PM	44	24	13	16	4	5	9	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	119
5:30 PM	29	22	16	4	6	8	2	1	3	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	94
5:45 PM	52	12	15	11	8	6	5	2	2	3	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	122
6:00 PM	54	27	15	10	8	4	3	3	3	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133
6:15 PM	50	22	9	12	5	5	3	1	2	1	2	2	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	118
6:30 PM	42	19	18	12	11	6	3	5	0	1	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	122
6:45 PM	33	18	7	6	8	7	2	1	1	1	5	1	0	1	0	1	3	1	1	0	0	0	0	0	0	0	0	99
7:00 PM	36	29	10	7	3	0	5	4	2	2	1	3	1	4	0	1	1	1	1	0	0	1	0	0	0	0	0	111
7:15 PM	48	24	13	13	7	4	5	3	4	0	1	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	128
7:30 PM	29	20	20	10	7	3	3	5	3	1	1	2	1	1	1	1	1	1	1	0	2	2	1	0	0	0	0	115
7:45 PM	32	26	10	8	10	5	7	6	3	3	1	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	120
8:00 PM	33	23	21	7	3	9	4	5	3	3	2	2	1	1	2	0	1	1	0	0	1	0	0	1	0	0	0	123
8:15 PM	20	15	13	8	5	7	2	7	5	5	1	5	1	2	3	0	1	1	0	0	0	0	0	0	0	0	0	103
8:30 PM	37	17	13	11	10	5	5	5	3	3	4	1	1	2	4	0	1	0	0	1	0	0	0	0	0	0	0	123
8:45 PM	22	18	9	11	6	9	7	3	3	3	4	2	4	2	1	1	1	1	2	0	0	0	0	0	0	0	0	109
Total	964	502	318	234	150	108	85	63	50	47	39	34	14	24	16	8	9	10	2	3	8	1	1	1	1	1	1	6,269
Total %	35.7	18.6	11.8	8.7	5.6	4.0	3.1	2.3	1.9	1.7	1.4	1.3	0.5	0.9	0.6	0.3	0.3	0.4	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0

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Count Name: IL-59 and Hindu Temple Entrance  
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Site Code:  
Start Date: 05/03/2015  
Page No: 2

5003.902 Bartlett, IL  
IL-59 and Hindu Temple Entrance  
6-Hr  
GHA MIO

**Southbound (Southbound)**

Start Time	2.0-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0	10.0-11.0	11.0-12.0	12.0-13.0	13.0-14.0	14.0-15.0	15.0-16.0	16.0-17.0	17.0-18.0	18.0-19.0	19.0-20.0	20.0-21.0	21.0-22.0	22.0-23.0	23.0-24.0	24.0-25.0	25.0-26.0	26.0-27.0	27.0-28.0	28.0-29.0	Total				
3:00 PM	30	9	6	7	4	7	5	1	0	1	3	0	1	4	1	4	1	0	2	1	1	1	0	1	0	0	0	0	3	89		
3:15 PM	19	11	12	3	4	6	2	2	2	2	2	1	2	1	1	2	0	1	3	1	1	1	0	0	0	0	0	0	3	85		
3:30 PM	25	8	6	4	5	7	4	4	2	5	0	0	1	2	0	0	1	0	2	0	0	1	2	0	0	0	0	0	4	83		
3:45 PM	25	16	13	7	9	9	1	2	5	1	3	2	3	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	3	103		
4:00 PM	22	9	7	6	6	4	7	3	0	1	2	3	0	0	0	2	0	2	0	0	2	1	0	2	0	0	0	0	4	83		
4:15 PM	21	9	6	2	5	7	1	3	0	3	0	2	2	0	1	1	0	1	2	0	0	2	0	1	1	0	0	0	4	74		
4:30 PM	28	15	4	8	2	3	3	4	3	2	2	1	2	2	3	0	0	1	2	1	1	1	0	0	0	0	0	0	3	90		
4:45 PM	29	15	11	8	6	7	2	2	1	3	1	0	1	1	1	3	0	1	2	0	1	2	0	0	0	1	0	0	3	99		
5:00 PM	22	19	9	7	8	3	1	3	0	1	3	0	2	3	1	0	1	3	0	1	3	0	1	0	2	0	0	0	3	92		
5:15 PM	30	11	9	11	6	4	2	2	3	1	2	2	2	1	0	0	0	1	0	0	1	0	1	0	1	0	0	1	5	95		
5:30 PM	19	20	18	6	4	4	0	1	1	2	3	2	0	0	0	1	0	3	3	1	1	0	0	0	0	0	0	2	2	93		
5:45 PM	29	10	9	10	4	5	6	2	3	5	1	2	0	1	3	1	2	0	0	1	0	0	0	0	0	0	1	1	3	99		
6:00 PM	31	15	7	8	3	2	2	2	2	5	1	1	1	4	0	3	0	0	0	0	3	1	0	0	1	0	0	0	3	95		
6:15 PM	25	6	12	3	2	2	2	2	5	1	3	2	3	2	0	3	0	0	0	0	3	1	2	1	0	0	0	0	0	3	97	
6:30 PM	17	15	3	2	2	2	3	3	1	2	2	2	2	0	1	3	0	2	0	2	0	1	2	1	0	0	0	0	2	93		
6:45 PM	18	10	6	6	1	1	4	1	0	1	2	4	1	0	1	0	2	1	1	2	0	2	1	0	1	0	1	1	0	5	72	
7:00 PM	24	11	8	8	3	1	6	4	1	5	1	1	3	0	2	1	2	0	2	2	1	0	1	0	0	0	0	1	6	74		
7:15 PM	20	10	13	4	2	2	3	2	3	0	6	0	4	4	2	1	0	1	0	1	0	0	0	0	0	0	0	0	1	0	4	90
7:30 PM	13	11	7	6	5	5	6	7	3	0	1	0	1	3	2	0	0	2	1	0	1	2	1	0	1	1	1	0	4	83		
7:45 PM	20	14	11	4	4	9	3	2	5	1	3	0	0	2	3	0	1	1	2	2	0	1	0	1	0	1	1	0	4	94		
8:00 PM	12	4	7	5	1	7	1	2	2	3	1	4	1	1	0	1	1	0	3	1	0	0	1	2	1	0	1	0	7	86		
8:15 PM	14	10	9	6	3	2	1	2	0	2	6	3	1	4	2	0	1	2	0	0	1	1	0	0	1	1	0	1	1	5	77	
8:30 PM	8	6	7	2	4	7	7	3	1	2	3	0	1	1	3	2	1	1	1	1	0	0	2	0	1	0	0	1	0	7	70	
8:45 PM	532	276	210	144	105	112	74	67	39	54	55	31	34	42	29	25	17	26	30	18	13	16	12	11	8	6	95	2081				
Total %	25.6	13.3	10.1	6.9	5.0	5.4	3.6	3.2	1.9	2.6	2.6	1.5	1.6	2.0	1.4	1.2	0.8	1.2	1.4	0.9	0.6	0.6	0.6	0.5	0.4	0.3	0.4	0.3	4.6	100.0		

5003.902 Bartlett, IL  
 IL-59 and Hindu Temple Entrance  
 6-hr  
 GHA MIO

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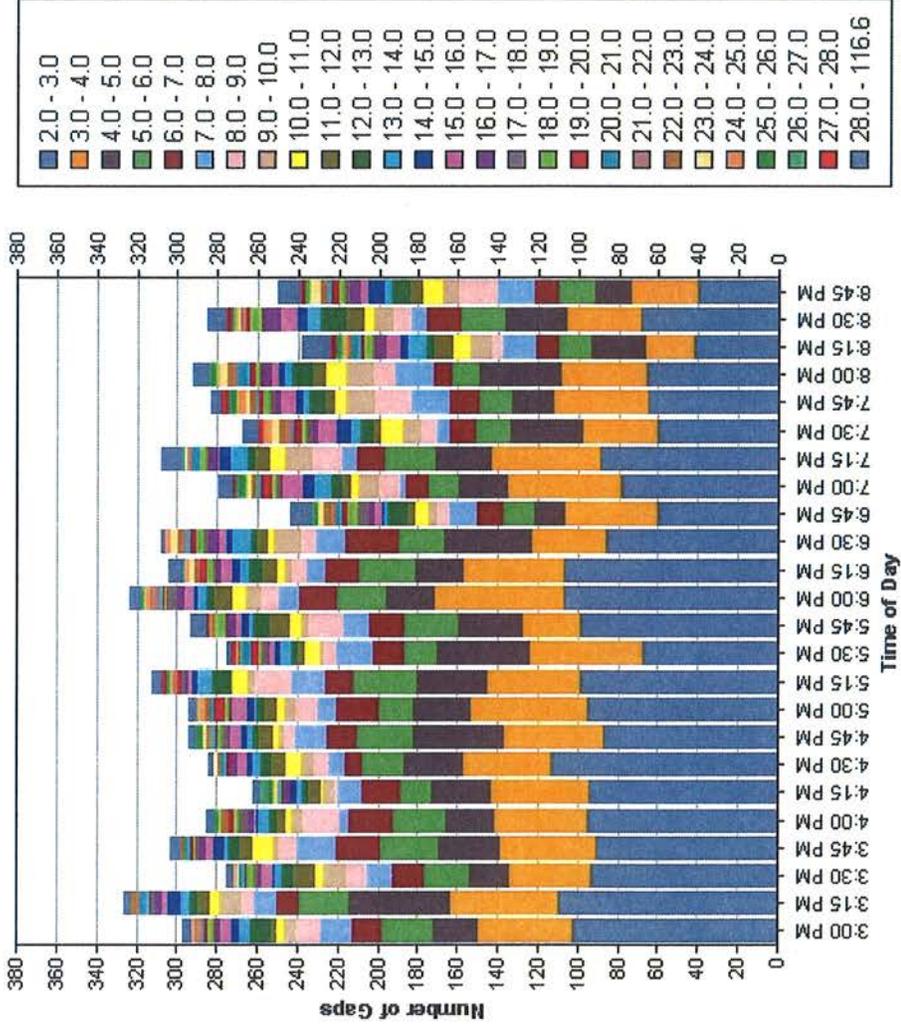
Count Name: IL-59 and Hindu Temple Entrance  
 GAP  
 Site Code:  
 Start Date: 05/03/2015  
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Northbound (Northbound)

Start Time	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	210-220	220-230	230-240	240-250	250-260	260-270	270-280	280-290	Total		
3:00 PM	27	15	7	7	5	4	5	3	2	1	4	3	3	1	2	1	1	1	0	1	0	0	1	0	0	0	0	0	97	
3:15 PM	35	18	15	12	4	4	1	4	3	3	1	2	4	1	2	0	0	0	1	1	1	0	0	0	0	0	0	0	113	
3:30 PM	30	13	7	12	3	3	4	4	1	3	3	4	0	2	1	3	2	1	0	0	0	0	0	0	0	0	0	0	96	
3:45 PM	20	9	7	11	5	5	7	0	1	2	2	0	2	3	3	1	0	2	1	0	2	0	0	0	0	0	0	0	85	
4:00 PM	33	18	8	8	8	0	4	1	1	4	1	2	1	1	2	3	2	1	0	0	0	0	0	0	0	0	0	1	99	
4:15 PM	31	20	13	7	7	2	1	1	1	1	2	1	0	0	1	0	0	0	0	0	0	0	1	1	3	0	0	0	93	
4:30 PM	34	14	13	7	4	5	3	2	2	4	2	2	0	2	1	0	0	0	0	0	0	2	0	2	0	1	1	0	87	
4:45 PM	20	13	15	6	5	4	3	0	1	3	2	3	1	4	0	0	2	0	0	0	0	2	0	1	0	1	0	1	87	
5:00 PM	28	15	10	4	7	3	7	2	3	1	1	0	2	2	0	1	1	2	2	0	0	1	1	0	1	1	1	0	95	
5:15 PM	25	11	13	5	4	7	4	0	3	1	0	6	4	1	1	1	2	0	0	1	0	0	1	1	1	1	1	1	0	98
5:30 PM	20	14	12	7	5	7	4	0	3	1	0	2	3	3	1	2	0	1	1	0	0	1	0	1	0	0	0	0	88	
5:45 PM	18	6	7	5	2	6	0	1	2	5	0	2	2	2	2	0	1	0	0	0	0	0	1	0	0	0	0	0	88	
6:00 PM	22	22	3	7	7	4	4	3	1	1	2	1	1	1	1	3	3	1	1	1	1	0	0	3	0	1	0	2	95	
6:15 PM	26	16	5	6	7	1	4	1	2	3	2	1	1	1	1	2	0	1	0	1	1	1	1	1	0	1	0	4	89	
6:30 PM	19	12	14	8	5	4	1	4	2	1	0	5	1	1	5	0	3	1	2	1	1	1	3	0	0	0	0	0	93	
6:45 PM	10	13	6	7	3	5	1	1	4	1	1	0	1	1	1	2	2	1	1	2	2	2	2	0	0	0	0	0	73	
7:00 PM	25	17	8	3	7	2	2	5	1	2	2	3	2	2	2	0	1	1	2	0	0	1	2	0	1	2	0	1	94	
7:15 PM	17	19	7	5	4	2	4	6	3	2	2	4	2	1	2	1	0	0	1	2	0	1	2	0	1	4	0	1	90	
7:30 PM	11	7	4	3	4	1	3	2	5	2	0	2	3	4	0	1	1	2	1	1	1	2	0	1	0	0	1	0	89	
7:45 PM	20	10	4	2	0	9	5	2	0	1	4	2	2	2	1	2	2	0	0	2	1	1	2	4	0	0	2	3	89	
8:00 PM	13	5	9	3	2	1	4	7	2	3	5	1	2	1	0	1	0	1	3	1	2	2	1	0	3	1	2	1	80	
8:15 PM	10	5	7	4	5	2	3	2	1	2	2	0	2	4	2	1	2	1	1	0	1	2	2	1	2	0	0	4	75	
8:30 PM	18	9	9	5	5	0	3	3	2	4	3	2	4	2	4	0	4	0	0	0	1	0	1	0	2	0	1	1	6	87
8:45 PM	10	9	3	5	2	2	5	3	6	1	2	2	3	1	1	0	1	0	1	2	2	3	0	0	0	0	2	5	85	
Total	522	310	207	151	113	81	91	58	51	48	54	46	42	43	37	27	26	18	16	16	16	16	21	21	8	16	8	54	2101	
Total %	24.8	14.8	9.9	7.2	5.4	3.9	4.3	2.8	2.4	2.3	2.6	2.2	2.0	2.0	1.8	1.3	1.2	0.9	0.8	0.8	0.8	1.0	1.0	0.4	0.8	0.4	2.6	100.0		

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 6-hr  
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RECEIVED  
COMMUNITY DEVELOPMENT

JUL 07 2015

VILLAGE OF  
BARTLETT

**MEMO**

To: Roberta Grill  
From: Brent Coulter, PE PTOE  
Date: 7/7/2015  
Subject: **BAPS Site – Family Activity Center (Phase 4)**

I have reviewed the petitioner's traffic and parking study (prepared by Gewalt Hamilton) and concur with its general finding that within 7 years (*if not sooner in my opinion*), based on extrapolation of historic membership growth trends, the following parking and site access improvements may be required:

- a. Potential need for additional overall site parking in excess of the 96 "Phase 3a" spaces yet to be constructed.
- b. Provision of police traffic control during the Sunday worship periods and/or an added new site access on Army Trail Road due to site traffic demand exceeding capacity of the existing unsignalized IL 59 access drive.

Other specific comments at this time are shown below.

**1. Approach to Determining Parking Demand for the FAC**

1. The consultant's parking study assumes the new Family Activity Center will not be a new generator of vehicle trips but will provide proper building space for current site visitors/members that are currently served by existing overcrowded facilities (the traffic/parking report also cites specific instances of such overcrowding). This scenario is very similar to the M A Center in Kane County that I am currently involved with and where my initial study addressed the parking and traffic needs to support a major summer retreat attended by thousands and the conversion of existing former private school gymnasium, meeting and office space and dormitories into modernized facilities for day to day operations. I therefore understand the petitioner's approach and rationale for parking supply analysis.

My specific comments at this time are listed below.

- Observations of parking demand (occupancy) were made every hour on a single Sunday (May 3, 2015), with a maximum demand (occupancy) of 637 spaces. It is possible that shorter-term parking peaks within these hourly intervals could have been missed (i.e. not observed) resulting in a lower estimate of demand than actually exists (see also Comment No. 3).
- The BAPS site, with only a single access to/from IL 59, lends itself to a parking accumulation study that would begin with a base overall parking occupancy count and subsequent calculation of parking occupancy at much shorter intervals (say 15-minutes) based on the net change in vehicles in and out of the site as measured by traffic counters on the inbound and outbound lanes of the site access on IL 59.

- The findings of the consultant’s approach to calculating parking adequacy for Phase 4 development consideration (based on annual growth in overall parking demand) will differ from that calculated by applying local zoning ordinance parking ratios to the various space types contained within the FAC building (i.e. seating capacity of gymnasium, office/meeting room space, etc.). Some adjustment of the aggregate parking required by the latter approach to account for shared parking potential is appropriate (i.e. to the extent that peak FAC building use and parking demand does not coincide with peak worship service parking demand). The calculated required parking supply based “zoning ordinance parking ratios” could be used to help establish added site parking on the Phase 5 parcel (see also Comment No. 3).

## **2. Outside Use (Rental) of FAC Facilities**

Parking demand generated by the FAC should consider whether outside use (rent or lease) of space may or may not be permitted, and the scheduling and other conditions which could be attached to such use during off-peak BAPS times.

## **3. Overall BAPS Site Parking Supply Adequacy Based on a “Working” Parking Supply.**

The need to compare proposed parking supply to observed existing parking demand, and future extrapolation of such demand, occurs frequently with “campus” oriented or mixed-use developments, where the variety and schedule of internal uses/activities do not lend themselves to standard parking ratio analysis. In these cases it is desirable and often typical to adjust parking supply downward by 10% or 15% to establish a “working” supply of parking that accounts for the effective loss of spaces in winter due to snow storage, other general parking inefficiencies, and user convenience (i.e. minimizing constant recirculation through the parking area to find that “one” available space).

When this adjustment is made to the proposed 821 BAPS spaces, parking supply life at current membership growth rates would only be a little less than 3 to a little more than 4 years, instead of the just over 7 years stated in the petitioner’s parking study. This emphasizes the need to establish the “trigger” dates and conditions for future parking on the Phase 5 parcel as part of Phase 4 development action, including whether such future parking is accessed from existing internal roads connected to IL 59 or also from a new site access on Army Trail Road.

## **4. Future Access to/from Army Trail Road.**

The petitioner’s traffic study states that police traffic control at the existing IL 59 access or the addition of future Army Trail Road access may be required within seven years or so due to inadequate (gap) capacity on IL 59. As noted above, such access may be desirable to serve future site parking lot construction on the Phase 5 parcel, even if that parcel is not yet developed with commercial space.

Since there is no intervening phase of plan completion between Phase 4 currently under consideration and Phase 5 commercial development, it seems prudent to also consider the timing and conditions for Army Trail Road access as part of Village action on the Phase 4 petition.

Questions which should be addressed include:

- What traffic diversion could be expected at a new Army Trail Road access and how it would operate (with and without a future commercial building on the Phase 5 parcel)?
- Traffic control and lane configuration at this future access (i.e. would all turns be permitted, RI/RO/LI only).
- What turn lane improvements might be required on Army Trail Road to serve this access?
- What is the target (“triggers”) for access construction on Army Trail Rd.?

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MEMORANDUM

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TO: President and Board of Trustees of the Village of Bartlett  
Valerie L. Salmons, Village Administrator

FROM: Bryan E. Mraz, Village Attorney

DATE: July 11, 2016

RE: Northwest Mosquito Abatement District

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Trustee Hopkins has cited to Section 9.5 of the Mosquito Abatement District Act (70 ILCS 1005/9.5) regarding the levy and collection of taxes by municipalities and mosquito abatement districts for mosquito abatement services. He has asked that I provide an opinion with regard to that statute.

That statute provides that if a municipality (Bartlett) budgets for and provides mosquito abatement services and levies within its general tax levy, a tax to fund those (mosquito abatement) services, and if the municipality (Bartlett) lies wholly or partially within a (mosquito abatement) district (NWMAD) that also levies a district (NWMAD) tax upon territory that lies in both the affected municipality (Bartlett) and the district (NWMAD), then the affected municipality (Bartlett) shall pay to the district (NWMAD) the amount collected by the municipality (Bartlett) to the district (NWMAD) that is also levying a district (NWMAD) tax on the territory (the Cook County portion of Bartlett) for the same type and quantity of services.

If the above requirements are met, the statute then provides that the district (NWMAD) shall reduce and abate the taxes levied by the district (NWMAD) on the territory (in Bartlett Cook County) subject to taxation.

The Village budgets \$72,000 to pay for the contractual mosquito abatement services that Clarke provides in the DuPage County portion of Bartlett. There is not a separate line item for mosquito abatement in the levy ordinance, but in the budget process and in determining the amount to be levied against all properties in the Village in DuPage, Cook and Kane Counties, the \$72,000 was included in the levy amount, and distributed by the taxing authorities to the Village, which in turn deposited the monies received into the Village corporate fund. The Village does not levy, collect or pay for additional mosquito abatement services in Cook County, as those services are being provided by the NWMAD. There are roughly 8,300 taxpayers in the DuPage County portion of the Village, and roughly 5,785 taxpayers in the Cook County portion

of the Village. From the levy and collection of real estate taxes on the properties of those 5,785 Bartlett/Cook County taxpayers, Cook County extended \$44,085 to NWMAD for mosquito abatement services in tax year 2014.

To trigger the statute, the Village would have to first pay NWMAD \$44,085, and then according to the statute, NWMAD would be required to reduce and abate taxes by that amount, arguably in proportion to the amount each of the 5,785 taxpayers paid in taxes based on the NWMAD tax rate X the assessed value of each tax parcel. Trustee Hopkins procured a spread sheet from the Cook County Clerk's Office that lists the amount of taxes levied against each of the 5,785 tax parcels identified by permanent index number ("PIN"), which totals the \$44,085. Trustee Hopkins has stated his position in the past that the Bartlett/Cook County residences are being double taxed, i.e., \$44,085 by the NWMAD, and then again by spreading the \$72,000 expenditure to Clarke over all of the taxable properties in the Village, including the portion of the Village lying in Cook County.

One problem is that the Village did not budget for or levy for the cost of providing mosquito abatement services in Cook County. What was arguably levied tied only into the cost of providing DuPage mosquito abatement services, and not to cover the \$44,085 expenditure to the NWMAD. Just taking the DuPage and Cook figures, \$72,000 and \$44,085 respectively, the total would be \$116,085. Thus, the Village did not levy for or receive the \$44,085 to now pay to the NWMAD, so NWMAD can in turn abate those taxes to Bartlett/NWMAD residents. Secondly, you can expect that the NWMAD will be resistant to taking on that tax abatement obligation, or at a minimum will want to reduce the abatement by the administrative costs and legal fees it incurs in connection with a process that they did not anticipate and has not encountered before. While the statute itself is silent on whether NWMAD can deduct those costs and fees, I would expect they will try to do so. NWMAD may also argue that the statute does not apply because Bartlett did not levy for the same type and quantity of services, particularly if it cannot recover or reduce abatement to cover its costs. That would be a fact question that could prove expensive to litigate, if it ever came to that.

If the Village were to pursue the matter, I believe the level of resistance will depend on the costs that the NWMAD anticipates that it will incur to comply and whether those costs will be reimbursed. It may be that the Cook County Clerk's Office can calculate the numbers and the Cook County tax officials may be able to apply any such abatement to future tax bills of Bartlett/NWMAD (Cook County) residences, rather than require manual calculations and mailing of thousands of checks.

If the Village is interested in pursuing this matter, I would advise that before paying the money to the NWMAD, the Village determine the ability of the Cook County Clerk's Office to perform those services, and the cost, if any, and the Village then write to the NWMAD attorneys to gauge the NWMAD's willingness to cooperate.

Columns posted: 7/13/2016 5:31 AM

# Are you being double-taxed for mosquito control?



**Video: Suburban Mosquito Abatement**



**Jake Griffin**

Only one creature on this planet is so loathed that Illinois created special taxing districts to combat its presence.

While the pesky mosquito lacks size, it can pack a pretty significant wallop for suburban taxpayers, especially for some who are paying multiple agencies to battle the bugs.

"Why am I paying for two mosquito abatements? That seems like government bloat," said Wheaton resident Mary Ann Vitone. "There shouldn't be duplication like that here."

Vitone lives within the Wheaton Mosquito Abatement District, a 22-square-mile swath of central DuPage County where \$425,578 was spent last year to control the mosquito population, or \$19,344 per square mile. She also lives in Milton Township, which spent an additional \$48,066 total to fight the pests, according to agency financial reports.

Some Carol Stream residents might be paying taxes for three different agencies to ward off mosquitoes. The village spent \$76,063 last year, Bloomingdale Township spent \$166,980, and the West Chicago Mosquito Abatement District spent \$163,051.

And they aren't the only ones.

In Glen Ellyn, some taxpayers are paying for double coverage from Milton Township and the Glen Ellyn Mosquito Abatement District.

Taxpayers in St. Charles are paying both the city and township for mosquito control, as are people in parts of Addison, Aurora, Bensenville, Itasca, North Aurora, Oak Brook, Round Lake, Wauconda and Wood Dale.

That's according to a Daily Herald analysis of financial reports from 56 abatement districts, municipalities and townships that combined to spend more than \$5.3 million in each of the last two years on mosquito control.

While the ultimate goal is to prevent the spread of mosquito-borne diseases like West Nile virus, the amount of money devoted to the cause varies widely. The Zika virus is upping the ante in some places, though mosquitoes haven't been found to transmit the virus here.

# Skeeter spending

Various agencies throughout the suburbs earmarked more than \$5 million in taxes last year to combat mosquitoes, with some spending more aggressively than others.

Agency	2015 spending	Square miles	Cost per square mile	Agency	2015 spending	Square miles	Cost per square mile
Addison	\$79,384	10.00	\$7,938.40	Libertyville	\$25,200	9.15	\$2,754.10
Addison Township	\$41,455	32.42	\$1,278.69	Lincolnshire	\$68,179	4.67	\$14,599.36
Aurora	\$15,639	45.80	\$341.46	Lisle Township	\$50,100	36.00	\$1,391.67
Aurora Township	\$32,575	35.30	\$922.80	Lombard	\$88,710	10.45	\$8,489.00
Avon Township	\$6,462	23.80	\$271.51	Long Grove	\$15,999	12.71	\$1,258.77
Batavia	\$38,564	9.70	\$3,975.67	Milton Township	\$48,066	35.27	\$1,362.80
Bensenville	\$37,733	5.62	\$6,714.06	Mundelein	\$53,993	9.96	\$5,420.98
Bloomingtondale Twp.	\$166,980	35.30	\$4,730.31	Naperville Township	\$31,048	35.89	\$865.09
Buffalo Grove	\$48,298	9.53	\$5,068.00	North Aurora	\$50,756	7.39	\$6,868.20
Carol Stream	\$76,063	9.42	\$8,074.63	North Barrington	\$38,069	4.89	\$7,785.07
Carpentersville	\$19,264	8.10	\$2,378.27	Northwest Mosquito Abatement District*	\$2,307,676	242.00	\$9,535.85
Crystal Lake	\$94,493	19.00	\$4,973.32	Oak Brook	\$70,229	8.28	\$8,481.76
Cuba Township	\$60,000	24.20	\$2,479.34	Oakbrook Terrace	\$15,438	1.27	\$12,155.91
Deer Park	\$20,075	3.83	\$5,241.51	Round Lake	\$23,650	5.63	\$4,200.71
Ela Township	\$28,060	35.90	\$781.62	St. Charles	\$106,376	14.93	\$7,124.98
Fox Lake	\$7,605	9.94	\$765.09	St. Charles Township	\$13,268	35.55	\$373.22
Fremont Township	\$12,822	35.80	\$358.16	Sugar Grove	\$2,728	10.50	\$259.81
Geneva	\$45,474	10.00	\$4,547.40	Vernon Hills	\$55,358	7.92	\$6,989.65
Glen Ellyn Mosquito Abatement District	\$152,202	8.00	\$19,025.25	Villa Park	\$32,740	4.76	\$6,878.15
Grant Township	\$13,945	23.00	\$606.30	Volo	\$16,118	4.00	\$4,029.50
Grayslake	\$35,331	10.00	\$3,533.10	Wauconda	\$45,018	5.73	\$7,856.54
Gurnee	\$103,077	13.57	\$7,595.95	Wauconda Township	\$19,488	24.20	\$805.29
Hanover Park	\$25,200	6.43	\$3,919.13	Wayne Township	\$72,900	36.50	\$1,997.26
Huntley	\$56,153	14.10	\$3,982.48	West Chicago Mosquito Abatement District	\$163,051	27.00	\$6,038.93
Itasca	\$70,508	5.07	\$13,906.90	Wheaton Mosquito Abatement District	\$425,578	22.00	\$19,344.45
Kildeer	\$10,150	4.60	\$2,206.52	Wood Dale	\$59,161	4.84	\$12,223.35
Lake Barrington	\$25,000	6.17	\$4,051.86	York Township	\$63,499	35.67	\$1,780.18
Lake in the Hills	\$37,914	10.61	\$3,573.42				
Lake Zurich	\$42,614	7.18	\$5,935.10				

\* Includes 24 suburbs in Northwestern Cook County.

Source: Agency financial reports and The U.S. Census Bureau

"The term my environmental coordinator used is 'aggressive,'" said Itasca Village Manager Evan Teich. "As part of our budget discussions this year, that cost actually came up and we discussed cutting back. But they thought doing it in a year when people were highly concerned about the Zika virus might not be the best year to do it."

Zika, a disease that can cause birth defects in utero, is carried by mosquitoes that are not native to northern Illinois and whose embryos can't survive the winter here, experts said. Infected insects would have to be imported to the Chicago area for someone to catch the disease without leaving the region.

West Nile virus, however, is common in Illinois. Most human cases are mild, but a few deaths occur.

Itasca spent \$70,508 last year and budgeted \$71,000 this year to combat the mosquito population. While several municipalities paid more than that, fewer paid at a higher rate per square mile. At a little more than five square miles, Itasca spent \$13,907 per square mile to fight mosquitoes.

Teich said it's a quality-of-life expense. The costs cover extra attention at the village's 60-acre nature center that hosts a variety of youth summer camps, extra sprayings for special events, and treatment of storm sewers, a method some towns have abandoned.

On the opposite end of the spectrum, Sugar Grove spent \$260 per square mile to fight mosquitoes last year, according to the village's financial records.

Most of the money spent by government agencies goes to Clarke Mosquito Control based in St. Charles. The company has the lion's share of mosquito control contracts with suburban governments, including most abatement districts that collect taxes and turn over those funds to Clarke.

Clarke spokeswoman Laura McGowan said the costs vary so widely because the services the company offers vary from one place to the next, based on how local officials choose to combat the pests.

Naperville is one of the few locations with its own in-house mosquito abatement operation, but those costs are not broken out of the city's overall public works budget.



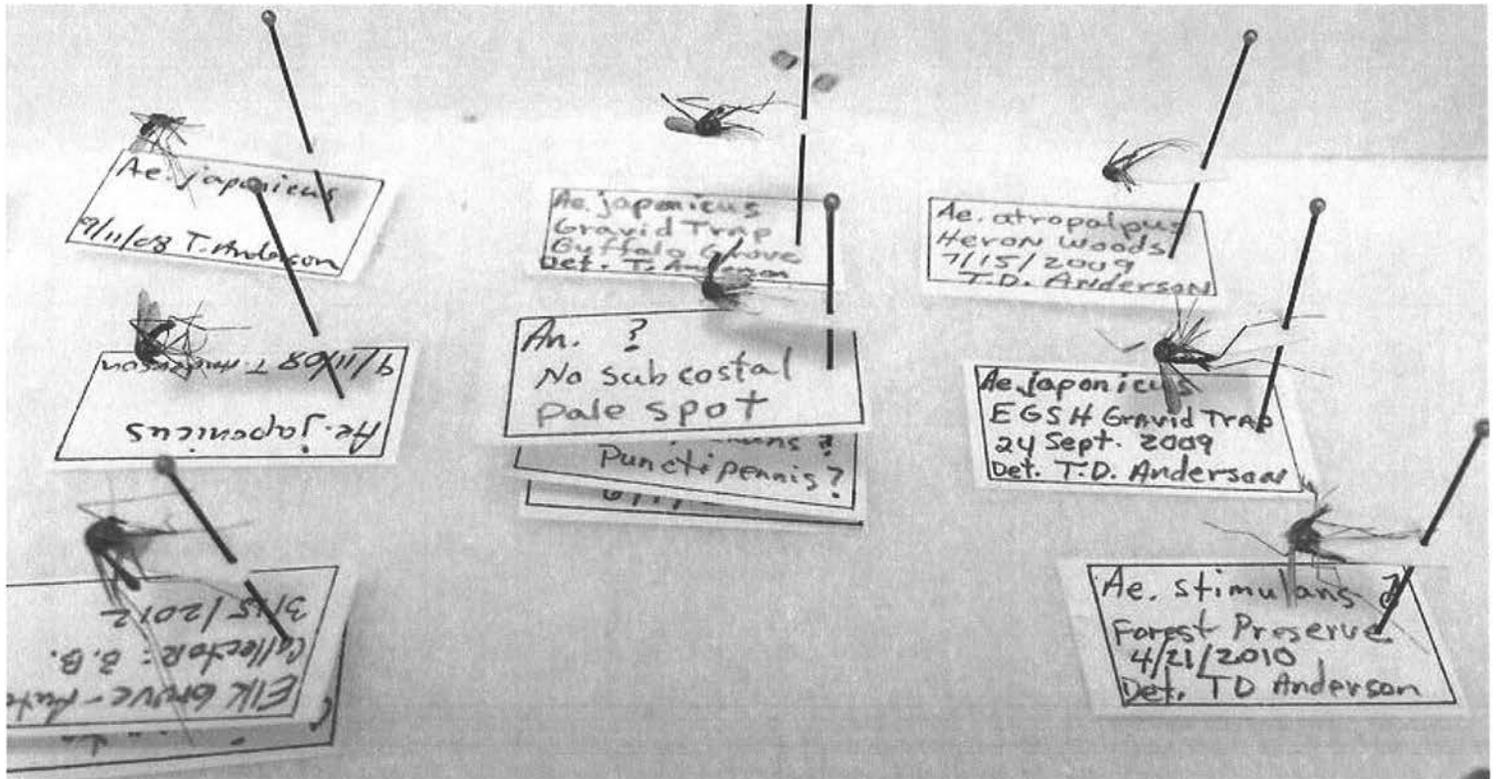
**AT [DAILYHERALD.COM/MORE](https://www.dailyherald.com/more): Entomologist Patrick Irwin of the Northwest Mosquito Abatement District explains why you need not fear the Zika virus, and what happens if it ever does enter the suburbs.** - Mark Welsh | Staff Photographer

Another is the massive Northwest Mosquito Abatement District that covers all of northwestern Cook County. With 13 full-time employees and a cadre of seasonal employees, the district has 242 square miles and spent more than \$2.3 million last year, according to the district's audit.

District director Mike Szyska contends the agency's costs are comparable to contracting out the work to outfits like Clarke but taxpayers have greater control by maintaining an oversight board. While costs are on the higher end at \$9,536 per square mile, there is virtually no duplication of services.

"When we hear there might be a problem in a town, we'll send out a crew to investigate, but we're not going to charge the town anything extra if we wind up doing a spraying or something," Szyska said. "The taxpayers are already paying for this."

Few, if any, of the 24 suburbs in the district have additional mosquito-fighting costs, according to municipal financial records.



**Certain species of mosquito caught in the Northwest suburbs are used for study at the Northwest Mosquito Abatement District, headquartered in Wheeling.** - Mark Welsh | Staff Photographer

While abatement districts in Wheaton and Glen Ellyn spent more than \$19,000 per square mile on mosquito control last year, a few towns have seemingly surrendered to the buggy foes.

Warrenville stopped abatement activities in 2000, citing costs. Voters later rejected a ballot question to increase taxes to pay for mosquito control. (<http://www.warrenville.il.us/CivicAlerts.aspx?AID=281>) The city in southwestern DuPage County is almost entirely surrounded by forest preserves, which many in town believe makes the fight futile since the DuPage County Forest Preserve District does little in the way of thwarting nuisance mosquitoes. Instead the district specially targets the West Nile-carrying *Culex* mosquito larvae.

"We are a conservation-focused entity and we have found some of the products that combat adult mosquitoes harm or kill other invertebrates like moths and butterflies," said Andres Ortega, a forest preserve ecologist. "It doesn't make sense for us to be utilizing those products."

There's also another reason.

"Then there's the expense associated with it," Ortega said.

**Article Comments (0)**

# MEMO

**Date:** July 11, 2016

**To:** Valerie L. Salmons, Village Administrator

**From:** Dan Dinges, Public Works Director

**Re:** *Sewer Rate Study*

With the proposed Capital Improvements and the questions Trustee Hopkins has raised regarding sewer rates between Counties, we have talked to some of the consultants that we have worked with and are familiar with our sewer system about performing a sewer rate study. The sewer rate study would look at both the collections system and wastewater treatment facilities. They would look at operation & maintenance costs along with the proposed capital improvements.

Based on our discussions, we recommend that Trotter & Associates be considered to perform the sewer rate study. They are familiar with both of our wastewater treatment facilities and our collection system. They estimate that a sewer rate study would be \$30,000 - \$40,000 to complete.