



Meeting of the Village of Buffalo Grove Planning and Zoning Commission

Regular Meeting
November 4, 2020 at 7:30 PM

Fifty Raupp Blvd
Buffalo Grove, IL 60089-2100
Phone: 847-459-2500

I. Call to Order

2. Open Meetings Act Compliance

Pursuant to orders issued in response to the COVID-19 pandemic, this Public Hearing is closed to in-person, public attendance. The hearing is being held via Zoom web conference meeting, which permits the public to fully participate in the virtual Public Hearing via Zoom on a computer, tablet or phone. Details on how to access and participate in this online virtual hearing are available below. More information pertaining to the meeting information and links to the virtual meeting can be found at:

You are invited to a Zoom webinar.

When: Nov 4, 2020 07:30 PM Central Time (US and Canada)

Topic: PZC

Please click the link below to join the webinar:

[<https://us02web.zoom.us/j/84068673693>](https://us02web.zoom.us/j/84068673693)

Or iPhone one-tap :

US: +13126266799,,84068673693# or +19294362866,,84068673693#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 312 626 6799 or +1 929 436 2866 or +1 301 715 8592 or +1 253 215 8782 or +1 346 248 7799 or +1 669 900 6833

Webinar ID: 840 6867 3693

International numbers available: [<https://us02web.zoom.us/j/84068673693>](https://us02web.zoom.us/j/84068673693)

II. Public Hearings/Items For Consideration

1. Consider Variations from the Sign Code to Allow for Two Wall Signs at 960 S Buffalo Grove Rd. (Trustee Weidenfeld) (Staff Contact: Nicole Woods)
2. Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility, and a Preliminary Plan Approval with Variations to the Zoning Ordinance and Sign Code at Spoerlein Commons Shopping Development at 1131-1271 McHenry Road. (Trustee Johnson) (Staff Contact: Nicole Woods)

III. Regular Meeting

A. Other Matters for Discussion

B. Approval of Minutes

1. Planning and Zoning Commission - Regular Meeting - Oct 21, 2020 7:30 PM

- C. Chairman's Report**
- D. Committee and Liaison Reports**
- E. Staff Report/Future Agenda Schedule**
- F. Public Comments and Questions**

IV. Adjournment

The Planning and Zoning Commission will make every effort to accommodate all items on the agenda by 10:30 p.m. The Board, does, however, reserve the right to defer consideration of matters to another meeting should the discussion run past 10:30 p.m.

The Village of Buffalo Grove, in compliance with the Americans with Disabilities Act, requests that persons with disabilities, who require certain accommodations to allow them to observe and/or participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the ADA Coordinator at 459-2525 to allow the Village to make reasonable accommodations for those persons.



Action Item : Consider Variations from the Sign Code to Allow for Two Wall Signs at 960 S Buffalo Grove Rd.

Recommendation of Action

Staff recommends approval, subject to the conditions in the attached staff report.

The Petitioner, Jennifer Boenzi on behalf of Nino's Pizzeria at 960 S Buffalo Grove Rd is seeking to install two wall signs on the east and north elevations of the Nino's Pizzeria Building. Variations are required to allow for the two wall signs to exceed the number of permitted wall signs; exceed the maximum permitted sign length; and exceed the maximum permitted sign area.

ATTACHMENTS:

- Staff Report (DOCX)
- Plan Set (PDF)

Trustee Liaison
Weidenfeld

Staff Contact
Nicole Woods, Community Development

Wednesday, November 4, 2020	
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MEETING DATE:	November 4, 2020
SUBJECT PROPERTY LOCATION:	960 S Buffalo Grove Road
PETITIONER:	Jennifer Boenzi on behalf of Nino’s Pizzeria
PREPARED BY:	Rati Akash, Village Planner
REQUEST:	The petitioner is seeking variations from the Sign Code for an east elevation wall sign which exceeds the length of the sign, and exceeds the maximum permissible area of the sign; and a north elevation wall sign which exceeds the number of wall signs permitted, exceeds the length of the sign, and exceeds the maximum permissible area of the sign.
EXSITING LAND USE AND ZONING:	The property is improved with a Nino’s Pizzeria (Restaurant) and is zoned B-2 Business District
COMPREHENSIVE PLAN:	The Village of Buffalo Grove Comprehensive Plan calls for this property to be a commercial use

PROJECT BACKGROUND

The Petitioner, Jennifer Boenzi on behalf of Nino’s Pizzeria at 960 S Buffalo Grove Rd is seeking to install two wall signs on the east and north elevations of the Nino’s Pizzeria Building which requires the following variations:

East elevation wall sign

1. Section 14.16, which exceeds the length of the wall sign.
2. Section 14.16, which exceeds the maximum permissible area of the sign.

North elevation wall sign

1. Section 14.16, which exceeds the number of wall signs permitted.
2. Section 14.16, which exceeds the length of the wall sign.
3. Section 14.16, which exceeds the maximum permissible area of the sign.



PLANNING & ZONING ANALYSIS

Length

- Nino's Pizzeria have recently proposed façade improvements to the existing building at 960 S Buffalo Grove Road. The proposed wall signs are part of these improvements.
- The east and north elevation wall signs are LED powered signs.

East elevation:

- The east elevation wall sign measures 24'-1" in length, and exceeds the required 33% of the 60' store frontage by 4'-1".

North elevation:

- The north elevation wall sign measures 21'-6" in length, and exceeds the required 33% of the 49'-6" store frontage by 5'-1".
- The north elevation wall sign exceeds the maximum permissible wall signs per development. Only one wall sign is permitted per Code.

Size

East elevation:

- The proposed wall sign measures 82.28 square feet in area.
- The proposed wall sign exceeds the permissible sign area of 42.67 square feet by 39.61 square feet.



North elevation:

- The proposed wall sign measures 60 square feet in area.
- The proposed wall sign exceeds the permissible sign area of 25.6 square feet by 34.4 square feet.



Variation Requested

East elevation wall sign

1. Section 14.16, which exceeds the length of the wall sign.
2. Section 14.16, which exceeds the maximum permissible area of the sign.

North elevation wall sign

1. Section 14.16, which exceeds the number of wall signs permitted.
2. Section 14.16, which exceeds the length of the wall sign.
3. Section 14.16, which exceeds the maximum permissible area of the sign.

SURROUNDING PROPERTY OWNERS

Pursuant to Village Code, the surrounding property owners within 250' were notified and a public hearing sign was posted on the subject property. The posting of the public hearing sign and the mailed notifications were completed within the prescribed timeframe as required. As of the date of this Staff

Report, the Village has received two calls from the surrounding properties, however no concerns were raised.

STANDARDS

The Planning & Zoning Commission is authorized to make a recommendation to the Village Board based on the following criteria:

- A. Except for Prohibited signs (Chapter 14.32), the Village Planning & Zoning Commission may recommend approval or disapproval of a variance from the provisions or requirements of this Title subject to the following:
 1. The literal interpretation and strict application of the provisions and requirements of this Title would cause undue and unnecessary hardships to the sign user because of unique or unusual conditions pertaining to the specific building, parcel or property in question; and
 2. The granting of the requested variance would not be materially detrimental to the property owners in the vicinity; and
 3. The unusual conditions applying to the specific property do not apply generally to other properties in the Village; and
 4. The granting of the variance will not be contrary to the purpose of this Title pursuant to Section 14.04.020
- B. Where there is insufficient evidence, in the opinion of the Planning & Zoning Commission, to support a finding under subsection (A), but some hardship does exist, the Planning & Zoning Commission may consider the requirement fulfilled if:
 1. The proposed signage is of particularly good design and in particularly good taste; and
 2. The entire site has been or will be particularly well landscaped.

The petitioner shall provide a response to the standards at the public hearing.

STAFF RECOMMENDATION

Staff recommends approval of the variation for the size and length for the east elevation wall sign; and the number of signs, size and height of the north elevation wall sign provided:

1. The proposed wall sign must be installed in accordance with the documents and plans submitted as part of this petition.

ACTION REQUESTED

The Planning & Zoning Commission (PZC) shall open the public hearing and take public testimony concerning the variation. The PZC shall make a recommendation to the Village Board concerning the variation requests.

Suggested PZC Motion

PZC recommends approval for variations to Section 14.16 of the Buffalo Grove Zoning Code to allow for an east elevation wall sign to exceed the maximum permissible length by 4'-1", and to exceed the size of the sign by 39.61 square feet; and for a north elevation sign to exceed the maximum permissible number of signs, to exceed the maximum permissible length by 5'-1", and to exceed the size of the sign by 34.4 square feet. The wall signs shall be installed in accordance with the documents and plans submitted as part of this petition.

September 29, 2020

To: Village of Buffalo Grove – Planning and Zoning Commission

Department of Building and Zoning
Fifty Raupp Blvd., Buffalo Grove, IL

This letter is to address the Planning and Zoning Commission about the signage variance we are requesting for Nino's Pizzeria. The subject property has never done a master sign plan like most of the properties in Buffalo Grove. Due to this fact they have to follow the ordinance within the sign code which is very restricting. We are asking to install 2 signs on the building well within an average sign code and to utilize the existing monument sign. The property consists of one building and one business. The business owners are also the land owners. The sign facing the east has a sixty foot (720") frontage and the sign will take up 289" of that with an overall height of 41. The sign facing north has over 80' of frontage with a 258" width and a 33.5" height. The monument sign is existing we are proposing an updated face change. The building signs will back lit letters with a soft white LED illumination. The letters will enhance the brand new white fascia. All the building rendering are attached. We are asking for the variance to complete the intense modification. The building has been redone with clean and updated fascia and we are trying to complete this beautiful remodel. Nino's Pizzeria and Catering have been a staple in Buffalo Grove and the new modifications will enhance the area.

Thank you in advance,



Jennifer Boenzi

Sign Central

34039 N. Hainesville Road, Round Lake, IL 60073

Attachment: Plan Set (Consider Variations from the Sign Code to Allow for Two Wall Signs to at 960 S Buffalo Grove Rd.)

September 29, 2020

To: Village of Buffalo Grove

Department of Building and Zoning
Fifty Raupp Blvd.. Buffalo Grove, IL

Dear Village of Buffalo Grove / Department of Building and Zoning,

To Whomsoever it May Concern

I Marco DeFranco owner of Nino's Pizzeria give permission to Jennifer Boenzi of Sign Central to perform the duties to apply for our sign variance.

The letter is a formal notice to authorize and give permission to Sign Central and authorize the party with complete authority and rights to complete the process in my absence successfully.

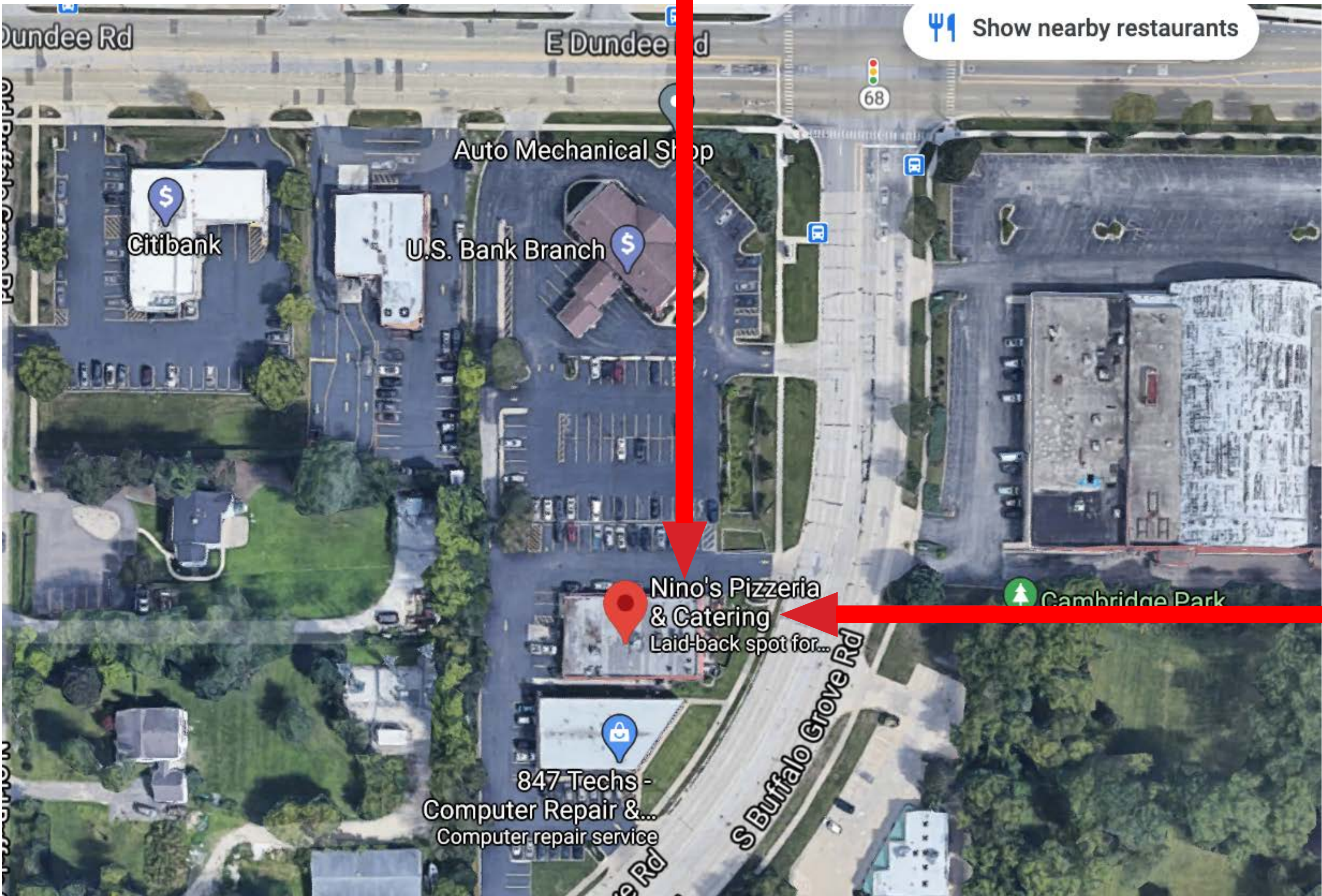
Regards,

Mark DeFranco

Attachment: Plan Set (Consider Variations from the Sign Code to Allow for Two Wall Signs to at 960 S Buffalo Grove Rd.)

ELECTRONIC PROOF SHEET

SIGN (1) FACING NORTH



SIGN (2) FACING EAST

I HAVE PROOFED MY ORDER FOR SPELLING, GRAMMAR, LOCATION AND PRINT COLORS AND APPROVE THE FINISHED JOB. I REQUEST THAT PRODUCTION BEGIN AND UNDERSTAND THAT I AM RESPONSIBLE FOR ERRORS AND FURTHER CHANGES.

- ☐ YES. This artwork proof and its details are correct.
- ☐ NO. This artwork proof is not correct. See changes indicated (A new proof will be re-sent with changes for approval.)

AUTHORIZED SIGNATURE

DATE



PROJECT TITLE
Nino's Pizzeria and Catering

ORDER TITLE:
Building ID

City/State
Buffalo Grove, IL

PHONE NUMBER

WING DATE	SALES REP XX	PROJECT MGR.
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REVISION HISTORY		
DATE	PREV DRWG	DESCRIPTION

The concept illustrated is for representational purposes only. Structural, resolution, and/or specification changes may occur during the design and implementation process that may result in changes from this illustration. Environmental conditions at the site may affect final results.

This drawing remains the exclusive property of Sign Central. It is submitted for your consideration in the purchase of the product(s). This design cannot be copied in whole or in part, altered or exhibited in any manner without written permission of Sign Central. Exceptions are previously copyrighted artwork supplied by client.

YPE:

TYPE:
XXX

ECT NO.	TASK NO.	QTY.
X X	XX	XX
WG. N.O.	SHEET	
-	-	



34039 N. Hainesville Road
Round Lake, IL 60073
847.543.7 600

PROJECT TITLE
Nino's Pizzeria and Catering

ORDER TITLE:
Building ID

City/State
Buffalo Grove, IL

PHONE NUMBER

WING DATE	SALES REP	PROJECT MGI
	XX	

REVISION HISTORY		
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TYPE:

XXX

ECT NO.	TASK NO.	QTY.
X X	XX	XX

WG. NO.	SHEET
-	



34039 N. Hainesville Road
Round Lake, IL 60073
847.543.7600

PROJECT TITLE
Nino's Pizzeria and Catering

ORDER TITLE:
Building ID

City/State
Buffalo Grove, IL

PHONE NUMBER

WING DATE	SALES REP	PROJECT MGI
	XX	

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YPE:

TYPE:
XXX

ECT NO.	TASK NO.	QTY.
X	X	XX



Action Item : Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility, and a Preliminary Plan Approval with Variations to the Zoning Ordinance and Sign Code at Spoerlein Commons Shopping Development at 1131-1271 McHenry Road.

Recommendation of Action

Staff recommends approval, subject to the conditions in the attached staff report.

The Petitioner, Spoerlein Commons Shopping Development at 1131-1271 McHenry Road, is seeking to construct a new 2,388 square foot Dunkin Donuts and Baskin Robbins outbuilding with a drive-through. The proposed project requires: an amendment to Ordinance 83-8 for a new outbuilding; a special use for a drive-through facility in the B3 Planned Business District; and a preliminary plan approval with variations to the Zoning Ordinance and Sign Code.

ATTACHMENTS:

- Staff Report (DOCX)
- Plan Set (PDF)

Trustee Liaison
Johnson

Staff Contact
Nicole Woods, Community Development

Wednesday, November 4, 2020	
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MEETING DATE:	November 4, 2020
SUBJECT PROPERTY LOCATION:	1131-1271 McHenry Road, Buffalo Grove
PETITIONER:	Whitestone REIT Operating Partnership LP
PREPARED BY:	Rati Akash, Village Planner
REQUEST:	Petition to the Village of Buffalo Grove for an amendment to Ordinance 83-8 for a new Dunkin Donuts outbuilding with a drive-through facility in Spoerlein Commons Shopping Development, special use for a drive-through facility in the B3 Planned Business District, a preliminary plan approval with variations to the Buffalo Grove Zoning Ordinance and Sign Code.
EXSITING LAND USE AND ZONING:	Existing Spoerlein Commons Development in the B3 Planned Business District
COMPREHENSIVE PLAN:	The approved Village Comprehensive Plan calls for this property to be commercial.

PROJECT BACKGROUND

In 1983, the Village approved Ordinance 83-8 for the Spoerlein Commons Development. The existing development consists of approximately 41,180 square feet of commercial and office space in multiple buildings. The original development was approved with a second phase allowing for additional 2,000 square feet of retail space.

The second phase was never constructed and the current owner (Whitestone REIT Operating Partnership LP) is seeking an amendment to the original Ordinance to allow for the construction of a 2,388 square foot outbuilding with a Dunkin Donuts and Baskin Robins drive-through establishment which will require the following:

1. Amendment to Ordinance 83-8;
2. Special use for a drive-through facility in the B3 Planned Business District;
3. Preliminary Plan approval with the following variations:



Zoning Ordinance:

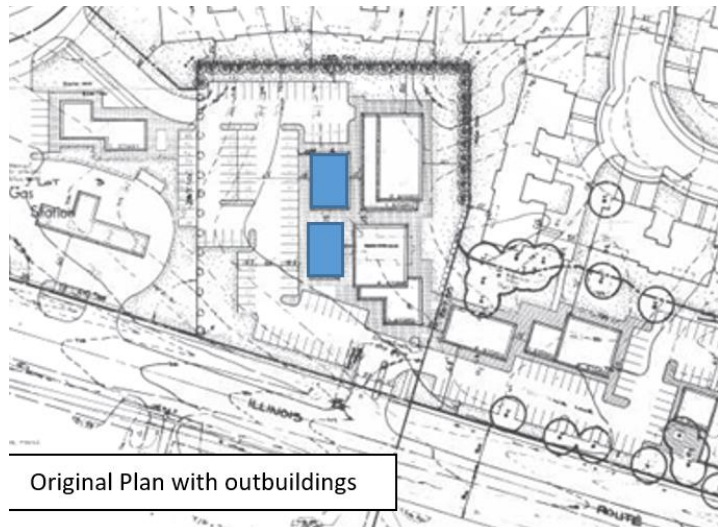
- a) A Variation to Section 17.36.040 of the Zoning Ordinance to allow for a reduction to the minimum number of parking spaces required for both the Spoerlein Commons Development and the outbuilding.

Sign Code:

- a) A Variation to Section 14.16 of the Sign Code to allow for two extra wall signs on the east and south elevations of the proposed outbuilding.
- b) A Variation to Section 14.16 of the Sign Code to allow for the wall signs on the east and south elevations of the proposed outbuilding to exceed the maximum allowable height of the sign.

PLANNING & ZONING ANALYSIS***Zoning History***

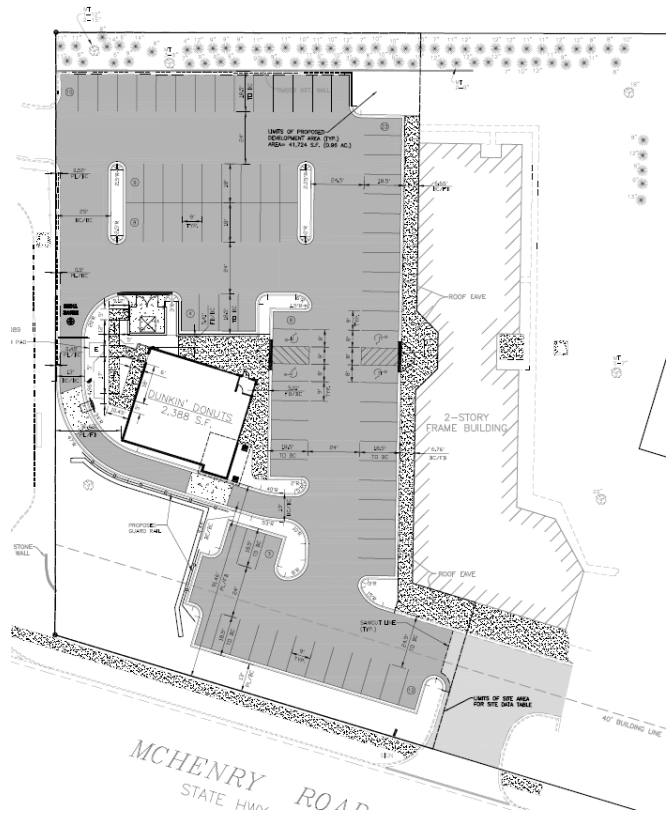
- The existing property is zoned B3 Planned Business Center, and Spoerlein Commons Development was improved in 1983 as part of Ordinance 83-8. The approved development included a total of 51,050 square feet of office and retail space.
- The subject property is currently improved with approximately 41,180 square feet of commercial and office space in multiple buildings in the Spoerlein Commons Development.
- The development was approved for two additional outbuildings (2,000 square feet total), which were never constructed. Based on staff's research, we have found an approved set of drawings from 1989 which shows two 1,000 square foot outbuildings (combined total of 2,000 square feet).

***PZC Workshop October 26, 2018***

- At the October 26, 2018 PZC meeting, the owner presented their concept plan for Dunkin Donut outbuilding to the Commission. Minutes have been attached.
- The discussion primarily included the entry and exit out of Route 83 and driveway stacking requirement which the Petitioner (Owner) has addressed in the Traffic Memo and plan set attached.
- The PZC was supportive of the overall outbuilding orientation and parking, requested for the traffic counts to be included which has been attached in the traffic memo.

Site Plan

- The owner is seeking an amendment to the development to allow for the construction of a new 2,388 square foot Dunkin Donuts outbuilding with drive-through facility.
- Dunkin Donuts is currently located in the southwest corner unit of the existing retail building and is looking to expand their services by including a drive-through.
- To accommodate the new building, parking would be relocated to the open area originally identified for the 2 outbuildings.
- There are no changes being made to the existing buildings.
- The proposed new building would be 26' in height to the top of the tower, 16' in height to the top of the roof building.
- The outbuilding is setback approximately 91' from Route 83. Pursuant to the Zoning Ordinance, the building is to be setback the same distance as the height of the building (26').
- The outbuilding meets all the setback requirements as outlined in B3 Planned Business District.
- The following is a summary of the proposed development as it relates to the Village's bulk requirements:



B3 District Dimensional Requirements Vs Proposed Development

		B3 District Requirements	Proposed Development
Setbacks	Front (north)	Minimum 26'	Approx. 91'
	Rear (south)	N/A	Approx. 145'
	Side (east)	N/A	N/A
	Side (west)	N/A	Approx. 31'
Building Height		N/A	26' top of the tower, 16' top of the roof building height

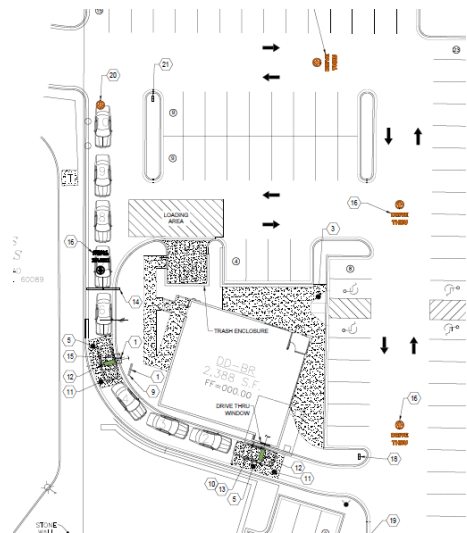
Parking & Traffic

- The proposed outbuilding of 2,388 square feet with a drive-through will be located along Route 83 in the west portion of the site.
- Access into Spoerlein Commons and the outbuilding will remain the same with access points on the South from Route 83, access on the west from Courtland Drive, and access on the east from Ranchview Court.

- The petitioner has provided a traffic analysis from Kimley Horn consultants who have indicated that the existing traffic conditions can accommodate the Dunkin Donuts outbuilding with the drive-through facility.
- The existing development currently has 161 parking spaces for the 41,180 square foot development, which does not meet our current code requirements.
- It should be noted that the 161 parking spaces were intended to serve both the existing 41,180 square feet but also the additional 2,000 square feet, which was not built. As a result of the change, a total net increase in square footage would be approximately 800 square feet.
- With the proposed outbuilding for Dunkin Donuts a total of 164 parking spaces will be provided.
- As per Section 17.36.040 a variance will be required for the parking requirements based on the existing and future tenant uses with a deficit of 40 parking spaces. However, it should be noted that the parking supply provided is able to accommodate the Spoerlein Commons at full occupancy and the proposed Dunkin Donuts outbuilding with a drive through establishment as per the parking analysis provided by Kimley Horn consultants.
- Staff also had our Village traffic consultant, Gewalt Hamilton & Associates (GHA) to review the parking memo and proposed plans. GHA found that the proposed development would provide sufficient parking.

Drive-through

- The proposed 2,388 square foot Dunkin Donut outbuilding includes a drive through.
- Pursuant to the Zoning Code in the B-3 Planned Business District, eating and drinking establishments that have a drive-through require a special use permit.
- Additionally, the drive-through must have a stacking of 10 vehicles. The proposed Dunkin Donuts outbuilding provides stacking of 10 vehicles lined up against the west property line and meets Code.
- The proposed stacking of 10 vehicles and the orientation of the parking lot on the North allows for effective traffic circulation within the Spoerlein Commons Development as depicted in the traffic analysis.



Stormwater

- The petitioner has provided a preliminary storm water report.
- The proposed project meets the storm water requirements.
- The preliminary engineering plans as proposed have been reviewed by the Village Engineer. As a condition of approval, final engineering will have to be submitted in a manner acceptable to the Village.

Landscaping

- The petitioner has proposed trees and shrubs in the landscape islands as depicted in the plan set.
- The Village Forester has reviewed the landscape plan and is supportive of the trees in the landscape islands which will provide shade and mitigate storm water run-off as well.

Building Elevations

- The proposed elevations of the outbuilding include an overall building height of 16' including the sloping roof, and a 26' tall tower with a cross roof towards south portion of the building.
- The proposed outbuilding will comprise of white siding in attempt to match the existing Spoerlein Commons color scheme. The tower has the Dunkin Donuts orange brand color to complement the white siding.
- Overall, Staff finds that the elevations are nicely done and supports the appearance of the new outbuilding.



Signs

- The petitioner is proposing a total of five signs which include 2 wall signs (Dunkin and Baskin Robbins), 1 channel letter wall sign, one clearance bar, and a menu board sign.
- The 2 wall signs on the tower and one channel letter wall sign on the building require a variance to allow for 2 extra wall signs. Pursuant to the Sign Code only 1 wall sign is permitted per development.
- The 2 wall signs on the tower building require a variance for height.
- The clearance bar, menu board sign and channel letter wall sign meet all requirements of the Sign Code.

Tower Sign

- The Petitioner is proposing 2 wall signs on the east and south elevations on the tower of the Dunkin Donuts building which requires a variance.



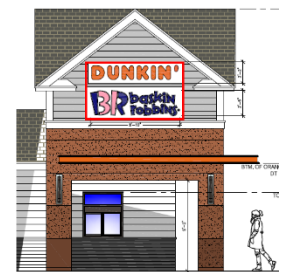
East elevation wall sign

East Elevation Sign:

- The east elevation wall sign measures 6'-5" in height and 4' in length which includes both Dunkin Donut and the Baskin Robins Sign.
- The east elevation wall sign exceeds the maximum permissible height of the sign by 10", and hence requires a variance.
- This sign otherwise meets all the Code requirements.

South Elevation Sign:

- The south elevation wall sign measures 6'-5" in height and 8'-10" in length which includes both Dunkin Donut and Baskin Robins Sign.
- The south elevation wall sign exceeds the maximum permissible height of the sign by 10", and hence requires a variance.



South elevation wall sign

APPROVALS REQUIRED

1) Amendment to Ordinance 83-8.

The petitioner is seeking an amendment to the original Ordinance to allow for the construction of a 2,388 square foot outbuilding with a Dunkin Donuts and Baskin Robins drive-through establishment.

2) Special Use.

The petitioner is seeking a special use for a drive-through facility in the B3 Planned Business District.

Standards

The following are the standards for a special use and the Petitioner has addressed the special use standards in the memo to the PZC.

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;
3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations with the neighborhood;
4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;
5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;
6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

3) Preliminary Plan approval with the following variations:

A. Variation to the Zoning Ordinance.

A Variation to Section 17.36.040 of the Zoning Ordinance to allow for a reduction to the minimum number of parking spaces required for both the Spoerlein Commons building and the outbuilding.

With the proposed outbuilding for Dunkin Donuts a total of 164 parking spaces will be provided for the outbuilding and the Spoerlein Commons Development. A variance will be required for the parking requirements based on the existing and future tenant uses

with a deficit of 40 parking spaces. However, it should be noted that the parking supply provided is able to accommodate the Spoerlein Commons at full occupancy and the proposed Dunkin Donuts outbuilding with a drive through establishment as per the parking analysis provided by Kimley Horn consultants. Staff also had our Village traffic consultant, Gewalt Hamilton & Associates (GHA) to review the traffic analysis. GHA found that the proposed development would provide sufficient parking.

Standards

The following are the applicable standards for a variation and the petitioner shall address the required standards for a variation during the meeting.

1. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations of the zoning district in which it is located except in the case of residential zoning districts;
2. The plight of the owner is due to unique circumstances;
3. The proposed variation will not alter the essential character of the neighborhood.

B. Variations to the Sign Code.

A Variation to Section 14.16 of the Sign Code to allow for two extra wall signs on the east and south elevations of the proposed outbuilding

The petitioner has proposed 3 wall signs for the Dunkin Donuts outbuilding, only 1 wall sign is permitted per development as per the Sign Code. The two extra signs on the South and East elevation will require a variance.

A Variation to Section 14.16 of the Sign Code to allow for the wall signs on the east and south elevations of the proposed outbuilding to exceed the maximum allowable height of the sign.

The east and south elevation signs on the tower building measure 6'-5" in height and exceeds the maximum permissible height of the sign by 10".

Standards

The Planning & Zoning Commission is authorized to make a recommendation to the Village Board for a variation to the Sign Code based on the following criteria. During the meeting, the petitioner shall address the required standards for a variation.

- A. Except for Prohibited signs (Chapter 14.32), the Village Planning & Zoning Commission may recommend approval or disapproval of a variance from the provisions or requirements of this Title subject to the following:
 1. The literal interpretation and strict application of the provisions and requirements of this Title would cause undue and unnecessary hardships to the sign user because of unique or unusual conditions pertaining to the specific building, parcel or property in question; and
 2. The granting of the requested variance would not be materially detrimental to the property owners in the vicinity; and
 3. The unusual conditions applying to the specific property do not apply generally to other properties in the Village; and

4. The granting of the variance will not be contrary to the purpose of this Title pursuant to Section 14.04.020
- B. Where there is insufficient evidence, in the opinion of the Planning & Zoning Commission, to support a finding under subsection (A), but some hardship does exist, the Planning & Zoning Commission may consider the requirement fulfilled if:
1. The proposed signage is of particularly good design and in particularly good taste; and
 2. The entire site has been or will be particularly well landscaped.

PUBLIC COMMENTS

Pursuant to Village Code, the contiguous property owners were notified and a public hearing sign was posted on the subject property. The posting of the public hearing sign and the mailing of the notifications were both completed within the required timeframe. As of the date of this Staff Report the Village has had a 6 inquiries some of whom requested more information on the project.

DEPARTMENTAL REVIEWS

Village Department	Comments
Engineering	The Village Engineer has reviewed the proposed plans and has no specific comments regarding the preliminary plans. Final engineering will be required prior to the start of construction.
Fire Department	The Fire Department has reviewed the proposed plans and has no specific comments regarding the preliminary plans.
Forestry Department	The Forestry Department has reviewed the proposed plans and has no specific comments regarding the preliminary plans.

STAFF RECOMMENDATION

Staff recommends approval of the amendment to Ordinance 83-8 for a new Dunkin Donuts outbuilding in the Spoerlein Commons development which is in the B3 Planned Business District; special use for a drive-through facility in the B3 Planned Business District; preliminary plan approval with variations to the reduction in the number of parking spaces, and allowing for 2 extra wall signs on the outbuilding, and allowing for the east and south elevation wall signs to exceed the height of the sign by 10" provided:

1. The proposed development shall be developed in substantial conformance to the plans attached as part of the petition.
2. The final engineering plans shall be submitted in a manner acceptable to the Village.
3. All conditions of Ordinance 83-8, except those amended by this project, shall remain in full force and effect.
4. The special use granted may be assignable to subsequent petitioners seeking assignment of this special use as follows:
 - i. Upon application of a petition seeking assignment of this special use, the Village of Buffalo Grove, in their sole discretion, may approve the assignment administratively, or may refer it to the Planning & Zoning Commission and/or the Village Board for a public hearing.

- ii. Such assignment shall be valid only upon the written approval of the Village of Buffalo Grove granting said assignment, which may be granted or denied for any reason.

ACTION REQUESTED

The Planning & Zoning Commission (PZC) shall reopen the public hearing and take public testimony concerning the revised plans. The PZC shall make a recommendation to the Village Board.

Suggested PZC Motion

PZC recommends approval of approval of the amendment to Ordinance 83-8 for a new Dunkin Donuts outbuilding in the Spoerlein Commons development which is in the B3 Planned Business District; special use for a drive-through facility in the B3 Planned Business District; preliminary plan approval with variations to the reduction in the number of parking spaces, and allowing for 2 extra wall signs on outbuilding and allowing for the east and south elevation wall signs to exceed the height of the sign by 10" provided:

1. *The proposed development shall be developed in substantial conformance to the plans attached as part of the petition.*
2. *The final engineering plans shall be submitted in a manner acceptable to the Village.*
3. *The special use granted may be assignable to subsequent petitioners seeking assignment of this special use as follows:*
 - i. *Upon application of a petition seeking assignment of this special use, the Village of Buffalo Grove, in their sole discretion, may approve the assignment administratively, or may refer it to the Planning & Zoning Commission and/or the Village Board for a public hearing.*
 - ii. *Such assignment shall be valid only upon the written approval of the Village of Buffalo Grove granting said assignment, which may be granted or denied for any reason.*

September 25, 2020

Planning and Zoning Commission
Village of Buffalo Grove
50 Raup Boulevard
Buffalo Grove, Illinois 60089

Re: Spoerlein Commons Dunkin' Donuts Drive Thru

Background

Spoerlein Commons was planned and developed as part of the Spoerlein Farm development. The plan was proposed by Midwest Development and approved by the Village of Buffalo Grove in 1983. Part of the approved commercial center plan included two small free standing buildings located along the western most part of the center. During the development of the property the plan for those building was modified to what is illustrated on the proposed Concept Plan as Proposed Future Building Expansion. Our research indicates that this is the current record plan of development. Those two buildings totaled approximately 4,480 sq. ft. and were never built.

Spoerlein Commons was purchased by Whitestone REIT in 2009. Since that time Whitestone has concentrated on property maintenance, some improvements and stabilizing the tenant base. One of the long-term tenants, Dunkin Donuts, has expressed the need for a drive thru facility to serve the growing morning demand for quick serve coffee and breakfast. That market need has caused several planning exercises to accommodate Dunkin Donuts. The attached plan is the one preferred by Whitestone and their client.

The Concept Plan

A Concept Plan was prepared and presented to the Planning & Zoning Commission in November, 2018. That Concept Plan illustrated that in lieu of the previously approved buildings, the proposal would satisfy the need for a drive thru with a proposed 2,800 sq. ft. building. The new building would house Dunkin Donuts and Baskin Robbins. This would require the reconfiguration of some of the existing parking lot with no loss of the total number of parking spaces. The building's drive thru would accommodate stacking for 9 cars. The drive thru would minimize peak time parking conflicts with no additional impact on the other retail and office users. A Parking Study was authorized and concluded that the parking is adequate for the existing uses and for the proposed. The reconfigured parking would be more convenient to these other tenants.

Very preliminary building elevations, landscape and civil engineering were also presented to support the Concept.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

While the Commission was generally favorable, considerable detail and some refinement were necessary. Those details and refinements have been completed and a full set of Plans and studies are part of this submittal for review, comment and approval.

Refined Submittal

The refined submittal consists of a 14 page set of drawings which includes a site plan, architecture, civil engineering and landscape plans. Also included are a Parking Memo, Traffic Memo, Driveway Spacing Exhibit and a Preliminary Storm Water Management Report. These exhibits and reports respond to the comments from the Commission during the Concept Plan review as outlined below.

Parking/Stacking

With the completion of the architecture and more detailed site plan address:

- Designate employee parking near drive thru stacking- **the revised site plan has reconfigured the drive thru stacking to eliminate conflicts with the parking field**
- Parking area for drive thru waiting- **illustrated on the revised site plan**
- Coordinate handicap spaces with building entry(ies)-**Illustrated on the revised site plan**
- Drive thru stacking- **Stacking has been revised to show 10 stacking in the drive thru**

Traffic/Circulation

- Traffic counts on Rt. 83- **Addressed in the Traffic Memo**
- Internal circulation- in/out at main entry and each of the other two- **Addressed in the Traffic Memo**
- Main entry location and/or minor modifications to improve circulation- **Driveway Spacing Exhibit illustrates the potential conflicts which occur with a relocated driveway. The Traffic Memo addresses other modifications.**
- With sign package- internal wayfinding- **The wayfinding signage is illustrated on the site plan.**

Architecture

- Seating capacity inside and patio- **Noted on the architecture**
- Building height- compare to existing- **Noted on the architecture**
- Location of order box- **Illustrated on the Site Plan**
- Details as required for submittal- **Considerable detail included.**

Operations

- Cook to order? Time to complete/stacking?
- Manager should attend Hearing- **Manager will attend and address operations**

Civil Engineering

- Detention details-**Addressed in the Storm Water Report**

Other

- Need sign package and landscape plan- **Included in the package.**

Note that the concepts discussed with the Concept Plan are largely maintained with the more detailed plans. The proposed building was reduced in size from 2,800 sf to 2,388 sf. With the more detailed planning efforts the layout and circulation have been improved.

We understand that the drive thru requires a Special Use permit. The standards for reviewing that aspect of the proposal are as follows:

All special uses shall meet the following criteria:

1. The special use will serve the public convenience at the location of the subject property; or the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;

The restaurant use is existing. They have many customers who park and run in, run out for service. The drive thru will serve those customers without impacting the provided parking. It represents an improvement and therefore is not detrimental.

2. The location and size of the special use, the nature and intensity of the operation involved in or conducted in connection with said special use, the size of the subject property in relation to such special use, and the location of the site with respect to streets giving access to it shall be such that it will be in harmony with the appropriate, orderly development of the district in which it is located;

The freestanding drive thru restaurant is smaller than the previously approved “out lots”. Therefore is in harmony with the appropriate, orderly development of the shopping center.

3. The special use will not be injurious to the use and enjoyment of other property in the immediate vicinity of the subject property for the purposes already permitted in such zoning district, nor substantially diminish and impair other property valuations in the neighborhood;

The proposed is an improvement to the functionality of the shopping center for reasons noted above. It is not injurious to the use and enjoyment nor will it impair the property values in the neighborhood.

4. The nature, location and size of the buildings or structures involved with the establishment of the special use will not impede, substantially hinder or discourage the development and use of adjacent land and buildings in accord with the zoning district within which they lie;

The establishment of this drive thru has no impact on adjacent land and uses. Note that is located immediately adjacent to a drive thru car wash on a neighboring property.

5. Adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided;

The proposed engineering plan and traffic study addresses all the necessary facilities. They are adequate.

6. Parking areas shall be of adequate size for the particular special use, which areas shall be properly located and suitably screened from adjoining residential uses, and the entrance and exit driveways to and from these parking areas shall be designed so as to prevent traffic hazards, eliminate nuisance and minimize traffic congestion in the public streets.

The parking and traffic studies address this point and find all related infrastructure to be adequate.

To summarize the Special Use request, we believe that it is in keeping with the overall Spoerlein Commons Shopping Center with no negative impacts.

The Planning Staff has identified two variations to the Village Zoning Code in order to permit the development as submitted. They are as follows:

Zoning Ordinance:

- a) A Variation to Section 17.36.040 of the Zoning Ordinance to allow for a reduction to the minimum number of parking spaces required for both Spoerlein Commons Building and the Outlot Building in total.

The Parking Study address this in detail and finds that based on actual observations of parking demand the parking is more than adequate. It is consistent with the 1983 approved plan.

Sign Code:

- a) A Variation to Section 14.16 of the Sign Code to allow for four extra wall signs on the east and south elevations of the proposed outlot building.

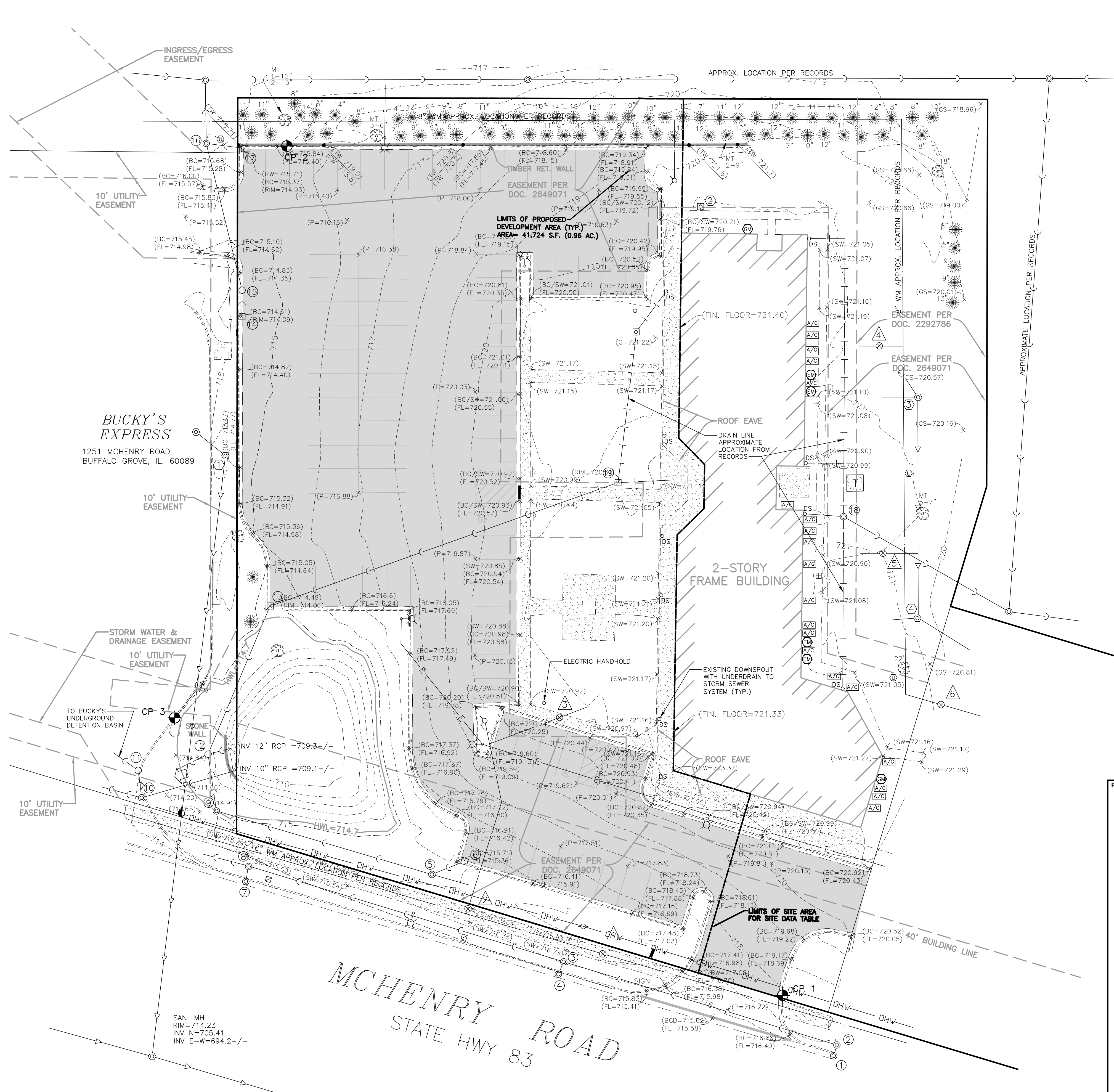
There are 2 businesses in the proposed building, Dunkin Donuts and Baskin Robbins. The signs as proposed are part of the Next Generation corporate branding and we believe are appropriate for this location.

- b) A Variation to Section 14.16 of the Sign Code to allow for the wall signs on the east and south elevations of the proposed outlot building to exceed the maximum allowable height of the sign.

Same response as outlined in a) above.

We look forward to the presentation and your questions and comments. We believe that this is an appropriate use and is conformance with the approved plan and the continuing success of Spoorlein Commons.

Rick Burton
Land and Entitlement Consultant
WHITESTONE REIT



SITE DATA: (EXISTING CONDITIONS)	
SITE AREA	= 51,970 S.F. (1.19 AC)
EXISTING SITE CONDITIONS:	
IMPERVIOUS SURFACE	= 33,347 S.F. (64.17%)
STORMWATER DETENTION	= 6,754 S.F. (12.99%)
EXISTING GREENSPACE	= 11,869 S.F. (22.84%)
FUTURE BUILDING EXPANSION	= ± 4,481 S.F.
(NOT INCLUDED IN ABOVE EXISTING SITE CONDITIONS INFORMATION)	
EXISTING PARKING SUMMARY:	
REGULAR STALLS	= 77
ADA ACCESSIBLE STALLS	= 4
TOTAL STALLS	= 81

UNDERGROUND UTILITY TABLE

STORM SEWER STRUCTURES	
1 STORM MH RIM=716.32 INV 12" ADS N=711.70	2 STORM MH RIM=716.60 INV 15" ADS W=711.45 INV 12" ADS S=711.50
3 STORM MH RIM=716.13 INV 15" ADS W=709.68 INV 12" ADS E=709.68 INV 12" ADS S=709.90	4 STORM MH RIM=714.79 INV 12" ADS S=710.49
5 STORM MH RIM=715.33 INV 10" RCP NE=711.25 INV 10" RCP W=711.19 INV 10" RCP E=711.83	6 STORM INLET RIM=715.33 INV 10" RCP SW=711.33
7 STORM MH RIM=714.04 INV 12" ADS N=710.09	8 STORM MH RIM=714.82 INV 12" ADS S=710.02 INV 15" ADS E=709.35 INV 18" ADS W=709.25
9 STORM MH RIM=714.95 INV 10" RCP NW=710.75 INV 10" RCP E=710.65	10 STORM MH RIM=714.17 WATER LEVEL=709.41 BOTTOM OF STR=708.95 INV 10" +/- RCP E=708.74 +/- INV 12" +/- RCP N=708.94 +/- INV 10" +/- RCP W=708.94 +/-
11 STORM CB RIM=713.95 WATER LEVEL=710.06 INV 12" RCP NW=708.95 INV 12" RCP SE=708.95	12 STORM CB RIM=714.81 WATER LEVEL=710.06 INV 10" RCP NE=709.76 INV 10" RCP SE=709.86 INV 10" +/- RCP W=708.94 +/-
13 STORM INLET RIM=714.06 INV 10" RCP NE=710.51 INV 10" RCP SW=710.51	14 STORM INLET RIM=714.10 INV 12" RCP N=710.50
15 STORM CB RIM=714.08 INV 18" RCP N=710.30 INV 12" RCP S=710.30	16 STORM MH RIM=714.70 INV 18" RCP N=709.80 INV 12" RCP S=710.05 INV 10" RCP SE=709.70
17 STORM INLET RIM=714.93 INV 10" RCP W=710.23	18 STORM MH RIM=721.19 INV 10" RCP W=709.84 INV 10" PVC N=709.84 INV 10" PVC S=709.84 INV 10" RCP SE=709.70
19 STORM INLET RIM=720.61 INV 10" RCP SW 715.53 INV 6" PVC N 716.56 INV 4" PVC E 715.56	
SANITARY SEWER STRUCTURES	
1 SAN. MH RIM=716.21 INV 6" PVC NW=709.41 INV 8" +/- S=707.75	2 SAN. CLEAN-OUT RIM=722.49 INV 716.5 +/-
3 SAN. MH RIM=720.27 INV N&S=712.77 INV NW=713.37	4 SAN. MH RIM=720.52 INV N&S=710.52 INV W=711.277
WATER MAIN STRUCTURES	
1 VALVE VAULT RIM=717.25 TOP=E/W 712.7	2 VALVE VAULT RIM=716.63 TOP=N/S 711.1
3 VALVE VAULT RIM=720.87 TOP=XX" XXX=XXX.XX	4 VALVE VAULT RIM=714.9 TOP=E/W 714.9
5 VALVE VAULT RIM=720.97 TOP=E/W 715.2	6 VALVE VAULT RIM=715.6 TOP=E/W 715.6

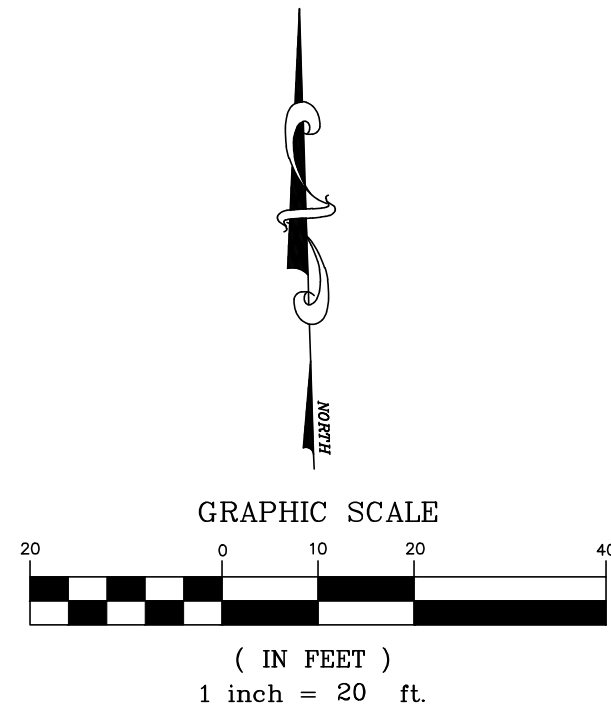
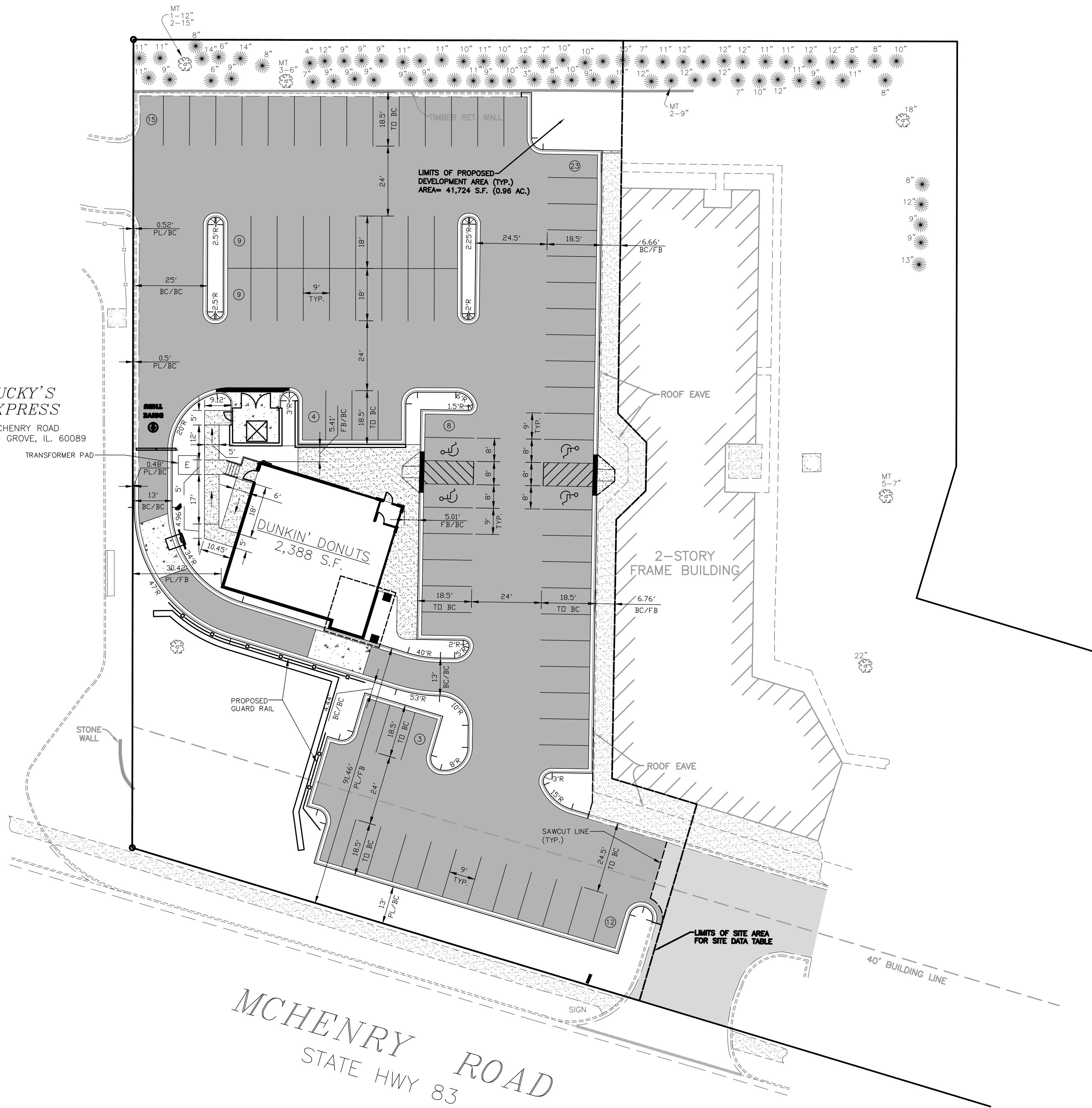
- PRELIMINARY PLAN NOTES:**
- THESE PLANS ARE PRELIMINARY, FOR REVIEW ONLY, AND NOT FOR CONSTRUCTION. THE FINAL PLANS SHALL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING MANUALS: "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS"; "THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS"; "THE RECOMMENDED STANDARDS FOR SEWAGE WORKS"; THE VILLAGE OF BUFFALO GROVE ORDINANCES, CODES AND DETAILS, AND THE MANUALS, CODES AND ORDINANCES REFERENCED IN THE FOLLOWING NOTES.
 - THE TOPOGRAPHIC AND EXISTING UTILITY INFORMATION SHOWN HEREIN WAS PROVIDED BY TERRA LAND TECHNOLOGY LAND SURVEYING, TOPOGRAPHIC SURVEY, DATED JANUARY 3, 2019.
 - ARCHITECTURAL SITE PLAN AND BUILDING INFORMATION WAS PROVIDED BY WARREN JOHNSON ARCHITECTS, INC.
 - ADDITIONAL SOIL EROSION CONTROL MEASURES SHALL BE PROVIDED PER LOCAL ORDINANCE AND PER THE "ILLINOIS URBAN MANUAL" AT TIME OF FINAL ENGINEERING DESIGN.
 - SIDEWALKS SHALL BE P.C.C. RAMPS AT INTERSECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE "ILLINOIS ACCESSIBILITY CODE".
 - PRIVATE PARKING AREAS SHALL BE P.C.C. CURB AND GUTTER WITH FLEXIBLE PAVEMENT MATERIAL AS INDICATED HEREIN.
 - PAVEMENT MARKING AND SYMBOLS SHALL BE THERMOPLASTIC; PARKING STRIPING SHALL BE PAINT.
 - THE EXISTING STORM WATER DETENTION VOLUME IS/SHALL BE MAINTAINED WITH THE PROPOSED PLAN.
 - SANITARY SEWER MAIN, 8 INCHES IN DIAMETER, SHALL BE PVC SDR 26. SANITARY SEWER SERVICE SIZE AND MATERIAL SHALL BE DETERMINED AT TIME OF FINAL ENGINEERING IN CONJUNCTION WITH BUILDING MEP DESIGN.
 - STORM SEWER 10" IN DIAMETER OR LESS MAY BE PVC SDR 26 OR RCP CLASS IV. STORM SEWER 12 INCHES IN DIAMETER OR LARGER SHALL BE RCP CLASS IV, ASTM C-76. STORM INLET LOCATIONS MAY BE ADJUSTED DURING FINAL ENGINEERING DESIGN.
 - WATER MAIN SERVICE TO THE BUILDING SHALL BE 6 INCHES IN DIAMETER DIP CLASS 52 UNLESS OTHERWISE NOTED.
 - THE HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATER AND SEWER MAINS SHALL BE MAINTAINED AND PIPE MATERIALS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS AND IEPA CRITERIA. THIS WILL TAKE PRECEDENCE OVER PIPE MATERIALS REFERENCED ABOVE.
 - UTILITY SIZES, LOCATIONS AND INFORMATION SHOWN HEREIN ARE PRELIMINARY IN NATURE AND SUBJECT TO CHANGE UPON PENDING APPROVALS, RECEIPT OF ADDITIONAL INFORMATION, FINAL ENGINEERING DESIGN, ETC.
 - A LANDSCAPE PLAN WILL BE PROVIDED BY OTHERS.

PRELIMINARY- FOR REVIEW ONLY

SPOERLEIN COMMONS - PROPOSED DRIVE THRU
BUFFALO GROVE, ILLINOIS
EXISTING CONDITIONS PLAN

Engineering, LLC
975 E. 22nd St, Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

PROJECT NO. 27112116
DATE 03/24/2020
SCALE 1"=20'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM
SHEET 1 OF 4



SURFACE IMPROVEMENT LEGEND	
	NEW ASPHALT PAVEMENT (STANDARD DUTY) 1 1/2" HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 BITUMINOUS TACK COAT 2 1/2" HOT MIX ASPHALT BINDER COURSE, IL-19, N50 BITUMINOUS PRIME COAT MC-30 8" AGGREGATE BASE COURSE CA-6, TYPE B
	EXISTING ASPHALT PAVEMENT FROM APPROVED PLANS, EXISTING PAVEMENT SECTION: 1" BITUMINOUS CONCRETE SURFACE COURSE, CL 1 2" BITUMINOUS BINDER COURSE, CL 1 10" AGGREGATE BASE COURSE (CA-6)
	CONCRETE PAVEMENT (DUMPSTER & LOADING AREA) 8" PORTLAND CEMENT CONCRETE (6 BAG MIX) W 6"x6" NO. 6 W/M (NOT IN PUBLIC R.O.W.) 4" AGGREGATE BASE COURSE CA-6, TYPE B
	CONCRETE SIDEWALKS/PATIOS/SLABS 5" PCC SIDEWALK 4" AGGREGATE BASE COURSE CA-6, TYPE B
	DETECTABLE WARNING AND DEPRESSED CURB (REPLACEABLE RED POLYMER COMPOSITE PLATES)
	PROPOSED CURB AND GUTTER (B6.12) PITCH - IN
	PROPOSED REVERSE PITCH CURB AND GUTTER (B6.12)
	PROPOSED DEPRESSED CURB AND GUTTER
	PROPOSED HANDICAP RAMP WITH DETECTABLE WARNING SHOWN FOR REFERENCE - SEE DETAIL
	EXISTING CURB & GUTTER

SITE DATA:	
SITE AREA	= 51,970 S.F. (1.19 AC)
EXISTING SITE CONDITIONS:	
IMPERVIOUS SURFACE	= 33,347 S.F. (64.17%)
STORMWATER DETENTION	= 6,754 S.F. (12.99%)
EXISTING GREENSPACE	= 11,869 S.F. (22.84%)
FUTURE BUILDING EXPANSION (NOT INCLUDED IN ABOVE EXISTING SITE CONDITIONS INFORMATION)	= ±4,481 S.F.
PROPOSED SITE CONDITIONS:	
PROPOSED BUILDING FOOTPRINT	= 2,388 S.F. (4.60%)
PROPOSED PAVT./SIDEWALK	= 36,001 S.F. (69.27%)
PROPOSED GREENSPACE	= 13,581 S.F. (26.13%)
IMPERVIOUS AREA - PROPOSED CONDITIONS	= 38,389 S.F.
INCREASE/NEW IMPERVIOUS SURFACE AREA	= 5,042 S.F.
INCREASE/NEW IMPERVIOUS SURFACE AREA (COMPARED TO EXIST. CONDITIONS WITH FUTURE BLDG. EXPANSION)	= 561 S.F.±
EXISTING PARKING SUMMARY:	
REGULAR STALLS	= 77
ADA ACCESSIBLE STALLS	= 4
TOTAL STALLS	= 81
PROPOSED PARKING SUMMARY:	
REGULAR STALLS	= 79
ADA ACCESSIBLE STALLS	= 4
TOTAL STALLS PROVIDED	= 83

THESE PLANS ARE PRELIMINARY IN NATURE AND FOR REVIEW ONLY.
THEY ARE SUBJECT TO CHANGE PENDING MORE DETAILED ENGINEERING
& ARCHITECTURAL DESIGN.

PRELIMINARY- FOR REVIEW ONLY

REVISIONS		DRAWN BY
DATE		
1. 06/11/2020	MISC. UPDATES	TLM
2. 06/16/2020	REVISED BUILDING FOOTPRINT	TLM
3. 06/30/2020	REVISED BUILDING SQUARE FOOTAGE	TLM

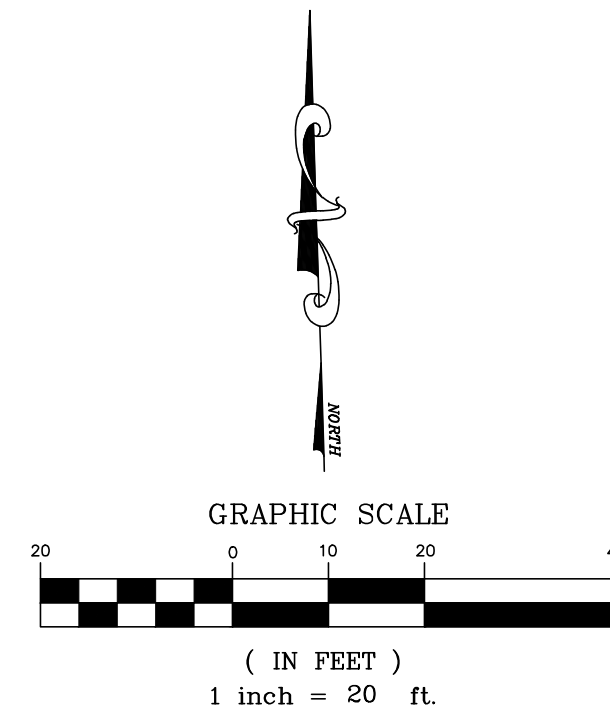
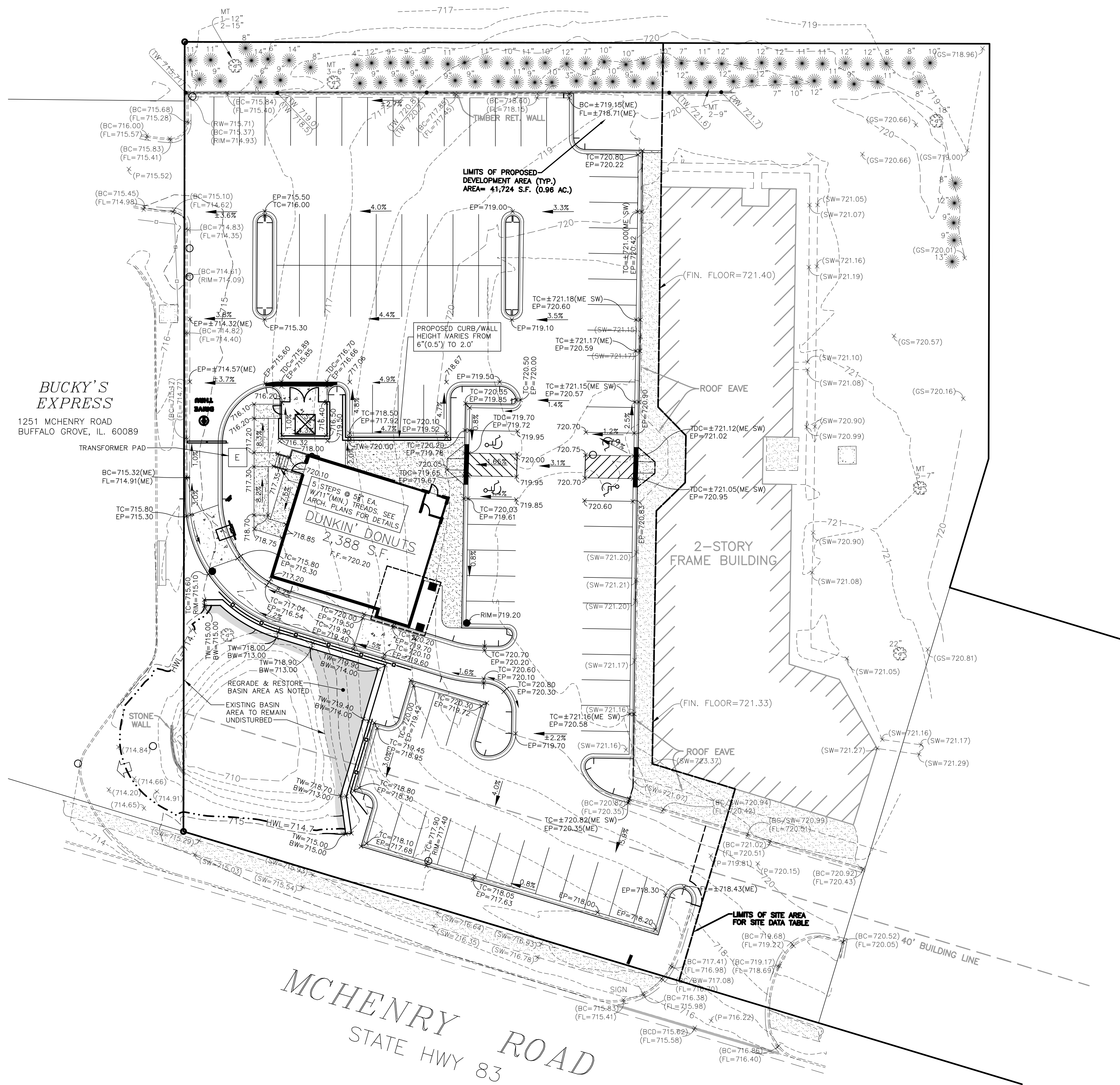
SPOERLEIN COMMONS - PROPOSED DRIVE THRU
BUFFALO GROVE, ILLINOIS
PRELIMINARY SITE GEOMETRIC AND PAVING PLAN

RWG Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

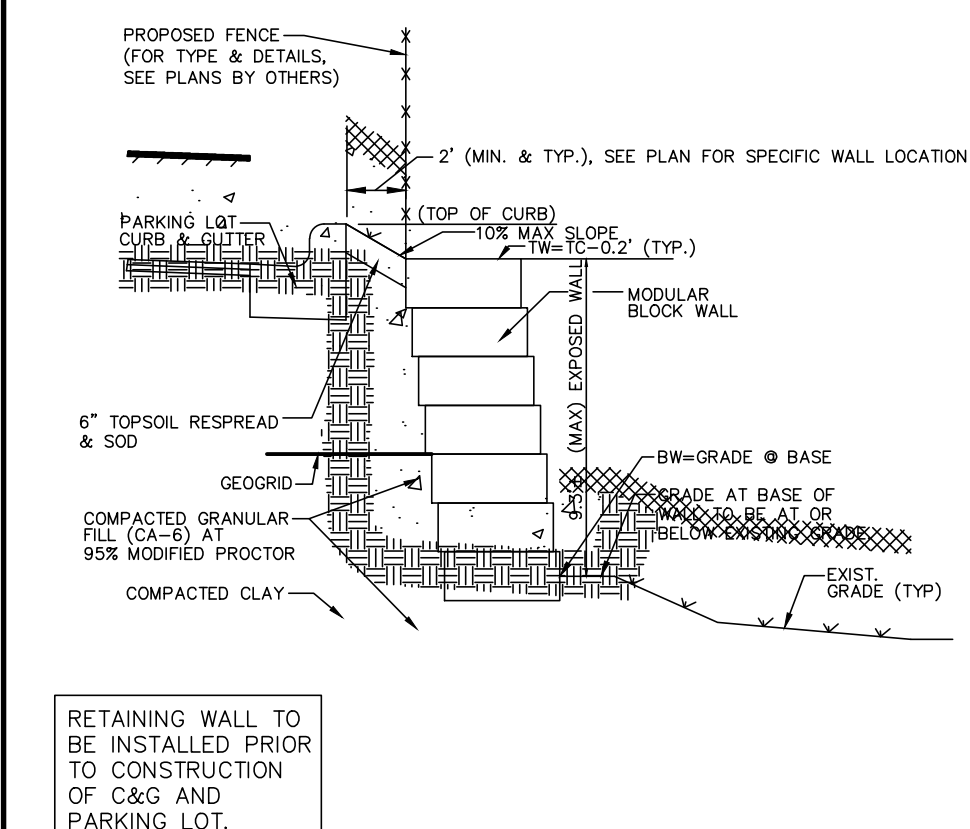
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PROJECT NO.	27112116
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PROJ. ASSOC.	RWG
DRAWN BY	TLM

SHEET
2 OF 4



NOTE: RETAINING WALL DETAILS ARE CONCEPTUAL AND SCHEMATIC ONLY. THE CONTRACTOR MUST SUBMIT INFORMATION ON THE PRODUCT CHOSEN (I.E. "KEYSTONE" OR EQUIVALENT) INCLUDING PLANS SIGNED & SEALED BY A STRUCTURAL ENGINEER AND A STATEMENT FROM THE MANUFACTURER THAT THE PRODUCT IS SUITABLE FOR THE PROPOSED APPLICATION. THIS INFORMATION SHALL BE SUBMITTED TO THE OWNER, THE ENGINEER AND THE MUNICIPAL ENGINEER FOR REVIEW, PRIOR TO CONSTRUCTION. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR AND MANUFACTURER OF RESPONSIBILITY FOR THE WALL. THE CONTRACTOR SHALL ADHERE STRICTLY TO THE MANUFACTURER'S SPECIFICATIONS AND DESIGN REQUIREMENTS DURING CONSTRUCTION.



MODULAR BLOCK RETAINING WALL ALONG DRIVEWAY ADJACENT TO EXISTING DETENTION BASIN

GRADING LEGEND	
	EXISTING PROPOSED
CONCRETE HEADWALL	
PRECAST FLARED END SECTION	
STORM DRAINAGE STRUCTURE	
RETAINING WALL	
CONTOUR	
5' CONTOUR	
SPOT ELEVATION	
DIRECTION OF SURFACE FLOW	
DITCH OR SWALE	
OVERFLOW RELIEF ROUTING	
SLOPE BANK	
RR-3 ROCK RIP-RAP	

THESE PLANS ARE PRELIMINARY IN NATURE AND FOR REVIEW ONLY. THEY ARE SUBJECT TO CHANGE PENDING MORE DETAILED ENGINEERING & ARCHITECTURAL DESIGN.

PRELIMINARY- FOR REVIEW ONLY

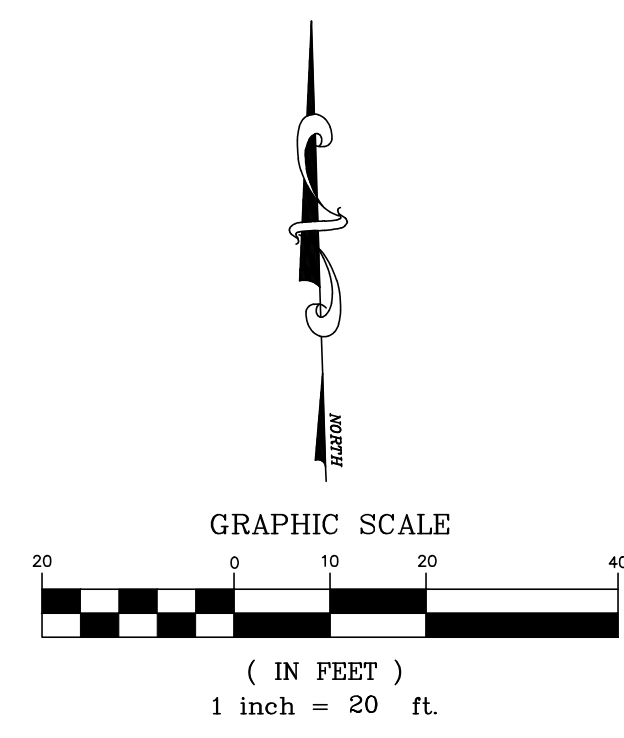
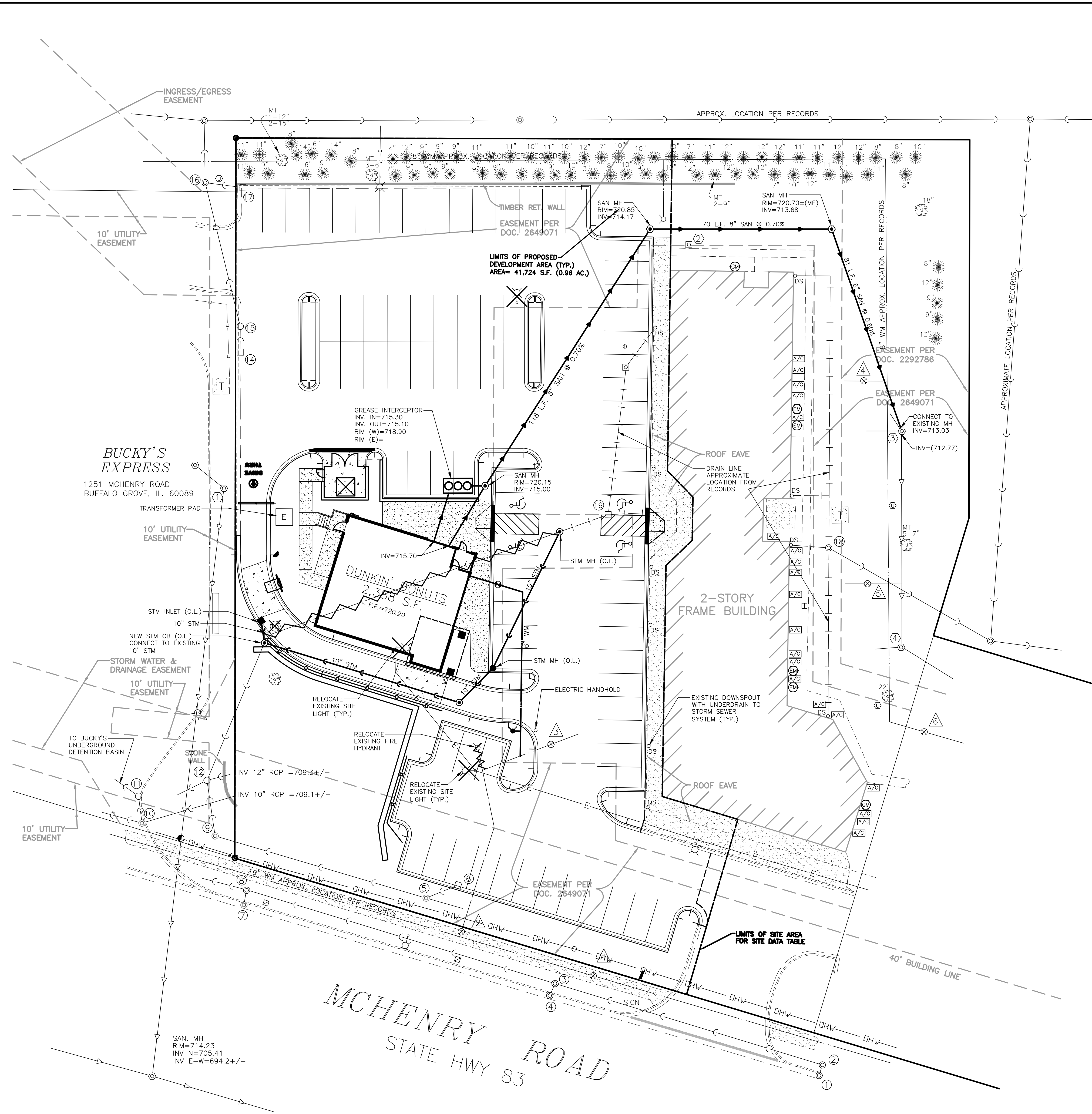
SPOERLEIN COMMONS - PROPOSED DRIVE THRU
BUFFALO GROVE, ILLINOIS
PRELIMINARY GRADING PLAN

975 E. 22nd St. Suite 400
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Engineering, LLC

PROJECT NO. 27112116
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PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET
3 OF 4



UTILITY LEGEND	
EXISTING	PROPOSED
SANITARY MANHOLE	⊙
STORM MANHOLE	⊙
CATCH BASIN	⊙
INLET	⊙
PRECAST FLARED END SECTION	⊙
SANITARY SEWER	—
COMBINED SEWER	—
STORM SEWER	—
CLEANOUT	—

SPOERLEIN COMMONS - PROPOSED DRIVE THRU
BUFFALO GROVE, ILLINOIS
PRELIMINARY UTILITY PLAN

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Engineering, LLC

Civil Engineering • Real Estate Consulting • Project Management

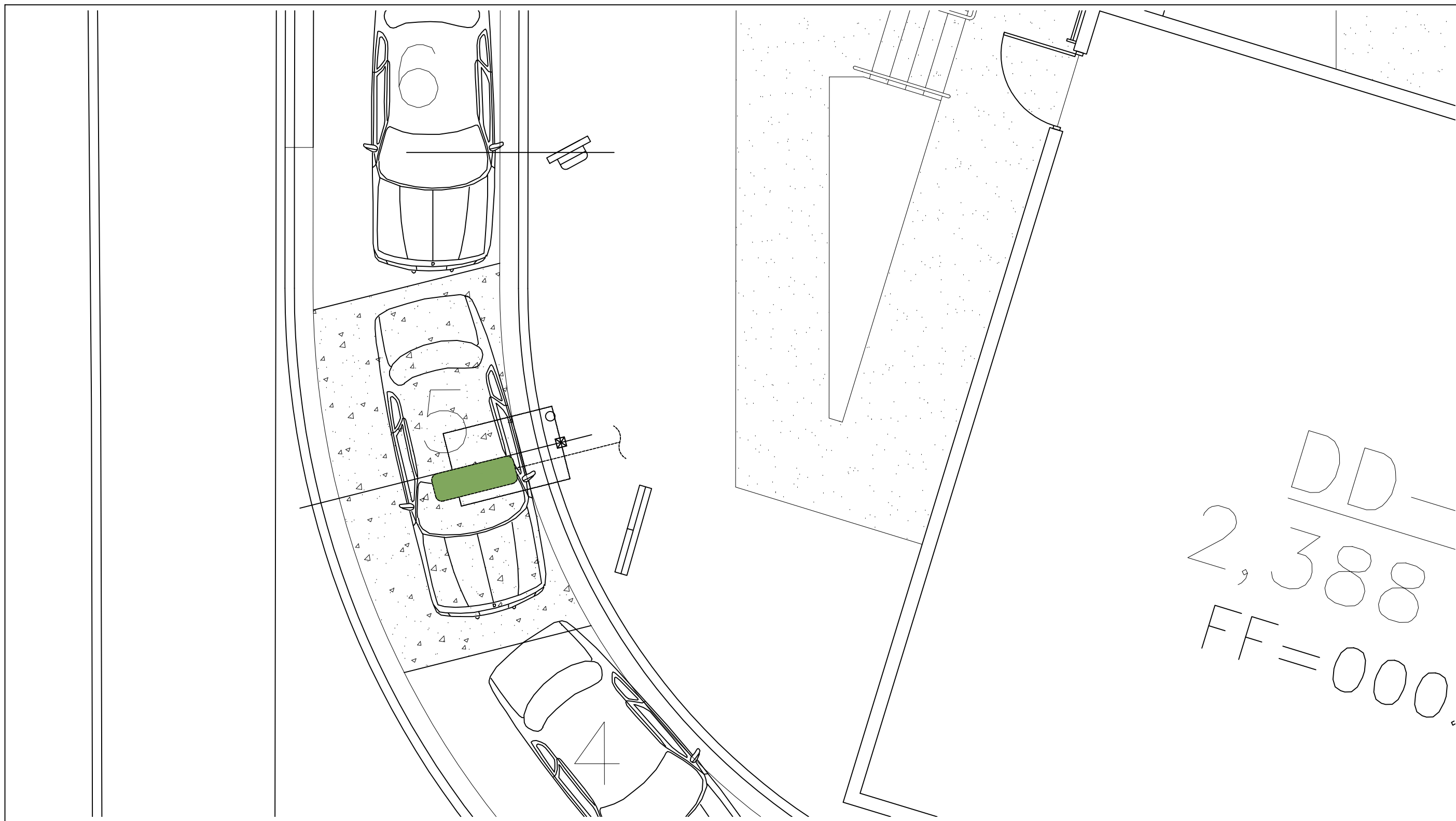
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DRAWN BY	TLM

SHEET
4 OF 4

PRELIMINARY- FOR REVIEW ONLY

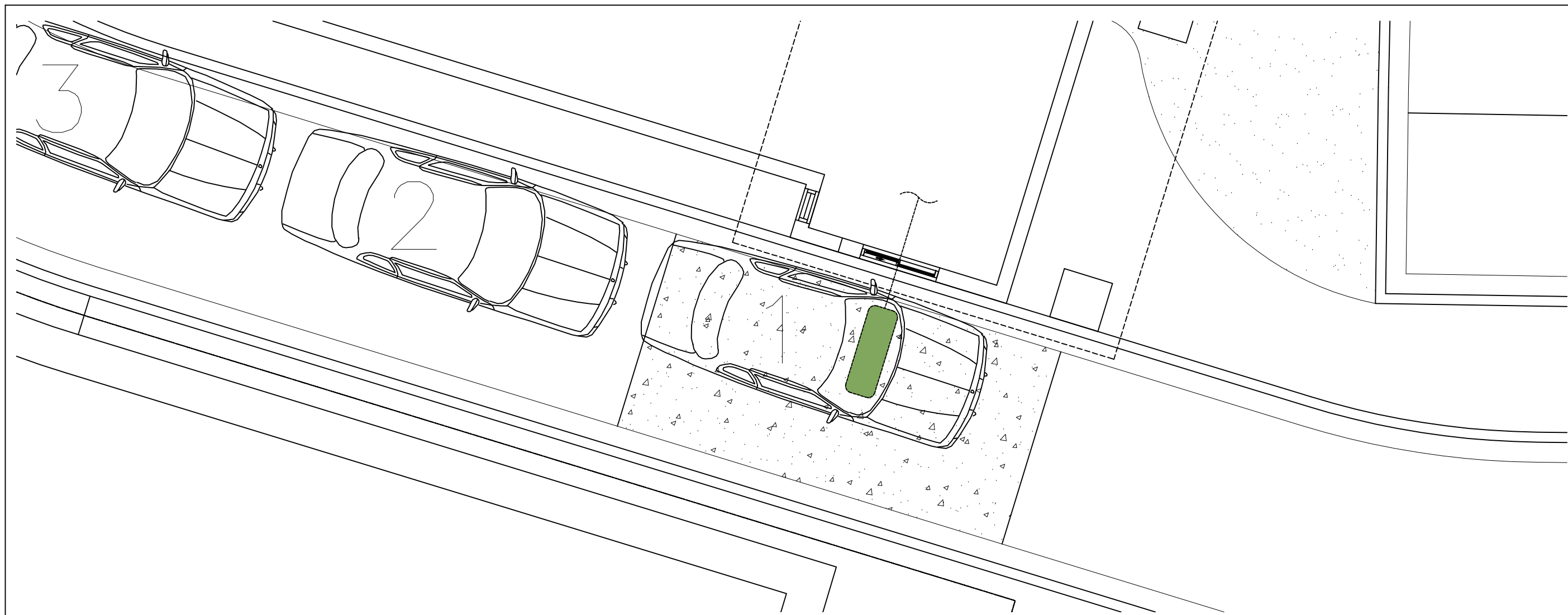
SITE NOTES:

1. LOCATE EXTERIOR MENU SYSTEM AT 5th CAR FROM THE DRIVE THRU WINDOW, PREVIEW BOARD AT 2nd CAR BEHIND. REFER TO SITE PLAN.
2. CONSULT APPLICABLE CODES, ORDINANCES AND LAWS FOR ALL SPECIFIC SITE DESIGN REQUIREMENTS.
3. CURB RAMP, SEE CIVIL DRAWINGS.
4. PARKING SPACE AND DRIVEWAY DIMENSIONS MAY VARY PER LOCAL CODE.
5. CONCRETE PAD AT DRIVE THRU LOOP/DETECTORS SHOULD MATCH THE ADJACENT LOT SURFACE MATERIAL AS MUCH AS POSSIBLE-PROVIDE BLACK STAINED CONCRETE WHEN USED ADJACENT TO ASPHALT MATERIAL.
6. REFER TO CONSTRUCTION SPECIFICATIONS ON GN-1 SHEETS FOR ADDITIONAL SITE PLAN INFO.
7. G.C. TO COORDINATE W/ FRANCHISEE EXACT SIZE OF PAD FOR MENUBOARD, SPEAKER TOWER, CANOPY & ORDER CONFIRMATION BOARD - SEE WEBSITE FOR MOUNTING REQUIREMENTS & FOR COMPLETE INSTALLATION INFORMATION AND DETAILS, <http://extranet.dunkinbrands.com>.
8. G.C. TO PROVIDE PVC CONDUIT FOR ALL NEW LOCATIONS, REFER TO ELECTRICAL DRAWING FOR ADDITIONAL INFORMATION ON LOOP REQUIREMENTS; SAW-CUT AT EXISTING LOCATION WHERE NECESSARY.
9. DRIVE-THRU MENU SHOULD BE PLACED AT A 30°ANGLE TO ONCOMING TRAFFIC WITH THE EXCEPTION OF THE "ALL IN ONE" CANOPY/DIGITAL MENU BOARD OPTION.
10. HOME RUN CONDUIT TO DRIVE THRU TIMER MONITOR ADJACENT TO DRIVE THRU WINDOW.
11. 20"x10" THICK CONC. PAD W/ 18"x54" GROUND LOOPS; TOP OF SLAB SHALL BE FLUSH WITH PAVEMENT, SEE DETAIL # 2 / SP-1.1.
12. 18"x54" GROUND LOOP (TYP.), REFER TO ELECTRICAL DWGS. FOR CONDUIT REQUIREMENTS @ LOOP.
13. D/T STACK & MENU BOARD CAMERA MTD. TO BUILDING. COORD. FINAL LOCATION w/ OWNER.
14. WELCOME POINT BRANDED GATEWAY WITH HEIGHT LIMITATION BAR, SEE DETAIL # 1 / SP-1.1.
15. ORDER LANE SPEAKER ORDER CONFIRMATION LOOP.
16. DRIVE THRU BRANDED GRAPHIC, PAINT TP-04 ORANGE.
17. PARKING LINES TO BE PAINTED TP-01 WHITE (TYP.).
18. DD "SEE YOU SOON" / "DO NOT ENTER" DIRECTIONAL SIGN, SEE DETAIL # 8 / SP-1.2.
19. DD "WELCOME BACK" / "SEE YOU SOON" DIRECTIONAL SIGN, SEE DETAIL #8 / SP-1.2.
20. ARROW BRANDED GRAPHIC (SEE NATL. ACCOUNTS) TP-04 ORANGE.
21. DD "DRIVE-THRU" / "DRIVE-THRU" DIRECTIONAL SIGN, SEE DETAIL #8 / SP-1.2.
22. DD "DUNKIN'" / "SEE YOU SOON" DIRECTIONAL SIGN, SEE DETAIL #8 / SP-1.2.



3 DIGITAL SET UP EXPERIENCE SITE LAYOUT

3/16" = 1'-0" NOTE:



2 DRIVE THRU PICKUP WINDOW DETAIL

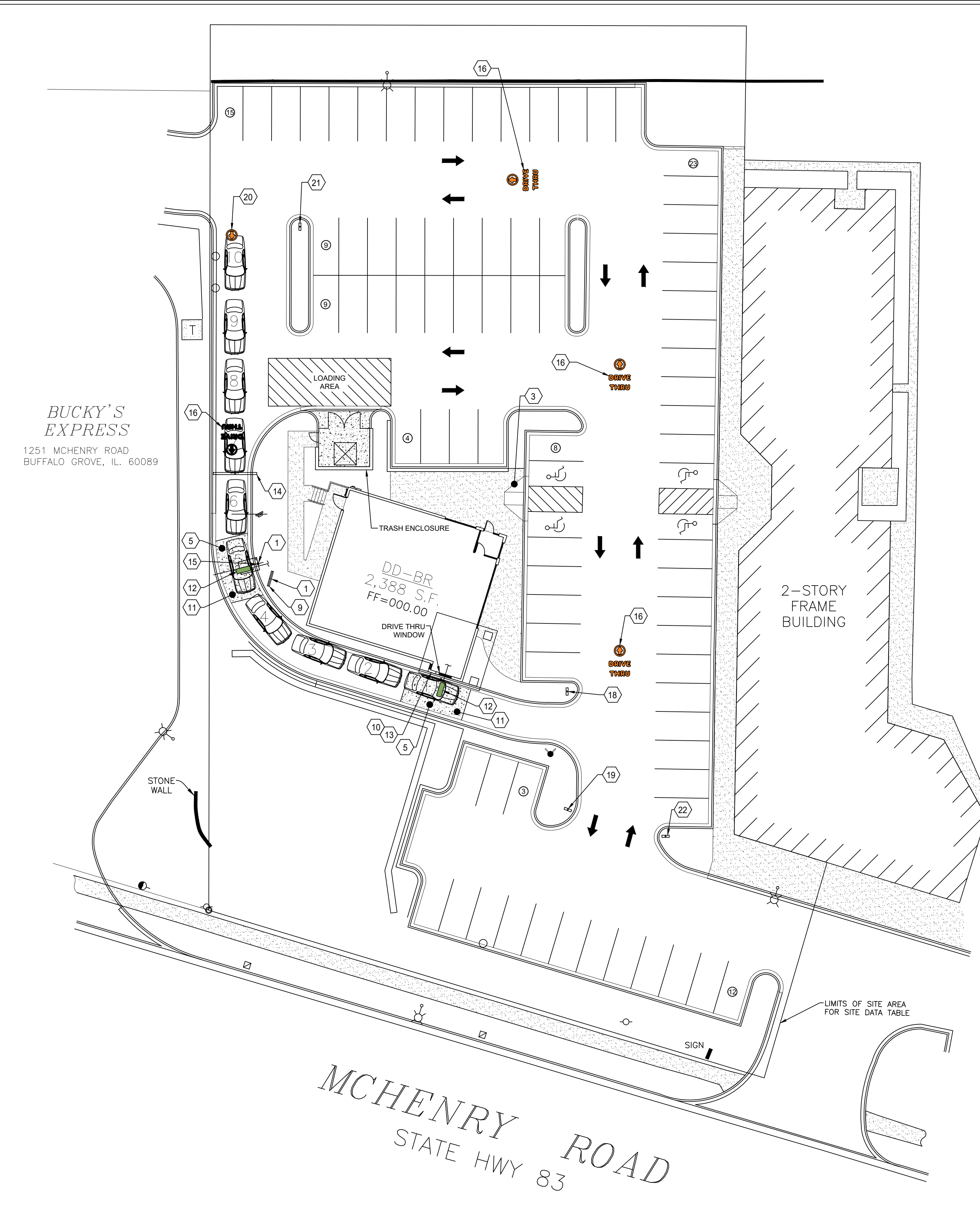
3/16" = 1'-0" NOTE:

GENERAL NOTES

1. LOOP PLACEMENT IS DEFINED IN TERMS OF WHERE THE VEHICLE ENGINE BLOCK WOULD BE OVER THE LOOP IF THE CENTER OF THE DRIVER'S SIDE WINDOW IS AT THE SERVICE POINT . THE GOAL IS TO ENSURE THERE IS ONLY ROOM FOR ONE VEHICLE BEHIND THE PREVIOUS LOOP AND THE MERGE POINT; THIS IS HOW SEQUENCING IS POSSIBLE.
2. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON CONDUIT LOCATIONS AND QUANTITY CORRESPONDING TO EACH DRIVE THRU SET UP OPTION.
3. REFERENCE TO MASTER SCHEDULE FOR TRAFFIC STRIPING PAINT.

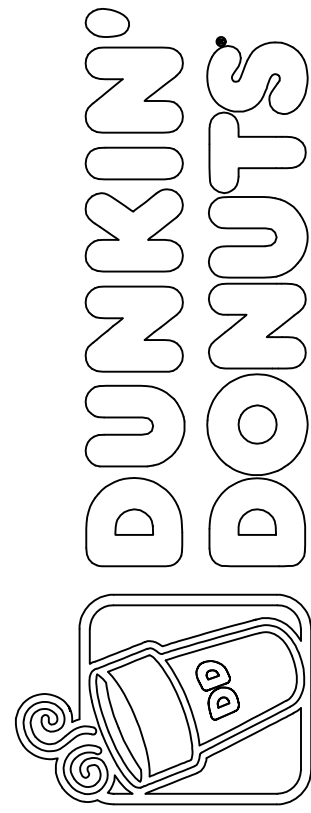
SPACE ALLOCATION & TRASH ENCLOSURE GUIDELINES

1. PROVIDE CONCRETE PAD AND FENCE AROUND DUMPSTER. FENCE TO BE CHAIN LINK WITH VINYL SLATS. ALTERNATE TO BE RECLAIMED WOOD AND PLASTIC FENCE OR CMU BLOCK ENCLOSURE.
2. DUMPSTER ENCLOSURE MUST ABIDE BY LOCAL COMMUNITY CODE.
3. GENERALLY, IF (2) 8-YARD TRASH DUMPSTERS ARE REQUIRED, DUNKIN BRANDS RECOMMENDS 16'X10' IF WOOD/FENCE ENCLOSURE OR 18'X10' IF CMU BLOCK ENCLOSURE. STANDARD 8-YARD DUMPSTER DIMENSIONS ARE NOMINAL 7'-0" (6'-10")W BY 7'-10"D.
4. (2) 8-YARD TRASH DUMPSTERS WILL NOT FIT INSIDE 12'-0" X 10'-0" FENCED OR CMU BLOCK ENCLOSURE.



1 SCHEMATIC SITE PLAN

1" = 20' NOTE:



19 N. Greeley St. Palatine, IL 60067
T (847) 359-9616

	-	-	DRAWN BY	TW
	-	-		
	-	-	CHECKED BY	WJ
	-	-		
	-	-	DATE	12.10.19
	-	-		
	-	-	PROJECT No	18054
	-	-		
	-	-	ISSUE FOR CLIENT REVIEW	12.10.19
NO	DESCRIPTION		DATE	
ISSUE DATES / REVISIONS				

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

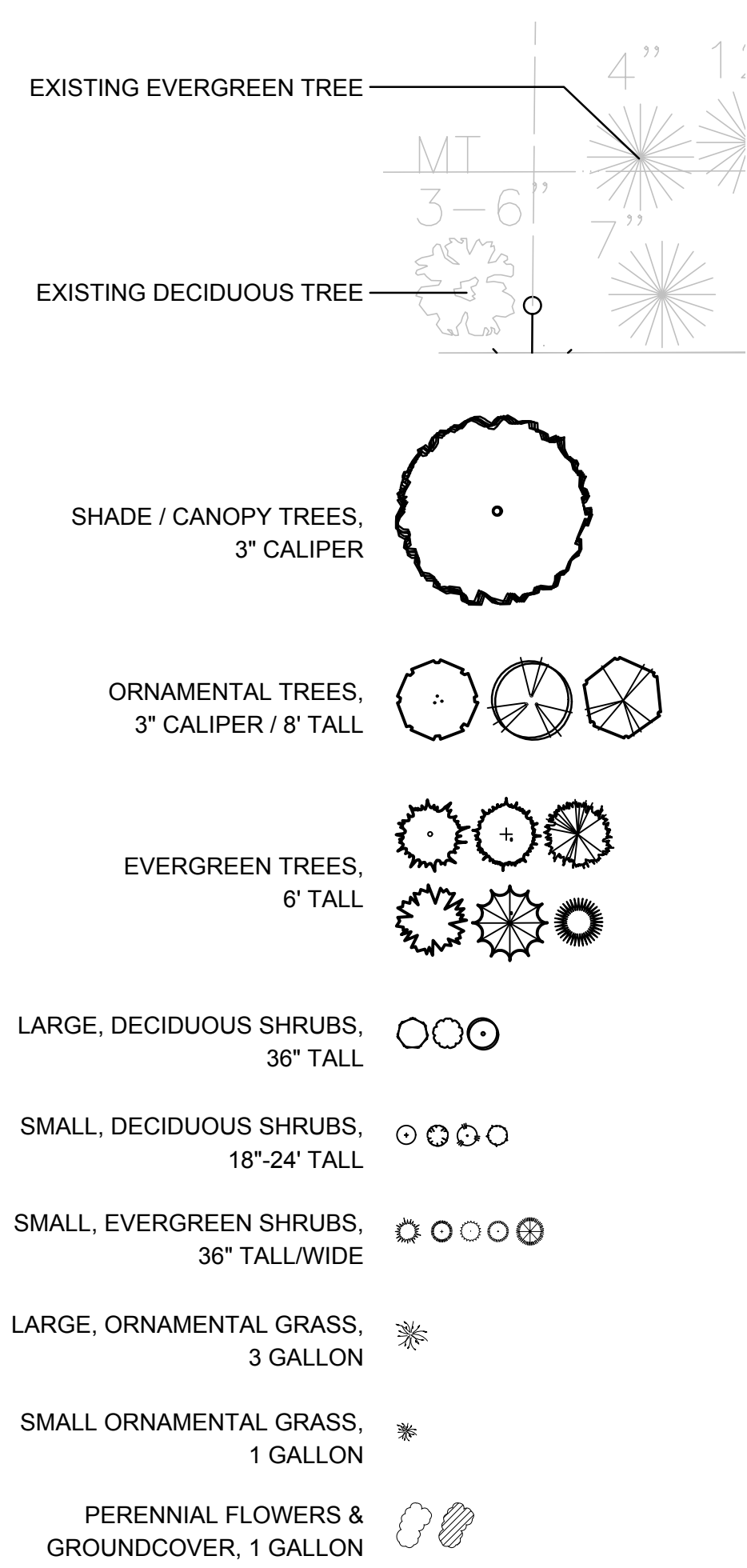
DUNKIN' DONUTS
SPOERLEIN COMMONS
1151 MCHENRY ROAD
BUFFALO GROVE, IL 60089
SCHEMATIC SITE PLAN, LOOP
LOCATIONS, DETAILS & NOTES

SHEET

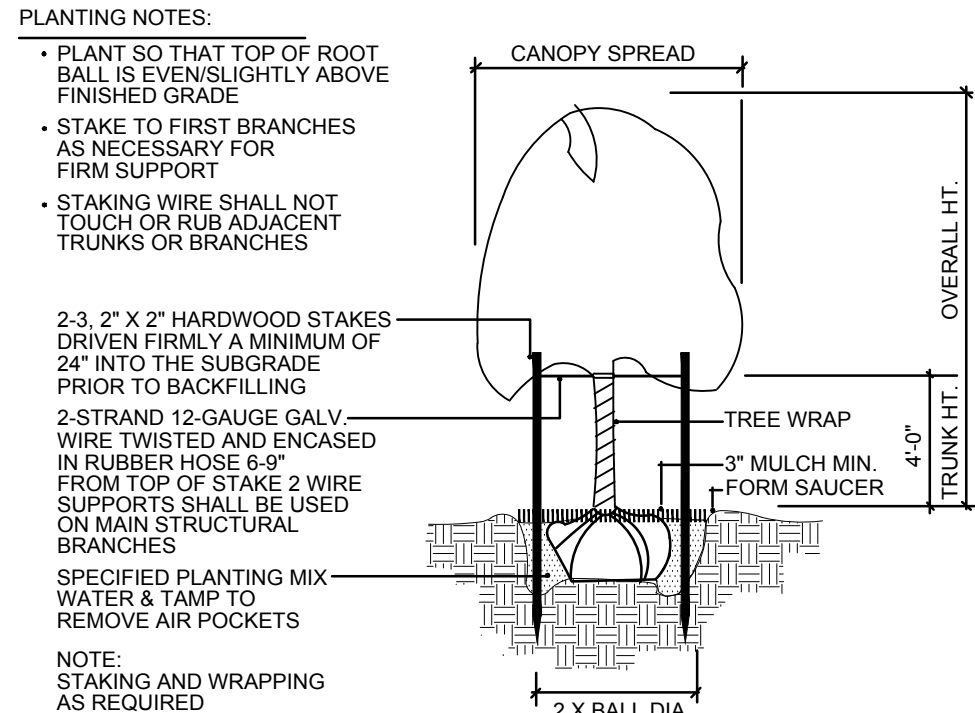
SP-1.0

PLANT SYMBOLS KEY

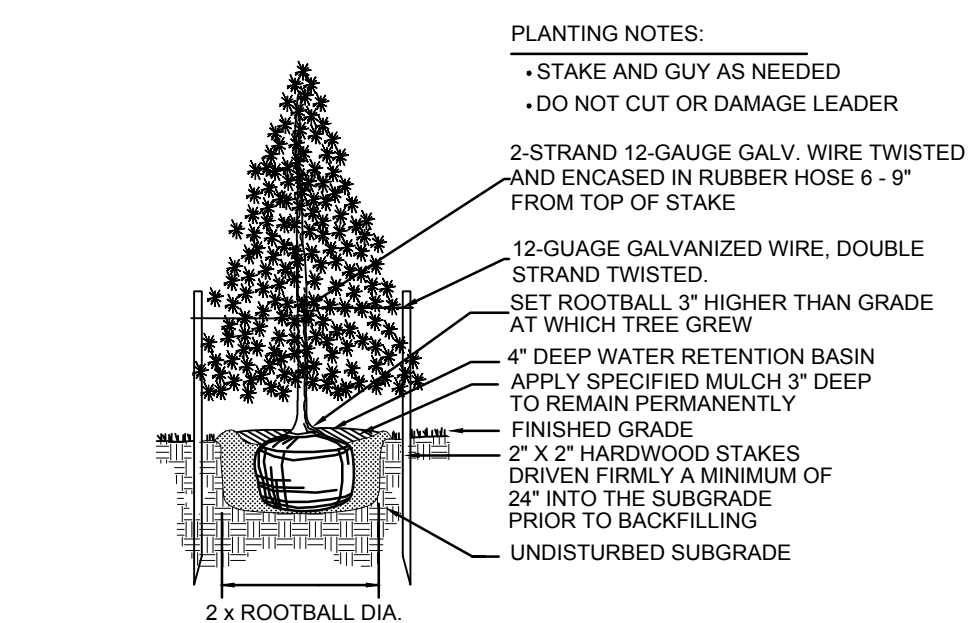
NOTE!
NOT ALL PLANT SYMBOLS MAY BE DEPICTED ON PLANS.



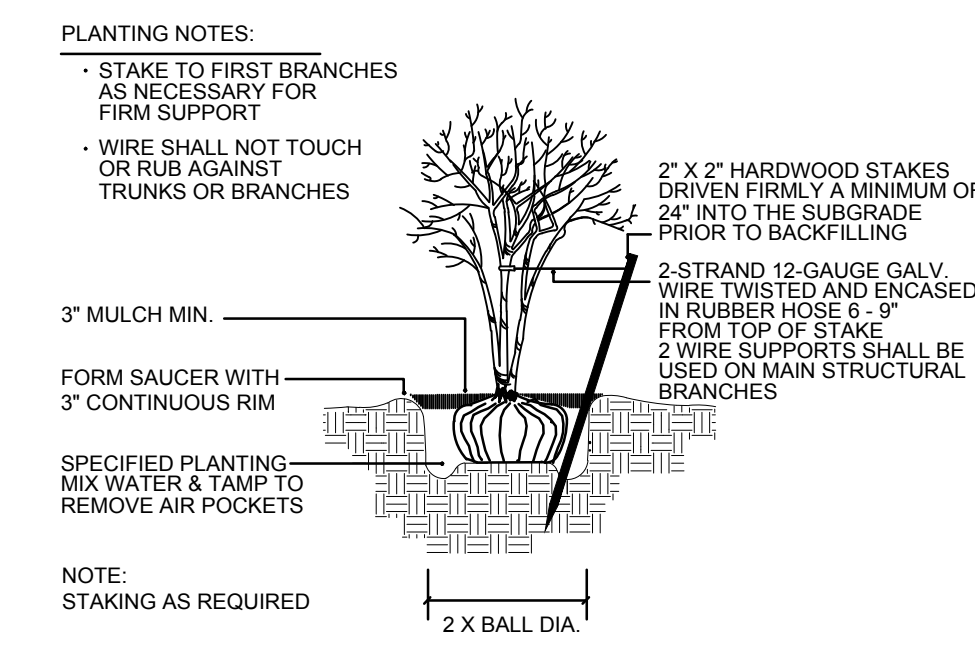
PLANTING DETAILS



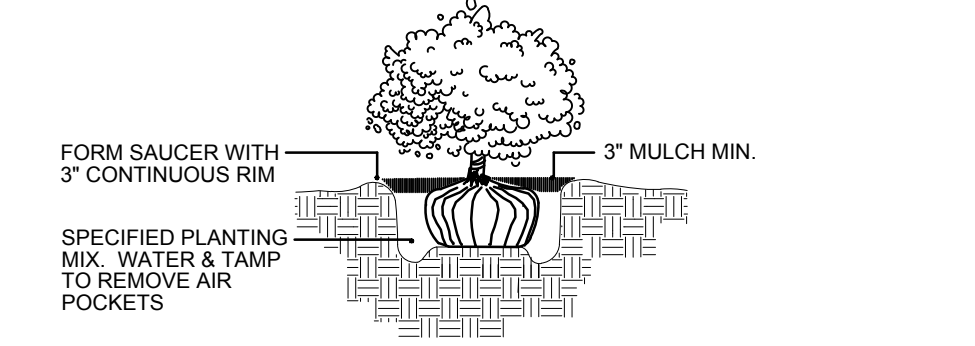
TREE PLANTING & STAKING
NOT TO SCALE



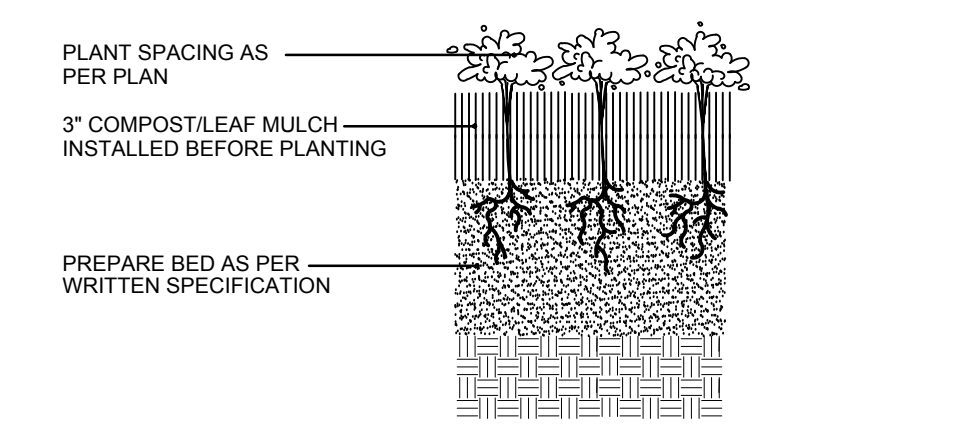
EVERGREEN TREE PLANTING
NOT TO SCALE



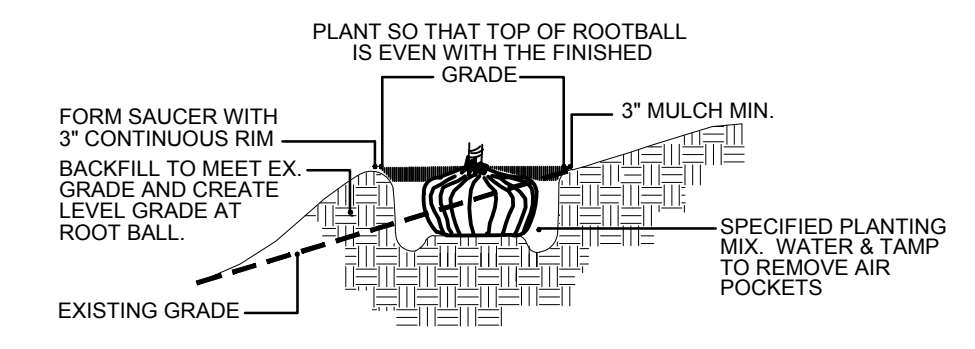
MULTI-TRUNK TREE STAKING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE



PERENNIAL PLANTING
NOT TO SCALE



HILLSIDE PLANTING
NOT TO SCALE

GENERAL LANDSCAPE NOTES

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE STANDARDS AND CODES.
2. CALL J.U.I.E. UTILITY LOCATING SERVICE (TEL 800.892.0123), 48 HOURS PRIOR TO THE START OF ANY DIGGING.
3. GENERAL PLANT NOTES:
 - A. ALL PLANT MATERIAL SHALL CONFORM IN SIZE AND GRADE IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK.
 - B. ALL PLANT MATERIAL SHALL BE MAINTAINED ALIVE, HEALTHY, AND FREE FROM DISEASE AND PESTS.
 - C. ALL NEW PLANT MATERIAL SHALL BE FROM A LOCAL SOURCE WHENEVER POSSIBLE (LESS THAN 50 MILES).
 - D. PLANTS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORM / HABIT. PLANTS SHALL NOT BE PRUNED/HEDGED UNLESS ABSOLUTELY NECESSARY (DUE TO VISIBILITY OR HAZARD OBSTRUCTION).
 - E. ALL LANDSCAPED AREAS SHALL BE FREE OF WEEDS, LITTER, AND SIMILAR SIGNS OF DEFERRED MAINTENANCE.
 - F. MAINTENANCE AND CARE OF PLANT MATERIAL SHALL INCLUDE, BUT NOT BE LIMITED TO, WATERING, FERTILIZING (IF NECESSARY), DEAD-HEADING, WEEDING, AND MULCHING.
4. LOCATIONS OF PROPOSED PLANT MATERIAL MAY BE ADJUSTED AT TIME OF INSTALLATION DUE TO FINAL ENGINEERING AND FINAL LOCATION OF SITE UTILITIES.
5. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND SPREADING TOPSOIL (6"-12" DEEP), FINE GRADING, AND PREPARATION OF ALL LAWN AND LANDSCAPE AREAS. ALL SOILS SHALL BE FREE OF CONSTRUCTION DEBRIS, PRIOR TO INSTALLING ANY PLANT MATERIAL.
6. PRIOR TO SPREADING TOPSOIL, THE LANDSCAPE CONTRACTOR SHALL INSPECT AND ACCEPT ALL BASE GRADES. ANY DEVIATION FROM GRADES INDICATED ON THE GRADING PLAN SHALL BE CORRECTED BEFORE PLACING ANY TOPSOIL.
7. ALL SHRUB, GROUNDCOVER, PERENNIAL, AND ANNUAL PLANTING BEDS SHALL BE PREPARED WITH A SOIL AMENDMENT MIX - 1/3 TOPSOIL, 1/3 MUSHROOM COMPOST, AND 1/3 TORPEDO SAND. MATERIAL SHALL BE ROTO-TILLED JUST PRIOR TO THE INSTALLATION OF PLANT MATERIAL.
8. ALL PLANTING ISLANDS SHALL BE MOUNDED TO A CENTER HEIGHT OF TWELVE INCHES (12").
9. ALL PLANTING BEDS ADJACENT TO LAWN AREAS SHALL HAVE A SPADED EDGE BORDER, UNLESS METAL OR OTHER BORDER IS SPECIFIED.
10. ALL PLANTING BED AREAS SHALL MAINTAIN A MAX. 3" DEEP LAYER OF SHREDDED HARDWOOD MULCH (COLOR: NON-DYED, BROWN).
11. LANDSCAPE CONTRACTOR SHALL COORDINATE PLANTING SCHEDULE WITH LANDSCAPE MAINTENANCE CONTRACTOR, TO ENSURE PROPER WATERING OF PLANTED AND SODDED AREAS AFTER INITIAL INSTALLATION.
12. LANDSCAPE CONTRACTOR SHALL COORDINATE WORK WITH OTHER CONTRACTORS ON SITE TO MINIMIZE ANY REDO OF COMPLETED LANDSCAPE WORK AND DAMAGE TO PLANT MATERIAL.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN LAYOUT WORK. UPON REQUEST, LANDSCAPE ARCHITECT SHALL BE AVAILABLE TO ASSIST/APPROVE CONTRACTOR LAYOUT.
14. EVERY ATTEMPT HAS BEEN MADE TO DEPICT ALL EXISTING UTILITY LINES. CONTRACTOR SHALL USE PRECAUTION WHEN DIGGING. CONTRACTOR SHALL MAKE THEMSELVES THOROUGHLY FAMILIAR WITH ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY DIGGING, VERIFYING LOCATIONS AND DEPTHS OF ALL UTILITIES.
15. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID SUBMITTAL, TO BECOME FAMILIAR WITH EXISTING CONDITIONS AT THE SITE.
16. PLANT LIST QUANTITIES PROVIDED AT TIME OF FINAL PLANS ARE APPROXIMATIONS. CONTRACTORS ARE RESPONSIBLE FOR COMPLETING THEIR OWN QUANTITY TAKE-OFFS. IF A DISCREPANCY IS FOUND BETWEEN THE PLAN AND THE PLANT LIST, THEN THE PLAN SHALL PREVAIL.
17. PLANT SUBSTITUTIONS ARE ALLOWED DUE TO PLANT AVAILABILITY OR PLANTING TIME OF YEAR, ONLY WITH THE PRIOR CONSENT OF THE LANDSCAPE ARCHITECT. IF SUBSTITUTIONS ARE MADE WITHOUT PRIOR CONSENT, THE LANDSCAPE ARCHITECT MAINTAINS THE RIGHT TO REJECT MATERIAL IN THE FIELD, AT THE COST TO THE CONTRACTOR.
18. CONTRACTOR TO PROVIDE TEST OF EXISTING AND IMPORTED SOILS PER SPECIFICATIONS. PLANTING SOIL SHALL BE AMENDED PER SPECIFICATIONS.
19. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AREAS OF POOR DRAINAGE OR OTHER UNUSAL SUBSURFACE CONDITIONS ARE ENCOUNTERED DURING EXCAVATION FOR PLANTING PITS.
20. ALL TURF SHALL SHALL BE KENTUCKY BLUEGRASS BLEND SOD (MINERAL, NOT PEAT), UNLESS OTHERWISE NOTED ON THE PLAN.
21. CONTRACTOR SHALL RESTORE LAWN AREAS THAT HAVE REMAINED PARTIALLY INTACT, TOP DRESSING WITH SOIL, SCARIFYING, AND SEEDING TO FORM A SMOOTH, FULL, EVEN LAWN, FREE OF BARE SPOTS, INDENTATIONS, AND WEEDS.
22. LANDSCAPE DETAILS SHOWN ARE FOR DESIGN INTENT ONLY. LANDSCAPE ARCHITECT ASSUMES NO LIABILITY. CONTRACTOR IS RESPONSIBLE FOR ERECTING AND INSTALLING PROPERLY BUILT AMENITIES PER CODE, PER SITE CONDITIONS (FINAL GRADING & UTILITY LOCATIONS), AND PER AREA CLIMATE CONDITIONS. ALL LANDSCAPE SITE DETAILS FOR STRUCTURES AND FOOTINGS SHALL BE REVIEWED & APPROVED BY A STRUCTURAL ENGINEER.
23. CONTRACTOR INSTALLATION BIDS SHALL INCLUDE A ONE-YEAR WARRANTY ON ALL PLANT MATERIAL, IN PERPETUITY.
24. (IF APPLICABLE) CONTRACTOR INSTALLATION BIDS SHALL INCLUDE A THREE-YEAR MONITORING AND MAINTENANCE PROGRAM ON ALL NATURALIZED DETENTION AREAS.

PROJECT TEAM

DEVELOPER:
DUNKIN DONUTS

ARCHITECT:
WARREN JOHNSON ARCHITECTS, INC.
19 N. GREENLEY STREET
PALATINE, IL 60067
TEL (847) 369-9616

CONTACT: WARREN JOHNSON / TRACY WILLIE

CIVIL ENGINEER:
RWG ENGINEERING, LLC
975 E. 22ND STREET, SUITE 400
WHEATON, IL 6089
TEL (630) 480-7889

LANDSCAPE ARCHITECT:
DICKSON DESIGN STUDIO, INC.
526 SKYLINE DRIVE
ALGONQUIN, IL 60102
TEL (847) 878-4019

CONTACT: SHARON DICKSON

SHEET KEY

L0.1 PROJECT TEAM

GENERAL LANDSCAPE NOTES

PLANTING DETAILS

PLANT SYMBOLS KEY

L1.1 OVERALL LANDSCAPE PLAN - SHEET KEY

PLANT & MATERIALS LIST

DETAIL: GUARD RAIL FENCE

DETAIL: TREE PROTECTION FENCE

L1.2 LANDSCAPE PLAN - PROPOSED

L1.3 LANDSCAPE PLAN - PROPOSED



526 SKYLINE DRIVE
ALGONQUIN IL 60102
847 878 4019

CLIENT NAME AND ADDRESS

WARREN JOHNSON
ARCHITECTS, INC.
PALATINE, IL

PLAN DATE

MARCH 25, 2020

REVISIONS

1.	PER SITE PLAN 6/24/20
2.	SIGNAGE VISIBILITY 6/29/20
3.	BLDG S.F. 6/30/20
4.	
5.	
6.	
7.	
8.	
9.	
10.	

PROJECT NAME AND SHEET TITLE

DUNKIN DONUTS
SPOERLEIN COMMONS
1151 MCHENRY ROAD
BUFFALO GROVE, IL 60089

PRELIMINARY LANDSCAPE PLAN

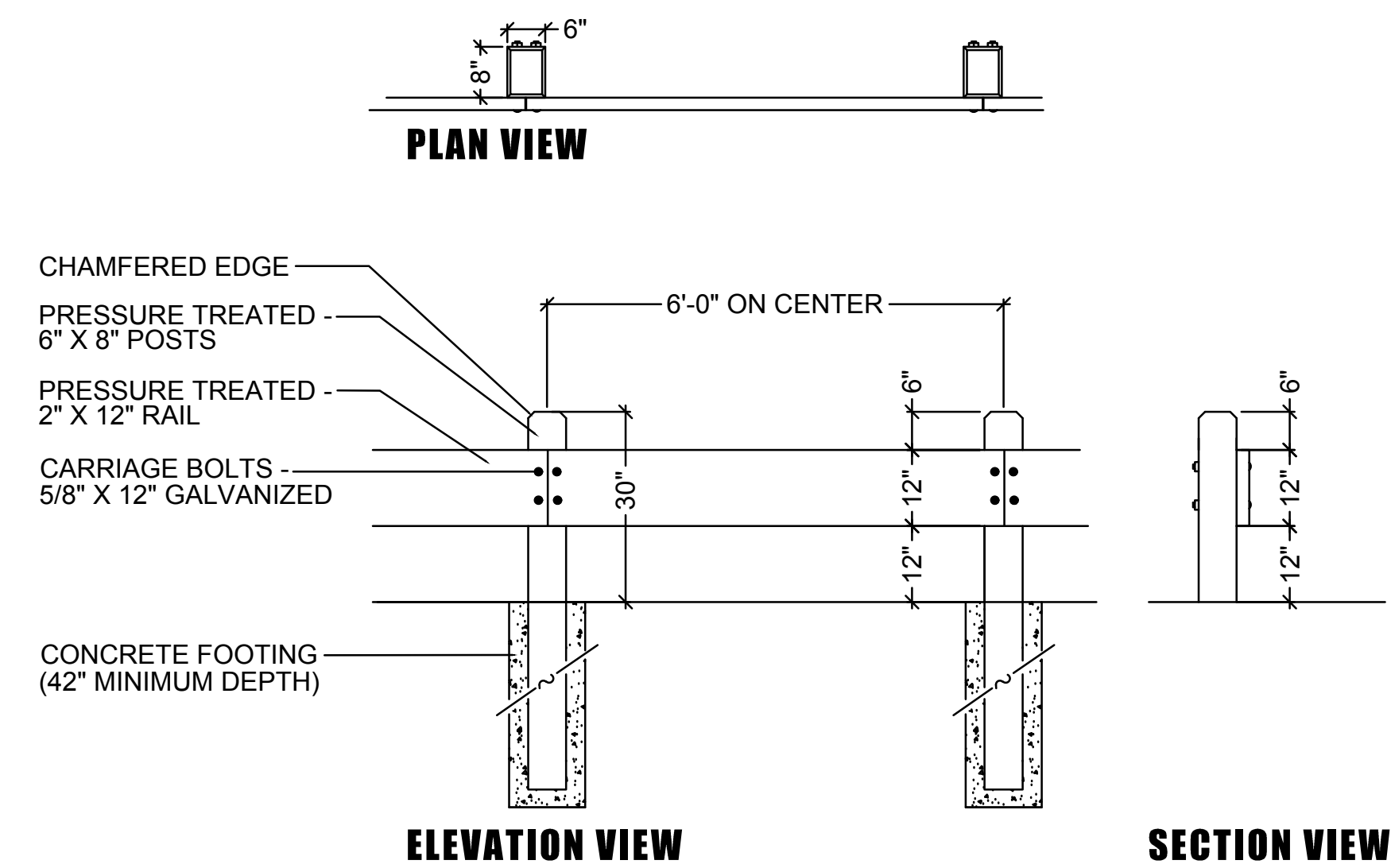
SHEET NUMBER

L0.1

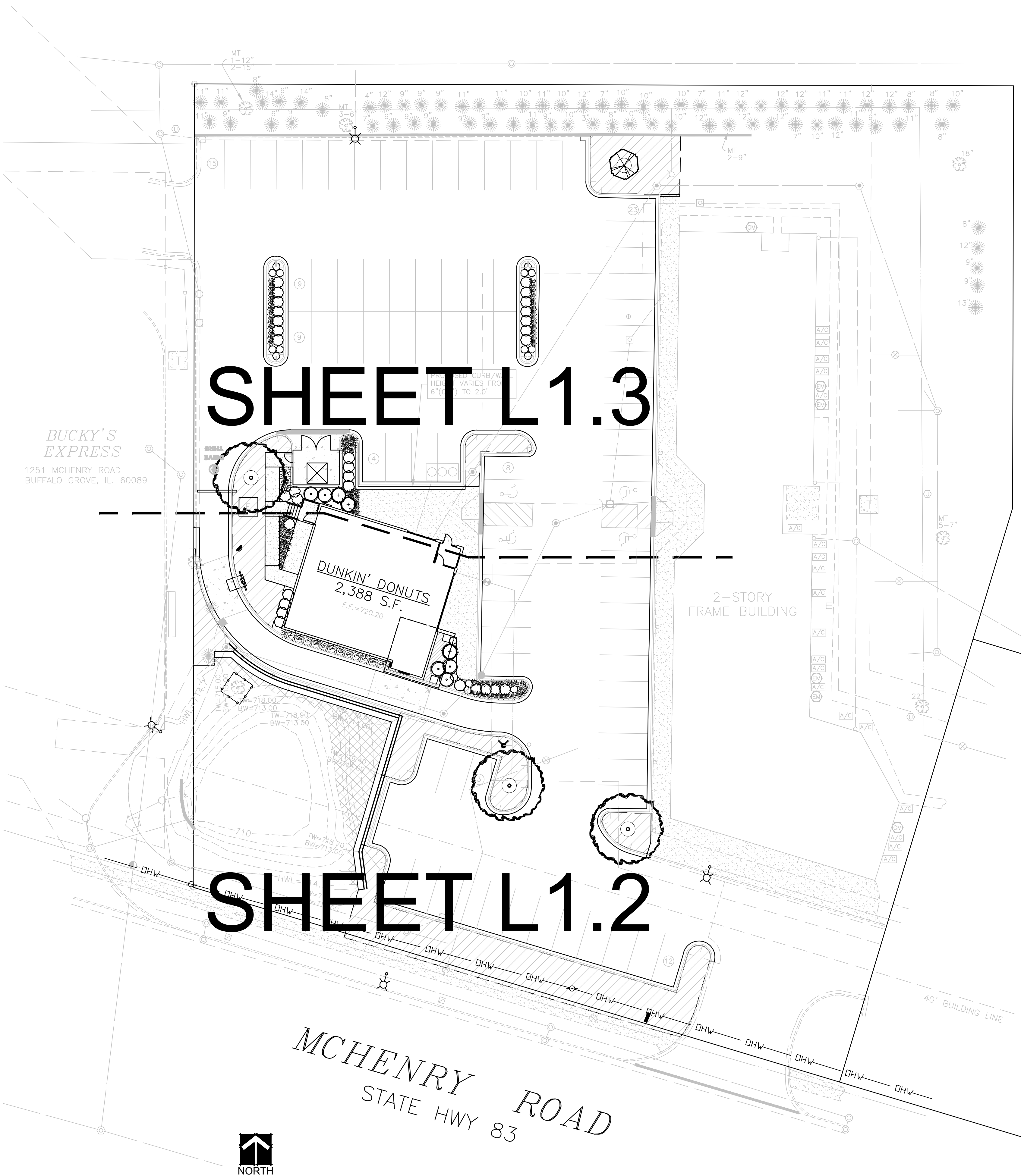
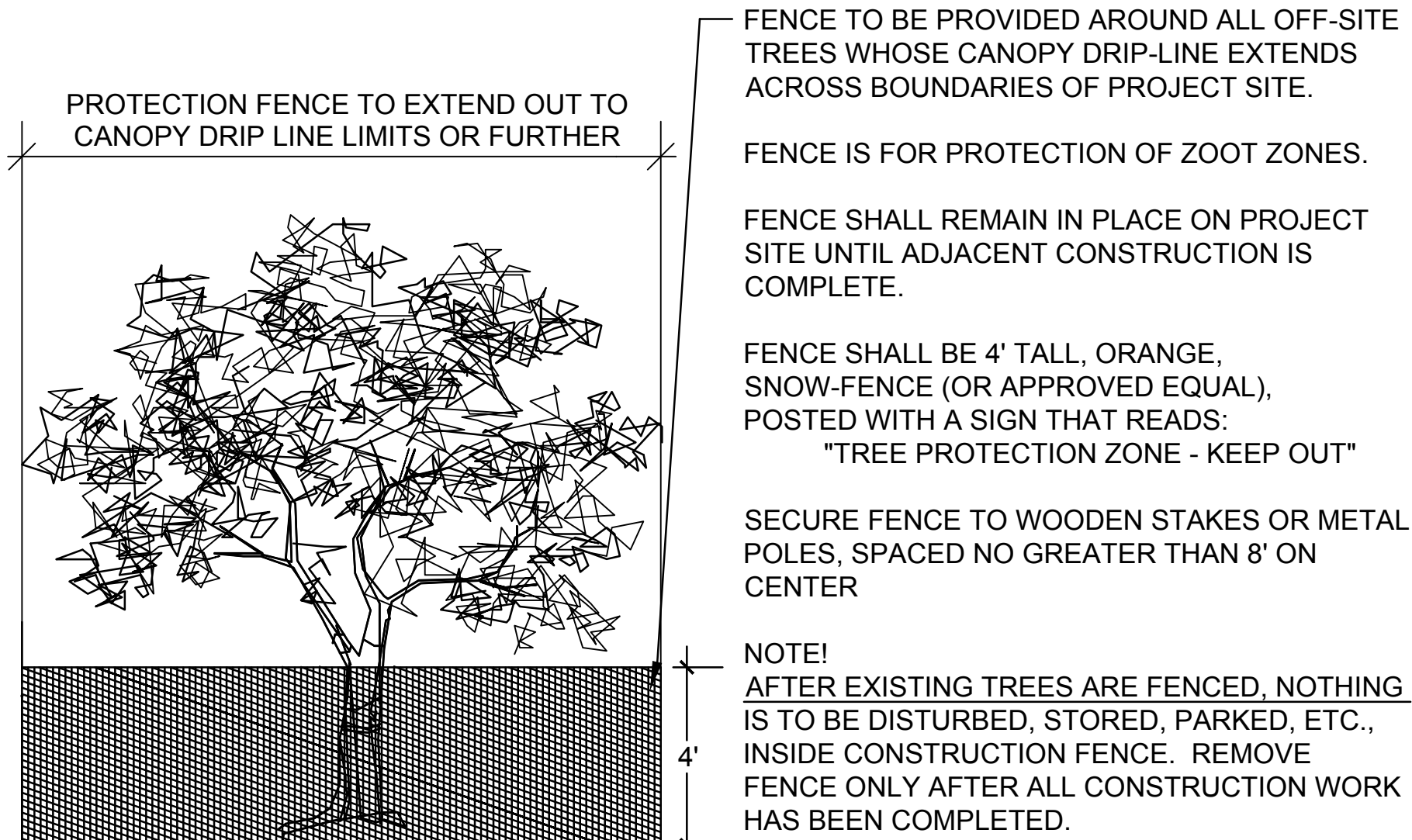
PLANT & MATERIALS LIST

CODE	QTY	SIZE	BOTANIC NAME	COMMON NAME
Shade Trees				
NS	1	2.5" caliper	Nyssa sylvatica	Black Tupelo
TSS	2	2.5" caliper	Tilia tomentosa 'Sterling Silver'	Sterling Silver Linden
Fastigate Evergreen Trees				
TOS	3	6' high	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae
Ornamental Trees				
SRIS	1	6' high	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac
Large Deciduous Shrubs				
HAA	4	7 Gal./36"	Hydrangea aborescens 'Annabelle'	Annabelle Hydrangea
HPB	18	7 Gal./36"	Hydrangea paniculata 'Bobo'	Bobo Panicle Hydrangea
PDM	1	36" high	Physocarpus opulifolius 'Donna May'	Little Devil Ninebark
VDDF	8	48" high	Viburnum dentatum 'Dwarf Form'	Dwarf Form Arrowwood Viburnum
VJ	5	48" high	Viburnum x juddii	Judd Viburnum
Small Deciduous Shrubs				
RGL	12	5 Gal./24"	Rhus aromatica 'Gro-Low'	Gro Low Sumac
SGF	5	5 Gal./24"	Spiraea bumalda 'Goldflame'	Goldflame Spirea
Ornamental Grasses				
CKF3	17	3 Gal.	Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass
SHT	92	1 Gal.	Sporobolus heterolepis 'Tara'	Tara Prairie Dropseed
Groundcover				
PGC	115	2.5" Pot	Pachysandra terminalis 'Green Carpet'	Green Carpet Spurge
Materials				
-	3	C.Y.	-	Soil Amendments
-	9	C.Y.	-	Shredded Hardwood Mulch
-	4,555	S.F.	-	Kentucky Bluegrass Blend Sod
-	760	S.F.	-	Basin Restoration
-	32	L.F.	-	Tree Protection Fence
-	128	L.F.	-	Guard Rail Fence

DETAIL: GUARD RAIL FENCE



DETAIL: TREE PROTECTION FENCE



dickson design
STUDIO

526 SKYLINE DRIVE
ALGONQUIN IL 60102
847 878 4019

CLIENT NAME AND ADDRESS

**WARREN JOHNSON
ARCHITECTS, INC.**
PALATINE, IL

PLAN DATE

MARCH 25, 2020

REVISIONS

1.	PER SITE PLAN 6/24/20
2.	SIGNAGE VISIBILITY 6/29/20
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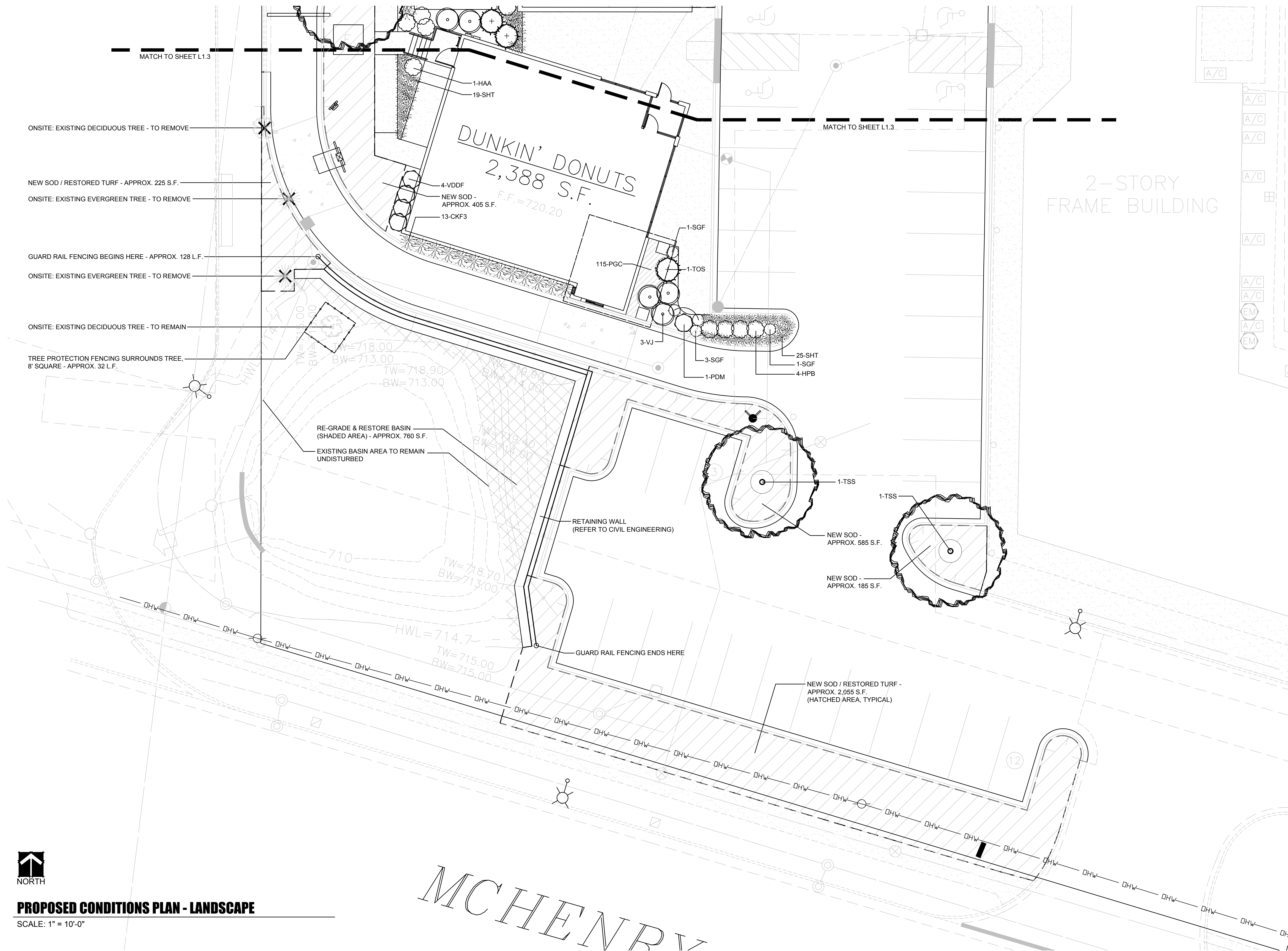
PROJECT NAME AND SHEET TITLE

DUNKIN DONUTS
SPOERLEIN COMMONS
1151 MCHENRY ROAD
BUFFALO GROVE, IL 60089

PRELIMINARY LANDSCAPE PLAN

SHEET NUMBER

L1.1



dickson design
STUDIO

526 SKYLINE DRIVE
ALGONQUIN IL 60102
847 878 4019

CLIENT NAME AND ADDRESS

WARREN JOHNSON
ARCHITECTS, INC.
PALATINE, IL

PLAN DATE

MARCH 25, 2020

REVISIONS

1.	PER SITE PLAN 6/24/20
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PROJECT NAME AND SHEET TITLE

DUNKIN DONUTS
SPOERLEIN COMMONS
1151 MCHENRY ROAD
BUFFALO GROVE, IL 60089

PRELIMINARY LANDSCAPE PLAN

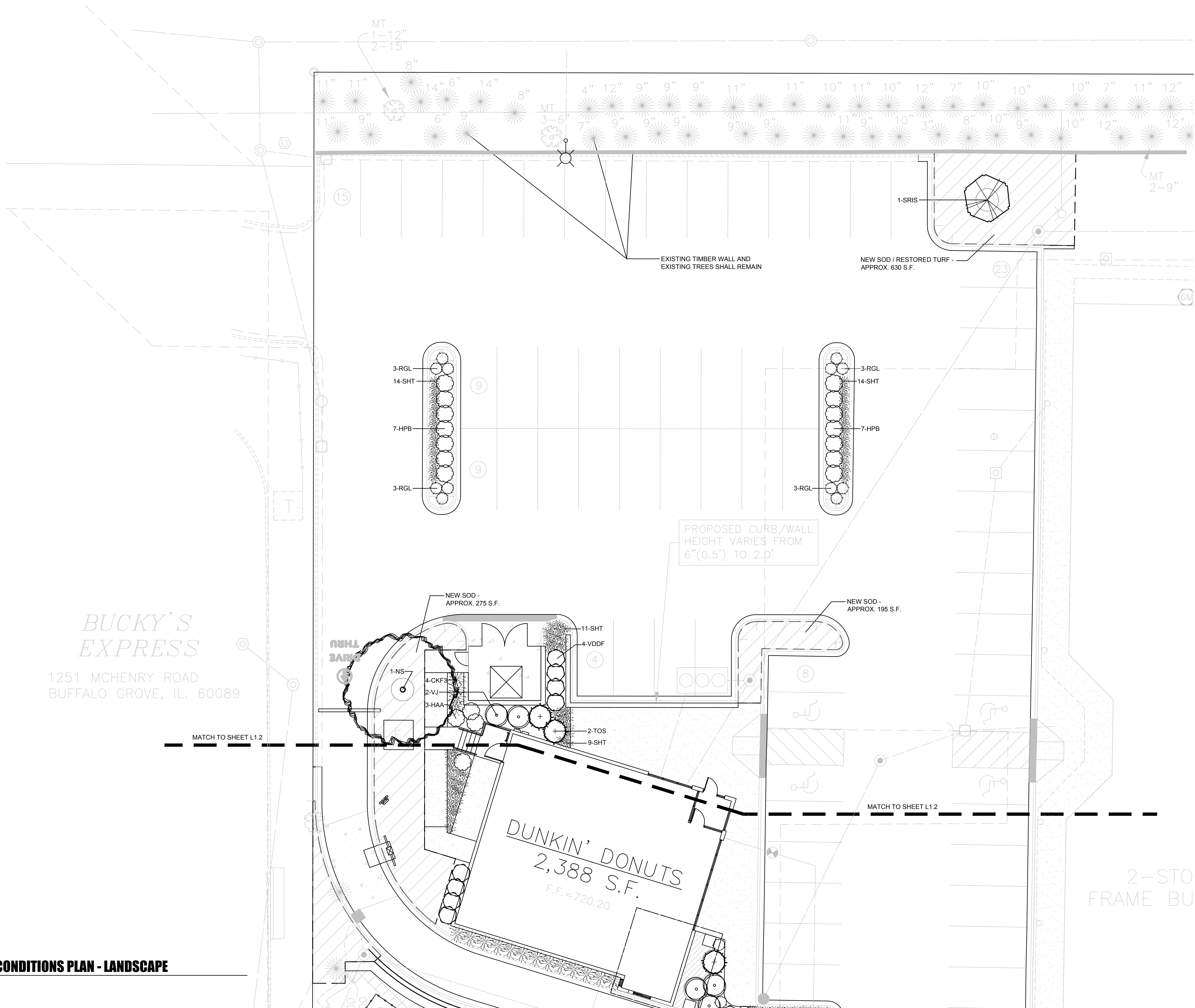
SHEET NUMBER

L1.2



PROPOSED CONDITIONS PLAN - LANDSCAPE

SCALE: 1" = 10'-0"



PROPOSED CONDITIONS PLAN - LANDSCAPE

SCALE: 1" = 10'-0"



dickson design
STUDIO

526 SKYLINE DRIVE
ALGONQUIN IL 60102
847 878 4019

CLIENT NAME AND ADDRESS

**WARREN JOHNSON
ARCHITECTS, INC.**
PALATINE, IL

PLAN DATE

MARCH 25, 2020

REVISIONS

1.	PER SITE PLAN 6/24/20
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PROJECT NAME AND SHEET TITLE

DUNKIN' DONUTS
SPOERLEIN COMMONS
1151 MCHENRY ROAD
BUFFALO GROVE, IL 60089

PRELIMINARY LANDSCAPE PLAN

SHEET NUMBER

L1.3

NOTES:

- THIS LAYOUT MEETS "GSD" STANDARDS.
- FRANCHISEE'S ARCHITECT SHALL ENSURE 40" MINIMUM CLEAR ACCESS INTO AND THROUGHOUT THE STORE FOR DELIVERY OF LARGE EQUIPMENT ITEMS.
- FRANCHISEE'S ARCHITECT TO VERIFY COMPLIANCE WITH APPLICABLE ADA AND CODE REQUIREMENTS FOR RESTROOM(S) AND ENTRANCE(S).
- WINDOW(S) TO BE IN-FILLED, TINTED, OR BLOCKED OUT WITH APPROVED DBI WINDOW GRAPHICS.
- UNSIGHTLY UTILITIES:
TO ENHANCE THE D/T EXPERIENCE PLAN ACCORDINGLY TO EITHER REMOVE OR SCREEN WHEN POSSIBLE.
- DEFAULT WATER FILTRATION SYSTEM SHOWN. ARCHITECT TO HAVE WATER TESTED TO VERIFY ACTUAL SYSTEM REQUIRED. BOOSTER PUMP CAN BE ELIMINATED IF INCOMING WATER PRESSURE TO THE BUILDING IS 65PSI OR HIGHER.
- DEFAULT EQUIPMENT FOOTPRINT SHOWN. ARCHITECT TO COORDINATE WITH FRANCHISEE TO DETERMINE ACTUAL EQUIPMENT REQUIRED.

- = VIDEO DISPLAY UNIT
 □ = VIDEO DISPLAY UNIT (opt.)
 □ = PRINTER

1459 SF Non-Retail
 929 SF Retail
 2388 SF Total
 2 DRY DELIVERIES per WK.
 2 REF'D DELIVERIES per WK.
 80 DZNS. of DONUTS per WK.
 20 DZNS. of Munchkins per WK.
 19 SEATS
 31 LF Dry Storage Shelving



CAUTIONARY NOTES:

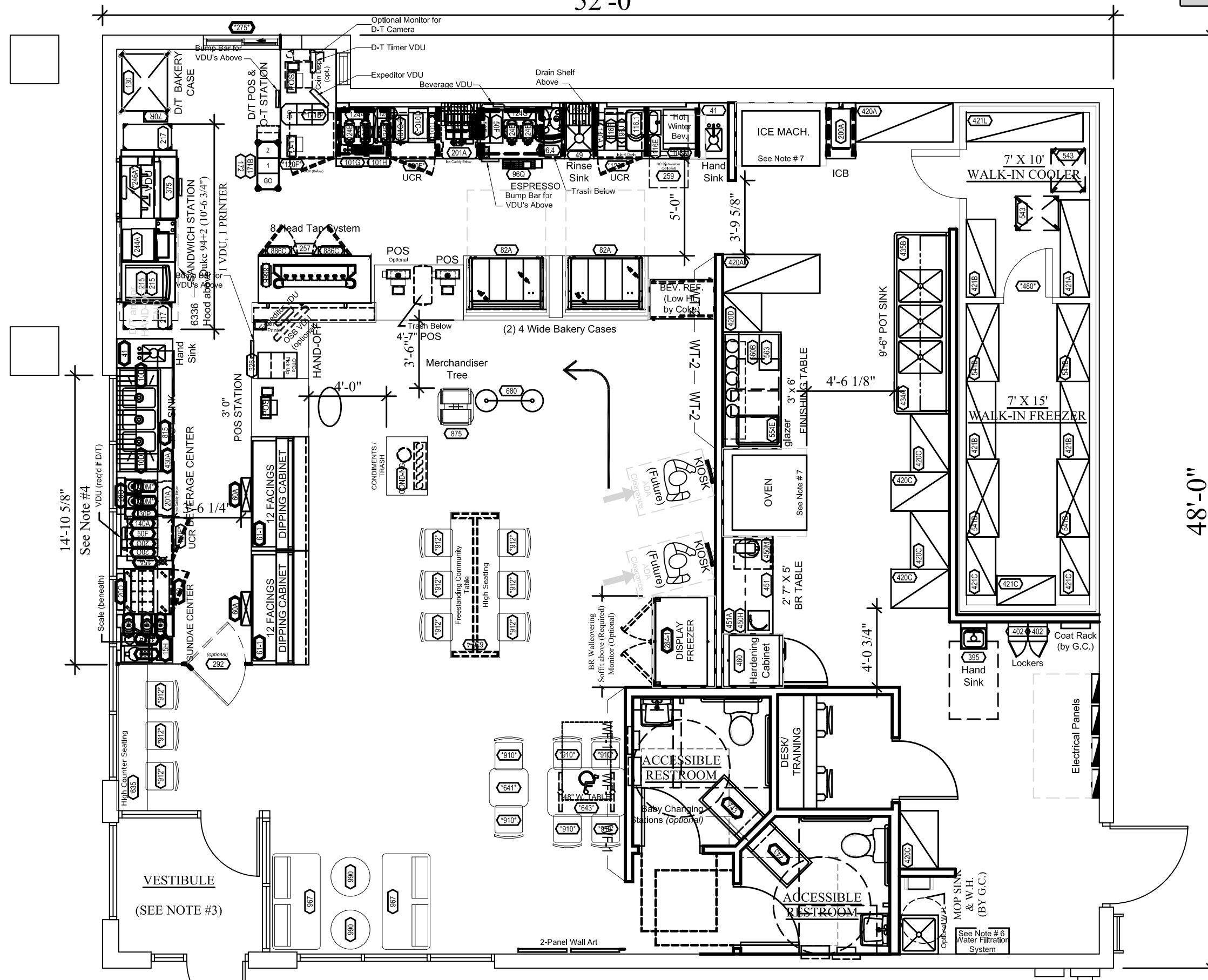
- No optional BR Dairy Dispenser.
- No secondary prep table shown (JBOD locations).

GENERAL NOTES:

- Architect to ensure Restrooms are ADA compliant.

PDR REQUESTS:

- 3 comp sink shown on Baskin-Robbins backline.
- Two 4x4 Bakery cases on the frontline.
- 24 dipping cabinet facings for Baskin-Robbins.



NOTE: THIS SCHEMATIC IS FOR REVIEW PURPOSES ONLY AND DOES NOT GUARANTEE COMPLIANCE WITH ANY APPLICABLE CODES AND LAWS INCLUDING, WITHOUT LIMITATION, THE AMERICANS WITH DISABILITIES ACT, AS WELL AS OTHER APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS. IT IS THE SOLE RESPONSIBILITY OF THE FRANCHISEE AND OF THE ARCHITECTS AND ENGINEERS RETAINED BY THE FRANCHISEE, TO ENSURE COMPLIANCE WITH ALL APPLICABLE LAWS, REGULATIONS, ORDINANCES, CODES AND OTHER REQUIREMENTS

WARNING: 1. THE TITLE BLOCK AND THE INFORMATION CONTAINED IN THIS FILE ARE THE PROPERTY OF DUNKIN' BRANDS, INC. 2. THE USE OF THIS TITLE BLOCK BY ENTITIES OUTSIDE DUNKIN' BRANDS, INC IS ILLEGAL. 3. ANY ALTERATION OF THE INFORMATION CONTAINED IN THIS FILE MUST BE CLEARLY AND VISIBLY ACKNOWLEDGED WITHIN THIS FILE

DUNKIN' / BASKIN-ROBBINS

Address: 1207 McHenry Road, Buffalo Grove, IL

F'EE's Name: Haresh Patel

PRELIMINARY NEXT GEN LAYOUT

Berg, Jason / 359380 Buffalo Grove, IL

Designed: GMG

Drawn: GMG

Checked: BAB

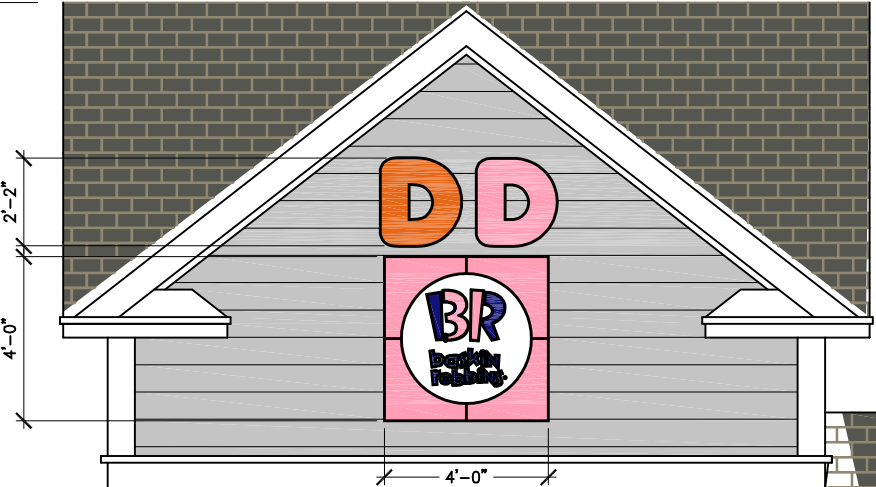
Scale: 3/16"=1'-0"

Date: 02/19/2020

PC:

Packet Pg. 38

26'-0" A.F.F.
TOP OF TOWER



10'-8" A.F.F.
BTM. OF ORANGE ACCENT BEAM/
DT WINDOW CANOPY



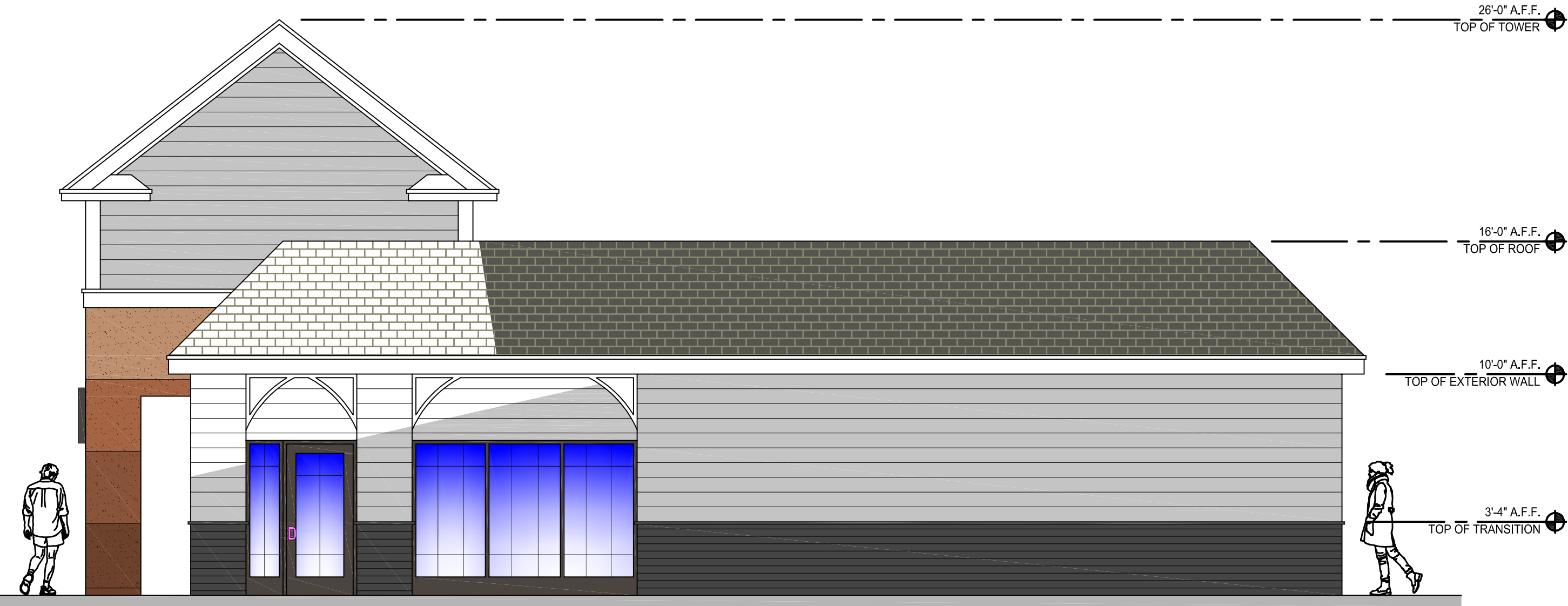
16'-0" A.F.F.
TOP OF ROOF

10'-0" A.F.F.
TOP OF EXTERIOR WALL

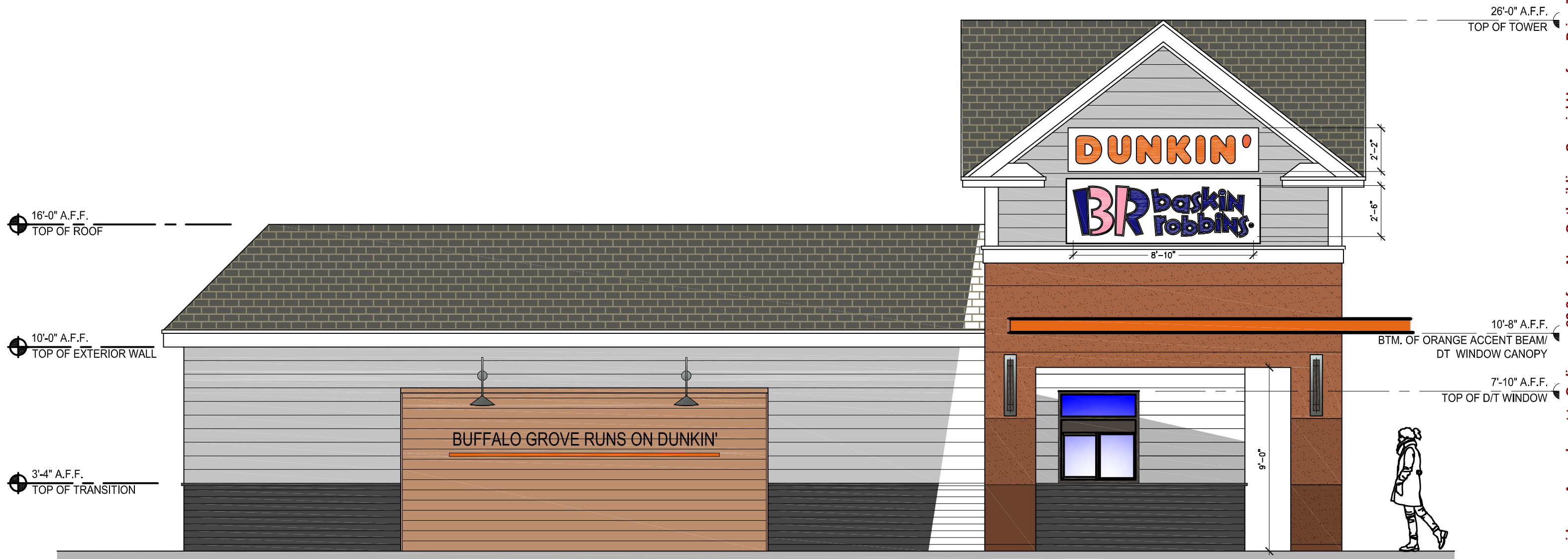


3'-4" A.F.F.
TOP OF TRANSITION

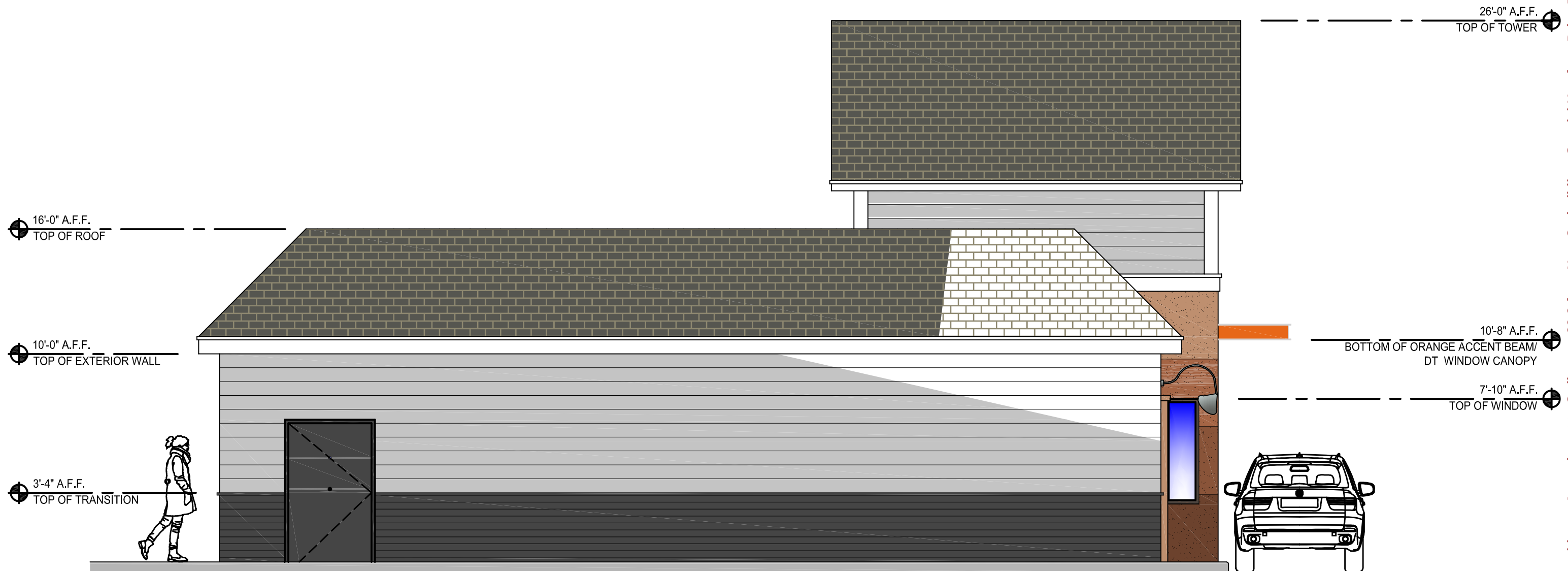
PROPOSED EAST ELEVATION



PROPOSED NORTH ELEVATION



PROPOSED SOUTH ELEVATION



PROPOSED WEST ELEVATION

MEMORANDUM

To: Daniel Kovacevic – Whitestone REIT
Rick Burton – Whitestone REIT

From: Tim Sjogren, P.E., PTOE – Kimley-Horn
Rory Fancier, AICP, PTP – Kimley-Horn

Date: July 10, 2020

RE: Parking Summary for Spoerlein Commons
Buffalo Grove, Illinois

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Whitestone REIT to perform a parking analysis for Spoerlein Commons, a shopping center located on the northeast quadrant of McHenry Road and Arlington Heights Road in Buffalo Grove, Illinois (**Exhibit 1**). The parking analysis was completed in order to evaluate existing parking occupancy and assess future parking conditions with the addition of a new freestanding eating and drinking establishment with drive-through window along McHenry Road near the western boundary of the site.

Executive Summary

Spoerlein Commons currently provides a total of 161 parking spaces. With the proposed development, the northwest portion of the parking lot would be reconfigured and a total of 163 parking spaces would be provided. Based on a review of the existing and future tenancy, the proposed parking supply requires approval of a variance from Section 17.36.040 (Schedule of Parking Requirements) of the Village of Buffalo Grove Code of Ordinances. While a parking variance is required, the overall parking supply is expected to accommodate Spoerlein Commons at full occupancy and the proposed eating and drinking establishment. A summary of key findings is provided below.

- Currently, peak parking occupancy occurs during the weekday at approximately 3:00PM. During this peak period, approximately 50 percent of the parking spaces (80 spaces) are unused.
- Based on a conservative review of future parking conditions with full occupancy and development of the proposed eating and drinking establishment, peak occupancy is anticipated to be 91 percent (148 spaces).
- The analysis of future parking conditions is conservative and assumes Code-required parking for the vacant tenant spaces and proposed eating and drinking establishment; the analysis does not reflect the respective peak hours. The proposed eating and drinking establishment is expected to experience peak parking demand during the morning commute period when a number of the existing retail, service, and restaurant tenants (e.g., My Choice Nails, Payless Tobacco, Rosati's Chicago Pizza, and Chinn's Restaurant) are closed.



Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

In order to enhance efficient use of the parking supply, coordination with existing and future tenants is recommended to reserve parking spaces in the front of the buildings for customers and visitors and direct employees to the spaces further from the buildings.

Existing and Proposed Site Development

Spoerlein Commons includes an in-line multi-tenant building as well as a freestanding building located at the southeast corner of the site. Approximately 32,000 square feet is currently occupied with various retail, restaurant, office, and service uses. In addition, the development contains approximately 9,180 square feet of vacant tenant spaces for a total building area of approximately 41,180 square feet. A total of 161 parking spaces are currently provided at Spoerlein Commons. The parking is shared across all tenants.

Whitestone REIT proposes to develop a new eating and drinking establishment with drive-through window along the McHenry Road frontage at the west boundary of the site. According to property records obtained by Whitestone REIT, the proposed development is generally consistent with the development plan approved by the Village of Buffalo Grove in 1983. The approved development plan included a total of 51,050 square feet with 31,250 square feet of retail use and 19,800 square feet of office use. The approved development plan, provided as **Attachment 1**, included two freestanding buildings near the northwest portion of the site and a total of 191 parking spaces. During the initial development, these two freestanding buildings were never constructed and the overall site plan was modified to reflect a future building expansion plan totaling approximately 4,480 square feet.

Based on the approved development plan and current market conditions, Whitestone REIT seeks to develop an approximately 2,388 square-foot eating and drinking establishment with drive-through window. The proposed development represents an approximately 47 percent decrease in square footage compared to the previously contemplated 4,480 square-foot building expansion. With the proposed development, an overall total parking supply of 161 spaces would be provided for Spoerlein Commons, consistent with the existing parking supply. The proposed site plan provided as **Attachment 2**. A summary of the approved development plan compared to both existing conditions and the proposed development is provided in **Table 1**.

Table 1. Development Plan Comparison

Site Plan	Square Footage			Parking Spaces
	Office	Retail	Total	
Approved 1983 Development Plan ¹	19,800	31,250	51,050	191
Existing Conditions	20,200	20,980	41,180	161
Proposed Conditions (with Development)	20,200	23,368	22,568	163

¹The approved plan included two freestanding buildings which were never constructed and the overall site plan was modified to reflect a future building expansion plan totaling approximately 4,480 square feet.

Table 2 on the following page summarizes the parking required for the existing and proposed uses at Spoerlein Commons per Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances. As shown in the table, based on the current tenant mix a total of 188 spaces are required for Spoerlein Commons. This includes 37 spaces required for the existing vacant tenant spaces, which were assumed as general commercial/retail uses.

With the proposed development, a total of 203 spaces would be required. This includes Code-required parking for the proposed 2,388 square-foot eating and drinking establishment and the associated future vacancy of Suite 120A (highlighted in Table 2). With the proposed development, Spoorlein Commons would provide a total of 163 spaces. The proposed supply is 40 fewer spaces than required by Code; therefore, a parking variance is required.

Table 2. Village of Buffalo Grove Required Parking

Suite	Tenant	Size ¹	Parking Class ²	Parking Ratio ³	Required Spaces
Existing					
101	Once Upon a Grooming	565	General commercial/retail	1 / 250 sq. ft.	2
102a	The Colorist Hair Studio	821	General commercial/retail	1 / 250 sq. ft.	3
102b	Vacant	1,388	General commercial/retail	1 / 250 sq. ft.	6
103	Dutch Maid Dry Cleaners	1,031	General commercial/retail	1 / 250 sq. ft.	4
104	Chinn's Chinese Restaurant	983	Eating and drinking establishment	1 / 100 sq. ft.	10
105	Rosati's Chicago Pizza	917	Eating and drinking establishment	1 / 100 sq. ft.	9
106	My Choice Nails	910	General commercial/retail	1 / 250 sq. ft.	4
107a	Vacant	1,150	General commercial/retail	1 / 250 sq. ft.	5
107b	Excel Eye Care	715	Dental and medical clinic or office	5 / 1000 sq. ft.	4
108	Excel Eye Care	1,032	Dental and medical clinic or office	5 / 1000 sq. ft.	5
109	Dr. Smith Chiropractor	1,293	Dental and medical clinic or office	5 / 1000 sq. ft.	6
110	World of Discovery Montessori	1,782	Day care center, child care center, nursery school, pre-school	2 / 1000 sq. ft.	4
120a	Dunkin Donuts	1,537	Eating and drinking establishment	1 / 100 sq. ft.	15
120b	Payless Tobacco	1,045	General commercial/retail	1 / 250 sq. ft.	4
120c	Vacant	857	General commercial/retail	1 / 250 sq. ft.	3
121a	Allstate Insurance	1,179	Business and professional offices	1 / 300 sq. ft.	4
121b	Kula Yoga Lifestyle	1,890	General commercial/retail	1 / 250 sq. ft.	8
130a	Vacant	1,631	General commercial/retail	1 / 250 sq. ft.	7
130b	Dr. Paul Kentor, MD	2,186	Dental and medical clinic or office	5 / 1000 sq. ft.	11
201	Chmela Fluency Center	1,145	Dental and medical clinic or office	5 / 1000 sq. ft.	6
202a	Titan Trucking	576	Business and professional offices	1 / 300 sq. ft.	2
202b	Titan Trucking	642	Business and professional offices	1 / 300 sq. ft.	2
203	Whitestone	679	Business and professional offices	1 / 300 sq. ft.	2
204	Vacant	1,071	General commercial/retail	1 / 250 sq. ft.	4
205a	Bill Gerdes (Lake Cook Piano Studio)	300	Business and professional offices	1 / 300 sq. ft.	1
205b	Vacant	499	General commercial/retail	1 / 250 sq. ft.	2
206a	Vacant	867	General commercial/retail	1 / 250 sq. ft.	3
206b1	Peter Lee (Real Estate)	531	Business and professional offices	1 / 300 sq. ft.	2
206b2	One Global	531	Business and professional offices	1 / 300 sq. ft.	2
206b3	Charles Schneider (Legal)	531	Business and professional offices	1 / 300 sq. ft.	2
206b4	Ted	531	Business and professional offices	1 / 300 sq. ft.	2
206c	Ted	250	Business and professional offices	1 / 300 sq. ft.	1

¹Pursuant to Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances, required parking is based on floor area which shall mean the gross floor space of a building or structure.

²The parking class is based on the land use categories outlined in Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances.

³The Code-required parking ratio is defined by Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances.

Table 2. Village of Buffalo Grove Required Parking (continued)

Suite	Tenant	Size ¹	Parking Class ²	Parking Ratio ³	Required Spaces
Existing (continued)					
208	Vacant	1,402	General commercial/retail	1 / 250 sq. ft.	6
209	Vanguard Capital	834	Business and professional offices	1 / 300 sq. ft.	3
211	Jen Cupari (Newcastle Dance and Theater Supply)	320	General commercial/retail	1 / 250 sq. ft.	1
212b	Vacant	315	General commercial/retail	1 / 250 sq. ft.	1
214	Hana Travel	517	Business and professional offices	1 / 300 sq. ft.	2
215	Lake Cook Dental Center	1,200	Dental and medical clinic or office	5 / 1000 sq. ft.	6
217a	Farmers Insurance	573	Business and professional offices	1 / 300 sq. ft.	2
217b	Rebecca Kiel, LCPC	521	Dental and medical clinic or office	5 / 1000 sq. ft.	3
218a	VCR Senior Care	550	Business and professional offices	1 / 300 sq. ft.	2
218b	Carla Leoni (North Suburban Family Psychologists)	250	Dental and medical clinic or office	5 / 1000 sq. ft.	1
218c	David Park (Construction)	400	Business and professional offices	1 / 300 sq. ft.	1
230	Christina Bailey, PsyD	300	Dental and medical clinic or office	5 / 1000 sq. ft.	2
232	Leslie Cisar (Vital Naturopathic)	300	Dental and medical clinic or office	5 / 1000 sq. ft.	2
233	Bruce Siegel (American Family Insurance)	435	Business and professional offices	1 / 300 sq. ft.	1
233a	Muriel Flanders, LCSW	455	Business and professional offices	1 / 300 sq. ft.	2
234	Intourist	300	Business and professional offices	1 / 300 sq. ft.	1
235	Dr. Cindy	479	Dental and medical clinic or office	5 / 1000 sq. ft.	2
236	Michelle Magide, LCPC	300	Dental and medical clinic or office	5 / 1000 sq. ft.	2
237	Janine Kasner, LCSW	365	Business and professional offices	1 / 300 sq. ft.	1
238	Affiliated Clinicians	300	Dental and medical clinic or office	5 / 1000 sq. ft.	2
Existing Code-Required Parking					188
Existing Parking Supply					161
Δ					-27
Proposed					
120a	Dunkin Donuts (to be relocated)	1,537	Eating and drinking establishment	1 / 100 sq. ft.	-15
120a	Vacant	1,537	General commercial/retail	1 / 250 sq. ft.	6
New	Dunkin' Donuts	2,388	Eating and drinking establishment	1 / 100 sq. ft.	24
Future Code-Required Parking (with Development)					203
Future Parking Supply (with Development)					163
Δ					-40

¹Pursuant to Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances, required parking is based on floor area which shall mean the gross floor space of a building or structure.

²The parking class is based on the land use categories outlined in Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances.

³The Code-required parking ratio is defined by Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances.

Existing Parking Demand

To determine actual parking demand for the existing and proposed uses, Kimley-Horn conducted hourly parking occupancy counts during a typical weekday and weekend as follows:

- Thursday, May 17, 2018, from 7:00AM to 7:00PM
- Saturday, May 19, 2018, from 7:00AM to 7:00PM

The count periods captured the peak periods of parking demand for the existing shopping center and were identified based on data provided by the Urban Land Institute (ULI) Shared Parking, Second Edition.

During the study periods identified above, the existing parking supply was verified and the number of parked vehicles were documented. Other observations regarding curbside and delivery truck loading activity were noted. **Table 3** summarizes the observed parking occupancy at Spoerlein Commons. During the weekday, the peak occurred at 3:00PM with 81 occupied spaces (50 percent). On Saturday, the peak occurred at 11:00AM with 49 occupied spaces (30 percent).

Table 3. Observed Parking Occupancy

Time of Day	Thursday, May 17, 2018		Saturday, May 19, 2018	
	Occupied Spaces	Percent Occupied	Occupied Spaces	Percent Occupied
7:00AM	10	6%	5	3%
8:00AM	14	9%	14	9%
9:00AM	34	21%	32	20%
10:00AM	58	36%	44	27%
11:00AM	77	48%	49	30%
12:00PM	68	42%	37	23%
1:00PM	66	41%	33	21%
2:00PM	66	41%	25	16%
3:00PM	81	50%	23	14%
4:00PM	74	46%	22	14%
5:00PM	78	48%	15	9%
6:00PM	54	34%	14	9%
7:00PM	42	26%	8	5%
Average	56	34%	25	15%

The observed parking occupancy reflects the mix of uses and respective peak hours and the ability to use shared parking to accommodate parking demand for Spoerlein Commons. Although a review of Code-required parking (Table 2) suggests the site provides insufficient parking, based on the observed parking occupancy approximately 50 percent of the spaces are unused during peak conditions. Therefore, actual parking demand for the retail, restaurant, office, and service uses is less than the Code requirements.

Proposed Parking Supply Evaluation

To assess future parking conditions with the proposed development, full occupancy of Spoerlein Commons was assumed. In order to present a conservative estimate of potential future parking conditions, Code-required parking was assumed for the vacant tenant spaces and the proposed development. Based on the parking requirements presented in Table 2, a total of 43 spaces are required for the existing vacant tenant spaces and future vacancy of Suite 120a (i.e., existing Dunkin Donuts) assuming future general commercial/retail uses. Based on the parking occupancy data presented in Table 3, the potential future parking conditions were calculated as summarized in **Table 4**. As shown in this table, with the addition of Code-required parking for the existing vacant tenant spaces and future vacancy of Suite 120a (43 spaces) and the Code-required parking for the proposed eating and drinking establishment (24 spaces), a future parking need of 149 spaces is estimated for peak parking conditions. With the proposed development, Spoerlein Commons would provide an overall parking supply of 161 spaces; therefore, the parking supply is expected to accommodate future parking conditions.

Table 4. Conservative Estimate of Future Parking Occupancy

Time of Day	Weekday				Saturday			
	Occupied Spaces	Code-Required Parking		Total Parking	Occupied Spaces	Code-Required Parking		Total Parking
		Vacant Tenants ¹	Proposed Development ²			Vacant Tenants ¹	Proposed Development ²	
7:00AM	10	43	24	77	5	43	24	72
8:00AM	14	43	24	81	14	43	24	81
9:00AM	34	43	24	101	32	43	24	99
10:00AM	58	43	24	125	44	43	24	111
11:00AM	77	43	24	144	49	43	24	116
12:00PM	68	43	24	135	37	43	24	104
1:00PM	66	43	24	133	33	43	24	100
2:00PM	66	43	24	133	25	43	24	92
3:00PM	81	43	24	148	23	43	24	90
4:00PM	74	43	24	141	22	43	24	89
5:00PM	78	43	24	144	15	43	24	82
6:00PM	54	43	24	121	14	43	24	81
7:00PM	42	43	24	109	8	43	24	75
Average	56	--	--	123	25	--	--	92

¹Vacant tenant spaces were assumed to be occupied by general commercial/retail uses which require parking at a ratio of 1 space per 250 square feet per Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances.

²Per Section 17.36.040 (Schedule of parking requirements) of the Village of Buffalo Grove Code of Ordinances, eating and drinking establishments are required to provide 1 parking space per 100 square feet.

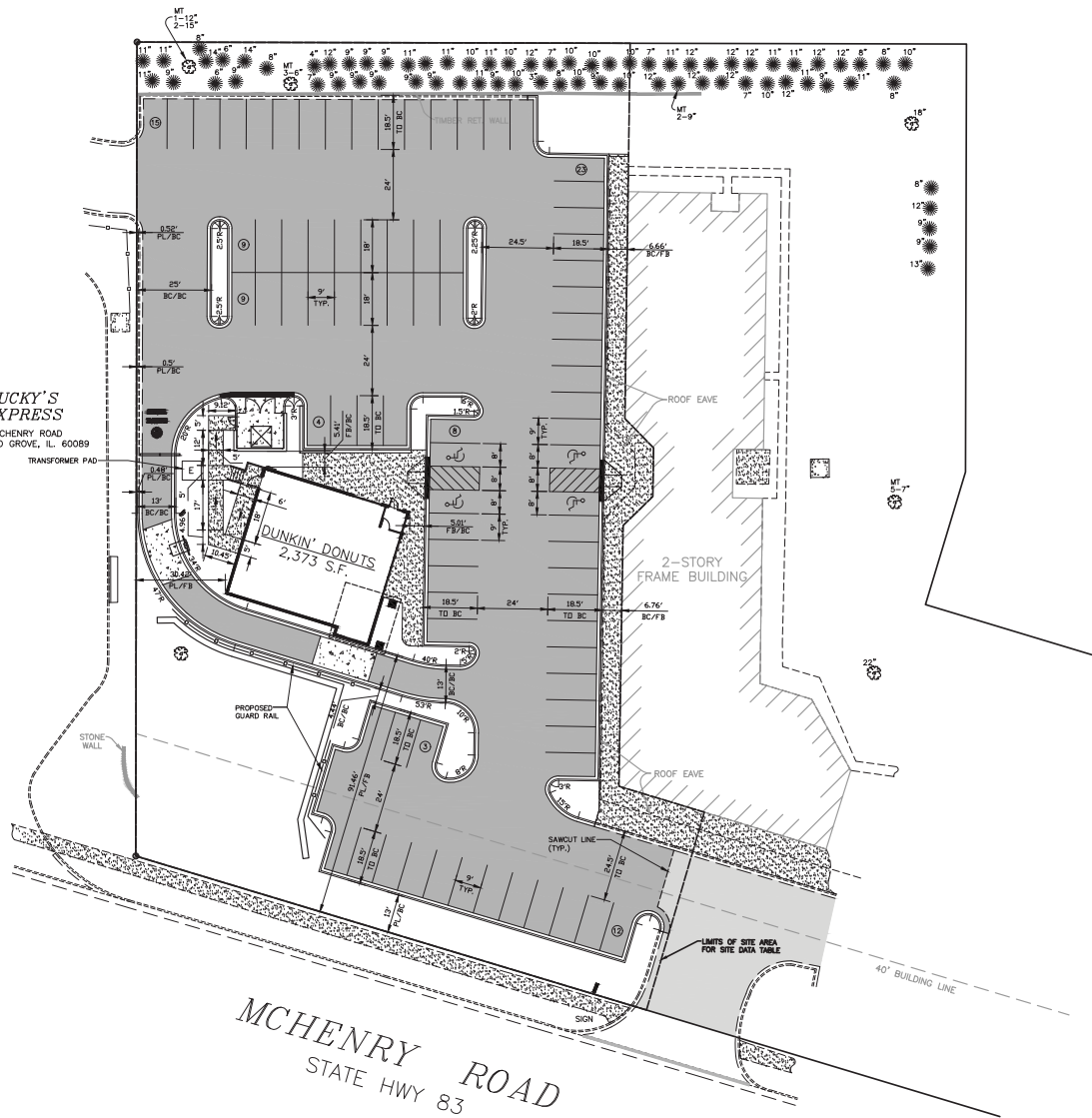
This estimate is assumed to be conservative as peak parking demand for an eating and drinking establishment typically occurs during the morning commute period (7:00-9:00AM) when the parking lot at Spoerlein Commons is less than 25 percent occupied (Table 3). While the proposed eating and drinking establishment is expected to generate parking demand throughout typical hours of operation, peak periods of demand during the morning commute period would occur when many of the retail, service, and restaurant uses (e.g., My Choice Nails, Payless Tobacco, Rosati's Chicago Pizza, and Chinn's Restaurant) are closed.

Conclusion

Spoerlein Commons currently provides a total of 161 parking spaces. An overall total of 163 spaces would be provided with development of the proposed eating and drinking establishment. The proposed parking supply requires approval of a variance from Section 17.36.040 (Schedule of Parking Requirements) of the Village of Buffalo Grove Code of Ordinances.

Based on the observed peak parking demand for existing tenants and a review of the Code-required parking for vacant tenants and the proposed development, the proposed parking supply of 163 spaces is expected to support the overall Spoerlein Commons, including the proposed freestanding eating and drinking establishment. Spillover parking into the adjacent residential neighborhood is not anticipated. In order to enhance efficient use of the proposed parking supply, coordination with existing and future tenants is recommended to reserve parking spaces in the front of the buildings for customers and visitors and direct employees to the spaces further from the buildings.

Please do not hesitate to contact us with any questions related to the information in this memorandum.



SURFACE IMPROVEMENT LEGEND

- NEW ASPHALT PAVEMENT (STANDARD DUTY)
1" 3/4" HOT-MIX ASPHALT SURFACE COURSE, MIX 1C, NOS
BITUMINOUS TACK COAT
3" 3/4" HOT-MIX ASPHALT BINDER COURSE, IL-11
BITUMINOUS PRIME COAT BC-30
6" AGGREGATE BASE COURSE (CA-6, TYPE B)
- EXISTING ASPHALT PAVEMENT
FROM APPROVED PLANS
EXISTING PAVEMENT SECTION:
1" BITUMINOUS CONCRETE SURFACE COURSE, C
2" BITUMINOUS BINDER COURSE, CL
10" AGGREGATE BASE COURSE (CA-6)
- CONCRETE PAVEMENT (DUMPER & LOADING AREA)
8" PORTLAND CEMENT CONCRETE (8 BAG MIX)
W 6"x6" NO. 6 W/M (NOT IN PUBLIC R.O.W.)
4" AGGREGATE BASE COURSE CA-6, TYPE B
- CONCRETE SIDEWALKS/PAVING SLABS
4" FCB SIDEWALK
4" AGGREGATE BASE COURSE CA-6, TYPE B
- DETECTABLE WARNING AND DEPRESSION CURB
(REPLACEABLE RED POLYMER COMPOSITE PLATE)
- PROPOSED CURB AND GUTTER (B6.12) PITCH -
- PROPOSED REVERSE PITCH CURB AND GUTTER (
- PROPOSED DEPRESSION CURB AND GUTTER
- PROPOSED HANDICAP RAMP WITH DETECTABLE WARNING SHOWN FOR REFERENCE - SEE DETAIL
- EXISTING CURB & GUTTER

SITE DATA:

SITE AREA	= 51,970 S.F. (1.19
EXISTING SITE CONDITIONS:	
IMPERVIOUS SURFACE	= 33,347 S.F. (64)
STORMWATER DETENTION	= 6,754 S.F. (12)
EXISTING GREENSPACE	= 11,869 S.F. (22)
FUTURE BUILDING EXPANSION (NOT INCLUDED IN ABOVE EXISTING SITE CONDITIONS INFORMATION)	= 4,481 S.F.
PROPOSED SITE CONDITIONS:	
PROPOSED BUILDING FOOTPRINT	= 2,373 S.F. (4)
PROPOSED PAVT./SIDEWALK	= 36,016 S.F. (69)
PROPOSED GREENSPACE	= 13,581 S.F. (26)
IMPERVIOUS AREA - PROPOSED CONDITIONS	= 38,389 S.F.
INCREASE/NEW IMPERVIOUS SURFACE AREA	= 5,042 S.F.
INCREASE/NEW IMPERVIOUS SURFACE AREA (COMPARED TO EXIST. CONDITIONS WITH FUTURE BLDG. EXPANSION)	= 561 S.F.
EXISTING PARKING SUMMARY:	
REGULAR STALLS	= 77
ADA ACCESSIBLE STALLS	= 8
TOTAL STALLS	= 85
PROPOSED PARKING SUMMARY:	
REGULAR STALLS	= 79
ADA ACCESSIBLE STALLS	= 6
TOTAL STALLS PROVIDED	= 85

THESE PLANS ARE PRELIMINARY IN NATURE AND FOR REVIEW ONLY. THEY ARE SUBJECT TO CHANGE PENDING MORE DETAILED ENGINEERING & ARCHITECTURAL DESIGN.

PRELIMINARY- FOR REVIEW ONLY

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for

Engineering, LLC

PROJECT NO. 22121218
DATE 03/24/2020
SCALE 1/8"=1'-0"
PROJ. MGR. JDL
PROJ. ASSOC. BWS
DRAWN BY JLM

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MEMORANDUM

To: Daniel Kovacevic – Whitestone REIT
Rick Burton – Whitestone REIT

From: Rory Fancier, AICP, PTP – Kimley-Horn
Tim Sjogren, P.E., PTOE – Kimley-Horn

Date: July 10, 2020

RE: Traffic Summary for Spoerlein Commons
Buffalo Grove, Illinois

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Whitestone REIT to perform a review of existing and future (build) traffic conditions for Spoerlein Commons, a shopping center located on the north side of McHenry Road east of Arlington Heights Road in Buffalo Grove, Illinois. The analysis of build conditions considers the development of a new freestanding coffee shop with drive-through window along McHenry Road near the western boundary of the site.

This memorandum presents and documents Kimley-Horn's data collection, summarizes the evaluation of existing and projected build traffic conditions, and identifies recommendations to address the potential impact of site-generated traffic.

Executive Summary

Existing and build traffic conditions were evaluated for the signalized intersection of McHenry Road/Arlington Heights Road and the existing site access driveways. Based on a review of traffic conditions, it is anticipated that site-generated trips would be accommodated at the study intersections. With the addition of site-generated traffic, Access A (Courtland Drive) and Access C (Ranchview Court) are expected to operate with limited delay and queues. At Access B (McHenry Road), the outbound approach is projected to operate with increased delay and queues. The projected delay and queues are internal to the site and are not expected to impact operations of McHenry Road. However, in order to enhance access to the proposed drive-through window and facilitate circulation through the parking lot, onsite wayfinding is recommended. In addition, installation of minor-leg stop control at Access B and Access C (existing stop sign posted at Access A) is recommended with the proposed outlot development.

Existing and Proposed Development

Spoerlein Commons is an existing commercial shopping center totaling approximately 41,180 square feet of commercial space. The shopping center is occupied by a mix of retail, restaurant, service, and office uses. Whitestone REIT proposes to develop a new 2,388 square-foot coffee shop with drive-through window along the McHenry Road frontage at the west boundary of the site. The proposed outlot development would accommodate an existing coffee shop tenant in the inline commercial building. The conceptual site plan is provided as **Attachment 1**.

Existing site access for Spoerlein Commons would be maintained with the outlot development. Access would continue to be provided by full-access driveways to Courtland Drive (Access A), McHenry Road (Access B), and Ranchview Court (Access C). An aerial view of the study location and surrounding roadway network is presented in **Exhibit 1**.

Data Collection

Kimley-Horn performed traffic counts at the signalized intersection of McHenry Road/Arlington Heights Road and the existing site access driveways. The traffic counts were conducted from 7:00 to 9:00AM and 4:00 to 6:00PM on a typical weekday, and from 11:00AM to 1:00PM on a typical Saturday.

The traffic count data indicates that the peak trip generation period for Spoerlein Commons occurs from 7:30 to 8:30AM and 4:45 to 5:45PM on a typical weekday. During the Saturday midday period, the peak hour occurs from 11:00AM to 12:00PM. Peak traffic volumes at the adjacent intersection of McHenry Road/Arlington Heights occur from 7:15 to 8:15AM and 4:45 to 5:45PM on a typical weekday. On Saturday, the intersection peak hour occurs from 11:45AM to 12:45PM. For purposes of this analysis, the Spoerlein Commons peak hours were analyzed in order to evaluate the periods of highest activity at the existing commercial site. Existing peak hour traffic volumes are presented in **Exhibit 2**. For purposes of this analysis, the traffic volumes were rounded to the nearest multiple of five. The detailed traffic count worksheets are provided as **Attachment 2**.

Weekday count data reveals traffic volumes on McHenry Road are higher in the eastbound direction during the morning peak hour. In the evening peak hour, traffic volumes are higher in the westbound direction, which reflects local commute patterns. During the Saturday midday peak hour, traffic volumes on McHenry Road are generally evenly distributed. Traffic volumes on Arlington Heights Road are generally higher in the northbound direction during each peak hour. Site-generated traffic for Spoerlein Commons is generally consistent across the three peak hours analyzed.

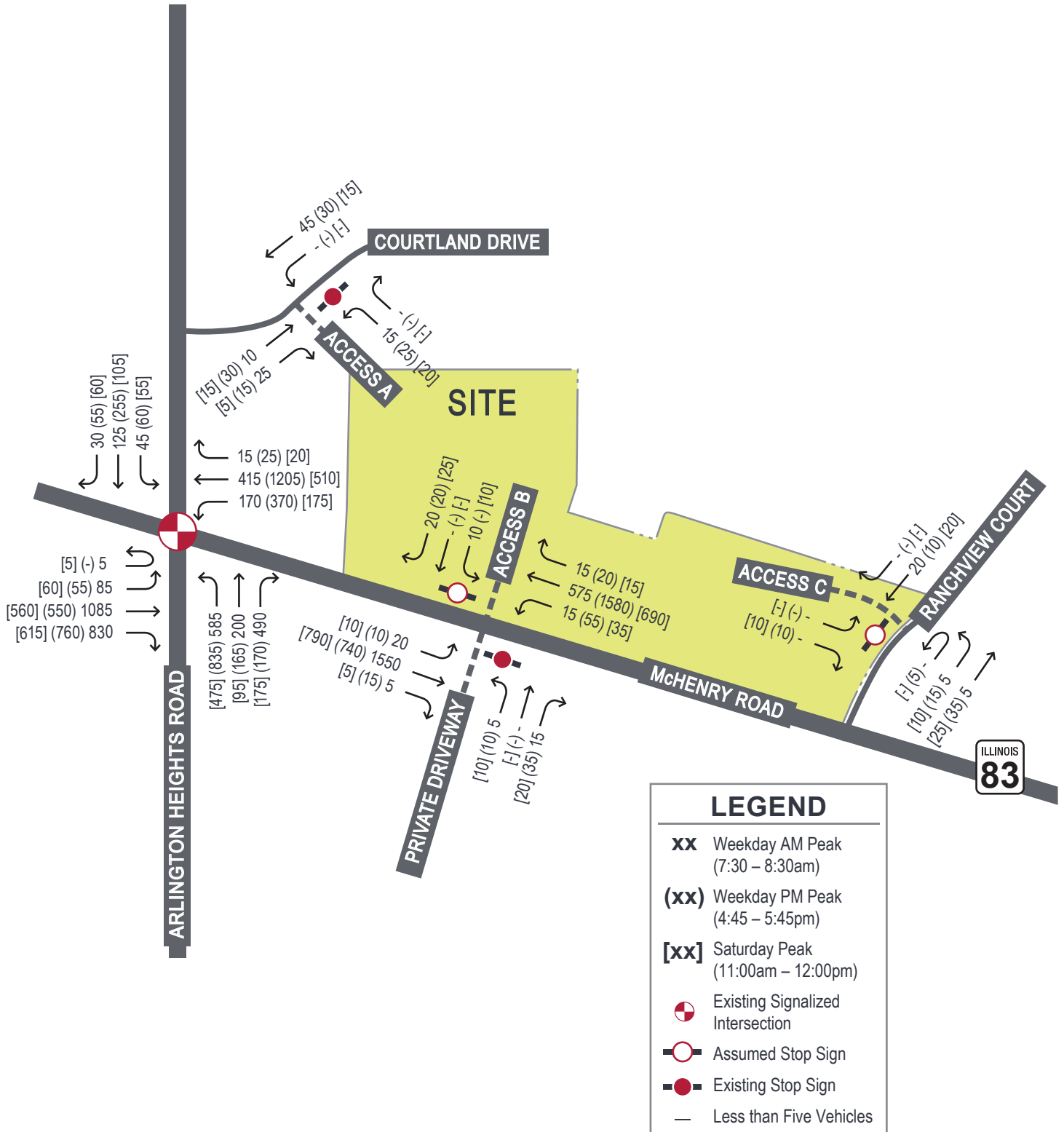
Trip Generation & Assignment

In order to calculate trips generated by the proposed outlot development, data was referenced from the Institute of Transportation Engineers (ITE) manual titled Trip Generation, Tenth Edition. Trip generation rates for the ITE Land Use Code (LUC) corresponding to the proposed use are shown in **Table 1**.

In addition, the peak hour trips generated by the existing tenant in the inline commercial building (i.e., coffee shop without drive-through window) were calculated using ITE data. For purposes of this analysis, the trips generated by the existing coffee shop tenant were assumed to be removed from the study intersections with the proposed outlot development.



Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)



Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

Table 1. ITE Trip Generation Data¹

ITE Land Use	Weekday			Saturday
	Daily	AM Peak Hour	PM Peak Hour	Midday Peak Hour
Existing Land Use				
Coffee/Donut Shop without Drive-Through Window (LUC 936)	932.39 ² 50% in / 50% out	101.14 51% in / 49% out	36.31 50% in / 50% out	59.01 49% in / 51% out
Proposed Land Use				
Coffee/Donut Shop with Drive-Through Window (LUC 937)	820.38 50% in / 50% out	88.99 51% in / 49% out	43.38 50% in / 50% out	87.70 50% in / 50% out

¹Trip generation data is presented as trips per 1,000 square feet of gross floor area.

²ITE data is not provided for Daily trips for LUC 936 (Coffee/Donut Shop without Drive-Through Window); therefore, the rate is calculated based on the ratio of trip generation rates provided for AM Peak Hour of Adjacent Street Traffic and Weekday Daily for LUC 937 (Coffee/Donut Shop with Drive-Through Window). Directional distribution from LUC 937 applied.

For the purpose of this study, site-generated trips are expected to exhibit multiple routing patterns when traveling to and from the subject site, as described below:

- **Pass-by** – Pass-by traffic reflects the travel patterns of motorists who are already traveling on the adjacent study roadways and stop at the site en-route to another destination. Data in the ITE Trip Generation Handbook, Third Edition was used to estimate pass-by trips. ITE data is not provided for Coffee/Donut Shop without Drive-Through Window (LUC 936) or Coffee/Donut Shop with Drive-Through Window (LUC 937); therefore, data for Fast-Food Restaurant with Drive-Through Window (LUC 934) was assumed for each peak hour. Based on ITE data, approximately 49 percent of trips are pass-by during the morning peak hour, and 50 percent of trips are pass-by in the evening peak hour. ITE data is not provided for Daily trips and Saturday peak hour trips; therefore, an average of the morning and evening peak hour data (50 percent) was used to estimate pass-by trips during these periods.
- **Primary Trips** – Vehicles that travel to the subject redevelopment and then return directly to their place of origin are called “primary trips.” Primary trips reflect new traffic volumes generated by the proposed redevelopment that would approach and depart on the same route. Trips to/from the site that are not pass-by trips are expected to be primary trips.

Per these assumptions, site-generated traffic projections are presented in **Table 2**.

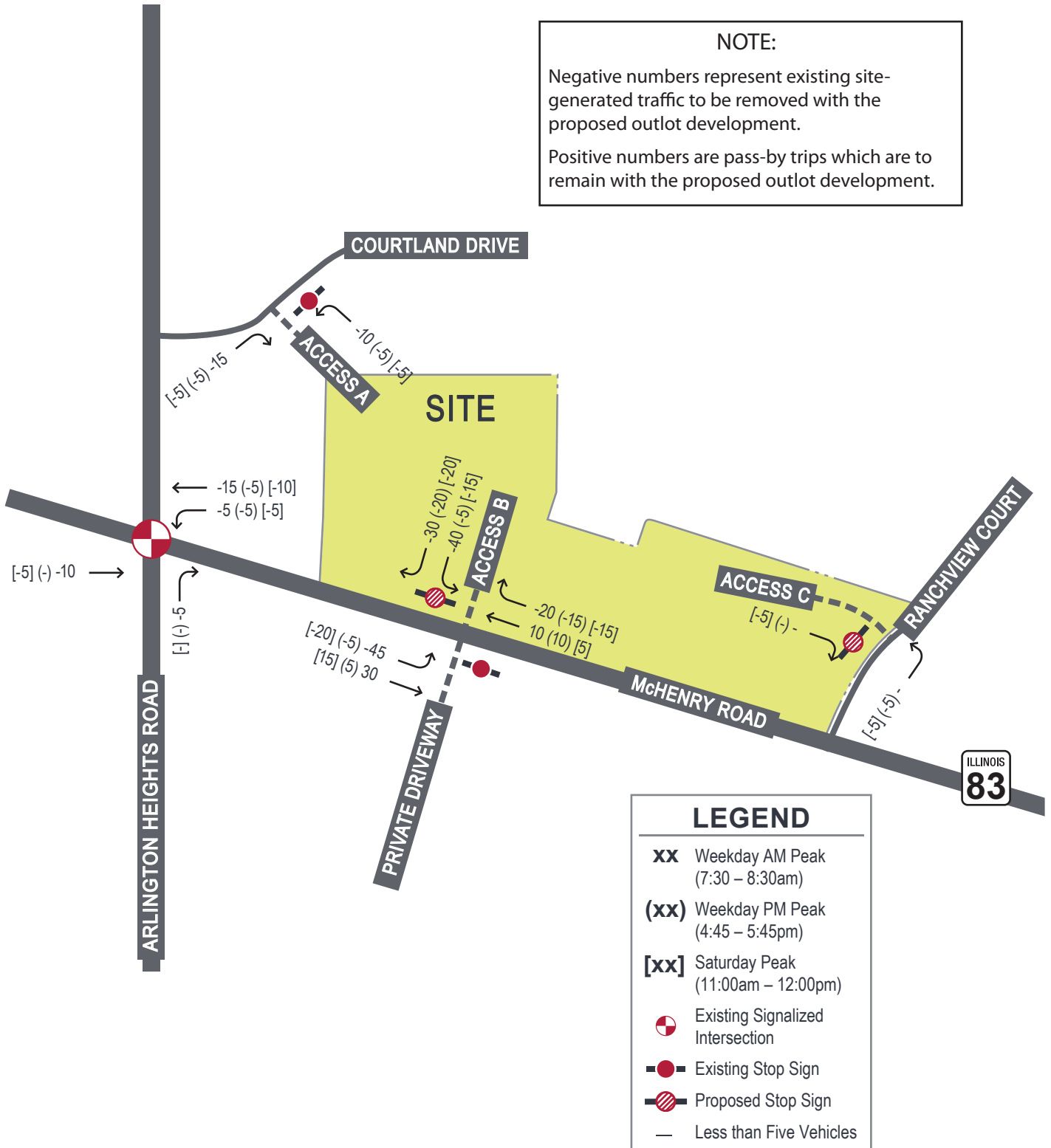
Table 2. Site-Generated Traffic Projections

Land Use	Size	Weekday							Saturday		
		Daily	AM Peak			PM Peak			Midday Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Proposed Land Use											
Coffee/Donut Shop with Drive-Through Window	2,388 sq. ft.	1,970	110	105	215	55	55	110	105	105	210
Less Pass-by Trips ¹		-980	-55	-55	-110	-30	-30	-60	-55	-55	-110
Subtotal – Proposed Land Use		990	55	50	105	25	25	50	50	50	100
Existing Land Use (To Be Removed)											
Coffee/Donut Shop without Drive-Through Window	1,537 sq. ft.	1,430	80	80	160	30	30	60	45	45	90
Less Pass-by Trips ¹		-710	-40	-40	-80	-15	-15	-30	-45	-45	-90
Subtotal – Existing Land Use		720	40	40	80	15	15	30	20	20	40
Net New Trips		270	15	10	25	10	10	20	30	30	60

¹Pass-by trips were estimated based on data in the ITE Trip Generation Handbook, Third Edition. ITE data is not provided for Coffee/Donut Shop without Drive-Through Window (LUC 936) or Coffee/Donut Shop with Drive-Through Window (LUC 937); therefore, data for Fast-Food Restaurant with Drive-Through Window (LUC 934) was assumed for each peak hour. Based on ITE data, approximately 49 percent of trips are pass-by during the morning peak hour, and 50 percent of trips are pass-by in the evening peak hour. ITE data is not provided for Daily trips and Saturday peak hour trips; therefore, an average of the morning and evening peak hour data (50 percent) was used to estimate pass-by trips during these periods.

Site-generated traffic is expected to travel to and from the site in a manner that is proportional to existing travel patterns. Therefore, the existing traffic volumes presented in Exhibit 2 were used to estimate the trip distribution patterns for both the existing coffee shop and the proposed outlot development. Pass-by trip distribution estimates account for the expectation that site trips are likely to travel along McHenry Road.

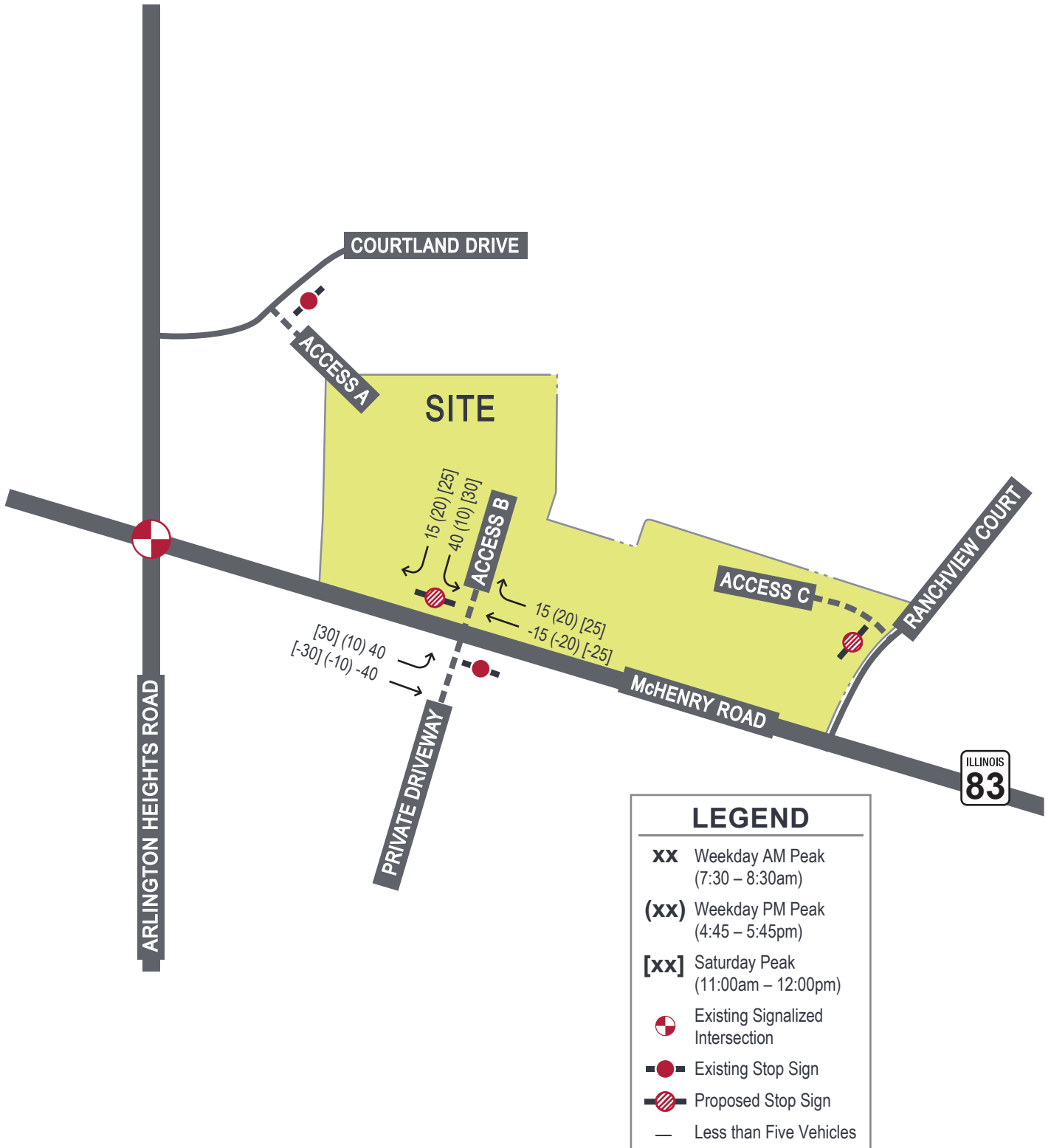
Total site trip assignment for the existing coffee shop tenant are depicted in **Exhibit 3**. For the proposed outlot development, site trip assignments for primary trips and pass-by trips are illustrated on **Exhibit 4** and **Exhibit 5**, respectively. Total site trip assignment for the proposed outlot development is depicted in **Exhibit 6**.



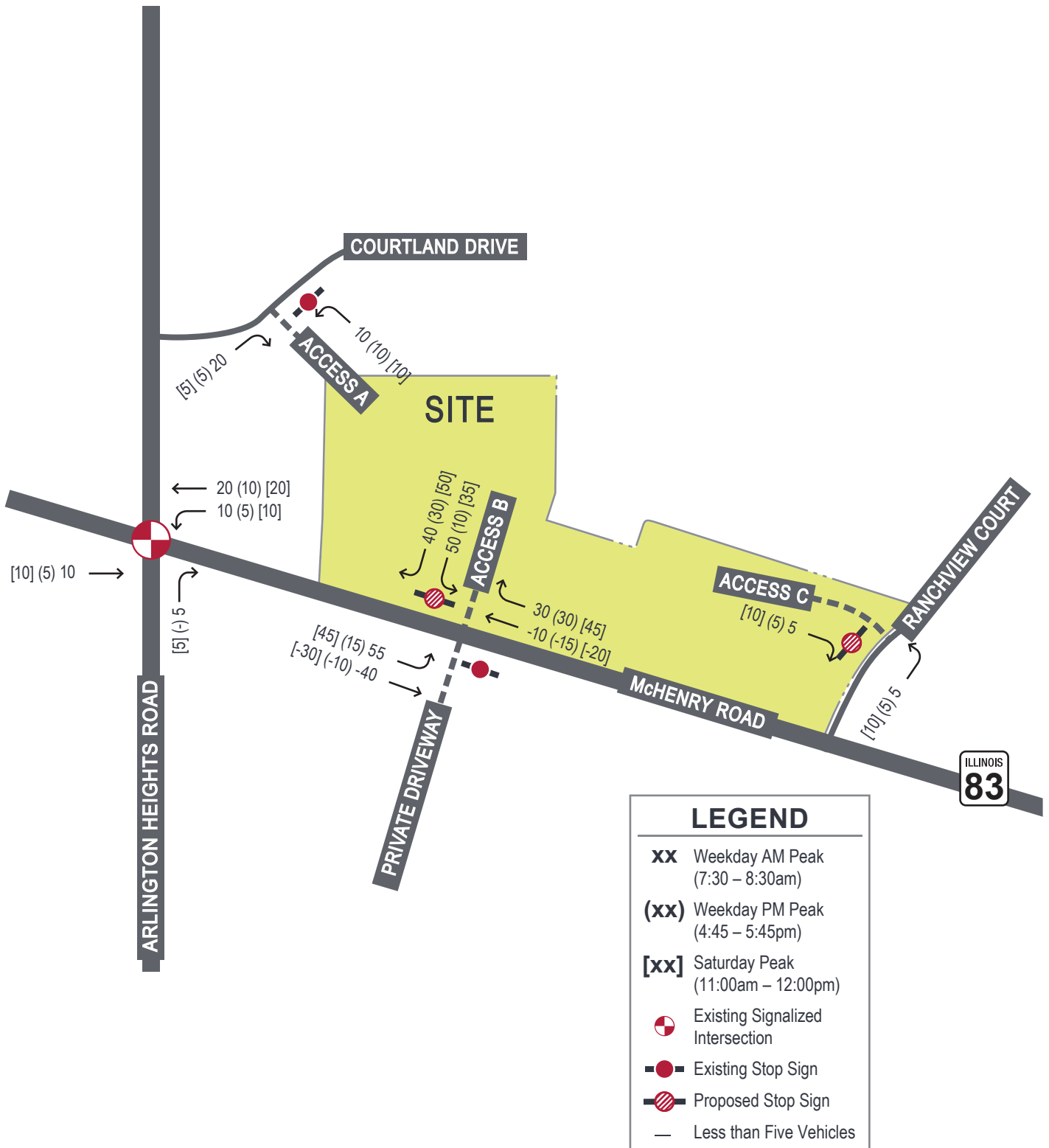
Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)



Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)



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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

In order to project build traffic volumes with development of the outlot, the trips attributable to the existing coffee shop (Exhibit 3) were removed existing traffic volumes (Exhibit 2), and the total site trip assignment (Exhibit 6) was added. The estimated build traffic volumes are presented in **Exhibit 7**.

Capacity Analysis

Synchro capacity software was used to evaluate existing and build operational conditions at the site access driveways and nearby intersection of McHenry Road/Arlington Heights Road. The analysis was completed for the weekday and Saturday peak hours. The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS), measured in average delay per vehicle. LOS grades range from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The lowest LOS grade typically accepted by jurisdictional transportation agencies in Northeastern Illinois is LOS D.

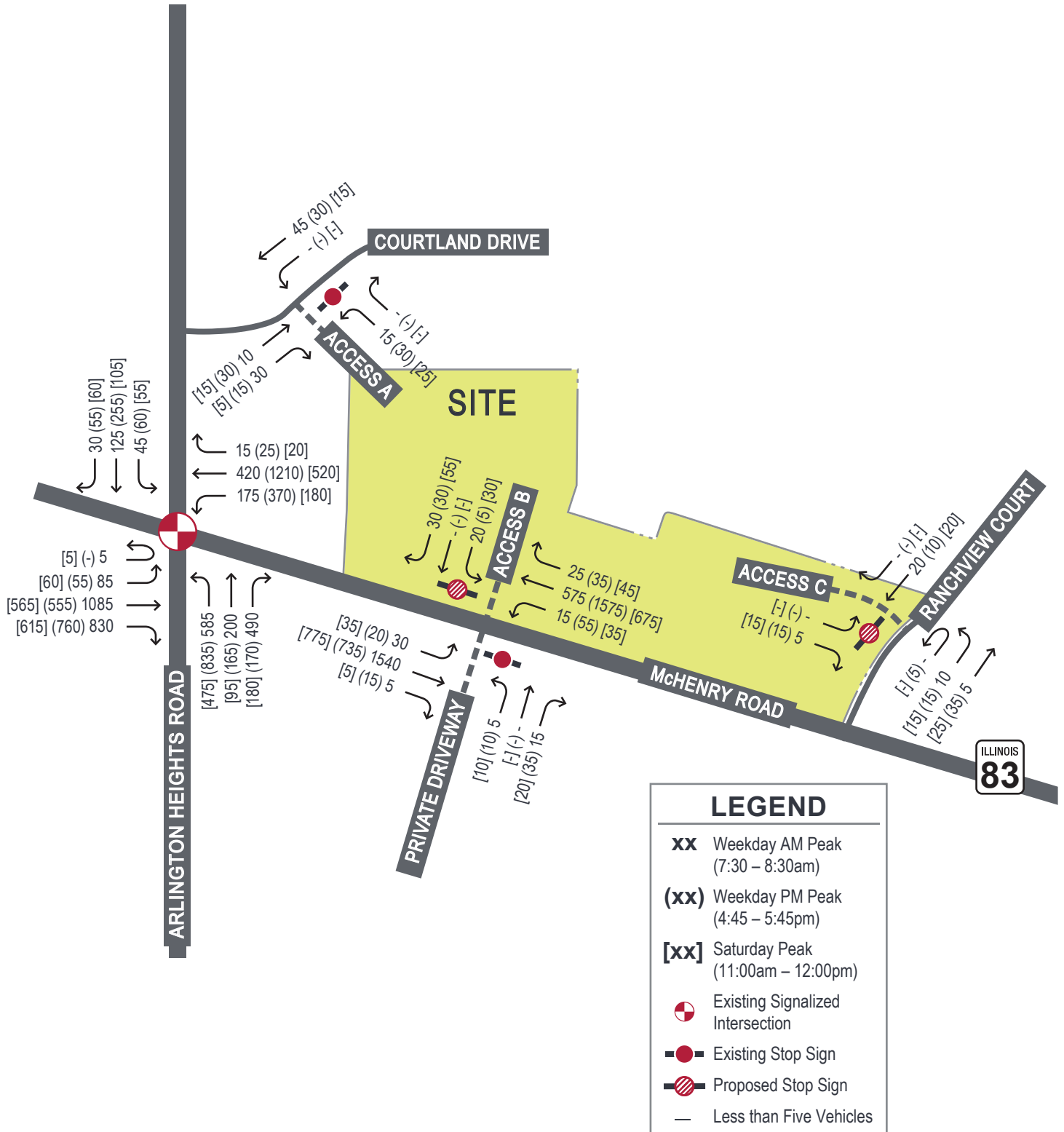
The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 3**.

Table 3. Level of Service Grading Descriptions¹

Level of Service	Description
A	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	High control delay; average travel speed no more than 33 percent of free flow speed.
F	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

¹Highway Capacity Manual 2010

The range of control delay for each rating (as detailed in the HCM) is shown in **Table 4**. Because signalized intersections are expected to carry a higher volume of vehicles and stopping is required during red time, note that higher delays are tolerated for the corresponding LOS ratings.



Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

Table 4. Level of Service Grading Criteria¹

Level of Service	Average Control Delay (s/veh) at:	
	Unsignalized Intersections	Signalized Intersections
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F ²	> 50	> 80

¹Highway Capacity Manual 2010²All movements with a Volume to Capacity (v/C) ratio greater than 1 receive a rating of LOS F.

Based on these standards, capacity results were identified for the study intersections under existing conditions. In order to evaluate existing traffic operation, signal timings for the McHenry Road/Arlington Heights Road intersection were obtained from the Illinois Department of Transportation (IDOT). For purposes of a conservative analysis, right-turn-on-red (RTOR) movements were not included in the analysis of the signalized intersection. Minor-leg stop control was assumed for the analysis of Access B and Access C (existing stop sign posted at Access A). It should be noted that this study does not consider the effects of platooned vehicle progression along McHenry Road for the analysis of Access B. Vehicle platooning often increases the number of gaps available to minor-street vehicles, thereby reducing actual vehicle delay relative to the results projected by the model; as such, the results contained within this study can be considered conservative.

The results of capacity analysis for existing conditions are summarized in **Table 5**. In this table, operation on each approach is quantified according to the average delay per vehicle and the corresponding level of service. Overall intersection operations are reported for the signalized intersection. Overall intersection level of service is not reported for minor-leg stop-controlled intersections, since the majority of vehicles are able to move through the intersection with little to no delay. The results presented in Table 5 are based on Synchro's HCM 2010 reports. A copy of the capacity analysis reports is provided as **Attachment 3**.

Table 5. Existing and Build Levels of Service

Intersection	Existing Traffic Conditions						Build Traffic Conditions (with Outlot Development)					
	Weekday				Saturday		Weekday				Saturday	
	AM Peak Hour		PM Peak Hour		Midday Peak Hour		AM Peak Hour		PM Peak Hour		Midday Peak Hour	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
McHenry Road / Arlington Heights Road ★												
Eastbound	42	D	66	E ³	24	C	42	D	66	E ³	24	C
Westbound	40	D ¹	65	E	13	B	41	D ¹	65	E	14	B
Northbound	>120	F	77	E ²	>120	F	>120	F	77	E ²	>120	F
Southbound	71	E ²	96	F	49	D ¹	71	E ²	96	F	48 ⁴	D ¹
Intersection	70	E	71	E	70	E	70	E	71	E	70	E
Access A / Courtland Drive △												
Westbound (Left)	7	A	7	A	7	A	7	A	7	A	7	A
Northbound (Access A)	9	A	9	A	9	A	9	A	9	A	9	A
Access B / McHenry Road △												
Eastbound (Left)	9	A	15-	B	9	A	9	A	15	C	9	A
Westbound (Left)	15+	C	10-	A	10-	A	15-	B	10-	A	10-	A
Northbound	74	F	>120	F ⁵	24	C	87	F	>120	F ⁵	27	D
Southbound	41	E	>120	F ⁵	21	C	70	F	>120	F ⁵	33	D
Access C / Ranchview Court △												
Eastbound (Access C)	9	A	9	A	9	A	9	A	9	A	9	A
Northbound (Left)	7	A	7	A	7	A	7	A	7	A	7	A

¹Left-turn movement operates at LOS E.²Left-turn movement operates at LOS F.³Right-turn movement operates at LOS F.⁴Decrease in delay as compared to existing conditions is attributable to additional green time allocated to the southbound approach under the build condition.⁵Based on volume of traffic along McHenry Road, delay and 95th percentile queues not reported. Assumed delay exceeds 120 seconds (LOS F).

With the addition of site-generated traffic, the signalized intersection of McHenry Road/Arlington Heights Road is expected to operate similar to existing conditions. The proposed outlot is not expected to materially impact delay or queue conditions at the signalized intersection.

The site access driveways are also expected to operate similar to existing conditions. At Access A (Courtland Drive) and Access C (Ranchview Court), limited delay is projected. The 95th percentile queues for outbound traffic are estimated to be approximately one vehicle or less during each peak hour, consistent with existing conditions.

At the intersection of Access B/McHenry Road, the eastbound and westbound left-turn movements are projected to continue to operate at LOS C or better during each peak hour. The 95th percentile queue projected for each turn lane is approximately one vehicle or less during the peak hours. The northbound and southbound approaches are expected to operate at LOS F during the weekday peak hours. During the Saturday midday peak hour, the northbound and southbound approaches are projected to operate at LOS D. The high average delay estimated for the northbound and southbound approaches is not unusual for a minor-street stop-controlled intersection with a heavily traveled arterial such as McHenry Road. These results are based on a conservative analysis that does not consider the effects of platooned vehicle progression from the signalized intersections along McHenry Road.

Based on the capacity analysis, the projected 95th percentile queue for outbound traffic at Access B is two vehicles during the weekday morning and Saturday midday peak hours. During the evening peak hour, 95th percentile queues are not reported for Access B under the existing and build conditions due to the volume of traffic along McHenry Road. During each peak hour, the 95th percentile queues projected for Access B would be internal to the site and are not expected to impact operations along McHenry Road.

The current site access and onsite circulation configuration provides flexibility for motorists to select an alternate outbound access driveway (i.e., Access A or Access C) if long delays or queues are observed at Access B. Furthermore, the proposed outlot development is considered a discretionary use; and therefore, if motorists experience significant delays or queues, alternate coffee shop locations may be selected.

In order to enhance access to the proposed drive-through window and facilitate circulation through the parking lot, onsite wayfinding is recommended. Installation of minor-leg stop control is recommended for Access B and Access C (existing stop sign posted at Access A).

Conclusion

Based on an evaluation of existing and build traffic conditions, the following recommendations have been identified for Spoerlein Commons as part of development of the proposed outlot:

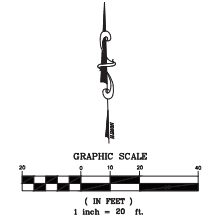
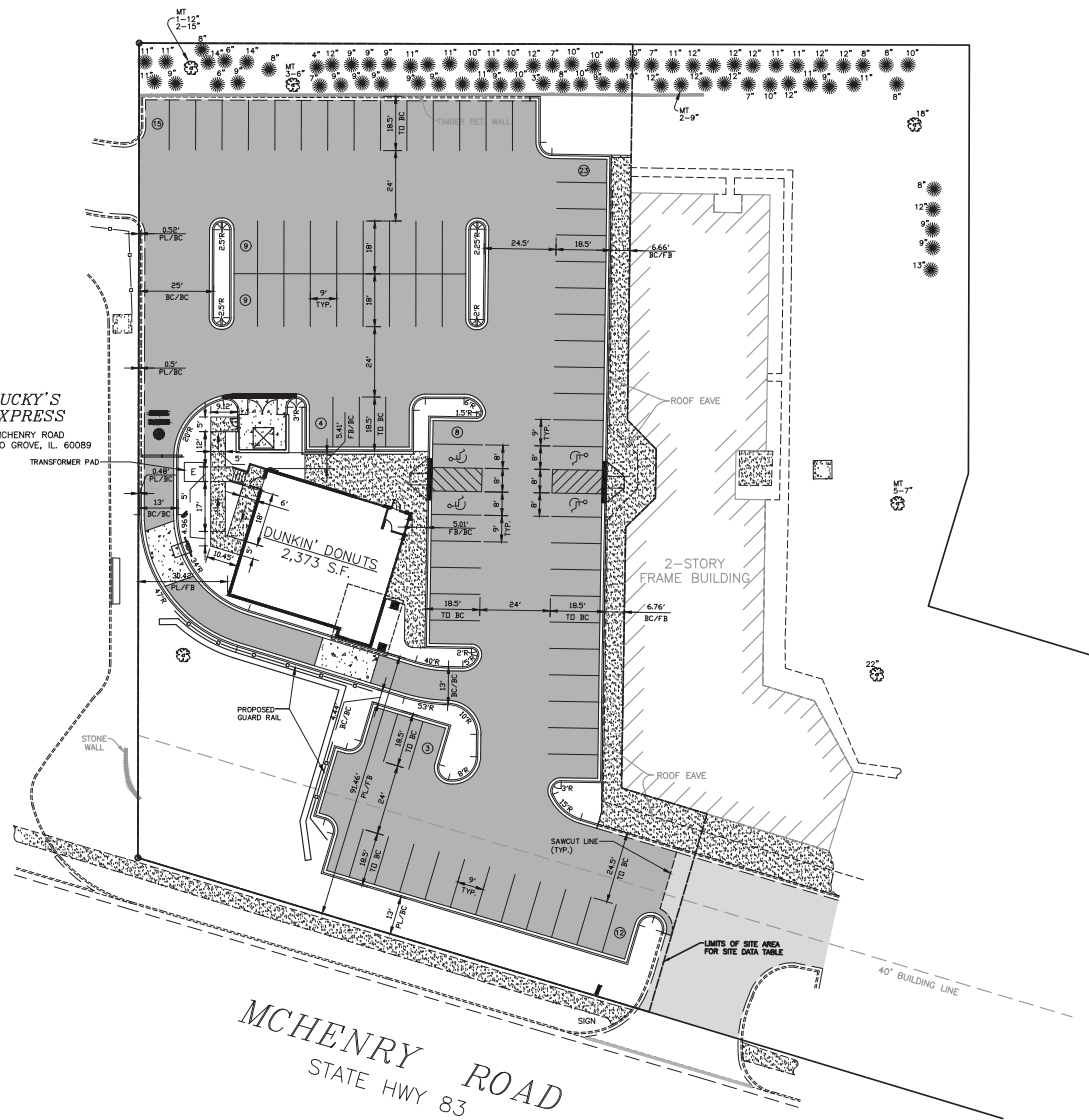
- Minor-leg stop control should be posted for outbound traffic at Access B and Access C.
- Onsite wayfinding should be installed to facilitate inbound and outbound access for the proposed drive-through window.

Regardless of the final configuration of the intersection geometrics, several additional items should be taken into consideration when preparing the site plan for the subject development. As the site design progresses, care should be taken with landscaping, signage, and monumentation at the site access locations to ensure that adequate horizontal sight distance is provided. If alterations to the site plan or land use should occur, changes to the analysis provided within this traffic impact study may be needed.

ATTACHMENTS

1. Conceptual Site Plan
2. Traffic Count Data
3. Synchro Capacity Reports
 - Existing Conditions
 - Build Conditions

CONCEPTUAL SITE PLAN



- SURFACE IMPROVEMENT LEGEND:**
- NEW ASPHALT PAVEMENT (STANDARD DUTY)
 - 1" 3/4" HOT-MIX ASPHALT SURFACE COURSE, MIX 1C, N50
 - BITUMINOUS TACK COAT
 - 3" 3/4" HOT-MIX ASPHALT BINDER COURSE, IL-19, N50
 - BITUMINOUS PRIME COAT BC-30
 - 6" AGGREGATE BASE COURSE (CA-6, TYPE B)
 - EXISTING ASPHALT PAVEMENT FROM APPROVED PLANS
 - EXISTING PAVEMENT SECTIONS:
 - 1" BITUMINOUS CONCRETE SURFACE COURSE, CL 1
 - 2" BITUMINOUS BINDER COURSE, CL 1
 - 10" AGGREGATE BASE COURSE (CA-6)
 - CONCRETE PAVEMENT (DUMPER & LOADING AREA)
 - 8" PORTLAND CEMENT CONCRETE (8 BAG MIX) W/ 6"x6" NO. 6 W/M (NOT IN PUBLIC R.O.W.)
 - 4" AGGREGATE BASE COURSE CA-6, TYPE B
 - CONCRETE SIDEWALKS/PATIOS/SLABS
 - 5" FRC SIDEWALK
 - 4" AGGREGATE BASE COURSE CA-6, TYPE B
 - DETECTABLE WARNING AND DEPRESSION CURB (REPLACEABLE RED POLYMER COMPOSITE PLATES)
 - PROPOSED CURB AND GUTTER (86.12) PITCH - IN
 - PROPOSED REVERSE PITCH CURB AND GUTTER (86.12)
 - PROPOSED DEPRESSION CURB AND GUTTER
 - PROPOSED HANDICAP RAMP WITH DETECTABLE WARNING SHOWN FOR REFERENCE - SEE DETAIL
 - EXISTING CURB & GUTTER

SITE DATA:

SITE AREA	= 51,970 S.F. (1.19 AC)
EXISTING SITE CONDITIONS:	
IMPERVIOUS SURFACE	= 33,347 S.F. (64.17%)
STORMWATER DETENTION	= 6,754 S.F. (12.99%)
EXISTING GREENSPACE	= 11,869 S.F. (22.84%)
FUTURE BUILDING EXPANSION (NOT INCLUDED IN ABOVE EXISTING SITE CONDITIONS INFORMATION)	= 4,481 S.F.
PROPOSED SITE CONDITIONS:	
PROPOSED BUILDING FOOTPRINT	= 2,373 S.F. (4.57%)
PROPOSED PAVT./SIDEWALK	= 36,016 S.F. (69.30%)
PROPOSED GREENSPACE	= 13,581 S.F. (26.13%)
IMPERVIOUS AREA - PROPOSED CONDITIONS	= 38,389 S.F.
INCREASE/NEW IMPERVIOUS SURFACE AREA	= 5,042 S.F.
INCREASE/NEW IMPERVIOUS SURFACE AREA (COMPARED TO EXIST. CONDITIONS WITH FUTURE BLDG. EXPANSION)	= 561 S.F.
EXISTING PARKING SUMMARY:	
REGULAR STALLS	= 77
ADA ACCESSIBLE STALLS	= 8
TOTAL STALLS	= 85
PROPOSED PARKING SUMMARY:	
REGULAR STALLS	= 79
ADA ACCESSIBLE STALLS	= 8
TOTAL STALLS PROVIDED	= 87

THESE PLANS ARE PRELIMINARY IN NATURE AND FOR REVIEW ONLY. THEY ARE SUBJECT TO CHANGE PENDING MORE DETAILED ENGINEERING & ARCHITECTURAL DESIGN.

PRELIMINARY- FOR REVIEW ONLY

Drawn: 5/17/2018 - SPOERLEIN COMMONS-DUNKIN' DONUTS/STORMWATER DETENTION/PAVING/UTILITY/ASPHALT/PAVING

DATE: 5/17/2018
 1. SPOERLEIN COMMONS - PROPOSED DRIVE THRU BUFFALO GROVE, ILLINOIS
 2. SPOERLEIN COMMONS - PROPOSED DRIVE THRU BUFFALO GROVE, ILLINOIS
 3. SPOERLEIN COMMONS - PROPOSED DRIVE THRU BUFFALO GROVE, ILLINOIS

SPOERLEIN COMMONS - PROPOSED DRIVE THRU BUFFALO GROVE, ILLINOIS

975 E. 22nd St. Suite 400



PROJECT NO.: 1833
 DATE: 5/17/2018
 PROJ. MGR.:
 PROJ. ASSOC.:
 DRAWN BY:

SHEET

2 OF

TRAFFIC COUNT DATA

Study Name Arlington Heights Rd & McHenry Rd
Date Thursday, March 07, 2019

Report Summary

Time Period	Class.	Eastbound						Westbound						Northbound						Southbound						Total
		U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	
AM Peak Hour	Lights	4	81	1069	807	1961	998	0	168	399	14	581	1592	0	566	198	481	1245	1092	0	42	117	29	188	293	3975
Specified Period	%	100%	96%	99%	97%	98%	96%	0%	98%	96%	88%	97%	98%	0%	96%	99%	98%	97%	97%	0%	95%	94%	94%	94%	98%	97%
7:30 AM - 8:30 AM	Mediums	0	1	11	15	27	23	0	3	8	2	13	21	0	13	2	8	23	25	0	2	7	2	11	5	74
One Hour Peak	%	0%	1%	1%	2%	1%	2%	0%	2%	2%	13%	2%	1%	0%	2%	1%	2%	2%	2%	0%	5%	6%	6%	6%	2%	2%
7:30 AM - 8:30 AM	ticulated Truc	0	2	3	6	11	16	0	0	8	0	8	4	0	8	0	1	9	6	0	0	0	0	0	2	28
	%	0%	2%	0%	1%	1%	2%	0%	0%	2%	0%	1%	0%	0%	1%	0%	0%	1%	1%	0%	0%	0%	0%	0%	1%	1%
	Total	4	84	1083	828	1999	1037	0	171	415	16	602	1617	0	587	200	490	1277	1123	0	44	124	31	199	300	4077
	PHF	0.5	0.88	0.93	0.95	0.95	0.84	0	0.87	0.89	0.8	0.92	0.99	0	0.8	0.85	0.91	0.91	0.95	0	0.69	0.89	0.86	0.96	0.85	0.93
	HV %	0%	4%	1%	3%	2%	4%	0%	2%	4%	13%	3%	2%	0%	4%	1%	2%	3%	3%	0%	5%	6%	6%	6%	2%	3%
PM Peak Hour	Lights	0	54	545	752	1351	2087	0	371	1200	26	1597	777	0	830	163	172	1165	1376	0	60	253	57	370	243	4483
Specified Period	%	0%	100%	99%	99%	99%	99%	0%	100%	100%	96%	100%	99%	0%	99%	99%	100%	99%	99%	0%	100%	99%	100%	99%	99%	99%
4:45 PM - 5:45 PM	Mediums	0	0	6	7	13	10	0	0	6	1	7	6	0	4	1	0	5	9	0	0	2	0	2	2	27
One Hour Peak	%	0%	0%	1%	1%	1%	0%	0%	0%	0%	4%	0%	1%	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%	1%	1%	1%
4:45 PM - 5:45 PM	ticulated Truc	0	0	1	0	1	3	0	0	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0	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%	0%	0%
	Total	0	54	552	759	1365	2100	0	371	1206	27	1604	784	0	837	164	172	1173	1385	0	60	255	57	372	245	4514
	PHF	0	0.68	0.91	0.87	0.9	0.94	0	0.96	0.91	0.84	0.95	0.96	0	0.94	0.71	0.83	0.9	0.94	0	0.75	0.85	0.75	0.86	0.74	0.95
	HV %	0%	0%	1%	1%	1%	1%	0%	0%	0%	4%	0%	1%	0%	1%	1%	0%	1%	1%	0%	0%	1%	0%	1%	1%	1%

Study Name Arlington Heights Rd & McHenry Rd
Date Saturday, March 09, 2019

Report Summary

Time Period	Class.	Eastbound						Westbound						Northbound						Southbound						Total
		U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	
SAT Peak Hour	Lights	3	59	560	605	1227	1036	0	174	503	21	698	788	0	471	94	175	740	882	0	53	103	59	215	174	2880
Specified Period	%	100%	100%	100%	98%	99%	99%	0%	99%	99%	100%	99%	100%	0%	99%	99%	100%	99%	98%	0%	98%	99%	100%	99%	99%	99%
11:00 AM - 12:00 PM	Mediums	0	0	1	10	11	8	0	1	4	0	5	2	0	4	1	0	5	12	0	1	1	0	2	1	23
One Hour Peak	%	0%	0%	0%	2%	1%	1%	0%	1%	1%	0%	1%	0%	0%	1%	1%	0%	1%	1%	0%	2%	1%	0%	1%	1%	1%
11:00 AM - 12:00 PM	articulated Truc	0	0	0	2	2	1	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	3	59	561	617	1240	1045	0	175	508	21	704	790	0	475	95	175	745	896	0	54	104	59	217	175	2906
	PHF	0.75	0.82	0.88	0.93	0.91	0.94	0	0.83	0.88	0.66	0.94	0.92	0	0.93	0.88	0.89	0.94	0.93	0	0.96	0.93	0.82	0.92	0.99	0.97
	HV %	0%	0%	0%	2%	1%	1%	0%	1%	1%	0%	1%	0%	0%	1%	1%	0%	1%	2%	0%	2%	1%	0%	1%	1%	1%

Study Name McHenry Rd & Access Driveway
Start Date Thursday, March 07, 2019

Report Summary

Time Period	Class.	Eastbound						Westbound						Northbound						Southbound						Total
		U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	
AM Peak Hour	Lights	0	18	1529	7	1554	574	1	15	550	13	579	1553	0	4	1	15	20	22	0	8	0	20	28	32	2181
Specified Period	%	0%	100%	99%	100%	99%	96%	100%	94%	96%	100%	96%	99%	0%	100%	100%	94%	95%	96%	0%	100%	0%	100%	100%	100%	98%
7:30 AM - 8:30 AM	Mediums	0	0	18	0	18	17	0	1	17	0	18	19	0	0	0	1	1	1	0	0	0	0	0	0	37
One Hour Peak	%	0%	0%	1%	0%	1%	3%	0%	6%	3%	0%	3%	1%	0%	0%	0%	6%	5%	4%	0%	0%	0%	0%	0%	0%	2%
7:30 AM - 8:30 AM	ticulated Truc	0	0	4	0	4	6	0	0	6	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	10
	%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	18	1551	7	1576	597	1	16	573	13	603	1576	0	4	1	16	21	23	0	8	0	20	28	32	2228
	PHF	0	0.75	0.97	0.58	0.98	0.9	0.25	0.36	0.88	0.65	0.92	0.98	0	0.33	0.25	0.67	0.58	0.41	0	0.33	0	0.62	0.7	0.73	0.97
	HV %	0%	0%	1%	0%	1%	4%	0%	6%	4%	0%	4%	1%	0%	0%	0%	6%	5%	4%	0%	0%	0%	0%	0%	0%	2%
PM Peak Hour	Lights	1	9	737	16	763	1604	1	53	1574	18	1646	776	0	10	0	36	46	70	0	2	1	19	22	27	2477
Specified Period	%	100%	100%	99%	100%	99%	100%	100%	100%	100%	100%	100%	99%	0%	100%	0%	100%	100%	100%	0%	100%	100%	100%	100%	100%	100%
4:45 PM - 5:45 PM	Mediums	0	0	4	0	4	7	0	0	7	0	7	4	0	0	0	0	0	0	0	0	0	0	0	0	11
One Hour Peak	%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4:45 PM - 5:45 PM	ticulated Truc	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	1	9	742	16	768	1611	1	53	1581	18	1653	781	0	10	0	36	46	70	0	2	1	19	22	27	2489
	PHF	0.25	0.56	0.93	0.57	0.94	0.95	0.25	0.78	0.94	0.64	0.94	0.93	0	0.62	0	0.75	0.88	0.73	0	0.25	0.25	0.53	0.5	0.75	0.97
	HV %	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Study Name McHenry Rd & Access Driveway
End Date Saturday, March 09, 2019

Report Summary

Time Period	Class.	Eastbound						Westbound						Northbound						Southbound						Total
		U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	U	L	T	R	I	O	
SAT Peak Hour	Lights	0	9	785	3	797	722	0	37	687	13	737	814	0	11	0	21	32	40	0	8	0	24	32	22	1598
Specified Period	%	0%	100%	99%	100%	100%	99%	0%	100%	99%	100%	99%	100%	0%	100%	0%	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%
11:00 AM - 12:00 PM	Mediums	0	0	4	0	4	3	0	0	3	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	7
One Hour Peak	%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
11:00 AM - 12:00 PM	ticated Truc	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	9	789	3	801	726	0	37	691	13	741	818	0	11	0	21	32	40	0	8	0	24	32	22	1606
	PHF	0	0.75	0.93	0.38	0.93	0.93	0	0.84	0.91	0.65	0.93	0.91	0	0.69	0	0.58	0.62	0.83	0	0.67	0	0.55	0.57	0.79	0.95
	HV %	0%	0%	1%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Study Name Ranchview Ct & Access Driveway
 Start Date Thursday, March 07, 2019

Report Summary

Time Period	Class.	Eastbound					Northbound					Southbound					Total
		U	L	R	I	O	U	L	T	I	O	U	T	R	I	O	
AM Peak Hour	Lights	0	0	2	2	4	0	4	4	8	22	0	20	0	20	4	30
Specified Period	%	0%	0%	100%	100%	100%	0%	100%	57%	73%	100%	0%	100%	0%	100%	57%	91%
7:30 AM - 8:30 AM	Mediums	0	0	0	0	0	0	0	3	3	0	0	0	0	0	3	3
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	43%	27%	0%	0%	0%	0%	0%	43%	9%
7:30 AM - 8:30 AM	ticated Truc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	0	2	2	4	0	4	7	11	22	0	20	0	20	7	33
	PHF	0	0	0.5	0.5	0.5	0	0.5	0.35	0.39	0.79	0	0.83	0	0.83	0.35	0.63
	HV %	0%	0%	0%	0%	0%	0%	0%	43%	27%	0%	0%	0%	0%	0%	43%	9%
PM Peak Hour	Lights	0	1	11	12	14	3	13	35	51	24	0	10	1	11	36	74
Specified Period	%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%
4:45 PM - 5:45 PM	Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4:45 PM - 5:45 PM	ticated Truc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	1	11	12	14	3	13	35	51	24	0	10	1	11	36	74
	PHF	0	0.25	0.46	0.5	0.58	0.75	0.54	0.8	0.91	0.67	0	0.83	0.25	0.69	0.82	0.88
	HV %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Study Name Ranchview Ct & Access Driveway
 End Date Saturday, March 09, 2019

Report Summary

Time Period	Class.	Eastbound					Northbound					Southbound					Total
		U	L	R	I	O	U	L	T	I	O	U	T	R	I	O	
SAT Peak Hour	Lights	0	1	10	11	8	1	8	24	33	30	0	19	0	19	25	63
Specified Period	%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%
11:00 AM - 12:00 PM	Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
11:00 AM - 12:00 PM	articulated Truc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	1	10	11	8	1	8	24	33	30	0	19	0	19	25	63
	PHF	0	0.25	0.83	0.69	0.5	0.25	0.5	0.75	0.69	0.75	0	0.68	0	0.68	0.78	0.75
	HV %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Study Name Courtland Dr & Access Driveway
 Start Date Thursday, March 07, 2019

Report Summary

Time Period	Class.	Westbound					Northbound					Southbound					Total
		U	L	R	I	O	U	T	R	I	O	U	L	T	I	O	
AM Peak Hour	Lights	0	15	1	16	24	0	11	23	34	56	0	1	41	42	12	92
Specified Period	%	0%	100%	100%	100%	100%	0%	92%	100%	97%	95%	0%	100%	93%	93%	92%	96%
7:30 AM - 8:30 AM	Mediums	0	0	0	0	0	0	1	0	1	3	0	0	3	3	1	4
One Hour Peak	%	0%	0%	0%	0%	0%	0%	8%	0%	3%	5%	0%	0%	7%	7%	8%	4%
7:30 AM - 8:30 AM	articulated Truc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	15	1	16	24	0	12	23	35	59	0	1	44	45	13	96
	PHF	0	0.62	0.25	0.57	0.6	0	0.38	0.64	0.62	0.82	0	0.25	0.79	0.8	0.41	0.83
	HV %	0%	0%	0%	0%	0%	0%	8%	0%	3%	5%	0%	0%	7%	7%	8%	4%
PM Peak Hour	Lights	0	27	2	29	17	0	28	16	44	58	0	1	31	32	30	105
Specified Period	%	0%	100%	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%
4:45 PM - 5:45 PM	Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4:45 PM - 5:45 PM	articulated Truc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	27	2	29	17	0	28	16	44	58	0	1	31	32	30	105
	PHF	0	0.61	0.5	0.6	0.53	0	0.64	0.5	0.79	0.85	0	0.25	0.65	0.67	0.62	0.88
	HV %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Study Name Courtland Dr & Access Driveway
 End Date Saturday, March 09, 2019

Report Summary

Time Period	Class.	Westbound					Northbound					Southbound					Total
		U	L	R	I	O	U	T	R	I	O	U	L	T	I	O	
SAT Peak Hour	Lights	0	21	0	21	7	0	13	7	20	37	0	0	16	16	13	57
Specified Period	%	0%	100%	0%	100%	100%	0%	100%	100%	100%	97%	0%	0%	94%	94%	100%	98%
11:00 AM - 12:00 PM	Mediums	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1
One Hour Peak	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	6%	6%	0%	2%
11:00 AM - 12:00 PM	articulated Truc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0	21	0	21	7	0	13	7	20	38	0	0	17	17	13	58
	PHF	0	0.52	0	0.52	0.58	0	0.65	0.58	0.83	0.73	0	0	0.85	0.85	0.65	0.91
	HV %	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	6%	6%	0%	2%

EXISTING (2019) SYNCHRO CAPACITY REPORTS

Weekday Morning Peak Hour

Weekday Evening Peak Hour

Saturday Midday Peak Hour

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	85	1085	830	170	415	15	585	200	490	45	125
Future Volume (veh/h)	5	85	1085	830	170	415	15	585	200	490	45	125
Number		1	6	16	5	2	12	7	4	14	3	8
Initial Q, veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1829	1961	1845	1863	1821	1900	1827	1863	1900	1882	1792
Adj Flow Rate, veh/h		89	1142	874	179	437	16	616	211	516	47	132
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		4	2	3	2	4	4	4	2	2	5	6
Opposing Right Turn Influence		Yes			Yes			Yes			Yes	
Cap, veh/h		450	1567	976	200	1530	56	680	172	422	61	267
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green		0.04	0.42	0.42	0.07	0.45	0.45	0.20	0.36	0.36	0.03	0.19
Ln Grp Delay, s/veh		26.5	44.1	39.9	64.4	30.5	30.5	76.2	0.0	169.7	100.3	0.0
Ln Grp LOS		C	D	D	E	C	C	E		F	F	
Approach Vol, veh/h			2105			632			1343			211
Approach Delay, s/veh			41.6			40.1			126.8			71.0
Approach LOS			D			D			F			E
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	10.4	82.4	10.2	67.0	15.2	77.5	38.8	38.5				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green (Gmax), s	11.5	67.0	10.5	61.0	16.5	62.0	46.5	25.0				
Max Allow Headway (MAH), s	3.7	4.9	3.8	5.1	3.7	4.5	3.7	5.3				
Max Q Clear (g_c+I1), s	6.9	15.8	6.4	63.0	11.5	73.5	32.3	16.4				
Green Ext Time (g_e), s	0.1	2.6	0.0	0.0	0.2	0.0	2.0	0.5				
Prob of Phs Call (p_c)	0.99	1.00	0.89	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.37	0.00	0.70	1.00	0.34	1.00	0.01	0.17				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1742		1792		1774		3375					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3405		480		3725		1395				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		124		1175		1568		338				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Prot)		(Pr/Pm)		(Prot)					

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

Synchro 10 Report
Page 1

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis 100: Arlington Heights Road & McHenry Road

03/29/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	30
Future Volume (veh/h)	30
Number	18
Initial Q, veh	0
Ped-Bike Adj (A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	32
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	6
Opposing Right Turn Influence	
Cap, veh/h	65
HCM Platoon Ratio	1.00
Prop Arrive On Green	0.19
Ln Grp Delay, s/veh	62.6
Ln Grp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer:	

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	89	0	47	0	179	0	616	0
Grp Sat Flow (s), veh/h/ln	1742	0	1792	0	1774	0	1688	0
Q Serve Time (g_s), s	4.9	0.0	4.4	0.0	9.5	0.0	30.3	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	4.4	0.0	9.5	0.0	30.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	917	0	0	0	211	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	71.5	0.0	0.0	0.0	73.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	62.6	0.0	0.0	0.0	28.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	1.0	0.0	0.0	0.0	28.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	450	0	61	0	200	0	680	0
V/C Ratio (X)	0.20	0.00	0.78	0.00	0.90	0.00	0.91	0.00
Avail Cap (c_a), veh/h	498	0	111	0	249	0	923	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.3	0.0	81.5	0.0	36.8	0.0	66.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	18.8	0.0	27.5	0.0	9.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.5	0.0	100.3	0.0	64.4	0.0	76.2	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	2.2	0.0	4.6	0.0	14.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	1.5	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	2.5	0.0	6.2	0.0	15.0	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.41	0.00	0.69	0.00	0.88	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	222	0	0	0	1142	0	0
Grp Sat Flow (s), veh/h/ln	0	1730	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	13.8	0.0	0.0	0.0	43.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.8	0.0	0.0	0.0	43.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	777	0	0	0	1567	0	0
V/C Ratio (X)	0.00	0.29	0.00	0.00	0.00	0.73	0.00	0.00
Avail Cap (c_a), veh/h	0	777	0	0	0	1567	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	0.0	0.0	41.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	3.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.5	0.0	0.0	0.0	44.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.6	0.0	0.0	0.0	22.4	0.0	0.0

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	0.0	0.0	23.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	0.00	0.00	0.96	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	231	0	727	0	874	0	164
Grp Sat Flow (s), veh/h/ln	0	1799	0	1655	0	1568	0	1733
Q Serve Time (g_s), s	0.0	13.8	0.0	61.0	0.0	71.5	0.0	14.4
Cycle Q Clear Time (g_c), s	0.0	13.8	0.0	61.0	0.0	71.5	0.0	14.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1568.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	34.3	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.71	0.00	1.00	0.00	0.20
Lane Grp Cap (c), veh/h	0	808	0	594	0	976	0	331
V/C Ratio (X)	0.00	0.29	0.00	1.22	0.00	0.90	0.00	0.50
Avail Cap (c_a), veh/h	0	808	0	594	0	976	0	331
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	54.5	0.0	27.4	0.0	61.4
Incr Delay (d2), s/veh	0.0	0.9	0.0	115.2	0.0	12.5	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.5	0.0	169.7	0.0	39.9	0.0	62.6
1st-Term Q (Q1), veh/ln	0.0	6.9	0.0	27.9	0.0	34.8	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	19.0	0.0	3.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.1	0.0	46.9	0.0	38.2	0.0	7.0
%ile Storage Ratio (RQ%)	0.00	0.43	0.00	2.21	0.00	1.60	0.00	1.27
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	69.5
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 User approved ignoring U-Turning movement.

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

03/29/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	85	1085	830	170	415	15	585	200	490	45	125
Future Volume (veh/h)	5	85	1085	830	170	415	15	585	200	490	45	125
Number		1	6	16	5	2	12	7	4	14	3	8
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1829	1961	1845	1863	1821	1900	1827	1863	1900	1882	1792
Adj Flow Rate, veh/h		89	1142	874	179	437	16	616	211	516	47	132
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		4	2	3	2	4	4	4	2	2	5	6
Cap, veh/h		450	1567	976	200	1530	56	680	172	422	61	267
Arrive On Green		0.04	0.42	0.42	0.07	0.45	0.45	0.20	0.36	0.36	0.03	0.19
Sat Flow, veh/h		1742	3725	1568	1774	3405	124	3375	480	1175	1792	1395
Grp Volume(v), veh/h		89	1142	874	179	222	231	616	0	727	47	0
Grp Sat Flow(s),veh/h/ln		1742	1863	1568	1774	1730	1799	1688	0	1655	1792	0
Q Serve(g_s), s		4.9	43.5	71.5	9.5	13.8	13.8	30.3	0.0	61.0	4.4	0.0
Cycle Q Clear(g_c), s		4.9	43.5	71.5	9.5	13.8	13.8	30.3	0.0	61.0	4.4	0.0
Prop In Lane		1.00		1.00	1.00		0.07	1.00		0.71	1.00	
Lane Grp Cap(c), veh/h		450	1567	976	200	777	808	680	0	594	61	0
V/C Ratio(X)		0.20	0.73	0.90	0.90	0.29	0.29	0.91	0.00	1.22	0.78	0.00
Avail Cap(c_a), veh/h		498	1567	976	249	777	808	923	0	594	111	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		26.3	41.1	27.4	36.8	29.6	29.6	66.3	0.0	54.5	81.5	0.0
Incr Delay (d2), s/veh		0.2	3.0	12.5	27.5	0.9	0.9	9.9	0.0	115.2	18.8	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.4	23.0	38.2	6.2	6.8	7.1	15.0	0.0	46.9	2.5	0.0
LnGrp Delay(d),s/veh		26.5	44.1	39.9	64.4	30.5	30.5	76.2	0.0	169.7	100.3	0.0
LnGrp LOS		C	D	D	E	C	C	E		F	F	
Approach Vol, veh/h			2105			632			1343			211
Approach Delay, s/veh			41.6			40.1			126.8			71.0
Approach LOS			D			D			F			E
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	82.4	10.2	67.0	15.2	77.5	38.8	38.5				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	11.5	67.0	10.5	61.0	16.5	62.0	46.5	25.0				
Max Q Clear Time (g_c+I1), s	6.9	15.8	6.4	63.0	11.5	73.5	32.3	16.4				
Green Ext Time (p_c), s	0.1	2.6	0.0	0.0	0.2	0.0	2.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			69.5									
HCM 2010 LOS			E									
Notes												

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

03/29/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	30
Future Volume (veh/h)	30
Number	18
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	32
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	6
Cap, veh/h	65
Arrive On Green	0.19
Sat Flow, veh/h	338
Grp Volume(v), veh/h	164
Grp Sat Flow(s),veh/h/ln	1733
Q Serve(g_s), s	14.4
Cycle Q Clear(g_c), s	14.4
Prop In Lane	0.20
Lane Grp Cap(c), veh/h	331
V/C Ratio(X)	0.50
Avail Cap(c_a), veh/h	331
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	61.4
Incr Delay (d2), s/veh	1.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	7.0
LnGrp Delay(d),s/veh	62.6
LnGrp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary
100: Arlington Heights Road & McHenry Road

03/29/2019

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC
200: Access A & Courtland Drive

03/29/2019

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	25	1	45	15	1
Future Vol, veh/h	10	25	1	45	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	7	2	2
Mvmt Flow	11	26	1	47	16	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	37	0	73	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	49	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1574	-	931	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1574	-	930	1052
Mov Cap-2 Maneuver	-	-	-	-	930	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	973	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		8.9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	937	-	-	1574	-	
HCM Lane V/C Ratio	0.018	-	-	0.001	-	
HCM Control Delay (s)	8.9	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC

300: Private Driveway/Access B & McHenry Road

03/29/2019

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	20	1550	5	15	575	15	5	1	15	10	1	20
Future Vol, veh/h	20	1550	5	15	575	15	5	1	15	10	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	6	4	2	2	2	6	2	2	2
Mvmt Flow	21	1632	5	16	605	16	5	1	16	11	1	21
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	621	0	0	1637	0	0	2012	2330	819	1504	2324	311
Stage 1	-	-	-	-	-	-	1677	1677	-	645	645	-
Stage 2	-	-	-	-	-	-	335	653	-	859	1679	-
Critical Hdwy	4.14	-	-	4.22	-	-	7.54	6.54	7.02	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.26	-	-	3.52	4.02	3.36	3.52	4.02	3.32
Pot Cap-1 Maneuver	956	-	-	374	-	-	35	37	310	84	37	685
Stage 1	-	-	-	-	-	-	99	150	-	427	466	-
Stage 2	-	-	-	-	-	-	653	462	-	317	150	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	956	-	-	374	-	-	25	26	310	60	26	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	25	26	-	60	26	-
Stage 1	-	-	-	-	-	-	75	113	-	323	436	-
Stage 2	-	-	-	-	-	-	590	432	-	225	113	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	1.2		0.8		74.4		41					
HCM LOS					F		E					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	73	956	-	-	374	-	-	132				
HCM Lane V/C Ratio	0.303	0.022	-	-	0.042	-	-	0.247				
HCM Control Delay (s)	74.4	8.8	1.1	-	15.1	0.5	-	41				
HCM Lane LOS	F	A	A	-	C	A	-	E				
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.9				

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC

400: Ranchview Court & Access C

03/29/2019

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	5	5	20	1
Future Vol, veh/h	1	2	5	5	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	43	2	2
Mvmt Flow	1	2	5	5	21	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	37	22	22	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	975	1055	1593	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	972	1055	1593	-	-	-
Mov Cap-2 Maneuver	972	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	3.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1593	-	1026	-	-	
HCM Lane V/C Ratio	0.003	-	0.003	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Existing (2019) Traffic Volumes 7:30 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/04/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	550	760	370	1205	25	835	165	170	60	255	55
Future Volume (veh/h)	55	550	760	370	1205	25	835	165	170	60	255	55
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1961	1863	1863	1862	1900	1863	1863	1900	1937	1863	1900
Adj Flow Rate, veh/h	58	579	800	389	1268	26	879	174	179	63	268	58
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	130	928	795	409	1402	29	871	339	348	80	285	62
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.25	0.25	0.18	0.40	0.40	0.25	0.40	0.40	0.04	0.19	0.19
Ln Grp Delay, s/veh	48.2	56.6	73.2	71.3	62.8	62.3	92.5	0.0	36.7	97.8	0.0	95.1
Ln Grp LOS	D	E	F	E	E	E	F		D	F		F
Approach Vol, veh/h		1437			1683			1232			389	
Approach Delay, s/veh		65.5			64.6			76.5			95.6	
Approach LOS		E			E			E			F	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.0	69.3	11.5	70.3	32.4	45.9	45.0	36.8				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green (Gmax), s	10.5	57.0	9.5	63.0	30.5	37.0	40.5	32.0				
Max Allow Headway (MAH), s	3.7	4.9	3.8	5.1	3.7	4.3	3.7	5.3				
Max Q Clear (g_c+I1), s	5.9	55.9	7.4	26.9	28.6	41.9	42.5	30.5				
Green Ext Time (g_e), s	0.0	0.8	0.0	2.2	0.3	0.0	0.0	0.3				
Prob of Phs Call (p_c)	0.92	1.00	0.94	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.29	1.00	1.00	0.00	1.00	1.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		1845		1774		3442					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3545		843		3725		1485				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		73		867		1583		321				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Prot)		(Pr/Pm)		(Prot)					

Existing (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis 100: Arlington Heights Road & McHenry Road

04/04/2019

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	58	0	63	0	389	0	879	0
Grp Sat Flow (s), veh/h/ln	1774	0	1845	0	1774	0	1721	0
Q Serve Time (g_s), s	3.9	0.0	5.4	0.0	26.6	0.0	40.5	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	5.4	0.0	26.6	0.0	40.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	425	0	0	0	391	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.9	0.0	0.0	0.0	41.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.4	0.0	0.0	0.0	17.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	4.8	0.0	0.0	0.0	17.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	130	0	80	0	409	0	871	0
V/C Ratio (X)	0.44	0.00	0.78	0.00	0.95	0.00	1.01	0.00
Avail Cap (c_a), veh/h	186	0	110	0	427	0	871	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	45.8	0.0	75.8	0.0	40.3	0.0	59.7	0.0
Incr Delay (d2), s/veh	2.4	0.0	22.0	0.0	31.0	0.0	32.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.2	0.0	97.8	0.0	71.3	0.0	92.5	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	2.8	0.0	17.0	0.0	19.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.5	0.0	3.5	0.0	4.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.0	0.0	3.3	0.0	20.5	0.0	23.2	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.52	0.00	2.31	0.00	1.34	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	632	0	0	0	579	0	0
Grp Sat Flow (s), veh/h/ln	0	1769	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	53.8	0.0	0.0	0.0	22.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	53.8	0.0	0.0	0.0	22.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	700	0	0	0	928	0	0
V/C Ratio (X)	0.00	0.90	0.00	0.00	0.00	0.62	0.00	0.00
Avail Cap (c_a), veh/h	0	700	0	0	0	928	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	45.5	0.0	0.0	0.0	53.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	17.3	0.0	0.0	0.0	3.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	62.8	0.0	0.0	0.0	56.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	26.4	0.0	0.0	0.0	11.4	0.0	0.0

Existing (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/04/2019

2nd-Term Q (Q2), veh/ln	0.0	3.4	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	29.7	0.0	0.0	0.0	11.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.78	0.00	0.00	0.00	0.49	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	662	0	353	0	800	0	326
Grp Sat Flow (s), veh/h/ln	0	1849	0	1710	0	1583	0	1806
Q Serve Time (g_s), s	0.0	53.9	0.0	24.9	0.0	39.9	0.0	28.5
Cycle Q Clear Time (g_c), s	0.0	53.9	0.0	24.9	0.0	39.9	0.0	28.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1583.3	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	40.5	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.04	0.00	0.51	0.00	1.00	0.00	0.18
Lane Grp Cap (c), veh/h	0	731	0	687	0	795	0	347
V/C Ratio (X)	0.00	0.90	0.00	0.51	0.00	1.01	0.00	0.94
Avail Cap (c_a), veh/h	0	731	0	687	0	795	0	361
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.5	0.0	36.1	0.0	39.8	0.0	63.7
Incr Delay (d2), s/veh	0.0	16.8	0.0	0.7	0.0	33.4	0.0	31.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	62.3	0.0	36.7	0.0	73.2	0.0	95.1
1st-Term Q (Q1), veh/ln	0.0	27.6	0.0	11.8	0.0	35.0	0.0	14.2
2nd-Term Q (Q2), veh/ln	0.0	3.4	0.0	0.1	0.0	7.4	0.0	3.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	31.0	0.0	11.9	0.0	42.4	0.0	17.3
%ile Storage Ratio (RQ%)	0.00	1.86	0.00	0.56	0.00	1.77	0.00	3.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	70.5
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

04/04/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	550	760	370	1205	25	835	165	170	60	255	55
Future Volume (veh/h)	55	550	760	370	1205	25	835	165	170	60	255	55
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1961	1863	1863	1862	1900	1863	1863	1900	1937	1863	1900
Adj Flow Rate, veh/h	58	579	800	389	1268	26	879	174	179	63	268	58
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	928	795	409	1402	29	871	339	348	80	285	62
Arrive On Green	0.03	0.25	0.25	0.18	0.40	0.40	0.25	0.40	0.40	0.04	0.19	0.19
Sat Flow, veh/h	1774	3725	1583	1774	3545	73	3442	843	867	1845	1485	321
Grp Volume(v), veh/h	58	579	800	389	632	662	879	0	353	63	0	326
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1769	1849	1721	0	1710	1845	0	1806
Q Serve(g_s), s	3.9	22.1	39.9	26.6	53.8	53.9	40.5	0.0	24.9	5.4	0.0	28.5
Cycle Q Clear(g_c), s	3.9	22.1	39.9	26.6	53.8	53.9	40.5	0.0	24.9	5.4	0.0	28.5
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.51	1.00		0.18
Lane Grp Cap(c), veh/h	130	928	795	409	700	731	871	0	687	80	0	347
V/C Ratio(X)	0.44	0.62	1.01	0.95	0.90	0.90	1.01	0.00	0.51	0.78	0.00	0.94
Avail Cap(c_a), veh/h	186	928	795	427	700	731	871	0	687	110	0	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.8	53.4	39.8	40.3	45.5	45.5	59.7	0.0	36.1	75.8	0.0	63.7
Incr Delay (d2), s/veh	2.4	3.2	33.4	31.0	17.3	16.8	32.7	0.0	0.7	22.0	0.0	31.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	11.8	42.4	20.5	29.7	31.0	23.2	0.0	11.9	3.3	0.0	17.3
LnGrp Delay(d),s/veh	48.2	56.6	73.2	71.3	62.8	62.3	92.5	0.0	36.7	97.8	0.0	95.1
LnGrp LOS	D	E	F	E	E	E	F		D	F		F
Approach Vol, veh/h	1437				1683				1232			
Approach Delay, s/veh	65.5				64.6				76.5			
Approach LOS	E				E				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	69.3	11.5	70.3	32.4	45.9	45.0	36.8				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	10.5	57.0	9.5	63.0	30.5	37.0	40.5	32.0				
Max Q Clear Time (g_c+I1), s	5.9	55.9	7.4	26.9	28.6	41.9	42.5	30.5				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.2	0.3	0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	70.5											
HCM 2010 LOS	E											
Notes												

Existing (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary
100: Arlington Heights Road & McHenry Road

04/04/2019

User approved pedestrian interval to be less than phase max green.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC
200: Access A & Courtland Drive

04/04/2019

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	15	1	30	25	2
Future Vol, veh/h	30	15	1	30	25	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	2	2	2	2	2
Mvmt Flow	32	16	1	32	26	2
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	48	0	74	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	34	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1559	-	930	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1559	-	929	1031
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	988	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		9	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	936	-	-	1559	-	
HCM Lane V/C Ratio	0.03	-	-	0.001	-	
HCM Control Delay (s)	9	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Existing (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC
300: Private Driveway/Access B & McHenry Road

04/04/2019

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	10	740	15	55	1580	20	10	1	35	2	1	20
Future Vol, veh/h	10	740	15	55	1580	20	10	1	35	2	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	779	16	58	1663	21	11	1	37	2	1	21
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1684	0	0	795	0	0	1757	2609	398	2202	2607	842
Stage 1	-	-	-	-	-	-	809	809	-	1790	1790	-
Stage 2	-	-	-	-	-	-	948	1800	-	412	817	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	376	-	-	822	-	-	54	24	601	25	24	308
Stage 1	-	-	-	-	-	-	340	392	-	84	132	-
Stage 2	-	-	-	-	-	-	280	130	-	588	388	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	376	-	-	822	-	-	-	0	601	-	0	308
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-
Stage 1	-	-	-	-	-	-	322	371	-	80	0	-
Stage 2	-	-	-	-	-	-	-	0	-	521	367	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			4.6								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	376	-	-	822	-	-	-				
HCM Lane V/C Ratio	-	0.028	-	-	0.07	-	-	-				
HCM Control Delay (s)	-	14.8	0.4	-	9.7	4.5	-	-				
HCM Lane LOS	-	B	A	-	A	A	-	-				
HCM 95th %tile Q(veh)	-	0.1	-	-	0.2	-	-	-				

Existing (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

Synchro 10 Report
Page 7

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC 400: Ranchview Court & Access C

04/04/2019

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	10	15	40	10	1
Future Vol, veh/h	1	10	15	40	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	11	16	42	11	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	86	12	12	0	-	0
Stage 1	12	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	915	1069	1607	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	906	1069	1607	-	-	-
Mov Cap-2 Maneuver	906	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	2		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1607	-	1052	-	-	
HCM Lane V/C Ratio	0.01	-	0.011	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Existing (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	60	560	615	175	510	20	475	95	175	55	105
Future Volume (veh/h)	5	60	560	615	175	510	20	475	95	175	55	105
Number		1	6	16	5	2	12	3	8	18	7	4
Initial Q, veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1961	1863	1863	1863	1900	1863	1863	1900	1937	1863
Adj Flow Rate, veh/h		63	589	647	184	537	21	500	100	184	58	111
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence		Yes			Yes			Yes			Yes	
Cap, veh/h		504	1832	778	373	1840	72	327	116	214	76	161
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green		0.03	0.49	0.49	0.07	0.53	0.53	0.09	0.20	0.20	0.04	0.14
Ln Grp Delay, s/veh		12.0	15.8	31.9	11.9	13.9	13.8	298.4	0.0	46.0	61.7	0.0
Ln Grp LOS		B	B	C	B	B	B	F		D	E	
Approach Vol, veh/h			1299			742			784			232
Approach Delay, s/veh			23.6			13.4			207.0			48.5
Approach LOS			C			B			F			D
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.6	59.0	14.0	20.4	10.5	55.2	8.6	25.7				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green (Gmax), s	10.5	23.0	9.5	37.0	10.5	23.0	13.5	33.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	5.4	3.7	4.4	3.8	5.1				
Max Q Clear (g_c+I1), s	3.8	10.6	11.5	11.4	6.8	37.1	5.1	18.4				
Green Ext Time (g_e), s	0.1	2.4	0.0	1.0	0.2	0.0	0.1	1.3				
Prob of Phs Call (p_c)	0.83	1.00	1.00	1.00	0.99	1.00	0.80	1.00				
Prob of Max Out (p_x)	0.02	0.14	1.00	0.00	1.00	1.00	0.00	0.02				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		3442		1774		1845					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3473		1117		3725		589				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		136		634		1583		1083				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Prot)		(Pr/Pm)		(Prot)					

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
Page 1

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	60
Future Volume (veh/h)	60
Number	14
Initial Q, veh	0
Ped-Bike Adj (A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	63
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	2
Opposing Right Turn Influence	
Cap, veh/h	91
HCM Platoon Ratio	1.00
Prop Arrive On Green	0.14
Ln Grp Delay, s/veh	44.1
Ln Grp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer:	

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

Lanes in Grp	1	0	2	0	1	0	1	0
Grp Vol (v), veh/h	63	0	500	0	184	0	58	0
Grp Sat Flow (s), veh/h/ln	1774	0	1721	0	1774	0	1845	0
Q Serve Time (g_s), s	1.8	0.0	9.5	0.0	4.8	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	9.5	0.0	4.8	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	848	0	0	0	449	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	49.2	0.0	0.0	0.0	51.2	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	44.4	0.0	0.0	0.0	39.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.4	0.0	0.0	0.0	8.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	504	0	327	0	373	0	76	0
V/C Ratio (X)	0.13	0.00	1.53	0.00	0.49	0.00	0.76	0.00
Avail Cap (c_a), veh/h	634	0	327	0	436	0	249	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.9	0.0	45.3	0.0	10.9	0.0	47.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	253.1	0.0	1.0	0.0	14.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.0	0.0	298.4	0.0	11.9	0.0	61.7	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	4.5	0.0	2.3	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	11.5	0.0	0.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	16.0	0.0	2.4	0.0	1.9	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.92	0.00	0.27	0.00	0.30	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	43.3	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	273	0	0	0	589	0	0
Grp Sat Flow (s), veh/h/ln	0	1770	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	8.6	0.0	0.0	0.0	9.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	0.0	0.0	9.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	938	0	0	0	1832	0	0
V/C Ratio (X)	0.00	0.29	0.00	0.00	0.00	0.32	0.00	0.00
Avail Cap (c_a), veh/h	0	938	0	0	0	1832	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.1	0.0	0.0	0.0	15.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	0.0	0.0	15.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	0.0	0.0	4.9	0.0	0.0

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

03/29/2019

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.4	0.0	0.0	0.0	5.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.00	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	285	0	174	0	647	0	284
Grp Sat Flow (s), veh/h/ln	0	1839	0	1751	0	1583	0	1672
Q Serve Time (g_s), s	0.0	8.6	0.0	9.4	0.0	35.1	0.0	16.4
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	9.4	0.0	35.1	0.0	16.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.36	0.00	1.00	0.00	0.65
Lane Grp Cap (c), veh/h	0	974	0	252	0	778	0	330
V/C Ratio (X)	0.00	0.29	0.00	0.69	0.00	0.83	0.00	0.86
Avail Cap (c_a), veh/h	0	974	0	648	0	778	0	552
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.1	0.0	40.7	0.0	21.8	0.0	38.8
Incr Delay (d2), s/veh	0.0	0.8	0.0	3.4	0.0	10.1	0.0	7.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.8	0.0	44.1	0.0	31.9	0.0	46.0
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	4.6	0.0	15.2	0.0	7.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	2.2	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	4.8	0.0	17.4	0.0	8.2
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.85	0.00	0.73	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	70.1
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

User approved ignoring U-Turning movement.

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

03/29/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	60	560	615	175	510	20	475	95	175	55	105
Future Volume (veh/h)	5	60	560	615	175	510	20	475	95	175	55	105
Number		1	6	16	5	2	12	3	8	18	7	4
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1961	1863	1863	1863	1900	1863	1863	1900	1937	1863
Adj Flow Rate, veh/h		63	589	647	184	537	21	500	100	184	58	111
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		504	1832	778	373	1840	72	327	116	214	76	161
Arrive On Green		0.03	0.49	0.49	0.07	0.53	0.53	0.09	0.20	0.20	0.04	0.14
Sat Flow, veh/h		1774	3725	1583	1774	3473	136	3442	589	1083	1845	1117
Grp Volume(v), veh/h		63	589	647	184	273	285	500	0	284	58	0
Grp Sat Flow(s),veh/h/ln		1774	1863	1583	1774	1770	1839	1721	0	1672	1845	0
Q Serve(g_s), s		1.8	9.5	35.1	4.8	8.6	8.6	9.5	0.0	16.4	3.1	0.0
Cycle Q Clear(g_c), s		1.8	9.5	35.1	4.8	8.6	8.6	9.5	0.0	16.4	3.1	0.0
Prop In Lane		1.00		1.00	1.00		0.07	1.00		0.65	1.00	
Lane Grp Cap(c), veh/h		504	1832	778	373	938	974	327	0	330	76	0
V/C Ratio(X)		0.13	0.32	0.83	0.49	0.29	0.29	1.53	0.00	0.86	0.76	0.00
Avail Cap(c_a), veh/h		634	1832	778	436	938	974	327	0	552	249	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		11.9	15.3	21.8	10.9	13.1	13.1	45.3	0.0	38.8	47.4	0.0
Incr Delay (d2), s/veh		0.1	0.5	10.1	1.0	0.8	0.8	253.1	0.0	7.2	14.3	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.9	5.0	17.4	2.4	4.4	4.6	16.0	0.0	8.2	1.9	0.0
LnGrp Delay(d),s/veh		12.0	15.8	31.9	11.9	13.9	13.8	298.4	0.0	46.0	61.7	0.0
LnGrp LOS		B	B	C	B	B	B	F		D	E	
Approach Vol, veh/h			1299			742			784			232
Approach Delay, s/veh			23.6			13.4			207.0			48.5
Approach LOS			C			B			F			D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	59.0	14.0	20.4	10.5	55.2	8.6	25.7				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	10.5	23.0	9.5	37.0	10.5	23.0	13.5	33.0				
Max Q Clear Time (g_c+I1), s	3.8	10.6	11.5	11.4	6.8	37.1	5.1	18.4				
Green Ext Time (p_c), s	0.1	2.4	0.0	1.0	0.2	0.0	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			70.1									
HCM 2010 LOS			E									
Notes												

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

03/29/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	60
Future Volume (veh/h)	60
Number	14
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	63
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	2
Cap, veh/h	91
Arrive On Green	0.14
Sat Flow, veh/h	634
Grp Volume(v), veh/h	174
Grp Sat Flow(s),veh/h/ln	1751
Q Serve(g_s), s	9.4
Cycle Q Clear(g_c), s	9.4
Prop In Lane	0.36
Lane Grp Cap(c), veh/h	252
V/C Ratio(X)	0.69
Avail Cap(c_a), veh/h	648
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	40.7
Incr Delay (d2), s/veh	3.4
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	4.8
LnGrp Delay(d),s/veh	44.1
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

HCM 2010 Signalized Intersection Summary
100: Arlington Heights Road & McHenry Road

03/29/2019

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC
200: Access A & Courtland Drive

03/29/2019

Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	5	1	15	20	1
Future Vol, veh/h	15	5	1	15	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	6	2	2
Mvmt Flow	16	5	1	16	21	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	21	0	37	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1595	-	975	1059
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1595	-	974	1059
Mov Cap-2 Maneuver	-	-	-	-	974	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1005	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		8.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	978	-	-	1595	-	
HCM Lane V/C Ratio	0.023	-	-	0.001	-	
HCM Control Delay (s)	8.8	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC
300: Private Driveway/Access B & McHenry Road

03/29/2019

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Vol, veh/h	10	790	5	35	690	15	10	1	20	10	1	25
Future Vol, veh/h	10	790	5	35	690	15	10	1	20	10	1	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	832	5	37	726	16	11	1	21	11	1	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	742	0	0	837	0	0	1295	1673	419	1247	1667	371
Stage 1	-	-	-	-	-	-	857	857	-	808	808	-
Stage 2	-	-	-	-	-	-	438	816	-	439	859	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	861	-	-	793	-	-	120	95	583	130	96	626
Stage 1	-	-	-	-	-	-	318	372	-	341	392	-
Stage 2	-	-	-	-	-	-	567	389	-	567	371	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	861	-	-	793	-	-	105	85	583	114	86	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	105	85	-	114	86	-
Stage 1	-	-	-	-	-	-	310	363	-	333	361	-
Stage 2	-	-	-	-	-	-	498	358	-	532	362	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.8			24.3			21.3		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	219	861	-	-	793	-	-	258				
HCM Lane V/C Ratio	0.149	0.012	-	-	0.046	-	-	0.147				
HCM Control Delay (s)	24.3	9.2	0.1	-	9.8	0.4	-	21.3				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.5				

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC

400: Ranchview Court & Access C

03/29/2019

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	10	10	25	20	1
Future Vol, veh/h	1	10	10	25	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	11	11	26	21	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	70	22	22	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	934	1055	1593	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	927	1055	1593	-	-	-
Mov Cap-2 Maneuver	927	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	2.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1593	-	1042	-	-	
HCM Lane V/C Ratio	0.007	-	0.011	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Existing (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

BUILD SYNCHRO CAPACITY REPORTS

Weekday Morning Peak Hour

Weekday Evening Peak Hour

Saturday Midday Peak Hour

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	85	1085	830	175	420	15	585	200	490	45	125
Future Volume (veh/h)	5	85	1085	830	175	420	15	585	200	490	45	125
Number		1	6	16	5	2	12	7	4	14	3	8
Initial Q, veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1829	1961	1845	1863	1821	1900	1827	1863	1900	1882	1792
Adj Flow Rate, veh/h		89	1142	874	184	442	16	616	211	516	47	132
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		4	2	3	2	4	4	4	2	2	5	6
Opposing Right Turn Influence		Yes			Yes			Yes			Yes	
Cap, veh/h		448	1555	970	204	1530	55	680	172	422	61	267
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green		0.04	0.42	0.42	0.07	0.45	0.45	0.20	0.36	0.36	0.03	0.19
Ln Grp Delay, s/veh		26.8	44.7	40.9	67.0	30.6	30.6	76.2	0.0	169.7	100.3	0.0
Ln Grp LOS		C	D	D	E	C	C	E		F	F	
Approach Vol, veh/h			2105			642			1343			211
Approach Delay, s/veh			42.4			41.0			126.8			71.0
Approach LOS			D			D			F			E
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	10.4	82.3	10.2	67.0	15.8	77.0	38.8	38.5				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green (Gmax), s	11.5	67.0	10.5	61.0	16.5	62.0	46.5	25.0				
Max Allow Headway (MAH), s	3.7	4.9	3.8	5.1	3.7	4.5	3.7	5.3				
Max Q Clear (g_c+I1), s	7.0	16.0	6.4	63.0	12.1	73.0	32.3	16.4				
Green Ext Time (g_e), s	0.1	2.6	0.0	0.0	0.2	0.0	2.0	0.5				
Prob of Phs Call (p_c)	0.99	1.00	0.89	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.39	0.00	0.70	1.00	0.56	1.00	0.01	0.17				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1742		1792		1774		3375					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3407		480		3725		1395				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		123		1175		1568		338				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Prot)		(Pr/Pm)		(Prot)					

Build (2019) Traffic Volumes 7:30 am 03/07/2019 AM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis 100: Arlington Heights Road & McHenry Road

04/05/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	30
Future Volume (veh/h)	30
Number	18
Initial Q, veh	0
Ped-Bike Adj (A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	32
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	6
Opposing Right Turn Influence	
Cap, veh/h	65
HCM Platoon Ratio	1.00
Prop Arrive On Green	0.19
Ln Grp Delay, s/veh	62.6
Ln Grp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer:	

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	89	0	47	0	184	0	616	0
Grp Sat Flow (s), veh/h/ln	1742	0	1792	0	1774	0	1688	0
Q Serve Time (g_s), s	5.0	0.0	4.4	0.0	10.1	0.0	30.3	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	4.4	0.0	10.1	0.0	30.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	913	0	0	0	211	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	71.0	0.0	0.0	0.0	73.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	62.3	0.0	0.0	0.0	27.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.9	0.0	0.0	0.0	27.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	448	0	61	0	204	0	680	0
V/C Ratio (X)	0.20	0.00	0.78	0.00	0.90	0.00	0.91	0.00
Avail Cap (c_a), veh/h	495	0	111	0	248	0	923	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.5	0.0	81.5	0.0	38.2	0.0	66.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	18.8	0.0	28.8	0.0	9.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.8	0.0	100.3	0.0	67.0	0.0	76.2	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	2.2	0.0	8.5	0.0	14.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	1.6	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	2.5	0.0	10.2	0.0	15.0	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.41	0.00	1.15	0.00	0.88	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	224	0	0	0	1142	0	0
Grp Sat Flow (s), veh/h/ln	0	1730	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	13.9	0.0	0.0	0.0	43.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	0.0	0.0	43.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	777	0	0	0	1555	0	0
V/C Ratio (X)	0.00	0.29	0.00	0.00	0.00	0.73	0.00	0.00
Avail Cap (c_a), veh/h	0	777	0	0	0	1555	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	0.0	0.0	41.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	3.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.6	0.0	0.0	0.0	44.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.7	0.0	0.0	0.0	22.5	0.0	0.0

Build (2019) Traffic Volumes 7:30 am 03/07/2019 AM Peak Hour

Synchro 10 Report
Page 3

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	0.0	0.0	23.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.00	0.00	0.97	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	234	0	727	0	874	0	164
Grp Sat Flow (s), veh/h/ln	0	1800	0	1655	0	1568	0	1733
Q Serve Time (g_s), s	0.0	14.0	0.0	61.0	0.0	71.0	0.0	14.4
Cycle Q Clear Time (g_c), s	0.0	14.0	0.0	61.0	0.0	71.0	0.0	14.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1568.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	34.3	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.71	0.00	1.00	0.00	0.20
Lane Grp Cap (c), veh/h	0	808	0	594	0	970	0	331
V/C Ratio (X)	0.00	0.29	0.00	1.22	0.00	0.90	0.00	0.50
Avail Cap (c_a), veh/h	0	808	0	594	0	970	0	331
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.7	0.0	54.5	0.0	27.9	0.0	61.4
Incr Delay (d2), s/veh	0.0	0.9	0.0	115.2	0.0	13.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.6	0.0	169.7	0.0	40.9	0.0	62.6
1st-Term Q (Q1), veh/ln	0.0	7.0	0.0	27.9	0.0	35.1	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	19.0	0.0	3.5	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.2	0.0	46.9	0.0	38.7	0.0	7.0
%ile Storage Ratio (RQ%)	0.00	0.44	0.00	2.21	0.00	1.63	0.00	1.27
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	69.9
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 User approved ignoring U-Turning movement.

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

04/05/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	85	1085	830	175	420	15	585	200	490	45	125
Future Volume (veh/h)	5	85	1085	830	175	420	15	585	200	490	45	125
Number		1	6	16	5	2	12	7	4	14	3	8
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1829	1961	1845	1863	1821	1900	1827	1863	1900	1882	1792
Adj Flow Rate, veh/h		89	1142	874	184	442	16	616	211	516	47	132
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		4	2	3	2	4	4	4	2	2	5	6
Cap, veh/h		448	1555	970	204	1530	55	680	172	422	61	267
Arrive On Green		0.04	0.42	0.42	0.07	0.45	0.45	0.20	0.36	0.36	0.03	0.19
Sat Flow, veh/h		1742	3725	1568	1774	3407	123	3375	480	1175	1792	1395
Grp Volume(v), veh/h		89	1142	874	184	224	234	616	0	727	47	0
Grp Sat Flow(s),veh/h/ln		1742	1863	1568	1774	1730	1800	1688	0	1655	1792	0
Q Serve(g_s), s		5.0	43.8	71.0	10.1	13.9	14.0	30.3	0.0	61.0	4.4	0.0
Cycle Q Clear(g_c), s		5.0	43.8	71.0	10.1	13.9	14.0	30.3	0.0	61.0	4.4	0.0
Prop In Lane		1.00		1.00	1.00		0.07	1.00		0.71	1.00	
Lane Grp Cap(c), veh/h		448	1555	970	204	777	808	680	0	594	61	0
V/C Ratio(X)		0.20	0.73	0.90	0.90	0.29	0.29	0.91	0.00	1.22	0.78	0.00
Avail Cap(c_a), veh/h		495	1555	970	248	777	808	923	0	594	111	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		26.5	41.6	27.9	38.2	29.6	29.7	66.3	0.0	54.5	81.5	0.0
Incr Delay (d2), s/veh		0.2	3.1	13.0	28.8	0.9	0.9	9.9	0.0	115.2	18.8	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.4	23.2	38.7	10.2	6.9	7.2	15.0	0.0	46.9	2.5	0.0
LnGrp Delay(d),s/veh		26.8	44.7	40.9	67.0	30.6	30.6	76.2	0.0	169.7	100.3	0.0
LnGrp LOS		C	D	D	E	C	C	E		F	F	
Approach Vol, veh/h			2105			642			1343			211
Approach Delay, s/veh			42.4			41.0			126.8			71.0
Approach LOS			D			D			F			E
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	82.3	10.2	67.0	15.8	77.0	38.8	38.5				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	11.5	67.0	10.5	61.0	16.5	62.0	46.5	25.0				
Max Q Clear Time (g_c+I1), s	7.0	16.0	6.4	63.0	12.1	73.0	32.3	16.4				
Green Ext Time (p_c), s	0.1	2.6	0.0	0.0	0.2	0.0	2.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			69.9									
HCM 2010 LOS			E									
Notes												

Build (2019) Traffic Volumes 7:30 am 03/07/2019 AM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

04/05/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	30
Future Volume (veh/h)	30
Number	18
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	32
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	6
Cap, veh/h	65
Arrive On Green	0.19
Sat Flow, veh/h	338
Grp Volume(v), veh/h	164
Grp Sat Flow(s),veh/h/ln	1733
Q Serve(g_s), s	14.4
Cycle Q Clear(g_c), s	14.4
Prop In Lane	0.20
Lane Grp Cap(c), veh/h	331
V/C Ratio(X)	0.50
Avail Cap(c_a), veh/h	331
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	61.4
Incr Delay (d2), s/veh	1.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	7.0
LnGrp Delay(d),s/veh	62.6
LnGrp LOS	E
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

HCM 2010 Signalized Intersection Summary
100: Arlington Heights Road & McHenry Road

04/05/2019

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC
200: Access A & Courtland Drive

04/05/2019

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	30	1	45	15	1
Future Vol, veh/h	10	30	1	45	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	7	2	2
Mvmt Flow	11	32	1	47	16	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	43	0	76	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	49	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1566	-	927	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1566	-	926	1048
Mov Cap-2 Maneuver	-	-	-	-	926	-
Stage 1	-	-	-	-	995	-
Stage 2	-	-	-	-	973	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		8.9	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	933	-	-	1566	-	
HCM Lane V/C Ratio	0.018	-	-	0.001	-	
HCM Control Delay (s)	8.9	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 2010 TWSC

300: Private Driveway/Access B & McHenry Road

04/05/2019

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Vol, veh/h	30	1540	5	15	575	25	5	1	15	20	1	30
Future Vol, veh/h	30	1540	5	15	575	25	5	1	15	20	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	6	4	2	2	2	6	2	2	2
Mvmt Flow	32	1621	5	16	605	26	5	1	16	21	1	32
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	631	0	0	1626	0	0	2023	2351	813	1525	2340	316
Stage 1	-	-	-	-	-	-	1688	1688	-	650	650	-
Stage 2	-	-	-	-	-	-	335	663	-	875	1690	-
Critical Hdwy	4.14	-	-	4.22	-	-	7.54	6.54	7.02	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.26	-	-	3.52	4.02	3.36	3.52	4.02	3.32
Pot Cap-1 Maneuver	947	-	-	378	-	-	34	35	313	81	36	680
Stage 1	-	-	-	-	-	-	97	148	-	424	463	-
Stage 2	-	-	-	-	-	-	653	457	-	310	148	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	947	-	-	378	-	-	22	21	313	51	22	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	21	-	51	22	-
Stage 1	-	-	-	-	-	-	63	96	-	275	432	-
Stage 2	-	-	-	-	-	-	580	427	-	189	96	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	1.6		0.8			86.6			69.6			
HCM LOS						F			F			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	65	947	-	-	378	-	-	106				
HCM Lane V/C Ratio	0.34	0.033	-	-	0.042	-	-	0.506				
HCM Control Delay (s)	86.6	8.9	1.5	-	14.9	0.5	-	69.6				
HCM Lane LOS	F	A	A	-	B	A	-	F				
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.1	-	-	2.3				

HCM 2010 TWSC 400: Ranchview Court & Access C

04/05/2019

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	10	5	20	1
Future Vol, veh/h	1	5	10	5	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	43	2	2
Mvmt Flow	1	5	11	5	21	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	49	22	22	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	960	1055	1593	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	953	1055	1593	-	-	-
Mov Cap-2 Maneuver	953	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	4.9		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1593	-	1037	-	-	
HCM Lane V/C Ratio	0.007	-	0.006	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	555	760	370	1210	25	835	165	170	60	255	55
Future Volume (veh/h)	55	555	760	370	1210	25	835	165	170	60	255	55
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1961	1863	1863	1862	1900	1863	1863	1900	1937	1863	1900
Adj Flow Rate, veh/h	58	584	800	389	1274	26	879	174	179	63	268	58
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	129	926	795	408	1402	29	871	339	348	80	285	62
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.25	0.25	0.18	0.40	0.40	0.25	0.40	0.40	0.04	0.19	0.19
Ln Grp Delay, s/veh	48.4	56.8	73.5	71.7	63.4	62.9	92.5	0.0	36.7	97.8	0.0	95.1
Ln Grp LOS	D	E	F	E	E	E	F		D	F		F
Approach Vol, veh/h		1442			1689			1232			389	
Approach Delay, s/veh		65.7			65.1			76.5			95.6	
Approach LOS		E			E			E			F	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	9.0	69.3	11.5	70.3	32.4	45.8	45.0	36.8				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green (Gmax), s	10.5	57.0	9.5	63.0	30.5	37.0	40.5	32.0				
Max Allow Headway (MAH), s	3.7	4.9	3.8	5.1	3.7	4.3	3.7	5.3				
Max Q Clear (g_c+I1), s	5.9	56.3	7.4	26.9	28.7	41.8	42.5	30.5				
Green Ext Time (g_e), s	0.0	0.5	0.0	2.2	0.2	0.0	0.0	0.3				
Prob of Phs Call (p_c)	0.92	1.00	0.94	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.29	1.00	1.00	0.00	1.00	1.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		1845		1774		3442					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3546		843		3725		1485				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		72		867		1583		321				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Prot)		(Pr/Pm)		(Prot)					

Build (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	58	0	63	0	389	0	879	0
Grp Sat Flow (s), veh/h/ln	1774	0	1845	0	1774	0	1721	0
Q Serve Time (g_s), s	3.9	0.0	5.4	0.0	26.7	0.0	40.5	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	5.4	0.0	26.7	0.0	40.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	422	0	0	0	390	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.8	0.0	0.0	0.0	41.8	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.0	0.0	0.0	0.0	17.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	4.9	0.0	0.0	0.0	17.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	129	0	80	0	408	0	871	0
V/C Ratio (X)	0.45	0.00	0.78	0.00	0.95	0.00	1.01	0.00
Avail Cap (c_a), veh/h	185	0	110	0	426	0	871	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	46.0	0.0	75.8	0.0	40.6	0.0	59.7	0.0
Incr Delay (d2), s/veh	2.4	0.0	22.0	0.0	31.1	0.0	32.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.4	0.0	97.8	0.0	71.7	0.0	92.5	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	2.8	0.0	17.0	0.0	19.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.5	0.0	3.5	0.0	4.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.0	0.0	3.3	0.0	20.5	0.0	23.2	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.52	0.00	2.31	0.00	1.34	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	635	0	0	0	584	0	0
Grp Sat Flow (s), veh/h/ln	0	1769	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	54.2	0.0	0.0	0.0	22.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	54.2	0.0	0.0	0.0	22.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	700	0	0	0	926	0	0
V/C Ratio (X)	0.00	0.91	0.00	0.00	0.00	0.63	0.00	0.00
Avail Cap (c_a), veh/h	0	700	0	0	0	926	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	45.6	0.0	0.0	0.0	53.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	17.8	0.0	0.0	0.0	3.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	63.4	0.0	0.0	0.0	56.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	26.5	0.0	0.0	0.0	11.5	0.0	0.0

Build (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

2nd-Term Q (Q2), veh/ln	0.0	3.5	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	29.9	0.0	0.0	0.0	11.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.79	0.00	0.00	0.00	0.50	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	665	0	353	0	800	0	326
Grp Sat Flow (s), veh/h/ln	0	1849	0	1710	0	1583	0	1806
Q Serve Time (g_s), s	0.0	54.3	0.0	24.9	0.0	39.8	0.0	28.5
Cycle Q Clear Time (g_c), s	0.0	54.3	0.0	24.9	0.0	39.8	0.0	28.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1583.3	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	40.5	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.04	0.00	0.51	0.00	1.00	0.00	0.18
Lane Grp Cap (c), veh/h	0	731	0	687	0	795	0	347
V/C Ratio (X)	0.00	0.91	0.00	0.51	0.00	1.01	0.00	0.94
Avail Cap (c_a), veh/h	0	731	0	687	0	795	0	361
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.6	0.0	36.1	0.0	39.9	0.0	63.7
Incr Delay (d2), s/veh	0.0	17.3	0.0	0.7	0.0	33.6	0.0	31.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	62.9	0.0	36.7	0.0	73.5	0.0	95.1
1st-Term Q (Q1), veh/ln	0.0	27.7	0.0	11.8	0.0	35.0	0.0	14.2
2nd-Term Q (Q2), veh/ln	0.0	3.5	0.0	0.1	0.0	7.4	0.0	3.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	31.2	0.0	11.9	0.0	42.5	0.0	17.3
%ile Storage Ratio (RQ%)	0.00	1.87	0.00	0.56	0.00	1.77	0.00	3.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	70.7
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

04/05/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	555	760	370	1210	25	835	165	170	60	255	55
Future Volume (veh/h)	55	555	760	370	1210	25	835	165	170	60	255	55
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1961	1863	1863	1862	1900	1863	1863	1900	1937	1863	1900
Adj Flow Rate, veh/h	58	584	800	389	1274	26	879	174	179	63	268	58
Adj No. of Lanes	1	2	1	1	2	0	2	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	926	795	408	1402	29	871	339	348	80	285	62
Arrive On Green	0.03	0.25	0.25	0.18	0.40	0.40	0.25	0.40	0.40	0.04	0.19	0.19
Sat Flow, veh/h	1774	3725	1583	1774	3546	72	3442	843	867	1845	1485	321
Grp Volume(v), veh/h	58	584	800	389	635	665	879	0	353	63	0	326
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1769	1849	1721	0	1710	1845	0	1806
Q Serve(g_s), s	3.9	22.3	39.8	26.7	54.2	54.3	40.5	0.0	24.9	5.4	0.0	28.5
Cycle Q Clear(g_c), s	3.9	22.3	39.8	26.7	54.2	54.3	40.5	0.0	24.9	5.4	0.0	28.5
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.51	1.00		0.18
Lane Grp Cap(c), veh/h	129	926	795	408	700	731	871	0	687	80	0	347
V/C Ratio(X)	0.45	0.63	1.01	0.95	0.91	0.91	1.01	0.00	0.51	0.78	0.00	0.94
Avail Cap(c_a), veh/h	185	926	795	426	700	731	871	0	687	110	0	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	53.6	39.9	40.6	45.6	45.6	59.7	0.0	36.1	75.8	0.0	63.7
Incr Delay (d2), s/veh	2.4	3.3	33.6	31.1	17.8	17.3	32.7	0.0	0.7	22.0	0.0	31.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	11.9	42.5	20.5	29.9	31.2	23.2	0.0	11.9	3.3	0.0	17.3
LnGrp Delay(d),s/veh	48.4	56.8	73.5	71.7	63.4	62.9	92.5	0.0	36.7	97.8	0.0	95.1
LnGrp LOS	D	E	F	E	E	E	F		D	F		F
Approach Vol, veh/h	1442				1689				1232			
Approach Delay, s/veh	65.7				65.1				76.5			
Approach LOS	E				E				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	69.3	11.5	70.3	32.4	45.8	45.0	36.8				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	10.5	57.0	9.5	63.0	30.5	37.0	40.5	32.0				
Max Q Clear Time (g_c+I1), s	5.9	56.3	7.4	26.9	28.7	41.8	42.5	30.5				
Green Ext Time (p_c), s	0.0	0.5	0.0	2.2	0.2	0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay	70.7											
HCM 2010 LOS	E											
Notes												

Build (2019) Traffic Volumes 4:45 pm 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary
100: Arlington Heights Road & McHenry Road

04/05/2019

User approved pedestrian interval to be less than phase max green.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 TWSC
200: Access A & Courtland Drive

04/05/2019

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	30	15	1	30	30	2
Future Vol, veh/h	30	15	1	30	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	8	2	2	2	2	2
Mvmt Flow	32	16	1	32	32	2
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	48	0	74	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	34	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1559	-	930	1031
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1559	-	929	1031
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	988	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.2		9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	935	-	-	1559	-	
HCM Lane V/C Ratio	0.036	-	-	0.001	-	
HCM Control Delay (s)	9	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 2010 TWSC

300: Private Driveway/Access B & McHenry Road

04/05/2019

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	20	735	15	55	1575	35	10	1	35	5	1	30
Future Vol, veh/h	20	735	15	55	1575	35	10	1	35	5	1	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	774	16	58	1658	37	11	1	37	5	1	32
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1695	0	0	790	0	0	1770	2635	395	2223	2625	848
Stage 1	-	-	-	-	-	-	824	824	-	1793	1793	-
Stage 2	-	-	-	-	-	-	946	1811	-	430	832	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	372	-	-	826	-	-	53	23	604	24	24	305
Stage 1	-	-	-	-	-	-	333	385	-	83	131	-
Stage 2	-	-	-	-	-	-	281	129	-	574	382	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	372	-	-	826	-	-	-	0	604	-	0	305
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-
Stage 1	-	-	-	-	-	-	299	346	-	75	0	-
Stage 2	-	-	-	-	-	-	-	0	-	483	343	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			4.6								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	372	-	-	826	-	-	-				
HCM Lane V/C Ratio	-	0.057	-	-	0.07	-	-	-				
HCM Control Delay (s)	-	15.3	0.7	-	9.7	4.5	-	-				
HCM Lane LOS	-	C	A	-	A	A	-	-				
HCM 95th %tile Q(veh)	-	0.2	-	-	0.2	-	-	-				

HCM 2010 TWSC

400: Ranchview Court & Access C

04/05/2019

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	15	20	35	10	1
Future Vol, veh/h	1	15	20	35	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	16	21	37	11	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	91	12	12	0	-	0
Stage 1	12	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	909	1069	1607	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	897	1069	1607	-	-	-
Mov Cap-2 Maneuver	897	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	2.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1607	-	1056	-	-	
HCM Lane V/C Ratio	0.013	-	0.016	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	60	565	615	180	520	20	475	95	180	55	105
Future Volume (veh/h)	5	60	565	615	180	520	20	475	95	180	55	105
Number		1	6	16	5	2	12	3	8	18	7	4
Initial Q, veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1961	1863	1863	1863	1900	1863	1863	1900	1937	1863
Adj Flow Rate, veh/h		63	595	647	189	547	21	500	100	189	58	111
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence		Yes			Yes			Yes			Yes	
Cap, veh/h		496	1813	770	372	1830	70	327	116	219	76	164
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green		0.03	0.49	0.49	0.07	0.53	0.53	0.09	0.20	0.20	0.04	0.15
Ln Grp Delay, s/veh		12.3	16.2	33.0	12.2	14.1	14.1	298.4	0.0	46.3	61.7	0.0
Ln Grp LOS		B	B	C	B	B	B	F		D	E	
Approach Vol, veh/h			1305			757			789			232
Approach Delay, s/veh			24.3			13.6			206.0			48.0
Approach LOS			C			B			F			D
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	2.0	4.0	1.1	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.7	58.6	14.0	20.7	10.6	54.7	8.6	26.1				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green (Gmax), s	10.5	23.0	9.5	37.0	10.5	23.0	13.5	33.0				
Max Allow Headway (MAH), s	3.7	4.9	3.7	5.4	3.7	4.4	3.8	5.1				
Max Q Clear (g_c+I1), s	3.8	10.9	11.5	11.4	7.0	37.5	5.1	18.7				
Green Ext Time (g_e), s	0.0	2.4	0.0	1.0	0.2	0.0	0.1	1.3				
Prob of Phs Call (p_c)	0.83	1.00	1.00	1.00	0.99	1.00	0.80	1.00				
Prob of Max Out (p_x)	0.02	0.16	1.00	0.00	1.00	1.00	0.00	0.02				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1774		3442		1774		1845					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3476		1117		3725		578				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		133		634		1583		1092				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	(Pr/Pm)		(Prot)		(Pr/Pm)		(Prot)					

Build (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
Page 1

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Capacity Analysis 100: Arlington Heights Road & McHenry Road

04/05/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	60
Future Volume (veh/h)	60
Number	14
Initial Q, veh	0
Ped-Bike Adj (A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	63
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	2
Opposing Right Turn Influence	
Cap, veh/h	93
HCM Platoon Ratio	1.00
Prop Arrive On Green	0.15
Ln Grp Delay, s/veh	43.5
Ln Grp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer:	

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

Lanes in Grp	1	0	2	0	1	0	1	0
Grp Vol (v), veh/h	63	0	500	0	189	0	58	0
Grp Sat Flow (s), veh/h/ln	1774	0	1721	0	1774	0	1845	0
Q Serve Time (g_s), s	1.8	0.0	9.5	0.0	5.0	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	9.5	0.0	5.0	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	840	0	0	0	446	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	48.7	0.0	0.0	0.0	50.7	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	43.8	0.0	0.0	0.0	38.9	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.4	0.0	0.0	0.0	8.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	496	0	327	0	372	0	76	0
V/C Ratio (X)	0.13	0.00	1.53	0.00	0.51	0.00	0.76	0.00
Avail Cap (c_a), veh/h	626	0	327	0	432	0	249	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.2	0.0	45.3	0.0	11.2	0.0	47.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	253.1	0.0	1.1	0.0	14.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.3	0.0	298.4	0.0	12.2	0.0	61.7	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	4.5	0.0	2.4	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	11.5	0.0	0.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	16.0	0.0	2.5	0.0	1.9	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.92	0.00	0.29	0.00	0.30	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	43.3	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	278	0	0	0	595	0	0
Grp Sat Flow (s), veh/h/ln	0	1770	0	0	0	1863	0	0
Q Serve Time (g_s), s	0.0	8.8	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	0.0	0.0	9.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	932	0	0	0	1813	0	0
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	932	0	0	0	1813	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.1	0.0	0.0	0.0	16.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0

Build (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

HCM 2010 Signalized Intersection Capacity Analysis

100: Arlington Heights Road & McHenry Road

04/05/2019

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	0.0	0.0	5.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.00	0.00	0.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	290	0	174	0	647	0	289
Grp Sat Flow (s), veh/h/ln	0	1839	0	1751	0	1583	0	1670
Q Serve Time (g_s), s	0.0	8.9	0.0	9.4	0.0	35.5	0.0	16.7
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	9.4	0.0	35.5	0.0	16.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	0.36	0.00	1.00	0.00	0.65
Lane Grp Cap (c), veh/h	0	968	0	257	0	770	0	335
V/C Ratio (X)	0.00	0.30	0.00	0.68	0.00	0.84	0.00	0.86
Avail Cap (c_a), veh/h	0	968	0	648	0	770	0	551
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	40.4	0.0	22.3	0.0	38.6
Incr Delay (d2), s/veh	0.0	0.8	0.0	3.1	0.0	10.7	0.0	7.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.1	0.0	43.5	0.0	33.0	0.0	46.3
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	4.5	0.0	15.3	0.0	7.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	2.3	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	4.8	0.0	17.6	0.0	8.4
%ile Storage Ratio (RQ%)	0.00	0.28	0.00	0.84	0.00	0.73	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	70.0
HCM 2010 LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 User approved ignoring U-Turning movement.

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

04/05/2019

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	5	60	565	615	180	520	20	475	95	180	55	105
Future Volume (veh/h)	5	60	565	615	180	520	20	475	95	180	55	105
Number		1	6	16	5	2	12	3	8	18	7	4
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln		1863	1961	1863	1863	1863	1900	1863	1863	1900	1937	1863
Adj Flow Rate, veh/h		63	595	647	189	547	21	500	100	189	58	111
Adj No. of Lanes		1	2	1	1	2	0	2	1	0	1	1
Peak Hour Factor		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		496	1813	770	372	1830	70	327	116	219	76	164
Arrive On Green		0.03	0.49	0.49	0.07	0.53	0.53	0.09	0.20	0.20	0.04	0.15
Sat Flow, veh/h		1774	3725	1583	1774	3476	133	3442	578	1092	1845	1117
Grp Volume(v), veh/h		63	595	647	189	278	290	500	0	289	58	0
Grp Sat Flow(s),veh/h/ln		1774	1863	1583	1774	1770	1839	1721	0	1670	1845	0
Q Serve(g_s), s		1.8	9.8	35.5	5.0	8.8	8.9	9.5	0.0	16.7	3.1	0.0
Cycle Q Clear(g_c), s		1.8	9.8	35.5	5.0	8.8	8.9	9.5	0.0	16.7	3.1	0.0
Prop In Lane		1.00		1.00	1.00		0.07	1.00		0.65	1.00	
Lane Grp Cap(c), veh/h		496	1813	770	372	932	968	327	0	335	76	0
V/C Ratio(X)		0.13	0.33	0.84	0.51	0.30	0.30	1.53	0.00	0.86	0.76	0.00
Avail Cap(c_a), veh/h		626	1813	770	432	932	968	327	0	551	249	0
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		12.2	15.7	22.3	11.2	13.3	13.3	45.3	0.0	38.6	47.4	0.0
Incr Delay (d2), s/veh		0.1	0.5	10.7	1.1	0.8	0.8	253.1	0.0	7.6	14.3	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.9	5.1	17.6	2.5	4.5	4.7	16.0	0.0	8.4	1.9	0.0
LnGrp Delay(d),s/veh		12.3	16.2	33.0	12.2	14.1	14.1	298.4	0.0	46.3	61.7	0.0
LnGrp LOS		B	B	C	B	B	B	F		D	E	
Approach Vol, veh/h			1305			757			789			232
Approach Delay, s/veh			24.3			13.6			206.0			48.0
Approach LOS			C			B			F			D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	58.6	14.0	20.7	10.6	54.7	8.6	26.1				
Change Period (Y+Rc), s	3.5	6.0	4.5	6.0	3.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	10.5	23.0	9.5	37.0	10.5	23.0	13.5	33.0				
Max Q Clear Time (g_c+I1), s	3.8	10.9	11.5	11.4	7.0	37.5	5.1	18.7				
Green Ext Time (p_c), s	0.0	2.4	0.0	1.0	0.2	0.0	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			70.0									
HCM 2010 LOS			E									
Notes												

Build (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
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Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 Signalized Intersection Summary

100: Arlington Heights Road & McHenry Road

04/05/2019

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	60
Future Volume (veh/h)	60
Number	14
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	63
Adj No. of Lanes	0
Peak Hour Factor	0.95
Percent Heavy Veh, %	2
Cap, veh/h	93
Arrive On Green	0.15
Sat Flow, veh/h	634
Grp Volume(v), veh/h	174
Grp Sat Flow(s),veh/h/ln	1751
Q Serve(g_s), s	9.4
Cycle Q Clear(g_c), s	9.4
Prop In Lane	0.36
Lane Grp Cap(c), veh/h	257
V/C Ratio(X)	0.68
Avail Cap(c_a), veh/h	648
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	40.4
Incr Delay (d2), s/veh	3.1
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	4.8
LnGrp Delay(d),s/veh	43.5
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	

HCM 2010 Signalized Intersection Summary
100: Arlington Heights Road & McHenry Road

04/05/2019

User approved pedestrian interval to be less than phase max green.
User approved ignoring U-Turning movement.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

HCM 2010 TWSC 200: Access A & Courtland Drive

04/05/2019

Intersection						
Int Delay, s/veh	3.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	5	1	15	25	1
Future Vol, veh/h	15	5	1	15	25	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	6	2	2
Mvmt Flow	16	5	1	16	26	1
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	21	0	37	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	18	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1595	-	975	1059
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1595	-	974	1059
Mov Cap-2 Maneuver	-	-	-	-	974	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	1005	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		8.8	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	977	-	-	1595	-	
HCM Lane V/C Ratio	0.028	-	-	0.001	-	
HCM Control Delay (s)	8.8	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 2010 TWSC 300: Private Driveway/Access B & McHenry Road

04/05/2019

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	775	5	35	675	45	10	1	20	30	1	55
Future Vol, veh/h	35	775	5	35	675	45	10	1	20	30	1	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	816	5	37	711	47	11	1	21	32	1	58
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	758	0	0	821	0	0	1323	1725	411	1292	1704	379
Stage 1	-	-	-	-	-	-	893	893	-	809	809	-
Stage 2	-	-	-	-	-	-	430	832	-	483	895	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	849	-	-	804	-	-	114	88	590	120	91	619
Stage 1	-	-	-	-	-	-	303	358	-	340	392	-
Stage 2	-	-	-	-	-	-	574	382	-	534	357	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	849	-	-	804	-	-	90	74	590	101	77	619
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	74	-	101	77	-
Stage 1	-	-	-	-	-	-	279	329	-	313	361	-
Stage 2	-	-	-	-	-	-	477	351	-	472	328	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.8			27			33.2		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	196	849	-	-	804	-	-	216				
HCM Lane V/C Ratio	0.166	0.043	-	-	0.046	-	-	0.419				
HCM Control Delay (s)	27	9.4	0.3	-	9.7	0.4	-	33.2				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	1.9				

Build (2019) Traffic Volumes 11:00 am 03/07/2019 PM Peak Hour

Synchro 10 Report
Page 9

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

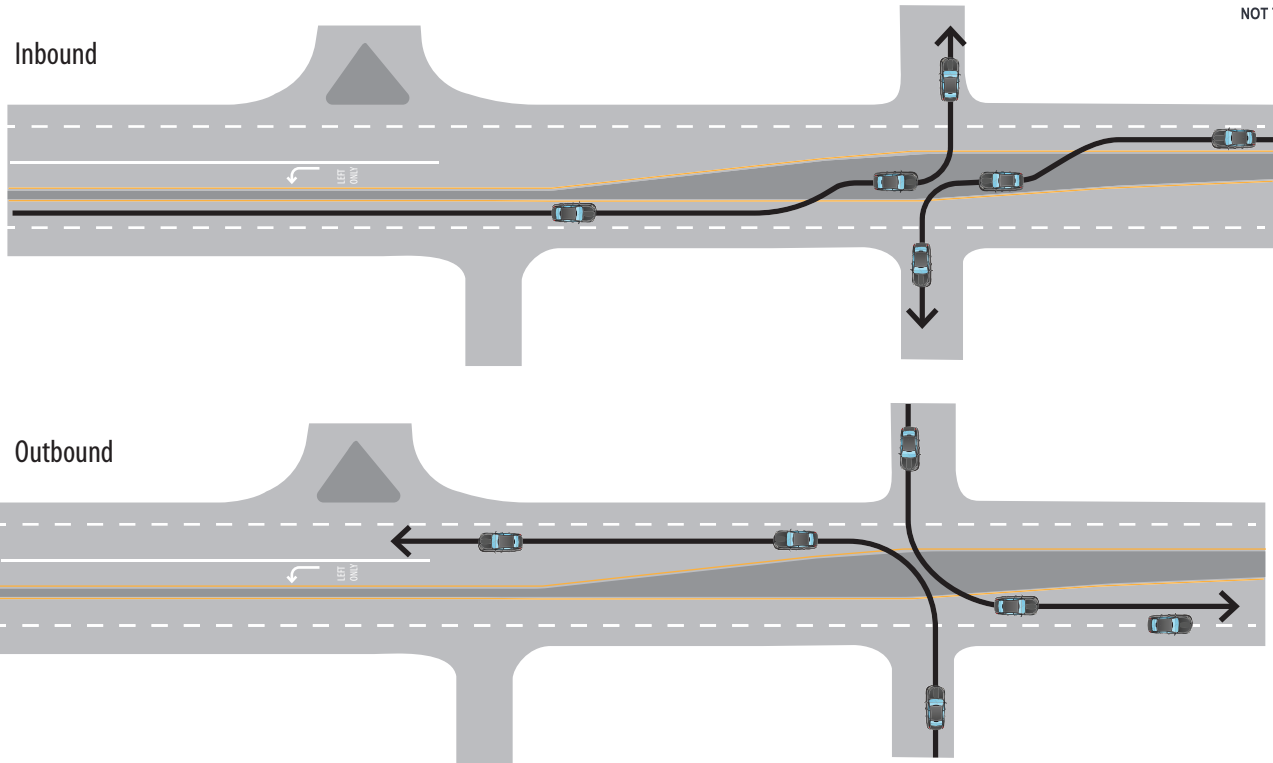
HCM 2010 TWSC

400: Ranchview Court & Access C

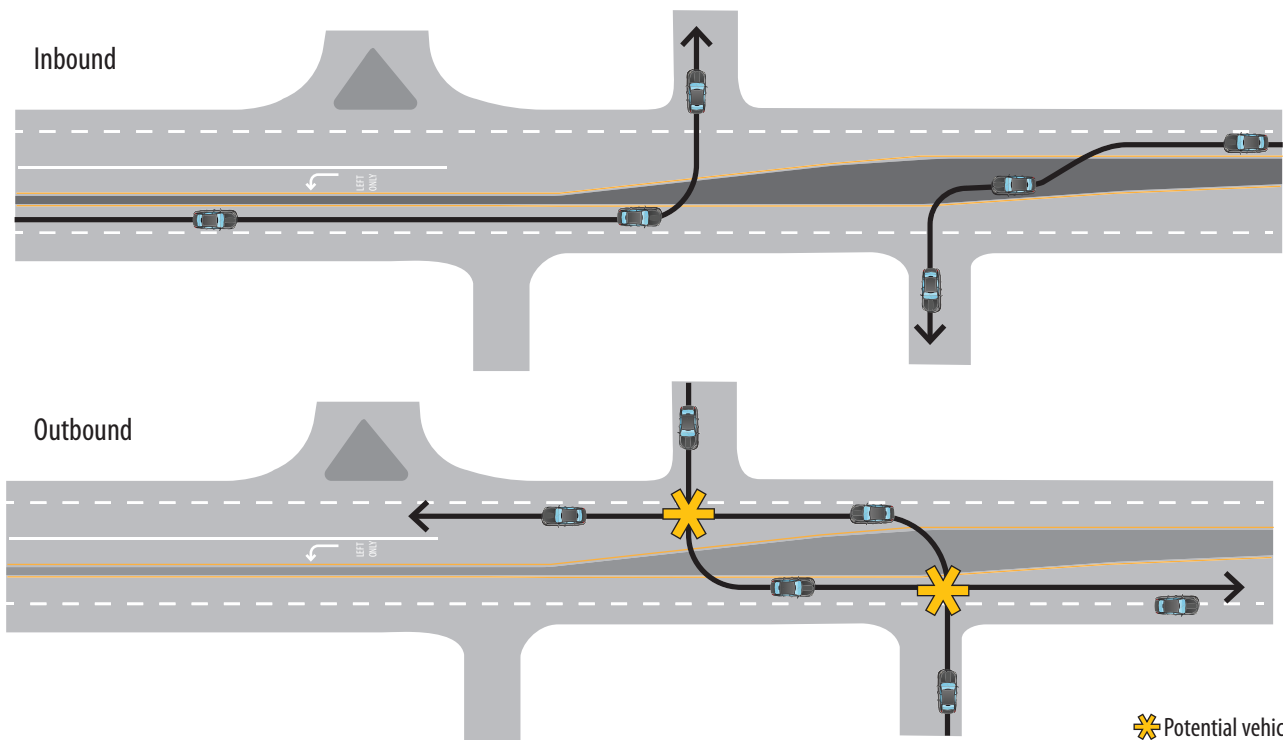
04/05/2019

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	15	15	25	20	1
Future Vol, veh/h	1	15	15	25	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	16	16	26	21	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	80	22	22	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	922	1055	1593	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	913	1055	1593	-	-	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.5	2.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1593	-	1045	-	-	
HCM Lane V/C Ratio	0.01	-	0.016	-	-	
HCM Control Delay (s)	7.3	0	8.5	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

EXISTING: ACCESS DRIVEWAYS ALIGNED ON OPPOSITE SIDES OF McHENRY ROAD



SUGGESTED MODIFICATION: RELOCATE SPOERLEIN COMMONS ACCESS DRIVEWAY WEST



Potential vehicle conflict

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

March 26, 2020
Update: June 19, 2020
File: 271-121-16

**Preliminary Storm Water Management Report
For
Proposed Dunkin Drive-Thru
Spoerlein Commons
1151 McHenry Road
Buffalo Grove (Lake County), IL**

Description of Proposed Development (Refer also to the Preliminary Engineering Plans and Drainage Exhibit):

Spoerlein Commons is an existing office and retail development located to the north of McHenry Road (Illinois State Route 83) and easterly of Arlington Heights Road. An existing Bucky's Express Convenience Store and Fuel Sales Center is located immediately to the west of Spoerlein Commons, between the Spoerlein Commons parcel and Arlington Heights Rd. The proposed new drive-thru facility is a stand-alone/outbuilding located at the southwest portion of the existing Spoerlein Commons. The previously approved plan for Spoerlein Commons included additional out buildings, in the general vicinity of the currently proposed drive-thru, which to date have not been built.

An existing stormwater detention system is located at the southwest corner of the subject parcel, adjacent to the Bucky's Express. This existing detention basin is part of an overall stormwater management system for both the Spoerlein Commons and Bucky's Express parcels.

The proposed Spoerlein Commons development includes two drainage areas. The southern area drains to the existing detention basin at the southwest corner of the Spoerlein Commons parcel. The north portion of the proposed development area drains to a separate existing detention basin/stormwater management system located at the southeast corner of the overall Spoerlein Commons parcel.

Per a Bucky's Express Storm Water Memorandum, with a latest date of October 25, 2012, with the combined surface and underground storage provided by the Bucky's Express site and the existing Spoerlein Commons basin, 0.545 acre-feet of storage is provided. This includes 0.182 acre-feet of detention storage volume provided within the existing basin located primarily on the Spoerlein Commons parcel. For the design of this overall stormwater management system, a tributary area of 0.69 acres with a composite runoff coefficient ("C") of 0.90 (approximately 90% impervious), and an allocated release rate of 0.311 cfs, the associated detention volume requirement used for the tributary portion of Spoerlein Commons was 0.188 acre-feet. The design for this overall stormwater management system used a 713.90 high water elevation controlled by a stand pipe within the Bucky's Express site.

As shown on the attached Drainage Exhibit, as well as the Detention Calculations and Table A -summary storage provided in the existing basin at the southwest corner of the site, 0.81 acres, with a composite "C" value of 0.77, is tributary to the Spoerlein Commons basin, which results in a detention storage volume requirement of 0.187 acre-feet, or slightly less than the 0.188 acre feet required for the Spoerlein Commons parcel as indicated in the above referenced Bucky's Express Storm Water Memorandum. In regards to storage provided, based on a recent topographic survey of the Spoerlein Commons parcel, including the existing Spoerlein Commons detention basin, the existing storage with the basin at the 713.9 high water elevation is approximately 0.208 acre-feet (which is greater than the 0.182 acre-feet of storage allocated to the basin per the Bucky's Express Memorandum). It is noted, the topographic survey reflected a stormwater overflow from the Spoerlein Commons basin at an elevation of 714.66+/- . Therefore, an existing basin high water level (HWL) of 714.7 was also reviewed, which provides 0.280 acre-feet of storage.

With the proposed Dunkin Drive-Thru, the area tributary to the existing Spoerlein Commons basin is approximately 0.78 acres, with a composite "C" of 0.83, which results in a required storage volume of 0.198 acre-feet. Proposed site modifications slightly increase the storage provided within the Spoerlein Commons basin to approximately 0.214 acre-feet at the 713.9 elevation, and 0.291 acre-feet at the 714.7 elevation.

For reference, a Table B is attached which provides a summary of the various conditions associated with the existing basin at the southwest corner of Spoerlein Commons.

The north drainage area, which drains to an existing basin at the southeast corner of the overall Spoerlein Commons parcel, has an existing drainage area of approximately 0.50 acres, with a composite "C" value of 0.87 (see attached Calculation of Composite Run-Off Coefficients). The previously approved plan for Spoerlein Commons included a future building within this north drainage area which would increase the impervious area by approximately 1750 sq ft, resulting in an increased composite "C" of 0.90. The proposed condition for the north drainage area reflects a tributary area of approximately 0.52 acres, with a "C" value of 0.88. Comparing the CxA value for the north drainage area existing condition (with the future building included) to the proposed condition indicates the following:

- Existing condition with future building – $0.50 \times .90 = 0.450$
- Proposed condition ----- $0.52 \times .88 = 0.458$

Therefore, storm water runoff from the north drainage area in the proposed condition would be very comparable to the existing condition with the additional buildings included with the previously approved Spoerlein Commons plan.

Review of Stormwater Ordinance:

Per the Village of Buffalo Grove Municipal Code, detention and stormwater management are to be in accordance with the Lake County Watershed Development Ordinance (WDO) for parcels in Lake County. Per the Site Data Table with the Site Geometric and Paving Plan, the project site area as outlined is approximately 1.19 ac and the increase in impervious area with the proposed conditions is 5,042 sq ft (0.12 Ac+/-), which does not reflect the 4,481 sq ft of future building area included in the previously approved plan for Spoerlein Commons. (If the 4,481 sq ft of future building area is reflected in the impervious area comparison, the increase in impervious area would be reduced to approximately 561 sq ft.) It is noted the existing Spoerlein Commons area was constructed in the mid to late 1980's – prior to the 10/18/92 effective date of the WDO. Therefore, the "new impervious" area per the WDO would be the above referenced 5,042 sq ft. The

proposed “development area” (and “hydrologically disturbed” area) is reflected on the attached Drainage Exhibit and includes approximately 0.96 acres.

With a hydrologically disturbed area of 0.96 +/- acres (less than 3 acres) and new impervious surface of 0.12 acres +/- (less than 0.5 acres), a Watershed Development Permit as outlined in the WDO is not required. Also, with a hydrologically disturbed area less than one (1) acre and the proposed new impervious surface less than one-half (0.5) acre, the Runoff Volume Reduction (RVR) Quantitative Standard of the WDO is not applicable.

With the 5,042 sq ft of new impervious area and a hydrologically disturbed area greater than 5,000 sq feet, a soils erosion and sediment control plan in accordance with the WDO will be provided in conjunction with the Final Engineering Plans and associated approvals.

The WDO also indicates “redevelopment of previously developed sites shall maintain existing storage volume and shall not increase the rate of runoff from the site”. With the proposed Dunkin Drive-Thru, there is no change to the release rate and associated control system for the existing stormwater basins and the existing storage volumes are maintained. For the existing basin at the southwest corner of Spoerlein Commons the storage volume is actually increased as discussed above.

CALCULATION OF COMPOSITE RUN-OFF COEFFICIENTS

Designer:	PDL
Description:	SPOERLEIN COMMONS - DUNKIN

TOTAL PROJECT AREA (FROM SITE DATA SUMMARY)

1.19 Ac.

DEVELOPED RUNOFF COEFFICIENTS

AREA NO. 1 (NORTH)

EXISTING

			<u>Area (Ac)</u>	<u>%</u>	<u>"C"</u>	<u>Wt. Avg.</u>	
Impervious Area	17,602	S.F.	0.404	81.0	0.95	0.770	
Pervious Area	4,126	S.F.	<u>0.095</u>	<u>19.0</u>	0.50	<u>0.095</u>	
Total			0.499	100.00		0.865	
COMPOSITE "C" (USE) =							0.87

EXISTING (INCLUDING 1750+/- S.F. FOR FUTURE BUILDING)

			<u>Area (Ac)</u>	<u>%</u>	<u>"C"</u>	<u>Wt. Avg.</u>	
Impervious Area	19,352	S.F.	0.444	89.1	0.95	0.846	
Pervious Area	2,376	S.F.	<u>0.055</u>	<u>10.9</u>	0.50	<u>0.055</u>	
Total			0.499	100.00		0.901	
COMPOSITE "C" (USE) =							0.90

PROPOSED

			<u>Area (Ac)</u>	<u>%</u>	<u>"C"</u>	<u>Wt. Avg.</u>	
Impervious Area	19,187	S.F.	0.440	84.2	0.95	0.800	
Pervious Area	3,604	S.F.	<u>0.083</u>	<u>15.8</u>	0.50	<u>0.079</u>	
Total			0.523	100.00		0.879	
COMPOSITE "C" (USE) =							0.88

AREA NO. 2 (SOUTH)

EXISTING

			<u>Area (Ac)</u>	<u>%</u>	<u>"C"</u>	<u>Wt. Avg.</u>	
Impervious Area	21,435	S.F.	0.492	60.9	0.95	0.579	
Pervious Area	13,753	S.F.	<u>0.316</u>	<u>39.1</u>	0.50	<u>0.195</u>	
Total			0.808	100.00		0.774	
COMPOSITE "C" (USE) =							0.77

PROPOSED

			<u>Area (Ac)</u>	<u>%</u>	<u>"C"</u>	<u>Wt. Avg.</u>	
Impervious Area	25,183	S.F.	0.578	73.8	0.95	0.701	
Pervious Area	8,943	S.F.	<u>0.205</u>	<u>26.2</u>	0.50	<u>0.131</u>	
Total			0.783	100.00		0.832	
COMPOSITE "C" (USE) =							0.83

NOTE: THE AREA 2 IMPERVIOUS AREA INCLUDES 5,079 S.F. OF EXISTING BUILDING AREA FOR BOTH THE EXISTING AND PROPOSED CONDITION

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

RWG ENGINEERING, LLC.
975 E. 22nd Street
Wheaton, IL 60189
(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION		Spoerlein Commons - Update to Bucky's Aug 2012 Basin Calculation-			
					Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)			
					STORAGE VOLUME WITH EXISTING SITE TRIBUTARY AREA			
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME			
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)		Area of site in acres:	0.81
0.50	30	5.60	3.49	3.18	0.13		Trapped water area in acres:	0.00
0.67	40	4.92	3.07	2.76	0.15		Net area for release computation in acres:	0.00
0.83	50	4.24	2.64	2.33	0.16		Design release rate in CFS:	0.31
1.00	60	3.56	2.22	1.91	0.16		Unrestricted release rate in CFS:	0.00
							Bypass release rate in CFS:	0.00
1.50	90	2.90	1.81	1.50	0.19	<=	Total design release in CFS:	0.31
2.00	120	2.24	1.40	1.09	0.18		Developed runoff coefficient:	0.77
3.00	180	1.62	1.01	0.70	0.18			
4.00	240	1.40	0.87	0.56	0.19			
5.00	300	1.17	0.73	0.42	0.18		Maximum volume in Acre-Ft =	0.187
6.00	360	0.95	0.59	0.28	0.14			
7.00	420	0.88	0.55	0.24	0.14			
8.00	480	0.82	0.51	0.20	0.13			
9.00	540	0.75	0.47	0.16	0.12			
10.00	600	0.68	0.43	0.12	0.10			
11.00	660	0.62	0.38	0.07	0.07			
12.00	720	0.55	0.34	0.03	0.03			
13.00	780	0.52	0.33	0.02	0.02			
14.00	840	0.50	0.31	0.00	0.00			
15.00	900	0.47	0.29	-0.02	-0.02			
16.00	960	0.44	0.28	-0.03	-0.04			
17.00	1020	0.42	0.26	-0.05	-0.07			
18.00	1080	0.39	0.24	-0.07	-0.10			
19.00	1140	0.38	0.24	-0.07	-0.12			
20.00	1200	0.37	0.23	-0.08	-0.14			
21.00	1260	0.36	0.22	-0.09	-0.16			
22.00	1320	0.34	0.21	-0.10	-0.18			
23.00	1380	0.33	0.21	-0.10	-0.20			
24.00	1440	0.32	0.20	-0.11	-0.22			
		% of site	"C" Factor	Composite "C"				
Open Water Area		0.00	1.00	0.00				
Impervious Area		60.90	0.95	0.58				
Pervious Area		39.10	0.50	0.20				
Total :		100.00		0.77				

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

RWG ENGINEERING, LLC.
975 E. 22nd Street
Wheaton, IL 60189
(630) 774-9501

Detention Calculator
Modified Rational Method

TELEPHONE (630) 774-9501			DESCRIPTION		Spoerlein Commons - Update to Bucky's Aug 2012 Basin Calculation-	
					Technical Bulletin 70 (7.58 in. - 100 Year Rainfall)	
					STORAGE VOLUME WITH PROPOSED SITE TRIBUTARY AREA	
DURATION	TIME	100 YR. INT	INFLOW RATE	STORED RATE	VOLUME	
(HOURS)	(MIN)	(IN/HR)	(CFS)	(CFS)	(ACRE-FT)	
0.50	30	5.60	3.63	3.32	0.14	Area of site in acres: 0.78
0.67	40	4.92	3.19	2.88	0.16	Trapped water area in acres: 0.00
0.83	50	4.24	2.74	2.43	0.17	Net area for release computation in acres: 0.00
1.00	60	3.56	2.30	1.99	0.17	Design release rate in CFS: 0.31
1.50	90	2.90	1.88	1.57	0.20	Unrestricted release rate in CFS: 0.00
2.00	120	2.24	1.45	1.14	0.19	Bypass release rate in CFS: 0.00
3.00	180	1.62	1.05	0.74	0.18	Total design release in CFS: 0.31
4.00	240	1.40	0.90	0.59	0.20	Developed runoff coefficient: 0.83
5.00	300	1.17	0.76	0.45	0.19	
6.00	360	0.95	0.62	0.31	0.15	Maximum volume in Acre-Ft = 0.198
7.00	420	0.88	0.57	0.26	0.15	
8.00	480	0.82	0.53	0.22	0.15	
9.00	540	0.75	0.49	0.18	0.13	
10.00	600	0.68	0.44	0.13	0.11	
11.00	660	0.62	0.40	0.09	0.08	
12.00	720	0.55	0.36	0.05	0.05	
13.00	780	0.52	0.34	0.03	0.03	
14.00	840	0.50	0.32	0.01	0.01	
15.00	900	0.47	0.30	-0.01	-0.01	
16.00	960	0.44	0.29	-0.02	-0.03	
17.00	1020	0.42	0.27	-0.04	-0.06	
18.00	1080	0.39	0.25	-0.06	-0.09	
19.00	1140	0.38	0.24	-0.07	-0.10	
20.00	1200	0.37	0.24	-0.07	-0.12	
21.00	1260	0.36	0.23	-0.08	-0.14	
22.00	1320	0.34	0.22	-0.09	-0.16	
23.00	1380	0.33	0.21	-0.10	-0.18	
24.00	1440	0.32	0.21	-0.10	-0.21	
		% of site	"C" Factor	Composite "C"		
Open Water Area		0.00	1.00	0.00		
Impervious Area		73.80	0.95	0.70		
Pervious Area		26.20	0.50	0.13		
Total :		100.00		0.83		

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

Date: 03-24-2020

Project No. 271-121-16

Designer: PDL
 Description: Dunkin-Spoerlein Commons, Buffalo Grove, IL

TABLE A
STORAGE IN EXISTING BASIN
AT
SOUTHWEST CORNER OF SITE

EXISTING CONDITIONS

<u>CONTOUR</u>	<u>AREA</u>		<u>AVERAGE</u>		<u>INCREMENT</u>		<u>INCREM'T VOLUME</u>		<u>TOTAL VOLUME</u>	
709.1	0	S.F.	606.5	S.F.	0.9	FT.	546	C.F.	546	C.F.
710.0	1,213	S.F.	1,487.5	S.F.	1.0	FT.	1,488	C.F.	2,033	C.F.
711.0	1,762	S.F.	1,967.0	S.F.	1.0	FT.	1,967	C.F.	4,000	C.F.
712.0	2,172	S.F.	2,401.0	S.F.	1.0	FT.	2,401	C.F.	6,401	C.F.
713.0	2,630	S.F.	2,973.5	S.F.	0.9	FT.	<u>2,676</u>	C.F.	9,078	C.F.
714.0	3,317	S.F.								
TOTAL STORAGE @ 713.9 HWL--							9,078	C.F.	0.208	Ac-Ft

PROPOSED CONDITIONS

<u>CONTOUR</u>	<u>AREA</u>		<u>AVERAGE</u>		<u>INCREMENT</u>		<u>INCREM'T VOLUME</u>		<u>TOTAL VOLUME</u>	
709.1	0	S.F.	606.5	S.F.	0.9	FT.	546	C.F.	546	C.F.
710.0	1,213	S.F.	1,487.5	S.F.	1.0	FT.	1,488	C.F.	2,033	C.F.
711.0	1,762	S.F.	1,967.0	S.F.	1.0	FT.	1,967	C.F.	4,000	C.F.
712.0	2,172	S.F.	2,413.0	S.F.	1.0	FT.	2,413	C.F.	6,413	C.F.
713.0	2,654	S.F.	3,211.5	S.F.	0.9	FT.	<u>2,890</u>	C.F.	9,304	C.F.
714.0	3,769	S.F.								
TOTAL STORAGE @ 713.9 HWL--							9,304	C.F.	0.214	Ac-Ft

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

Date: 03-24-2020

Project No. 271-121-16

Designer: PDL
Description: Dunkin-Spoerlein Commons, Buffalo Grove, IL

TABLE A
STORAGE IN EXISTING BASIN
AT
SOUTHWEST CORNER OF SITE

EXISTING CONDITIONS

<u>CONTOUR</u>	<u>AREA</u>		<u>AVERAGE</u>		<u>INCREMENT</u>		<u>INCREM'T</u>		<u>TOTAL</u>	
709.1	0	S.F.	606.5	S.F.	0.9	FT.	546	C.F.	546	C.F.
710.0	1,213	S.F.	1,487.5	S.F.	1.0	FT.	1,488	C.F.	2,033	C.F.
711.0	1,762	S.F.	1,967.0	S.F.	1.0	FT.	1,967	C.F.	4,000	C.F.
712.0	2,172	S.F.	2,401.0	S.F.	1.0	FT.	2,401	C.F.	6,401	C.F.
713.0	2,630	S.F.	2,973.5	S.F.	1.0	FT.	2,974	C.F.	9,375	C.F.
714.0	3,317	S.F.	4,013.5	S.F.	0.7	FT.	2,809	C.F.	12,184	C.F.
714.7	4,710	S.F.	4,918.5	S.F.	0.3	FT.	<u>1,476</u>	C.F.	13,660	C.F.
715.0	5,127	S.F.								
TOTAL STORAGE @ 714.7 HWL -							12,184	C.F.	0.280	Ac-Ft

PROPOSED CONDITIONS

<u>CONTOUR</u>	<u>AREA</u>		<u>AVERAGE</u>		<u>INCREMENT</u>		<u>INCREM'T</u>		<u>TOTAL</u>	
709.1	0	S.F.	606.5	S.F.	0.9	FT.	546	C.F.	546	C.F.
710.0	1,213	S.F.	1,487.5	S.F.	1.0	FT.	1,488	C.F.	2,033	C.F.
711.0	1,762	S.F.	1,967.0	S.F.	1.0	FT.	1,967	C.F.	4,000	C.F.
712.0	2,172	S.F.	2,413.0	S.F.	1.0	FT.	2,413	C.F.	6,413	C.F.
713.0	2,654	S.F.	3,211.5	S.F.	1.0	FT.	3,212	C.F.	9,625	C.F.
714.0	3,769	S.F.	4,336.5	S.F.	0.7	FT.	3,036	C.F.	12,660	C.F.
714.7	4,904	S.F.	5,025.0	S.F.	0.3	FT.	<u>1,508</u>	C.F.	14,168	C.F.
715.0	5,146	S.F.								
TOTAL STORAGE @ 714.7 HWL -							12,660	C.F.	0.291	Ac-Ft

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

Date: 03-24-2020
Update: 06-19-2020

Project No. 271-121-16

Designer: PDL
Description: Dunkin-Spoerlein Commons, Buffalo Grove, IL

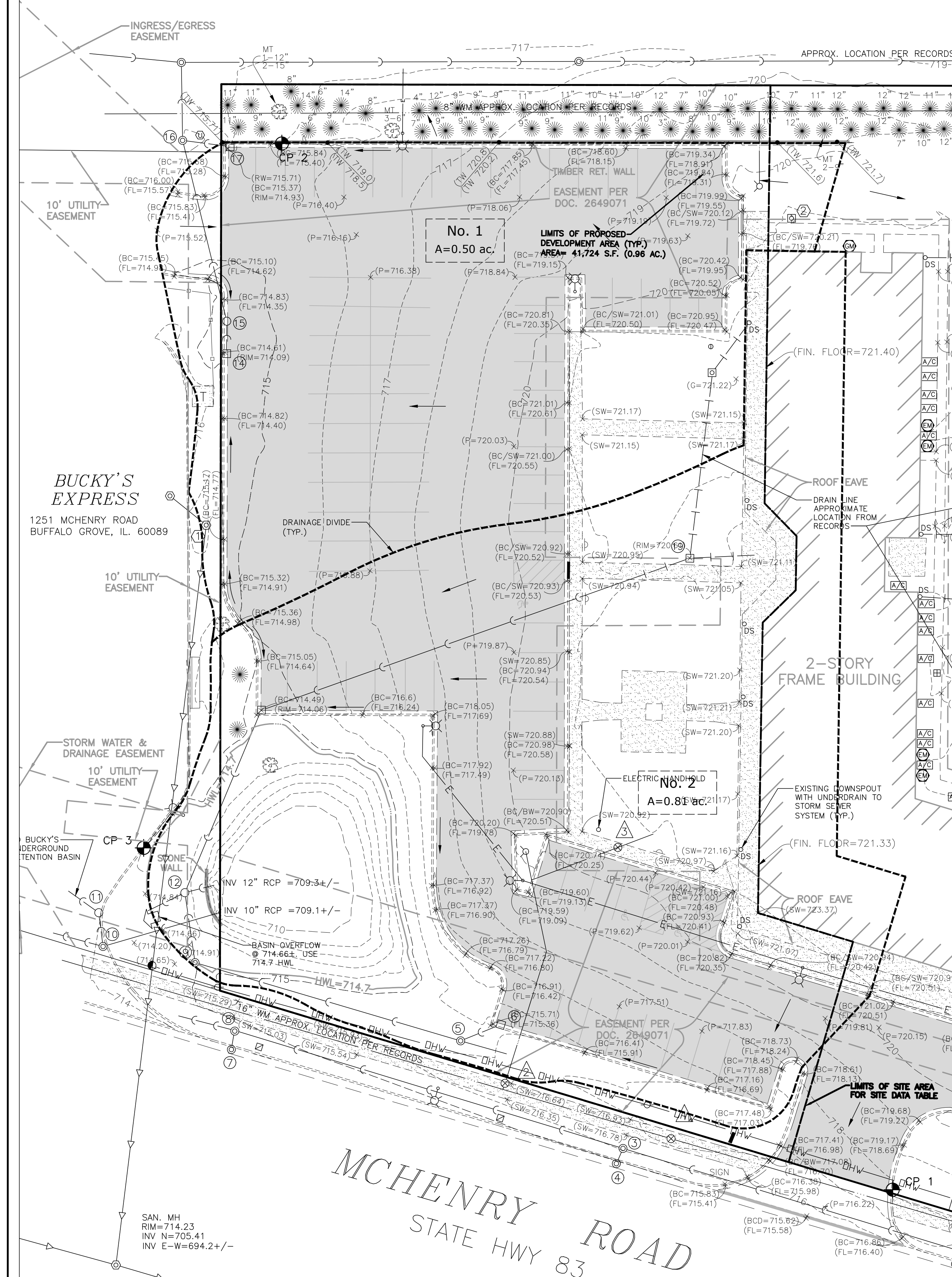
TABLE B
SUMMARY FOR EXISTING BASIN
AT
SOUTHWEST CORNER OF SITE

<u>Description</u>	<u>Per Bucky's Memo</u>	<u>Existing Spoerlein</u>	<u>Proposed Spoerlein</u>
1 Tributary Area to Basin	0.69 Ac	0.81 Ac	0.78 Ac
2 Composite "C" Value	0.90	0.77	0.83
3 Detention Storage Required	0.188 Ac-Ft	0.187 Ac-Ft	0.198 Ac-Ft
4 Detention Storage Provided @ 713.9 HWL	0.182 Ac-Ft	0.208 Ac-Ft	0.214 Ac-Ft
5 Detention Storage Provided @ 714.7 HWL	N/A	0.280 Ac-Ft	0.291 Ac-Ft

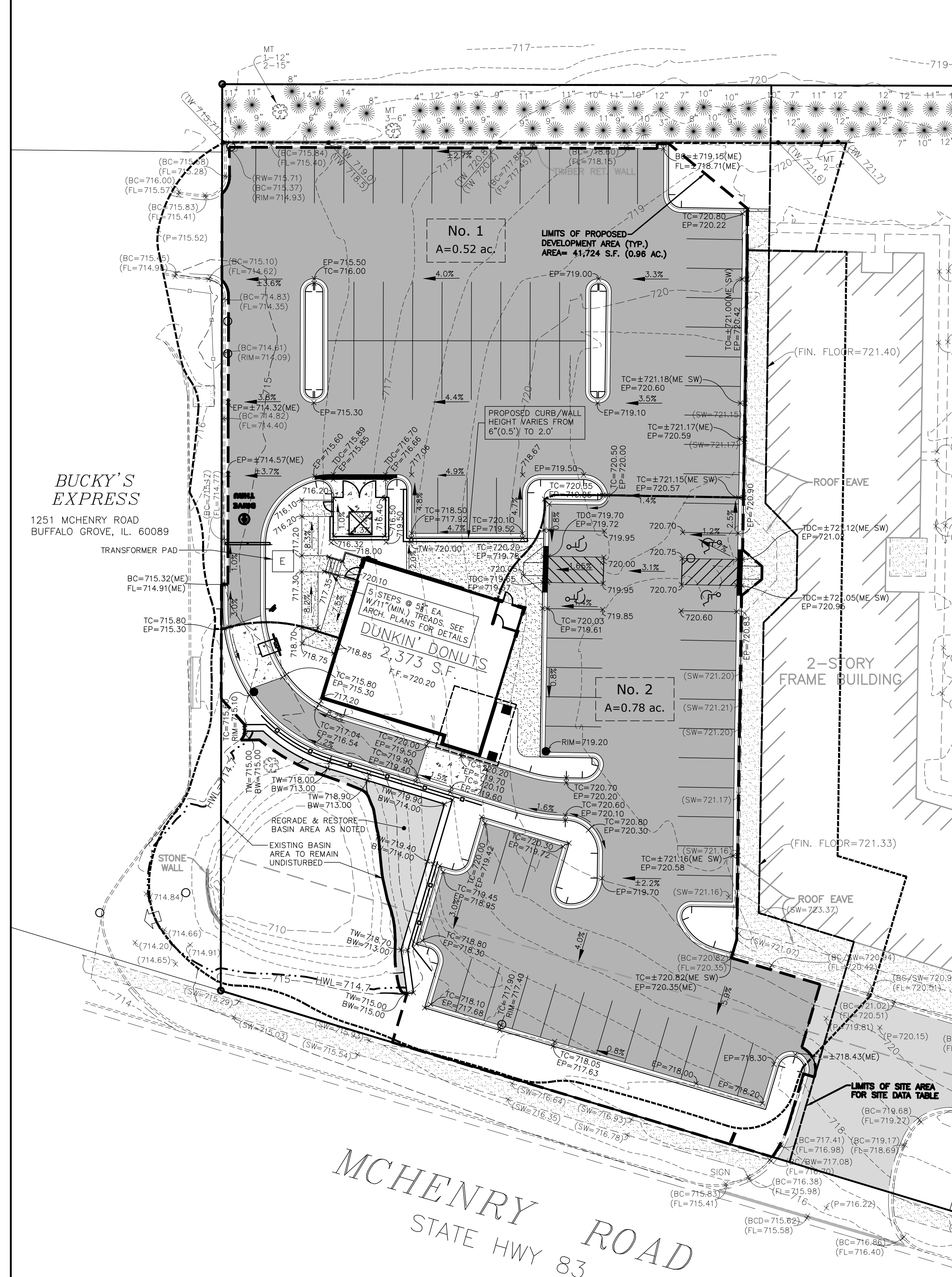
NOTES:

- 1 "Per Bucky's Memo" - refers to criteria for the Spoerlein Commons stormwater detention basis at the southwest corner of the Spoerlein Commons parcel, as outlined in the Bucky's Express Storm Water Memorandum, with a latest date of October 25 2012
- 2 "Existing Spoerlein" - refers to the existing Spoerlein Commons site conditions, as reflected on the attached Existing & Proposed Drainage Exhibit, Calculation of Composite Run-Off Coefficients, Detention Calculations, and Table A - Storage in Existing Basin
- 3 "Proposed Spoerlein" - refers to the proposed Spoerlein Commons site conditions, as reflected on the attached Existing & Proposed Drainage Exhibit, Calculation of Composite Run-Off Coefficients, Detention Calculations, and Table A - Storage in Existing Basin

EXISTING DRAINAGE PLAN



PROPOSED DRAINAGE PLAN



SPORLEIN COMMONS - PROPOSED DRIVE THRU
BUFFALO GROVE, ILLINOIS
EXISTING & PROPOSED DRAINAGE EXHIBIT

975 E. 22nd St. Suite 400
Wheaton, IL 60189
630.480.7889
www.rwg-engineering.com

Engineering, LLC
Civil Engineering • Real Estate Consulting • Project Management

RWG

PROJECT NO. 27112116
DATE 03/24/2020
SCALE 1"=20'
PROJ. MGR. PDL
PROJ. ASSOC. RWG
DRAWN BY TLM

SHEET
1 OF 1

LEGEND
DIRECTION OF SURFACE FLOW
OVERFLOW RELIEF ROUTING

June 23, 2020 1:48:17 p.m. AcadVer:22.0s (LMS Tech)
Drawing: S:\27112116 - SPORLEIN COMMONS-DUNKIN' DONUTS\300_ENGINEERING\310_CADD\PRELIM\27112116_PRELIM.DWG

ORDINANCE NO. 83- 8

AN ORDINANCE AMENDING THE COMPREHENSIVE ZONING
ORDINANCE OF THE VILLAGE OF BUFFALO GROVE,
COOK AND LAKE COUNTIES, ILLINOIS
(Spoerlein Farm)

WHEREAS, the Village of Buffalo Grove is a Home Rule Unit by virtue of the Illinois Constitution of 1970; and,

WHEREAS, the hereinafter legally described real property was annexed to the Village of Buffalo Grove by Ordinance No. 83-7 pursuant to a written Annexation Agreement dated January 24, 1983, and approved by the Village by Ordinance No. 83- 6 ; and,

WHEREAS, notices of public hearings for zoning and annexation on said Annexation Agreement have been given and public hearings were held.

NOW, THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF BUFFALO GROVE, COOK AND LAKE COUNTIES, ILLINOIS:

SECTION 1. The Comprehensive Zoning Ordinance of the Village of Buffalo Grove, Cook and Lake Counties, Illinois, as amended is hereby further amended by classifying upon annexation the territory hereinafter legally described into the B-3 Planned Business Center District:

LOT 3 AND LOT 4, and
THAT PART OF LOT 2 DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF LOT 2: THENCE NORTH ALONG THE WEST LINE OF LOT 2, 39.00 FEET TO A POINT OF CURVATURE: THENCE NORTHEASTERLY ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 190.778 FEET, AN ARC DISTANCE OF 151.502 FEET (THE CHORD THEREOF DEFLECTING RIGHT 67 DEGREES 15 MINUTES FROM THE PROLONGATION OF THE LAST DESCRIBED COURSE, A CHORD DISTANCE OF 147.662 FEET) TO A POINT OF TANGENCY: THENCE ALONG A TANGENT LINE 5.00 FEET TO A POINT: THENCE SOUTHEASTERLY A DISTANCE OF 145.00 FEET MORE OR LESS TO A POINT ON THE SOUTH LINE OF LOT 2, SAID POINT BEING 18.00 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT 2: THENCE WEST ALONG THE SOUTH LINE OF LOT 2, A DISTANCE OF 248.00 FEET, TO THE POINT OF BEGINNING: and
THAT PART OF LOT 5 DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST MOST CORNER OF LOT 5 ON THE NORTH RIGHT OF WAY LINE OF ILLINOIS ROUTE NO. 83: THENCE NORTH ALONG THE WEST LINE OF LOT 5, A DISTANCE OF 155.00 FEET: THENCE EASTERLY ON A LINE 155.00 FEET NORTHERLY OF AND PARALLEL WITH SAID RIGHT OF WAY LINE A DISTANCE OF 107.00 FEET: THENCE ALONG A LINE 30 DEGREES 00 MINUTES LEFT FROM THE PROLONGATION OF THE LAST DESCRIBED LINE, 46.00 FEET: THENCE EASTERLY ON A LINE 178.00 FEET NORTHERLY OF AND PARALLEL WITH SAID RIGHT OF WAY LINE, A DISTANCE OF 367.75 FEET: THENCE SOUTHWESTERLY ON A LINE 124.00 FEET RIGHT FROM THE PROLONGATION OF THE LAST DESCRIBED LINE, A DISTANCE OF 142.33 FEET TO A POINT OF CURVE: THENCE ALONG A TRIGENTIAL CURVE TO THE LEFT HAVING A RADIUS OF 196.251 FEET, AN ARC DISTANCE OF 116.458 FEET TO THE NORTH RIGHT OF WAY LINE OF ILLINOIS ROUTE 83: THENCE NORTHWESTERLY ALONG THE SAID RIGHT OF WAY LINE 435.00 FEET TO THE POINT OF BEGINNING, ALL IN McHENRY ROAD HOMESITES, BEING A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 29, TOWNSHIP 43 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN ACCORDING TO THE PLAT THEREOF RECORDED NOVEMBER 24, 1956 AS DOCUMENT NO. 931656 IN BOOK 1501 OF RECORDS, PAGE 154, IN LAKE COUNTY, ILLINOIS.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

-2-

and the territory hereinafter legally described into the R-9 Multiple Family Dwelling District with a special use for a planned development:

LOT 1, and
 LOT 2, EXCEPT THAT PART DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF LOT 2: THENCE NORTH ALONG THE WEST LINE OF LOT 2, 39.00 FEET TO A POINT OF CURVATURE: THENCE NORTHEASTERLY ALONG A CURVE TO THE LEFT, HAVING A RADIUS OF 190.778 FEET, AN ARC DISTANCE OF 151.502 FEET (THE CHORD THEREOF DEFLECTING RIGHT 67 DEGREES 15 MINUTES FROM THE PROLONGATION OF THE LAST DESCRIBED COURSE, A CHORD DISTANCE OF 147.552 FEET) TO A POINT OF TANGENCY: THENCE ALONG A TANGENT LINE, 5.00 FEET TO A POINT: THENCE SOUTHEASTERLY A DISTANCE OF 145.00 FEET MORE OR LESS TO A POINT ON THE SOUTH LINE OF LOT 2, SAID POINT BEING 18.00 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT 2: THENCE WEST ALONG THE SOUTH LINE OF LOT 2, A DISTANCE OF 248.00 FEET, TO THE POINT OF BEGINNING.

and

LOT 5, EXCEPT THAT PART DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST MOST CORNER OF LOT 5 ON THE NORTH RIGHT OF WAY LINE OF ILLINOIS ROUTE NO. 83: THENCE NORTH ALONG THE WEST LINE OF LOT 5, A DISTANCE OF 155.00 FEET: THENCE EASTERLY ON A LINE 155.00 FEET NORTHERLY OF AND PARALLEL WITH SAID RIGHT OF WAY LINE A DISTANCE OF 107.00 FEET: THENCE ALONG A LINE 30 DEGREES 00 MINUTES LEFT FROM THE PROLONGATION OF THE LAST DESCRIBED LINE, 46.00 FEET: THENCE EASTERLY ON A LINE 178.00 FEET NORTHERLY OF AND PARALLEL WITH SAID RIGHT OF WAY LINE, A DISTANCE OF 367.75 FEET: THENCE SOUTHWESTERLY ON A LINE 124 DEGREES 00 MINUTES RIGHT FROM THE PROLONGATION OF THE LAST DESCRIBED LINE, A DISTANCE OF 142.33 FEET TO A POINT OF CURVE: THENCE ALONG A TANGENTIAL CURVE TO THE LEFT HAVING A RADIUS OF 196.251 FEET, AN ARC DISTANCE OF 116.458 FEET TO THE NORTH RIGHT OF WAY LINE OF ILLINOIS ROUTE 83: THENCE NORTHWESTERLY ALONG THE SAID RIGHT OF WAY LINE 435.00 FEET TO THE POINT OF BEGINNING, ALL IN McHENRY ROAD HOMESITES, BEING A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 29, TOWNSHIP 43 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN ACCORDING TO THE PLAT THEREOF RECORDED NOVEMBER 24, 1956 AS DOCUMENT NO. 931656 IN BOOK 1501 OF RECORDS, PAGE 154, IN LAKE COUNTY, ILLINOIS.

SECTION 2. The said zoning shall be and is subject to the provisions of Ordinance No. 83-6 , being "An Ordinance Approving an Annexation Agreement" passed and approved January 24, 1983, which Ordinance is by reference made a part hereof.

SECTION 3. That the legal description contained herein may be modified by the written consent of the Village Manager if there is a request for a minor change in same.

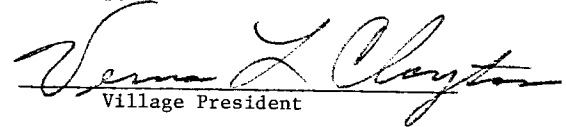
SECTION 4. This Ordinance shall be in full force and effect on and after its passage and approval. This Ordinance shall not be codified.

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

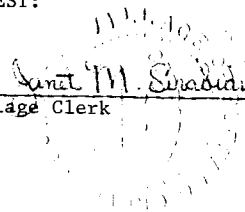
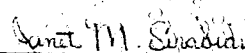
-3-

AYES: 5 - Marienthal, O'Reilly, Hartstein, Gerschefkse, SchwartzNAYES: 1 - StoneABSENT: 0 - NonePASSED: January 24, 1983APPROVED: January 24, 1983

APPROVED:


Village President

ATTEST:



Village Clerk

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

ANNEXATION AGREEMENT

This Agreement (hereinafter referred to as the "Agreement") made and entered into this 24th day of January, 1983, by and between the VILLAGE OF BUFFALO GROVE (hereinafter referred to as "Village") by and through the President and Board of Trustees of the Village (hereinafter collectively referred to as the "Corporate Authorities") and DENNIS SPOERLEIN, not individually but as Trustee under a Trust Agreement dated January 2, 1980 and known as Spoerlein Trust No. 80 ("Spoerlein"), and IRVING M. STAHL and LAMINA M. STAHL, husband and wife ("Stahl") (Spoerlein and Stahl are collectively referred to as the "Owner"); and MIDWEST DEVELOPMENT VENTURE II, an Illinois limited partnership (hereinafter referred to as "Developer").

W I T N E S S E T H :

WHEREAS, the Village of Buffalo Grove is a Home Rule Unit by virtue of the provisions of the Constitution of the State of Illinois of 1970; and

WHEREAS, Owner is the owner of a certain tract of property comprising approximately 20.3 acres bounded on the north by Strathmore Grove, on the west by Arlington Heights Road, and on

~~by the south by Buffalo Grove and legally described and identified~~
 LOTS 1, 2, 3, 4, AND 5 IN McHENRY ROAD HOMESITES BEING A SUBDIVISION OF PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 29, TOWNSHIP 43 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN ACCORDING TO THE PLAT THEREOF RECORDED NOVEMBER 24, 1956 AS DOCUMENT NO. 931656 IN BOOK 1501 OF RECORDS, PAGE 154, IN LAKE COUNTY, ILLINOIS

and

THAT PART OF ARLINGTON HEIGHTS ROAD DIRECTLY WEST OF AND ABUTTING LOTS 1 AND 2 IN AFORESAID McHENRY ROAD HOMESITES.

2196216

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

2196216

referred to as the "Property") and which real estate is contiguous to the corporate limits of the Village; and

WHEREAS, Owner desires and proposes pursuant to the provisions and regulations applicable to the B-3 and R-9 P.U.D. Districts of the Village Zoning Ordinance to develop the Property in accordance with and pursuant to a certain Preliminary Development Plan prepared by Land Consultants dated as last revised January 3, 1983, and also Preliminary Engineering Plan prepared by McBride Engineering dated as last revised November 7, 1982 (hereinafter jointly referred to as the "Preliminary Development Plan"), a copy of which Preliminary Development Plan is attached hereto as Exhibit F (consisting of 4 sheets) and Exhibit G and incorporated herein, and subject to all other exhibits attached hereto or incorporated by reference herein. ~~and development of the Property shall contain one hundred~~ ~~seventy-six (176) multiple family residential units consisting of 161 two bedroom units and 15 three bedroom units and shall allow the development of the office/commercial area in conformity with the Preliminary Development Plan.~~

WHEREAS, pursuant to the provisions of Section 11-15.1-1, et. seq., of the Illinois Municipal Code (Chapter 24, Illinois Revised Statutes, 1979) a proposed Annexation Agreement, in substance and in form substantially the same as this Agreement, was submitted to the Corporate Authorities and a public hearing was held thereon pursuant to notice as provided by Statute; and

WHEREAS, pursuant to due notice and advertisement in the manner provided by law, the Plan Commission of the Village has held such public hearing prescribed by law and made their recommendation with respect to the requested zoning classification of B-3 and R-9 P.U.D. Zoning Districts; and

WHEREAS, the parties have entered into this Agreement in good faith, having used their best efforts to accurately disclose information relevant to the matters contained herein and having used that information to evaluate the terms and exhibits of this Agreement; and

WHEREAS, President and Board of Trustees after due and careful consideration have concluded that the annexation of the Property to the Village and its zoning and development on the terms and conditions herein set forth would further enable the Village to control the development of the area and would serve the best interests of the Village.

NOW, THEREFORE, in consideration of the premises, mutual covenants and agreements herein set forth, the parties hereto agree as follows:

1. Applicable Law. This Agreement is made pursuant to and in accordance with the provisions of Section 11-15.1-1, et. seq., of the Illinois Municipal Code (Chapter 24, Illinois revised Statutes, 1979) and the Village's Home Rule powers. The preceding whereas clauses are hereby made a part of this Agreement.

2. Agreement: Compliance and Validity. The Owner has filed with the Village Clerk of the Village a proper petition (Exhibit A hereto) pursuant to and in accordance with provisions of Section 7-1-8 of the Illinois Municipal Code (Chapter 24, Illinois Revised Statutes, 1979), conditioned on the execution of this Agreement and the compliance with the terms and provisions contained herein, to annex Property to the Village. It is understood and agreed that this Agreement in its entirety together with the aforesaid petition for annexation shall be null, void and of no force and effect unless Property is validly annexed to the Village and is validly zoned and classified in the B-3 and R-9 P.U.D. Zoning Districts, all as contemplated in this Agreement.

3. Enactment of Annexation Ordinance. The Corporate Authorities within twenty-one (21) days of the execution of this Agreement by the Village will enact a valid and binding ordinance (hereinafter referred to as the "Annexation Ordinance") annexing the property to the Village. Said Annexation Ordinance shall be recorded with the Lake County Recorder's Office along with the Plat of Annexation (attached hereto as Exhibit B). Recordation shall take place no more than thirty (30) days after enactment of Annexation Ordinance.

4. Enactment of Zoning Ordinance. Within twenty-one (21) days after the passage of the Annexation Ordinance, the Corporate Authorities shall adopt a proper, valid and binding ordinance, zoning property in the B-3 and R-9 P.U.D. Zoning

2196216

Districts subject to the restrictions further contained herein and all applicable ordinances of the Village of Buffalo Grove as amended from time to time. Said zoning shall be further conditioned on the development of the property in accordance with a Preliminary Development Plan prepared by Land Consultants dated January 3, 1983 (Exhibit F), and the Preliminary Engineering Plan (Exhibit G).

5. Approval of Plats. The Corporate Authorities hereby approve a Preliminary Development Plan (Exhibit F & G) pursuant to the provisions of Section VI of the Village Subdivision Regulations Ordinance and in addition agree to approve a Final Plan of Development or plats or phases of the development of property upon submission by the Owner of complete and proper materials as required for the issuance of appropriate building and other permits based on final versions of the plans and drawings of the development of property as submitted by the Owner provided that the plat or plats shall:

- (a) Conform to the Preliminary Development Plan and Preliminary Engineering Plan, Exhibits F and G; and
- (b) Conform to the terms of this Agreement and all applicable Village ordinances as amended from time to time; and
- (c) Conform to the Subdivision Improvement Agreement, Exhibit E, as amended from time to time.

It is understood and agreed that the final subdivision plat or plats that will hereinafter be submitted by the Owner

2196216

shall conform to the phases of the development as shown on the Preliminary Development Plan except that the Developer, at its option, may separately subdivide portions of the residential property within a Phase provided that all improvements within such phase are bonded or otherwise secured. The phasing of development for the Property shall be determined by the terms and conditions of Section 30D of this Agreement.

6. Compliance with Applicable Ordinances. The Owner agrees to comply with all ordinances of the Village of Buffalo Grove as amended from time to time in the development of the Property, provided that all new ordinances, amendments, rules and regulations relating to zoning, building and subdivision of land adopted after the date of this Agreement shall not be arbitrarily or discriminatorily applied to the Property but shall be equally applicable to all property similarly zoned and situated and provided further that any such changes to the zoning ordinance shall not preclude development of the Property in substantial conformity with the Preliminary Development Plan. Owner, in the development of the Property, shall comply with the standards set forth in the Village of Buffalo Grove Engineering Standards herein referred to as the Manual of Practice as amended from time to time, a copy of which has been made a part hereof as Exhibit C.

7. Amendment of Plan. If the Owner desires to make changes in the Preliminary Development Plan, as herein approved, the parties agree that such changes in the Preliminary

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facil)

Development Plan will require, if the Village so determines, the submission of amended plats or plans, together with proper supporting documentation, to the Plan Commission and/or the Corporate Authorities to consider such changes to this Agreement. The Corporate Authorities may, at their sole discretion, require additional public hearings and may review the commitments of record contained in this Agreement, including, but not limited to, fees prior to final consideration of any change in the Preliminary Development Plan. The Village Manager is hereby authorized to approve such minor changes as he deems appropriate, provided that no such change (a) involves a reduction of the area set aside for common open space; nor (b) increases by more than two percent (2%) the floor area proposed for nonresidential use; nor (c) increases by more than two percent (2%) the total ground area covered by buildings.

8. Building Permit Fees. The building permit fees may be increased from time to time so long as said permit fees are applied consistently to all other developments in the Village to the extent possible. In the event a conflict arises between the Owner and the Village on any engineering and technical matters subject to this Agreement, the Village reserves the right to pass along any and all additional expenses incurred by the use of consultants in the review and inspection of the subdivision regulations as applied to the Property from time to time. Owner shall pay any non-discriminatory new or additional fees hereinafter charged by the Village to Owner or Property within the Village.

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9. Water Provision. The Owner shall be permitted and agrees to tap on to the Village water system at points recommended by the Village Engineer (which points to the extent shown on Exhibit G are hereby approved by the Village), however, it is understood that changes to the Preliminary Engineering Plan may be required at the time of Final Engineering. The Owner further agrees to pay to the Village such fees in accordance with the applicable Village Ordinances at the time of the issuance of the water and sewer permits. The Owner agrees to accept any increase in water rates and tap on fees provided such rates and fees apply consistently to all other similar users in the Village to the extent possible. Following such tap on, the Village agrees to provide to the best of its ability and in a non-discriminatory manner water service to all users on the Property in accordance with the Preliminary Development Plan. Watermains serving the Property and those approved as part of the development shall be installed by the Owner and, except for service connections to the building, shall, upon installation and acceptance by the Village through formal acceptance action by the Corporate Authorities, be dedicated to the Village and become a part of the Village water system maintained by the Village.

10. Storm and Sanitary Sewer Provisions.

A. The Corporate Authorities agree to cooperate with the Owner and to use their best efforts to aid Owner in obtaining such permits from governmental agencies having jurisdiction as may be necessary to authorize connection from the

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proposed development to the Lake County Public Works Department for the collection of sewage and to the Illinois Department of Transportation as may be appropriate. The Owner shall construct On-site and off-site sanitary sewers as may be necessary to service the Property, as per Exhibit G, however, it is understood that changes to the Preliminary Engineering Plan may be required at the time of Final Engineering. Upon installation and acceptance by the Village through formal acceptance action by the Corporate Authorities, the Corporate Authorities agree to operate and maintain such systems, except for sanitary sewer service connections. The Owner agrees to accept any increase in sewer rates and tap on fees, provided that such fees and rates are applied consistently to all similar users in the Village.

B. The Owner shall also construct on the property in question any storm sewers which may be necessary to service the Property, as per Exhibit G, however, it is understood that changes to the Preliminary Engineering Plan may be required at the time of Final Engineering. Upon installation and acceptance by the Village through formal acceptance action by the Corporate Authorities, the Corporate Authorities agree to operate and maintain that portion of the storm sewer system which serves public streets, or multiple properties, and the Owner agrees to operate and maintain that portion of the storm sewer system located on the subject property and not dedicated, and shall record a covenant to that effect within thirty (30) days of the recording of the Plat of Subdivision.

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11. Drainage Provisions. The Developer shall fully comply with any request of the Village Engineer related to the placement of buildings on lots, to preserve drainage standards. The Developer shall install any storm sewers and/or inlets which are required to eliminate standing water or conditions of excess sogginess which may, in the professional opinion of the Village Engineer, be detrimental to the growth and maintenance of lawn grasses.

12. Payment of Recapture Fees Owed. The amount of recapture required to be paid by this Property, as designated in Exhibit J, shall be due and payable upon final platting of Phase I ^(a) of this development or upon issuance of the first sewer and water permit.

13. Street and Parking Area Provisions. The Owner agrees that all streets, parking and other areas are to be constructed in accordance with Village standards as set forth in the Manual of Practice as amended from time to time.

14. Security for Public and Private Site Improvements. Security for public and private site improvements shall be provided in accordance with the Manual of Practice, Administrative Order #2, and the Subdivision Improvement Agreement, as amended from time to time, attached hereto as Exhibits C, D, and E. Any letter of credit issued for such improvements shall be drawn on a financial institution of net worth reasonably satisfactory to the Village attorney. The issuer may have an equitable or lending interest in the Property provided that the

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letter of credit, either by its own terms or by separate written assurances of the issuer, shall be honored irrespective of that interest. The Village shall have the right to draw up to the full amount of the letter of credit in order to complete, and have formal acceptance of, all improvements secured by the letter of credit. The amount of the letter of credit shall not be reduced by expenditures made by the Developer until such improvements have been formally accepted by the Village.

15. Exhibits. The following Exhibits, some of which were presented in testimony given by the Owner or the witnesses during the hearing held before the Plan Commission and the Corporate Authorities prior to the execution of this Agreement, are hereby incorporated by reference herein, made a part hereof and designated as shown below. This Agreement, upon execution by the parties, together with copies of all Exhibits, shall be kept on file with the Village Clerk and be available for inspection to the parties hereto.

Exhibit A	Petition for Annexation of Property
Exhibit B	Plat of Annexation
Exhibit C	Manual of Practice
Exhibit D	Administrative Order #2
Exhibit E	Subdivision Improvement Agreement
Exhibit F-1 thru F-4	Preliminary Development Plan
Exhibit G	Preliminary Engineering Plan
Exhibit H	Declaration of Condominium
Exhibit I	Park District Commitment ✓

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Exhibit J Recapture Amounts

Exhibit K1, Preliminary Elevations
K2 and K3

16. Annexation Fee. Owner agrees to pay an annexation fee in an amount equal to \$200 per residential dwelling unit and \$600 per acre for the Commercial/Office area which fee shall be payable prorata at issuance of building permits. However, the total fee for the entire property shall be paid prior to the expiration of this Agreement.

17. Building, Landscaping and Aesthetics Plans. As required under Village Ordinance #72-12, as amended from time to time, Owner will submit building and landscaping plans (which landscaping plans shall conform to the requirements of Village Ordinances) for approval by the Appearance Commission and the Corporate Authorities before commencing construction of buildings. Lighting and signage shall be complimentary to surrounding areas. Phases not under construction or completed shall be maintained in a neat and orderly fashion as determined by the Village Manager.

18. Declaration of Condominium. Developer intends to submit the Subject Property to the provisions of the Illinois Condominium Property Act pursuant to a Declaration of Condominium in substantially the same form as that attached hereto as Exhibit H. Prior to recording, the finalized Declaration of Condominium shall be submitted to the Corporate Authorities for their approval, such approval shall not be unreasonably withheld. The Declaration of Condominium shall include easements,

right of entry by the Village, and other such rights, all as to be determined by the Village.

19. Project Models and Marketing Offices. The Village agrees to permit the Developer to construct and maintain two (2) model areas on the residential portions of the Property, consisting of a maximum of one (1) building for each of the model areas, together with suitable off-street parking areas, all subject to Appearance Commission approval. Such construction shall be in compliance with the provisions of the Village's Building Code, in existence at the time of building permit issuance. Further, the Developer may utilize models only as a project office for the marketing of portions of the residential Property. Such use shall be discontinued when the project contemplated herein has been fully and finally completed. In addition, ~~the~~ Developer may use the Spoerlein Home, as defined in Section 30H, as a marketing as well as a construction and/or ~~marketing~~ office. The Spoerlein Home may be ~~so~~ used provided that it meets all applicable building and maintenance codes, as amended from time to time, required for use of the structure.

Furthermore, all currently existing structures on the Property shall be ~~removed~~ upon cessation of occupancy or use unless the Developer submits preliminary plans to the Village for its approval of continued use of any such structure.

20. Park District Donations. Developer agrees to comply with the provisions of Title 19 of the Buffalo Grove Municipal Code as amended from time to time regarding park donations.

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The Developer, by entering into this Agreement, shall be deemed to have filed its written objection to the density tables made part of Title 19. In lieu thereof, the Developer has submitted actual population generation statistics of the Chatham Manor Homes Development in Buffalo Grove, which the Developer asserts is more truly representative of the population generation anticipated for this Property. Developer agrees that it will make contributions of money to the Village for conveyance to the Buffalo Grove Park District according to the attached letter to the Park District (Exhibit I). The contribution of money to the Buffalo Grove Park District will be by way of payment to the Village, to be made prorata concurrently with the issuance of building permits by the Village. The Developer will convey, or cause to be conveyed, the two passive open space areas indicated in the Preliminary Development Plan to the Buffalo Grove Park District, with each conveyance to be made simultaneously with final plat approval of that portion of the Property which includes such an open space area. In the event the Park District does not accept such conveyance and the Village also fails to accept same, then those areas will be incorporated into the common area of the residential portion of the Property, to be maintained by the Condominium Association or other appropriate entity, as determined by the Developer.

21. School District Donations. Developer agrees to comply with the provisions of Title 19 of the Buffalo Grove Municipal Code as amended from time to time regarding school

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donations. The Developer, by entering into this Agreement, shall be deemed to have filed its written objection to the density tables made part of Title 19. In lieu thereof, the Developer has submitted actual population generation statistics of the Chatham Manor Homes Development in Buffalo Grove, which the Developer asserts is more truly representative of the population generation anticipated for this Property. Developer agrees that it will make contributions of money to the Village for payment to School Districts #96 and #125 according to the criteria of said Title. The contribution of money to School Districts #96 and #125 will be by way of payment to the Village, to be made prorata concurrently with the issuance of building permits by the Village.

22. Library District Donations. Developer agrees to comply with the provisions of Title 19 of the Buffalo Grove Municipal Code as amended from time to time regarding library donations. The Developer, by entering into this Agreement, shall be deemed to have filed its written objection to the density tables made part of Title 19. In lieu thereof, the Developer has submitted actual population generation statistics of the Chatham Manor Homes Development in Buffalo Grove, which the Developer asserts is more truly representative of the population generation anticipated for this Property. Developer agrees that it will make contributions of money to the Village for conveyance to the Indian Trails Public Library District according to the criteria of said Title. The contribution of

money to the Indian Trails Public Library District will be by way of payment to the Village, to be made prorata concurrently with the issuance of building permits by the Village, provided, however, that if either the Village or the Library District determine, by ordinance, resolution or motion, that the money will not be transferred to said Library District, the Village shall promptly return to the Developer any such money that the Village then holds, plus any interest the Village may have collected on same.

23. Facilitation of Development. Time is of the essence of this Agreement, and all parties will make every reasonable effort to expedite the subject matters hereof. It is further understood and agreed that the successful consummation of this Agreement and the development of the Property in the best interests of all the parties requires their continued cooperation. The Owner does hereby evidence his intention to fully comply with all Village requirements, his willingness to discuss any matters of mutual interest that may arise, and his willingness to assist the Village to the fullest extent possible. The Village does hereby evidence its intent to always cooperate in the resolution of mutual problems and its willingness to facilitate the development of the Property, as contemplated by the provisions of this Agreement.

24. Enforceability of the Agreement. This Agreement shall be enforceable in any court of competent jurisdiction by any of the parties or by an appropriate action at law or in

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equity to secure the performance of the covenants herein described. If any provision of this Agreement is held invalid, such provisions shall be deemed to be excised herefrom and the invalidity thereof shall not affect any of the provisions contained herein.

25. Term of Agreement. This Agreement will be binding on all parties for a term of ten (10) years from the date of the execution of this Agreement by the Village. Provided that the appropriate phasing plan is complied with, the Developer shall have the right to submit a final development plan for all or any portion of the Property at any time during the term of this Agreement.

26. Binding Effect of Agreement. This Agreement shall be binding upon the parties hereto, their respective successors and assigns; provided, however, that in the event Developer's obligations hereunder are assumed in writing (and a copy of which assumption is delivered to the Village) by a successor to Developer's interest in the Property, the Village agrees to look solely to Developer's successor for the performance of Developer's obligation hereunder. The Developer shall give the Village 30 days prior written notice of any such assumption.

27. Corporate Capacities. The parties acknowledge and agree that the individuals that are members of the group constituting the Corporate Authorities are entering into this Agreement in their official capacities as members of such group and shall have no personal liability in their individual capacities.

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28. Notices. Any notice required pursuant to the provisions of this Agreement shall be in writing and be sent by certified mail to the following addresses until notice of change of address is given and shall be in writing and be sent by certified mail to the following addresses until notice of change is given and shall be deemed received on the fifth business day following deposit in the U.S. Mail.

If the Owner: Dennis Spoerlein, Trust No. 80
217 Alpine Drive
Lake Zurich, Illinois 60047

Irving and Lamina Stahl
Route #1
126A
Prairie View, Illinois 60069

If to Developer: Midwest Development Venture II
4849 West Golf Road
Suite 700
Skokie, Illinois 60077

Copy to: Perry J. Snyderman, Esq.
Theodore A. Shapero, Esq.
Rudnick & Wolfe
30 N. LaSalle Street
Chicago, Illinois 60602

If to Village: Village Clerk
Village of Buffalo Grove
50 Raupp Boulevard
Buffalo Grove, Illinois 60090

Copy to: Bloche, French & Raysa
1011 Lake Street
Oak Park, Illinois 60301

29. Default. In the event Developer defaults, in his performance of his obligations set forth in this Agreement, then the Village, may, upon notice to Developer, allow Developer sixty (60) days to cure such default or provide evidence to the Village that such default will be cured in a timely

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manner if it cannot be cured during said period. If Developer fails to cure such default or provide such evidence as provided above, then, with notice to Developer, the Village may begin proceedings to disconnect from the Village any portion of the Property upon which development has not been completed or at the option of the Village, to rezone such Property to the R-1 District zoning classification. In such event, this Agreement shall be considered to be the petition of the Developer to disconnect such portion of the Property, or at the option of the Village to rezone such Property to the R-1 District zoning classification.

30. Special Conditions.

A. The Developer agrees to pay for all hard costs (labor and materials), specifically excluding, without limitation, design, legal and engineering costs, and the Village will install, an oversized 16" water line within the Property along IL Route 83 without benefit of future recapture. Payment by the Developer of the hard costs of the water line will be as follows provided a final invoice has been presented to the Developer: one-third (1/3) of such cost at the time of final plat approval for the first portion of the Property to be subdivided, one-third (1/3) twelve (12) months thereafter, and one-third (1/3) twenty-four (24) months thereafter, all to be without interest. The Developer will also cooperate with the Village and will use its best efforts to secure and pay for an easement, if necessary, from the Owner, for placement of such water line within the Property.

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B. During the construction period for Phase 1(a), the Developer shall be required to pay for and install a sidewalk in the public right-of-way for IL Route 83 adjoining the Property, extending from the east boundary of the Property approximately 400' eastward to Devlin Road in Devonshire, subject to the Developer being able to secure approval from the Illinois Department of Transportation for this improvement.

C. The Village hereby approves the placement of the entry signage within the required setback for the residential roadway intersections with IL Route 83 and with Arlington Heights Road as shown and dimensioned within the Preliminary Development Plan. The Village's Sign Code shall be met in every other case. Notwithstanding anything else to the contrary, the Developer shall have the right to place, in addition to the entry signage, a total of three (3) 120 square foot real estate signs, 2 within the commercial/office area, and 1 in the residential area, provided that none of the three signs shall be within five hundred (500) feet of each other.

D. The Corporate Authorities, based on the Plan Commission recommendation of a plan substantially the same, hereby approve the phasing plan described in Exhibit F-4 labelled Phasing Plan "C". However, notwithstanding the phasing indicated on Phasing Plan "C", the Developer may develop the easternmost commercial area, designated as 1(c), at any time prior to the development of the residential area designated as Phase 3 and building permits on the Phase 2 residential area shall not be contingent on final plat approval for Phase 1(c). However, no final plat of sub-

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division shall be approved for Phase 3 until a building permit for commercial area 1(c) has issued. The Village will cooperate with the Developer to secure IRB financing, which cooperation will include enacting such resolutions and ordinances and taking any further action which may be necessary to issue Industrial Revenue Bonds, for development of all or portions of the commercial/office area. Phasing Plan "C" in no event shall be contingent on Developer's actual ability to service and/or sell such IRB financing, provided that the Village continues to use its good faith efforts to assist the Developer in securing same.

E. The Developer shall fully design, bond and pay all fees to the Village related to the improvements of IL Route 83 as follows:

- 1) Left and right turn bays on IL Route 83 at the westerly driveway to the commercial/office area.
- 2) Left and right turn bays on IL Route 83 at the easterly roadway into the residential area.

If notified in writing to complete all or a portion of the above-described improvements, the Developer shall complete construction on the easternmost left-turn and right-turn bays within 18 months after such notification or after final plat approval for Phase 1(a), whichever is later. The second left-turn and right-turn bays shall be completed no later than 18 months after final plat approval for Phase 4. However, in the event that the Village secures federal funding for the improve-

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ment of Illinois Route 83, the Village may require, no earlier than one year after the date of final plat approval for Phase 1(a), that cash in lieu of the construction of said improvements shall be provided by the Developer to the Village in an amount equal to the anticipated improvement costs.

F. Developer will secure a public access easement from the service station to the adjacent B-1 parcel to the west for potential future access. Said easement shall be noted on the final plat of subdivision for the service station.

G. The final plans for the commercial/office area shall indicate the location and number of handicapped parking stalls pursuant to the BOCA Code.

H. The Developer may use the existing single family home on the Property ("Spoerlein Home") as a construction, marketing and/or general office subject to the provisions of Section 19 hereof.

31. Trustee Exculpation. This instrument is executed by DENNIS SPOERLEIN, not personally, but solely as Trustee aforesaid, in the exercise of the power and authority conferred upon and vested in it as such Trustee. All the terms, provisions, stipulations, covenants and conditions to be performed by the Trustee are undertaken by it solely as Trustee, as aforesaid, and not individually, and all statements herein made are made on information and belief and are to be construed accordingly, and no personal liability shall be asserted or be enforceable against the Trustee by reason of any of the terms, provisions, stipulations, covenants and/or statements contained in this instrument.

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IN WITNESS WHEREOF, the Corporate Authorities and Owner and Developer have caused this instrument to be executed by their respective proper officials duly authorized to execute the same on the day and the year first above written.

ATTEST:



THE VILLAGE OF BUFFALO GROVE,
a Municipal Corporation of
the State of Illinois

By:

Verna L Clayton
Village President

Dennis Spoerlein #80
DENNIS SPOERLEIN, as Trustee of
Dennis Spoerlein Trust No. 80

MIDWEST DEVELOPMENT VENTURE II,
an Illinois limited partnership

By:

James Mastandrea
James Mastandrea, General Partner

By: Midwest Development Corporation,
an Illinois corporation,
General Partner

By:

James Mastandrea
James Mastandrea, President

Attest:

Theresa J. Chasew
Its Asst Sec.

Irving M. Stahl
IRVING STAHL

Lamina M. Stahl
LAMINA STAHL

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11/7/2018

**MINUTES OF THE REGULAR MEETING OF THE PLANNING AND ZONING COMMISSION OF THE
VILLAGE OF BUFFALO GROVE HELD IN THE COUNCIL CHAMBERS, 50 RAUPP BOULEVARD,
BUFFALO GROVE, ILLINOIS ON WEDNESDAY, NOVEMBER 7, 2018**

Call to Order

The meeting was called to order at 7:30 PM by Chairman Frank Cesario

Public Hearings/Items For Consideration

Regular Meeting

Other Matters for Discussion

1. Workshop- Proposed Amendment to the Spoerlein Commons Planned Development (Trustee Stein) (Staff Contact: Chris Stilling)

Daniel Kovacevic, Whitestone Reit, 20789 N. Pima Road, Scottsdale, AZ 85255; Rick Burton, Whitestone Reit, 20789 N. Pima Road, Scottsdale, AZ 85255; Rory Fancier, Kimley Horn, 1001 Warrenville Road, Lisle, IL 60532; and Paul Leder, RWG Engineering, 975 E. 22nd Street, Wheaton, IL 60189, were present and sworn in.

Mr. Stilling provided a brief overview of the site history and request. The existing development consists of approximately 41,000 square feet of commercial and office space in multiple buildings. The original development was approved with a second phase allowing for an additional 2,000 square feet of retail space. The second phase was never constructed and the current owner is seeking an amendment to the original Ordinance to allow for the construction of a 2,800 square foot outbuilding with drive-thru (Dunkin Donuts). This item was reviewed by the Village Board on October 15, 2018 and was referred to the Planning & Zoning Commission (PZC) for review and public hearing. As a result of the amendment and prior to the required public hearing, the owner is seeking comments from the PZC.

Mr. Kovacevic reviewed the concept plan. The existing Spoerlein Commons development was approved by the Village via Ordinance 83-8. The approved development included a total of 51,050 square feet of office and retail space. The original development plan was not completed as approved and as a result, 41,180 square feet of retail and office space was constructed. The development was approved for two additional outbuildings (2,000 square feet), which were never constructed.

The Petitioner is seeking an amendment to the development to allow for the construction of a new 2,800 square foot Dunkin Donuts outbuilding with drive-through. Dunkin Donuts is currently located in the corner unit of the existing retail building and is looking to expand their services by including a drive-thru. To accommodate the new building, parking would be relocated to the open area originally identified for the 2 outbuildings. The existing access points at Route 83 and access to Courtyard Drive to the west would remain unchanged. As part of the Village Board referral, the Trustees commented on the potential of relocating

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the access drive along Route 83 further to the west to align with the relocated drive aisle. The existing condition was cited as a concern since it is a difficult turn as you come into the center.

The Petitioner would be making improvements to the existing detention pond to accommodate the proposed development. The proposed project would most likely require variations for parking lot setbacks. What is being proposed is consistent with existing conditions.

The Petitioner has also provided a concept plan showing the elevations of the proposed new building.

The existing development currently has 161 parking spaces for the 41,180 square foot development, which meets the approved parking but does not meet current code requirements. While the final site plan is subject to refinement as part of the public hearing process, with the new outbuilding, the site would still maintain 161 parking spaces. It should be noted that the 161 parking spaces were intended to serve both the existing 41,180 square feet but also the additional 2,000 square feet, which was not built. As a result of the change, a total net increase in square footage would be approximately 800 square feet. The owner has provided a parking analysis by their traffic consultant who has reviewed both the existing and proposed conditions and found that sufficient parking is provided. Staff also had the Village traffic consultant, Gewalt Hamilton & Associates (GHA) to review the report and proposed plans. GHA found that the proposed development would still provide sufficient parking.

The proposed 2,800 square foot building would include a drive-thru for Dunkin Donuts. Pursuant to Village Code, a drive-thru shall have a minimum stacking of ten (10) vehicles. The Village's consultant (GHA) has reviewed the drive-thru operations. As part of their analysis, GHA also provided data regarding their research on multiple Dunkin Donut facilities and found that in most instances, the maximum stacking for a Dunkin Donuts drive-thru is approximately 7 vehicles. GHA finds that sufficient stacking can be provided.

Com. Goldspiel advised that he attended the Village Board meeting on October 15, 2018. At that meeting, this proposed project was reviewed by the Board. The Board had several items that they wished to be addressed by the PZC. The proposed use would be a Baskin Robbins, in addition to a Dunkin Donuts. The Board also had questions regarding the parking variance, detention, traffic safety and drive-thru stacking. He asked what the proposed seating capacity would be for the new building. Mr. Kovacevic responded that he is not sure since he was not given that information. Com. Goldspiel advised that he needs that information to know what the parking requirements will be. He asked if the original plan included the parking for the two outlots. Mr. Kovacevic responded yes. Com. Goldspiel asked about the proposed detention improvements. Mr. Leder responded that there will not be any decreased storage area with the proposed building and that the current conditions provide for the additional building. Com. Goldspiel asked about the concern with the driveway configuration. Ms. Fancier advised that the concern was with traffic entering the center and making the left turn in the parking lot. Her recommendation is to not relocate the existing driveway entrance. The current entrance on McHenry Road aligns with the driveway entrance across the street. This center is also close to a signalized

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intersection. Relocation would create issues. They will work with staff to address those concerns. Com. Goldspiel advised that when entering the center, you will have to make a left turn, then a right turn. He asked how that will be addressed. Mr. Leder responded that the driveway entrance will not be widened but that the turning radius within the parking lot will be increased. There is a steep slope on the driveway entrance. They will improve the grade at the entrance. There is an existing power pole that would need to be relocated if the entrance is moved. Com. Goldspiel asked about the traffic study and the finding that there is more north/westbound traffic on McHenry Road in the morning. Ms. Fancier advised that information was provided by GHA and that she could not comment the traffic flow of McHenry Road. Kimley Horn only conducted a study of the traffic flow and parking within the center. Com. Goldspiel stated that he wants to make sure that south/eastbound traffic trying to access the center would not create a traffic hazard. Ms. Fancier does not expect a negative impact but she can take a look at the traffic flow. Com. Goldspiel asked how customers would be directed to the drive-thru lane. Ms. Fancier explained that there would be wayfinding signs within the center to direct customers. The proposed design is not a-typical. The wayfinding signage will help. Mr. Stilling advised that included in the packet is a second drive-thru stacking scenario. He also advised that Dunkin Donuts usually does not have a stacking issue since they typically provide quicker service. Com. Goldspiel asked if there are dedicated parking spaces for waiting drive-thru customers. Ms. Fancier responded that Dunkin Donuts is unique since their typical drive-thru time is one and a half (1-1/2) to two (2) minutes and they do not offer specialty orders. Com. Goldspiel stated that Dunkin Donuts has a new menu that could affect the drive-thru timing. Mr. Stilling stated that he would recommend that the Dunkin Donuts operator attend the public hearing to answer these questions. Com. Goldspiel asked if the location of the accessible parking spaces on the proposed plan would be the location of the entrance. Mr. Burton stated that they do not yet have the interior detail of the building.

Ch. Cesario advised that there is a Dunkin Donuts located across the street from Buffalo Grove High School on Dundee Road that could be used for comparison.

Com. Moodhe asked Mr. Stilling about the stacking at the Dunkin Donuts by the Community Arts Center. Mr. Stilling does not have the details for that location but would rather see more parking than stacking. Com. Moodhe stated that there has been some stacking outside the drive-thru lane but that is rare. He does not recall being in the drive-thru line for more than a minute. He asked if there are any changes planned to the center entrance off of Courtland Drive. Mr. Burton responded there are no plans to change that entrance. Com. Moodhe asked about a proposed sign package. Mr. Stilling advised that the proposed sign package should be included for the public hearing. Mr. Burton added that they have not yet looked at the proposed signs. Com. Moodhe asked about traffic counts. Ms. Fancier advised that they have only conducted the parking counts. Com. Moodhe asked if there would be any outdoor seating provided. Mr. Kovacevic believes that there will be one (1) or two (2) tables provided but not a patio. Com. Moodhe suggested adding some additional outdoor seating.

Com. Khan advised that he has questions regarding the GHA report. He knows this center and would generally avoid it. He will not enter the center from McHenry Road. Most of the traffic is north/westbound in the morning and south/eastbound in the evening. This is an IDOT road and traffic data should be available. There is a raised median along McHenry Road. He suggested contacting IDOT and advising them there is a usage change in the center. IDOT

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may have a future road plan. He also confirmed the steep slope at the driveway entrance. He also referred to the Dunkin Donuts on Dundee Road, across from the high school. That location has a right-in, right-out entrance. He believes the proposed project is similar to that location. GHA believes that peak times are when other businesses are closed or just opening. However, a combined Dunkin Donuts and Baskin Robbins generate more traffic.

Com. Au agrees with Com. Khan that the combined Dunkin Donuts and Baskin Robbins are busier, especially during the summer months. She would like to see the traffic flow counts. She is concerned that customers may pull into the neighboring gas station by mistake thinking they can access the site. Mr. Kovacevic advised that he will take a look at that.

Com. Lesser asked why it is so important to have the driveway entrance aligned with the driveway entrance across McHenry Road. Ms. Fancier advised that with the raised median having the driveways aligned allows vehicles to make opposite turns at the same time. To not have the driveways aligned would confuse drivers. Com. Lesser stated that moving the driveway entrance to the west would not impede turning traffic. To not move the driveway entrance makes the driver involved in a lot of turns to get to the drive-thru. Traffic movement within the center now is not that great. Moving the driveway entrance to the west would solve a lot of problems. Mr. Stilling advised that IDOT would need to approve any relocation of the entrance. He will have staff ask IDOT about long term plans for improvements at that intersection.

Com. Weinstein does not see any concerns with traffic flow. He agrees the center is a little confusing. He compared it to the Portillo's location on Dundee Road. He does have a small concern with the proposed stacking. He asked about the height of the proposed building, the distance to the nearby residential housing and the location of the speaker box for the drive-thru. Mr. Kovacevic advised that they are not looking for any height variances. He also advised that the proposed building will be located a bit of a distance from the residential housing. He also advised that the speaker would be located near the front of the building. Mr. Stilling stated that the speaker would be required to be located on the gas station side of the building.

Ch. Cesario believes that the proposed configuration makes sense. He noted on Page 13 of the packet it is referenced that currently during peak occupancy only fifty percent (50%) of the parking spaces are used. In addition, future parking conditions with full occupancy, including the proposed project, anticipates ninety three (93%) of the total spaces to be used. He has no concerns with the total number of parking spaces. He also believes that the drive-thru configuration makes sense.

Com. Moodhe asked if there is a tenant to replace Dunkin Donuts in its current space. Mr. Kovacevic advised that they anticipate a sandwich shop to occupy that space in the future. Mr. Stilling added that the Village may pursue a future use condition depending on the future use of the existing Dunkin Donuts tenant space. Com. Moodhe suggested removing the end parking space and island median just to the south of the drive-thru exit to eliminate the tight turn radius.

11/7/2018

Ch. Cesario advised that he does have some concerns with the traffic flow. He is not concerned with the drive-thru stacking. He asked for the traffic data to be provided.

There were no more questions from the Commissioners at this time.

Mr. Burton asked if the PZC would prefer another workshop or if the concerns noted should be addressed and they proceed to public hearing. Mr. Stilling indicated that staff would like to have the Village's consultant, GHA, appear at the public hearing to answer any questions. Com. Moodhe asked if there will be a report from Engineering provided. Mr. Stilling responded that the Engineering report will be provided for the public hearing. Com. Moodhe noted that there are no major issues with the proposed development and asked for the requested traffic flow and other data, including proposed signage, be provided for the public hearing.

There were no additional questions or comments from the Commissioners.

Approval of Minutes

1. Planning and Zoning Commission - Regular Meeting - Oct 3, 2018 7:30 PM
Moved by Com. Khan, seconded by Com. Weinstein, to approve the October 3, 2018 regular meeting minutes as submitted.

RESULT:	ACCEPTED [5 TO 0]
MOVER:	Zill Khan, Commissioner
SECONDER:	Mitchell Weinstein, Commissioner
AYES:	Cesario, Goldspiel, Khan, Weinstein, Au
ABSTAIN:	Adam Moodhe, Matthew Cohn, Scott Lesser

2. Planning and Zoning Commission - Special Meeting - Oct 30, 2018 7:30 PM
Moved by Com. Moodhe, seconded by Com. Lesser, to approve the October 30, 2018 regular meeting minutes as submitted.

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	Adam Moodhe, Commissioner
SECONDER:	Scott Lesser, Commissioner
AYES:	Moodhe, Cesario, Cohn, Goldspiel, Khan, Lesser, Weinstein, Au

Chairman's Report

None.

Committee and Liaison Reports

Com. Goldspiel advised that Sky Fitness was approved by the Village Board on October 15, 2018.

Com. Moodhe advised there were no PZC items on the November 5, 2018 Village Board agenda.

11/7/2018

Staff Report/Future Agenda Schedule

Mr. Stilling advised that the November 21, 2018 PZC regular meeting will be canceled. A Special Meeting may be scheduled for November 28, 2018 for an RV variation.

Mr. Stilling advised that staff is starting to get to the enforcement phase of the new RV regulations and that the PZC may see future requests that are not as clear concerning meeting the standards. He asked the PZC to provide guidance concerning RV's that never met the Ordinance in relation to screening, size and location. He also asked for guidance concerning Petitioner's that are not cooperating.

Ms. Woods asked the PZC to provide feedback on the recent training.

Public Comments and Questions

None.

Adjournment

The meeting was adjourned at 8:54 PM

Chris Stilling

APPROVED BY ME THIS 7th DAY OF November, 2018

Attachment: Plan Set (Consider an Amendment to Ordinance 83-8 for a New Outbuilding, Special Use for a Drive-Through Facility)

10/21/2020

**MINUTES OF THE REGULAR MEETING OF THE PLANNING AND ZONING COMMISSION OF THE
VILLAGE OF BUFFALO GROVE HELD IN THE COUNCIL CHAMBERS, 50 RAUPP BOULEVARD,
BUFFALO GROVE, ILLINOIS ON WEDNESDAY, OCTOBER 21, 2020**

Call to Order

The meeting was called to order at 7:32 PM by Chairman Frank Cesario

2. Open Meetings Act Compliance

Pursuant to orders issued in response to the COVID-19 pandemic, this Public Hearing is closed to in-person, public attendance. The hearing is being held via Zoom web conference meeting, which permits the public to fully participate in the virtual Public Hearing via Zoom on a computer, tablet or phone. Details on how to access and participate in this online virtual hearing are available below. More information pertaining to the meeting information and links to the virtual meeting can be found at

<https://us02web.zoom.us/j/89708021192>

Or iPhone one-tap :

US: +13126266799,,89708021192# or +13017158592,,89708021192#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 312 626 6799 or +1 301 715 8592 or +1 929 436 2866 or +1 346 248 7799 or +1 669 900 6833 or +1 253 215 8782

Webinar ID: 897 0802 1192

International numbers available: <https://us02web.zoom.us/j/89708021192>

Public Hearings/Items For Consideration

1. Consider an Amendment to Chapter 15.20 Fence Code of the Buffalo Grove Municipal Code Allowing Residential Fences in the Corner-Side Yard Setback and Allowing Six Foot Solid Fences Under Certain Conditions. (Trustee Weidenfeld) (Staff Contact: Nicole Woods)

Deputy Community Development Director Woods gave a brief overview of the petition by the Village regarding fence modifications to corner yard setbacks and 6 foot solid fences on properties adjacent to contrasting use. Ms. Woods noted that swimming pools were not addressed in this modification and will be addressed at a later date.

Village Planner Akash provided additional detail on the fence modifications and the changes that were made from the previous meetings workshop.

Com. Goldspiel asked for clarification regarding information on packet page 6 which referenced 6 foot solid fences and asked if it should say 5 foot and the special criteria in paragraph D.

Village Planner Akash provided clarification regarding the height of a fence in that specific section of the code.

Minutes Acceptance: Minutes of Oct 21, 2020 7:30 PM (Approval of Minutes)

10/21/2020

Village Attorney Brankin stated that the section in question acts states a general maximum and the sections that are being changed hold the special criteria that states when 6 foot is not allowed.

Com. Goldspiel asked for additional clarification on paragraph D.

Village Planner Akash explained that paragraph D stands alone for those who do not meet the exceptions for a 6 foot fence and that a 6 foot open/shadow box fence would be permitted.

Com. Khan asked for additional clarification on section 15. He asked if 6 feet could be changed to 5 feet.

Deputy Community Development Director Woods gave an overview of the Code modifications for additional clarification. She also shared the documents that would aid the residents without having to read the Code.

Com. Khan provided additional modifications regarding the fence Code.

Village Planner Akash replied that the points Com. Khan made were good and will be addressed at another time as they are incorporated in other sections of the Code.

Chairperson Cesario asked the Village Attorney to review the language.

Village Attorney Brankin reminded the Commissioners that this is not a complete overhaul of the fence Code, the changes that are being presented today are to help mitigate the number of variations that come before the Commission that continue to be approved and help with the backlog of petitioners.

Com. Moodhe asked if staff checked with the police department.

Village Planner Akash said yes, staff talked with the police department.

Com. Weinstein agrees with the modifications to the fence Code and does not think the language needs to be modified anymore. Additionally, he commented that the handouts that staff provides gives that added clarification.

Com. Worlikar is also in favor of the modifications to the fence Code.

Village Planner Akash thanked the Commissioners for their help in modifying the fence Code and noted how helpful it will be in handling several permits in the pipeline that would otherwise need a variation.

Chairperson Cesario commented in favor of the modifications.

Chairperson Cesario entered the staff report as exhibit one

Public Comment:

Mr. Gusev thanked the commissioners for their time in making these modifications so he can put up his fence. He had some specific questions regarding his specific property that Village Planner Akash will help with.

Ms. Basham with Fence Solutions thanked the commissioners for recommending the approval of the fence modifications.

Ms. Tran thanked the commissioners for recommending approval of the fence modifications.

Public Hearing close 8:32 PM

Minutes Acceptance: Minutes of Oct 21, 2020 7:30 PM (Approval of Minutes)

10/21/2020

Com. Weinstein made a motion to recommend approval to the Village Board amendment to chapter 15.20 to the Buffalo Grove fence Code.

Com. Moodhe seconded the motion.

Com. Moodhe commented that the amendments do address the current issues and understands that a larger overhaul of the Fence Code is forthcoming.

Com. Goldspiel commented that he supports the amendments, but thinks more work needs to be done.

Com. Worlikar commented that this is good temporary fix and is in favor of the motion.

Com. Weinstein commented that he is in support of the motion.

RESULT:	RECOMMENDATION TO APPROVE [UNANIMOUS]
AYES:	Next: 11/2/2020 7:30 PM Moodhe, Spunt, Cesario, Goldspiel, Khan, Weinstein, Au, Richards, Worlikar

Regular Meeting

Other Matters for Discussion

None

Approval of Minutes

1. Planning and Zoning Commission - Regular Meeting - Oct 7, 2020 7:30 PM

RESULT:	ACCEPTED [UNANIMOUS]
AYES:	Moodhe, Spunt, Cesario, Goldspiel, Khan, Weinstein, Au, Richards, Worlikar

Chairman's Report

None.

Committee and Liaison Reports

Com. Worlikar provided an overview of the last Village Board Meeting.

Staff Report/Future Agenda Schedule

Deputy Director of Community Development Woods provided an overview of the next agenda schedule.

Public Comments and Questions

None.

Adjournment

The meeting was adjourned at 9:00 PM

Minutes Acceptance: Minutes of Oct 21, 2020 7:30 PM (Approval of Minutes)

10/21/2020

Chris Stilling

APPROVED BY ME THIS 21st DAY OF October, 2020

Minutes Acceptance: Minutes of Oct 21, 2020 7:30 PM (Approval of Minutes)