VILLAGE OF PALATINE

VILLAGE HALL - COUNCIL CHAMBERS 200 E. WOOD STREET
PALATINE, IL 60067-5339 – (847) 359-9050
http://www.palatine.il.us

PLAN COMMISSION

AGENDA ● FEBRUARY 6, 2018

Village Hall - Council Chambers	Regular Meeting	7:00 PM

I. CALL TO ORDER

II. APPROVAL OF MINUTES

1. Plan Commission - Regular Meeting - Dec 19, 2017 7:00 PM

III. PUBLIC HEARING

1. 1000-1002 E. Dundee Road

   Preliminary and Final Plat of Subdivision for a 3-lot commercial subdivision;

   Preliminary and Final Planned Development to allow a 3 building commercial development;

   Rezoning from B-2 General Business district to Planned Development;

   Special Use to permit a drive-through;

   Special Use to permit an electronic message board (EMB) sign on one of the proposed lots, with a Variation for the lot having less than 300 feet of frontage.

IV. COMMUNICATIONS

V. ADJOURNMENT

VILLAGE OF PALATINE

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PLAN COMMISSION

MINUTES ● DECEMBER 19, 2017

Village Hall - Council Chambers | **Regular Meeting** | **7:00 PM**

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Conrad Hansen	Plan Commissioner	Present	
Dennis Dwyer	Chairman	Present	
Jane Robins	Plan Commissioner	Present	
Patrick Noonan	Plan Commissioner	Present	
Teri Williams	Plan Commissioner	Present	
Eric Friedman	Plan Commissioner	Absent	
Rodney Bettenhausen	Plan Commissioner	Present	
Robert Kolososki	Plan Commissioner	Late	7:03 PM
Stephen Fedota	Plan Commissioner	Present	

Staff present: Ms. Katie Romack

II. APPROVAL OF MINUTES

1. Plan Commission - Regular Meeting - Dec 5, 2017 7:00 PM **- Accepted as Amended**

   Ms. Robins made a motion to approve the minutes of the December 5, 2017 meeting; seconded by Mr. Bettenhausen.

RESULT:	**ACCEPTED AS AMENDED [UNANIMOUS]**
MOVER:	Jane Robins, Plan Commissioner
SECONDER:	Rodney Bettenhausen, Plan Commissioner
AYES:	Hansen, Dwyer, Robins, Noonan, Williams, Bettenhausen, Kolososki, Fedota
ABSENT:	Friedman

III. PUBLIC HEARING

1. 807-811 E. Palatine Road **- Recommended to Approve**

Chairman Dwyer read the notice of public hearing.
The following petitioner's exhibits were introduced:

1. Public Notice
2. Petition for hearing
3. Proof of Ownership
4. Plat of Survey
5. Existing Floor Plan
6. Proposed Floor Plan
7. Description of Request
8. Business Plan
9. Ordinance #O-121-13

Sworn in Mr. Brian Hicks, DDS, 125 E. Lake Cook Road, Buffalo Grove, IL
Mr. Hicks gave a brief summary of his professional history and the proposed plans for 807-811 E. Palatine Road.

- Dentist for 27 years
- Resident of Chicago, IL but father worked for District 214 school system so he is familiar with the area.
- 15 years at current location in Buffalo Grove, which is currently scheduled for demolition. Therefore, he needs to find new location and found the 807-811 E. Palatine Road facility
- The building, architecture and location are all suitable for dental office
- He has a vision and this will give him the opportunity to put that in place
- Small practice with approximately 30 patients a day
- Office hours are Monday from 7:00 am to 6:30pm, Tuesday and Wednesday from 7:00 am to 5:00 pm, and Thursday from 7:00 am to 12:00 pm
- 3-4 patients per hour which lead to low traffic which helps with safety with the school across the street

He addressed the standards of impact to surrounding property values. He explained they would be renovating the building completely and putting a property that has been vacant for 2 years in use.

Mr. Bettenhausen asked for clarification on the Buffalo Grove practice being in operation for 30 years but how Mr. Hicks has been a dentist for only 27 years.
Mr. Hicks explained he bought the business, which has been in existence for over 30 years.

Ms. Robins asked if all means of ingress and egress are off of Palatine Road.
Mr. Hicks stated that is correct there are no other entrances.

Sworn in staff: Ms. Katie Romack

Minutes Acceptance: Minutes of Dec 19, 2017 7:00 PM (Approval of Minutes)

Ms. Romack gave a brief summary of the request explaining the Subject Property, approximately .87 acres, consists of two parcels improved with a professional office (2,475 square feet) and associated parking lot. In 2013, the property was approved for a Preliminary and Final Planned Development request to permit an expansion to the existing parking lot and office building and Rezoning request to rezone the Subject Property from R-3 Multi-Family Residential and R-1 Single-Family Residential to P Planned Development. As part of the Planned Development approval, there was a condition of approval that limited the future uses of the building to offices (business, professional or governmental). Therefore, the Petitioner is seeking approval of the following:

1. Planned Development Amendment to Planned Development Ordinance #0-121-13 to expand the use list identified in Condition #2
2. Special Use to permit a dental office pursuant to Planned Development Ordinance #0-121-13

ANALYSIS:

Background

- The Subject Property is currently zoned P Planned Development.
- The existing building and office use were approved in 1989 as a Special Use in the R-3 district (per Ordinance #O-46-89). The Subject Property is currently vacant, but operated for more than 20 years as an office use.
- In 2013, the Subject Property was rezoned to P Planned Development and received Preliminary and Final Planned Development approval (per Ordinance #0-121-13) to permit an expansion to the existing parking lot and office building. The parking lot was expanded but the addition was never constructed.
- Per Ordinance #0-121-13, the future uses of the building were limited to offices (business, professional or governmental). Medical offices were not included in that use list in order for Staff to further evaluate the proposed business and operation's plan, the parking demand (patients and employees) of any proposed medical office, and to ensure consistency with the Special Use process for medical offices in all of the business districts.

Business Operations

- The hours of operation will be:
  - Monday: 7:00 AM to 6:30 PM
  - Tuesday: 7:00 AM to 5:00 PM
  - Wednesday: 7:00 AM to 5:00 PM
  - Thursday: 7:00 AM to 12:00 PM
- There will be six employees: 1 dentist, 2 hygienists, 1 office manager, and 2 dental assistants.
- There will be 30-35 patients per day with 3-4 patients per hour.

Site Design / Floor Plan

Minutes Acceptance: Minutes of Dec 19, 2017 7:00 PM (Approval of Minutes)

- Currently, the parking lot has 20 parking spaces. The proposed use requires 8 parking spaces (1 space per 300 square feet). There is also a pending text amendment to require that medical office uses provide a minimum parking of 1 space for every 200 square feet. The proposed dental office would also comply with that requirement.
- The floor plan indicates 2 treatment rooms, 3 hygiene rooms, reception/checkout area, waiting room, break room, storage room, consultation/office, laboratory, bathrooms, and utilities/mechanical room.

Sworn in Mr. Alex Patrickus, Resident, 16 S. Leonard Road, Palatine
Mr. Patrickus asked if there is a plan to expand the building.
Mr. Hicks stated no not at this time.

Mr. Patrickus explained his concern is about extra noise since his house is directly behind the proposed property.
He further explained the plans, if approved, will include dental treatment rooms, expanded windows and added natural landscaping in area backing to Mr. Patrickus' house.

STAFF RECOMMENDATIONS:
The proposal is consistent with the Comprehensive Plan and with the mix of neighboring businesses and residential uses. Therefore, Staff recommends approval of the Planned Development Amendment and Special Use subject to the following conditions:

1. The Planned Development Amendment and Special Use shall significantly conform to the floor plan and business plan submitted by the Petitioner, Brian A. Hicks, DDS, on 11/17/2017, except as such plans may be revised to conform to Village Codes and Ordinances.

Mr. Dwyer clarified all medical offices require a Special Use.
Ms. Romack stated yes, all medical offices require a Special Use in a business district.

Mr. Dwyer asked if it would be required in a residential district.
Ms. Romack explained it is not permitted in residential areas.

Mr. Hanson asked Mr. Hicks if he can and will comply with Staff's conditions.
Mr. Hicks stated he would.

Mr. Noonan made a motion to close the public hearing; seconded by Ms. Williams.

Minutes Acceptance: Minutes of Dec 19, 2017 7:00 PM (Approval of Minutes)

DELIBERATIONS

Mr. Noonan stated he was glad to see another business coming in to town.

Mr. Kolososki stated it is a good location for a dentist office and has never had an issue getting out on Palatine Road.

Mr. Fedota stated it is unfortunate that the land will be landlocked.
Ms. Romack explained that area currently serves as a detention basin.

Mr. Noonan made a motion to approve subject staff's conditions; seconded by Mr. Hanson.
Mr. Dwyer summarized that this request had met the standards and was approved by a vote of 8-0. This item will go to the Community and Economic Development Committee of the Village Council on January 8, 2017.

RESULT:	**RECOMMENDED TO APPROVE [UNANIMOUS]**
MOVER:	Patrick Noonan, Plan Commissioner
SECONDER:	Conrad Hansen, Plan Commissioner
AYES:	Hansen, Dwyer, Robins, Noonan, Williams, Bettenhausen, Kolososki, Fedota
ABSENT:	Friedman

Minutes Acceptance: Minutes of Dec 19, 2017 7:00 PM (Approval of Minutes)

IV. COMMUNICATIONS

Ms. Romack stated the EMB sign for Butera's at 2070 N. Rand Road and the text amendments by Staff were approved by Village Council.

The next regularly scheduled Plan Commission meeting has been cancelled.

V. ADJOURNMENT

1. Motion to Adjourn **- Motion Carried by Voice Vote**

   Mr. Noonan made a motion to adjourn; seconded by Mr. Fedota.

RESULT:	**MOTION CARRIED BY VOICE VOTE [UNANIMOUS]**
MOVER:	Patrick Noonan, Plan Commissioner
SECONDER:	Stephen Fedota, Plan Commissioner
AYES:	Hansen, Dwyer, Robins, Noonan, Williams, Bettenhausen, Kolososki, Fedota
ABSENT:	Friedman

Minutes Acceptance: Minutes of Dec 19, 2017 7:00 PM (Approval of Minutes)

VILLAGE OF PALATINE
Plan Commission

SCHEDULED 02/06/18 07:00 PM

CASE STAFF STATEMENT (ID # 4194)

1000-1002 E. Dundee Road

CASE NUMBER: 17-81

PETITIONER: KC 1000, Inc.

LOCATION: 1000-1002 E. Dundee Road (vacant property directly east of UG Subdivision - Panera/Verizon - at the corner of Dundee and Rand Roads)

PROPOSAL:

1. Preliminary and Final Plat of Subdivision for a 3-lot commercial subdivision;
2. Preliminary and Final Planned Development to allow a 3 building commercial development;
3. Rezoning from B-2 General Business district to Planned Development;
4. Special Use to permit a drive-through;
5. Special Use to permit an electronic message board (EMB) sign on one of the proposed lots, with a Variation for the lot having less than 300 feet of frontage.

ZONING AND LAND USE: Current - vacant unimproved tax divided parcels
Proposed - Planned Development, 3 building commercial development

SURROUNDING CONDITIONS:

North:	R-2 Single Family
South:	B-2 General Business
East:	B-2 General Business
West:	P - Planned Development (UG Subdivision)

COMPREHENSIVE PLAN: Retail

BACKGROUND:

The subject property, approximately 1.9 acres, is currently vacant and unimproved. The Petitioner is proposing to rezone the property from B-2 to Planned Development, subdivide the 2 lots into 3 lots, and construct 3 new commercial buildings on the property. One of these buildings would be used as a bank, with a drive-through. Therefore, the Petitioner is seeking:

1. Preliminary and Final Plat of Subdivision for a 3-lot commercial subdivision;
2. Preliminary and Final Planned Development to allow a 3 building commercial development;
3. Rezoning from B-2 General Business district to Planned Development;
4. Special Use to permit a drive-through;
5. Special Use to permit an electronic message board (EMB) sign on one of the proposed lots, with a Variation for the lot having less than 300 feet of frontage.

ANALYSIS:

Zoning, Signage, and Site Design:

- The petitioner is proposing to construct 3 independent commercial buildings. Two of the buildings are planned for retail, office use, or other commercial uses. The third building would be used as a new bank - Palatine Bank and Trust, with an associated drive-through.

- Two Special Uses are required for the proposed bank - one for the drive-though and one for electronic message board (EMB) sign. The drive-through will have 2 lanes with stacking for 9 vehicles, which meets Code.

- The EMB sign meets all Code requirements, with the exception of the lot width requirement. While the overall lot width of the development is 390 feet, the lot width of the bank lot is only 142 feet, which does not meet the required lot width of 300 feet. Therefore, a Variation to permit an EMB sign on a lot with a width less than 300 feet is required.

- Lots 1 and 2 will each have a monument sign. Both monument signs will have 2 tenant panels. The Zoning Ordinance requires that freestanding sign in unified centers less than 2 acres display only the name and location of the unified center. This is consistent with the approved sign plans for UG Subdivision and Dundee Point.

- Retail, office and banks uses are required to provide 1 parking space per 300 square feet. A total of 87 parking spaces would be provided on-site.

TENANT	SQUARE FOOTAGE	PARKING REQUIREMENT
Tenant A-1	2,200 sq. ft.	7 spaces

Tenant A-2	2,210 sq. ft.	7 spaces
Tenant B-1	1,750 sq. ft.	6 spaces
Tenant B-2	3,500 sq. ft.	12 spaces
Bank	3,053 sq. ft.	10 spaces
Total	***12,713 sq. ft.***	
Total Required (demand)		***42 spaces***
Total Provided		***87 spaces***

- The dimensions of the drive aisles meet the requirements of the Zoning Ordinance. However, the parking stall lengths for the parking spaces parallel to Dundee Road and the 45 degree parking spaces on the north side of the buildings do not meet the Code requirements. Therefore, a Variation to permit parking stalls to be 17 feet in length instead of the required 19 feet in length and a Variation to permit parking stalls to be 18.8 feet in length instead of the required 19.8 feet in length is noted. The proposed stall depth does not affect the overall design and maneuverability within the site and will also allow for added landscaping on the north side of the development.

- The existing 6-foot tall wood fence will be replaced with a 6-foot tall board-on-board wood fence. There are 11 overstory trees within the parking lot and 8 parkway trees.

- The site includes a 14-foot landscape buffer along the north side of the property adjacent to the residences to the north. The Zoning Ordinance requires the landscape buffer to be 15 feet wide. Therefore, a one foot Variation is required. A proposed Staff condition requires that the Final Landscaping Plan shall be submitted in a manner acceptable to the Village. This will ensure that sufficient landscaping, in addition to the 6-foot fence, is installed to further buffer the residential properties.

Architecture

- Buildings ‘A’ (Lot 1) and ‘B’ (Lot 2) would be a mixture of brick, split faced concrete block, and EIFS on all sides. The consistency of materials would meet the requirements of the building code.

- The maximum peak height of building 'A' would be approximately 27’. The maximum peak height of building 'B' would be approximately 28’. The maximum

peak height of the bank would be 30 feet. This would meet the restrictions of the Zoning Ordinance.

Business Operations

- For Palatine Bank and Trust, the hours of operation for the lobby would be:
  - Monday - Thursday 8:30 AM to 5 PM
  - Friday 8:30 AM to 6 PM
  - Saturday 8:30 AM to 1 PM
- The hours of operation for the drive-through window would be:
  - Monday - Friday 7:30 AM to 6 PM
  - Saturday 7:30 AM to 1 PM
- There will be an ATM with 24-hour access.
- There would be on average 6-8 employees on-site at any one time.
- The peak hours of operation for the lobby are typically between the hours of 10 AM and 4 PM. The peak hours of operation for the drive-through are typically between 9 AM and 10 AM, lunch hours, and 4 PM and 5 PM.

Engineering

- Storm water would be collected throughout the site and directed into an existing storm sewer southeast of the site. Storm water detention is not required per MWRD; however, an existing detention volume will remain on-site.
- A new water main would be extended throughout the site and would connect with the existing water main that currently exists along the frontage of this property. Services for the buildings would be provided by tapping into this new main extension.
- Sanitary sewer would be provided by connecting to an existing sanitary system that runs along the northern portion of the property.
- The Village Engineer has reviewed and approved the engineering plans. Sidewalks currently exist along the frontage of this property.
- In support of the development proposal, KLOA prepared a Traffic Impact Study with 3 specific intentions:

  - Assessing the existing traffic condition;
  - Assessing the future conditions, based upon the development proposal; and
  - Assessing the future conditions, with the proposed barrier median improvements beginning at the intersection of Rand and Dundee Roads.

- In its findings and conclusion, KLOA indicates that the proposed development will have a low impact on the surrounding roadway network. Additionally, the existing level of service (weekday mornings and evening peak hours) at the signalized intersection, with the projected traffic conditions, will ultimately operate at the same level of service, with or without the proposed IDOT improvements.
- The proposed development also consolidates an existing access drives into one and continues the extension of cross access easements through the periphery of the development.
- Currently, IDOT has improvements planned for Dundee Road, which include the installation of a raised barrier median. The barrier median will begin at the intersection of Rand and Dundee Roads and extend toward Route 53. There are several openings planned within this improvement. This is an effort to reduce the number of curb cuts on Dundee Road. The Petitioner has proposed to abandon the western curb cut and have one full access to the site provided by a curb cut off of Dundee Road (as well as a cross access easement connecting with both the UG Subdivision and the Car-X Tire & Auto - "Car-X" - property). This is a continuation of the Village required cross access easements, beginning with UG Subdivision. As part of their initial review, IDOT is indicating that the proposed full access is not feasible due to its proximity to the existing Car-X property curb cut.

- In response, IDOT proposed the following options:
  - The consolidation of the proposed vehicular access and the Car-X Tire & Auto full access driveway to a single drive located at or near the common lot line; or
  - The relocation of the proposed access driveway to the west. This would effectively remove the left-out turning movement, with the proposed access drive serving as a right-in/right-out/left-in.
- Based on IDOT's preliminary review and response, the Petitioner has contacted

the Car-X property owner and tenant. The Petitioner is also reviewing their alternatives and the ability to consolidate the two driveways into one. Upon completion of that review, the Petitioners intend to resubmit a response to IDOT.

- Based upon the final IDOT determination, the site and engineering plans will be revised accordingly. Regardless of the final access location, Staff is proposing a condition, which will allow Village Council review of any site plan changes, provided that it is in substantial conformance to the proposed.

RECOMMENDATIONS:

The proposal conforms to the recommendations of the comprehensive plan and generally complies with the requirements of the Zoning Ordinance and redevelopment goals within the Comprehensive Plan and Dundee Road corridor. The proposed redevelopment continues the land use and development pattern starting at the intersection of Rand and Dundee Roads, both with Dundee Point and UG Subdivision. Therefore, Staff recommends approval of the proposal subject to the following conditions:

1. The development shall substantially conform to the Engineering plans prepared by Manhard Consulting dated 10/20/2017 last revised 12/20/2017, the architectural plans prepared by PFDA Architects, Inc. last revised 12/18/2017, and to the architectural plans prepared by Grund & Riesterer Architects last revised 10/19/2017, except as such plans may be revised to conform to Village Codes and Ordinances.

2. Uses shall be governed by the B-2 district use lists in the Palatine Zoning Ordinance.

3. A Plat of Easement Dedication, shall extend to the western and eastern lot lines (as proposed) of the subject property and shall be submitted on Mylar in a manner acceptable to the Director of Planning and Zoning and Village Attorney.

6. A Public Improvement letter of credit for 115% of the full amount of the engineer’s estimate of probable cost of such public improvements shall be submitted to ensure the completion of the required public improvements in a manner acceptable to the Village Engineer.

7. Review fees in the amount of 1.5% of total project improvement costs shall be submitted in a manner acceptable to the Village Engineer.

8. A Planned Development letter of credit in the amount $100,000 shall be submitted to ensure the completion of the Planned Development.
9. Recording fees in the amount of $600 shall be submitted.
10. The sign plans shall be amended in a manner acceptable to the Director of Planning and Zoning.
11. The fence along the north lot line shall be replaced every 12 years or as directed by the Village of Palatine.
12. The final landscaping plan shall be submitted in a manner acceptable to the Director of Planning and Zoning.
13. The final photometric plan shall be submitted in a manner acceptable to the Village of Palatine.
14. Future restaurant uses that meet the parking requirements may be reviewed directly by Village Council.
15. Fire Hydrant HYD-2 shall be relocated in a manner acceptable to the Village Engineer.
16. Any building not constructed by the Petitioner shall receive approval from Village Council prior to the issuance of a building permit.
17. The Petitioner shall submit a Subdivision Improvement Agreement in a manner acceptable to the Village Attorney.
18. MWRD and IDOT permits shall be submitted in a manner acceptable to the Village Engineer. With regard to the IDOT permit and the final access location determination made by IDOT, any changes affecting the site plan, which maintain substantial conformance to the subject engineering plans, may be reviewed directly by the Village Council.

ATTACHMENTS:

- Aerial
- Plat of Subdivision
- Engineering Plans
- Building A & B Elevations
- Building A & B Floor plans
- Building A & B Monument Sign Elevations

- Palatine Bank & Trust Elevations & Floor plan
- Palatine Bank & Trust Signage Plans
- Palatine Bank & Trust Stacking Exhibit
- Palatine Bank & Trust Business Plan
- Landscape Plan
- Truck Turn Exhibit
- Response Letter from Manhard Consulting 1-18-18
- Traffic Study
- Applications
- Public Notice

1000-1002 E. Dundee Road

Attachment: Aerial (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

PIN'S

02-01-300-024
02-01-300-025

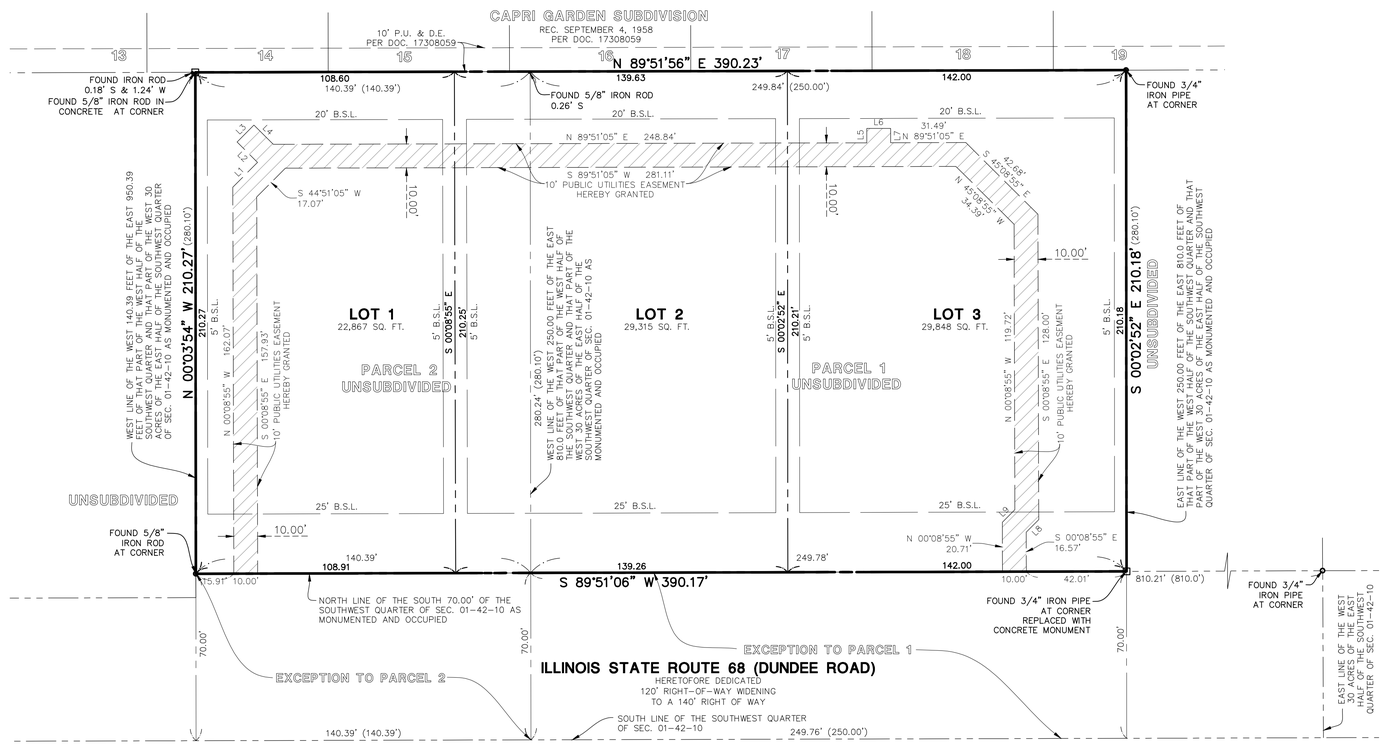
FINAL PLAT
OF
1000 EAST DUNDEE ROAD SUBDIVISION

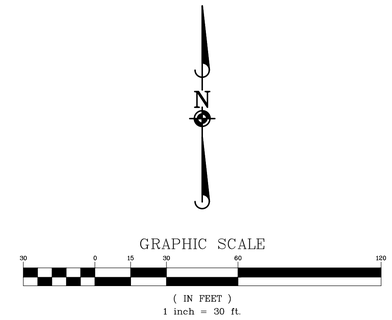
BEING A PART OF THE SOUTHWEST QUARTER QUARTER OF SECTION 1, TOWNSHIP 42 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

LEGEND

- = EX. PROPERTY LINE
- = EX. EASEMENT LINE
- = EX. SECTION LINE
- = EX. LOT LINE
- = PROP. LOT LINE
- XXX.XX = MEASURED INFORMATION
- (XXX.XX) = RECORD INFORMATION
- B.S.L. = BUILDING SETBACK LINE
- = PUBLIC UTILITIES EASEMENT

LINE TABLE		
LINE	BEARING	LENGTH
L1	N44°51'05"E	14.69'
L2	N45°08'55"W	12.08'
L3	N44°51'05"E	10.00'
L4	S45°08'55"E	11.41'
L5	N00°05'53"W	6.00'
L6	N89°54'07"E	10.00'
L7	S00°05'53"E	6.00'
L8	S44°51'05"W	7.42'
L9	N44°51'05"E	7.42'





BASIS OF BEARINGS

COORDINATES AND BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE (NAD 83), ADJUSTED TO GROUND VALUES, AS ESTABLISHED BY A REAL-TIME KINEMATIC (RTK) GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) UTILIZING THE TRIMBLE VRS NOW NETWORK.

SURVEY PREPARED FOR

KC 1000, LLC
350 WEST HUBBARD STREET, SUITE 62
CHICAGO, ILLINOIS 60654

SUBMITTED BY/RETURN TO:

MANHARD CONSULTING, LTD.
700 SPRINGER DRIVE
LOMBARD, IL 60148

PROPERTY AREA

LOT 1 = 22,867 SQ. FT. (0.525 ACRES)
LOT 2 = 29,315 SQ. FT. (0.673 ACRES)
LOT 3 = 29,848 SQ. FT. (0.685 ACRES)

TOTAL AREA = 82,030 SQ. FT. (1.883 ACRES)

SURVEYOR'S NOTES

1. THIS SUBDIVISION CONSISTS OF LOTS 3 AND ARE PART OF AN INTEGRAL NUMBERING SYSTEM TO EMBRACE ALL OF 1000 WEST DUNDEE ROAD SUBDIVISION.

2. DISTANCES ARE MARKED IN FEET AND DECIMAL PLACES THEREOF. NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON. DISTANCES AND/OR BEARINGS SHOWN IN PARENTHESIS (456.67') ARE RECORD OR DEED VALUES.

3. THIS SUBDIVISION MAY BE SUBJECT TO MATTERS OF TITLE, WHICH MAY BE REVEALED BY A CURRENT TITLE REPORT. PRE-EXISTING EASEMENTS, SETBACKS AND OTHER RESTRICTIONS WHICH MAY BE FOUND IN A CURRENT TITLE REPORT, LOCAL ORDINANCES, DEEDS OR OTHER INSTRUMENTS OF RECORD MAY NOT BE SHOWN.

4. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A SUBDIVISION SURVEY. MANHARD CONSULTING, LTD. IS A PROFESSIONAL DESIGN FIRM, REGISTRATION NUMBER 184003350, EXPIRES APRIL 30, 2019.

5. ⊡ – DENOTES CONCRETE MONUMENTS TO BE SET

SHEET INDEX

SHEET 1 OF 2:	BOUNDARY, EASEMENT, LOT DETAIL AND SETBACK INFORMATION.
SHEET 2 OF 2:	LEGAL DESCRIPTION, PROVISION LANGUAGE AND CERTIFICATES

DATE	REVISIONS	DRAWN BY
12-14-17	REVISED PER VILLAGE COMMENT LETTER	SJP
10-18-17	REVISED PER NEW UTILITY LAYOUT	SJP

Manhard CONSULTING LTD
700 Springer Drive, Lombard, IL 60148 ph:630.691.8900 fx:630.691.8985 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

1000 EAST DUNDEE ROAD SUBDIVISION
VILLAGE OF PALATINE
FINAL PLAT OF SUBDIVISION

PROJ. MGR.: SJP
PROJ. ASSOC.: MGS
DRAWN BY: MGS
DATE: 10/05/17
SCALE: 1"=30'

SHEET 1 OF 2

KRE.PTIL01

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December 14, 2017 - 13:35 Dwg Name: P:\Kre\PlatS\Dwg\Surv\Final Drawings\Plat of Subdivision\KREPTIL01-PS.dwg Updated By: SPhillipe

Attachment: Plat of Subdivision (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

FINAL PLAT
OF
1000 EAST DUNDEE ROAD SUBDIVISION

BEING A PART OF THE SOUTHWEST QUARTER QUARTER OF SECTION 1, TOWNSHIP 42 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

OWNER'S CONSENT

STATE OF _____)
)SS
COUNTY OF _____)

THE UNDERSIGNED, _____, HEREBY CERTIFIES THAT HE/SHE/THEY/IT IS THE HOLDER OF THE LEGAL TITLE OF ALL OF THE PROPERTY DESCRIBED HEREON AND THAT IT HAS CAUSED SAID PROPERTY TO BE SURVEYED AND SUBDIVIDED AS

SHOWN ON THE PLAT HEREON DRAWN. THIS IS TO ALSO CERTIFY THAT_____

AS OWNER OF THE PROPERTY DESCRIBED AS 1000 WEST DUNDEE ROAD AND LEGALLY DESCRIBED ON THE PLAT OF THE SAME NAME, HAVE DETERMINED TO THE BEST OF OUR KNOWLEDGE THE SCHOOL DISTRICT IN WHICH EACH OF THE FOLLOWING LOTS LIE.

LOT NUMBER(S)	SCHOOL DISTRICT
ALL	COMMUNITY CONSOLIDATED SCHOOL DISTRICT 15 TOWNSHIP HIGH SCHOOL DISTRICT 211 HARPER COLLEGE DISTRICT 512

DATED THIS _____ DAY OF _____, A.D., 20_____.

BY: _____

BY: _____

NOTARY PUBLIC

STATE OF _____)
)SS
COUNTY OF _____)

I, _____, A NOTARY PUBLIC IN AND FOR THE COUNTY AND STATE AFORESAID, DO HEREBY CERTIFY THAT

_____ AND _____

OF _____ WHO IS/ARE PERSONALLY KNOWN TO ME TO BE THE SAME WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE FOREGOING CERTIFICATE, APPEARED BEFORE ME THIS DAY IN PERSON AND ACKNOWLEDGED THAT HE/SHE/THEY DID SIGN AND DELIVER THIS INSTRUMENT AS A FREE AND VOLUNTARY ACT FOR THE USES AND PURPOSES HEREIN SET FORTH.

GIVEN UNDER MY HAND AND NOTORIAL SEAL THIS ___ DAY OF _____, A.D., 20___.

_____
NOTARY PUBLIC

PLAN COMMISSION

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

APPROVED BY THE PLAN COMMISSION OF THE VILLAGE OF PALATINE, COOK COUNTY, ILLINOIS, DATED THIS _____ DAY OF _____, 20__.

SIGNED: _____
CHAIRMAN

ATTEST: _____
SECRETARY

VILLAGE COUNCIL

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

APPROVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF PALATINE, COOK COUNTY, ILLINOIS, DATED THIS _____ DAY OF _____, 20__.

SIGNED: _____
MAYOR

ATTEST: _____
VILLAGE CLERK

VILLAGE ENGINEER

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

THIS PLAT HAS BEEN CHECKED FOR CONFORMANCE TO THE VILLAGE OF PALATINE STANDARDS AND REQUIREMENTS, AND WORKING DRAWINGS AND SPECIFICATIONS FOR IMPROVEMENTS HAVE BEEN PREPARED IN CONFORMANCE WITH THE VILLAGE STANDARDS AND REQUIREMENTS, AND ENGINEERING FEES DUE TO THE VILLAGE OF PALATINE HAVE BEEN PAID.

DATED THIS _____ DAY OF _____, 20__.

_____
VILLAGE ENGINEER

VILLAGE COLLECTOR

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

I DO HEREBY CERTIFY THAT THERE ARE NO DEFERRED SPECIAL ASSESSMENTS OR UNPAID CURRENT ASSESSMENTS DUE AGAINST THE LAND INCLUDED IN THE ABOVE PLAT.

DATED THIS _____ DAY OF _____, 20__.

_____
VILLAGE COLLECTOR

ILLINOIS DEPARTMENT OF TRANSPORTATION CERTIFICATE

THIS PLAT HAS BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION WITH RESPECT TO ROADWAY ACCESS PURSUANT TO PARAGRAPH 2 OF "AN ACT TO REVISE THE LAW IN RELATION TO PLATS," AS AMENDED. A PLAN THAT MEETS THE REQUIREMENTS CONTAINED IN THE DEPARTMENT'S "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS" WILL BE REQUIRED BY THE DEPARTMENT.

_____ _____
ANTHONY J. QUIGLEY, P.E. DATE
REGION ONE ENGINEER

CABLE COMMUNICATION EASEMENT PROVISIONS

AN EASEMENT FOR SERVING THE SUBDIVISION AND OTHER PROPERTY WITH ELECTRIC SOUNDS AND SIGNALS AND COMMUNICATIONS SERVICE IS HEREBY RESERVED AND GRANTED TO

ANY CABLE COMMUNICATIONS FIRM OR COMPANY GRANTED A CABLE COMMUNICATIONS FRANCHISE BY THE VILLAGE OF PALATINE

THEIR SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE, MAINTAIN AND REMOVE, FROM TIME TO TIME FACILITIES USED IN CONNECTION WITH THE TRANSMISSION AND DISTRIBUTION OF ELECTRICITY, SOUNDS AND SIGNALS INCLUDING BUT NOT LIMITED TO TELEVISION, DATA AND RADIO SIGNALS AND COMMUNICATIONS IN, OVER, UNDER, ACROSS, ALONG AND UPON THE SURFACE OF THE PROPERTY SHOWN WITHIN THE DOTTED LINES ON THE PLAT AND MARKED "EASEMENT", AND THE PROPERTY DESIGNATED ON THE PLAT FOR STREETS AND ALLEYS, TOGETHER WITH THE RIGHT TO INSTALL REQUIRED SERVICE CONNECTIONS OVER OR UNDER THE SURFACE OF EACH LOT, WITHIN THE BOUNDARIES OF SAID EASEMENT, TO SERVE IMPROVEMENTS THEREON, THE RIGHT TO INSTALL REQUIRED SERVICE CONNECTIONS OVER OR UNDER THE SURFACE OF EACH LOT, WITHIN THE BOUNDARIES OF SAID EASEMENT, TO SERVE IMPROVEMENTS THEREON, THE RIGHT TO CUT, TRIM OR REMOVE TREES, BUSHES AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE SUBDIVIDED PROPERTY, WITHIN THE BOUNDARIES OF SAID EASEMENT, FOR ALL SUCH PURPOSES. OBSTRUCTIONS SHALL NOT BE PLACED OVER THE VILLAGE OF PALATINE'S FACILITIES OR IN, UPON OR OVER THE PROPERTY WITHIN THE DOTTED LINES MARKED "EASEMENT" WITHOUT THE PRIOR WRITTEN CONSENT OF THE VILLAGE OF PALATINE. AFTER INSTALLATION OF ANY SUCH FACILITIES, THE GRADE OF THE SUBDIVIDED PROPERTY SHALL NOT BE ALTERED IN A MANNER SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF. PROVIDED THAT ANY RESUBDIVISION OF LAND HAVING EXISTING OVERHEAD TRANSMISSION FACILITIES SHALL INCLUDE AN EASEMENT FOR THE EASEMENT FOR THE CONSTRUCTION OF FACILITIES.

NICOR GAS EASEMENT PROVISIONS

AN EASEMENT FOR SERVING THE SUBDIVISION WITH NATURAL GAS SERVICE IS HEREBY RESERVED FOR AND GRANTED TO

NICOR GAS COMPANY

ITS RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE, MAINTAIN AND REMOVE, FROM TIME TO TIME, FACILITIES USED IN CONNECTION WITH THE TRANSMISSION AND DISTRIBUTION OF NATURAL GAS IN, OVER, UNDER, ACROSS, ALONG AND UPON THE SURFACE OF THE PARCEL SHOWN WITHIN THE DOTTED LINES ON THE PLAT AND MARKED "PUBLIC UTILITY EASEMENT", AND THE PARCEL DESIGNATED ON THE PLAT FOR STREETS AND ALLEYS, WHETHER PUBLIC OR PRIVATE, TOGETHER WITH THE RIGHT TO INSTALL REQUIRED SERVICE CONNECTIONS OVER OR UNDER THE SURFACE OF EACH LOT TO SERVE IMPROVEMENTS THEREON, OR ON ADJACENT LOTS TO SERVE IMPROVEMENTS THEREON, OR ON ADJACENT LOTS, THE RIGHT TO CUT, TRIM OR REMOVE TREES, BUSHES AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE PARCEL FOR ALL SUCH PURPOSES. NO PERMANENT STRUCTURES MAY BE PLACED OVER GRANTEES' FACILITIES OR IN, UPON OR OVER THE PARCEL SHOWN WITHIN THE DOTTED LINES MARKED "PUBLIC UTILITY EASEMENT" WITHOUT THE PRIOR WRITTEN CONSENT OF GRANTEES, BUT THE EASEMENT AREA MAY BE USED FOR PURPOSES NOT INCONSISTENT WITH THE RIGHTS GRANTED, INCLUDING WITHOUT LIMITATION, CONSTRUCTION OF PARKING AREAS, DRIVEWAYS, LANDSCAPE ISLANDS AND LANDSCAPING, INCLUDING SHALLOW ROOTED BUSHES AND SHRUBS, BUT EXCLUDING TREES. AFTER INSTALLATION OF ANY SUCH FACILITIES, THE GRADE OF THE PARCEL SHALL NOT BE ALTERED IN A MANNER SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF.

IF REQUESTED BY GRANTOR/LOT OWNER, RELOCATION OF FACILITIES WILL BE DONE BY GRANTEES AT COST OF GRANTOR/LOT OWNER TO A LOCATION MUTUALLY AGREEABLE TO THE PARTIES AND THIS EASEMENT AND/OR THE EASEMENT PREMISES SHALL BE AMENDED TO ACCOMMODATE THE NEW GAS MAIN ALIGNMENT.

ELECTRIC AND COMMUNICATION SERVICE EASEMENT PROVISIONS

AN EASEMENT FOR SERVING THE PARCEL AND OTHER PROPERTY WITH ELECTRIC AND COMMUNICATION SERVICE IS HEREBY RESERVED FOR AND GRANTED TO

COMMONWEALTH EDISON COMPANY
AND
AT&T – SBC, AMERITECH ILLINOIS A.K.A. ILLINOIS BELL TELEPHONE COMPANY, GRANTEES,

THEIR RESPECTIVE LICENSEES, SUCCESSORS, AND ASSIGNS, JOINTLY AND SEVERALLY, TO CONSTRUCT, OPERATE, REPAIR, MAINTAIN, MODIFY, RECONSTRUCT, REPLACE, SUPPLEMENT, RELOCATE AND REMOVE, FROM TIME TO TIME, POLES, GUYS, ANCHORS, WIRES, CABLES, CONDUITS, MANHOLES, TRANSFORMERS, PEDESTALS, EQUIPMENT CABINETS OR OTHER FACILITIES USED IN CONNECTION WITH OVERHEAD AND UNDERGROUND TRANSMISSION AND DISTRIBUTION OF ELECTRICITY, COMMUNICATIONS, SOUNDS AND SIGNALS IN, OVER, UNDER, ACROSS, ALONG AND UPON THE SURFACE OF THE PARCEL SHOWN WITHIN THE DASHED OR DOTTED LINES (OR SIMILAR DESIGNATION) ON THE PLAT AND MARKED "PUBLIC UTILITY EASEMENT" (OR SIMILAR DESIGNATION), AND THE PROPERTY DESIGNATED ON THE PLAT FOR STREETS AND ALLEYS, WHETHER PUBLIC OR PRIVATE, TOGETHER WITH THE RIGHTS TO INSTALL REQUIRED SERVICE CONNECTIONS OVER OR UNDER THE SURFACE OF THE PARCEL OR AREAS TO SERVE IMPROVEMENTS THEREON, OR ON ADJACENT LOTS OR PARCELS, THE RIGHT TO CUT, TRIM OR REMOVE TREES, BUSHES, ROOTS AND SAPLINGS AND TO CLEAR OBSTRUCTIONS FROM THE SURFACE AND SUBSURFACE AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE PARCEL FOR ALL SUCH PURPOSES. NO PERMANENT STRUCTURES MAY BE PLACED OVER GRANTEES' FACILITIES OR IN, UPON OR OVER THE PARCEL SHOWN WITHIN THE DOTTED LINES MARKED "PUBLIC UTILITY EASEMENT" WITHOUT THE PRIOR WRITTEN CONSENT OF GRANTEES, BUT SAID EASEMENT AREA MAY BE USED FOR PURPOSES NOT INCONSISTENT WITH THE RIGHTS GRANTED, INCLUDING WITHOUT LIMITATION, CONSTRUCTION OF PARKING AREAS, DRIVEWAYS, LANDSCAPE ISLANDS AND LANDSCAPING PROVIDED HOWEVER, FOLLOWING ANY WORK PERFORMED BY THE GRANTEES IN THE EXERCISE OF THE EASEMENT RIGHTS GRANTED HEREIN, THE GRANTEES SHALL HAVE NO OBLIGATION WITH RESPECT TO RESTORATION OTHER THAN TO BACKFILL AND MOUND, TO REMOVE ALL EXCESS DEBRIS AND SPOIL AND TO LEAVE THE MAINTENANCE AREA IN A GENERALLY CLEAN AND WORKMAN LIKE CONDITION. AFTER INSTALLATION OF ANY SUCH FACILITIES, THE GRADE OF THE PARCEL SHALL NOT BE ALTERED IN A MANNER SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF.

RELOCATION OF FACILITIES WILL BE DONE BY GRANTEES AT COST OF THE GRANTOR/LOT OWNER, UPON WRITTEN REQUEST.

SURFACE WATER STATEMENT

TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF SUCH SUBDIVISION OR ANY PART THEREOF, OR, THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR THE COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREAS, OR DRAINS WHICH THE SUBDIVIDER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF THE CONSTRUCTION OF THE SUBDIVISION.

DATED THIS _____ DAY OF _____, _____.

_____
NAME: JESSEREND CONRAD
ILLINOIS REGISTERED PROFESSIONAL ENGINEER
ILLINOIS REGISTRATION NUMBER 062-066770
LICENSE EXPIRES NOVEMBER 30, 2017

JESSEREND CONRAD
062-066770
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS

OWNER: _____

ATTORNEY: _____

PERMISSION TO RECORD

STATE OF ILLINOIS)
)SS
COUNTY OF DuPAGE)

I, SAMUEL J. PHILLIPPE, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, HEREBY GRANT PERMISSION TO _____, TO RECORD THIS PLAT. THE REPRESENTATIVE SHALL PROVIDE THIS SURVEYOR WITH A RECORDED COPY OF THIS PLAT.

DATED THIS _____ DAY OF _____, A.D. 20_____.

FOR REVIEW ONLY
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-003699
LICENSE EXPIRES NOVEMBER 30, 2018

SAMUEL J. PHILLIPPE
3699
PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS
LOMBARD, ILLINOIS

SURVEYORS CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF DuPAGE)

THIS IS TO DECLARE THAT THE PROPERTY DESCRIBED HEREON WAS SURVEYED AND SUBDIVIDED BY MANHARD CONSULTING, LTD., UNDER THE SUPERVISION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY AND SUBDIVISION:

PARCEL 1:
THE WEST 250.00 FEET OF THE EAST 810.00 FEET OF THE SOUTH 280.10 FEET OF THE FOLLOWING DESCRIBED PARCEL: THE WEST HALF OF THE SOUTHWEST QUARTER AND THE WEST 30 ACRES OF THE EAST HALF OF THE SOUTHWEST QUARTER, ALL IN SECTION 1, TOWNSHIP 42 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, EXCEPT THE SOUTH 70.00 FEET THEREOF, IN COOK COUNTY, ILLINOIS.

PARCEL 2:
THE WEST 140.39 FEET OF THE EAST 950.39 FEET OF THE SOUTH 280.10 FEET OF THE FOLLOWING DESCRIBED PARCEL: THE WEST HALF OF THE SOUTHWEST QUARTER AND THE WEST 30 ACRES OF THE EAST HALF OF THE SOUTHWEST QUARTER, ALL IN SECTION 1, TOWNSHIP 42 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, EXCEPT THE SOUTH 70.00 FEET THEREOF, IN COOK COUNTY, ILLINOIS.

SUBDIVIDED PROPERTY CONTAINS 1.883 ACRES, MORE OR LESS AND ALL DISTANCES ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF.

THIS IS ALSO TO DECLARE THAT THE PROPERTY AS DESCRIBED ON THE ANNEXED PLAT LIES WITHIN THE CORPORATE LIMITS OF THE VILLAGE OF PALATINE, COOK COUNTY, ILLINOIS WHICH HAS ADOPTED A VILLAGE PLAN AND IS EXERCISING THE SPECIAL POWER AUTHORIZED BY 65 ILCS 5, SECTION 11-12-6.

5/8" DIAMETER BY 24" LONG IRON RODS WILL BE SET AT ALL SUBDIVISION CORNERS, LOT CORNERS, POINTS OF CURVATURE AND POINTS OF TANGENCY IN COMPLIANCE WITH ILLINOIS STATUTES AND APPLICABLE ORDINANCES, UNLESS OTHERWISE NOTED.

THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM COMMUNITY PANEL NUMBER 17031C0044J WITH AN EFFECTIVE DATE OF AUGUST 19, 2008 INDICATES THAT THE ABOVE DESCRIBED PROPERTY LIES WITHIN AREAS DESIGNATED AS ZONE X. ZONE X IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER THE FLOOD INSURANCE RATE MAPS. THIS MAP DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING IN THE COMMUNITY OR ALL PLANIMETRIC FEATURES OUTSIDE SPECIAL FLOOD HAZARD AREAS. THIS DOES NOT GUARANTEE THAT THE SURVEYED PROPERTY WILL OR WILL NOT FLOOD. APPROXIMATE LOCATIONS OF FLOOD ZONES HAVE BEEN SHOWN HEREON BASED ON THE CURRENT FLOOD INSURANCE RATE MAPS.

GIVEN UNDER MY HAND AND SEAL THIS _____ DAY OF _____, A.D. 20__.

FOR REVIEW ONLY
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-003699
LICENSE EXPIRES NOVEMBER 30, 2018

DESIGN FIRM PROFESSIONAL REGISTRATION
NO. 184003350-EXPIRES APRIL 30, 2019

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DATE OF FIELD SURVEY: AUGUST 26, 2017

SAMUEL J. PHILLIPPE
3699
PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS
LOMBARD, ILLINOIS

DATE	REVISIONS	DRAWN BY

Manhard CONSULTING LTD
700 Springer Drive, Lombard, IL 60148 ph:630.691.8800 fx:630.691.8895 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Structural Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

1000 EAST DUNDEE ROAD SUBDIVISION
VILLAGE OF PALATINE
FINAL PLAT OF SUBDIVISION

PROJ. MGR.:	SJP
PROJ. ASSOC.:	MGS
DRAWN BY:	MGS
DATE:	10/05/17
SCALE:	1"=30'

SHEET 2 OF 2
KRE.PTIL01

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Attachment: Plat of Subdivision (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

December 14, 2017 - 13:35 Dwg Name: P:\Kcpl\01\dwg\Surv\Final Drawings\Plat of Subdivision\KREPTIL01-PS.dwg Updated By: SPhilippe

Proposed Improvements for

PROPOSED COMMERCIAL DEVELOPMENT

1000 EAST DUNDEE ROAD
VILLAGE OF PALATINE, ILLINOIS

STANDARD SYMBOLS

06-01-16

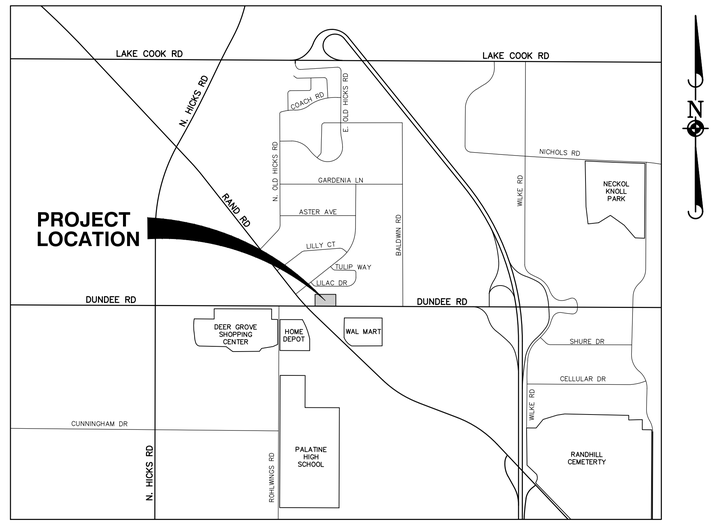
EXISTING		PROPOSED
	STORM SEWER	
	SANITARY SEWER	
	COMBINED SEWER	
FM	FORCEMAIN	FM
	DRAINTILE	
W	WATER MAIN	W
E	ELECTRIC	E
G	GAS	G
T	TELEPHONE	T
OH	OVERHEAD WIRES	OH
	SANITARY MANHOLE	
	STORM MANHOLE	
	CATCH BASIN	
	STORM INLET	
	CLEANOUT	
	HAY BALES	
	RIP RAP	
	VALVE IN VAULT	
	VALVE IN BOX	
	FIRE HYDRANT	
	BUFFALO BOX	
	FLARED END SECTION	
	STREET LIGHT	
	SUMMIT / LOW POINT	S/L
795.20 / 790.25	RIM ELEVATION / INVERT ELEVATION	795.25 / 790.20
	DITCH OR SWALE	
	DIRECTION OF FLOW	
	OVERFLOW RELIEF SWALE	
764	1 FOOT CONTOURS	764
	CURB AND GUTTER	
	DEPRESSED CURB AND GUTTER	
	REVERSE CURB AND GUTTER	
	SIDEWALK	
	DETECTABLE WARNINGS	
	PROPERTY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MAIL BOX	
	SIGN	
	TRAFFIC SIGNAL	
	POWER POLE	
	GUY WIRE	
	GAS VALVE	
	HANDHOLE	
E	ELECTRICAL EQUIPMENT	
T	TELEPHONE EQUIPMENT	
	CHAIN-LINK FENCE	
792.8	SPOT ELEVATION	792.8 G
	BRUSH/TREE LINE	
6"	DECIDUOUS TREE WITH TRUNK DIA. IN INCHES (TBR)	6"
25'	CONIFEROUS TREE WITH HEIGHT IN FEET (TBR)	25'
S	SILT FENCE	S
	RETAINING WALL	
	WETLAND	

ABBREVIATIONS

06-01-16

ADJ	ADJUST	F/L	FLOW LINE	R.O.W.	RIGHT-OF-WAY
AGG.	AGGREGATE	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
ARCH	ARCHITECT	G	GROUND	REM	REMOVAL
B.A.M.	BITUMINOUS AGGREGATE MIXTURE	G/F	GRADE AT FOUNDATION	REV	REVERSE
B-B	BACK TO BACK	GW	GUY WIRE	RR	RAILROAD
B/C	BACK OF CURB	HDWL	HEADWALL	RT	RIGHT
B/P	BOTTOM OF PIPE	HH	HANDHOLE	SAN	SANITARY
B/W	BACK OF WALK	HWL	HIGH WATER LEVEL	SF	SQUARE FOOT
B-BOX	BUFFALO BOX	HYD.	HYDRANT	SHLD.	SHOULDER
BIT.	BITUMINOUS	INL	INLET	SL	STREET LIGHT
BM	BENCHMARK	INV.	INVERT	SMH	SANITARY MANHOLE
B.O.	BY OTHERS	IP	IRON PIPE	ST	STORM
C.E.	COMMERCIAL ENTRANCE	LT	LEFT	STA.	STATION
CB	CATCH BASIN	MAX.	MAXIMUM	STD	STANDARD
℄	CENTERLINE	MB	MAILBOX	SW	SIDEWALK
CMP	CORRUGATED METAL PIPE	M/E	MEET EXISTING	SY	SQUARE YARDS
CNTRL	CONTROL	MH	MANHOLE	TBR	TO BE REMOVED
C.O.	CLEANOUT	MIN.	MINIMUM	T	TELEPHONE
CONC.	CONCRETE	NWL	NORMAL WATER LEVEL	T-A	TYPE A
CY	CUBIC YARD	P.E.	PRIVATE ENTRANCE	T/C	TOP OF CURB
D	DITCH	PC	POINT OF CURVATURE	T/F	TOP OF FOUNDATION
DIA.	DIAMETER	PCC	POINT OF COMPOUND CURVE	T/P	TOP OF PIPE
DIP	DUCTILE IRON PIPE	PGL	PROFILE GRADE LINE	T/W	TOP OF WALK
DIWM	DUCTILE IRON WATER MAIN	PI	POINT OF INTERSECTION	T/WALL	TOP OF WALL
DS	DOWNSPOUT	⅊	PROPERTY LINE	TEMP	TEMPORARY
DT	DRAIN TILE	PP	POWER POLE	TRANS	TRANSFORMER
E	ELECTRIC	PROP.	PROPOSED	V.B.	VALVE BOX
E-E	EDGE TO EDGE	PT	POINT OF TANGENCY	VCP	VITRIFIED CLAY PIPE
ELEV.	ELEVATION	PVC	POLYVINYL CHLORIDE PIPE	V.V.	VALVE VAULT
E/P	EDGE OF PAVEMENT	PVC	POINT OF VERTICAL CURVATURE	WL	WATER LEVEL
EX.	EXISTING	PVI	POINT OF VERTICAL INTERSECTION	WM	WATER MAIN
F.E.	FIELD ENTRANCE	PVT	POINT OF VERTICAL TANGENCY		
F-F	FACE TO FACE	P	PAVEMENT		
F.F.	FINISHED FLOOR	P.U.D.E.	PUBLIC UTILITY & DRAINAGE EASEMENT		
FES	FLARED END SECTION	R	RADIUS		

MANHARD CONSULTING, LTD. IS NOT RESPONSIBLE FOR THE SAFETY OF ANY PARTY AT OR ON THE CONSTRUCTION SITE. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ANY OTHER PERSON OR ENTITY PERFORMING WORK OR SERVICES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR THE JOB SITE SAFETY OF PERSONS ENGAGED IN THE WORK OR THE MEANS OR METHODS OF CONSTRUCTION.



LOCATION MAP

N.T.S.

KC 1000, LLC
350 W. HUBBARD STREET, SUITE 62
CHICAGO, ILLINOIS 60654

JIM MIKULSKI
PFDA ARHICTECTS, INC.
2803 BUTTERFIELD ROAD
OAK BROOK, ILLINOIS 60523
JMIKULSKI@PFDAINC.COM
312-795-1245

Manhard™ CONSULTING LTD
900 Woodlands Parkway, Vernon Hills, IL 60061 ph:847.634.5550 fx:847.634.0095 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	SOIL EROSION AND SEDIMENTATION CONTROL PLAN
4	SITE DIMENSIONAL AND PAVING PLAN
5	GRADING PLAN
6	UTILITY PLAN
7	CONSTRUCTION DETAILS
8	CONSTRUCTION DETAILS
9	CONSTRUCTION DETAILS
10	CONSTRUCTION DETAILS
11	CONSTRUCTION SPECIFICATIONS

NOTES:

1. THE BOUNDARY LINES AND TOPOGRAPHY FOR THIS PROJECT ARE BASED ON A FIELD SURVEY COMPLETED BY MANHARD CONSULTING, LTD. ON AUGUST, 26, 2017. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY MANHARD CONSULTING AND THE CLIENT IN WRITING OF ANY DIFFERING CONDITIONS.

BENCHMARKS:

REFERENCE BENCHMARK: (NGS PID:DM3905)
NGS SURVEY DISK SET IN CONCRETE MONUMENT LOCATED AT THE NORTHEAST CORNER OF REYNOLDS DRIVE AND ANDERSON DRIVE, APPROX. 2.5 FEET EAST OF EXISTING WALK.

ELEVATION=719.51 DATUM=NAVD88-GEOID 12B

SITE BENCHMARK (BM) #1:
CUT CROSS ON ARROW BOLT ON WESTERLY MOST HYDRANT ON SITE LOCATED IN NORTHERLY RIGHT OF WAY OF DUNDEE ROAD.

ELEVATION=727.14 DATUM=NAVD88-GEOID 12B

SITE BENCHMARK (BM) #2:
CUT CROSS ON ARROW BOLT ON WESTERLY MOST HYDRANT ON SITE LOCATED IN NORTHERLY RIGHT OF WAY OF DUNDEE ROAD.

ELEVATION=725.29 DATUM=NAVD88-GEOID 12B

JULIE ILLINOIS ONE-CALL SYSTEM
Simply Call 811

UTILITY CONTACTS

ELECTRIC	WATER
COM ED 1500 FRANKLIN BLVD. LIBERTYVILLE, IL. 60048 (847) 816-8401 CONTACT: GEORGE WELTER	VILLAGE OF PALATINE 148 W. ILLINOIS AVE. PALATINE, IL. 60067 (847) 202-6966 CONTACT: JIM VLCEK
GAS	**TELEPHONE**
NICOR 1011 WILEY ROAD SCHAUMBURG, IL. 60173 (847) 598-4005 CONTACT: TIM HENEGHAN	AT&T 255 E. CHICAGO ST. ELGIN, IL. 60120 (630) 462-2481 CONTACT: JIM FREDERICK
SEWER	
VILLAGE OF PALATINE 148 W. ILLINOIS AVE. PALATINE, IL. 60067 (847) 202-6966 CONTACT: JIM VLCEK	

SEAL

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

Manhard™ CONSULTING LTD
900 Woodlands Parkway, Vernon Hills, IL 60061 ph:847.634.5550 fx:847.634.0095 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
TITLE SHEET

PROJ. MGR.:	JGC
PROJ. ASSOC.:	JSP
DRAWN BY:	REH
DATE:	10-20-17
SCALE:	N.T.S.

SHEET 1 OF 11

KREPTIL01

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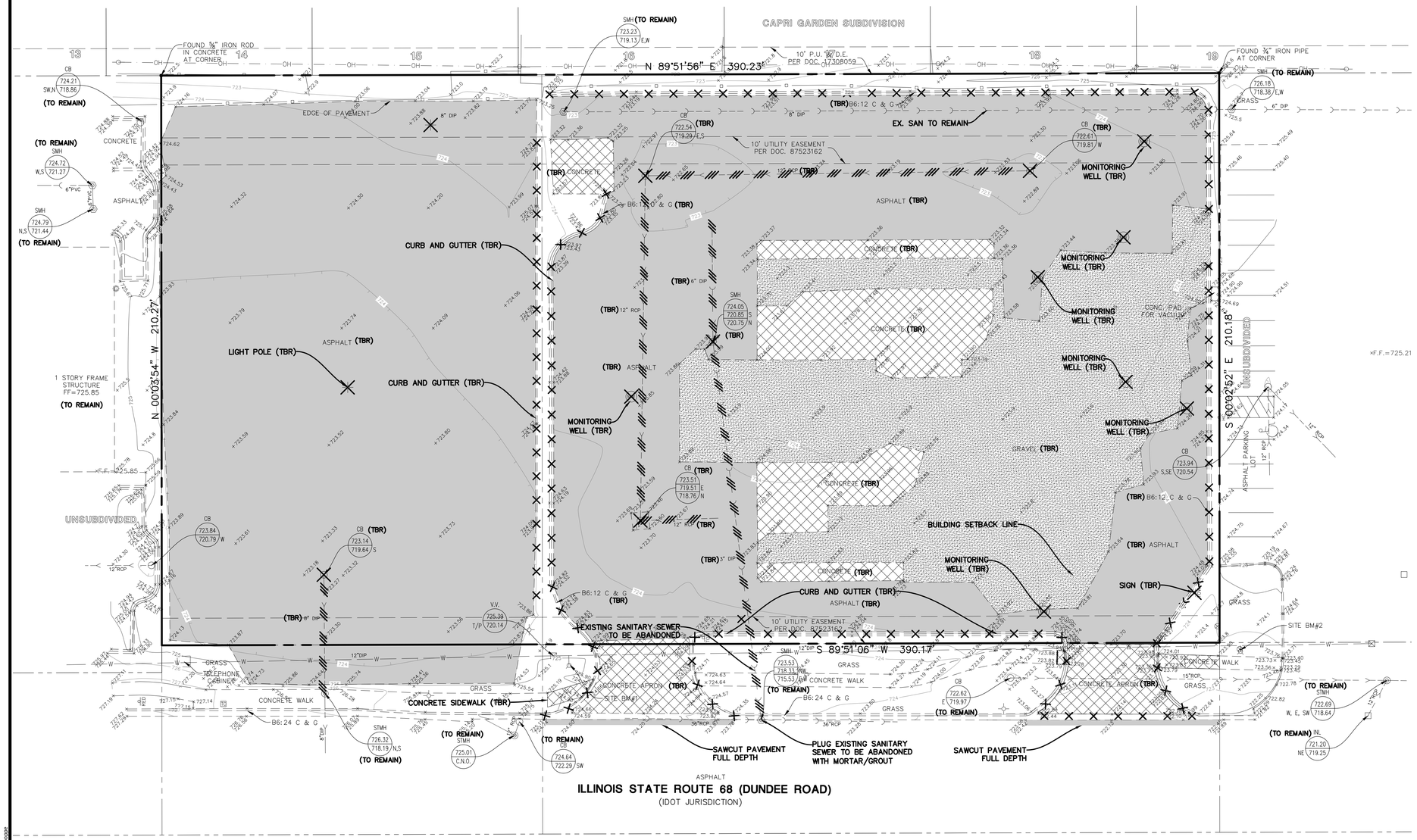
Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

December 19, 2017 14:51 Dwg Name: P:\Krepto101\dwg\Eng\Final Drawings\Plan Set\01-TITLE SHEET.dwg Updated By: bpoppe



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

EXISTING CONDITIONS NOTES:

1. EXISTING CONDITIONS AND DEMOLITION PLAN REPRESENT SITE CONDITIONS AS OF AUGUST 26, 2017. CONTRACTOR SHALL INSPECT SITE PRIOR TO BIDDING WORK TO VERIFY ACTUAL FIELD CONDITIONS AS PORTIONS OF THE DEMOLITION WORK MAY HAVE SINCE BEEN COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE ALL DEMOLITION WORK AS PER PLANS TO PREPARE THE SITE FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.

2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

3. CONTRACTOR TO VERIFY EXISTING SANITARY SERVICES ON THE PROPERTY HAVE BEEN PROPERLY CAPPED AND ABANDONED AT THE SANITARY MAIN.

DEMOLITION LEGEND

- PAVEMENT AND BASE TO BE REMOVED
- CONCRETE TO BE REMOVED
- AGGREGATE TO BE REMOVED
- SAWCUT LINE
- FENCE, RETAINING WALL, RAILROAD TIES, POLES, CURB AND GUTTER, ETC. TO BE REMOVED
- UTILITY STRUCTURE TO BE REMOVED
- UTILITY LINE REMOVAL, FILL OR ABANDONMENT (REFER TO SPECIFICATIONS)
- TREE TO BE REMOVED
- (TBR) TO BE REMOVED

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: REH
DATE: 10-20-17
SCALE: 1"=20'

SHEET 2 OF 11

KREPTILO1

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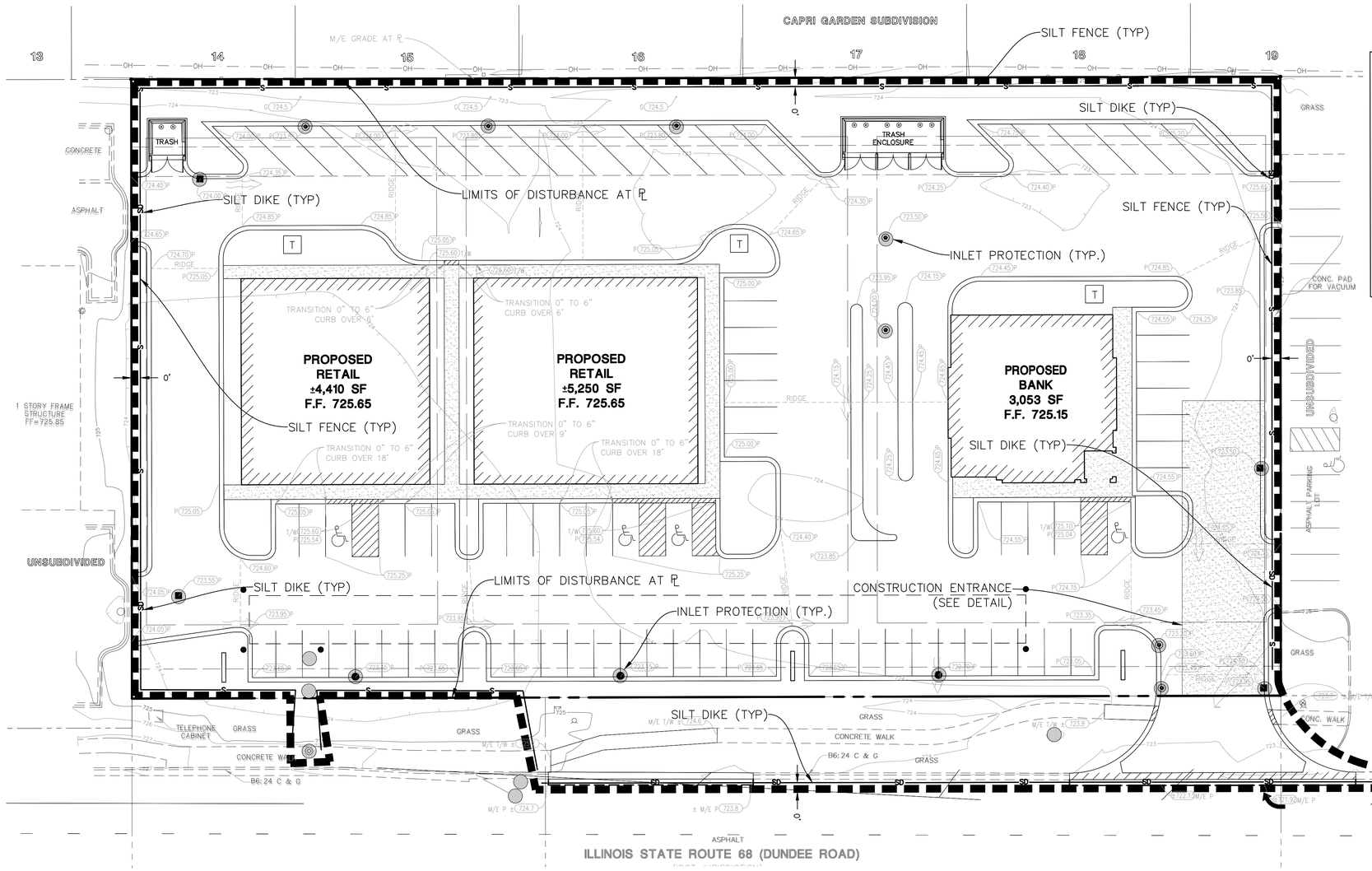
December 19, 2017 - 16:47 Dwg Name: P:\Krept\01\dwg\Eng\Final Drawings\Plan Set\02-EXISTING.dwg Updated By: bscope

Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

06-01-16

CONSTRUCTION SEQUENCE:

1. INSTALL SILT FENCE AT LOCATIONS AS INDICATED ON THE PLANS.
2. PROVIDE STABILIZED CONSTRUCTION ENTRANCE.
3. PROVIDE SILT FENCE AROUND THE BASE OF THE STOCKPILES.
4. CUT AND FILL SITE TO PLAN SUB-GRADE.
5. CONSTRUCT UNDERGROUND IMPROVEMENTS, i.e. SANITARY SEWER WATERMAIN AND STORM SEWER**, ETC.
6. CONSTRUCT PAVEMENT IMPROVEMENTS PER PLAN.
7. COMPLETE CONSTRUCTION OF SITE WITH PERMANENT STABILIZATION.
8. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

** INSTALL INLET PROTECTION AROUND DRAINAGE STRUCTURES AS CONSTRUCTED.

06-01-16

LEGEND

- —S——S— TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
- —SD——SD— TEMPORARY SILT DIKE
- LIMITS OF DISTURBANCE/CONSTRUCTION
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
- TEMPORARY STORM STRUCTURE PROTECTION

N

SOIL PROTECTION CHART

STABILIZATION CHART		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDINGS				A			*	*		*			
DORMANT SEEDINGS	B										B		
TEMPORARY SEEDINGS				C									
TEMPORARY SEEDINGS	D												
SODDING				E **									
MULCHING		F											

A – KENTUCKY BLUEGRASS 90 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 30 LBS./AC.

B – KENTUCKY BLUEGRASS 1.35 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 45 LBS./AC. 2 TONS STRAW MULCH PER ACRE

C – SPRING OATS

D – WHEAT OR CEREAL RYE

E – SOD (NURSERY GROWN KENTUCKY BLUEGRASS)

F – STRAW MULCH 2 TONS PER ACRE

* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER

** IRRIGATION NEEDED FOR 2-3 WEEKS AFTER SODDING

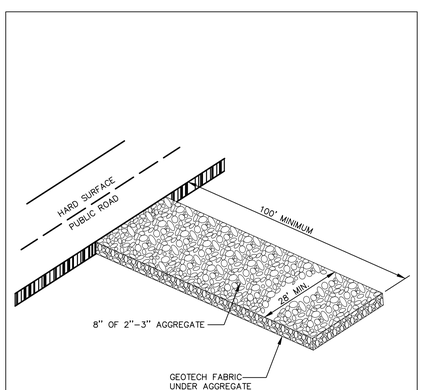
NOTE: THIS CHART IS A GUIDE TO ASSISTS THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

06-01-16

SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:

1. ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
2. MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
3. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY.
4. INSTALL ALL PERIMETER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. ONSITE SEDIMENT CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
5. STORM WATERS FALLING ON THE ENTIRE SITE SHALL BE DIVERTED INTO THE STORM WATER SYSTEM, PRIOR TO BEGINNING MASS EXCAVATION. THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENTATION TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY AND CONVEY THEM TO THE DETENTION BASIN.
6. IF STORMWATER DETENTION IS NOT REQUIRED THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENT TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY.
7. DISTURBED AREA SHALL BE STABILIZED BY SEEDING AT A MINIMUM, WITHIN SEVEN (7) DAYS OF COMPLETION OF DISTURBANCE UNLESS THE AREA WILL BE DISTURBED WITHIN FOURTEEN (14) DAYS AND GRASS SOWN AS NECESSARY TO RE- ESTABLISH VEGETATION FOR CONTROL OF SILTATION AND SOIL EROSION.
8. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS/ACRE.
9. INLET PROTECTION SHALL BE INSTALLED UNDER THE GRATING OF EACH DRAINAGE STRUCTURE.
10. WATER PUMPED DURING CONSTRUCTION OPERATION SHALL BE FILTERED.
11. DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
12. TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
13. ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINE OF ANY GUTTER OR DRAINAGE STRUCTURE DURING CONSTRUCTION OPERATIONS SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY.
14. OVERLAND FLOW SHALL BE DIRECTED TO THE DETENTION BASIN PRIOR TO LEAVING THE SITE.
15. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
16. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.

"THESE EROSION CONTROL PLANS ARE A PORTION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) TOTAL REQUIREMENTS FOR A COMPLETE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE GENERAL NPDES PERMIT NO. ILR10. CLIENT AND/OR CONTRACTOR WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL NPDES PERMIT AND COMPILATION OF THE COMPLETE SWPPP."

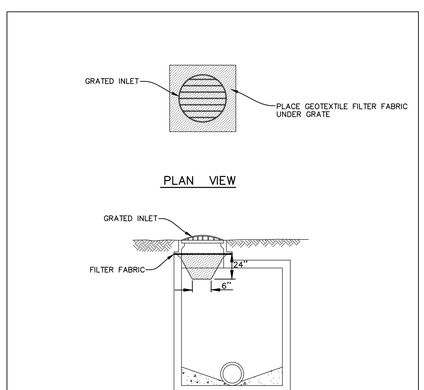


NOTE:
PERIODIC TOP DRESSING OF THE CONSTRUCTION EXIT MAY BE REQUIRED TO PREVENT TRACK OUT.

06-01-15

GRAVEL CONSTRUCTION ACCESS DETAIL

S-EC-CONST-ENTRANCE

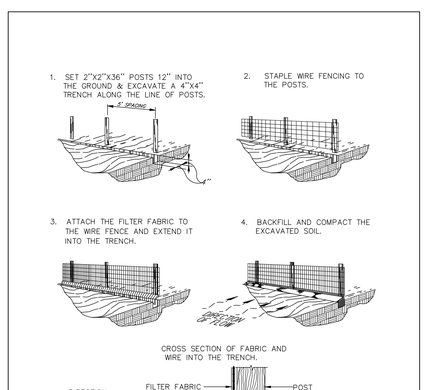


NOTE:
1. CONTRACTOR HAS THE OPTION OF USING A MANUFACTURED PRODUCT SUCH AS DANDY BAG, IPP INLET FILTER, FLEXSTORM OR APPROVED EQUAL.
2. FOR CURB STRUCTURES, CONTRACTOR HAS THE OPTION OF USING A MANUFACTURED PRODUCT SUCH AS DANDY CURB SACK OR APPROVED EQUAL.

06-01-15

FILTER BASKET INLET SEDIMENT FILTER

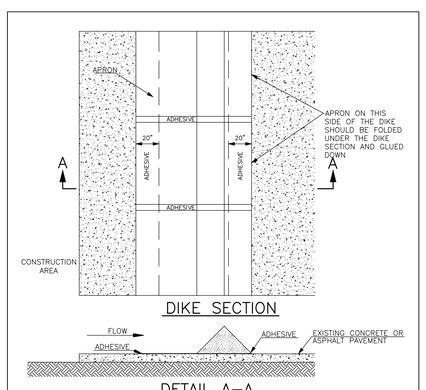
DC-ST-FB-INLETPROTECT



06-01-17

SILT FENCE DETAIL

S-EC-SILT FENCE



1. SILT DIKE SHALL BE ENVIROBERM BY CASCADE DISTRIBUTION LTD., GEORIDGE BY NILEX CORPORATION, TRIANGULAR SILT DIKE BY TRIANGULAR SILT DIKE COMPANY, INC. OR APPROVED EQUAL.
2. SILT DIKE UNIT INSTALLED SHALL HAVE CONTINUOUS AND FIRM CONTACT WITH SURFACE.
3. ADHESIVES: CONCRETE PAVEMENT USE LIQUID NAIL OR APPROVED EQUAL. ASPHALT PAVEMENT USE EMULSIFIED ASPHALT.
4. ADHESIVE SHALL BE PLACED WHERE THE UNITS OVERLAP AND A 20" STRIP ALONG BOTH EDGES.

01-01-13

SILT DIKE (ON EXISTING PAVEMENT)

N-EC-SILT-DIKE

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
SOIL EROSION AND SEDIMENTATION CONTROL PLAN

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: BP
DATE: 10-20-17
SCALE: 1"=20'

SHEET 3 OF 11

KREPTIL01

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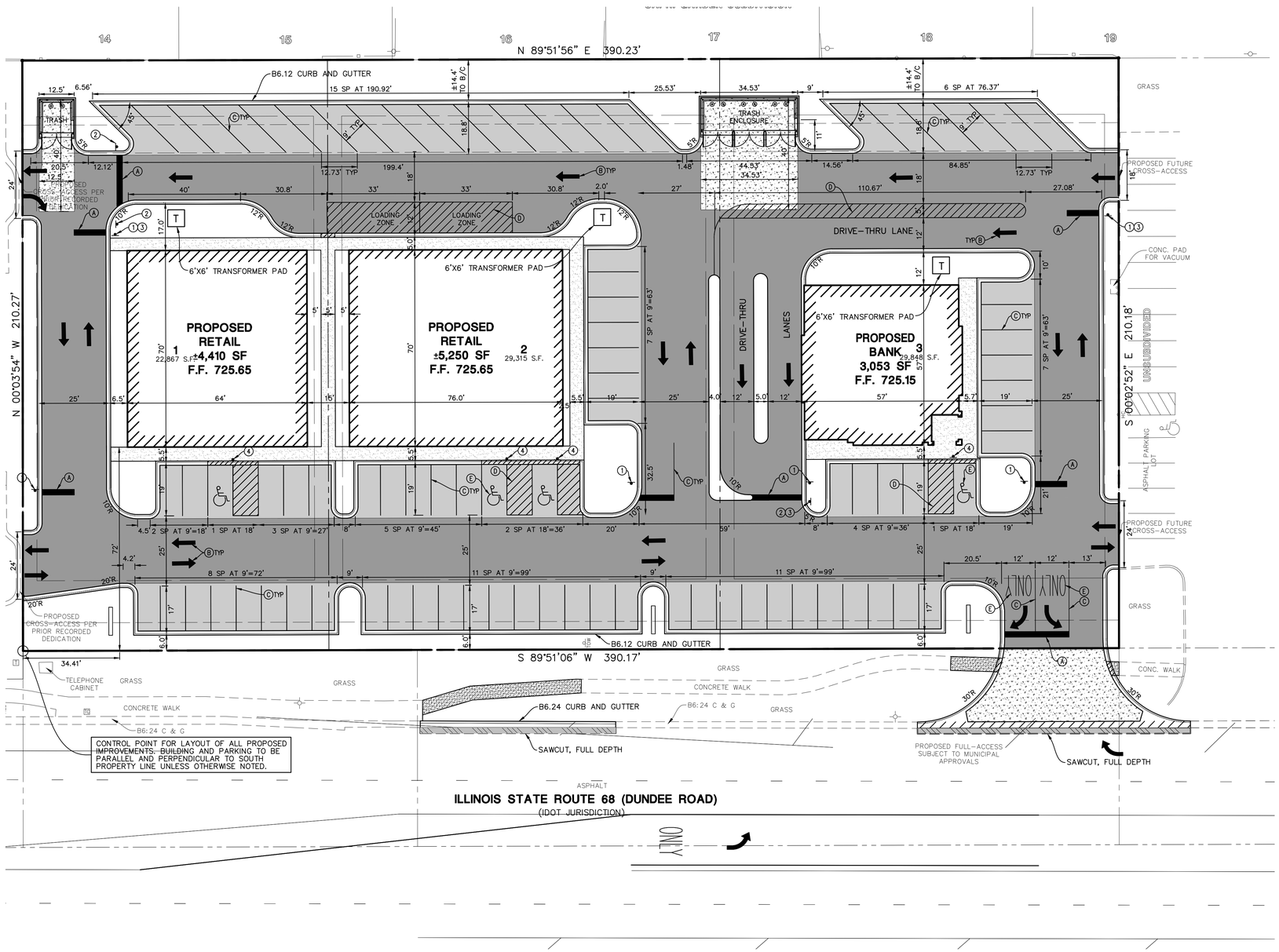
Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

December 19, 2017 - 16:44 Dwg Name: P:\Krept01\dwg\Eng\Final Drawings\Plan Set\03-SECP.dwg Updated By: bpoppe



PAVEMENT LEGEND

06-01-16

STANDARD DUTY PAVEMENT
1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50
2 1/4" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50
8" AGGREGATE BASE COURSE, TYPE B

HEAVY DUTY PAVEMENT
1 1/2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50
3" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50
12" AGGREGATE BASE COURSE, TYPE B

CONCRETE PAVEMENT
8" PORTLAND CEMENT CONCRETE PAVEMENT W/ 6 X 6 W1.4 WWF
4" COMPACTED AGGREGATE BASE, TYPE B

PCC SIDEWALK
5" PORTLAND CEMENT CONCRETE
4" AGGREGATE BASE COURSE, TYPE B

IDOT APRON PAVEMENT
2" CLASS I BITUMINOUS CONCRETE SURFACE COURSE
8" BAM BASE COURSE
4" COMPACTED AGGREGATE BASE, TYPE B

SIGN LEGEND

1. R1-1 STOP SIGN
2. R5-1 DO NOT ENTER
3. NO RIGHT TURN
4. R7-8 HANDICAP PARKING SIGN

PAVEMENT MARKING LEGEND

- (A) 24" WHITE STOP BAR
- (B) TRAFFIC FLOW DIRECTIONAL ARROWS
- (C) 4" YELLOW LINE
- (D) 4" YELLOW DIAGONAL AT 45° SPACED 2' O.C. W/ 4" YELLOW BORDER
- (E) LETTERS AND SYMBOLS PAVEMENT MARKINGS

SITE DATA

03-01-16

TOTAL SITE AREA	1.88 ACRES
LOT 1	0.67 ACRES
LOT 2	0.53 ACRES
LOT 3	0.68 ACRES
TOTAL PARKING PROVIDED	83 SPACES
HANDICAP PROVIDED	4 SPACES

06-01-16

SITE DIMENSIONAL AND PAVING NOTES:

1. ALL DIMENSIONS ARE FACE OF CURB TO FACE OF CURB OR BUILDING FOUNDATION UNLESS NOTED OTHERWISE.
2. ALL PROPOSED CURB AND GUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.
3. ALL CURB RADII SHALL BE 3' MEASURED TO FACE OF CURB UNLESS NOTED OTHERWISE.
4. TIE ALL PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTER WITH 2-#6 BARS x 18" LONG DOWELED INTO EXISTING CURB.
5. BUILDING DIMENSIONS AND ADJACENT PARKING HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. BUILDING DIMENSIONS SHOWN SHOULD NOT BE USED FOR CONSTRUCTION LAYOUT OF BUILDING.
6. IMPROVEMENTS ADJACENT TO BUILDING, IF SHOWN, SUCH AS TRUCK DOCK, RETAINING WALLS, SIDEWALKS, CURBING, FENCES, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, AND TRANSFORMERS ETC. HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
7. LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAY. CONTRACTOR TO VERIFY ACTUAL BUILDING PLAN LOCATIONS WITH ARCHITECT/DEVELOPER PRIOR TO CONSTRUCTING THE SIDEWALKS.
8. ALL ROADWAY AND PARKING LOT SIGNAGE, STRIPING, SYMBOLS, ETC. SHALL BE IN ACCORDANCE WITH LATEST JURISDICTIONAL GOVERNMENTAL ENTITY DETAILS.
9. SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
10. DEPRESS CURB & GUTTER AT ALL SIDEWALK AND PATH LOCATIONS FOR HANDICAP ACCESS PER FEDERAL AND STATE STANDARDS.
11. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS
12-4-17	REVISED PER SITE PLAN COORDINATION	ZRS
11-27-17	REVISED PER SITE PLAN COORDINATION	ZRS
11-17-17	REVISED PER SITE PLAN CHANGE	ZRS
11-13-17	REVISED PER SITE LAYOUT CHANGES	ZRS

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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
SITE DIMENSIONAL AND PAVING PLAN

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: MH
DATE: 10-20-17
SCALE: 1"=20'

SHEET 4 OF 11

KREPTIL01

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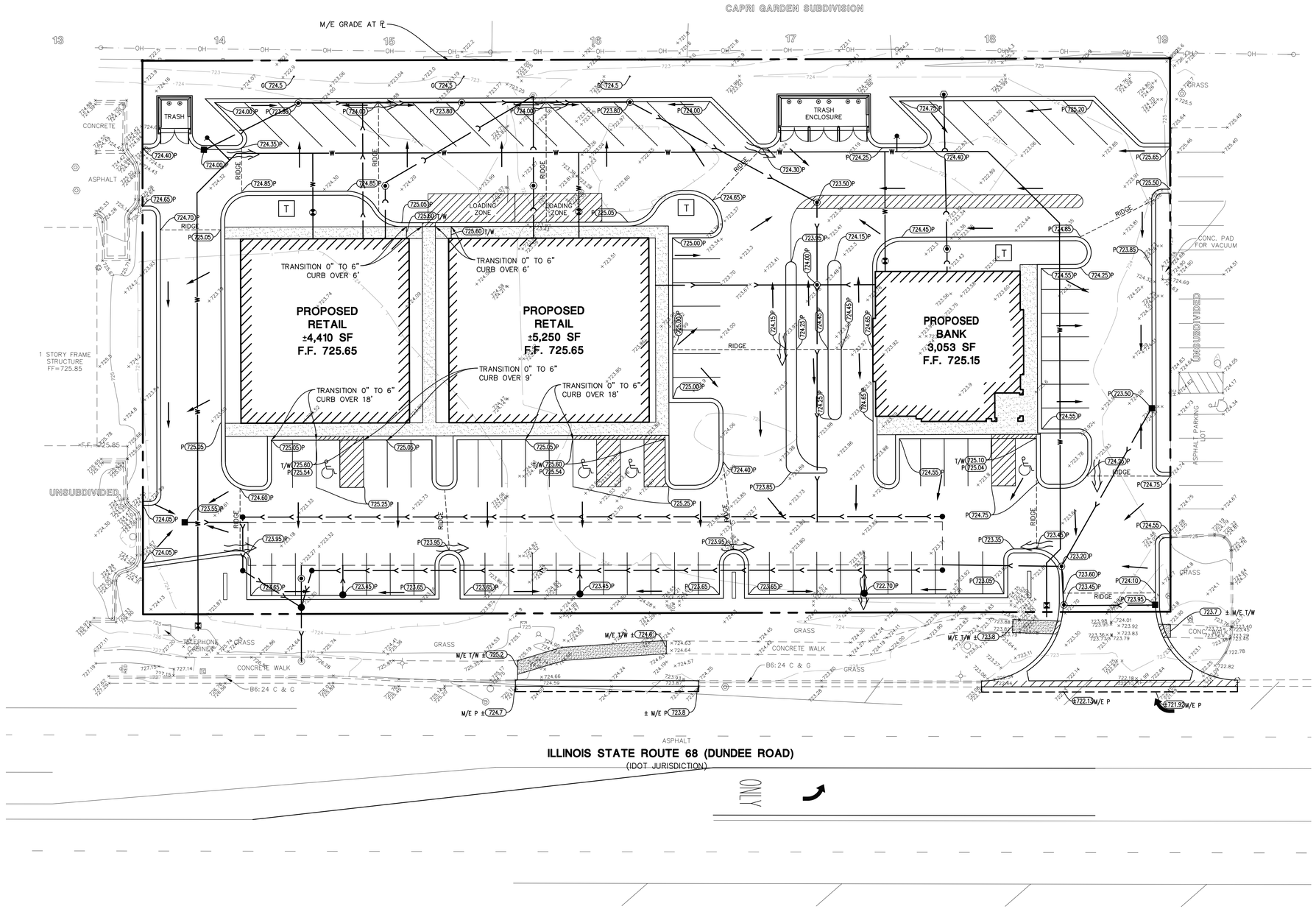
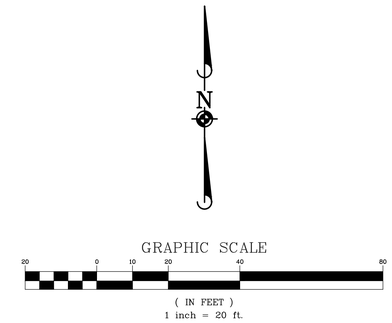
Attachment: Engineering Plans (1000:1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

December 19, 2017 - 17:31 Dwg Name: P:\Kreptil\31\dwg\Eng\Final Drawings\Plan Set\04-SITE.dwg Updated By: bpoppe





GRADING PLAN LEGEND

764	PROPOSED 1 FOOT CONTOURS
792.8 G	PROPOSED SPOT ELEVATION
F.F.	PROPOSED FINISHED FLOOR ELEVATION
G/F	PROPOSED GRADE AT FOUNDATION
P	PROPOSED PAVEMENT ELEAVATION
T/C	PROPOSED TOP OF CURB
T/W	PROPOSED TOP OF WALK
T/WALL	PROPOSED TOP OF WALL
M/E	MEET EXISTING
G	PROPOSED GROUND GRADE OR GROUND AT BASE OF RETAINING WALL
	PROPOSED DITCH OR SWALE
	PROPOSED DIRECTION OF FLOW
	OVERFLOW RELIEF SWALE
	PROPOSED RIDGE LINE
0.3'	PROPOSED DEPTH OF PONDING
	RETAINING WALL
L	PROPOSED SWALE LOW POINT
S	PROPOSED SWALE SUMMIT

06-01-16

GRADING NOTES:

1. PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
2. ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
3. MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
5. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
8. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
10. EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING, LTD. ON AUGUST 26, 2017. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
11. TRANSITIONS FROM DEPRESSED CURB TO FULL HEIGHT CURB SHALL BE TAPERED AT 2H:1V UNLESS OTHERWISE NOTED.

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
GRADING PLAN

PROJ. MGR.:	JGC
PROJ. ASSOC.:	JSP
DRAWN BY:	MH
DATE:	10-20-17
SCALE:	1"=20'

SHEET 5 OF 11

KREPTIL01

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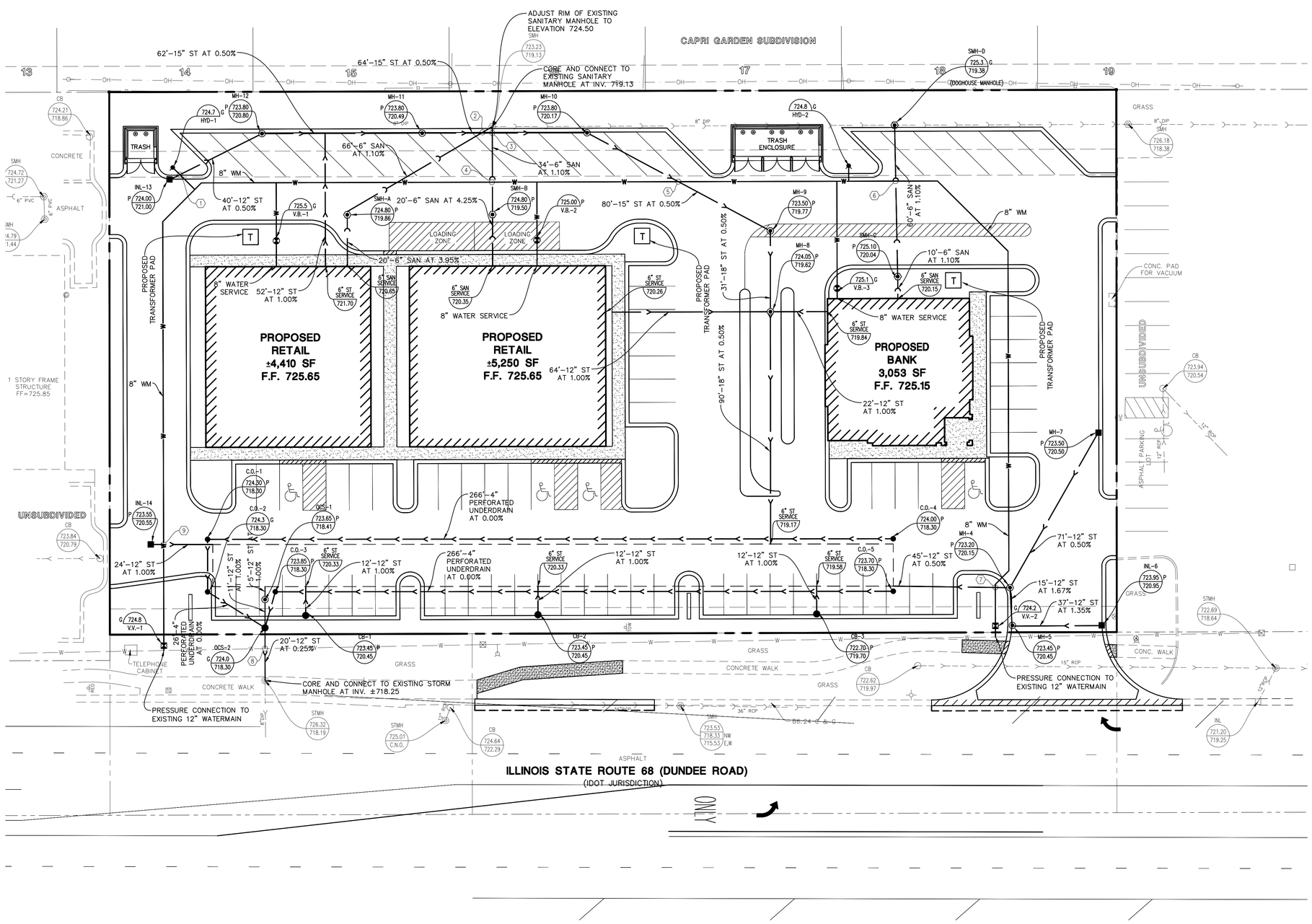
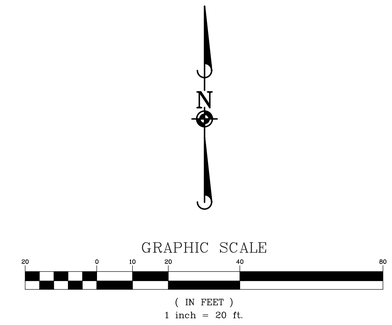
Attachment: Engineering Plans (1000:1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

December 19, 2017 - 18:18 Dwg Name: P:\Kreptil01\dwg\Eng\Final Drawings\Plan Set\05-GRADING.dwg Updated By: bpaige





UTILITY CROSSINGS

1. ST OVER WM
   B/P ST = 720.8
   T/P WM = 718.5
2. ST OVER SAN
   B/P ST = 720.2
   T/P EX. SAN = 719.9
   CRITICAL CROSSING
3. ST OVER SAN
   B/P ST = 720.1
   T/P EX. SAN = 719.9
   CRITICAL CROSSING
4. SAN OVER WM
   B/P SAN = 719.3
   T/P WM = 717.3
   LOWER WM
5. ST OVER WM
   B/P ST = 719.8
   T/P WM = 717.8
   LOWER WM
6. SAN OVER WM
   B/P SAN = 719.5
   T/P WM = 717.5
   LOWER WM
7. ST OVER WM
   B/P ST = 719.9
   T/P WM = 717.4
8. ST OVER WM
   B/P ST = 718.3
   T/P WM = ±717.0
9. ST OVER WM
   B/P ST = 720.3
   T/P WM = 717.6

NOTE: WATER AND SEWER CROSSINGS SHALL MEET STATE EPA SEPARATION AND PIPE MATERIAL REQUIREMENTS. (SEE DETAIL SHEET)

UTILITY NOTES:

1. ALL UTILITY DIMENSIONS ARE TO CENTER OF PIPE OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
3. CONTRACTOR SHALL EXCAVATE AND VERIFY ALL EXISTING SEWER, WATER MAIN AND DRY UTILITY LOCATIONS, SIZES, CONDITIONS & ELEVATIONS AT PROPOSED POINTS OF CONNECTION AND CROSSINGS PRIOR TO ANY UNDERGROUND CONSTRUCTION AND NOTIFY THE OWNER OF ANY DISCREPANCIES OR CONFLICTS.
4. THE CONTRACTOR SHALL ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO PROPOSED FINISH GRADES.
5. AT LOCATIONS WHERE WATER MAIN CROSSES BENEATH OR LESS THAN 18" ABOVE A SEWER, PROVIDE WATER MAIN PROTECTION PER STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION.
6. ALL WATER MAIN SHALL BE 5'-6" BELOW FINISHED GRADE TO TOP OF MAINS UNLESS NOTED OTHERWISE.
7. ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT ELEVATION OR LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES.
8. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HERE ON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED.
9. ALL SANITARY AND STORM SEWER LENGTHS SHOWN ARE CENTER OF MANHOLE TO CENTER OF MANHOLE OR STORM MANHOLE TO FES.
10. CONTRACTOR SHALL CORE AND BOOT ALL PIPE ENTRANCES TO EXISTING SANITARY MANHOLES.
11. EXTERNAL CHIMNEY SEALS ARE REQUIRED ON PROPOSED AND ADJUSTED EXISTING SANITARY MANHOLES.
12. SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
13. ALL D.I. WATERMAIN FITTINGS SHALL BE WRAPPED.

STORMWATER DATA TABLE

DETENTION VOLUME REQUIRED (VILLAGE OF PALATINE) PER MWRD PERMIT NUMBER 87-641	0.23 AC-FT
VOLUME CONTROL REQUIRED (MWRD)	0.127 AC-FT
DETENTION VOLUME PROVIDED	0.25 AC-FT
VOLUME CONTROL PROVIDED	0.127 AC-FT
ALLOWABLE RELEASE RATE (0.30 CFS/ACRE)	0.564 CFS
ACTUAL RELEASE RATE	0.547 CFS

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZKS

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Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
UTILITY PLAN

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: MH
DATE: 10-20-17
SCALE: 1"=20'

SHEET 6 OF 11

KREPTIL01

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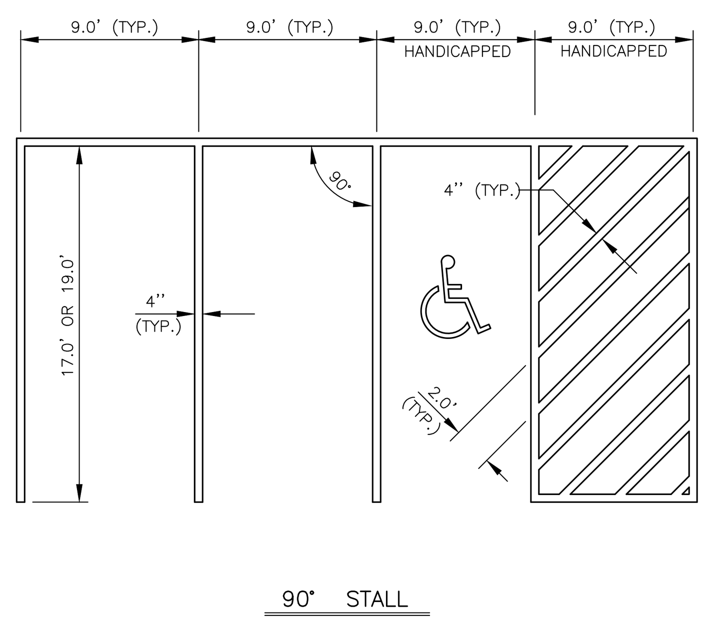
December 19, 2017 - 18:24 Dwg Name: P:\Krep\B013\dwg\Eng\Final Drawings\Plan Set\05-UTIL.dwg Updated By: bpoppe

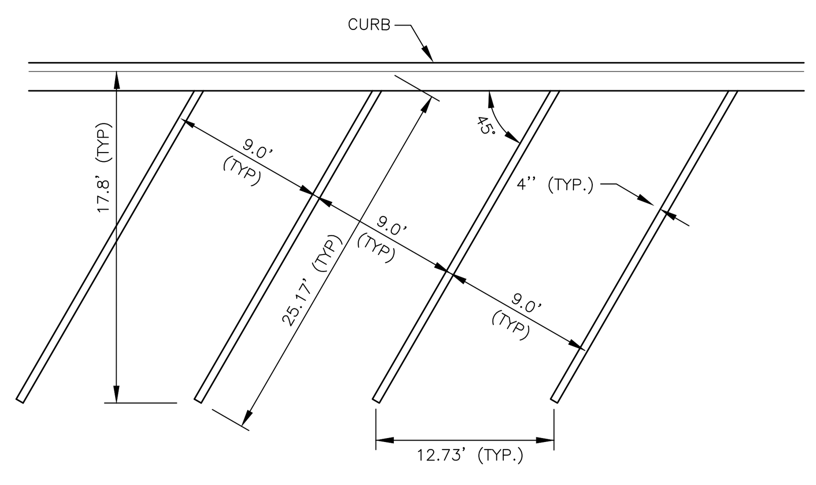
Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



90° STALL

NOTE:
1. HANDICAPPED STALL AND SYMBOL STRIPING TO BE PER JURISDICTION GOVERNMENT AGENCY STANDARDS.
2. STANDARD PARKING STALL STRIPING TO BE TWO COATS YELLOW PAINT UNLESS OTHERWISE NOTED.

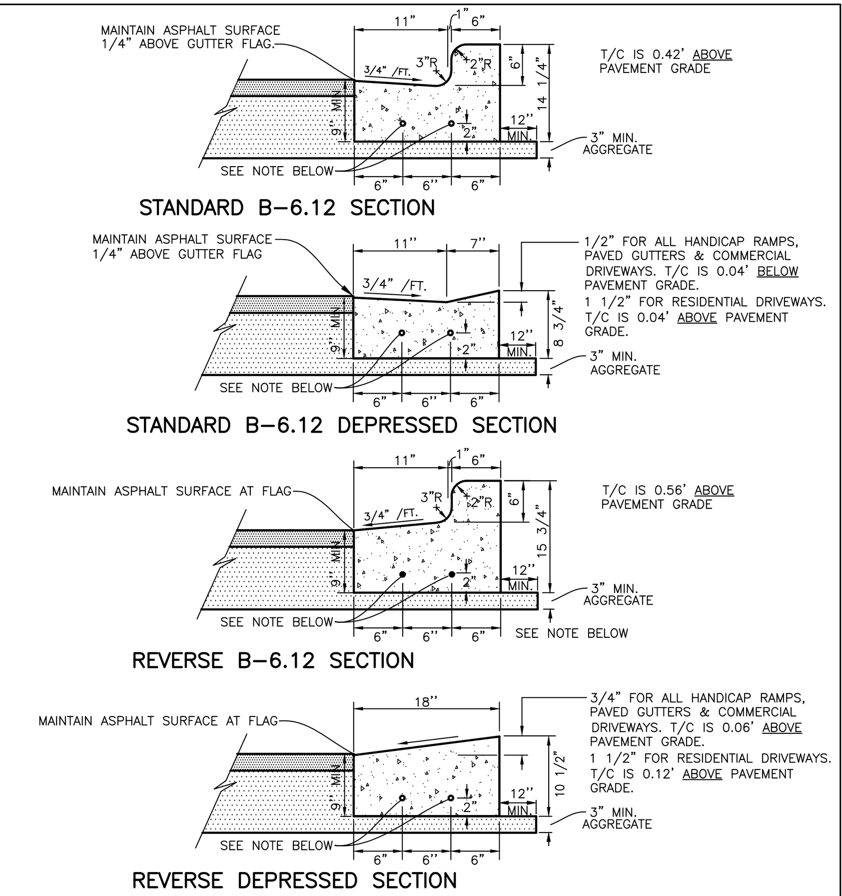
09–28–17
TYPICAL 90° PARKING STRIPING DETAIL
KREPTIL01



45° STALL

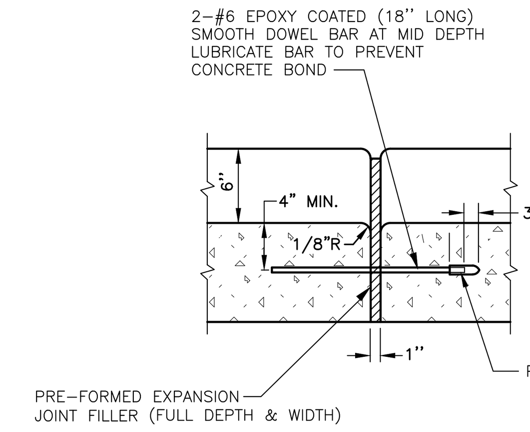
NOTE:
1. STANDARD PARKING STALL STRIPING TO BE TWO COATS YELLOW PAINT UNLESS OTHERWISE NOTED.

09–28–17
TYPICAL 45° PARKING STRIPING DETAIL
KREPTIL01



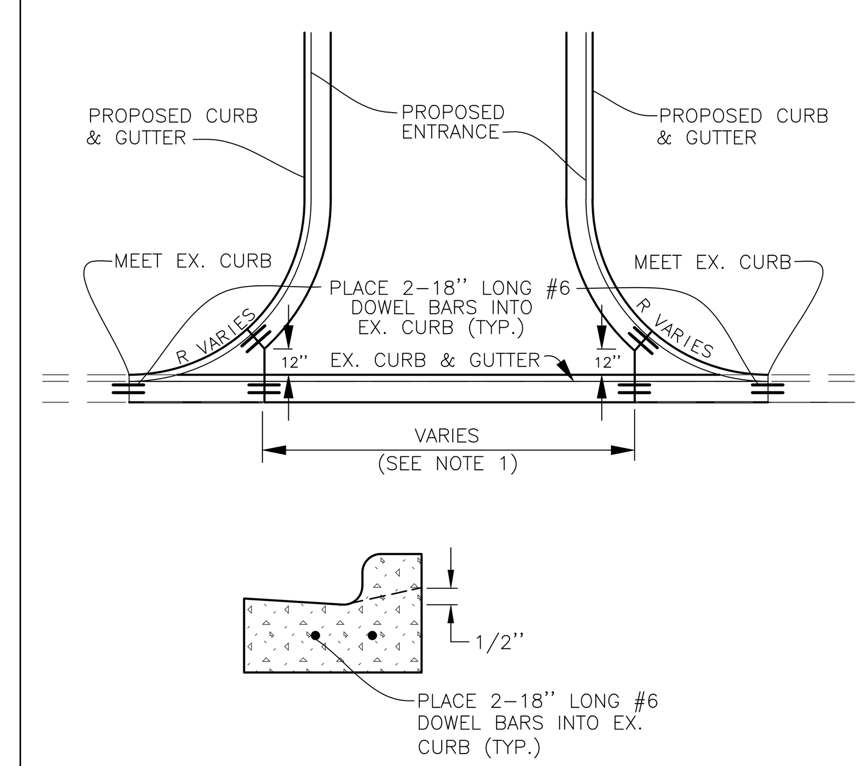
NOTE:
1. EXPANSION JOINTS TO BE LOCATED AT HIGH POINTS, UTILITY STRUCTURES, CURB RETURNS, COLD JOINTS OR 60' MAX. (SEE DETAIL)
2. CONTRACTION JOINTS ARE TO BE SAW CUT 2" DEEP AT 20' INTERVALS MAX.
3. INSTALL 2–#4 DEFORMED BARS X 10'–0" LONG OVER ALL TRENCHES.
4. TRANSITION CURB AND GUTTER AS NECESSARY TO MEET DRAINAGE STRUCTURE FRAME AND GRATE

06–01–17
MODIFIED B–6.12 CURB & GUTTER DETAIL
S–RD–B612–CURB
SHEET 1 OF 2



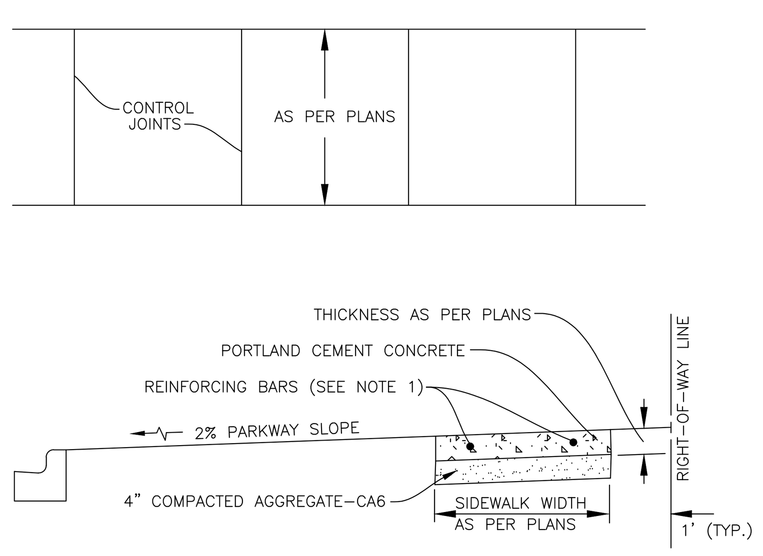
TYPICAL
EXPANSION JOINT DETAIL
CROSS SECTION

06–01–17
CURB EXPANSION JOINT
S–RD–EXPANSION–JOINT



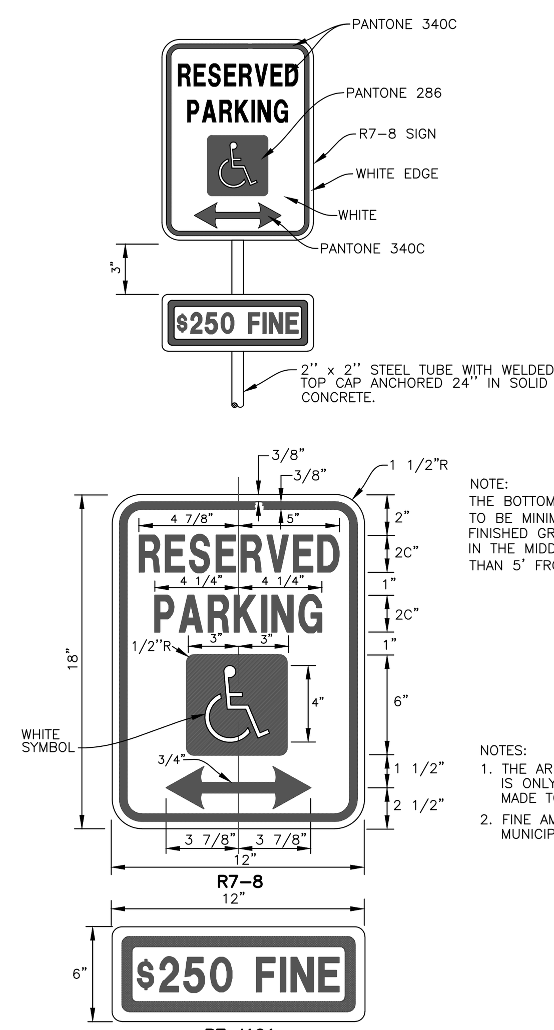
NOTE:
THE CONTRACTOR SHALL SAWCUT, REMOVE AND REPLACE THE EXISTING CURB AND GUTTER WITH A DEPRESSED CURB AND GUTTER SECTION AND SHALL REMOVE THE EXISTING PAVEMENT AS NEEDED SO AT TO PROVIDE A SMOOTH TRANSITION.

06–01–15
COMMERCIAL DRIVEWAY ENTRANCE DETAIL
S–RD–COMM–DR–ENTRANCE



NOTES:
1. AT ALL TRENCH CROSSINGS, 2–#4 REFORMED REINFORCING BARS (10' LONG) SHALL BE PLACED OVER THE TRENCH.
2. CONCRETE THICKNESS SHALL BE 6'' AT ALL DRIVEWAYS AND TRENCH CROSSINGS.
3. 3/4'' EXPANSION JOINTS SHALL BE CONSTRUCTED AT A MAXIMUM SPACING OF 50'.
4. CONTROL JOINTS SHALL BE SPACED THE SAME AS THE SIDEWALK WIDTH AND 1/4'' IN DEPTH.

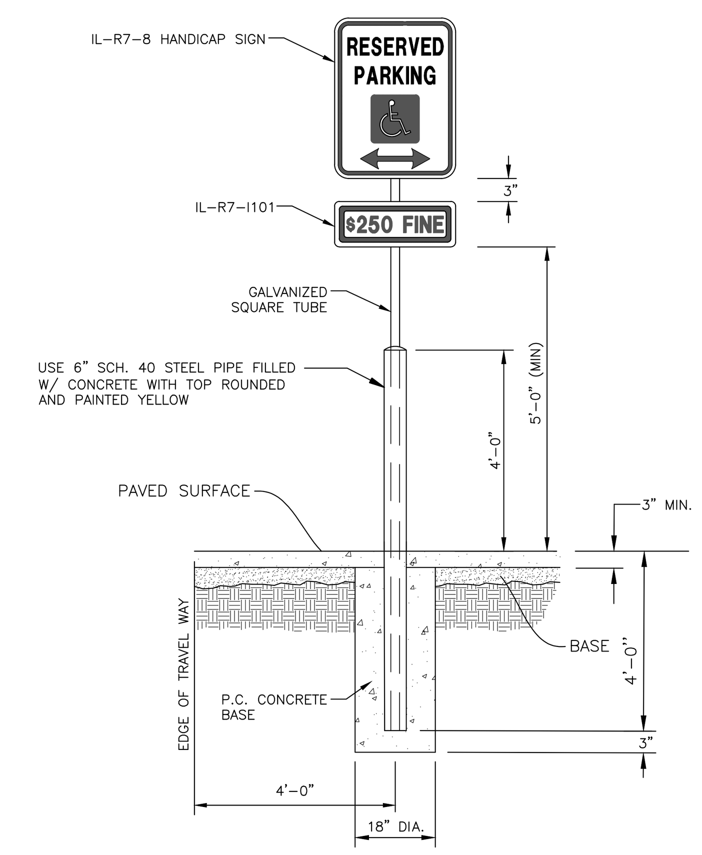
06–01–15
SIDEWALK DETAIL
S–RD–SIDEWALK



NOTE:
THE BOTTOM OF THE ACCESSIBLE PARKING SIGNS TO BE MINIMUM OF FIVE FEET (5'–0'') ABOVE FINISHED GRADE, AND THEY SHALL BE LOCATED IN THE MIDDLE OF PARKING STALLS NO MORE THAN 5' FROM FRONT OF SPACE.

NOTES:
1. THE ARROW SHOULD BE OMITTED WHERE THERE IS ONLY ONE SPACE. THE ARROW MAY ALSO BE MADE TO POINT IN ONLY ONE DIRECTION.
2. FINE AMOUNT TO BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS.

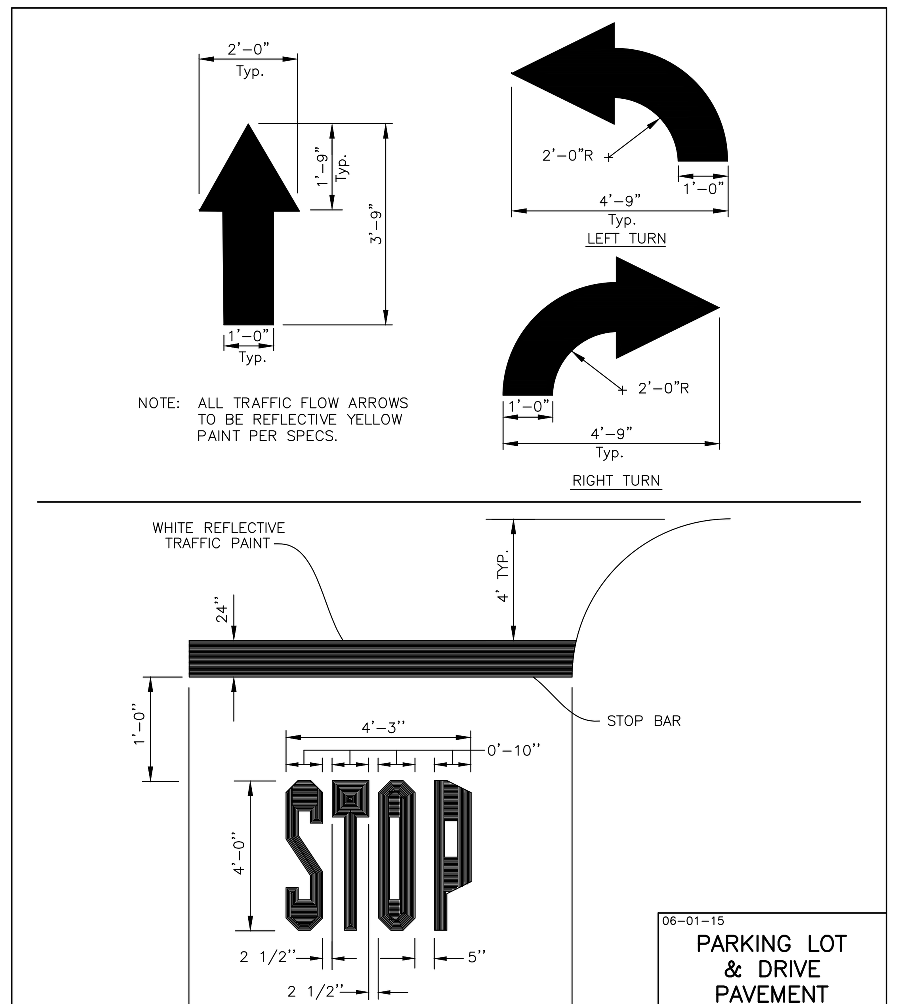
06–01–15
ILLINOIS R7–8 HANDICAPPED SIGN DETAIL
S–MS–HANDICAP–SIGN



SIGN ON BOLLARD
N.T.S.

NOTES:
1. ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

06–01–15
SIGN ON BOLLARD AND BASE
S–RD–BOLLARD–SIGN



06–01–15
PARKING LOT & DRIVE PAVEMENT MARKING DETAIL
S–MS–PAVMARKING

MATERIAL STANDARDS

ITEM	BRAND	PRODUCT
FIRE HYDRANTS (TRAFFIC MODEL)	MUELLER SUPER CENTURION WATEROUS PACER	A–423 WB–67
GATE VALVES SPECIFY SIZE NON–RISING STEM, 2'' NUT, M.J., OPEN LEFT	MUELLER (SIZE) AMERICAN FLOW CONTROL	A–2360–20L SERIES 2500
VALVE BOXES 3 PIECE	EAST JORDAN TYLER/UNION	SCREW ADJUSTING EXTENSION TYPE
CURB STOPS (SPECIFY SIZE)	MUELLER FORD	300 BALL VALVE BALL VALVE
CORPORATION VALVE (SPECIFY SIZE)	MUELLER FORD	H–15000 FB600 (AWWA/CC THREAD)
MANHOLES/CATCHBASINS/INLETS IN OPEN AREAS AND PAVEMENT (SELF–SEALING LID WITH PROPER UTILITY MARKINGS)	NEENAH	
	CLOSED LID	R–1772
	OPEN LID *1 SWALES AND DITCHES	R–2502 C R–4340 B
MANHOLES/CATCH BASINS/INLETS IN COMBINATION CURB & GUTTER (BICYCLE SAFE)	NEENAH ROLL/MOUNTABLE CURB B6.12 CURB	R–3501–D2A R–3281A *–3281–AL
WATER SERVICE SADDLES (ALL SERVICE SADDLES SHALL BE DOUBLE STRAP; BRONZE, NYLON COATED OR STAINLESS STEEL)	MUELLER FORD SMITH–BLAIR 3/4'' & 1''	DR2S FS 303 # 317
B–BOX (AT LEAST 1 1/4'' TOP SECTION) ARCH PATTERN PLUG STYLE LID	FORD MUELLER	EA2 CURB BOX

*1 WHEREVER STORMWATER COULD POSSIBLY ENTER STORM STRUCTURE

06–01–15
MATERIAL STANDARDS
S–MS–MATERIALSTNDS

STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, LATEST EDITION.

41–2.01 PROTECTION OF WATER MAIN AND WATER SERVICE LINES

41–2.01A GENERAL

Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows:

41–2.01B HORIZONTAL SEPARATION – WATER MAINS AND SEWERS

(1.) Water mains shall be located at least ten (10) feet (3.1 m) horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.

(2.) Water mains may be located closer than ten (10) feet (3.1 m) to a sewer line when:

(a) local conditions prevent a lateral separation of ten (10) feet (3.1 m); and

(b) the water main invert is at least eighteen (18) inches (460 mm) above the crown of the sewer; and

(c) the water main is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.

(3.) When it is impossible to meet (1) or (2) above, both the water main and drain or sewer shall be constructed of slip–on or mechanical joint cast or ductile iron pipe, prestressed concrete pipe, or PVC pipe equivalent to water main standards of construction. The drain or sewer shall be pressure tested to the maximum expected surcharge head before backfilling. See Standard Drawing No. 18.

06–01–15
WATER AND SEWER SEPARATION REQUIREMENTS (HORIZONTAL SEPARATION)
S–WM–SEP–HORIZONTAL

STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, LATEST EDITION.

41–2.01C VERTICAL SEPARATION – WATER MAINS AND SEWERS

(1.) A water main shall be separated from a sewer so that its invert is a minimum of eighteen (18) inches (460mm) above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections. The vertical separation shall be maintained for that portion of the water main located within ten (10) feet (3.1m) horizontally of any sewer or drain crossed. A length of water main pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.

(2.) Both the water main and sewer shall be constructed of slip–on or mechanical joint cast or ductile iron pipe, prestressed concrete pipe, or PVC pipe equivalent to water main standards of construction when:

(a) it is impossible to obtain the proper vertical separation as described in (1) above; or

(b) the water main passes under a sewer or drain.

NOTES:

(1) CASING OF EITHER THE WATER MAIN OR SEWER PIPE IS ACCEPTABLE IN LIEU OF PLACING THE SEWER IN WATER MAIN EQUIVALENT PIPE.

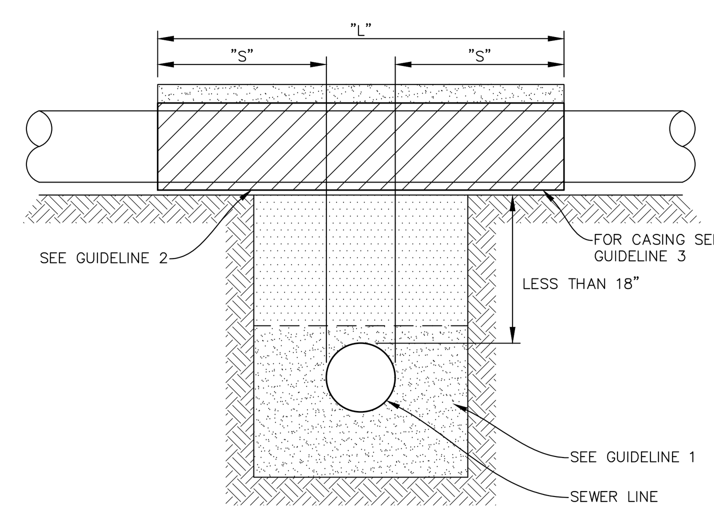
(2) THE STORM SEWER CAN BE CONSTRUCTED WITH REINFORCED CONCRETE PIPE USING FLEXIBLE GASKETS JOINTS, (ASTM C361 C443) INSTEAD OF CONSTRUCTING THE STORM SEWER WITH WATER MAIN EQUIVALENT PIPE OR CASING PIPE.

(3.) A vertical separation of eighteen (18) inches (460 mm) between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer. Support the sewer or drain lines to prevent settling and breaking the main, as shown on the Plans or as approved by the ENGINEER.

(4.) Construction shall extend on each side of the crossing until the perpendicular distance from the water main to the sewer or drain line is at least ten (10) feet (3.1 m) See Standard Drawings No. 19–23.

06–01–15
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S–WM–SEP–VERTICAL

WATER MAIN ABOVE SEWER LINE WITH LESS THAN 18" VERTICAL SEPARATION.



NOTE: "S" = THE LENGTH NECESSARY TO PROVIDE 10 FEET OF SEPARATION AS MEASURED PERPENDICULAR TO THE EXISTING SEWER LINE.

GUIDELINES:
1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING AND SEWER.

06–01–15
WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
S–WM–SEP–VERTICAL–4

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DRAWN BY | REVISIONS | DATE

PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: MH
DATE: 10–20–17
SCALE: N.T.S.

SHEET 7 OF 11
KREPTIL01

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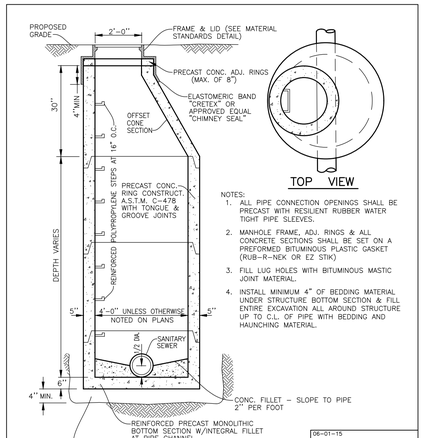
December 18, 2017 - 20:01 Dwg Name: P:\Kreptil01\dwg\Eng\Final Drawings\Plan Set\07-08-DETAILS.dwg Updated By: ZSteele

Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

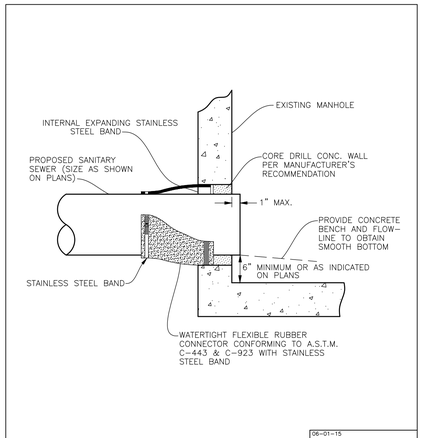


NOTES:
1. ALL PIPE CONNECTION OPENINGS SHALL BE PRECAST WITH RESILIENT RUBBER WATER TIGHT PIPE SLEEVES.
2. MANHOLE FRAME, ADJ. RINGS & ALL CONCRETE SECTIONS SHALL BE SET ON A PREFORMED BITUMINOUS PLASTIC GASKET (RUB-R-NEK OR EZ STIK)
3. FILL LUG HOLES WITH BITUMINOUS MASTIC JOINT MATERIAL.
4. INSTALL MINIMUM 4" OF BEDDING MATERIAL UNDER STRUCTURE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING AND HAUNCHING MATERIAL.

06-01-15

SANITARY MANHOLE DETAIL

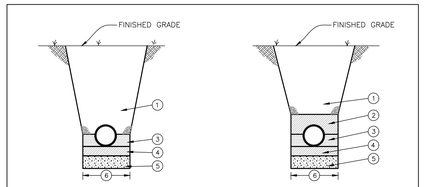
S-SAN-MANHOLE



06-01-15

PIPE TO EXISTING SANITARY MANHOLE CONNECTOR DETAIL

S-SAN-PIPE TO EX SMH

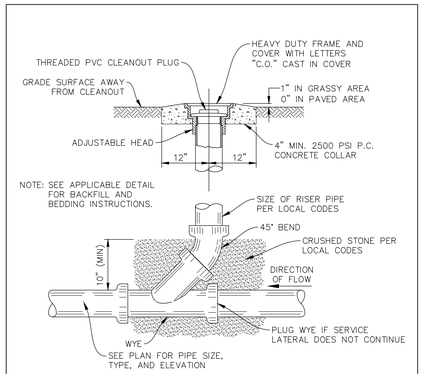


1. MECHANICALLY COMPACTED SELECTED GRANULAR BACKFILL IN 6 INCH LIFTS UNDER OR WITHIN 2 FEET OF ANY PAVEMENT, CURB & GUTTER OR SIDEWALK. MACHINE COMPACTION OF EXCAVATED MATERIAL IN OTHER LOCATIONS WHERE SUITABLE.
2. MECHANICALLY COMPACTED SELECTED GRANULAR BACKFILL IN 6 INCH LIFTS TO 12" ABOVE TOP OF PIPE.
3. RIGID PIPE:
   WELL-COMPACTED HAUNCHING MATERIAL PLACED IN MAXIMUM 6 INCH LIFTS TO SPRING LINE OF PIPE
   FLEXIBLE PIPE:
   WELL-COMPACTED HAUNCHING MATERIAL PLACED IN MAXIMUM 6 INCH LIFTS TO SPRING LINE OF PIPE.
4. 4" WELL-COMPACTED BEDDING MATERIAL
5. UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED WITH GRANULAR FOUNDATION MATERIAL WHERE SOIL CONDITIONS WARRANT
6. TRENCH WIDTH:
   TRENCH DEPTH OF 5 FEET AND LESS, WITHOUT PROTECTION
   OUTSIDE DIAMETER + 12 INCHES ON EACH SIDE OF THE PIPE.
   TRENCH DEPTH OF 5 FEET AND LESS, WITH PROTECTION
   OUTSIDE DIAMETER + 18 INCHES ON EACH SIDE OF THE PIPE.
   TRENCH DEPTH OF GREATER THAN 5 FEET
   OUTSIDE DIAMETER + 18 INCHES ON EACH SIDE OF THE PIPE.

06-01-15

PIPE INSTALLATION DETAIL

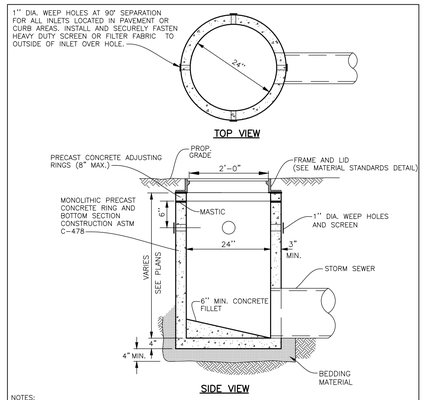
S-MS-PIPEINSTALL



06-01-15

SANITARY AND STORM PVC CLEANOUT DETAIL

S-SAN-ST-CLEANOUT

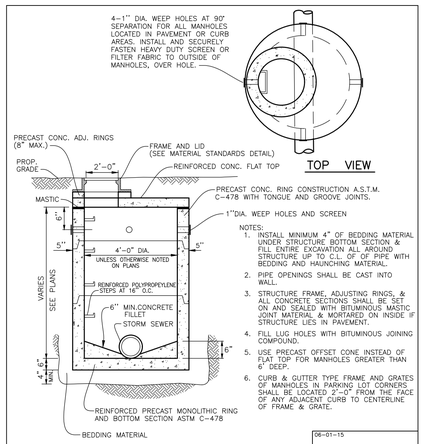


NOTES:
1. INSTALL MINIMUM 4" OF BEDDING MATERIAL UNDER STRUCTURE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING AND HAUNCHING MATERIAL.
2. PIPE OPENINGS SHALL BE CAST IN TO WALL.
3. STRUCTURE FRAME, ADJUSTING RINGS, AND ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL AND MORTARED ON INSIDE IF STRUCTURE LIES IN PAVEMENT.
4. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.
5. CURB & GUTTER TYPE FRAME AND GRATES OF INLETS IN PARKING LOT CORNERS SHALL BE LOCATED 2'-0" FROM THE FACE OF ADJACENT CURB TO CENTERLINE OF FRAME & GRATE.

06-01-15

INLET DETAIL

S-ST-INLET

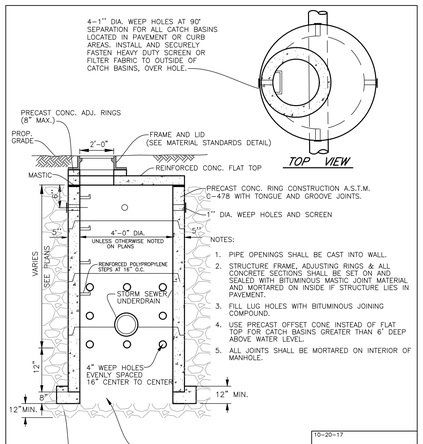


NOTES:
1. INSTALL MINIMUM 4" OF BEDDING MATERIAL UNDER STRUCTURE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING AND HAUNCHING MATERIAL.
2. PIPE OPENINGS SHALL BE CAST INTO WALL.
3. STRUCTURE FRAME, ADJUSTING RINGS, & ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL & MORTARED ON INSIDE IF STRUCTURE LIES IN PAVEMENT.
4. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.
5. USE PRECAST OFFSET CONE INSTEAD OF FLAT TOP FOR MANHOLES GREATER THAN 6' DEEP.
6. CURB & GUTTER TYPE FRAME AND GRATES OF MANHOLES IN PARKING LOT CORNERS SHALL BE LOCATED 2'-0" FROM THE FACE OF ANY ADJACENT CURB TO CENTERLINE OF FRAME & GRATE.

06-01-15

STORM MANHOLE DETAIL

S-ST-MANHOLE

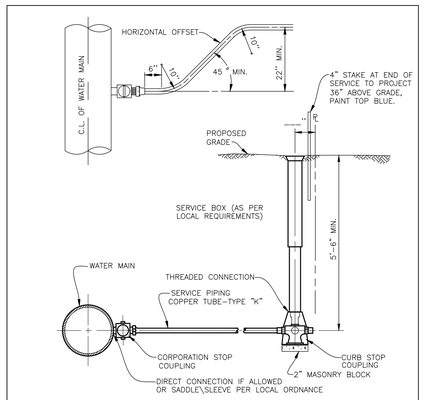


NOTES:
1. PIPE OPENINGS SHALL BE CAST INTO WALL.
2. STRUCTURE FRAME, ADJUSTING RINGS & ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL AND MORTARED ON INSIDE IF STRUCTURE LIES IN PAVEMENT.
3. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.
4. USE PRECAST OFFSET CONE INSTEAD OF FLAT TOP FOR CATCH BASINS GREATER THAN 6' DEEP ABOVE WATER LEVEL.
5. ALL JOINTS SHALL BE MORTARED ON INTERIOR OF MANHOLE.

10-20-17

CATCH BASIN DETAIL (4'-0" DIA.)

KREPTIL01

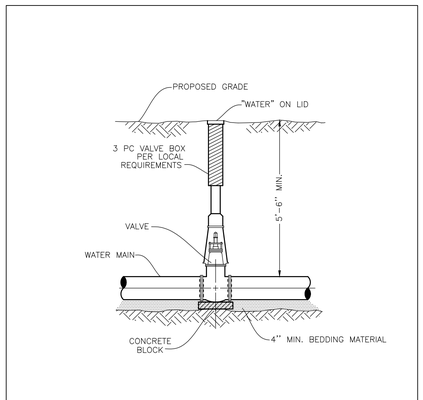


NOTES:
1. SERVICE PIPE TO BE WEAVED IN TRENCH TO ALLOW AT LEAST ONE (1) FOOT EXTRA LENGTH IN RUN TO BUILDING.
2. UPON COMPLETION OF WATER SERVICE CONSTRUCTION ALL BOXES ARE TO BE FULLY EXTENDED AND LEFT PROTRUDING ABOVE THE PROPOSED GRADE.
3. GRANULAR BACKFILL TO BE PLACED UNDER PAVEMENT AS SPECIFIED.

06-01-15

WATER SERVICE DETAIL

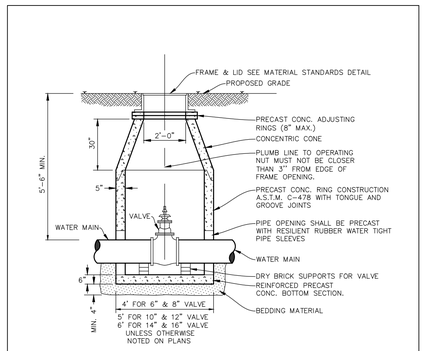
S-WM-SERVICE



06-01-15

VALVE BOX DETAIL

S-WM-VALVEBOX

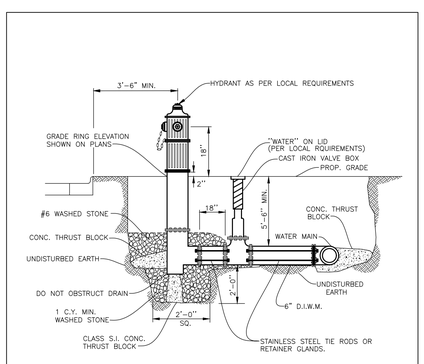


NOTES:
1. INSTALL MINIMUM 4" OF BEDDING MATERIAL UNDER STRUCTURE BOTTOM SECTION AND FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING AND HAUNCHING MATERIAL.
2. PIPE OPENINGS SHALL BE CAST INTO WALL WTH RESILIENT RUBBER WATER TIGHT PIPE SLEEVES.
3. STRUCTURE FRAME, ADJUSTING RINGS AND ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL.
4. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.

06-01-15

VALVE VAULT DETAIL

S-WM-VALVEVAULT

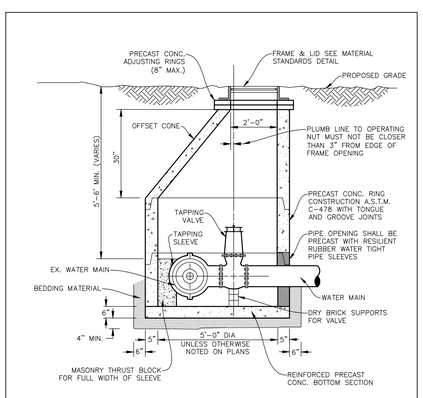


NOTES:
1. ALL HYDRANTS TO FACE STREET AND LOCATED MINIMUM 3'-6" FROM BACK OF CURB TO THE CENTERLINE OF HYDRANT.
2. HYDRANTS TO BE PAINTED IN ACCORDANCE WITH LOCAL REQUIREMENTS.

06-01-15

FIRE HYDRANT DETAIL

S-WM-HYDRANT

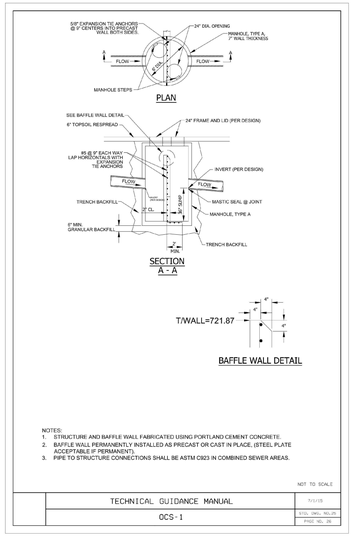


NOTES:
1. INSTALL MINIMUM 4" OF BEDDING MATERIAL UNDER STRUCTURE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING AND HAUNCHING MATERIAL.
2. PIPE OPENINGS SHALL BE CAST INTO WALL WTH RESILIENT RUBBER WATER TIGHT PIPE SLEEVES.
3. STRUCTURE FRAME, ADJUSTING RINGS, & ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL.
4. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.

06-01-15

PRESSURE CONNECTION VAULT DETAIL

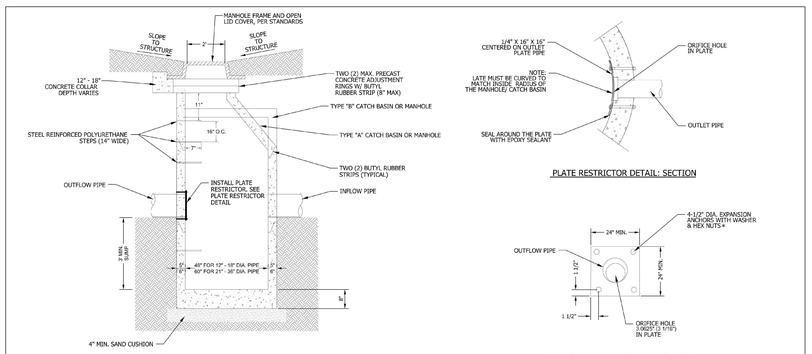
S-WM-PRESSURECONNECT-V.V.



NOTES:
1. STRUCTURE AND BAFFLE WALL FABRICATED USING PORTLAND CEMENT CONCRETE.
2. BAFFLE WALL PERMANENTLY INSTALLED AS PRECAST OR CAST IN PLACE. (STEEL PLATE ACCEPTABLE IF PERMANENT).
3. PIPE TO STRUCTURE CONNECTIONS SHALL BE ASTM C923 IN COMBINED SEWER AREAS.

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL	7/1/15
OCS-1	STD. DWG. NO.26 PAGE NO. 28



NOTES:
1. CATCH BASINS MUST CONFORM TO ASTM C-478.
2. CATCH BASIN SECTIONS TO BE TONGUE AND GROOVED.
3. NON-STICK GROUT OR CEMENT TO BE USED ON ALL PENETRATIONS INSIDE AND OUTSIDE OF STRUCTURE.
4. ALL PIPE PENETRATIONS TO BE CORED, RUBBER BOOTED AND INTERIOR GROUTED (NON-STICK) OR CEMENTED, ASTM C923 CONNECTORS IN COMBINED SEWER AREAS.

* ANCHORS SHALL BE TACK WELDED TO THE PLATE. ANCHOR EMBEDMENT SHALL BE 3" MIN.

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL	7/1/15
OCS-2	STD. DWG. NO.24 PAGE NO. 29

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: MH
DATE: 10-20-17
SCALE: N.T.S.

SHEET 8 OF 11
KREPTIL01

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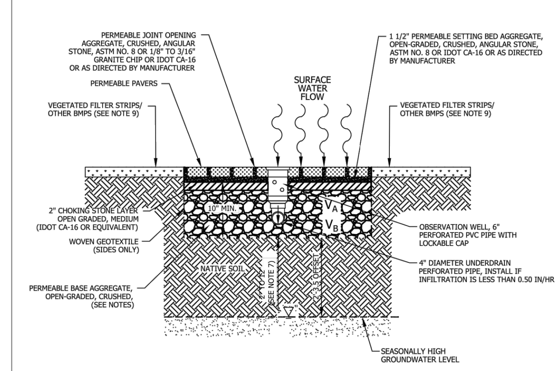
Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

December 18, 2017 - 10:01 Dwg Name: P:\Kreptil01\dwg\Eng\Final Drawings\Plan Set\07-08-DETAILS.dwg Updated By: ZSteele

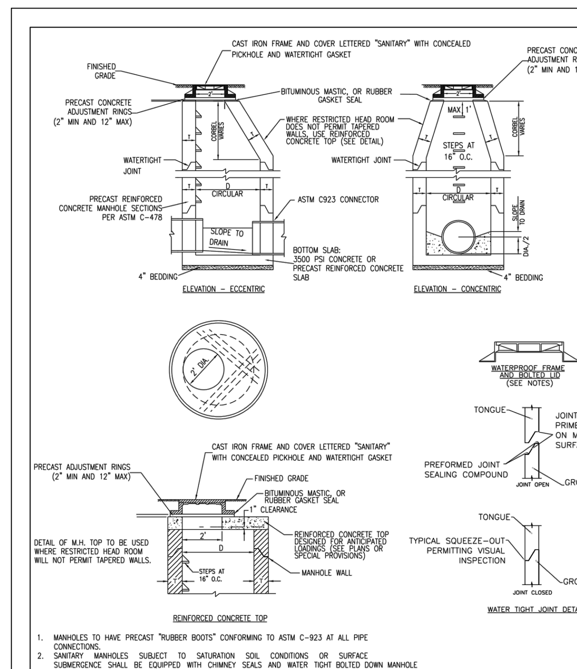


VOLUME TYPE	POROSITY	MEDIA VOLUME	STORAGE VOLUME	VOLUME PROVIDED
COARSE AGGREGATE (ABOVE INVERT)	0.36	V_A	0.50 X 0.36 x V_A	
COARSE AGGREGATE (BELOW INVERT)	0.36	V_B	0.36 x V_B	
			TOTAL	

NOTES:
1. OFFSET A MINIMUM OF 10 FEET FROM FOUNDATIONS UNLESS WATERPROOFED, 20 FEET FROM SANITARY SEWERS, 20 FEET FROM ROADWAY GRAVEL SHOULDER AND 100 FEET FROM POTABLE WATER WELLS OR SEPTIC TANKS.
2. AVOID INSTALLATION ON SLOPES GREATER THAN 15 TO 1 AND ABOVE COMPACTED FILL.
3. WOVEN GEOTEXTILE FABRIC SHALL MEET REQUIREMENTS OF IUM MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1, CLASS 1, WITH AN APPARENT OPENING SIZE OF 0.50 MM.
4. STONE STORAGE OPTIONS ARE CA-7, DISTRICT VULCAN MIX, OR APPROVED ALTERNATE. NO RECYCLED MATERIALS.
5. MINIMUM DISTANCE OF 2 FEET (3.5 FEET IN COMBINED SEWER AREAS) BETWEEN BOTTOM OF BMP AND SEASONALLY HIGH GROUNDWATER LEVEL.
6. UNDERDRAINS ARE REQUIRED IN TYPICAL CLAYEY SOILS WHERE INFILTRATION RATES ARE LESS THAN 0.5 INCH/HOUR. MAXIMUM OF 1 UNDERDRAIN PER 30 FEET. PROVIDE A SOIL REPORT DOCUMENTING NATIVE INFILTRATION RATE TO FOREGO UNDERDRAINS.
7. MINIMUM UNDERDRAIN BEDDING OF TWO INCHES, MAXIMUM OF 12 INCHES.
8. ONE OBSERVATION WELL REQUIRED PER 40,000 SQUARE FEET OF SURFACE AREA.
9. FOLLOW THE REQUIRED PRETREATMENT MEASURES LISTED ON THE VOLUME CONTROL PRETREATMENT MEASURES DETAIL (PAGE 17).
10. MAINTENANCE REQUIREMENTS INCLUDE ANNUAL VACUUMING AND LOW-PRESSURE POWER WASHING OF PAVEMENT SURFACE. ADJACENT VEGETATED AREAS SHALL BE WELL-MAINTAINED. BARE SPOTS AND ERODED AREAS SHALL BE REPLANTED AND STABILIZED IMMEDIATELY. DO NOT SEALCOAT.
11. APPROPRIATE SIGNAGE REQUIRED FOR FACILITY, REFER TO THE SIGNAGE FOR PERMEABLE PAVEMENT DETAIL (PAGE 17).

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 7/1/15
PERMEABLE PAVERS DETAIL — STD. DWG. NO.9 — PAGE NO. 10

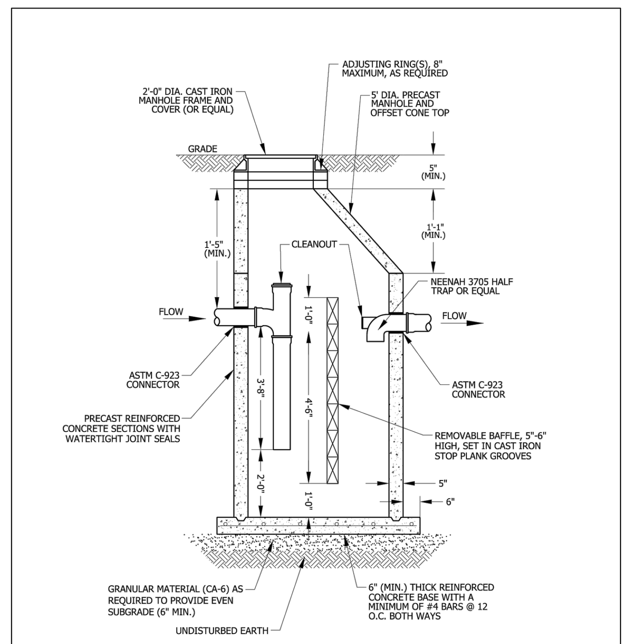


1. MANHOLES TO HAVE PRECAST "RUBBER BOOTS" CONFORMING TO ASTM C-923 AT ALL PIPE CONNECTIONS.
2. SANITARY MANHOLES SUBJECT TO SATURATION SOIL CONDITIONS OR SURFACE SUBMERGENCE SHALL BE EQUIPPED WITH CHIMNEY SEALS AND WATER TIGHT BOLTED DOWN MANHOLE COVERS.
3. MASTIC SEALANT OR RUBBER GASKET SEAL MUST BE APPLIED BETWEEN CONCRETE & FLANGE OF FRAME BEFORE LID BOLTS ARE TIGHTENED.
4. SAFETY LANDINGS REQUIRED FOR MANHOLES GREATER THAN 28 FEET DEPTH (RIM TO INVERT). MAXIMUM VERTICAL SPACING OF SAFETY LANDING IS 20 FEET.
5. FOR DROP CONNECTIONS, USE DROP CONNECTION MANHOLE DETAIL.
6. FOR ONLINE CONNECTIONS GREATER THAN 15 INCHES, USE DOGHOUSE MANHOLE DETAIL.

ALT MATERIALS FOR WALLS	D	T (MIN.)
PRECAST REINFORCED CONCRETE SECTION	4 FEET 5 FEET 6 FEET	4 IN 5 IN 6 IN
CAST-IN-PLACE CONCRETE	4 FEET 5 FEET 6 FEET	4 IN 5 IN 6 IN

NOT TO SCALE

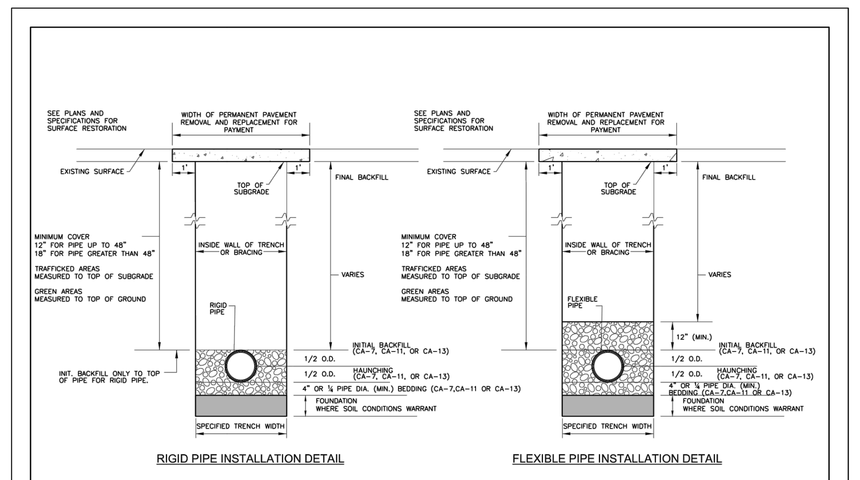
TECHNICAL GUIDANCE MANUAL — 7/1/15
TYPICAL SANITARY MANHOLE "A" AND "B" DETAIL — STD. DWG. NO.39 — PAGE NO. 40



NOTES:
1. IF RIM ELEVATION IS LOWER THAN FLOOD PROTECTION ELEVATION, A WATERTIGHT FRAME WITH BOLTED DOWN LID SHALL BE USED.
2. DISHWASHER DISCHARGE SHALL BYPASS GREASE BASIN.

NOT TO SCALE

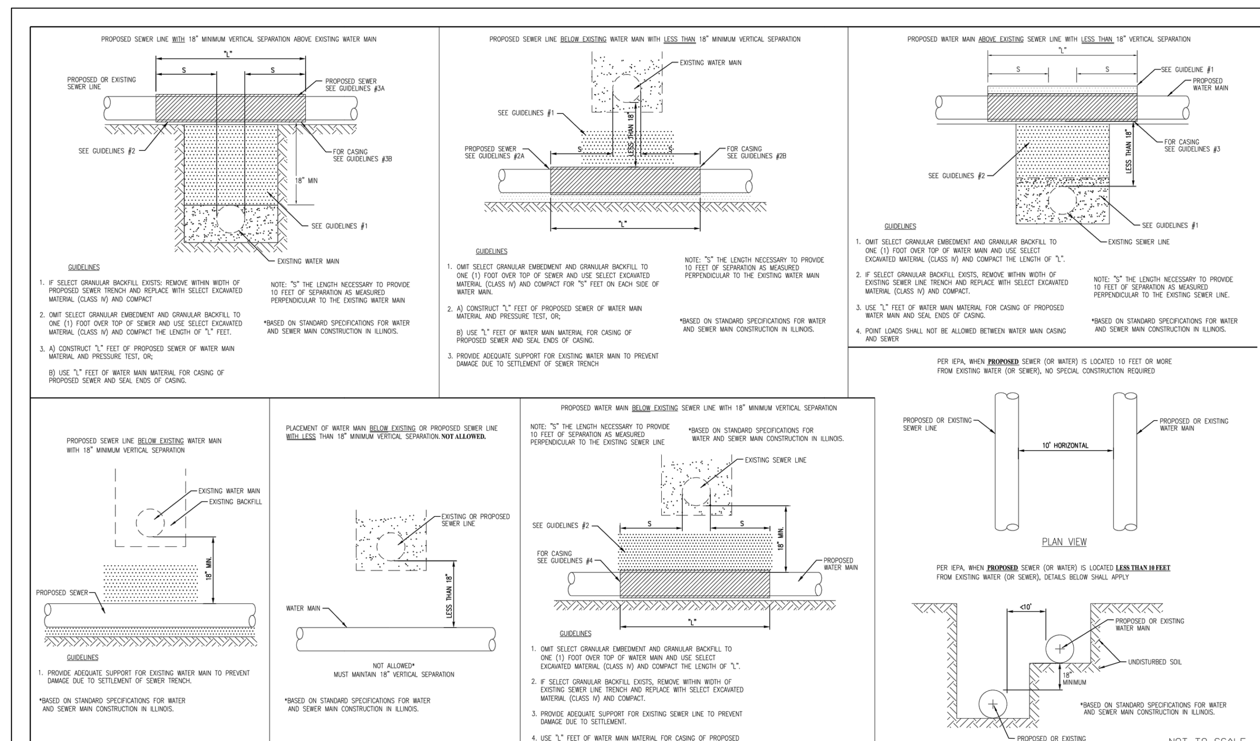
TECHNICAL GUIDANCE MANUAL — 7/1/15
SMALL GREASE BASIN (<500 GALLONS) — STD. DWG. NO.40 — PAGE NO. 41



NOTES:
1. FOR QUALIFIED SEWER CONSTRUCTION ONLY.
2. SHORING, OR EQUIVALENT PROTECTIVE SYSTEM, REQUIRED FOR TRENCHES OF 5' DEPTH OR GREATER, OR AS REQUIRED BY MUNICIPALITY.

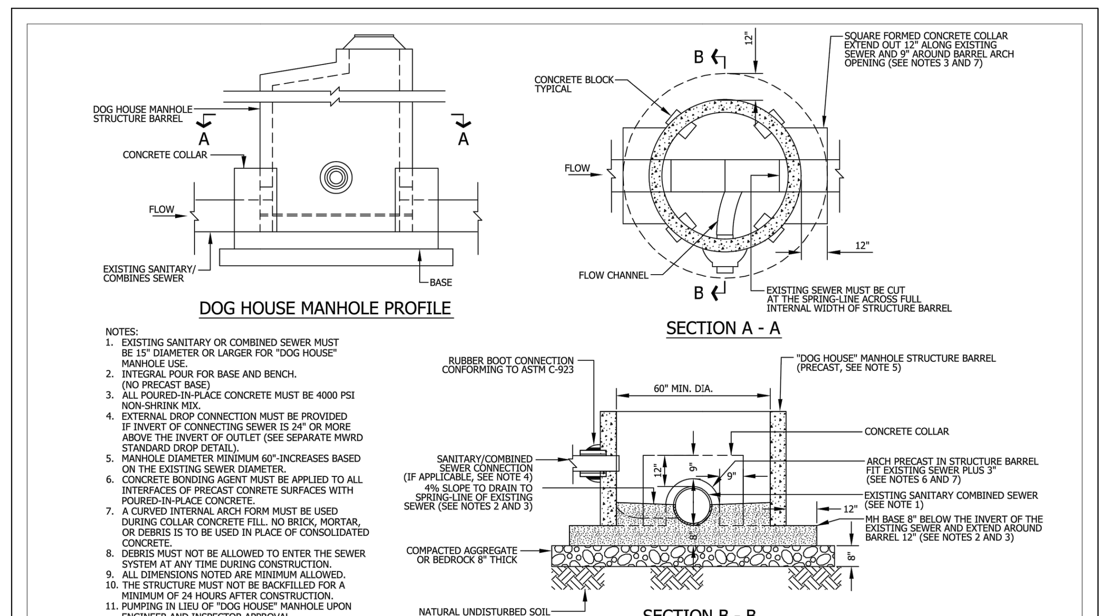
NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 7/1/15
RIGID AND FLEXIBLE PIPE INSTALLATION DETAIL — STD. DWG. NO. 34 — PAGE NO. 35



NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 7/1/15
WATER AND SEWER SEPARATION REQUIREMENTS (PER IEPA) — STD. DWG. NO. 41 — PAGE NO. 42



NOTES:
1. EXISTING SANITARY OR COMBINED SEWER MUST BE 15" DIAMETER OR LARGER FOR "DOG HOUSE" MANHOLE USE.
2. INTEGRAL POUR FOR BASE AND BENCH. (NO PRECAST BASE)
3. ALL POURED-IN-PLACE CONCRETE MUST BE 4000 PSI NON-SHRINK MIX.
4. EXTERNAL DROP CONNECTION MUST BE PROVIDED IF INVERT OF CONNECTING SEWER IS 24" OR MORE ABOVE THE INVERT OF OUTLET (SEE SEPARATE MWRD STANDARD DROP DETAIL).
5. MANHOLE DIAMETER MINIMUM 60"-INCREASES BASED ON THE EXISTING SEWER DIAMETER.
6. CONCRETE BONDING AGENT MUST BE APPLIED TO ALL INTERFACES OF PRECAST CONRETE SURFACES WITH POURED-IN-PLACE CONCRETE.
7. A CURVED INTERNAL ARCH FORM MUST BE USED DURING COLLAR CONCRETE FILL. NO BRICK, MORTAR, OR DEBRIS IS TO BE USED IN PLACE OF CONSOLIDATED CONCRETE.
8. DEBRIS MUST NOT BE ALLOWED TO ENTER THE SEWER SYSTEM AT ANY TIME DURING CONSTRUCTION.
9. ALL DIMENSIONS NOTED ARE MINIMUM ALLOWED.
10. THE STRUCTURE MUST NOT BE BACKFILLED FOR A MINIMUM OF 24 HOURS AFTER CONSTRUCTION.
11. PUMPING IN LIEU OF "DOG HOUSE" MANHOLE UPON ENGINEER AND INSPECTOR APPROVAL.

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 7/1/15
DOG HOUSE MANHOLE — STD. DWG. NO.32 — PAGE NO. 33

MWRD GENERAL NOTES

A. REFERENCED SPECIFICATIONS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:
   * STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   * STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   * VILLAGE OF __________ MUNICIPAL CODE;
   * THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;
   * IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

B. NOTIFICATIONS

1. THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-588-4055).
2. THE VILLAGE OF __________ ENGINEERING DEPARTMENT AND PUBLIC MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.
3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

C. GENERAL NOTES

1. ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR IS _________ FT.
2. MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.
3. THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD, THE MUNICIPALITY, OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.
5. THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.
6. ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
7. MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.
8. THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.
9. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.
10. RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.

D. SANITARY SEWER

1. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.
2. A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.
3. DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.
4. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).
5. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.
6. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.
7. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425
REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443
CAST IRON SOIL PIPE	ASTM A-74	ASTM C-564
DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11
POLYVINYL CHLORIDE (PVC) PIPE 6-INCH TO 15-INCH DIAMETER SDR 26 18-INCH TO 27-INCH DIAMETER F/DY=46	 ASTM D-3034 ASTM F-679	 ASTM D-3212 ASTM D-3212
HIGH DENSITY POLYETHYLENE (HDPE)	ASTM D-3350 ASTM D-3035	ASTM D-3261,F-2620 (HEAT FUSION) ASTM D-3212,F-477 (GASKETED)
WATER MAIN QUALITY PVC 4-INCH TO 36-INCH 4-INCH TO 12-INCH 14-INCH TO 48-INCH	 ASTM D-2241 AWWA C900 AWWA C905	 ASTM D-3139 ASTM D-3139 ASTM D-3139

THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS SUBJECT TO DISTRICT REVIEW AND APPROVAL PRIOR TO PERMIT ISSUANCE. A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT WHEN THE PIPE MATERIAL BELOW IS USED FOR SEWER CONSTRUCTION OR A CONNECTION IS MADE.

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
POLYPROPYLENE (PP) PIPE		
12-INCH TO 24-INCH DOUBLE WALL	ASTM F-2736	D-3212, F-477
30-INCH TO 60-INCH TRIPLE WALL	ASTM F-2764	D3212, F-477

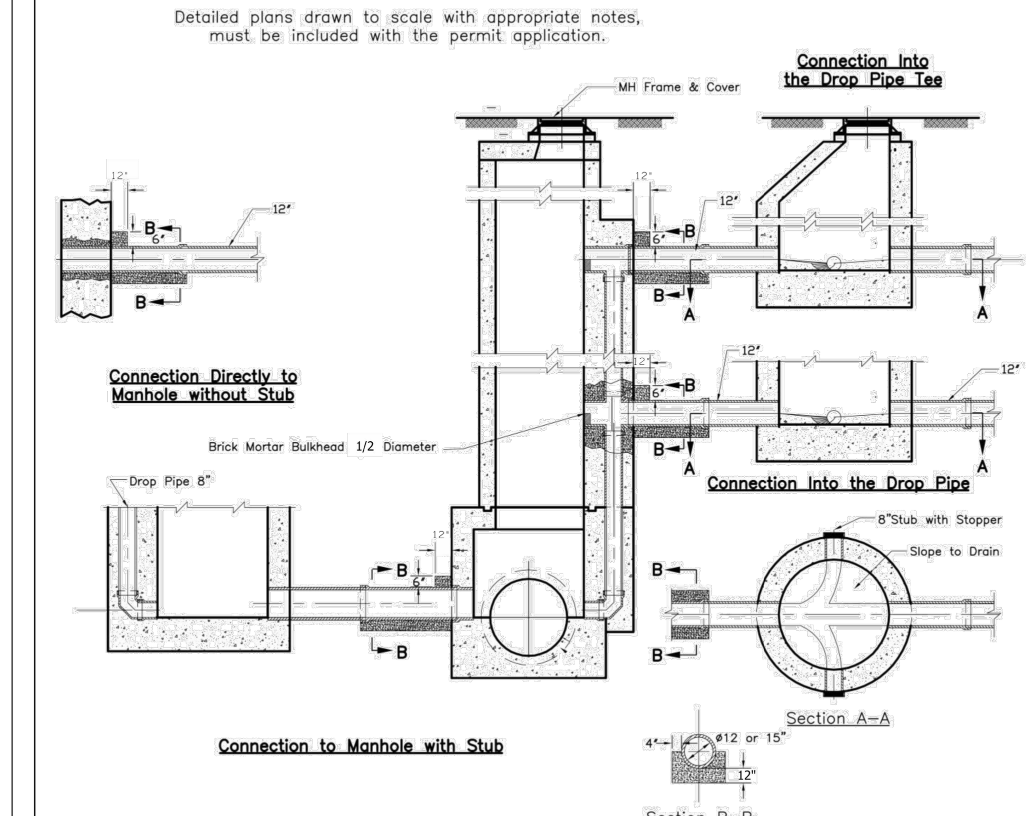
8. ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE ¼ " TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO ¼ THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-7, CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.
9. NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR PIPE MATERIALS.
10. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS. SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND WATERTIGHT GASKET WITH THE WORD "SANITARY" CAST INTO THE LID.
11. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
    a) A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SHEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.
    b) REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.
    c) WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.
12. WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMAINS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATER MAIN, THE SEWER SHALL BE CONSTRUCTED TO WATER MAIN STANDARDS OR IT SHALL BE ENCASED WITH A WATER MAIN QUALITY CARRIER PIPE WITH THE ENDS SEALED.
13. ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.
14. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.
15. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST "RUBBER BOOTS" THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.
16. ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.
17. EXCEPT FOR FOUNDATION/FOOTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED; AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.
18. A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTERS SHALL BE INSPECTED AND EXERCISED ANNUALLY BY THE PROPERTY OWNER TO ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCES SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.

E. EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
2. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.
3. ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.
4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
5. INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:
   a) UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.
   b) ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.
6. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.
7. A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
8. CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.
9. MORTAR WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ADDITION TO CONCRETE WASHOUT FACILITIES FOR ANY BRICK AND MORTAR BUILDING ENVELOPE CONSTRUCTION ACTIVITIES.
10. TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.
12. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.
13. ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).
14. VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
15. SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR THEIR BUFFERS.
16. EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.
17. STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.
18. THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCORPORATE THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER. DRAIN TILES ALLOWED IN COMBINED SEWER AREA FOR GREEN INFRASTRUCTURE PRACTICES.
19. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.
20. THE CONTRCTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMAINS AS WELL AS THEIR SERVICES AND OTHER APPURTENANCES. ANY TRENCH DEWATERING, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO A SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATERS SHALL NOT BE DISCHARGE TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.
21. ALL PERMANENT EROSION CONTROL PRACTICES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.
22. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PERIODS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.
23. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.
24. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWRD.

TECHNICAL GUIDANCE MANUAL — 07/12/2016
MWRD GENERAL NOTES — STD. DWG. NO.18 — PAGE NO. 19

Detailed plans drawn to scale with appropriate notes, must be included with the permit application.



NOTES:
1. A MANHOLE SHALL BE PROVIDED ON THE LOCAL SEWER ADJACENT TO THE DISTRICT MANHOLE AND WITHIN THE ROW PARALLEL TO THE DISTRICT INTERCEPTOR. CLEAR SPACE BETWEEN MANHOLES SHALL NOT BE LESS THAN 3 FEET AND MORE THAN 10 FEET. CONNECTIONS WILL NOT BE PERMITTED AT LOCATIONS WHERE EXISTING DISTRICT MANHOLES ARE NOT PROVIDED. MANHOLE SHALL HAVE A MINIMUM DIAMETER OF 48 INCHES. DROP MANHOLES SHALL BE PROVIDED WHERE NEEDED. TWO BULKHEADED STUBS OF MINIMUM 8- INCH DIAMETER SHALL BE PROVIDED.
2. CONNECTION SEWER SHALL BE EXTRA STRENGTH VITRIFIED CLAY PIPE OF THE SAME SIZE AS EXISTING TEE OR STUB. CONNECTION PIPE SHALL BE PROVIDED WITH CONCRETE COLLAR AT THE DISTRICT MANHOLE, AND A CONCRETE CRADLE FOR AT LEAST 1 ¼ PIPE LENGTH, AS SHOWN. STRUCTURAL GRADE CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI SHALL BE USED.
3. WHEN MAKING A CONNECTION TO A DISTRICT MANHOLE WHERE A STUB IS NOT PROVIDED, A HOLE SHALL BE CORE-DRILLED AT THE SPRINGLINE. HOLE DIAMETER SHALL BE NO MORE THAN ONE INCH LARGER THAN THE OUTSIDE DIAMETER OF CONNECTING PIPE. NON-SHRINK GROUT SHALL BE USED TO FILL ANNULAR SPACE BETWEEN PIPE AND HOLE.
4. FOR CONNECTIONS TO A DISTRICT DROP PIPE BELOW THE STUB, A VITRIFIED CLAY PIPE CROSS SHALL BE USED AND JOINED WITH EXISTING DROP PIPE, WITH PIPE STUBS AND COLLARS, TO FORM A WATERTIGHT JOINT. CONNECTION RUN OF CROSS SHALL BE NO MORE THAN TWO NOMINAL PIPE SIZES LARGER THAN DROP PIPE.
5. ANY DEBRIS ENTERING MANHOLE DURING CONSTRUCTION SHALL BE REMOVED IMMEDIATELY. ANY MANHOLE STEPS THAT ARE DAMAGES SHALL BE REPLACED.
6. ALL ELEVATIONS SHALL BE CLEARLY MARKED. "RECORD" ELEVATIONS OF DISTRICT FACILITIES MAY BE USED BUT FIELD SURVEY IS RECOMMENDED FOR CRITICAL ELEVATIONS.
7. DURING CONSTRUCTION OF PROPOSED CONNECTION, MANHOLE SHALL BE SUPPORTED ACCORDING TO DETAILS PREPARED, SIGNED, AND SEALED BY A LICENSED STRUCTURAL ENGINEER.
8. DOWELS SHALL BE USED TO CONNECT CONCRETE COLLAR AND CRADLE TO THE MANHOLE.
9. THESE CONNECTION DETAILS SHALL BE USED FOR SEWERS UP TO A 15-INCH DIAMETER. CONNECTION DETAILS FOR LARGER SEWERS SHALL BE PREPARED BASED ON SITE CONDITIONS AND CONFIGURATION OF EXISTING MANHOLE/STRUCTURE.

INSTRUCTIONS FOR USE:
1. SELECT THE METHOD OF CONNECTION.
2. PROVIDE ALL CRITICAL INVERT ELEVATIONS.
3. CROSS OUT ALL CONNECTION TYPES THAT ARE NOT APPLICABLE AND CLEARLY HIGHLIGHT STRUCTURE ON PLANS THAT REFER TO THIS DETAIL.

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 7/1/15
METHODS OF CONNECTING TO MWRD MANHOLES — STD. DWG. NO.37 — PAGE NO. 38

DATE	REVISIONS	DRAWN BY
12–20–17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

Manhard CONSULTING LTD
900 Woodlands Parkway, Vernon Hills, IL 60061 ph:847.634.5550 fx:847.634.0095 manhard.com
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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: ----
DATE: 10–20–17
SCALE: 1"=XX'

SHEET 9 OF 11

KREPTIL01

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December 18, 2017 - 20:01 Dwg Name: P:\Kreptil01\dwg\Eng\Final Drawings\Plan Set\07-08-DETAILS.dwg Updated By: ZSteele

Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

ADVANCED DRAINAGE SYSTEMS, INC.

Proposed Commercial Development (18" cover stone)

Palatine, IL

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.

   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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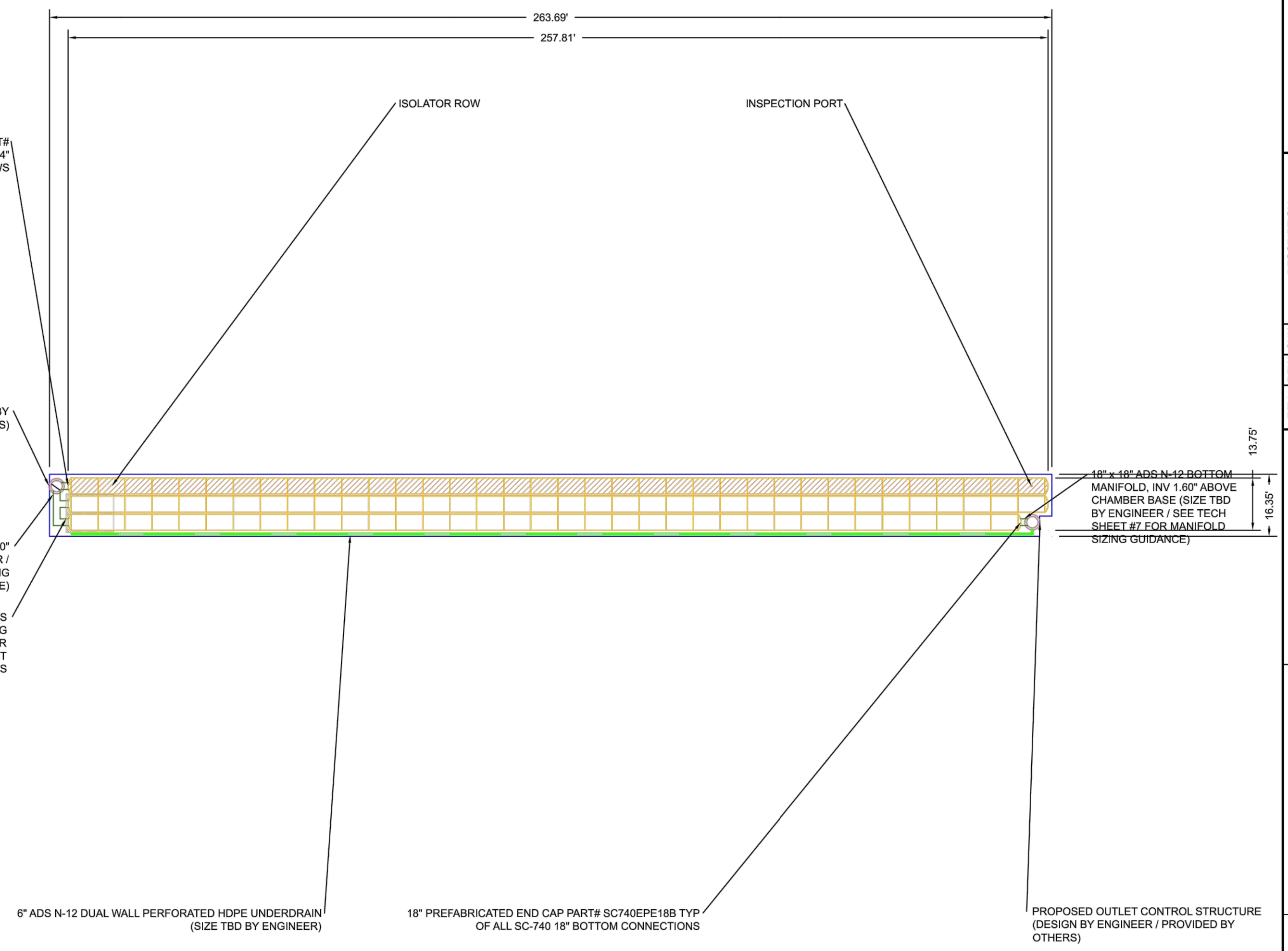
CONCEPTUAL LAYOUT

COMPUTER GENERATED CONCEPTUAL LAYOUT - NOT FOR CONSTRUCTION

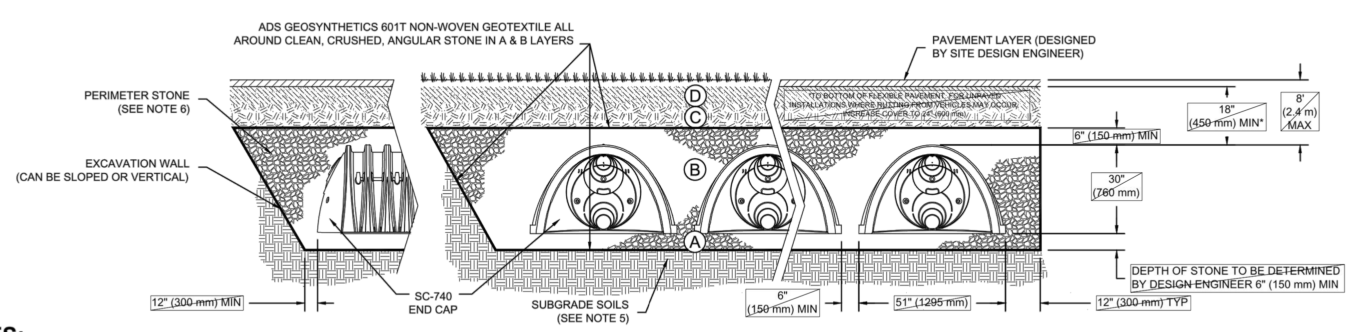
(107) STORMTECH SC-740 CHAMBERS
(6) STORMTECH SC-740 END CAPS
INSTALLED WITH 18 " COVER STONE, 6 " BASE STONE, 36% STONE VOID
INSTALLED SYSTEM VOLUME: 10103 CF
AREA OF SYSTEM: 4294 **FT²**
PERIMETER OF SYSTEM: 560 **FT**



ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

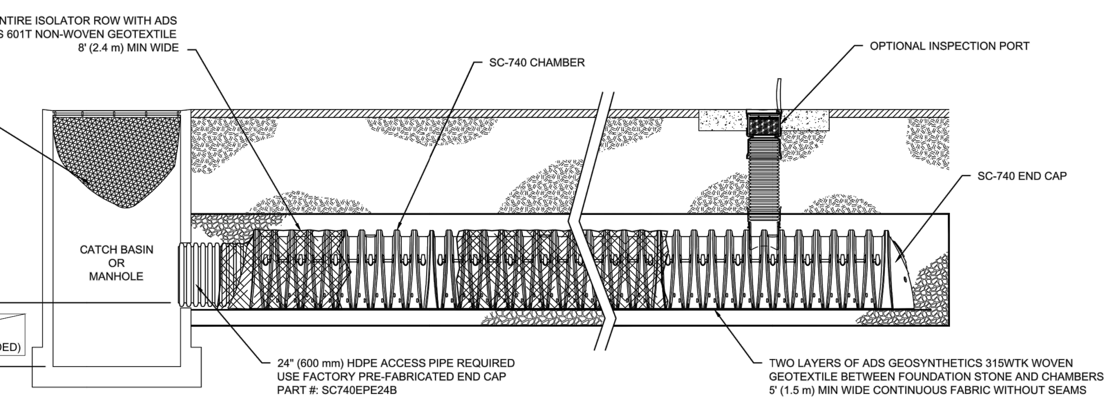
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



SC-740 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

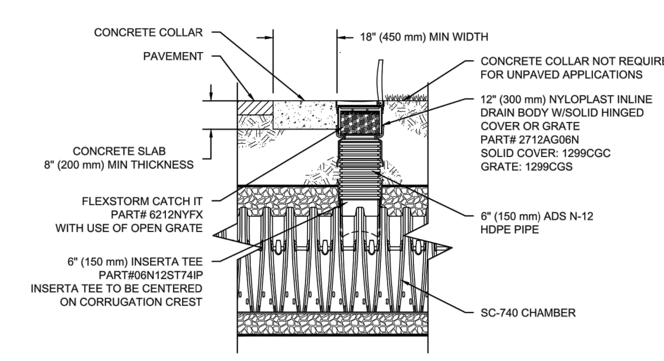
STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

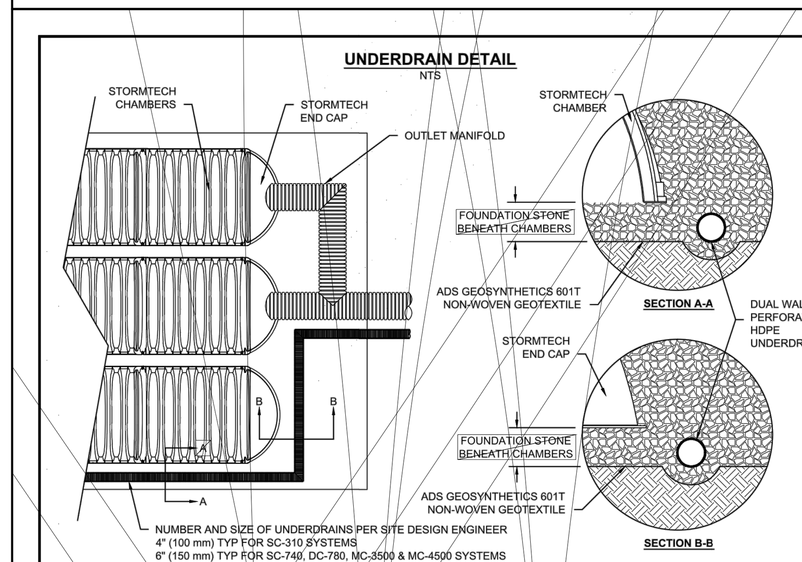
STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

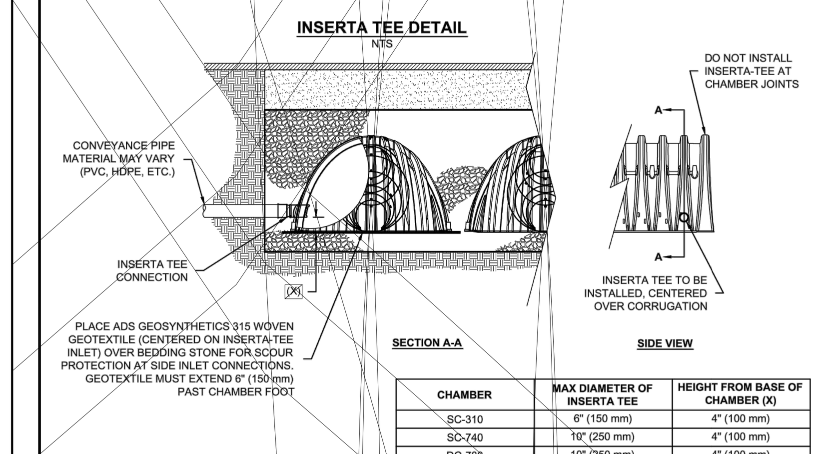
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



SC-740 6" INSPECTION PORT DETAIL
NTS



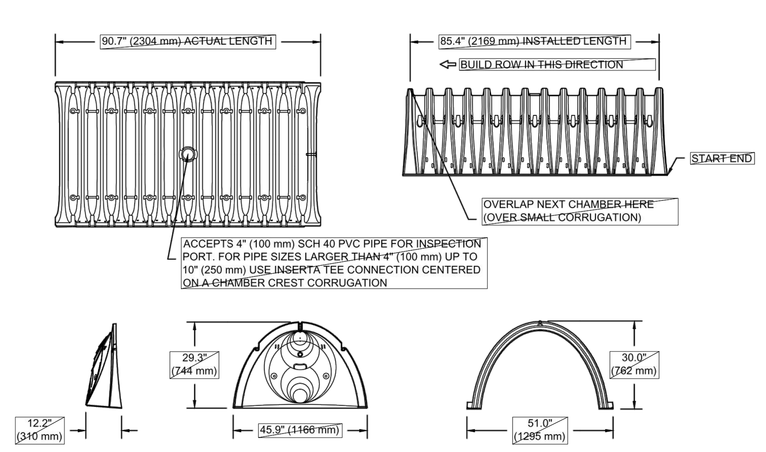


CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

SC-740 TECHNICAL SPECIFICATION

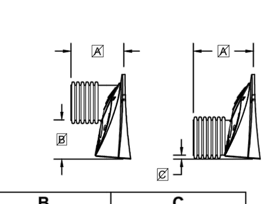
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

Title block (sheets 2–5): Proposed Commercial Development (18" cover stone), Palatine, IL | DATE: 11/14/2017 | DRAWN: DW | PROJECT #: Tool | CHECKED: --- | REV | DRW | CHK | DESCRIPTION

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473
StormTech Detention•Retention•Water Quality 70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067 860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

NOT TO SCALE

SHEET 2 OF 5 · SHEET 3 OF 5 · SHEET 4 OF 5 · SHEET 5 OF 5

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER PLANNING DEPARTMENT REVIEW	ZRS

Manhard CONSULTING LTD
900 Woodlands Parkway, Vernon Hills, IL 60061 ph:847.634.5550 fx:847.634.0095 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: ----
DATE: 10-20-17
SCALE: 1"=XX'

SHEET 10 OF 11
KREPTIL01

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December 18, 2017 - 20:01 Dwg Name: P:\Kreptil01\dwg\Eng\Final Drawings\Plan Set\07-08-DETAILS.dwg Updated By: ZSteele

Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

06-01-16

MANHARD CONSULTING, LTD.
STANDARD SPECIFICATIONS

GENERAL CONDITIONS CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS

a. "CLIENT" shall mean KEELER REAL ESTATE, LLC, which is the person or entity with whom Manhard Consulting, Ltd. has contracted with to prepare Civil Engineering PLANS and SPECIFICATIONS.
b. "ENGINEER" shall mean Manhard Consulting, Ltd., a Civil Engineering consultant on the subject project.
c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.
d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.
e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, class or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS

a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.
b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.
c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER's attention shall be called to the same before the work is begun thereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES

All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR's responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

UNSUITABLE SOILS

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances where in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT's construction representative, all existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

UTILITY POLES

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR's trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR's duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR's or the general public's safety in, on, or near the construction site.

HOLD HARMLESS

To the fullest extent permitted by law, any CONTRACTOR; material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any hoist, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any part or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs or travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

INSURANCE

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds under such insurance policy; provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER's other applicable coverage is considered secondary. Such insurance shall not limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY

Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

Note: These Specifications are for Northern Illinois.

DETAILED SPECIFICATIONS

I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site roads, parking lots or sidewalks shall be filled with a flowable backfill and end plugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, flumes, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local requirements. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company.

CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fire access lanes within the project area shall remain in service, clean of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provide.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate/phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

Voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings.

Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations.

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation.

The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features.

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly.

The parking lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

II. EARTHWORK

STANDARDS

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

SOIL BORING DATA

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction to tolerances and construction methods that are beyond the control of the ENGINEER.

CLEARING, GRUBBING AND TREE REMOVAL

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

TOPSOIL STRIPPING

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPREAD

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of four inches (4") of topsoil shall be respread over all unpaved areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

SEEDING

Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

SODDING

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

EXCAVATION AND EMBANKMENT

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any undercutting that may be required).

Type Material	Percent Compaction Standard	Pavement & Floor Slabs	Grass Areas
Sandy Soils	Modified Proctor	95%	90%
Clayey Soils	Standard Proctor	95%	90%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

1. Any soil whose optimum moisture content exceeds 25%.
2. Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
3. Any soil whose silt content exceeds 60% by weight.
4. Any soil whose maximum density is less than 100 pounds per cubic foot.
5. Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed ½ inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

EROSION CONTROL

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

UNDERCUTTING DURING EARTHWORK

If the subgrade cannot be dried adequately by discing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

MISCELLANEOUS CONTRACT ITEMS

The following items may be required at the CLIENT's option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

(1) **GEOTEXTILE FABRIC**

Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

(2) **EROSION CONTROL BLANKET**

Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Illinois Urban Manual and/or the details shown on the PLANS.

III. UNDERGROUND IMPROVEMENTS

A. GENERAL

STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASIN, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C-478. All joints between sections and frames (except sanitary manholes, see Section IIIB Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and butter joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used, and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous ½" steel reinforcement as manufactured by MA Industries, or approved equal.

AUGER/BORING AND CASING

Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement.

AUGER (OPEN BORE)

The CONTRACTOR shall auger (open bore) where noted on PLANS.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS

Structures shall be adjusted to the finished grade as shown on PLANS.

B. SANITARY SEWERS AND APPURTENANCES

SANITARY SEWER PIPE

Sanitary sewer pipe including building services, shall conform to the following:

(1) Polyvinyl Chloride (PVC) Sewer Pipe shall conform to ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 48-inch) minimum SDR 26 with flexible elastomeric seal gasket gasketed joints conforming to ASTM D3212 and F477.

(2) Ductile Iron Sewer Pipe shall conform with ANSI/AWWA C151/A21.51 Class 50, cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

*Extra Strength Clay Sewer Pipe- INTENTIONALLY DELETED

Sanitary sewers shall include bedding and backfilling.

MANHOLES

Manholes shall be constructed in conformance with Section IIIA Manholes, etc. above. The concrete base and bottom section shall be constructed of precast reinforced concrete monolithically cast sections including benches, pipe connection and invert flow lines. Manhole frame and lids shall be Neenah R-1772 or approved equal, with lids imprinted "SANITARY", with recessed pick holes. Manhole joints between adjustment rings and frames and between manhole sections shall be set on preformed plastic gasket consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler to provide a water tight seal. All pipe connection openings shall be precast with resilient rubber watertight pipe sleeves. A 10" elastomeric band (chimney seal) shall be installed extending from the manhole top to the manhole frame as shown on detail. Manholes shall include steps, frame & grate, bedding, and trench backfill.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TESTING

Sanitary sewers shall be air tested and tested for deflection in accordance with the requirements of Section 31-1.12 "TESTING AND INSPECTION FOR ACCEPTANCE OF SANITARY SEWERS" of the Standard Specifications for Water and Sewer Construction in Illinois or the JURISDICTIONAL GOVERNING ENTITY, whichever is more restrictive. In addition, a televised inspection of the completed sanitary sewers shall be conducted and a copy of the videotape and report furnished to the JURISDICTIONAL GOVERNING ENTITY.

All sanitary manholes are to be tested for water tightness in accordance with ASTM C969 "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines", or ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test".

SERVICES

A wye branch or "tee" and sanitary service line, properly plugged and sealed shall be constructed as shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted red. The CONTRACTOR shall keep accurate records of all Wye or Tee locations as measured from the downstream manhole as well as the service lengths and furnish same to CLIENT.

RISERS

Risers shall be constructed in locations as shown on the PLANS and according to the detail.

DROP MANHOLE CONNECTIONS

Drop manhole connections to existing manholes shall be constructed according to the PLANS and the detail.

***SANITARY SEWER FORCE MAIN** -INTENTIONALLY DELETED

TELEVISION INSPECTION

Upon completion of construction a television inspection of the sanitary sewer system shall be performed on all portions of the sewer if required by the JURISDICTIONAL GOVERNING ENTITY. Videotapes and written report of all television inspections shall be provided to the CLIENT. The form of report and type and format of the videotape shall be approved by the JURISDICTIONAL GOVERNING ENTITY.

All sewers and appurtenances shall be cleaned prior to inspection and testing required by this section.

All defects and corrective work required as the result of television inspection shall be performed by the CONTRACTOR without delay. All dips, cracks, leaks, improperly sealed joints and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted by the CLIENT.

MISCELLANEOUS

All floor drains shall be connected to the sanitary sewer.

C. WATER MAINS AND APPURTENANCES

WATER MAIN PIPE (3" AND LARGER)

Water main pipe shall conform to the following:

(1) Ductile iron pipe shall be per ANSI/AWWA C151/A21.51, Thickness Class 52, minimum 150 psi working pressure, cement lined in accordance with ANSI/AWWA C104/A21.4, with "push on" type joints.(2)

(2) Polyvinyl Chloride Pipe (PVC) conforming to the latest revision of ANSI/AWWA C900 (4-inch thru 12-inch) or ANSI/AWWA C905 (14-inch thru 48-inch) with a pressure rating of 235 psi, SDR 18 in accordance with ASTM D2241. Joints shall be pressure rated in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477.

Installation shall be in accordance with ANSI/AWWA C600 (Ductile Iron) or ANSI/AWWA C605 (PVC). All water main shall have mechanical joint cast iron or ductile iron fittings in accordance with ANSI/AWWA C110/A21.10 or compact ductile iron fittings in accordance with ANSI/AWWA C153/A21.53 with 250 psi working pressure.

Poured or monolithic concrete thrust blocks are required to brace all tees, plugs, caps, and bends of 11 1/4 degree deflection or greater. Minimum cover for all water mains, including services, shall be 5'-6" from the finished grade. Water main shall include bedding and backfilling.

WATER VALVES

All valves shall be resilient wedge gate valves conforming to the latest revision of ANSI/AWWA C515, with a rated working pressure of 200 psi in accordance with JURISDICTIONAL GOVERNING ENTITY requirements, except that butterfly valves conforming to ANSI/AWWA C504 shall be constructed on all water mains 16" diameter and larger. Valves shall be non-rising stem and shall close by turning clockwise.

VALVE VAULTS

Valve vaults shall be constructed in conformance with Section IIIA Manholes, etc. above. Frame and lids shall be as approved by the JURISDICTIONAL GOVERNING ENTITY and shall be imprinted "WATER".

VALVE BOXES

Valve boxes shall be constructed in conformance with the standard detail. Valve boxes shall be cast iron extension screw type having lids imprinted with the letters "WATER".

FIRE HYDRANTS

Fire Hydrants shall be per JURISDICTIONAL GOVERNING ENTITY requirements. All fire hydrants shall be located as shown on the PLANS and shall be painted in a manner acceptable to the JURISDICTIONAL GOVERNING ENTITY after installation and shall be adjusted to final grade.

TAP, STOPS AND BOX

The CONTRACTOR shall determine from the JURISDICTIONAL GOVERNING ENTITY as to the exact style, type, and manufacture of corporation stops, ground key stops and services boxes preferred by the JURISDICTIONAL GOVERNING ENTITY and shall furnish same.

SMALL WATER SERVICES (2" DIAMETER OR LESS)

Water services shall be type K copper size as shown on PLANS, and constructed where shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted blue. The CONTRACTOR shall keep accurate records of tap locations and service box locations, as well as the service lengths and furnish same to CLIENT. Water services shall include bedding and backfilling.

DISINFECTION

Disinfections shall meet all of the requirements of the State of Illinois, Environmental Protection Agency, Public Water Supplies Division. The safe quality of the water supply shall be demonstrated by bacteriological analysis of samples collected at sampling taps on at least two consecutive days following disinfection of the mains and copies of the said report submitted to the JURISDICTIONAL GOVERNING ENTITY and the CLIENT.

PRESSURE TEST

Allowable leakage, test pressure and duration shall be as per the requirements of the JURISDICTIONAL GOVERNING ENTITY.

PRESSURE CONNECTION TO EXISTING WATER MAIN

The CONTRACTOR shall maintain system pressure on existing water main at all times. Existing water main shall be located and material excavated, and valve basin slab and main supports installed. The existing water main shall be cleaned and the exterior disinfected prior to installing the tapping tee (material to conform to AWWA C110). The tapping valve shall be installed (valve to conform to AWWA C500) and the pressure tap completed in accordance with the detail on the plans. Valve shall be constructed in conformance with the detail. Payment for pressure connection to existing water main shall include disinfection, tapping valve and tee, valve vault, frame and lid, bedding, and trench backfill.

DRY CONNECTION TO EXISTING WATER MAIN

A dry connection to existing water main shall include a connection to an existing water main stub where shown on the PLANS. The CONTRACTOR shall obtain approval of the JURISDICTIONAL GOVERNING ENTITY to shut down any main, including submittal of a schedule of the time of shut off and the time the line will be returned to service. All mains shut down that are opened to atmosphere must be disinfected prior to returning main into service.

POLYETHYLENE TUBE (FOR DUCTILE IRON WATER MAIN ONLY)

The CLIENT, or JURISDICTIONAL GOVERNING ENTITY may request that portions of the water main be enclosed in a polyethylene tube in accordance with ANSI/AWWA C105/A21.5 should soil conditions so warrant its use.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

***TRACER WIRE- INTENTIONALLY DELETED**

D. STORM SEWERS AND APPURTENANCES

STORM SEWER PIPE

Storm sewer pipe shall conform to the following:

(1) Reinforced concrete pipe minimum Class IV in conformance with the latest revision of ASTM designation C76 with C361 or C443 flexible gasket joints, except that bituminous mastic joints may be used in grass areas.

(2) Polyvinyl Chloride (PVC) Pipe: ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 36-inch), rated SDR 35, continually marked with manufacturer's name, pipe size, cell classification, SDR rating. Joints shall be flexible elastomeric seals conforming to ASTM D3212.

(3) Ductile Iron Pipe (DIP) shall conform to ANSI/AWWA C151/21.5, Class 50 cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

(4) Spiral Rib Metal Pipe Type 1R: 18-inch diameter and greater. Pipe ends shall be re-corrugated and installed with semi-corrugated Hugger type brands and "O" ring gaskets. (Only permitted with Municipality approval and/or when specifically indicated on PLANS).

(5) High Density Polyethylene Pipe (HDPE) Smooth Interior, AASHTO Designation M252 and M294, maximum diameter of 48 inches. Pipe joints and fittings shall be watertight gasketed joints. No band seals will be allowed. (Only permitted with Municipality Approval and/or when specifically indicated on PLANS).

(6) Polyvinyl Chloride (PVC) large diameter closed profile gravity sewer pipe, UNI-B-9: ASTM F794. (Only permitted with Municipality Approval and/or when specifically indicated on PLANS).

(7) Corrugated Steel (Metal) Pipe (CSP or CMP), ASTM A760, 16 gauge unless noted on PLANS. Corrugated steel pipe may be round pipe, arch pipe, or slotted drainpipe as indicated on PLANS. Slotted drainpipe shall have 1.75 inches wide drain waterway openings and 6 inches minimum height drain guide. (Only permitted with Municipality approval and/or when specifically indicated on PLANS).

Precast tees, bends, and manholes may be used if permitted by the JURISDICTIONAL GOVERNMENTAL ENTITY.

Storm sewers may be constructed with reinforced concrete pipe using only flexible gasket joints (ASTM 361 or 443) for water main crossings.

Storm sewer shall include bedding and trench backfill.

MANHOLES, INLETS & CATCH BASINS

Manholes, Inlets and Catch Basins shall be constructed in conformance with Section IIIA Manholes, etc. above. The space between connecting pipes and the wall of the manhole shall be completely filled with non-shrink hydraulic cement mortar. Frames and lids shall be Neenah or approved equal unless specified otherwise on the PLANS. All frames and grates shall be provided such that the flange fully covers the opening plus 2" of the structure as a minimum.
* Provide **"Vane"** Type frame & grate for all structures located in curb where gradient exceed 2.0%. Manholes shall include steps, frame & grate, bedding and trench backfill.

***FLARED END SECTION** - INTENTIONALLY DELTED

***RIP RAP** - INTENTIONALLY DELTED

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

UNDERDRAINS

Pipe underdrains shall be corrugated flexible plastic pipe conforming to AASHTO Designation M252 perforated corrugated polyethylene pipe (PE) with a smooth interior of the diameter indicated on the PLANS and wrapped in a soil filter fabric supplied and installed by the CONTRACTOR. Perforations may be circular or slotted, but shall provide a minimum of 1.0 in2/ft of inlet area. CONTRACTOR shall submit fabric and pipe catalogue Specifications for approval by the CLIENT. CONTRACTOR shall bed and backfill the underdrain in one of the following IDOT gradations of aggregate (CA-5, CA-7, CA-11, CA-14 or CA-15).

MISCELLANEOUS

(1) All existing field drainage tile or storm sewers encountered or damaged during construction shall either be restored to their original condition, properly rerouted and/or connected to the storm sewer system.

(2) Footing drains shall be connected to sump pumps or discharged directly into storm sewers. Footing drains or drainage tile shall not be connected to the sanitary sewer.

CONNECTION FOR STORM SERVICE TO STORM MAIN

Connections of storm sewer services to storm sewer mains should be made with manufactured tees when available. Availability of manufactured tees will be a function of the storm sewer material and pipe diameter size of the service sewer and main. If manufactured tees are not reasonably available, connections should be made in accordance with manufacturer's recommendations for all storm sewer other than concrete pipe. For concrete pipe connections without manufactured tees the storm sewer main shall be machine cored and the service sewer connected using non-shrink grout for the void between pipes. The service sewer shall be cut flush with the inside wall of the sewer main and not extend into the inside flow area of the main or otherwise impede flow.

IV. ROADWAY AND PARKING LOT IMPROVEMENTS

STANDARDS

Work shall be completed in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition (hereinafter referred to collectively as the "Standard Specifications") except as modified below and except that payment will be defined as detailed in the contract documents between the CLIENT and the CONTRACTOR. Supplementing the Standard Specifications shall be the applicable sections of the latest editions of the "Supplemental Specifications and Recurring Special Provisions", the "Manual on Uniform Traffic Control Devices for Streets and Highways" and the Illinois Supplement thereto, (hereinafter referred to collectively as the "MUTCD"). Any references to "ENGINEER" in the "Standard Specifications" shall be interpreted as the CLIENT or CLIENT's Construction Representative.

SUBGRADE PREPARATION

The CONTRACTOR shall be responsible for all subgrade compaction and preparation to the lines and grades shown on the plans.

AGGREGATE BASE COURSE TYPE 'B'

Aggregate Base Course Type B shall be limited to CA-6 or CA-10 gradation. Aggregate base courses shall be proof rolled as outlined below.

PROOF ROLL

The CONTRACTOR shall proof roll the subgrade with either a 2-axle truck loaded to 27,000 lbs. Or a 3-axle truck loaded to 45,000 lbs. or as specified by the JURISDICTIONAL GOVERNING ENTITY. The CLIENT and JURISDICTIONAL GOVERNING ENTITY shall observe and approve the proof rolling of the subgrade and the base course. Proof rolling tolerances shall be a maximum deflection of 1" for the subgrade and ½" for the base course. The above criteria is intended as a maximum deflection standard and that proof rolling of a majority of the area will have less deflection than specified above. In any case of deficiency, the subgrade and/or base course shall be repaired and retested before proceeding with the pavement construction.

Pavement subgrade material shall not be removed, placed or disturbed after proof roll testing has been completed prior to the pavement construction. Additional testing will be required if the pavement subgrade is disturbed and/or material is removed from or placed on the pavement subgrade after proof rolling approval.

Trucks or heavy equipment shall not travel on any pavement subgrade after final testing prior to pavement construction.

HOT-MIX ASPHALT BASE COURSE

HMA Base Course shall meet the requirements of IDOT or N50 mix design as indicated and shown on the plans. The maximum amount of recycled asphalt pavement allowed shall be 30% in a N30 mix design and 25% in a N50 mix design.

HOT-MIX ASPHALT BINDER AND SURFACE COURSE

HMA binder and surface courses, shall be constructed to the compacted thickness as shown on the PLANS. The base course shall be cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. The surface course shall be placed after the base and courses have gone through one winter season, or as directed by the CLIENT. Before applying the surface course, the binder course shall be thoroughly cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. Prior to the placement of the surface course, the JURISDICTIONAL GOVERNING ENTITY shall examine the completed pavement, including curb and gutter, and all failures shall be corrected by the CONTRACTOR.

CONCRETE PAVEMENTS

Concrete pavements shall be constructed in accordance with American Concrete Institute Standard ACI330R-08 and as shown on the PLANS.

Slabs and driveway aprons shall be constructed with 6" x 6" - W1.4 x W1.4 welded wire fabric positioned on steel chair supports. Placing fabric during the concrete pouring operation will not be allowed.

Sawing of joints shall commence as soon as the concrete has cured and hardened sufficiently to permit sawing without excessive raveling, but no later than eight hours after the concrete has been placed. All joints shall be sawed to a depth equal to 1/3 of the pavement thickness before uncontrolled shrinkage cracking take place. If necessary, the sawing operation shall occur during the day or at night, regardless of weekends, holidays or weather conditions. The CONTRACTOR shall be aware of jurisdictional noise ordinances and holiday restrictions for scheduling purposes.

The CONTRACTOR is responsible to guard fresh concrete until it sets and hardens sufficiently to prevent people from writing, walking, riding bicycles or otherwise permanently marking, defacing or causing depressions of any type in the concrete. Any concrete so marked will be removed and replaced by the CONTRACTOR at the CONTRACTOR's expense.

The CONTRACTOR shall protect the pavement against all traffic, including that of their own employees or other workers, until test specimens have attained the specified strength.

SIDEWALKS

Concrete sidewalks shall be constructed to width and thickness as shown on the PLANS. Sidewalks shall be thickened to a minimum of 6" at all driveways. All sidewalks shall be IDOT Class SI concrete, on aggregate base as shown on the detail. A ¾" expansion joint shall be provided when meeting existing sidewalk.

CURB AND GUTTER

Curb and gutter shall be as per the detail shown on the PLANS, which shall include compacted aggregate base course under the curb and gutter. All contraction and expansion joints shall be constructed as per the detail.

CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

The CONTRACTOR shall saw cut and remove the existing concrete curb where shown on the PLANS and install a curb of similar cross section and pavement to that removed (or depressed curb and gutter if shown on the PLANS). Upon completion of the curb and gutter any voids between the existing pavement and the new curb shall be filled with concrete to within 2" of the final surface, which is to be filled with bituminous pavement. The area behind the curb shall be filled and compacted with embankment material within 6" of the top of the new curb. The CONTRACTOR shall then restore the remaining 6" to its original condition (i.e., sod, gravel, topsoil). Where proposed curb connects to an existing curb, the existing curb shall be saw cut and then two 18" long x ¾" (#6) dowel bars shall be drilled and installed 9" into the existing and proposed curb. Bars shall be installed in a location similar to the expansion joint in the curb.

FRAME ADJUSTMENTS

The road contractor shall be responsible for making final adjustments and the setting on a bituminous mastic jointing compound all castings located in the roadway, sidewalks, and parking areas prior to construction of any curbing, sidewalk, or final surface. Any structures that need to be lowered, or raised in excess of 4" shall be completed and the work backcharged against the underground contractor. This Contractor shall also be responsible for cleaning all of the above structures immediately upon completion of his phase of work. This work shall be incidental to the cost of the pavement.

PAVEMENT MARKING - PAINT

The CONTRACTOR shall furnish and apply painted marking lines, letters & symbols of the patterns, sizes and colors where shown on the PLANS. Paint pavement marking shall be applied in accordance with the IDOT Standard Specifications.

PAVEMENT MARKING - THERMOPLASTIC

The CONTRACTOR shall furnish and apply extruded thermoplastic pavement marking lines, letters and symbols of the patterns, sizes and colors where shown on the PLANS. Thermoplastic pavement marking shall be installed in accordance with the IDOT Standard Specifications.

QUALITY CONTROL

The CONTRACTOR shall provide all testing necessary to ensure improvements are in accordance with the project specifications and provide testing documentation that specifications were met.

SHOULD A CONFLICT ARISE BETWEEN THE MANHARD SPECIFICATIONS AND THE VILLAGE SPECIFICATIONS, THE VILLAGE SPECIFICATIONS TAKE PRECEDENCE.

DRAWN BY	REVISIONS	DATE

Manhard CONSULTING LTD™
900 Woodlands Parkway, Vernon Hills, IL 60061 ph:847.634.5550 fx:847.634.0095 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
CONSTRUCTION SPECIFICATIONS

PROJ. MGR.: JGC
PROJ. ASSOC.: JSP
DRAWN BY: MH
DATE: 10-20-17
SCALE: N.T.S.

SHEET 11 OF 11
KREPTIL01

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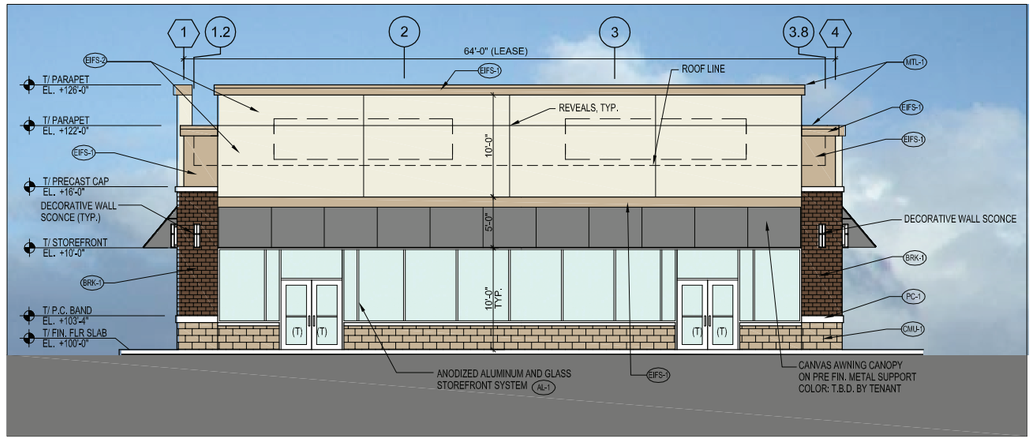
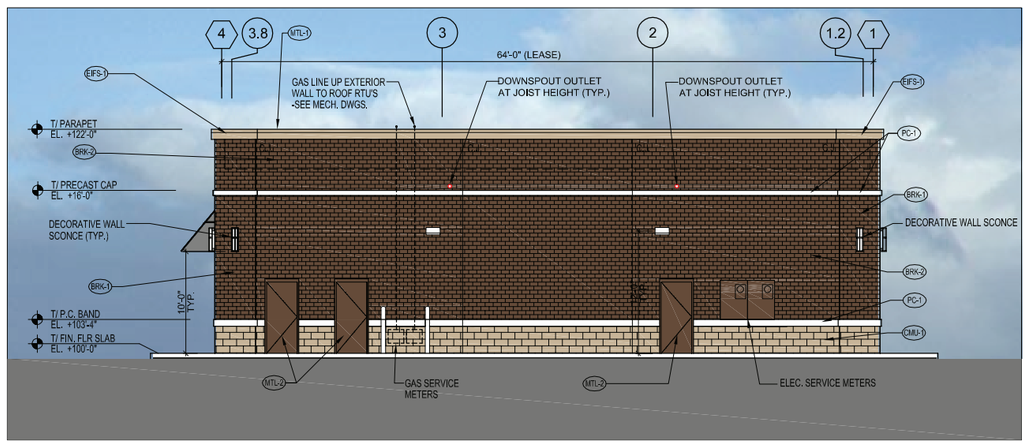
November 17, 2017 - 10:38 Dwg Name: P:\Kreptil01\dwg\Eng\Final Drawings\Plan Set\09-SPECS.dwg Updated By: bpoppe

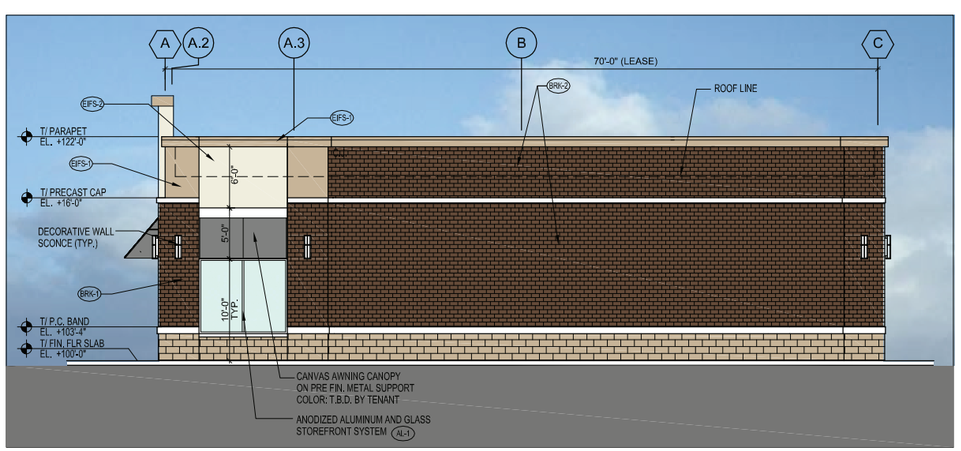
Attachment: Engineering Plans (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



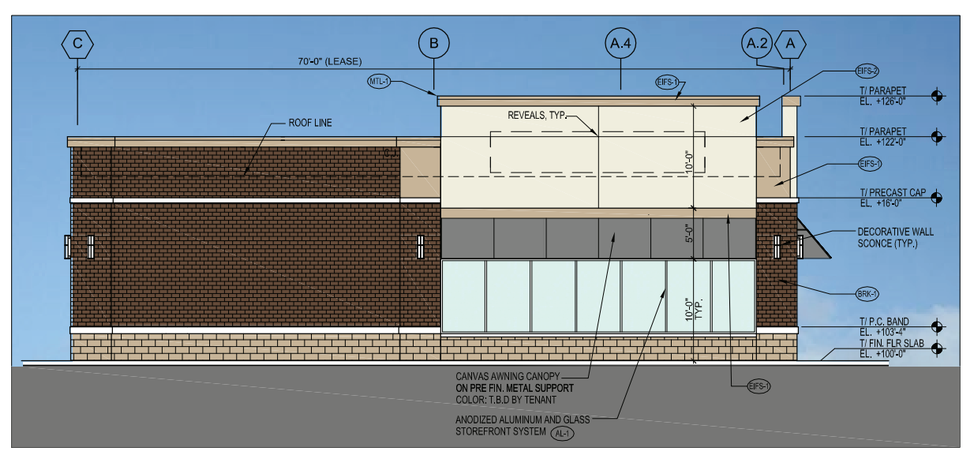
SOUTH ELEVATION (FRONT)
SCALE: 1/8" = 1'-0"



NORTH ELEVATION (REAR)
SCALE: 1/8" = 1'-0"



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



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

MATERIAL LEGEND

TAG	MATERIAL/COLOR/TEXTURE	MANUFACTURER	TAG	MATERIAL/COLOR/TEXTURE	MANUFACTURER
EIFS–1	EXTERIOR INSULATION AND FINISH SYSTEM COLOR : #110 VAN DYKE (SANDBLAST FINISH) NOTE : ACCENT EIFS	DRYVIT	BRK–1	UTILITY FACE BRICK – TEXTURE: VELOUR COLOR: BORDEAUX	ENDICOTT CLAY PRODUCTS 402–729–3315
EIFS–2	EXTERIOR INSULATION AND FINISH SYSTEM COLOR : DOVER WHITE (SANDBLAST) NOTE : VERIFY WITH TENANT	DRYVIT	BRK–2	DESIGNER CONRETE BRICK TEXTURE: SMOOTH COLOR: BLACK WALNUT	COUNTY MATERIAL CORP. HERITAGE COLLECTION
PC–1	PRECAST CONCRETE BAND/PIER CAP COLOR : ALABASTER GROUND FACE – SMOOTH FINISH	PRAIRIE STONE	MTL–1	PREFINISHED METAL COPING COLOR TO MATCH EIFS–1	BERRIDGE ALUM CORP 655 FRATT RD SAN ANTONIO, TX (800) 669–0009
CMU–1	SPLIT FACED CONCRETE BLOCK – COLOR : #21 PROVIDE INTEGRAL WATER REPELLENT IN BLOCK AND MORTAR ("DRY–BLOCK")	NORTHFIELD BLOCK CO., ROMEOVILLE, IL 60446 (815) 886–7462	MTL–2	INSULATED HOLLOW METAL DOOR AND FRAME – COLOR : PRIMED AND PAINTED TO MATCH ADJACENT BRICK COLOR	BENJAMIN MOORE
			AL–1	CLEAR ANODIZED ALUMINUM STOREFRONT SYSTEM WITH LOW E DOUBLE INSULATED CLEAR GLASS – TEMPERED AS REQUIRED	KAWNEER COMPANY, INC. 1377 EAST INDUSTRIAL DRIVE ITASCA, IL 60143 (630) 773–3700

GENERAL NOTE:

GENERAL CONTRACTOR TO VERIFY W/ OWNER FOR ALL FINISHES. COLORS & MANUFACTURERS TO BE SUBMITTED FOR FINAL APPROVAL PRIOR TO WORK.

PFDA ARCHITECTS INC.
2803 BUTTERFIELD RD.
SUITE 340
OAK BROOK, IL 60523
TEL: (312) 795-1245
FAX: (312) 795-6123

OWNER:
CORE ACQUISITIONS
PO BOX 1243
NORTHBROOK, IL 60065

PROJECT:
PROPOSED
BUILDING SHELL
FOR THE
RETAIL DEVELOPMENT
1000-1002 W. DUNDEE RD.
NEC DUNDEE ROAD & N. RAND RD.
PALATINE, IL

SHEET TITLE:
BUILDING 'A'
ELEVATIONS

NO.	DATE	DESCRIPTION
	12.18.17	COLOR ELEVATIONS
	12.01.17	UPDATED PLANS
	11.27.17	UPDATED PLANS
	11.21.17	UPDATED PLAN
	11.17.17	UPDATED PLANS
	10.16.17	FOR REVIEW
	10.13.17	FOR REVIEW
	09.27.17	FOR REVIEW
	09.25.17	FOR REVIEW
	09.22.17	FOR REVIEW

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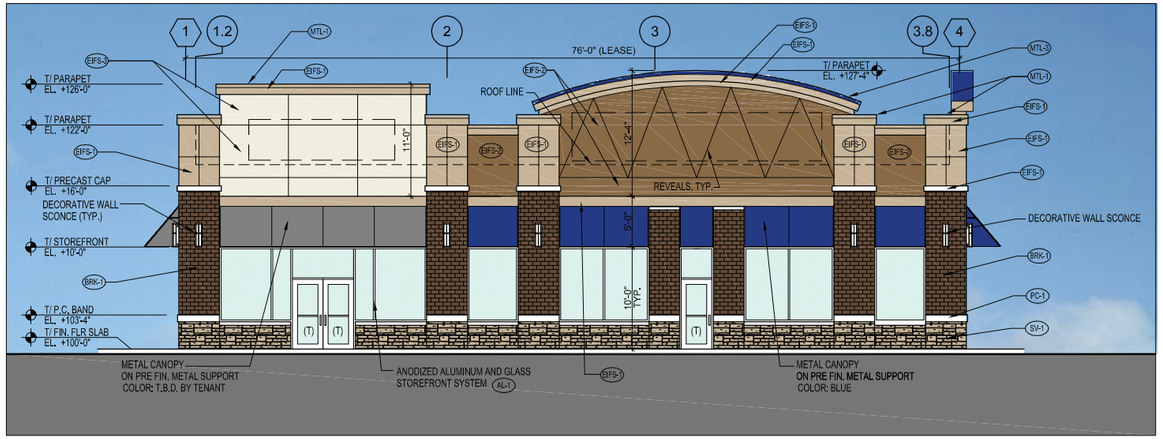
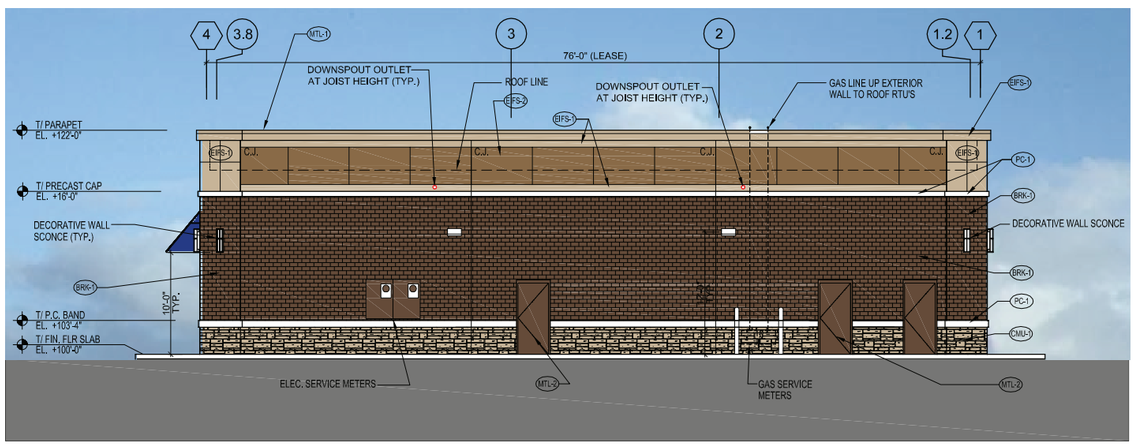
DRAWN BY: CHECKED BY:

SHEET
A3.0

JOB NO. 17



SOUTH ELEVATION (FRONT)
SCALE: 1/8" = 1'-0"

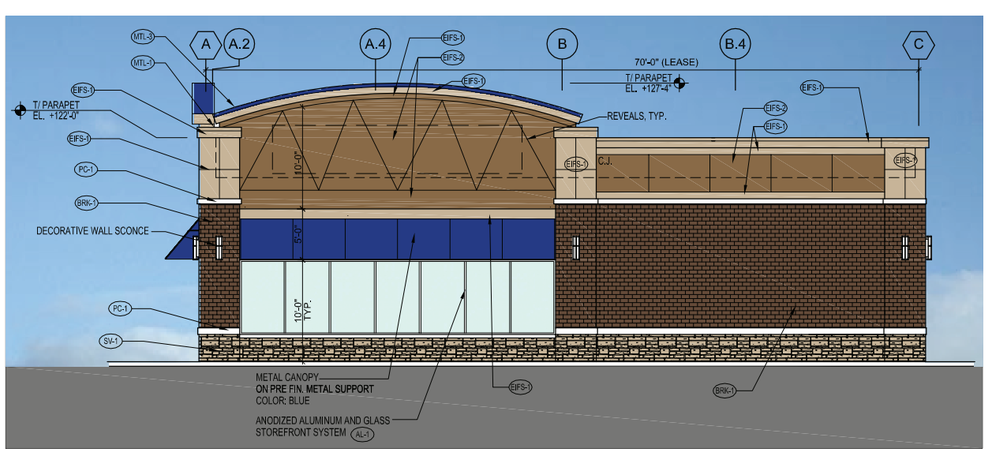


NORTH ELEVATION (REAR)
SCALE: 1/8" = 1'-0"

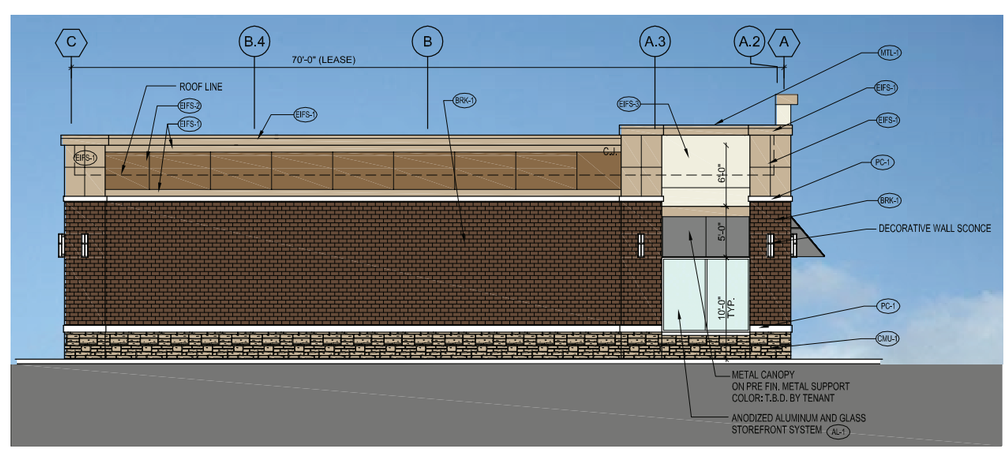
TAG	MATERIAL/COLOR/TEXTURE	MANUFACTURER	TAG	MATERIAL/COLOR/TEXTURE	MANUFACTURER
EIFS-1	EXTERIOR INSULATION AND FINISH SYSTEM COLOR : #110 VAN DYKE (SANDBLAST FINISH) NOTE : ACCENT EIFS	DRYVIT	BRK-1	UTILITY FACE BRICK – TEXTURE: VELOUR COLOR: BROWN'S FERRY	PINE HALL BRICK OR APP. EQ.
EIFS-2	EXTERIOR INSULATION AND FINISH SYSTEM COLOR : #382 TAMALE (SANDBLAST) NOTE : SIGN BAND	DRYVIT	MTL-1	PREFINISHED METAL COPING COLOR TO MATCH EIFS-1	BERRIDGE ALUM CORP 655 FRATT RD SAN ANTONIO, TX (800) 669-0009
EIFS-3	EXTERIOR INSULATION AND FINISH SYSTEM COLOR : DOVER WHITE (SANDBLAST) NOTE : VERIFY WITH TENANT	DRYVIT	MTL-2	INSULATED HOLLOW METAL DOOR AND FRAME – COLOR : PRIMED AND PAINTED TO MATCH ADJACENT BRICK COLOR	BENJAMIN MOORE
PC-1	PRECAST CONCRETE BAND/PIER CAP COLOR : LIMESTONE – SMOOTH FINISH	STONECAST OR EQ.	MTL-3	PREFINISHED METAL COPING COLOR: ELECTRIC BLUE	UNA-CLAD OR APP. EQ.
SV-1	STONE VENEER COLOR: SIENNA DRYSTACK PROVIDE INTEGRAL WATER REPELLENT IN STONE AND MORTAR ("DRY-BLOCK")	DUTCH QUALITY OR EQ.	AL-1	CLEAR ANODIZED ALUMINUM STOREFRONT SYSTEM WITH LOW E DOUBLE INSULATED CLEAR GLASS – TEMPERED AS REQUIRED	KAWNEER COMPANY, INC. 1377 EAST INDUSTRIAL DRIVE ITASCA, IL 60143 (630) 773-3700

GENERAL NOTE:

GENERAL CONTRACTOR TO VERIFY W/ OWNER FOR ALL FINISHES. COLORS & MANUFACTURERS TO BE SUBMITTED FOR FINAL APPROVAL PRIOR TO WORK.



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



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

PFDA ARCHITECTS INC.
2803 BUTTERFIELD RD.
SUITE 340
OAK BROOK, IL 60523
TEL: (312) 795-1245
FAX: (312) 795-6123

OWNER:
CORE ACQUISITIONS
PO BOX 1243
NORTHBROOK, IL 60065

PROJECT:
PROPOSED
BUILDING SHELL
FOR THE
RETAIL DEVELOPMENT
1000-1002 W. DUNDEE RD.
NEC DUNDEE ROAD & N. RAND RD.
PALATINE, IL

SHEET TITLE:
BUILDING 'B'
ELEVATIONS

NO.	DATE	DESCRIPTION
	12.18.17	COLOR ELEVATIONS
	12.01.17	UPDATED PLANS
	11.27.17	UPDATED PLANS
	11.21.17	UPDATED PLAN
	11.17.17	UPDATED PLANS
	10.16.17	FOR REVIEW
	10.13.17	FOR REVIEW
	09.27.17	FOR REVIEW
	09.25.17	FOR REVIEW
	09.22.17	FOR REVIEW

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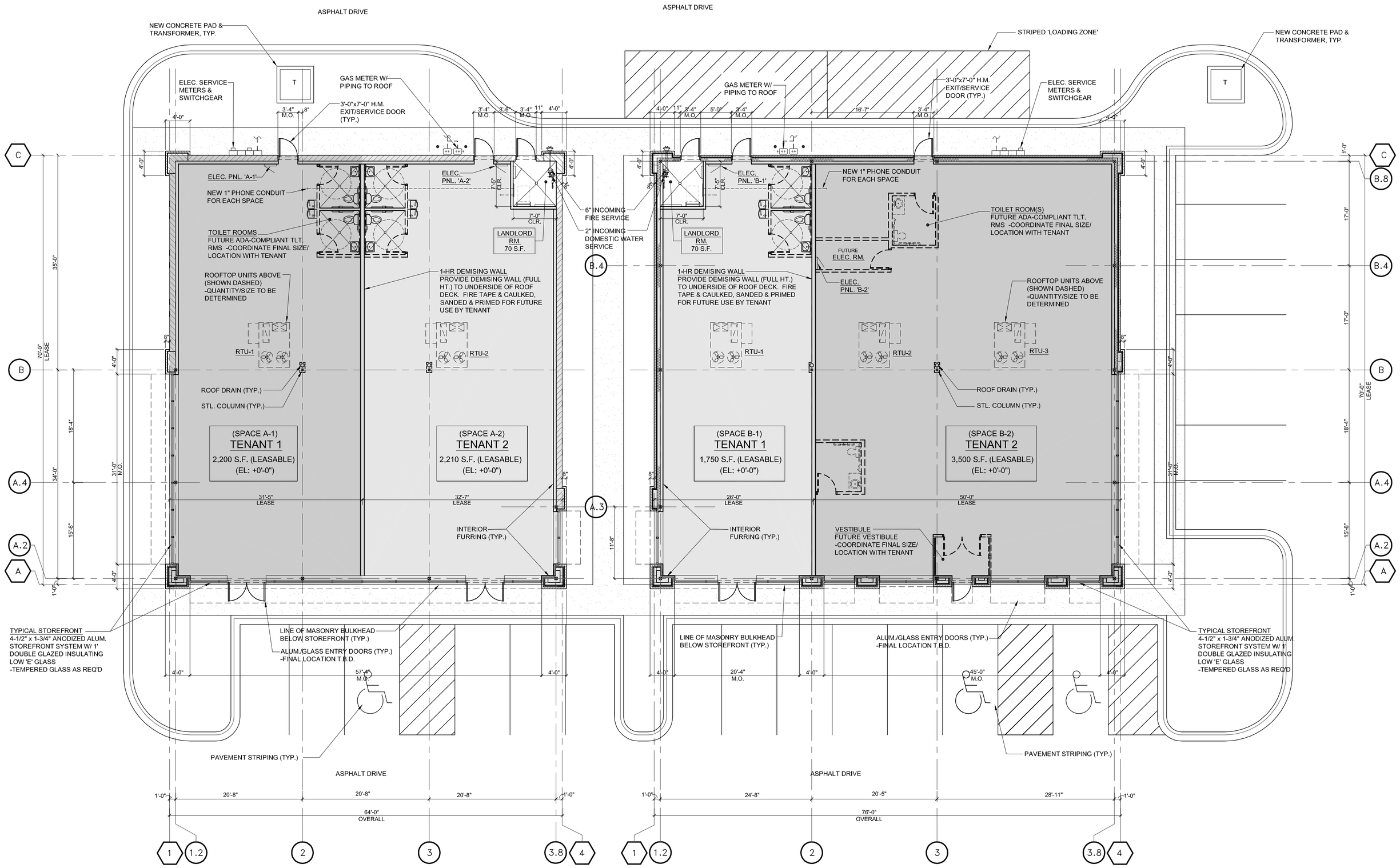
DRAWN BY: CHECKED BY:

SHEET
A3.1

JOB NO. 17

Attachment: Building A & B Elevations (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



A LP1.0 PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"

N

PFDA ARCHITECTS, INC.
2803 BUTTERFIELD RD.
SUITE 340
OAK BROOK, IL 60523
TEL: (312) 795-1245
FAX: (312) 795-6123

OWNER:

CORE ACQUISITIONS

PO BOX 1243

NORTHBROOK, IL 60065

PROJECT:

PROPOSED
BUILDING SHELL
FOR THE
RETAIL DEVELOPMENT

1000-1002 W. DUNDEE RD.
NEC DUNDEE ROAD & N. RAND RD.
PALATINE, IL

SHEET TITLE:

PROPOSED
LEASE PLAN

NO.	DATE	DESCRIPTION
	12.18.17	COLOR ELEVATIONS
	12.01.17	UPDATED PLANS
	11.27.17	UPDATED PLANS
	11.21.17	UPDATED PLAN
	11.17.17	UPDATED PLANS
	10.16.17	FOR REVIEW
	10.13.17	FOR REVIEW
	09.27.17	FOR REVIEW
	09.25.17	FOR REVIEW
	09.22.17	FOR REVIEW

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DRAWN BY:

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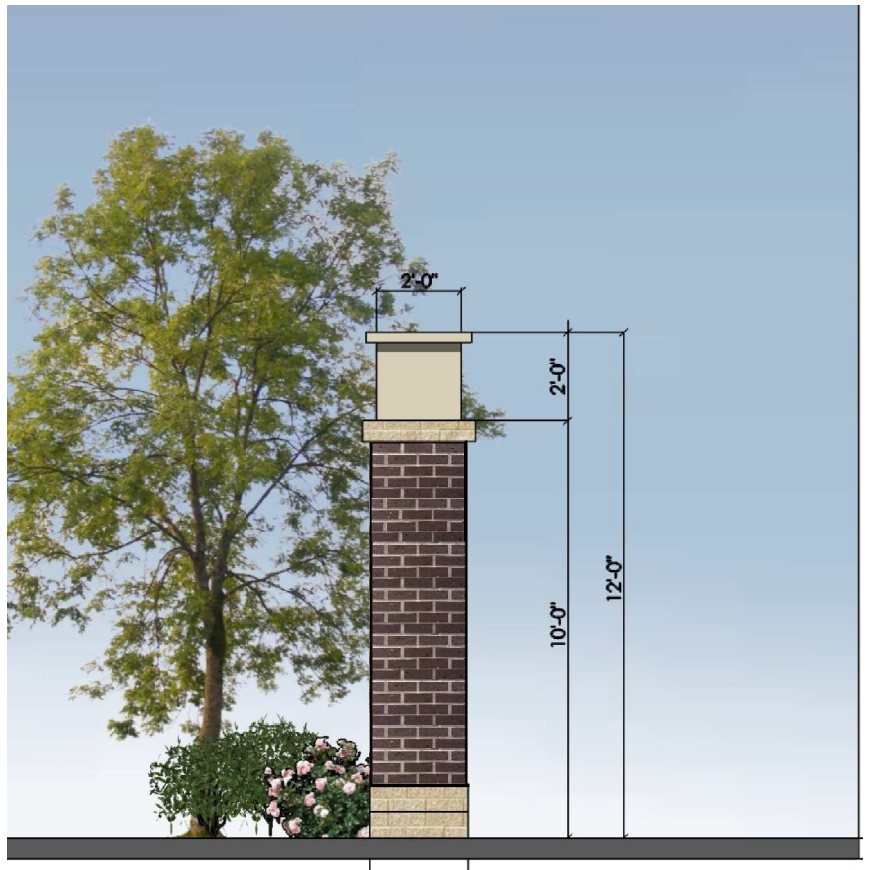
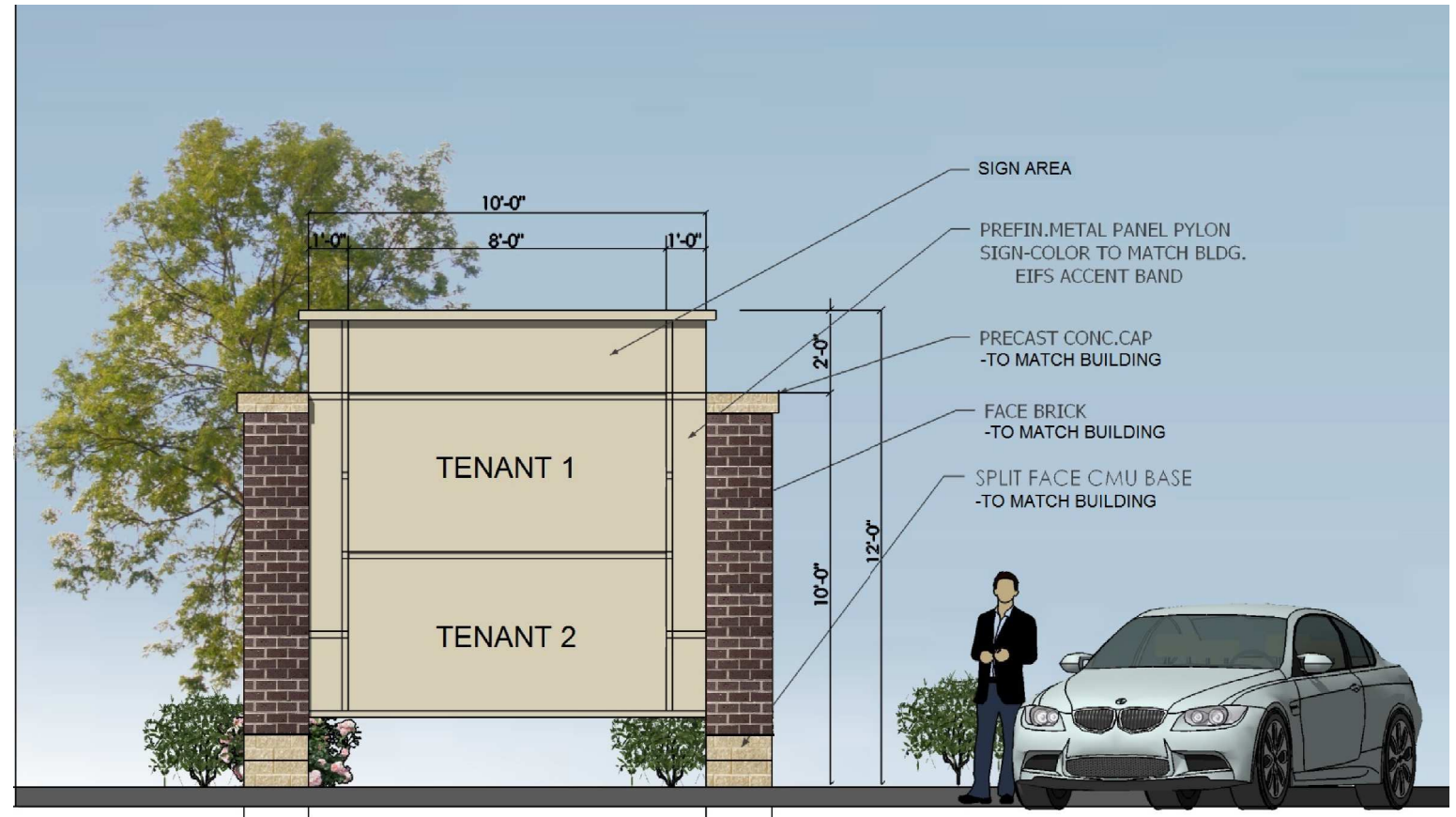
SHEET

LP1.0

JOB NO. 17047



SIDE ELEVATION



FRONT ELEVATION

1 MS-1 BUILDING 'A' MONUMENT SIGN ELEVATION
SCALE: N.T.S.

PFDA ARCHITECTS, INC.
2803 BUTTERFIELD RD.
SUITE 340
OAK BROOK, IL 60523
TEL: (312) 795-1245
FAX: (312) 795-6123

OWNER:

CORE ACQUISITIONS

PO BOX 1243

NORTHBROOK, IL 60065

PROJECT:

PROPOSED
BUILDING SHELL
FOR THE
RETAIL DEVELOPMENT
1000-1002 W. DUNDEE RD.
NEC DUNDEE ROAD & N. RAND RD.
PALATINE, IL

SHEET TITLE:
MONUMENT SIGN

NO.	DATE	DESCRIPTION
	12.18.17	MONUMENT SIGN

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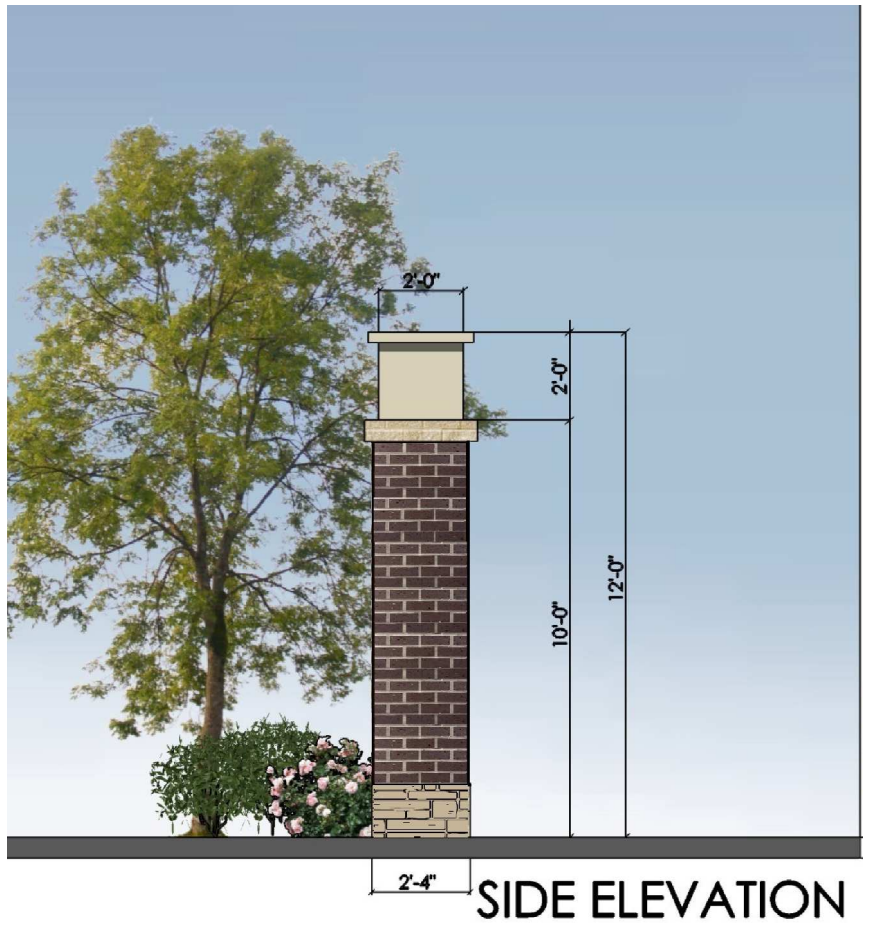
DRAWN BY: CHECKED BY:

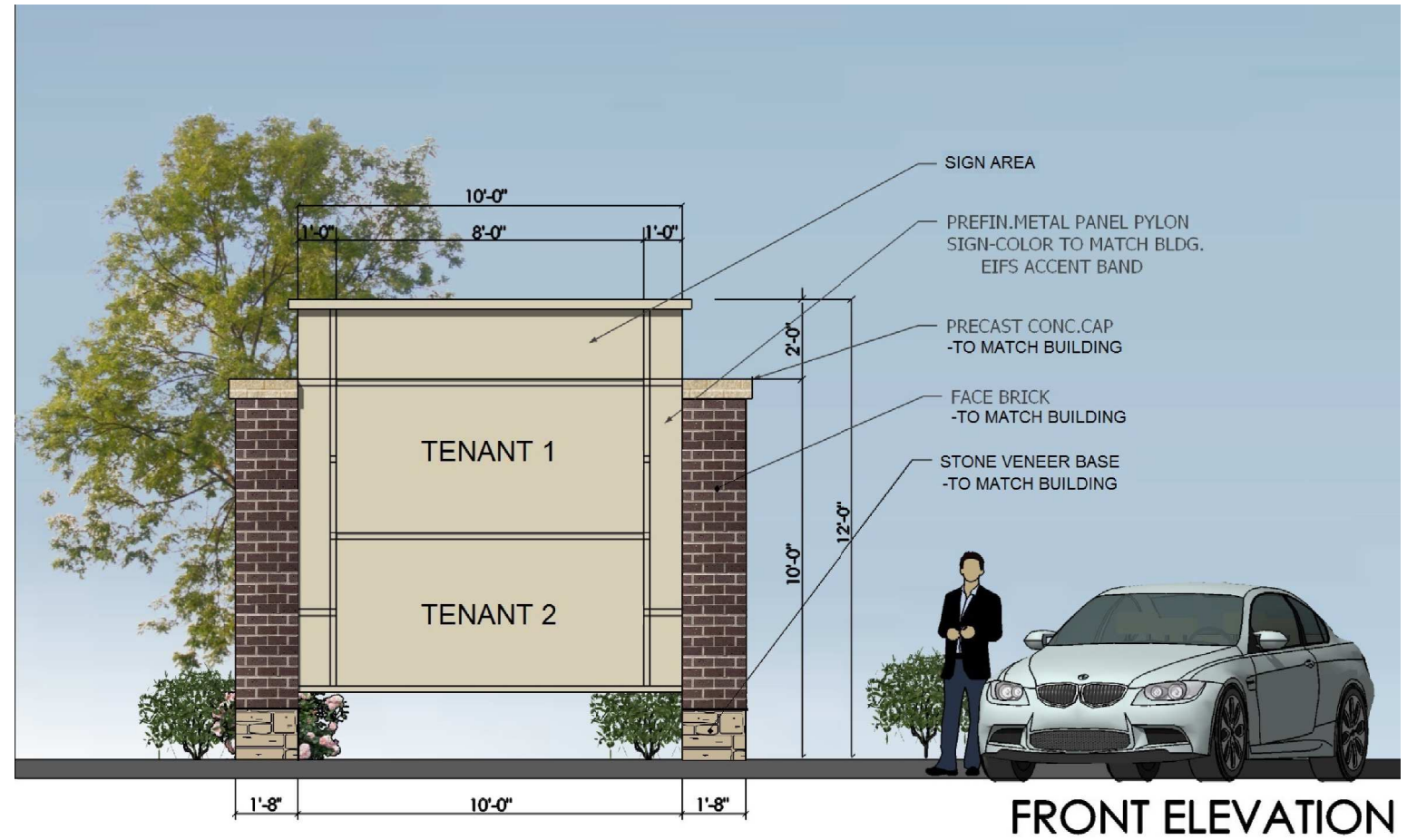
SHEET

MS-1

JOB NO. 17047



SIDE ELEVATION



FRONT ELEVATION

1 MS-1 BUILDING 'B' MONUMENT SIGN ELEVATION
SCALE: N.T.S.

PFDA ARCHITECTS, INC.
2803 BUTTERFIELD RD.
SUITE 340
OAK BROOK, IL 60523
TEL: (312) 795-1245
FAX: (312) 795-6123

OWNER:

CORE ACQUISITIONS

PO BOX 1243

NORTHBROOK, IL 60065

PROJECT:

PROPOSED
BUILDING SHELL
FOR THE
RETAIL DEVELOPMENT
1000-1002 W. DUNDEE RD.
NEC DUNDEE ROAD & N. RAND RD.
PALATINE, IL

SHEET TITLE:
MONUMENT SIGN

NO.	DATE	DESCRIPTION
	12.18.17	MONUMENT SIGN

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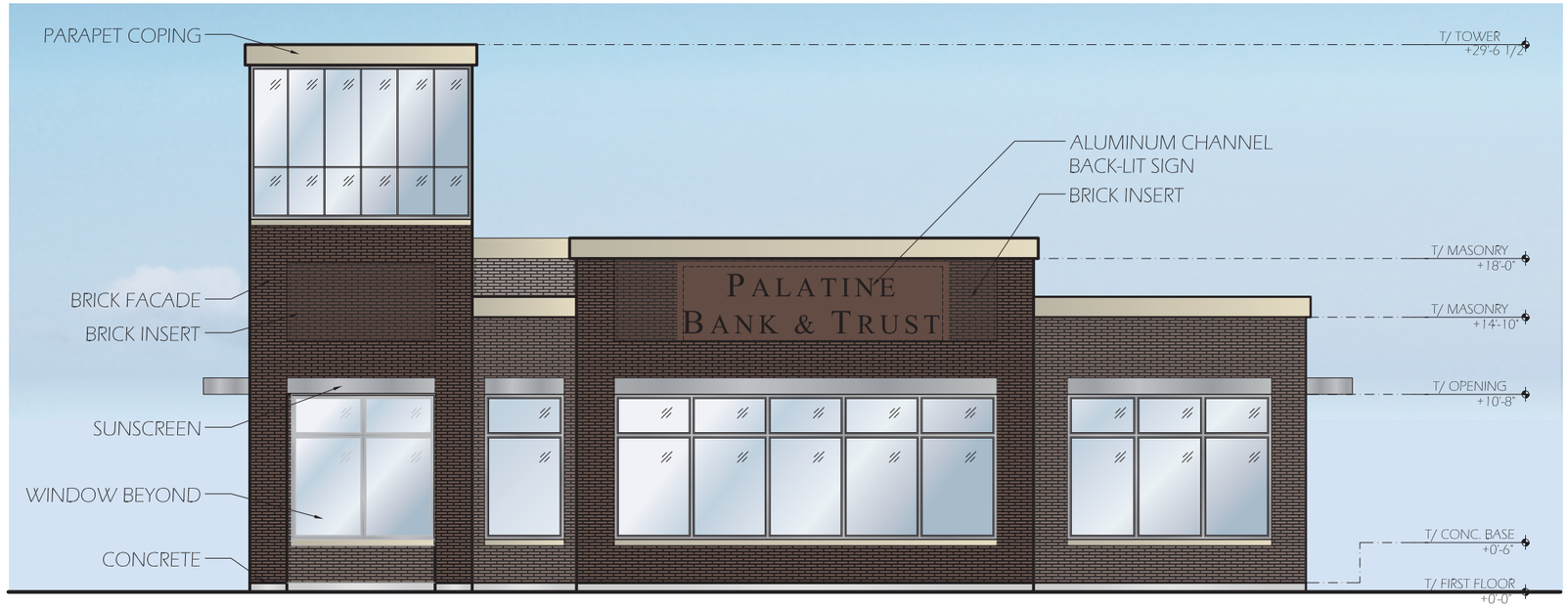
DRAWN BY: CHECKED BY:

SHEET

MS-1

JOB NO. 17047



EAST ELEVATION

NORTH ELEVATION

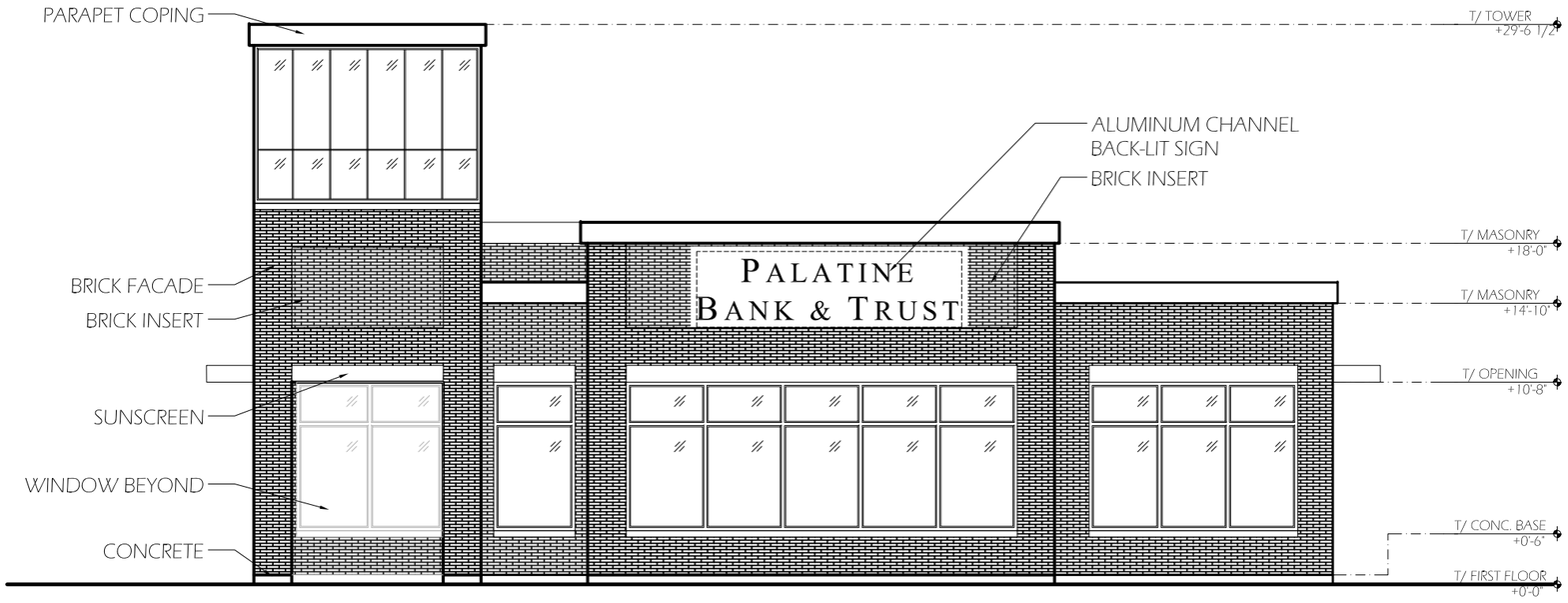
PALATINE BANK & TRUST

PROPOSED ELEVATIONS - SCHEME A

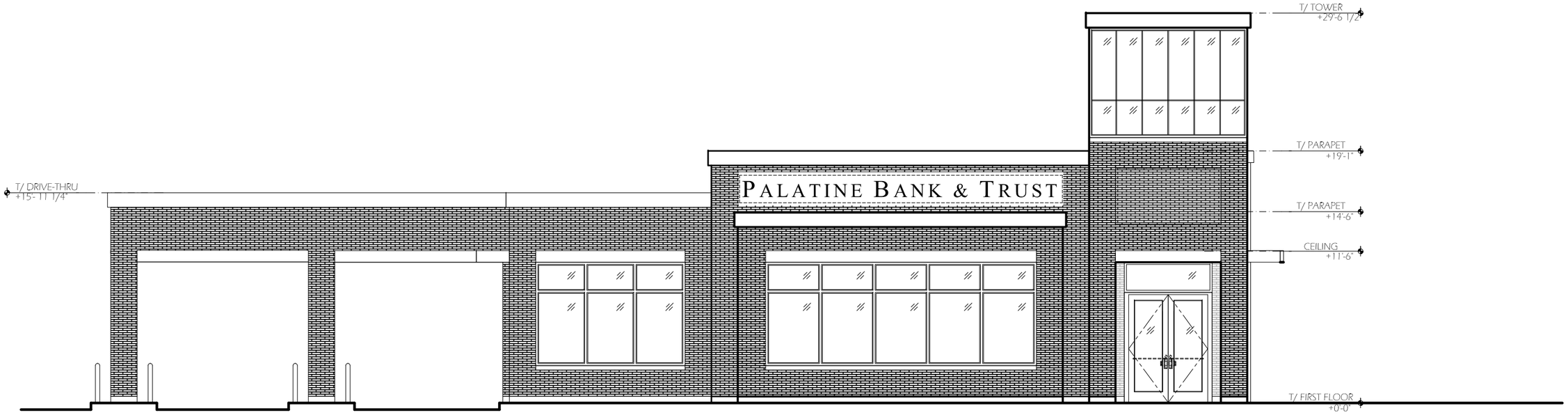
Scale: 1/8" = 1'-0"

Grund & Riesterer Architects, Inc. Proj. #1730.00

19 OCTOBER 2017



EAST ELEVATION



NORTH ELEVATION

PALATINE BANK & TRUST

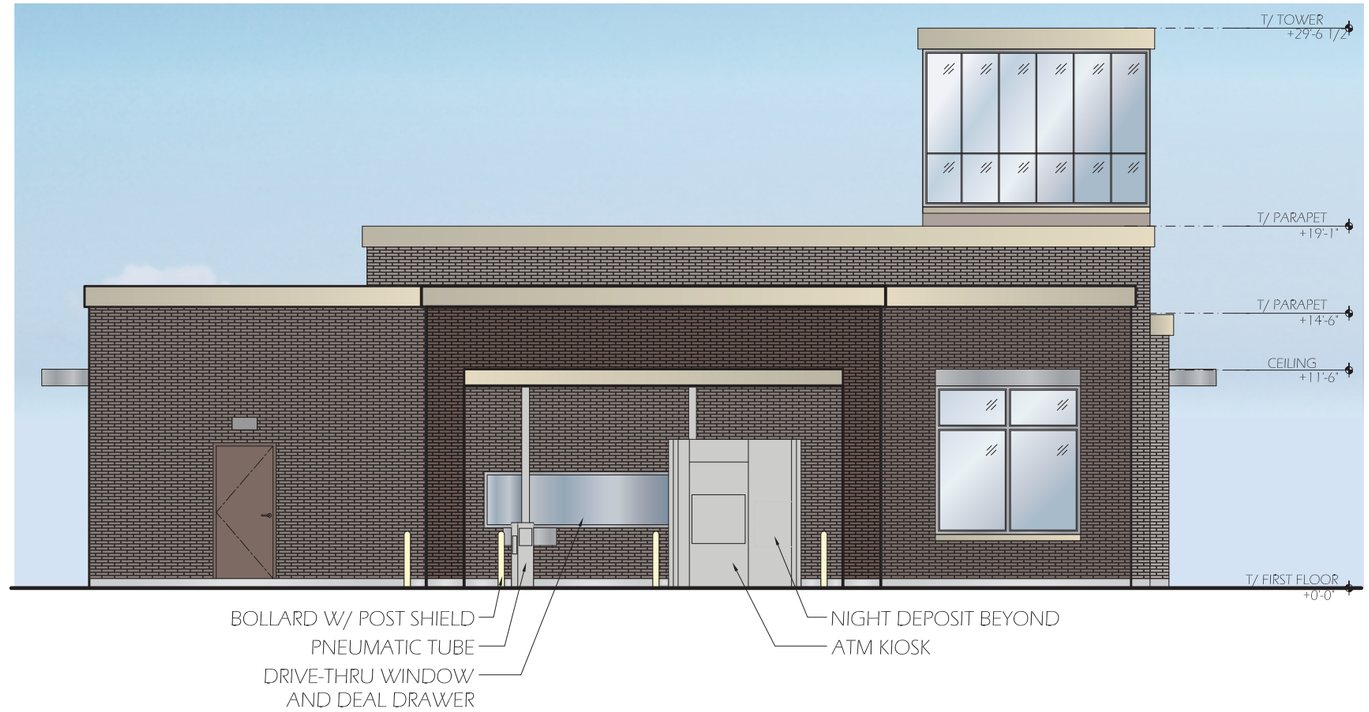
PROPOSED ELEVATIONS - SCHEME A

Scale: 1/8" = 1'-0"

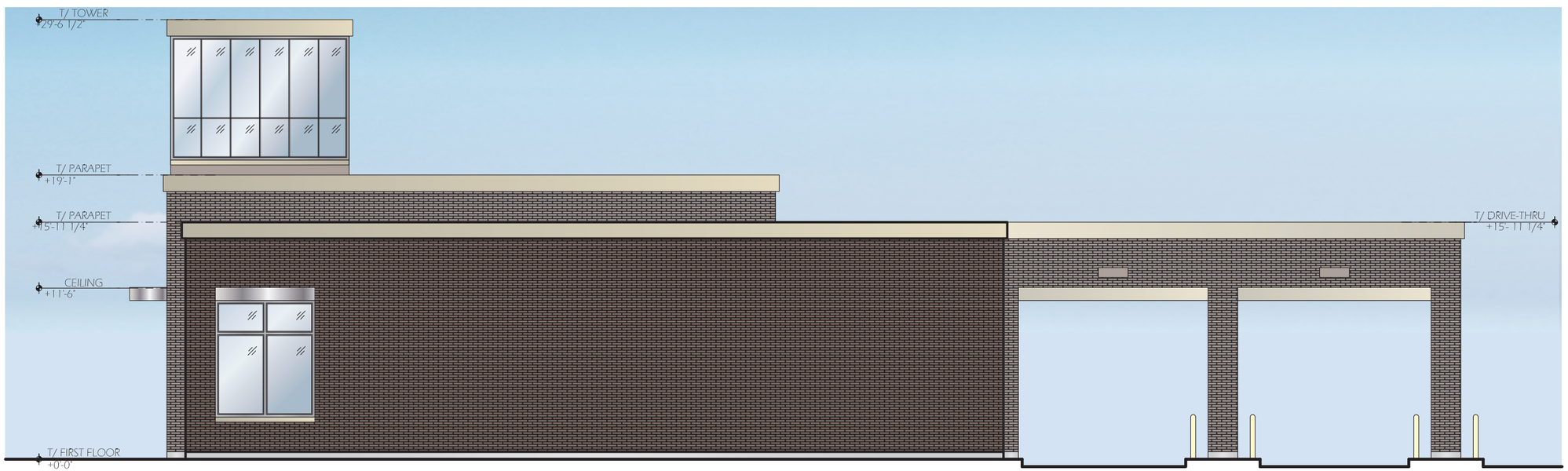
Grund & Riesterer Architects, Inc. Proj. #1730.00

19 OCTOBER 2017

Attachment: Palatine Bank & Trust Elevations & Floor plan (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-



WEST ELEVATION



SOUTH ELEVATION

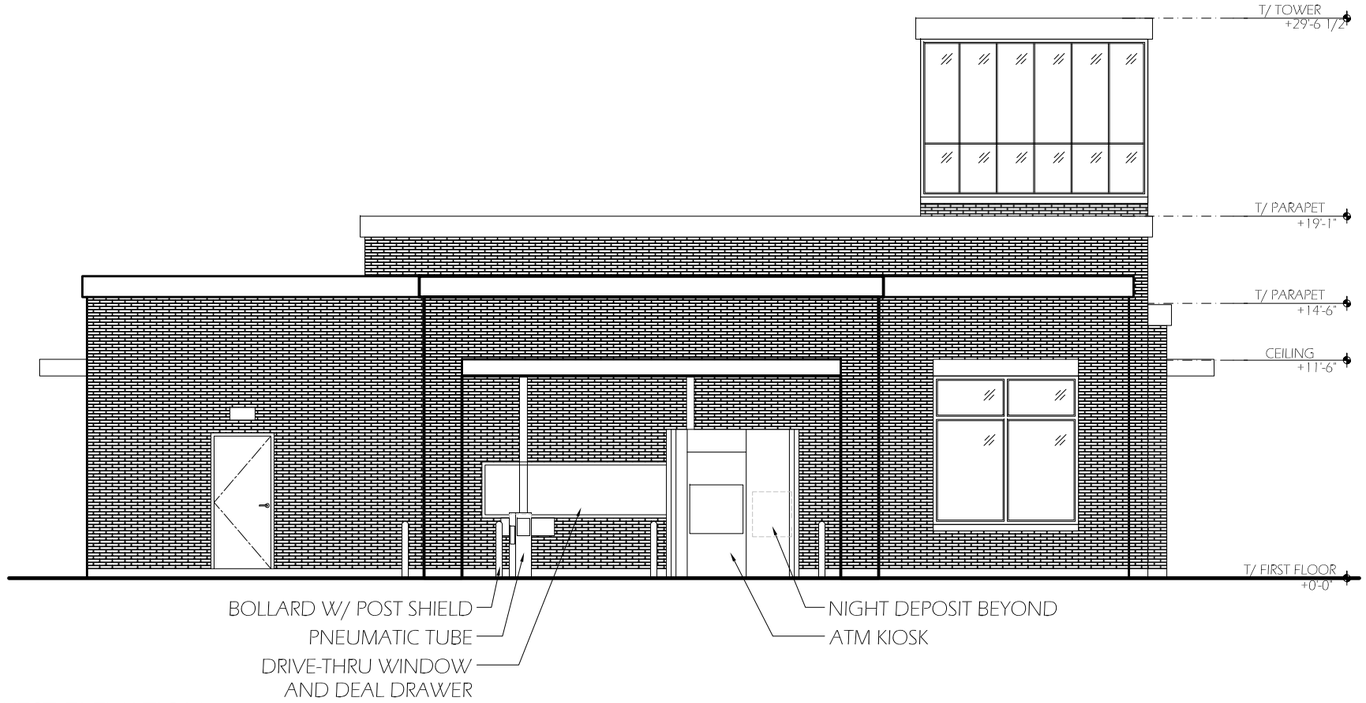
PALATINE BANK & TRUST

PROPOSED ELEVATIONS - SCHEME A

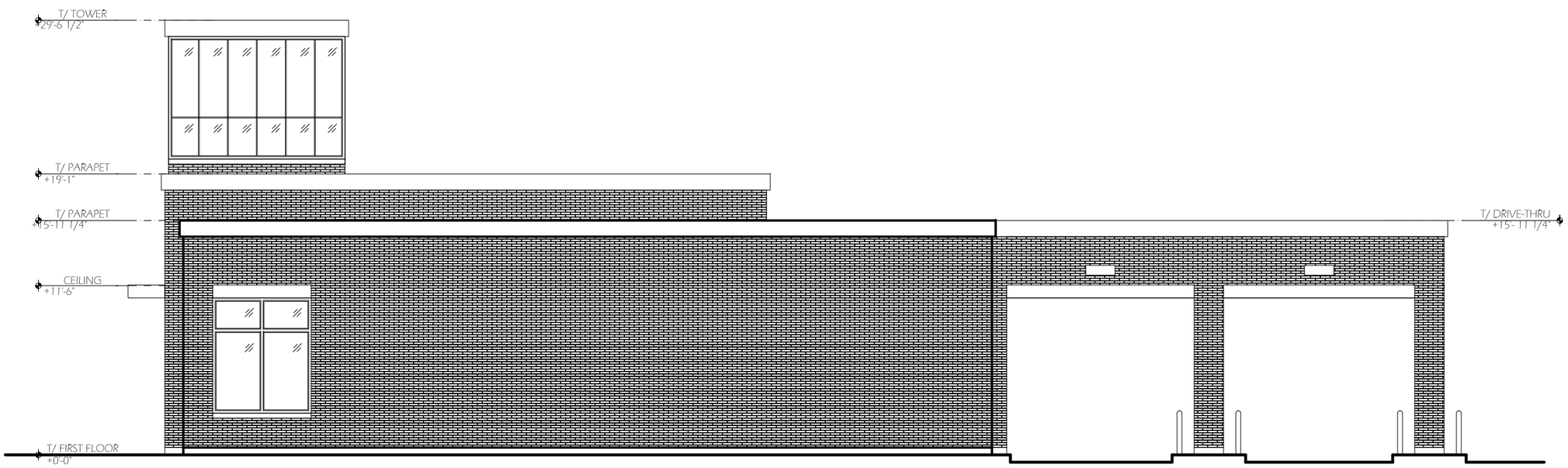
Scale: 1/8" = 1'-0"

Grund & Riesterer Architects, Inc. Proj. #1730.00

19 OCTOBER 2017



WEST ELEVATION



SOUTH ELEVATION

PALATINE BANK & TRUST

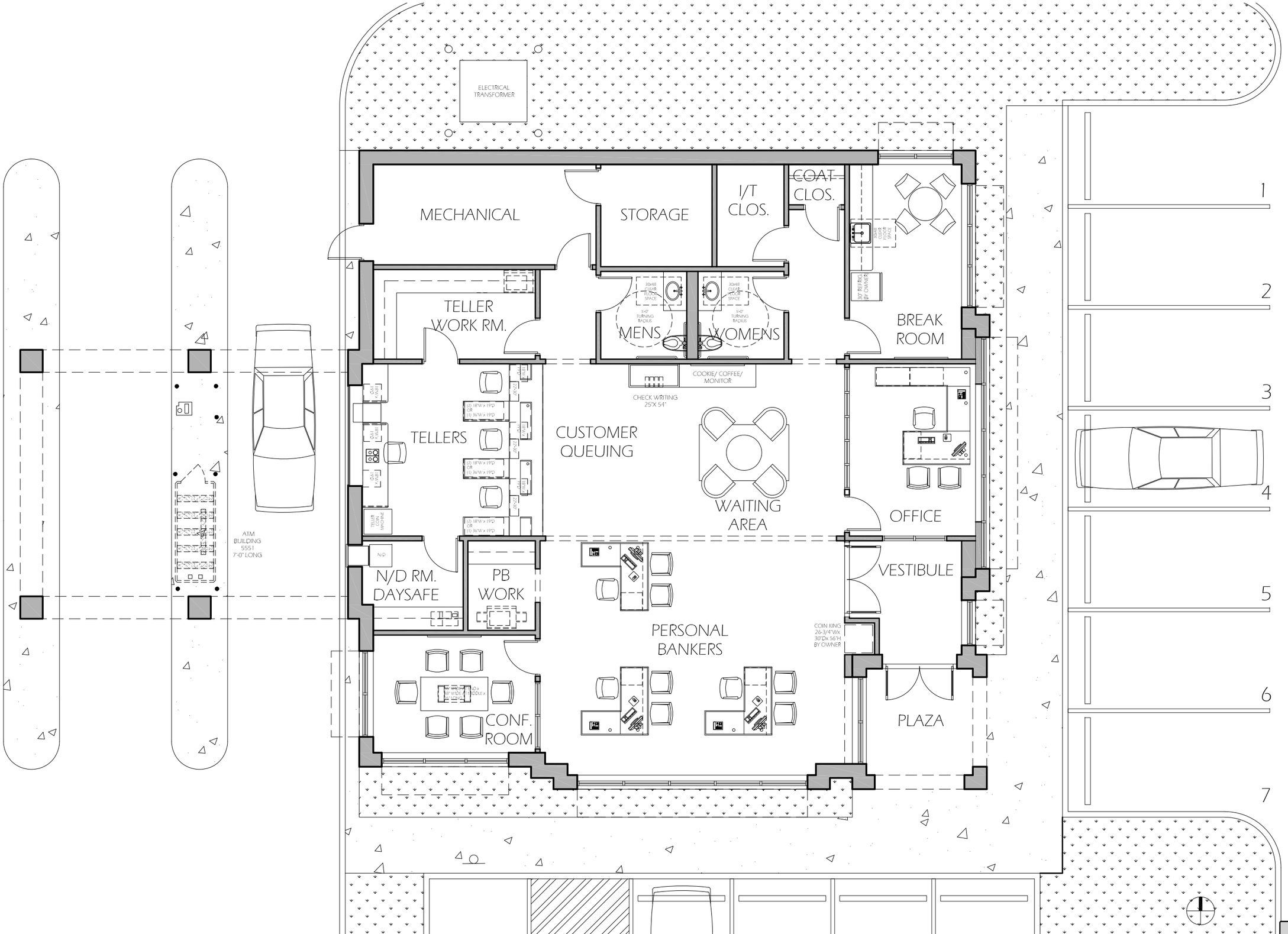
PROPOSED ELEVATIONS - SCHEME A

Scale: 1/8" = 1'-0"

Grund & Riesterer Architects, Inc. Proj. #1730.00

19 OCTOBER 2017

Attachment: Palatine Bank & Trust Elevations & Floor plan (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-



Scale: 1/8" = 1'-0"

19 OCTOBER 2017

FIRST FLOOR PLAN- SCHEME C

PALATINE BANK & TRUST

Grund & Riesterer Architects Proj. #1730.00

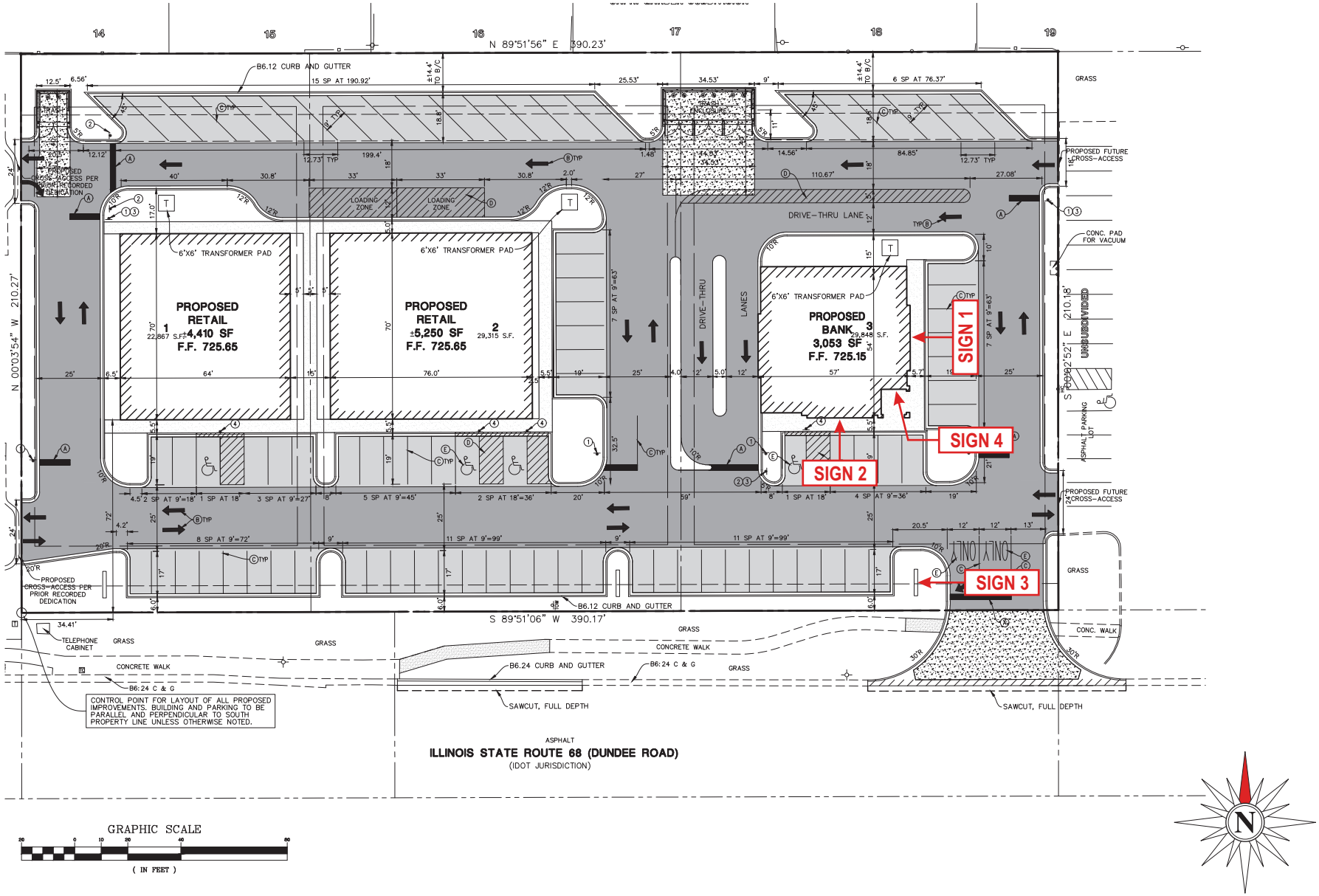
Attachment: Palatine Bank & Trust Elevations & Floor plan (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-

WINTRUST BANK®

ICON

Loc#: 1000

1000 W Dundee Rd
Palatine, IL 60074



Drawing prepared by:

ICON

SITE PLAN

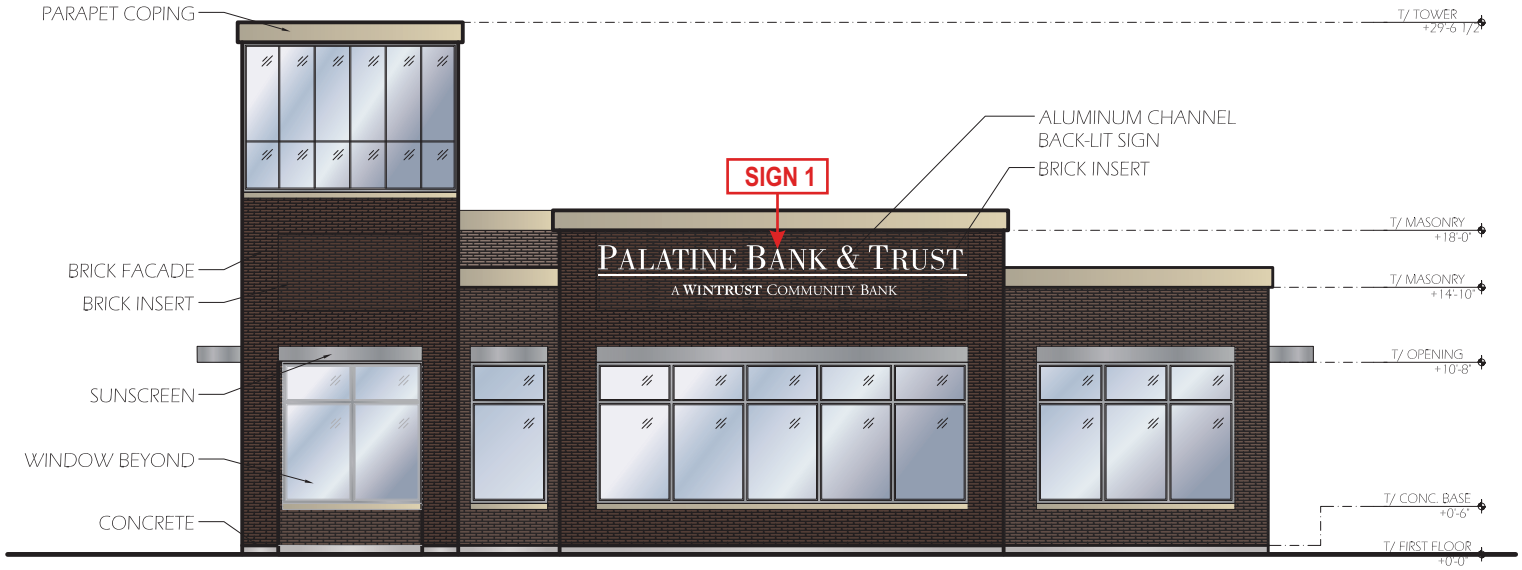
Location:	Proj #:
1000 W Dundee Rd Palatine, IL 60074	4312
	Loc #: 1000

File Path: Active\BANKS\W\WinTrust Financial\Project 4312\Locations\4312_1000_Palatine_IL_R1.cdr

Drawing prepared for: WINTRUST BANK

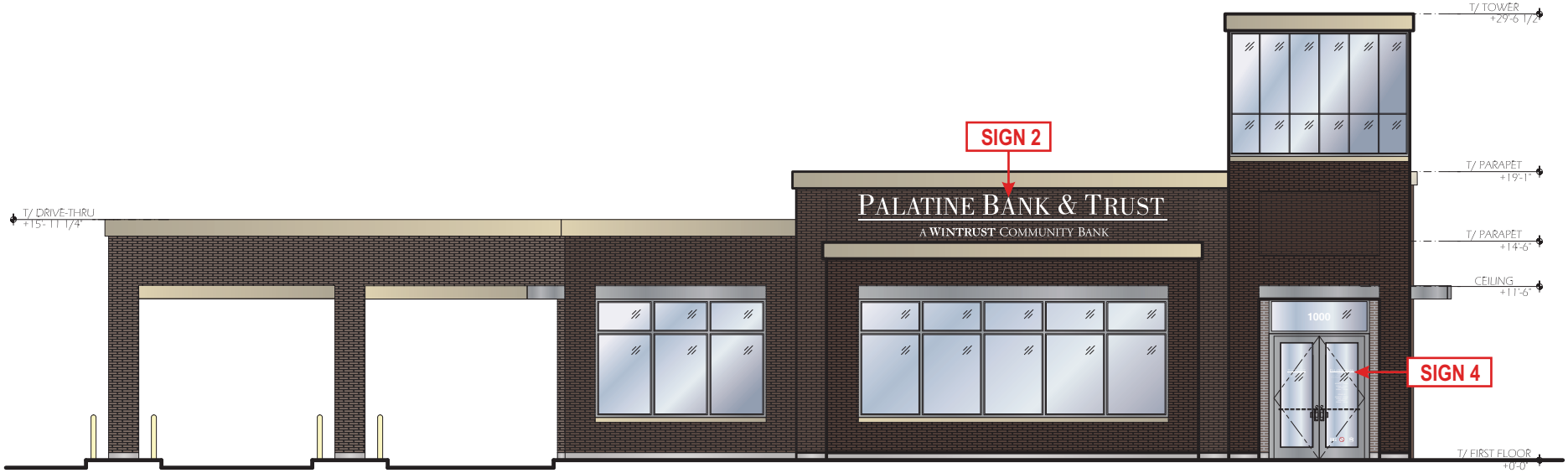
Rev #:	Req#:	Date:	Req. By:	Drawn By:	Revision Description: Drawings are the exclusive property of ICON,. Any unauthorized use or duplication is not per
Original	264402	12/21/17	CS	TI	
Rev 1	265968	01/17/18	CS	TI	Revised per request.
Rev 2	000000	00/00/00	XXX	XXX	
Rev 3	000000	00/00/00	XXX	XXX	
Rev 4	000000	00/00/00	XXX	XXX	
Rev 5	000000	00/00/00	XXX	XXX	
Rev 6	000000	00/00/00	XXX	XXX	

Rev #:	Req#:	Date:	Req. By:	Dr
Rev 7	000000	00/00/00	XXX	XXX
Rev 8	000000	00/00/00	XXX	XXX
Rev 9	000000	00/00/00	XXX	XXX
Rev 10	000			



EAST ELEVATION

SCALE: 3/32"=1'-0"



SOUTH ELEVATION

SCALE: 3/32"=1'-0"

Drawing prepared by:

ICON

ELEVATIONS

Location:
1000 W Dundee Rd
Palatine, IL 60074

Proj #: 4312

Loc #: 1000

File Path:
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Drawing prepared for:

WINTRUST BANK

Rev #:	Req#:	Date:	Req. By:	Drawn By:	Revision Description:
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Rev 1	265968	01/17/18	CS	TI	Revised per request.
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Rev 5	000000	00/00/00	XXX	XXX	
Rev 6	000000	00/00/00	XXX	XXX	
Rev 7	000000	00/00/00	XXX	XXX	
Rev 8	000000	00/00/00	XXX	XXX	
Rev 9	000000	00/00/00	XXX	XXX	
Rev 10	000000	00/00/00	XXX	XXX	

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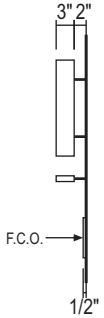

Side View

HALO-LIT LETTERSET WITH F.C.O. TAGLINE

QTY: 2

SCALE: 3/8"=1'-0"

NOTE: FIELD VERIFY PRIOR TO FABRICATION

Drawing prepared by: ICON

SIGN 1-2

Location: 1000 W Dundee Rd, Palatine, IL 60074

Proj #: 4312

Loc #: 1000

File Path: Active\BANKS\W\WinTrust Financial\Project 4312\Locations\4312_1000_Palatine_IL_R1.cdr

Drawing prepared for: WINTRUST BANK

Rev #:	Req#:	Date:	Req. By:	Drawn By:	Revision Description:
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Rev 1	265968	01/17/18	CS	TI	Revised per request.
Rev 2	000000	00/00/00	XXX	XXX	
Rev 3	000000	00/00/00	XXX	XXX	
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Rev 6	000000	00/00/00	XXX	XXX	
Rev 7	000000	00/00/00	XXX	XXX	
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Rev 9	000000	00/00/00	XXX	XXX	
Rev 10	000				

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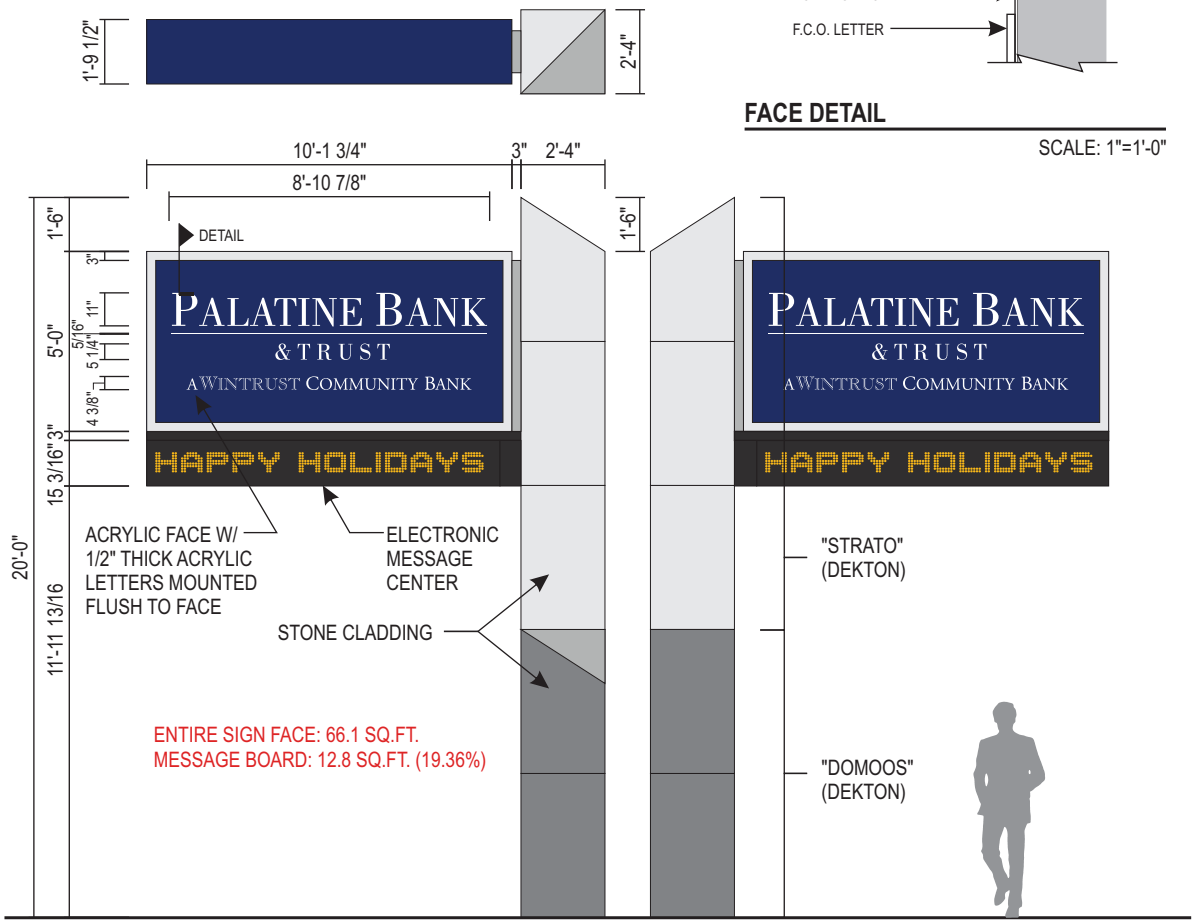
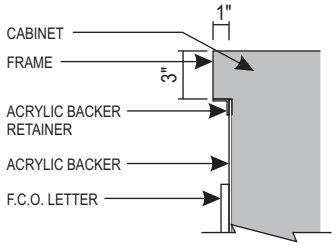


D.F. ILLUMINATED PYLON W/ EMC

QTY: 1

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



FACE DETAIL

SCALE: 1"=1'-0"

Drawing prepared by:

ICON

SIGN 3

Location:
1000 W Dundee Rd
Palatine, IL 60074

Proj #: 4312

Loc #: 1000

File Path:
Active\BANKS\W\WinTrust Financial\Project 4312\Locations\4312_1000_Palatine_IL_R1.cdr

Drawing prepared for:

WINTRUST BANK

Rev #:	Req#:	Date:	Req. By:	Drawn By:	Revision Description:
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Rev 1	265968	01/17/18	CS	TI	Revised per request.
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Rev 9	000000	00/00/00	XXX	XXX	
Rev 10	000				

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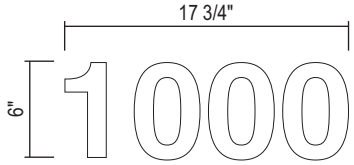
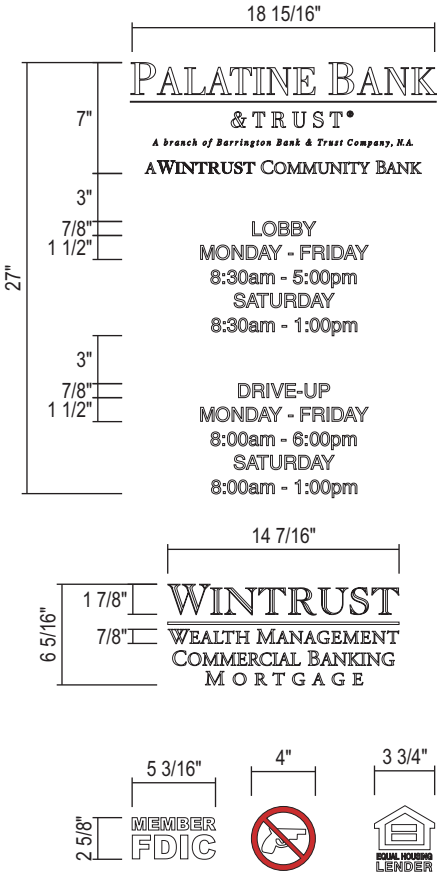


VINYL ADDRESS NUMBERS

QTY: 1 SCALE: 1"=1'-0"



WINDOW VINYL

QTY: 1 SCALE: 1"=1'-0"

TYP. ELEVATION (DOUBLE DOOR)

SCALE: 3/8"=1'-0"

Drawing prepared by:

ICON

SIGN 4

Location: 1000 W Dundee Rd, Palatine, IL 60074

Proj #: 4312

Loc #: 1000

File Path: Active\BANKS\W\WinTrust Financial\Project 4312\Locations\4312_1000_Palatine_IL_R1.cdr

Drawing prepared for: WINTRUST BANK

Rev #:	Req#:	Date:	Req. By:	Drawn By:	Revision Description:
Original	264402	12/21/17	CS	TI	
Rev 1	265968	01/17/18	CS	TI	Revised per request.
Rev 2	000000	00/00/00	XXX	XXX	
Rev 3	000000	00/00/00	XXX	XXX	
Rev 4	000000	00/00/00	XXX	XXX	
Rev 5	000000	00/00/00	XXX	XXX	
Rev 6	000000	00/00/00	XXX	XXX	
Rev 7	000000	00/00/00	XXX	XXX	
Rev 8	000000	00/00/00	XXX	XXX	
Rev 9	000000	00/00/00	XXX	XXX	
Rev 10	000				

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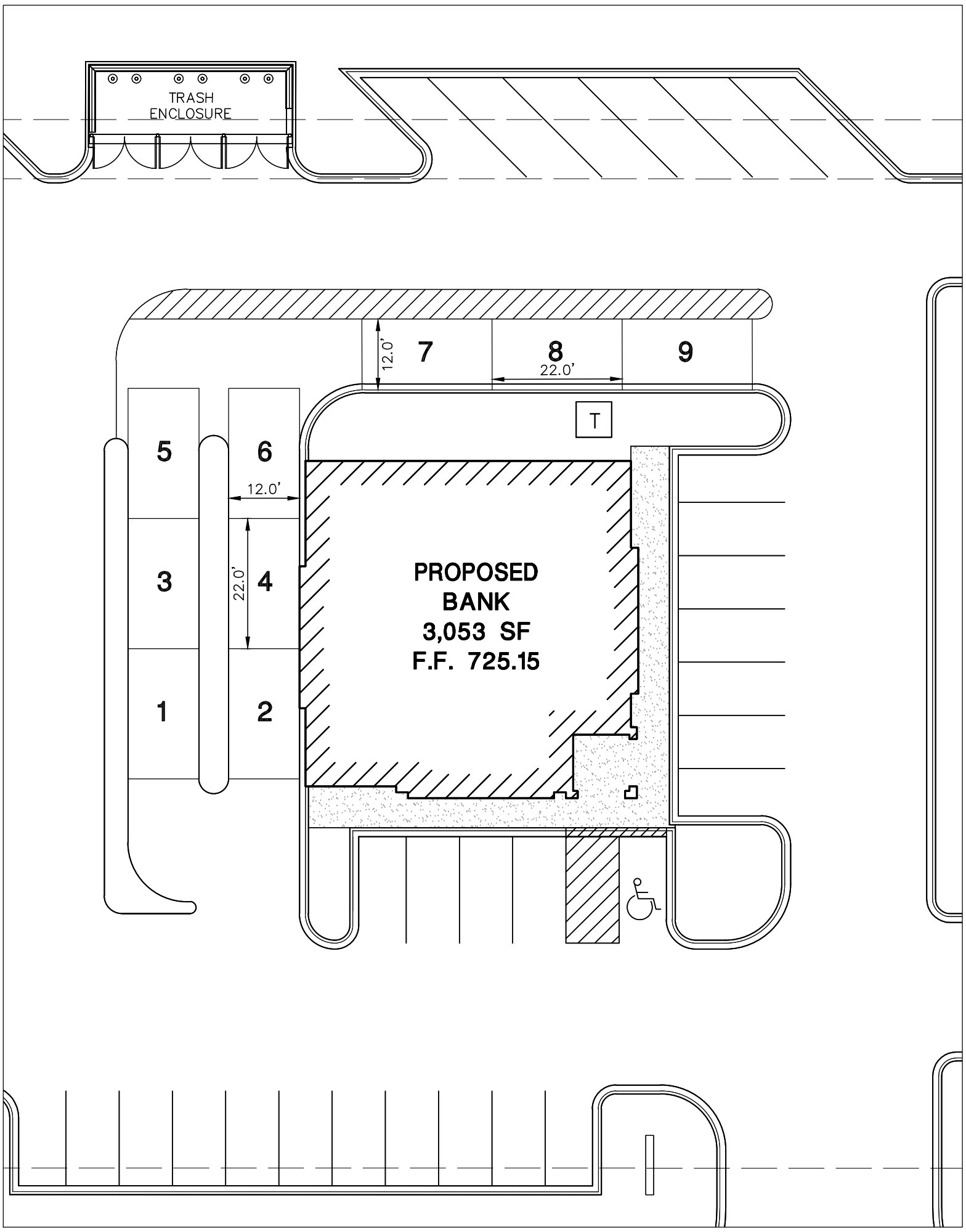

STACKING SUMMARY	
TOTAL STACKING SPACES REQUIRED	8 SPACES (4 PER LANE)
STACKING SPACES PROVIDED	9 SPACES

NORTH

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

DATE	REVISIONS	BY

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STACKING EXHIBIT

PROPOSED COMMERCIAL DEVELOPMENT - PALATINE, IL

DRAWN BY: BEP	RELEASE DATE: 12–20–17	SCALE: 1"=20'
LOT NO.	CODE: KRE.PTIL01	

BARRINGTON BANK
& TRUST COMPANY, N.A.
A WINTRUST COMMUNITY BANK

RECEIVED
NOV 15 2017
PLANNING & ZONING DEPARTMENT

November 10, 2017

Mr. Adam Firsel
350 W. Hubbard Street, Suite 620
Chicago, IL 60654

Re: Bank Business Plan (Item #2 – Planning and Zoning)

Mr. Firsel:

The planned banking facility for subject property will be called Palatine Bank & Trust, a branch of Barrington Bank & Trust, a Wintrust Community Bank. This branch will be operated as a full-service branch with distinct drive-up and lobby hours. The hours will be as follows:

Lobby:	Monday – Thursday	8:30AM to 5:00PM
	Friday	8:30AM to 6:00PM
	Saturday	8:30AM to 1:00PM
Drive-Up:	Monday – Friday	7:30AM to 6:00PM
	Saturday	7:30AM to 1:00PM

The ATM to be located in the drive-up will have 24-hour access.

It is management's plan to initially staff this banking facility with a branch manager; 2 to 3 personal bankers; 3 tellers; and one consumer/mortgage lender. As the branch grows we could possibly add a small business banker to handle the local small business needs of the surrounding community. At any one point in time there will be, on average, 6 to 8 employees on site.

Peak hours of operation, based on our other branch locations and experience, can change day to day, the time of day and can be influenced by holiday schedules. What we typically experience is increased lobby volume between the hours of 10:00AM and 4:00PM; drive-up peak traffic is generally between 9:00AM and 10:00AM, lunch hours, and 4:00PM to 5:30PM.

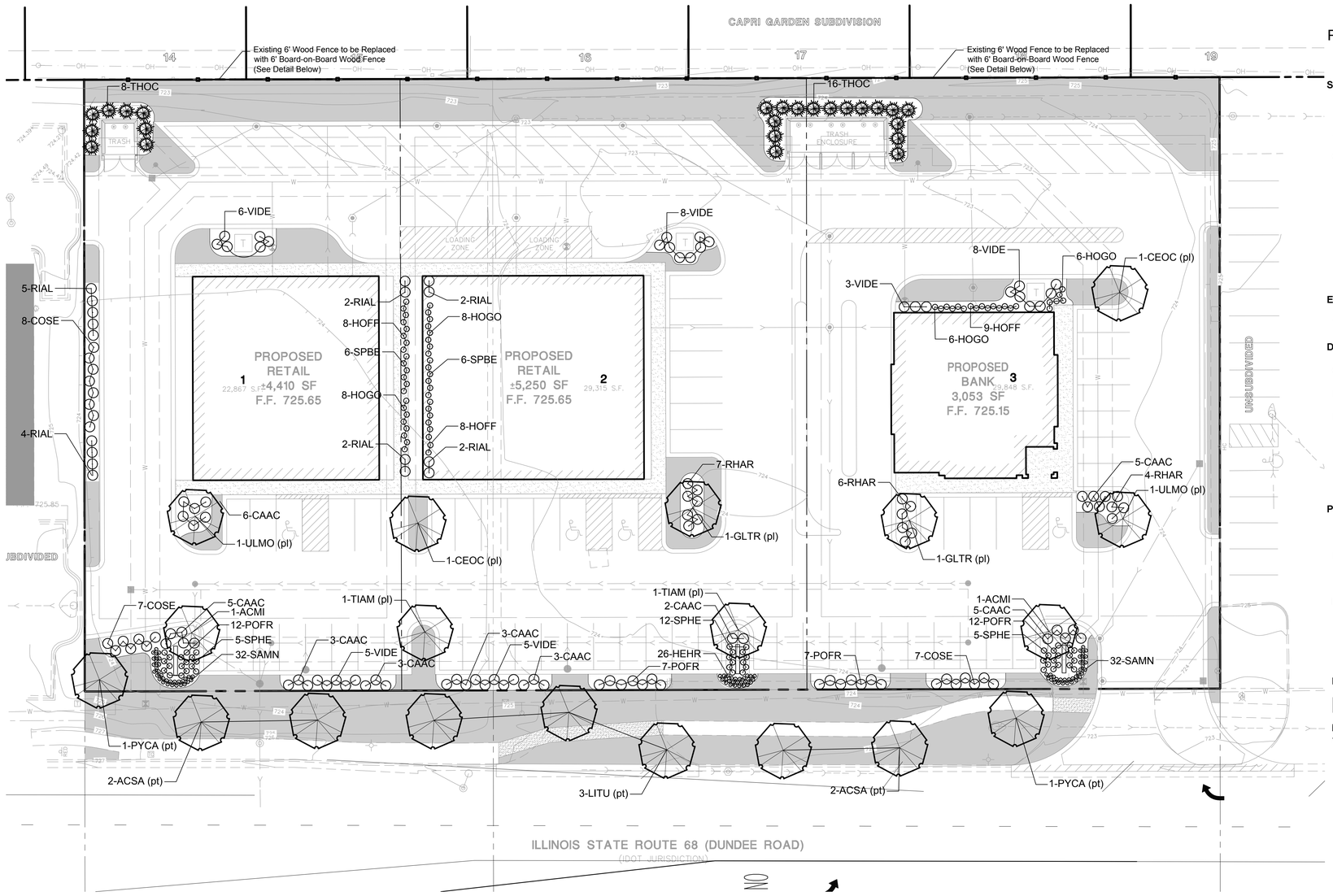
Sincerely,

W. Bradley Stetson
Chairman/CEO

bank:operation – pbt east branch.docx

201 South Hough Street, Barrington, Illinois 60010 | 847/842-4500
233 West Northwest Highway, Barrington, Illinois 60010 | 847/381-1715
www.barringtonbank.com

EQUAL HOUSING LENDER
MEMBER FDIC



Plant List

Key	Quantity	Name COMMON/Botanical	Size
Shade Trees			
ACMI	2	STATE STREET MAPLE/ Acer miyabe 'State Street'	2" BB
ACSA	4	LEGACY SUGAR MAPLE/ Acer saccharum 'Legacy'	2" BB
CEOC	2	COMMON HACKBERRY / Celtis occidentalis	2" BB
GLTR	2	SHADEMASTER HONEYLOCUST/ Gleditsia triacanthos var. inermis 'Shademaster'	2" BB
LITU	3	TULIP TREE/ Liriodendron tulipifera	2" BB
PYCA	2	CHANTICLEER PEAR/ Pyrus calleryana 'Chanticleer'	2" BB
TICO	2	REDMOND LINDEN / Tillia americana 'Redmond'	2" BB
ULMG	2	TRIUMPH ELM/ Ulmus 'Morton Glossy'	2" BB
Evergreens			
THOC	24	TECHNY ARBORVITAE/ Thuja occidentalis 'Techny'	6' BB
Deciduous Shrubs			
COSE	22	ISANTI COMPACT REDTWIG DOGWOOD / Cornus sericea 'Isanti'	3'
POFR	38	GOLD DROP POTENTILLA/ Potentilla fructosa 'Gold Drop'	2'
RHAR	17	GRO-LOW FRAGRANT SUMAC/ Rhus aromatica	#3 Cont.
RIAL	17	ALPINE CURRANT/ Ribies alpinum	3'
SPBE	12	TOR SPIREA/ Spiraea betulifolia 'Tor'	3'
VIDE	35	ARROWWOOD VIBURNUM / Viburnum dentatum	3'
Perennials / Grasses			
CAAC	35	KARL FOERSTER FEATHER REED GRASS/ Clamagrostis acutifolia 'Karl Foerster'	#3 Cont.
HEHR	26	HAPPY RETURNS DAYLILY/ Hemerocallis 'Happy Returns'	1 Gal.
HOFF	25	FIRST FROST HOSTA/ Hosta x. 'First Frost'	1 Gal.
HOGO	28	GOLDEN TIARA HOSTA/ Hosta x. 'Golden Tiara'	1 Gal.
SAMN	64	MAY NIGHT SAGE/ Salvia x sylvestris 'May Night'	1 Gal.
SPHE	22	PRARIIE DROPSEED/ Sporolbulus heterolepis	#3 Cont.

LEGEND:

Turf Areas to be Sodded

Note: 4" Shredded Bark Mulch to be provided in Planting Beds

Landscape Plan

Scale: 1" = 20'-0"

Village of Palatine Landscaping Requirements:

Parkway Trees
1 Tree per 40 linear feet along Dundee Road - 390 linear feet
390 / 40 = (9.75) = 9 Parkway Trees

9 Parkway Trees Provided on Plan

Off-Street Parking Landscape Requirements:
1 Tree per 10 Parking Spaces in the Interior Parking Lot Area

80 Parking Spaces on Plan

80 / 10 = 8 Trees Provided on Plan

Landscape Islands at the ends of each row of parking shall be Landscaped with trees, shrubs, flowers or groundcover

Any portion of the planting area not planted with trees, shrubs, groundcover or flowers shall be planted with sod.

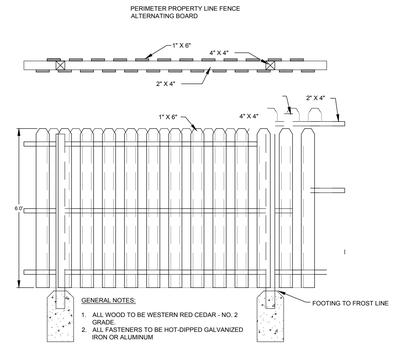
Screening Adjacent to Residential to the North
Screening shall be between 4' to 6' in height along the entire boundary and can be made up of a densely planted hedge, solid masonry wall or solid fence.

An existing 6' wood fence located on the north property line is to remain

Transitional Yard Adjacent to Residential to the North
A Landscaped Buffer of at least fifteen (15) feet shall be provided

LEGEND:

(pt) - Parkway Trees
(pl) - Parking Lot Trees



6' BOARD ON BOARD FENCE
NOT TO SCALE

Note: Per Village of Palatine Ordinance, 6' Fence shall be replaced every 12 years or as directed by the Village of Palatine

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

JULIE ILLINOIS ONE-CALL SYSTEM
Simply Call 811

SEAL
Jon Bradley Dethloff, RLA
Illinois Registered Landscape Architect # 157-001632

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER SITE PLAN / VILLAGE COMMENTS	JBD

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Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSD COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
LANDSCAPE PLAN

PROJ. MGR.: JGC
PROJ. ASSOC.: GMC1
DRAWN BY: JBD
DATE: 10-20-17
SCALE: 1"=20'

SHEET
L1 OF L2
KREPTILO1

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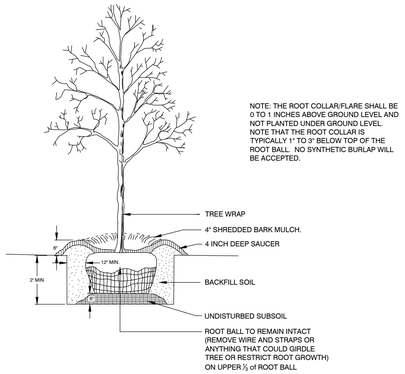
November 20, 2017 - 09:49 Dwg Name: P:\Kreptilo01\dwg\Landplan\Preliminary\Landscape Plan rev. 11-15-17.dwg Updated By: bdethloff

Attachment: Landscape Plan (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

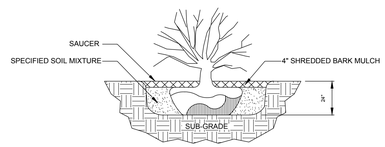
PLANTING DETAILS



NOTE:
1. SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

DECIDUOUS TREE

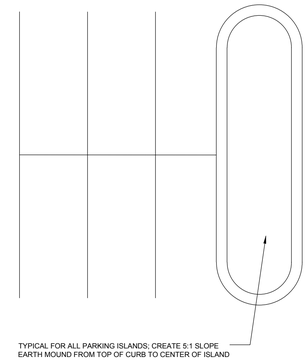
NOT TO SCALE



NOTE:
1. SHRUB SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS EXISTING GRADE.

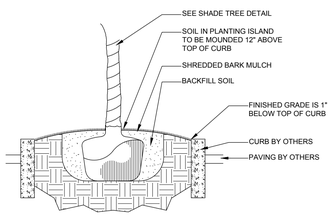
SHRUB PLANTING

NOT TO SCALE



PARKING LOT ISLAND

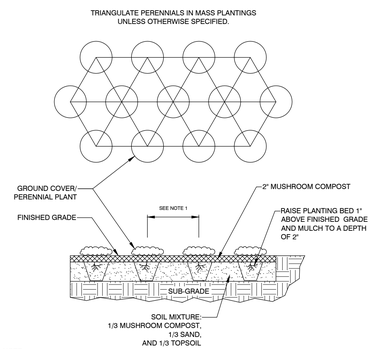
NOT TO SCALE



NOTE:
1. GUY TREES GREATER THAN 3" CAL. OR AS NECESSARY DURING GUARANTEE PERIOD OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
2. 3-GUYING ASSEMBLES PER TREE, 120° APART SEE DETAIL.

SHADE TREE IN ISLAND

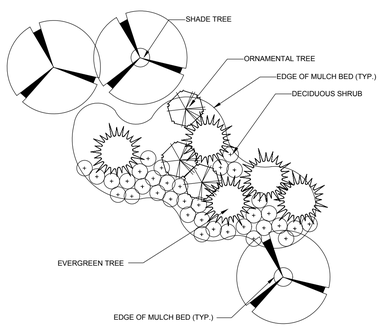
NOT TO SCALE



NOTE:
1. SPACING VARIES DEPENDING ON PLANT SPECIES, SEE PLANT LIST.
2. REMOVE PLASTIC PLANTING CONTAINER BEFORE PLANTING. BE CAREFUL TO KEEP THE ROOT SYSTEM INTACT.

GROUNDCOVER AND PERENNIALS

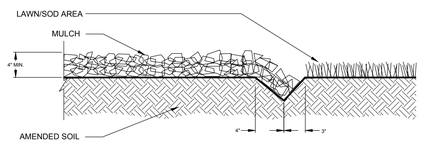
NOT TO SCALE



NOTE:
1. ALL MULCH BEDS FOR MASS PLANTING AREAS SHALL BE INSTALLED IN A UNIFORM CURVILINEAR FASHION AS INDICATED. MULCH SHALL EXTEND A MINIMUM OF 12" BEYOND THE OUTSIDE EDGE OF THE ROOT BALL AND INSTALLED ACCORDING TO THE CONTRACT SPECIFICATIONS.

MULCH EDGE DETAIL

NOT TO SCALE



CONTINOUS MULCH

NOT TO SCALE

SPECIFICATIONS

1. Field Verification The Contractor shall verify all existing conditions and dimensions in the field prior to bidding and report any discrepancies to the Owner or his representative.

2. Protection of Existing Site and Existing Site Features The Contractor shall provide at his/her own expense, protection against trespassing and damage to seeded areas, planted areas and other construction areas until the preliminary acceptance. The Contractor shall provide barricades, temporary fencing, signs, written warning or policing as may be required to protect such areas. The Contractor shall not be responsible for any damage caused by the Owner after such warning has been issued. It shall be the Contractor's responsibility to locate and protect all existing above and below ground utilities when performing the work. The Contractor shall be responsible for the protection of crowns, trunks and roots of existing trees, shrubs, lawns, paved areas and other landscaped areas that are to remain. Existing trees which may be subject to construction damage shall be boxed, fenced or otherwise protected before any work is started. Boxing or other protection will be removed at the end of construction. Do not locate heavy equipment or stockpiles within the drip-line of existing plants or on lawns. Any damage to utilities, structures, plantings or lawn which results from the Contractor's work shall be repaired in kind at the Contractor's expense immediately with as little inconvenience to the Owner as possible. All areas shown on the plan as sod, the General Contractor will provide the Landscape Contractor with an excavated area 2" below the curb elevation and proposed grade. It is the Landscape Contractor's responsibility to verify with the General Contractor that the subgrade preparation has been completed. The Landscape Contractor shall coordinate his/her work with all other trades on site. Any planting areas disturbed as a result of general construction activity shall be immediately repaired/replaced by the Landscape Contractor at no additional expense to the Owner.

3. Planting Techniques All planting techniques and methods shall be consistent with the latest edition of "Horticulture Standards of Nurserymen, Inc.", and as detailed on these drawings. All deciduous plant material shall be thin pruned to remove 1/3 interior branches, dead branches and broken branches. Pruning shall compliment plants natural form. Absolutely NO tip pruning is allowed, except hedges. Any plant that is tip pruned is subject to rejection by the Landscape Architect. Evergreen trees and shrubs shall be pruned of dead and broken branches and as directed by the Landscape Architect. All pruning work shall be done with hand pruners only. Stake/guy all trees as necessary immediately after installation and prior to acceptance. When high winds or other conditions occur, the Landscape Contractor shall take whatever precautions he/she deems necessary to protect the survival and appearance of the plants. These steps shall be taken at no additional expense to the Owner.

4. Inspection of Plant Material All plant materials shall be subject to inspection and approval. The Landscape Architect/Owners Representative reserves the right to reject any plants which fail to meet this inspection. All rejected material shall be removed from the site by the Contractor. Height of evergreen trees are measured from the top of ball to the first lateral branch closest to the top. Height and/or width of other plants so specified are measured by the mass of the plant not the very tip of the branches.

5. Plant Substitution Substitution from the specified list will be accepted only when evidence in writing is submitted to the Landscape Architect, showing that the plant specified is not available. Requests for approval of substitute plant material shall include common and botanical names and size of substitute material. Only those substitutions of at least equivalent size and having essential characteristics similar to the originally specified material will be approved. Acceptance or rejection of substitute plant materials will be issued in writing by the Landscape Architect.

6. Planting Soil Planting soil shall be replaced in all disturbed areas at a minimum depth of six inches. The planting soil shall be amended by the contractor at the time of placement. The amended topsoil shall consist of three parts topsoil, one part compost, one part sand and five pounds of bone meal per cubic yard.

7. Mulch All disturbed areas including shrub beds and individual trees shall be mulched with a minimum of 4" finely shredded bark mulch to be approved by the Landscape Achitect/Owners Representative. Perennial, ground cover and annual flower beds shall be mulched with 2" of finely ground compost.

8. Pre-emergent Herbicide All shrub beds, individual tree rings and ground cover beds shall be treated with a pre-emergent herbicide prior to the mulch being installed. These areas shall be weed free prior to herbicide application.

9. Sodding Sod shall be Kentucky Bluegrass and is required in all areas as noted on the landscape plan. Sod should be grown from at least four varieties of quality seed. Sodded slopes 3:1 or greater shall be staked to prevent erosion and washout. Sod is to be laid within 8 hours of the delivery time to the site. Watering shall continue until all sod areas are thoroughly knit to the ground.

10. Seeding All lawn areas on landscape plan specified to be seeded shall be treated as specified below:

A. Topsoil Shall be spread over all areas to be seeded to a minimum depth of 6" when compacted.

B. Seed Mixture and Application Rate

Kentucky Bluegrass (4 varieties)	60%
Perennial Ryegrass	20%
Redtop or Creeping Red Fescue	20%

Apply at the rate of 5.5 lbs. per 1,000 sq. ft.

C. Fertilization The contractor shall acquire site specific soil analysis from a reputable firm, amend soil, and fertilize all area per the findings of the analysis. The contractor shall supply the Landscape Architect with all findings, analysis, and recommendations. Apply fertilizers and conditioners at the rate specified per soil test findings. At least 40% of the fertilizer nitrogen shall be of an organic origin.

D. Watering Seeded areas shall be watered to insure proper germination. Once seeds have germinated, watering may be decreased but the seedlings must never be allowed to dry out completely. Frequent watering should be continued for approximately four (4) weeks after germination or until grass has become sufficiently established to warrant watering on an "as needed" basis. All plant material watering will be the responsibility of the contractor until acceptance by the owner and the Landscape Architect/Owners Representative.

E. Establishment Turf may be established on a variety of slope conditions. It shall be the contractor's responsibility to determine and implement whatever procedures he/she deems necessary to establish the turf as part of his/her work. Seeded areas will be accepted when all areas show a uniform stand of the specified grass in healthy condition and at least 60 days have elapsed since the completion of this work. A uniform stand is defined as areas where the grass is growing thickly without bare spots larger than 12" x 12". The Contractor shall submit with his bid a description of the methods and procedures he/she intends to use.

11. Preliminary Acceptance All plantings shall be maintained by the Contractor for a period of 60 days after preliminary acceptance by the Owner. Maintenance shall include, but is not limited to, mowing and edging turf, pulling weeds, watering turf and plant material, and annual flower maintenance.

12. Final Acceptance Final acceptance will be granted by the Landscape Architect/Owners Representative upon receipt of written request by the contractor, combined with an acceptable final review of the installation by the Landscape Architect/Owners Representative. All plant material (excluding annual flowers), shall be guaranteed for two years after the end of the 60 day maintenance period. The end of the maintenance period is marked by the final acceptance of the Contractor's work by the Owner, and the Landscape Architect/Owners Representative. All plants that are not vigorous, healthy and in good condition shall be replaced by the Landscape Contractor at no additional expense to the Owner. These replacement plants shall meet all specified qualities of the original plant materials and carry the same guarantee from the time of replacement.

13. Site Cleanup The Contractor shall protect the property of the Owner and the work of other Contractors. The Contractor shall also be directly responsible for all damage caused by his/her activities at no additional expense to the owner and for the daily removal of all trash and debris from the work area to the satisfaction of the Landscape Architect/Owners Representative.

DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER VILLAGE COMMENTS	JBD

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Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSD COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
LANDSCAPE PLAN

PROJ. MGR.:	JGC
PROJ. ASSOC.:	GMC1
DRAWN BY:	JBD
DATE:	10-20-17
SCALE:	1"=20'

SHEET
L2 OF L2
KREPTIL01

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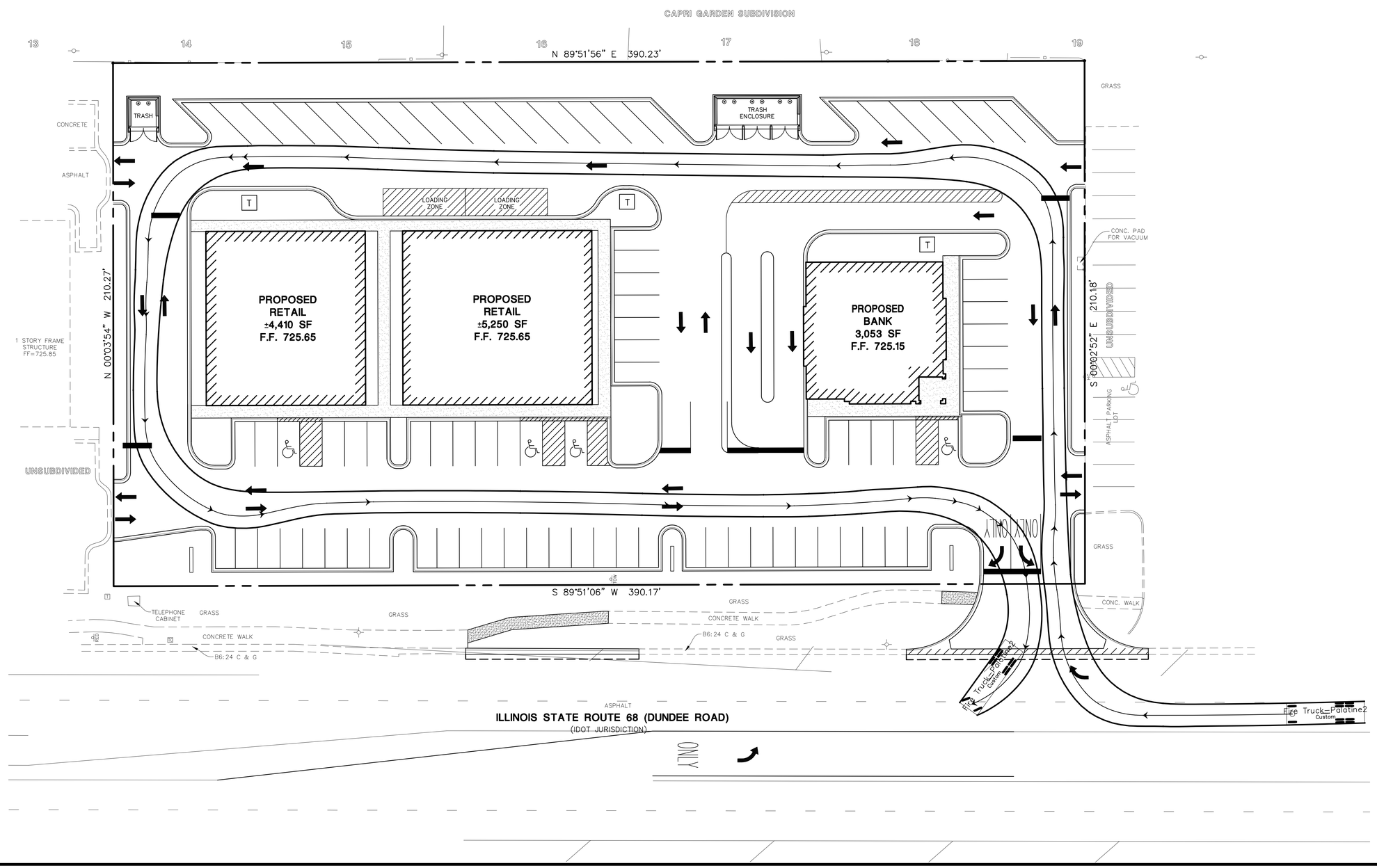
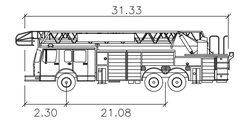
Attachment: Landscape Plan (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

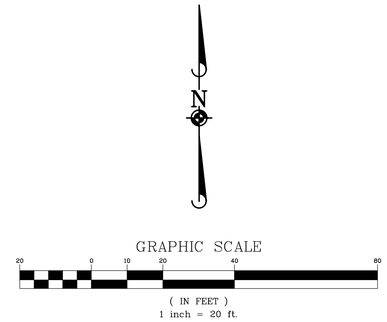
November 20, 2017 - 09:49 Dwg Name: P:\Kreptil01\dwg\Landplan\Preliminary\Landscape Plan rev. 11-15-17.dwg Updated By: bdethloff





Fire Truck-Palatine2

Width	: 8.70
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 31.4



DATE	REVISIONS	DRAWN BY
12-20-17	REVISED PER SITE LAYOUT CHANGES	ZRS

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PROPOSED COMMERCIAL DEVELOPMENT
VILLAGE OF PALATINE, ILLINOIS
FIRE TRUCK TURN EXHIBIT

PROJ. MGR.:	JGC
PROJ. ASSOC.:	JSP
DRAWN BY:	BEP
DATE:	11-17-17
SCALE:	1"=20'

SHEET 1 OF 1

KREPTIL01

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November 17, 2017 - 14:48 Dwg Name: P:\Krepti\01\dwg\Eng\Final Drawings\Exhibits Eng\Truck Turn Exhibit.dwg Updated by: bcoppe

Attachment: Truck Turn Exhibit (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Manhard CONSULTING LTD

Civil Engineering
Surveying
Water Resources Management
Water & Wastewater Engineering
Supply Chain Logistics
Construction Management
Environmental Sciences
Landscape Architecture
Land Planning

January 18, 2018

Ms. Katie Romack
Planning and Zoning Department
Village of Palatine, Illinois
150 West Wilson Street
Palatine, IL 60067-0926

RE: REVIEW #2 RESPONSES
PROPOSED COMMERCIAL DEVELOPMENT
1000-1002 E. DUNDEE ROAD
VILLAGE OF PALATINE, IL

Dear Ms. Romack:

In response to the review letter received from Staff dated January 10, 2018, we offer the following responses in ***bold and Italics*** to your comments listed below:

Planning and Zoning

1. A Special Use is required for an electronic message board (EMB) sign. Please complete an additional Special Use Petitioner Justification sheet to address the Special Use for the EMB sign. I have attached an additional Special Use Petitioner Justification sheet and the EMB regulations. ***Comment Noted. The additional Special Use Petitioner Justification sheet has been completed for the EMB sign.***

2. Please revise item #8 on page 2 of the Preliminary and Final Planned Development Application to include the variations listed below:
   a. Variation to permit parking stalls to be 17 feet in length instead of the required 19 feet pursuant to Section 7.04 (d) (3) (a) of the Palatine Zoning Ordinance.
   Item 8 will be revised to include the above variation. The variation has been requested to provide additional landscaping area on-site and provide additional space for the landscaping buffer areas surrounding the site.

   b. Variation to permit parking stalls to be 18.8 feet in length instead of the required 19.8 feet pursuant to Section 7.04 (d) (3) (a) of the Palatine Zoning Ordinance.
   Item 8 will be revised to include the above variation. The variation has been requested to provide additional landscaping area on-site and provide additional space for the landscaping buffer areas surrounding the site.

   c. Variation to permit the landscape buffer to be 14 feet in width instead of the required 15 feet pursuant to Section 11.03 (h) of the Palatine Zoning Ordinance.
   Item 8 will be revised to include the above variation. The variation has been requested due to tenant requests and site constraints in the North-South dimension within the planned development.

   d. Variation to permit 2 monument signs to be 120 square feet instead of the maximum permitted 100 square feet pursuant to Section 8.03 (b) (1) (c) of the Palatine Zoning Ordinace. *Staff recommends the size of the signs are reduced to 100 square feet to meet Code.*
   The signage size will be reduced and no variation will be required.

Manhard Consulting, Ltd.
900 Woodlands Parkway • Vernon Hills, Illinois 60061
tel: (847) 634-5550 • fax: (847) 634-0095 • www.manhard.com
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Attachment: Response Letter from Manhard Consulting 1-18-18 (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign &

e. Variation to permit 2 monument signs to have tenant panels pursuant to Section 8.03 (b) (1) (c) of the Palatine Zoning Ordinance.
Item 8 will be revised to include the above variation. The variation has been requested on behalf of the proposed tenants.

f. Variation to permit a freestanding sign (EMB) to be 24 feet in height instead of the maximum 20 feet pursuant to 8.03 (a) (2) (d) of the Palatine Zoning Ordinance. *Staff recommends the height of the sign is reduced to 20 feet to meet code.*
The signage size will be reduced and no variation will be requested.

g. Variation to permit an EMB sign to be located on a lot with a width less than 300 feet pursuant to 8.01 (i) (2) (b) of the Palatine Zoning Ordinance.
Item 8 will be revised to include the above variation. The variation has been requested on behalf of the proposed tenant.

3. The final means of ingress/egress shall be submitted in a manner acceptable to the IDOT and the Village of Palatine. *This shall remain a condition of final approval.*
Comment noted. The final means of ingress/egress is still in discussion with the IDOT but will adhere to a manner acceptable to IDOT and the Village of Palatine.

4. Staff recommends additional landscaping is provided in the proposed 14' landscape buffer. *The final landscape plan shall remain a condition of final approval.*
Comment noted. Additional landscaping will be provided.

Fire Prevention

5. Plans show Fire Department Connections (FDC's) in the rear. Per the Village of Palatine Ordinance 7-40.4 (a), the FDC's shall be located on the street side of the building. *This shall remain a condition of final approval.*
Comment noted. FDC locations shall be revised to the south side of the building per code.

Building Department

6. The handicap parking curb cuts do not appear to meet Code. *This item still appears to be problematic. There is not enough room provided to achieve proper slopes and access to building entry points; and correcting this may impact the north/south dimensions.*
Comment noted. Additional grading detail will be provided with Final Engineering Plans to indicate ADA Code Compliance.

Engineering

7. Fire Hydrant HYD-2 shall be moved to a location by the entrance just north of the pressure connection to the Village of Palatine water main. *This shall remain a condition of final approval.*
Comment noted. HYD-2 shall be relocated as part of the Final Engineering Plan approval.

Yours truly,
MANHARD CONSULTING, LTD.

Jared Placek
Project Engineer

JSP/Romack011818LS (Response to Comments)

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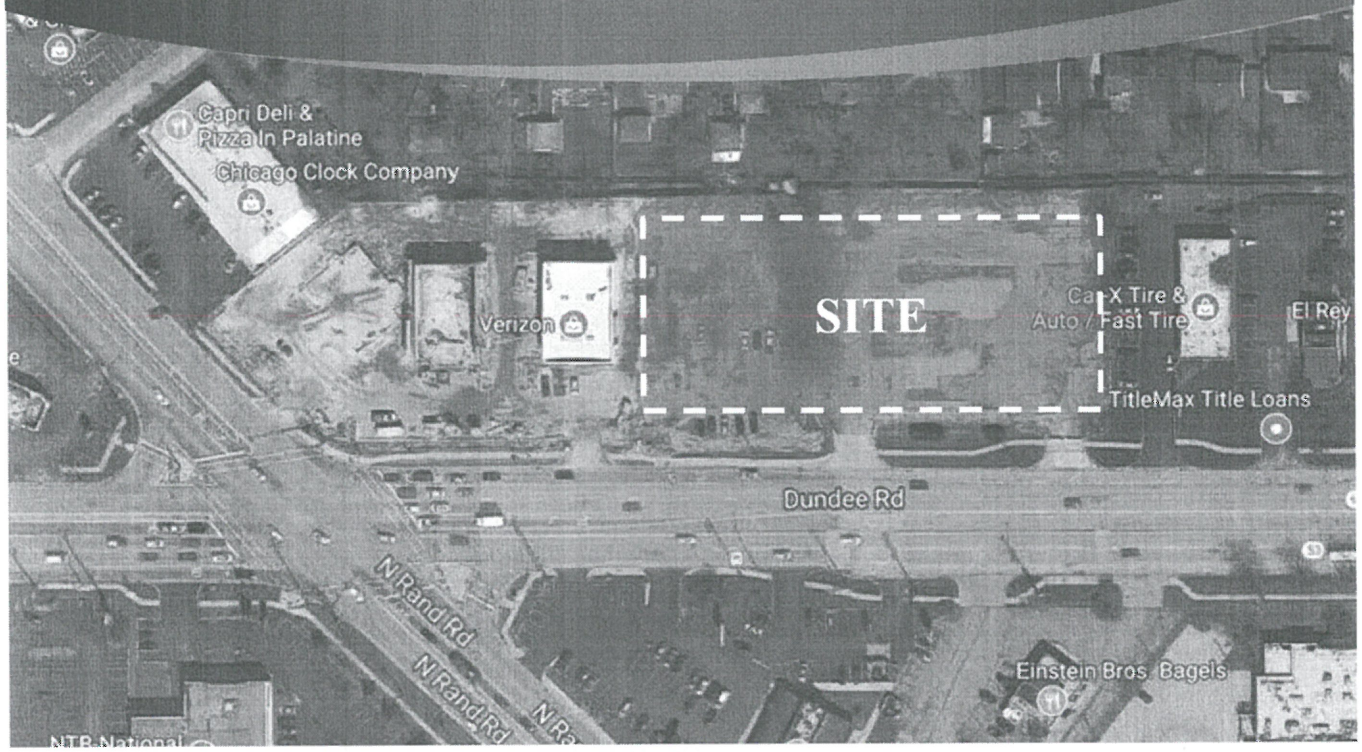
PLANNING & ZONING DEPARTMENT

Traffic Impact Study
1000/1002 West Dundee Road

Palatine, Illinois



Prepared For

CORE
ACQUISITIONS

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

October 18, 2017

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed retail development to be located at 1000/1002 West Dundee Road in Palatine, Illinois. The site is currently vacant and is bordered to the north by single-family homes, a CAR auto service center to the east, a retail development with a Verizon wireless store, a Mattress Firm, and a Panera Bread restaurant to the west and Dundee Road to the south. **Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site.

The development is comprised of two parcels located on the north side of Dundee Road approximately 460 feet east of the signalized intersection of Rand Road with Dundee Road. The plans call for developing the site with an approximate 2,970 square-foot bank building with two drive-through lanes and approximately 12,600 square feet of specialty retail in two separate buildings. A total of 80 parking spaces will be provided.

Access to the development will be provided via an existing full ingress/egress access drive on Dundee Road located approximately 620 feet east of the intersection of Rand Road with Dundee Road and via cross access to the west with the existing retail development.

The sections of this report present the following:

- Existing roadway conditions including vehicle, pedestrian, and bicycle traffic volumes for the weekday morning and evening peak hours
- A detailed description of the proposed development
- Vehicle trip generation for the proposed development
- Directional distribution of development-generated traffic
- Future transportation conditions including access to and from the development

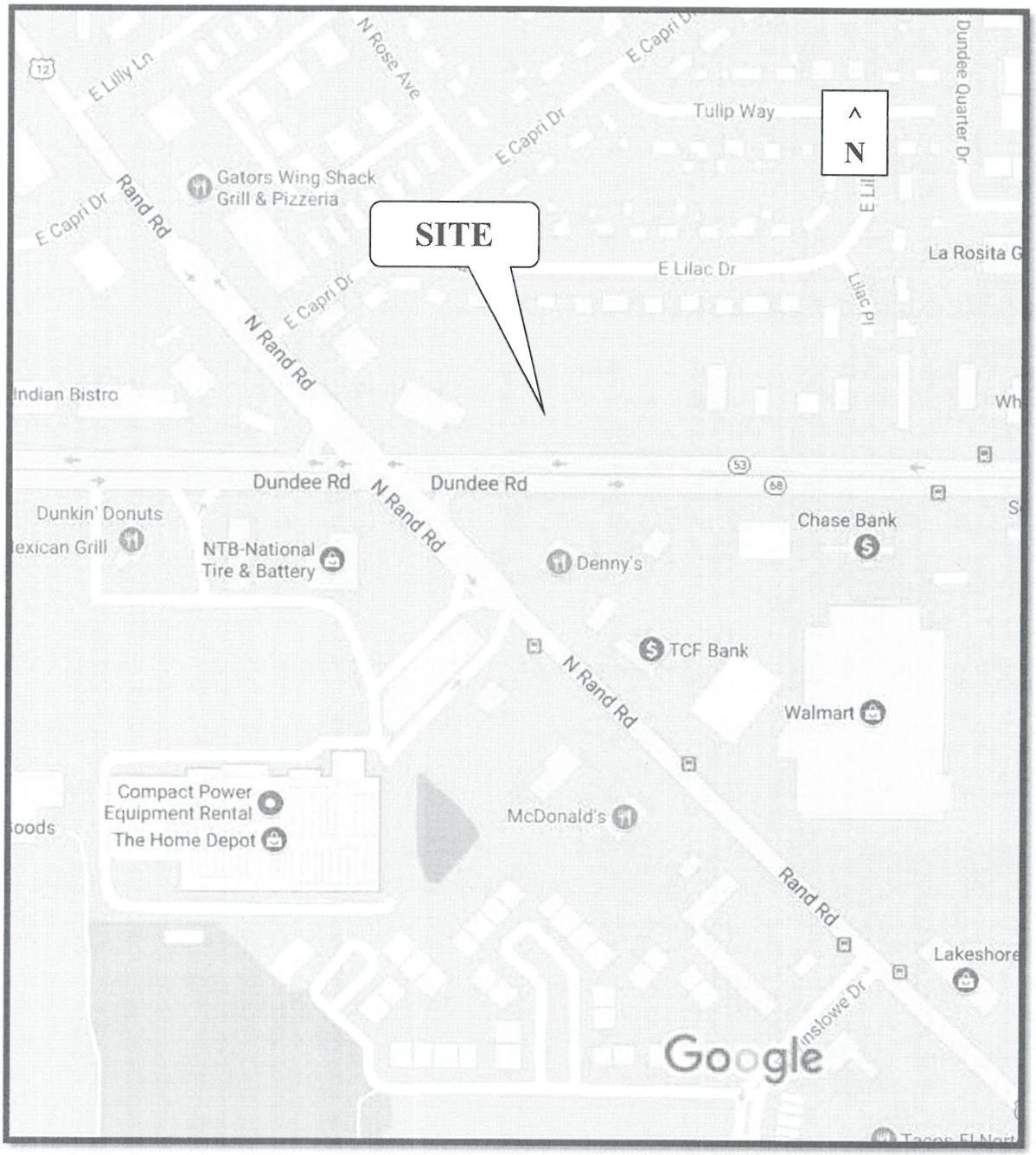
Traffic capacity analyses were conducted for the weekday morning and evening peak hours for the following three conditions:

1. Existing Conditions - Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.

2. Future Conditions – Traffic was projected to Year 2023 conditions which include the existing traffic volumes increased by a regional growth factor and the traffic estimated to be generated by the proposed subject development.

3. Future Conditions with Proposed Improvements to Rand Road with Dundee Road – Analyzes Year 2023 conditions assuming the proposed improvements by the Illinois Department of Transportation (IDOT) to the intersection of Rand Road with Dundee Road.

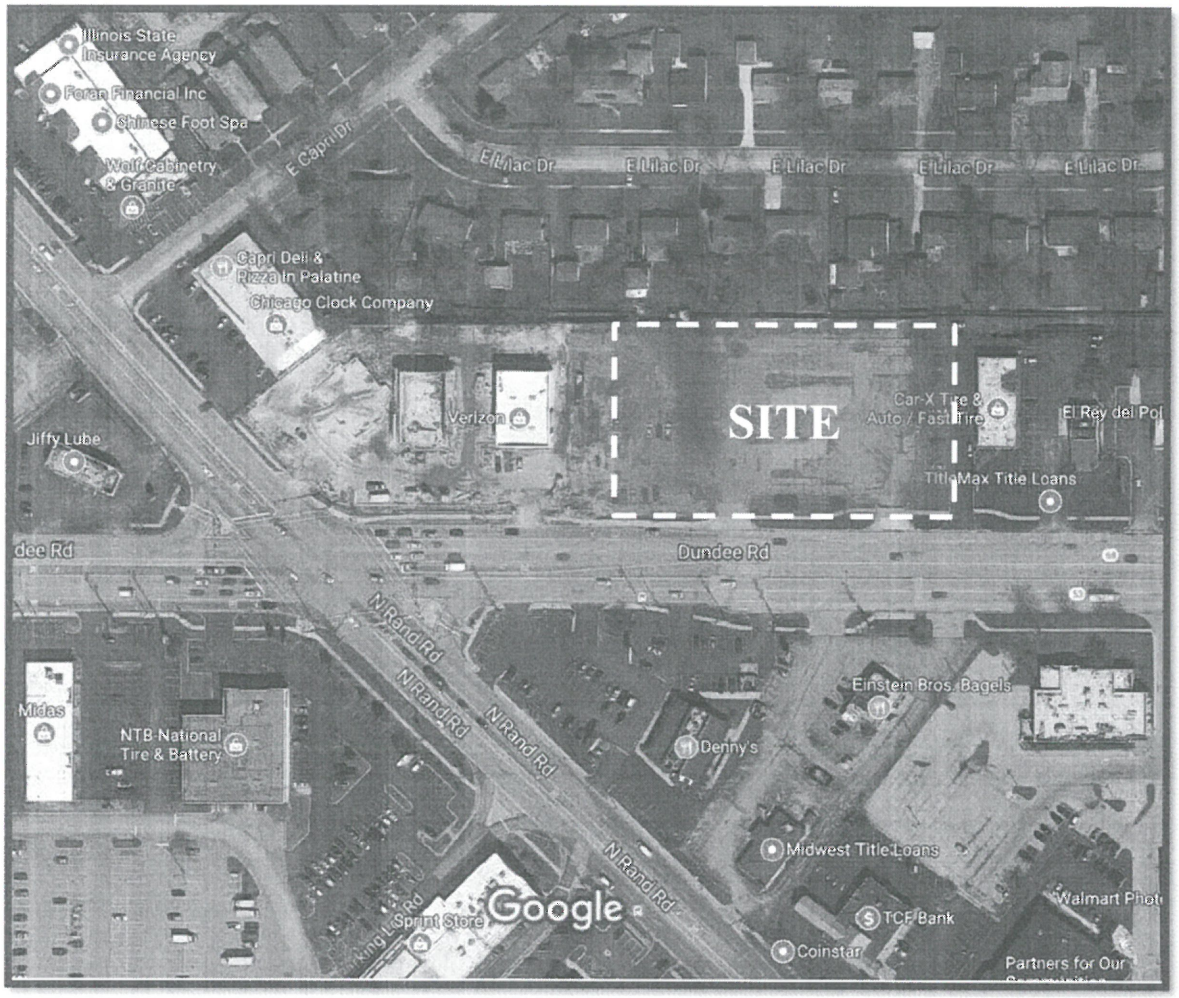
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



Site Location

Figure 1

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



Aerial View of Site Area **Figure 2**

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

The purpose of this study is as follows:

- Determine the existing vehicular, pedestrian, and bicycle conditions in the study area to establish a base condition.
- Assess the impact that the proposed development will have on transportation conditions in the area.
- Determine any road, traffic control, or access improvements that may be necessary to effectively accommodate and mitigate future conditions.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

2. Existing Conditions

Existing traffic and roadway conditions were documented based on field visits and previous traffic counts conducted by KLOA, Inc. The following provides a detailed description of the physical characteristics of the roadways including geometry and traffic control and adjacent land uses along area roadways.

Existing Roadway System Characteristics

The characteristics of the existing roadways that surround the proposed development are illustrated in **Figure 3** and described below. All roadways are under IDOT's jurisdiction.

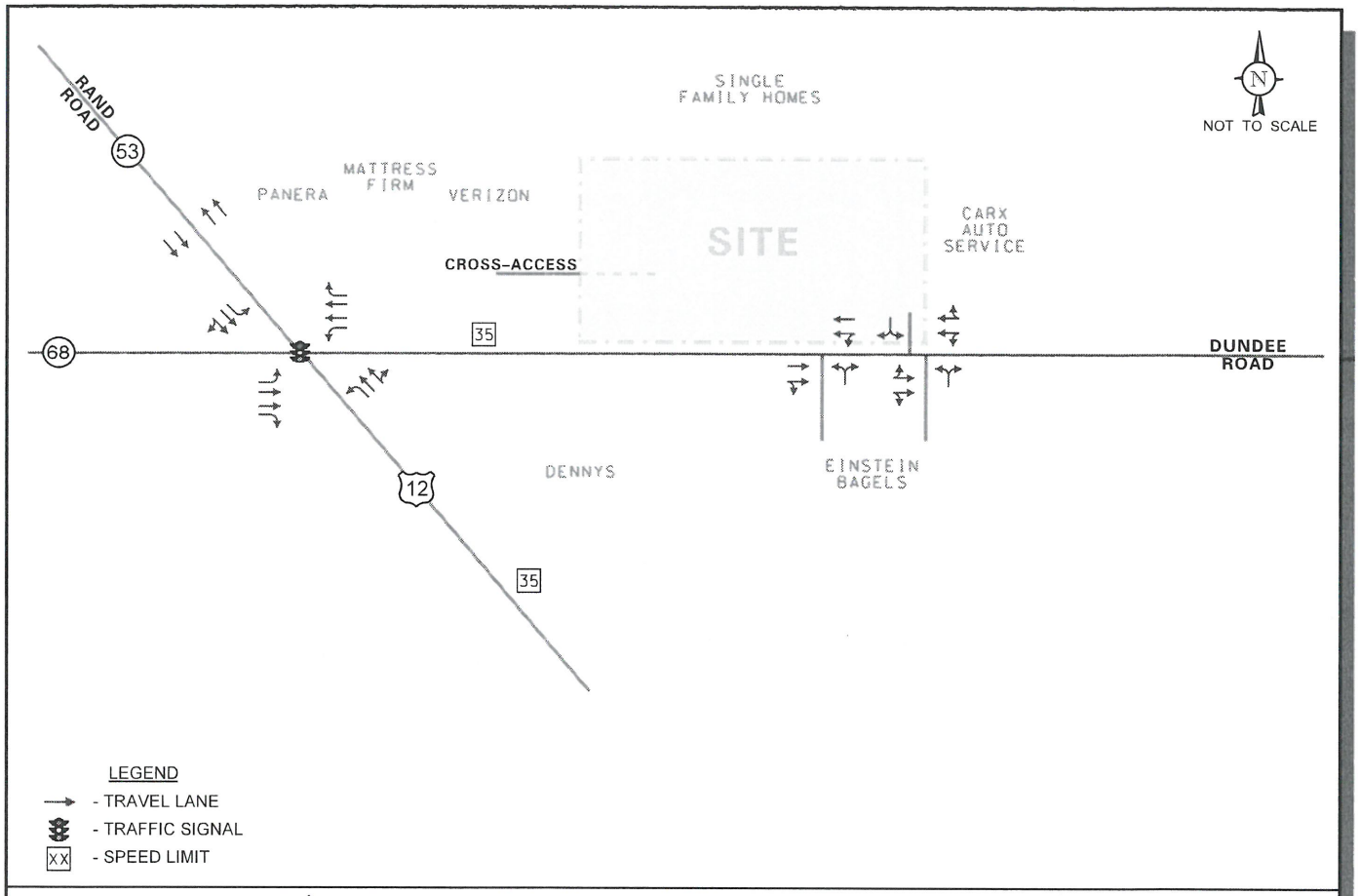
Rand Road (U.S. Route 12/IL 53) is a north-south other principal arterial that in the vicinity of the site provides two lanes in each direction separated by a painted median. At its signalized intersection with Dundee Road, both approaches provide an exclusive left-turn lane, a through lane, and a combined through/right-turn lane with right-turn corner islands. The posted speed limit is 35 mph and no on-street parking is allowed on either side of the road. According to IDOT's website, Rand Road carries an average daily traffic (ADT) volume of 27,300 vehicles north of Dundee Road (Year 2015) and a volume of 29,300 vehicles south of Dundee Road (Year 2015).

Dundee Road (IL 68) is an east-west other principal arterial providing two lanes in each direction separated by a painted median. At its signalized intersection with Rand Road, Dundee Road provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on both approaches. No exclusive turn lanes are provided at its unsignalized intersections with the site's existing access drive or the Einstein Bros. Bagels store access drives on the south side of Dundee Road. It should be noted that although there are no exclusive turn lanes on Dundee Road at these unsignalized intersections, left-turn movements are performed from the painted median and do not block through traffic. The posted speed limit is 35 mph and no on-street parking is allowed on either side of the road. According to IDOT's website, Dundee Road carries an ADT volume of 25,300 vehicles (Year 2015) in the vicinity of the site.

Future/Planned Improvements

The intersection of Rand Road with Dundee Road is planned to be improved to provide a southbound to westbound exclusive right-turn lane and a barrier median on the westbound approach of Dundee Road creating a back-to-back exclusive left-turn lane between Rand Road and the site's access drive. In addition, the lengths for the turn lanes on the eastbound, westbound, and southbound approaches will be extended. Based on discussions with IDOT, construction of these improvements, pending fund availability, could occur mid-2018/early 2019.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



1000/1002 W Dundee Rd
Retail Development
Palatine, Illinois

Existing Roadway Characteristics

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 17-217 Figure: 3

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

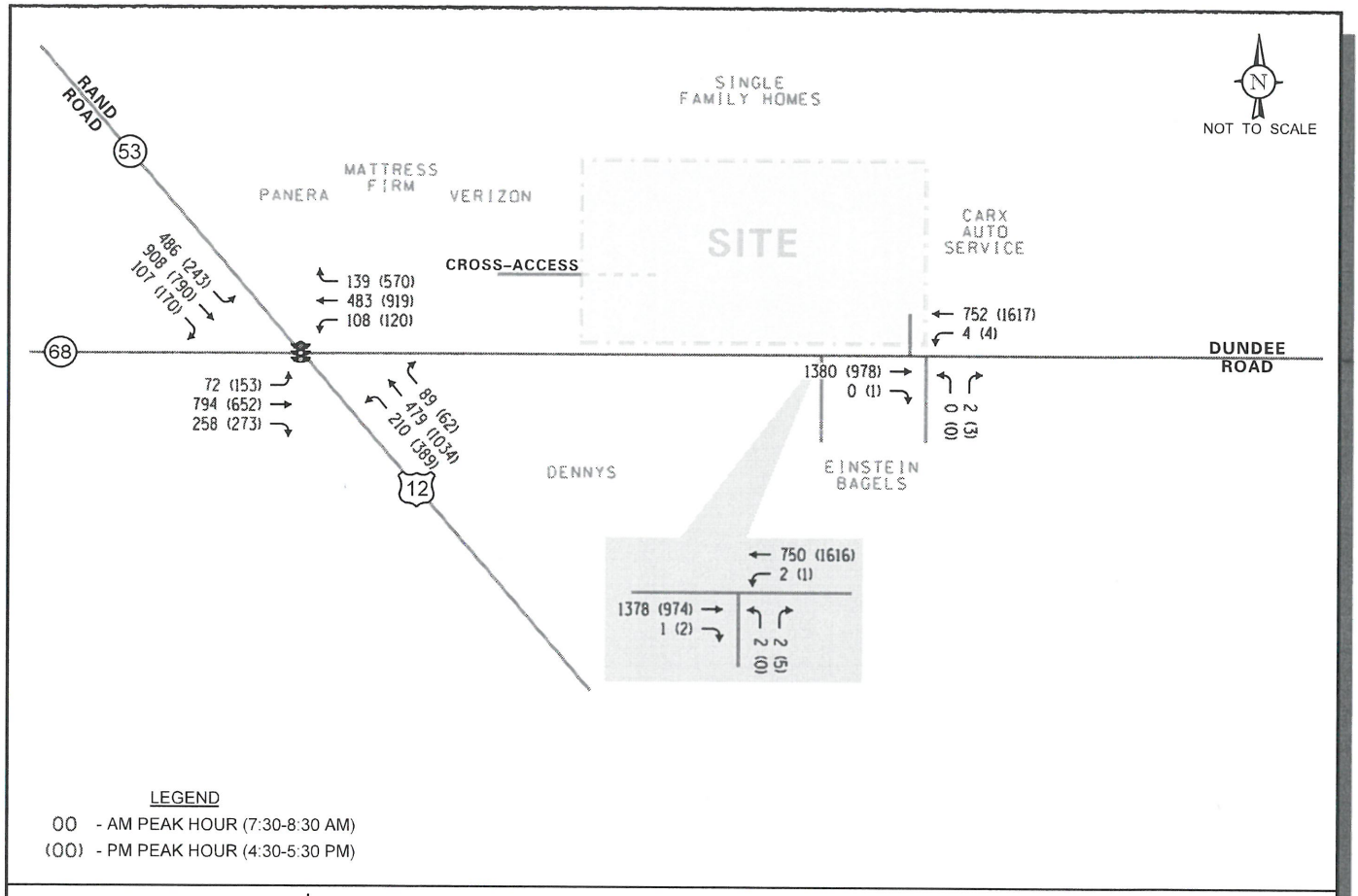
Existing Traffic Volumes

Turning movement vehicle (passenger, truck, and bus), pedestrian, and bicycle traffic counts were conducted during the weekday morning (7:00 to 9:00 A.M.) and evening (4:00 to 6:00 P.M.) peak periods on Thursday, September 14, 2017 on Dundee Road at Rand Road and at the two access drives serving the Einstein Bros. Bagel shop.

From the turning movement count data, it was determined that the weekday morning peak hour generally occurs between 7:30 and 8:30 A.M. and the weekday evening peak hour generally occurs between 4:30 and 5:30 P.M. These two respective peak hours will be used for the traffic capacity analyses and are presented later in this report. Pedestrian and bicycle activity was observed and was reported to be low at the study intersections.

The existing peak hour vehicle traffic volumes are shown in **Figure 4**.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



1000/1002 W Dundee Rd
Retail Development
Palatine, Illinois

Existing Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.
Job No: 17-217 Figure: 4

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

3. Traffic Characteristics of the Proposed Development

To evaluate the impact of the development on the area roadway system, it was necessary to understand the type of development being proposed, quantify the number of vehicle trips the overall site will generate during peak hours, and determine the directions from which this traffic will approach and depart the site based on the proposed site access plan and the characteristics of the adjacent roadway system.

Proposed Development Plan

The site is currently vacant and was formerly occupied by a gas station with two access drives off Dundee Road. Under the proposed plan, the westerly access drive will be eliminated and only one full ingress/egress access drive will be provided at the same location of the existing easterly drive. The site will be developed with an approximate 2,970 square-foot bank building with two drive-through lanes and approximately 12,600 square feet of specialty retail in two separate buildings. A total of 80 parking spaces will be provided.

Development Vehicle Access

As previously indicated, access to the development will be provided via an existing full ingress/egress access drive to be located on Dundee Road approximately 620 feet east of the intersection of Rand Road and Dundee Road and via cross access to the west with the existing retail development. The access drive off Dundee Road will provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and an exclusive right-turn lane with outbound movements under stop sign control.

It should be noted that, as shown in the preliminary site plan, future cross-access to the east with the CAR auto service center will also be provided.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

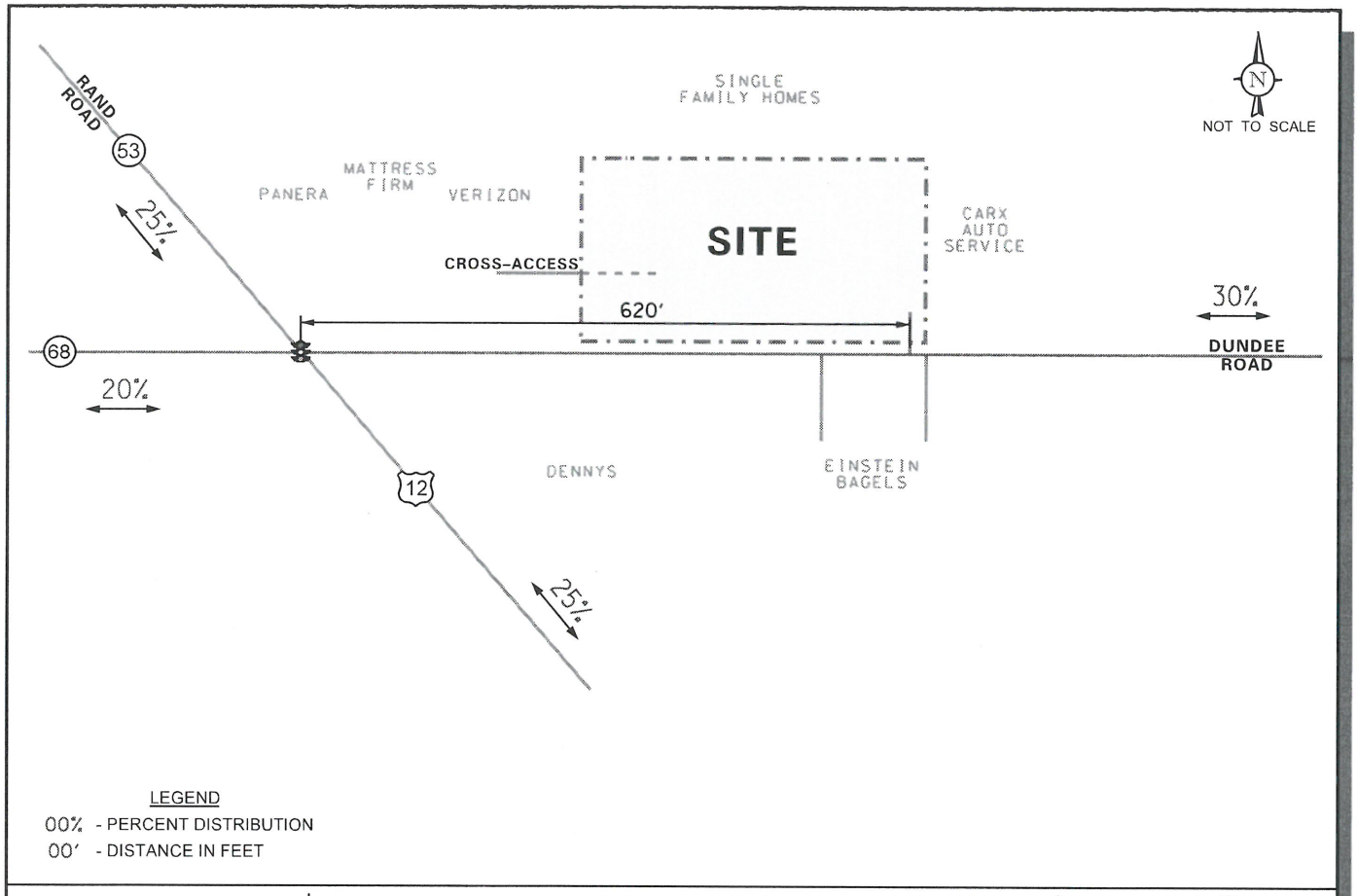
Bank Drive-Through Operations

The bank land use proposes a two-lane drive-through operation with a by-pass lane. The drive-through lanes will be located on the west side of the building facing south. Vehicles will enter the drive-through from the east on the north side of the building and exit to the south. As previously mentioned, a by-pass lane will be provided west of the drive-through lanes to allow vehicles to bypass the drive-through operations.

Based on a review of the preliminary site plan, the drive-through operation will provide stacking for approximately four vehicles per lane, which includes the vehicle being serviced plus an additional four vehicles before reaching the easterly north-south drive aisle. Based on current banking trends and our experience with bank drive-throughs, this storage will be adequate to accommodate the peak demands.

Directional Distribution of Development Traffic

The directional distribution of how traffic will approach and depart the site was estimated based on the general travel patterns through the study area derived from the peak hour traffic volumes. **Figure 5** shows the directional distribution established for this development. Figure 5 also shows the distances, in feet, between existing and proposed intersections.



1000/1002 W Dundee Rd
Retail Development
Palatine, Illinois

Estimated Directional Distribution

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.
Job No: 17-217 Figure: 5

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Development Traffic Generation

The estimate of vehicle traffic to be generated by the planned development is based on the number of drive-through lanes and the square footage of the retail portion of the development. The volume of traffic generated for the proposed developments was estimated using trip data published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition.

Table 1 tabulates the total trips anticipated for the proposed development for the weekday morning and evening peak hours, as well as the weekday daily (two-way) vehicle trips. As shown in Table 1, the development is estimated to generate a low volume of traffic during the peak hours. It is further important to note that bank traffic is typically pass-by traffic, where a vehicle is already on the adjacent roadway system en route to another destination (e.g. home to office). In addition, as much as 20 percent of the traffic generated by the retail portion of the development could also be pass-by traffic. Although up to 45 percent of bank traffic and 20 percent of the retail traffic can be considered pass-by trips, no pass-by reduction was applied in order to provide a conservative analysis.

Table 1
ESTIMATED VEHICLE TRIP GENERATION FOR THE PROPOSED DEVELOPMENT

ITE Land-Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Wkdy Daily (Two-Way) Trips
		In	Out	Total	In	Out	Total	
912	Bank – Two-Lane Drive-Through	11	7	18	26	28	54	250
820	Specialty Retail (12,600 s.f.)	7	5	12	23	25	48	476
Total Trips		**18**	**12**	**30**	**49**	**53**	**102**	**726**

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Development Traffic Assignment

The peak hour traffic volumes projected to be generated by the proposed development (Table 1) were assigned to the area roads based on the directional distribution analysis (Figure 5).

Figure 6 shows the assignment of the development-generated traffic volumes.

Regional Growth in Traffic

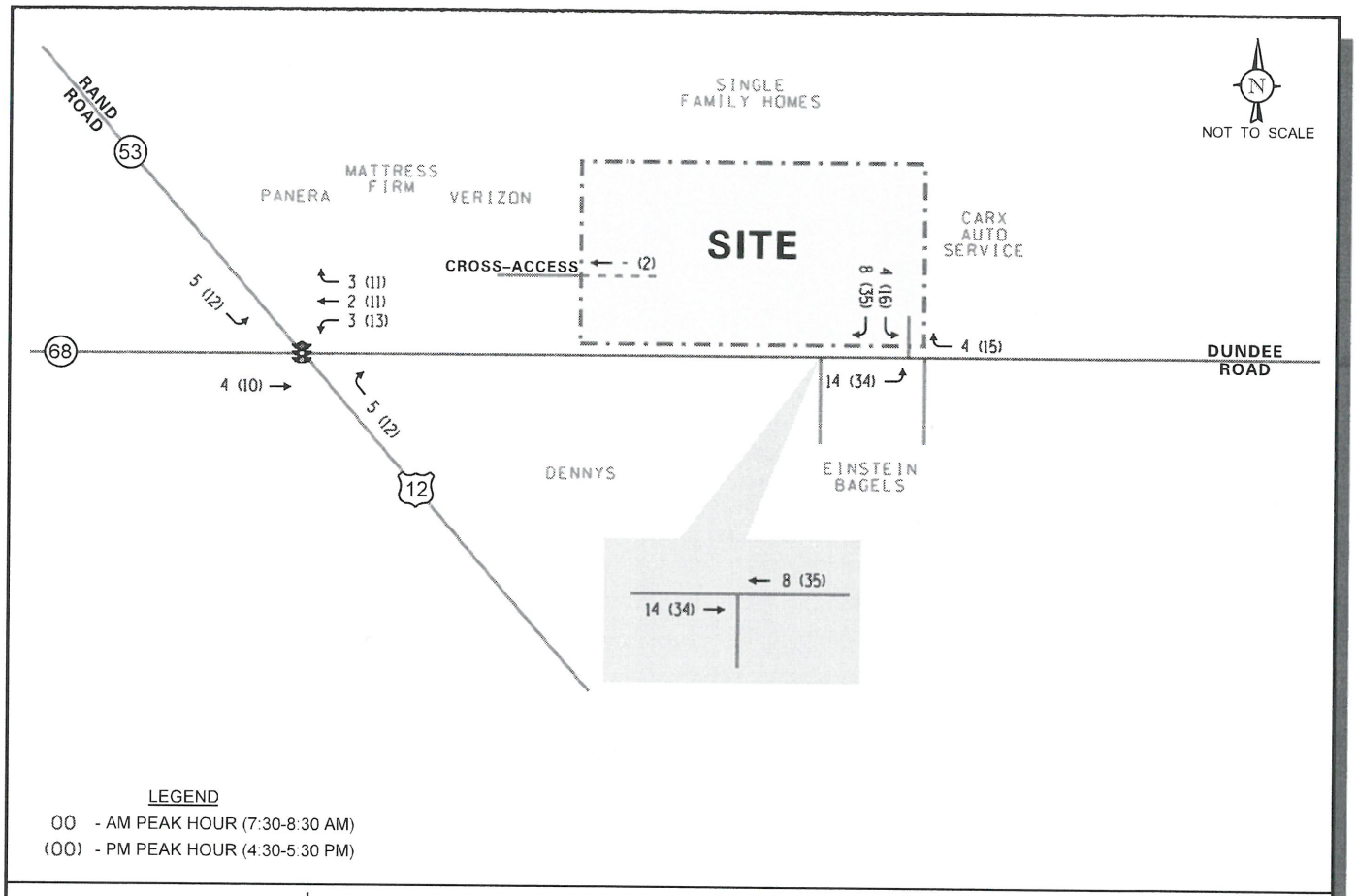
To account for the increase in existing traffic related to regional growth in the area (i.e. not attributable to any particular planned development) for Year 2023 conditions, the existing traffic volumes were increased by a total of two percent. This percentage increase is based on projections provided by the Chicago Metropolitan Agency for Planning (CMAP). A copy of the CMAP letter is included in the Appendix. In addition to the background growth and given that the Panera Bread, Mattress Firm and Verizon stores west of the site were not open for business when the traffic counts were conducted, the traffic to be generated by these stores was included and assigned to the area roadways.

Total Projected Traffic Volumes

Total projected traffic volumes include the existing traffic volumes increased by a regional growth factor of two percent, the traffic to be generated by the retail stores and restaurant west of the site and the traffic estimated to be generated by the proposed subject development. **Figure 7** shows the Year 2023 total projected traffic volumes.

As previously mentioned, IDOT has plans to widen and improve the intersection of Rand Road with Dundee Road. A portion of these improvements will introduce the provision of a raised median on the westbound approach of Dundee Road from Rand Road to the site's access drive. This raised median will therefore force inbound and outbound left-turning traffic to be generated by the retail center west of the site to the site's access drive. In addition, the westerly access drive serving the Einstein Bros. Bagel shop will become a right-in/right-out and inbound and outbound left turning traffic from the westerly access drive was assigned to the easterly access drive. **Figure 8** shows the Year 2023 total projected traffic volumes assuming the proposed improvements to the intersection of Rand Road with Dundee Road.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



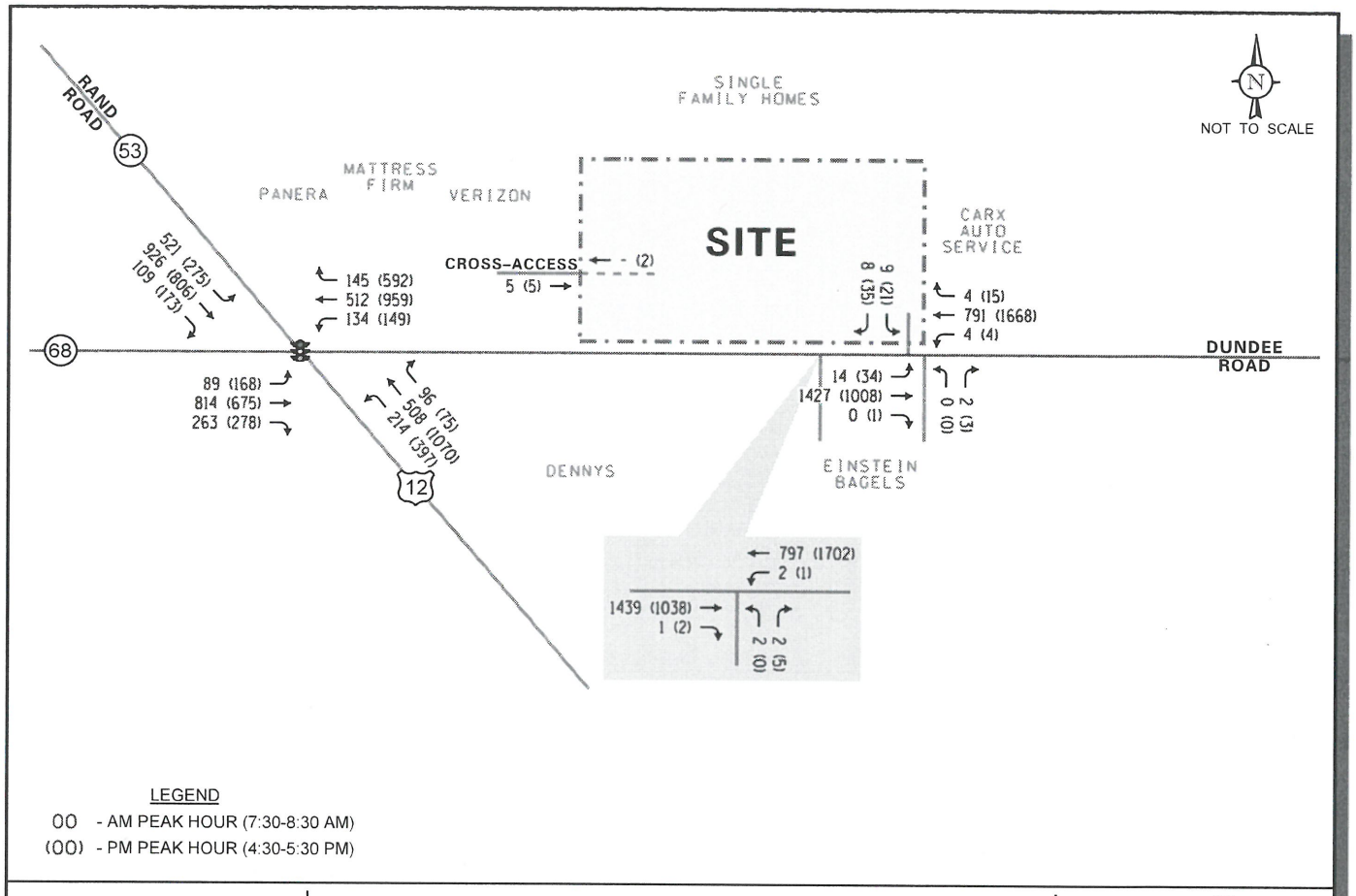
1000/1002 W Dundee Rd
Retail Development
Palatine, Illinois

Estimated Site-Generated Traffic Volumes

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 17-217 Figure: 6

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



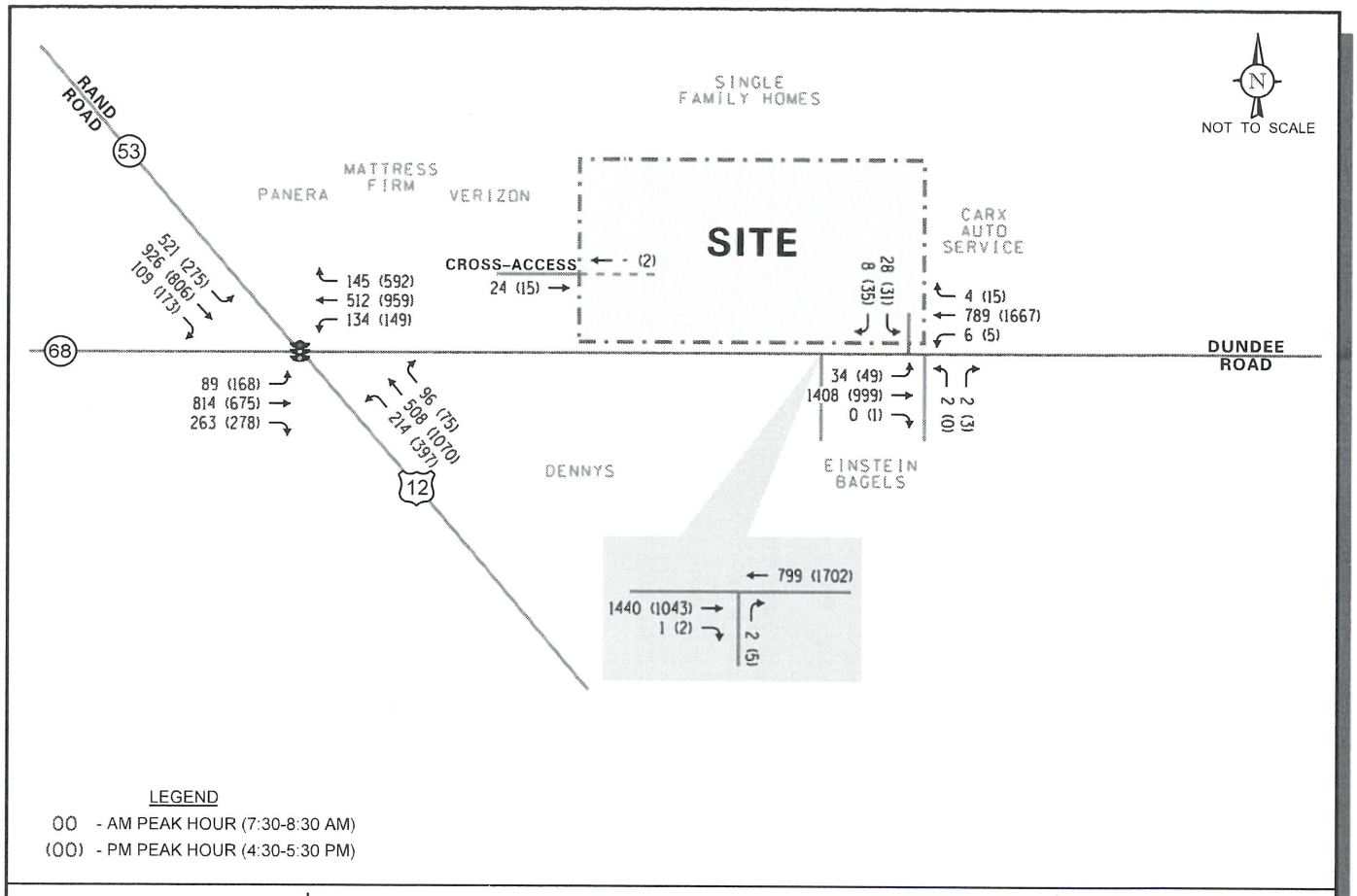
LEGEND

00 - AM PEAK HOUR (7:30-8:30 AM)

(00) - PM PEAK HOUR (4:30-5:30 PM)

1000/1002 W Dundee Rd Retail Development Palatine, Illinois	Year 2023 Total Traffic Volumes (No Improvements to Rand Road/Dundee Road)	KLOA Kenig,Lindgren,O'Hara,Aboona,Inc. Job No: 17-217 Figure: 7

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



LEGEND

00 - AM PEAK HOUR (7:30-8:30 AM)

(00) - PM PEAK HOUR (4:30-5:30 PM)

1000/1002 W Dundee Rd
Retail Development
Palatine, Illinois

Year 2023 Total Traffic Volumes
(Assuming Improvements to Rand Road/Dundee Road)

KLOA
Kenig,Lindgren,O'Hara,Aboona,Inc.

Job No: 17-217 Figure: 8

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

4. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and evening peak hours. The analysis includes conducting capacity analyses to provide an indication of how well the roadway facilities serve the anticipated traffic demands placed upon them. The primary focus of the analyses is to determine if road and/or traffic control improvements are required to accommodate the development-generated traffic and the growth in existing traffic for future conditions.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning and evening peak hours for both existing and Year 2023 total projected traffic conditions.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM), 2010* and analyzed using Highway Capacity Software 7 (HCS7).

The analysis for the traffic-signal controlled intersection of Rand Road and Dundee Road was accomplished using the programmed cycle length (130 seconds for all times) and offset to determine the average overall vehicle delay and levels of service.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service (LOS) and the corresponding control delay for signalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the criteria of LOS and overall intersection delay (measured in seconds) for the analyzed conditions are presented in **Table 2.** The results of the analysis for the signalized intersection of Rand Road with Dundee Road is presented in **Table 3.** The results for the unsignalized intersections for existing and projected conditions are presented in **Tables 4** and **5,** respectively. A discussion of the intersections follows.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Table 2
LEVEL OF SERVICE CRITERIA

Signalized Intersections		
Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	>35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	>55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80.0

Unsignalized Intersections	
Level of Service	Average Total Delay (SEC/VEH)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Source: *Highway Capacity Manual*, 2010.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Table 3
CAPACITY ANALYSIS RESULTS – RAND ROAD WITH DUNDEE ROAD

	Peak Hour	Eastbound			Westbound			Northbound			Southbound			Overall
		L	T	R	L	T	R	L	T	R	L	T	R	
Existing Conditions	Weekday Morning Peak Hour	D 35.7	E 60.0	D 36.5	D 40.3	D 37.5	C 27.5	C 25.7	C 21.7	C 24.1	E 66.5	C 23.5	C 25.5	D – 39.1
		D – 53.0			D – 36.0			C – 23.7			D – 38.1			
	Weekday Evening Peak Hour	D 46.4	D 45.0	C 32.8	D 39.0	F 125.6	F 146.2	F 80.9	C 25.9	C 27.0	C 32.9	C 27.3	C 30.6	E – 64.2
		D – 42.1			F – 126.4			D – 40.7			C – 29.7			
Projected Conditions	Weekday Morning Peak Hour	D 36.9	F 76.4	D 38.2	D 44.1	D 39.4	C 28.4	C 26.3	C 22.1	C 24.6	F 92.7	C 23.8	C 25.8	D – 46.0
		E – 64.8			D – 38.2			C – 24.1			D – 47.5			
	Weekday Evening Peak Hour	D 49.3	D 50.0	C 34.4	D 40.9	F 157.1	F 155.3	F 86.1	C 28.6	C 29.9	D 45.2	C 27.5	C 30.8	E – 72.8
		D – 46.0			F – 146.3			D – 43.9			C – 32.6			
Projected Conditions with Improvements	Weekday Morning Peak Hour	D 36.9	F 76.4	D 38.2	D 44.1	D 39.4	C 28.4	C 22.3	C 22.1	C 24.6	F 92.7	B 20.0	B 17.0	D – 44.6
		E – 64.8			D – 38.2			C – 23.0			D – 44.1			
	Weekday Evening Peak Hour	D 49.3	D 50.0	D 36.1	D 40.9	F 157.1	F 155.3	D 44.1	C 28.6	C 29.9	D 45.2	C 22.5	B 18.4	E – 68.6
		D – 46.5			F – 146.3			C – 33.1			C – 26.9			

Delay is measured in seconds.
Intersection is signalized.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Table 4
CAPACITY ANALYSIS RESULTS FOR EXISTING CONDITIONS
UNSIGNALIZED INTERSECTIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Dundee Road with Einstein Bagel East Drive				
• Northbound Approach	B	14.7	B	12.1
Dundee Road with Einstein Bagel West Drive				
• Northbound Approach	C	22.1	B	12.1

Delay is measured in seconds.

Table 5
CAPACITY ANALYSIS RESULTS FOR PROJECTED CONDITIONS
UNSIGNALIZED INTERSECTIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Dundee Road with Einstein Bagel East Drive/Access Drive				
• Northbound Approach	C (D)	15.1 (29.6)	B (B)	12.3 (12.2)
• Southbound Approach	C (D)	18.8 (25.6)	E (F)	41.3 (56.7)
Dundee Road with Einstein Bagel West Drive				
• Northbound Approach	C (C)	23.4 (15.2)	B (B)	12.5 (12.5)

Delay is measured in seconds.
(xx) = Projected LOS/Delay with future improvements to the intersection of Rand Road and Dundee Road.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and/or traffic control improvements necessary to accommodate both the anticipated growth in regional traffic in addition to the proposed development traffic.

Rand Road with Dundee Road

Based on the results of the capacity analyses, the intersection is currently operating at an overall Level of Service (LOS) D during the morning peak hour and at an overall LOS E during the evening peak hour. Under future conditions without any improvements to the intersection of Rand Road and Dundee Road, the intersection will continue operating at the same LOS with increases in overall delay of less than eight seconds. Assuming the proposed improvements by IDOT, the intersection will also continue operating at the same overall LOS during the morning and evening peak hours. As such, no additional improvements are necessary in conjunction with the proposed development.

Dundee Road with Einstein Bagel East Drive/Access Drive

The capacity analyses show that the northbound approach of this intersection is operating at an acceptable LOS during the morning and evening peak hours. Under future conditions without any improvements to the intersection of Rand Road with Dundee Road, the northbound approach will continue operating at an acceptable LOS. The southbound approach will operate at a LOS C during the morning peak hour and at an LOS E during the evening peak hour. This LOS is not uncommon and it is expected at intersections where a minor road or access drive intersects a major road like Dundee Road. The eastbound to northbound left-turn movement will occur from the painted median and based on the results of the capacity analyses it will operate at an acceptable LOS with queues of 25 feet or less. Based on inspection of the projected traffic volumes and the requirements set forth in IDOT's Bureau of Design and Environment (BDE) Manual for auxiliary lanes, an exclusive right-turn lane into the site will not be necessary.

Under future conditions and assuming the proposed improvements by IDOT to the intersection of Rand Road with Dundee Road, the southbound approach LOS decreases to F during the evening peak hour due to the fact that all of the left-turn movements from the retail center west of the site will be shifted to this access drive. However, as previously mentioned, this is not uncommon and it is expected at intersections where a minor road or access drive intersects a major road like Dundee Road. Given the proposed improvements, an exclusive eastbound to northbound left-turn lane will be provided on Dundee Road with approximately 145 feet of storage. Based on the results of the capacity analyses, the left-turn movement will operate at an acceptable LOS with queues of 25 feet or less which can be accommodated by the proposed left-turn lane storage. Further inspection of the capacity analyses indicates that the 95th percentile queues for the southbound approach will 50 feet or less. As such, no additional improvements are necessary in conjunction with the proposed development.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

5. Conclusion

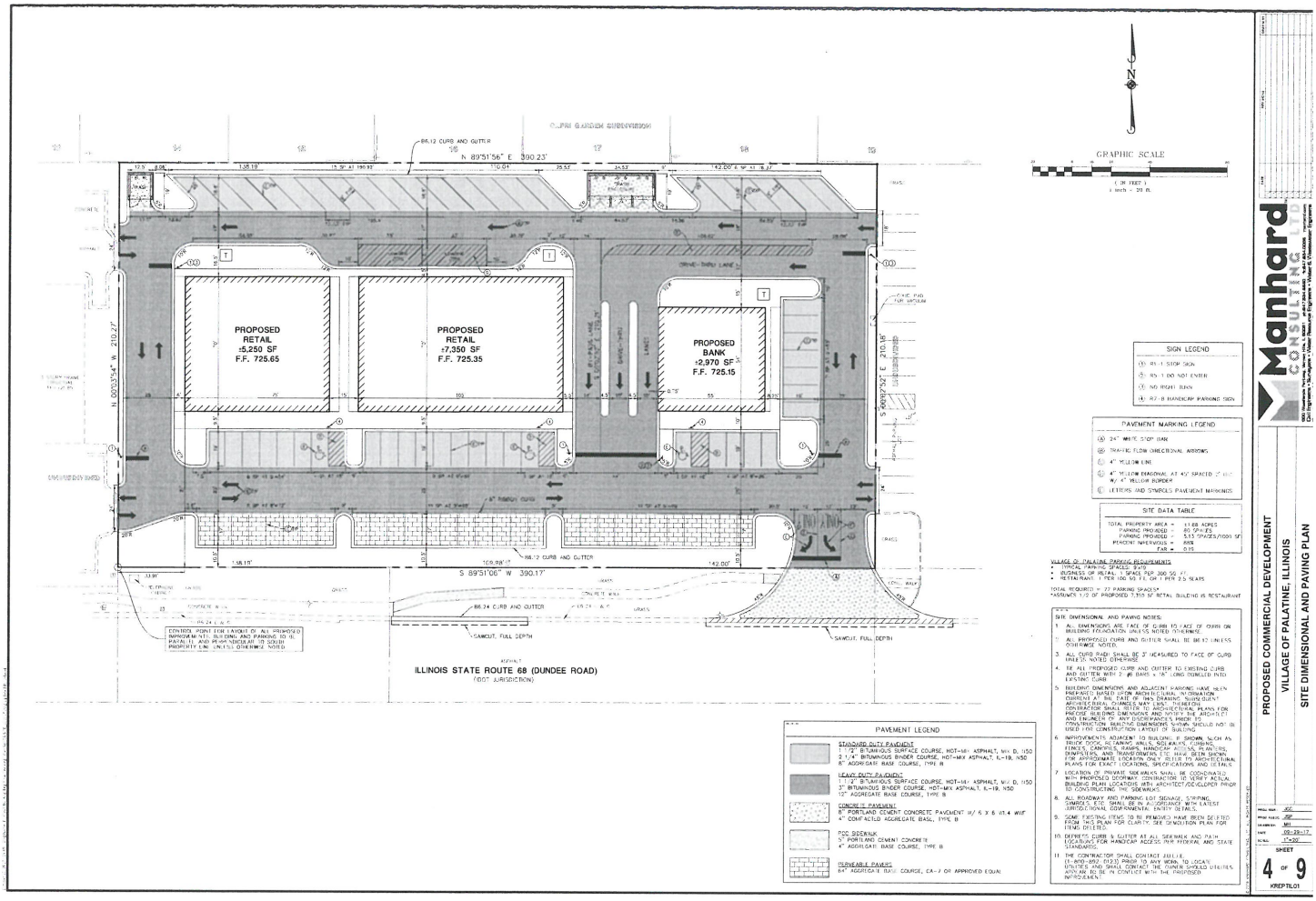
A traffic impact study was conducted for the proposed retail development to be located at 1000/1002 West Dundee Road on the north side of Dundee Road east of Rand Road in Palatine, Illinois. Based on the preceding analyses and discussions, the following conclusions have been made:

- The proposed development of a bank with two drive-through lanes and retail uses will have a low impact on the surrounding roadway network.
- The signalized intersection of Rand Road with Dundee Road will continue to operate at the same level of service during the weekday morning and evening peak hours under projected traffic conditions with or without the improvements proposed by IDOT.
- The proposed plan calls for consolidating the number of access drives on Dundee Road from two to one, thus reducing the number of conflict points.
- The access drive serving the site will be located approximately 620 feet east of Rand Road and will provide one inbound lane and two outbound lanes striped for an exclusive left-turn lane and an exclusive right-turn lane with outbound movements under stop sign control.
- Based on current banking trends and our experience with similar developments, the provided stacking of four vehicles per drive-through lane will be adequate to accommodate peak demands.

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Appendix

Site Plan



Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Traffic Counts

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Rand Road and Dundee Road
Site Code:
Start Date: 09/14/2017
Page No: 1

Turning Movement Data

Start Time	Dundee Road Eastbound						Dundee Road Westbound						Rand Road Northbound						Rand Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	15	172	59	1	246	0	23	83	35	0	141	0	37	87	16	1	140	0	141	313	18	0	472	999
7:15 AM	0	14	184	65	0	263	0	30	103	26	0	159	0	51	82	14	0	147	0	143	298	21	0	462	1031
7:30 AM	0	17	190	59	1	266	0	22	107	26	2	155	0	50	118	22	3	190	0	123	239	20	1	382	993
7:45 AM	0	23	206	69	0	298	0	25	135	32	0	192	0	56	149	29	0	234	0	120	226	31	0	377	1101
Hourly Total	0	69	752	252	2	1073	0	100	428	119	2	647	0	194	436	81	4	711	0	527	1076	90	1	1693	4124
8:00 AM	0	18	198	58	0	274	0	28	110	33	0	171	0	41	89	23	1	153	0	130	233	28	0	391	989
8:15 AM	0	14	200	72	0	286	0	33	131	48	1	212	0	63	123	15	1	201	0	113	210	28	1	351	1050
8:30 AM	0	13	177	63	1	253	0	31	106	40	0	177	0	55	105	16	1	176	0	119	215	27	0	361	967
8:45 AM	0	17	188	67	0	272	0	28	103	41	1	172	0	64	123	23	3	210	0	107	184	25	4	316	970
Hourly Total	0	62	763	260	1	1085	0	120	450	162	5	732	0	223	440	77	6	740	0	469	842	108	5	1419	3976
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	41	146	68	0	255	0	30	218	134	1	382	0	129	265	14	0	408	0	73	146	39	0	258	1303
4:15 PM	0	29	144	62	1	235	0	32	178	135	2	345	0	112	234	15	0	361	0	75	130	33	0	238	1179
4:30 PM	0	32	159	77	1	268	0	34	237	138	2	409	0	76	267	14	0	357	0	68	198	43	1	309	1343
4:45 PM	0	41	150	70	0	261	0	31	215	144	2	390	0	108	242	19	5	369	0	50	206	38	0	294	1314
Hourly Total	0	143	599	277	2	1019	0	127	848	551	7	1526	0	425	1008	62	6	1495	0	266	680	153	1	1099	5139
5:00 PM	0	36	166	60	0	262	0	28	235	149	0	412	0	107	278	15	0	400	0	58	194	43	0	295	1369
5:15 PM	0	44	177	66	1	287	0	27	232	139	1	398	0	98	247	14	1	359	0	67	192	46	0	305	1349
5:30 PM	0	47	154	67	0	268	0	34	239	119	0	392	0	112	249	20	0	381	0	62	168	42	0	272	1313
5:45 PM	0	39	138	90	0	267	0	28	178	111	0	317	0	100	255	11	0	366	0	56	180	37	0	273	1223
Hourly Total	0	166	635	283	1	1084	0	117	884	518	1	1519	0	417	1029	60	1	1506	0	243	734	168	0	1145	5254
Grand Total	0	440	2749	1072	0	4261	0	464	2610	1350	15	4424	0	1259	2913	280	20	4452	0	1505	3332	519	7	5356	18493
Approach %	0.0	10.3	64.5	25.2	-	-	0.0	10.5	59.0	30.5	-	-	0.0	28.3	65.4	6.3	-	-	0.0	28.1	62.2	9.7	-	-	-
Total %	0.0	2.4	14.9	5.8	-	23.0	0.0	2.5	14.1	7.3	-	23.9	0.0	6.8	15.8	1.5	-	24.1	0.0	8.1	18.0	2.8	-	29.0	-
Lights	0	418	2678	1040	-	4136	0	439	2527	1311	-	4277	0	1234	2790	261	-	4285	0	1455	3189	501	-	5145	17843
% Lights	-	95.0	97.4	97.0	-	97.1	-	94.6	96.8	97.1	-	96.7	-	98.0	95.8	93.2	-	96.2	-	96.7	95.7	96.5	-	96.1	96.5
Buses	0	13	34	13	-	60	0	22	47	0	-	69	0	9	13	13	-	35	0	2	16	13	-	31	195
% Buses	-	3.0	1.2	1.2	-	1.4	-	4.7	1.8	0.0	-	1.6	-	0.7	0.4	4.6	-	0.8	-	0.1	0.5	2.5	-	0.6	1.1
Single-Unit Trucks	0	9	25	17	-	51	0	3	25	24	-	52	0	13	70	3	-	86	0	24	45	5	-	74	263
% Single-Unit Trucks	-	2.0	0.9	1.6	-	1.2	-	0.6	1.0	1.8	-	1.2	-	1.0	2.4	1.1	-	1.9	-	1.6	1.4	1.0	-	1.4	1.4
Articulated Trucks	0	0	11	2	-	13	0	0	11	15	-	26	0	3	39	3	-	45	0	24	82	0	-	106	190
% Articulated Trucks	-	0.0	0.4	0.2	-	0.3	-	0.0	0.4	1.1	-	0.6	-	0.2	1.3	1.1	-	1.0	-	1.6	2.5	0.0	-	2.0	1.0
Bicycles on Road	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	2
% Bicycles on Road	-	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	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	15	-	-	-	-	-	20	-	-	-	-	-	7	-	-

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Rand Road and Dundee Road
Site Code:
Start Date: 09/14/2017
Page No: 3

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Dundee Road Eastbound						Dundee Road Westbound						Rand Road Northbound						Rand Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	0	17	190	59	1	266	0	22	107	26	2	155	0	50	118	22	3	190	0	123	239	20	1	382	993
7:45 AM	0	23	206	69	0	298	0	25	135	32	0	192	0	56	149	29	0	234	0	120	226	31	0	377	1101
8:00 AM	0	18	198	58	0	274	0	28	110	33	0	171	0	41	89	23	1	153	0	130	233	28	0	391	989
8:15 AM	0	14	200	72	0	286	0	33	131	48	1	212	0	63	123	15	1	201	0	113	210	28	1	351	1050
Total	0	72	794	258	1	1124	0	108	483	139	3	730	0	210	479	89	5	778	0	486	908	107	2	1501	4133
Approach %	0.0	6.4	70.6	23.0	-	-	0.0	14.8	66.2	19.0	-	-	0.0	27.0	61.6	11.4	-	-	0.0	32.4	60.5	7.1	-	-	-
Total %	0.0	1.7	19.2	6.2	-	27.2	0.0	2.6	11.7	3.4	-	17.7	0.0	5.1	11.6	2.2	-	18.8	0.0	11.8	22.0	2.6	-	36.3	-
PHF	0.000	0.783	0.964	0.896	-	0.943	0.000	0.818	0.894	0.724	-	0.861	0.000	0.833	0.804	0.767	-	0.831	0.000	0.935	0.950	0.863	-	0.960	0.938
Lights	0	58	771	248	-	1077	0	94	450	131	-	675	0	202	435	80	-	717	0	462	866	101	-	1429	3898
% Lights	-	80.6	97.1	96.1	-	95.8	-	87.0	93.2	94.2	-	92.5	-	96.2	90.8	89.9	-	92.2	-	95.1	95.4	94.4	-	95.2	94.3
Buses	0	10	13	6	-	29	0	13	20	0	-	33	0	2	10	5	-	17	0	1	6	6	-	13	92
% Buses	-	13.9	1.6	2.3	-	2.6	-	12.0	4.1	0.0	-	4.5	-	1.0	2.1	5.6	-	2.2	-	0.2	0.7	5.6	-	0.9	2.2
Single-Unit Trucks	0	4	6	4	-	14	0	1	7	6	-	14	0	4	21	2	-	27	0	11	13	0	-	24	79
% Single-Unit Trucks	-	5.6	0.8	1.6	-	1.2	-	0.9	1.4	4.3	-	1.9	-	1.9	4.4	2.2	-	3.5	-	2.3	1.4	0.0	-	1.6	1.9
Articulated Trucks	0	0	3	0	-	3	0	0	6	2	-	8	0	2	12	2	-	16	0	12	23	0	-	35	62
% Articulated Trucks	-	0.0	0.4	0.0	-	0.3	-	0.0	1.2	1.4	-	1.1	-	1.0	2.5	2.2	-	2.1	-	2.5	2.5	0.0	-	2.3	1.5
Bicycles on Road	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	2
% Bicycles on Road	-	0.0	0.1	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.2	0.0	-	0.1	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	8	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Rand Road and Dundee Road
Site Code:
Start Date: 09/14/2017
Page No: 4

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Dundee Road Eastbound						Dundee Road Westbound						Rand Road Northbound						Rand Road Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:30 PM	0	32	159	77	1	268	0	34	237	138	2	409	0	76	267	14	0	357	0	68	198	43	1	309	1343
4:45 PM	0	41	150	70	0	261	0	31	215	144	2	390	0	108	242	19	0	369	0	50	206	38	0	294	1314
5:00 PM	0	36	166	60	0	262	0	28	235	149	0	412	0	107	278	15	0	400	0	58	194	43	0	295	1369
5:15 PM	0	44	177	66	1	287	0	27	232	139	1	398	0	98	247	14	1	359	0	67	192	46	0	305	1349
Total	0	153	652	273	2	1078	0	120	919	570	5	1609	0	389	1034	62	2	1485	0	243	790	170	1	1203	5375
Approach %	0.0	14.2	60.5	25.3	-	-	0.0	7.5	57.1	35.4	-	-	0.0	26.2	69.6	4.2	-	-	0.0	20.2	65.7	14.1	-	-	-
Total %	0.0	2.8	12.1	5.1	-	20.1	0.0	2.2	17.1	10.6	-	29.9	0.0	7.2	19.2	1.2	-	27.6	0.0	4.5	14.7	3.2	-	22.4	-
PHF	0.000	0.869	0.921	0.886	-	0.939	0.000	0.882	0.969	0.956	-	0.976	0.000	0.900	0.930	0.816	-	0.928	0.000	0.893	0.959	0.924	-	0.973	0.982
Lights	0	150	645	267	-	1062	0	118	911	556	-	1585	0	386	1019	59	-	1464	0	240	780	168	-	1188	5299
% Lights	-	98.0	98.9	97.8	-	98.5	-	98.3	99.1	97.5	-	98.5	-	99.2	98.5	95.2	-	98.6	-	98.8	98.7	98.8	-	98.8	98.6
Buses	0	0	1	1	-	2	0	2	1	0	-	3	0	0	1	3	-	4	0	1	0	1	-	2	11
% Buses	-	0.0	0.2	0.4	-	0.2	-	1.7	0.1	0.0	-	0.2	-	0.0	0.1	4.8	-	0.3	-	0.4	0.0	0.6	-	0.2	0.2
Single-Unit Trucks	0	3	5	5	-	13	0	0	7	9	-	16	0	3	7	0	-	10	0	1	5	1	-	7	46
% Single-Unit Trucks	-	2.0	0.8	1.8	-	1.2	-	0.0	0.8	1.6	-	1.0	-	0.8	0.7	0.0	-	0.7	-	0.4	0.6	0.6	-	0.6	0.9
Articulated Trucks	0	0	1	0	-	1	0	0	0	5	-	5	0	0	7	0	-	7	0	1	5	0	-	6	19
% Articulated Trucks	-	0.0	0.2	0.0	-	0.1	-	0.0	0.0	0.9	-	0.3	-	0.0	0.7	0.0	-	0.5	-	0.4	0.6	0.0	-	0.5	0.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	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	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	7	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Study Name Bagel Bros Access Drive
Start Date 09/14/2017
Start Time 7:00 AM
Site Code
Project 2017: Retail Center - Palantine

Type
Classification

	Dundee Road Eastbound				Dundee Road Westbound				East Access Northwestbound				
Start Time	U-Turn	Thru	Bear Right	Hard Right	U-Turn	Hard Left	Bear Left	Thru	U-Turn	Hard Left	Left	Bear Left	Hard Right
7:00 AM	0	322	0	0	0	0	0	144	0		0	0	1
7:15 AM	0	327	0	0	0	1	1	155	0		0	0	1
7:30 AM	0	353	0	0	0	0	0	168	0		0	0	0
7:45 AM	0	339	0	0	0	1	0	186	0		0	0	0
8:00 AM	0	349	0	1	1	1	0	190	0		0	0	1
8:15 AM	0	337	0	0	0	2	2	206	0		0	0	1
8:30 AM	0	313	0	0	1	3	0	180	0		0	0	0
8:45 AM	0	331	1	0	0	1	1	153	0		0	0	0
4:00 PM	0	243	0	0	0	0	0	368	0		0	0	0
4:15 PM	1	240	0	0	0	1	0	343	0		0	0	1
4:30 PM	0	254	0	0	0	0	0	392	0		0	0	0
4:45 PM	0	237	0	0	0	0	0	408	0		0	0	1
5:00 PM	0	235	1	1	0	2	1	416	0		0	0	1
5:15 PM	0	247	0	1	0	2	0	400	0		0	0	1
5:30 PM	0	239	0	0	0	0	1	382	0		0	0	0
5:45 PM	0	220	0	0	0	0	0	337	0		0	0	1

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

West Access Northeastbound				
U-Turn	Hard Left	Bear Right	Right	Hard Right
0	0	1	0	
0	0	0	0	
0	0	0	0	
0	1	0	0	
0	0	0	0	
0	1	2	0	
0	0	0	0	
0	4	3	0	
0	0	1	0	
0	0	0	0	
0	0	1	0	
0	0	1	0	
0	0	3	0	
0	0	0	0	
0	0	1	0	
0	0	2	0	

CMAP Traffic Projection Letter

Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606

312 454 0400
www.cmap.illinois.gov

October 12, 2017

Javier Millan
Senior Consultant
Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, Illinois 60018

Subject: Dundee Road and Rand Road
IDOT

Dear Mr. Millan:

In response to a request made on your behalf and dated October 11, 2017, we have developed year 2040 average daily traffic (ADT) projections for the subject location.

Road Segments	Current ADT	Year 2040 ADT
Dundee Road East of Rand Road	24,300	25,000
Dundee Road West of Rand Road	25,300	26,000
Rand Road North of Dundee Road	27,300	30,000
Rand Road South of Dundee Road	29,300	35,000

Traffic projections are developed using existing ADT data provided in the request letter and the results from the March 2017 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the GO TO 2040 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

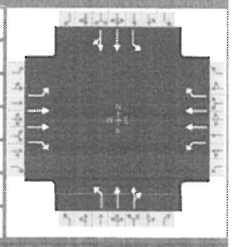
Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Quigley (IDOT)
File: S:\AdminGroups\ResearchAnalysis\TrafficForecasts_CY2017\Palatine\ck-89-17\ ck-89-17.docx

Capacity Analyses

HCS7 Signalized Intersection Input Data

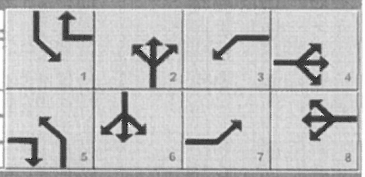
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMEX.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	72	794	258	108	483	139	210	479	89	486	908	107

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.7	1.3	54.0	6.9	2.0	31.5
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	72	794	258	108	483	139	210	479	89	486	908	107
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	20	3	4	13	7	6	4	9		5	5	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	4	3	3	4	3	3	4	3	3	4	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	245	0	245	150	0	265	485	0		345	0	
Grade (Pg), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	20.0	30.0	20.0	30.0	20.0	60.0	20.0	60.0
Yellow Change Interval (Y), s	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Red Clearance Interval (R_c), s	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G_{min}), s	3	8	3	8	3	15	3	15
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk ($Walk$), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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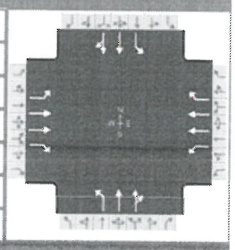
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Results Summary

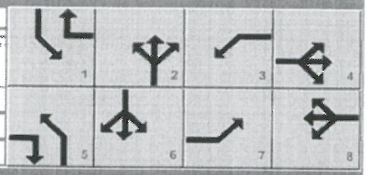
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMEX.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	72	794	258	108	483	139	210	479	89	486	908	107

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.7	1.3	54.0	6.9	2.0	31.5
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.4	37.5	12.4	39.5	15.2	60.0	20.1	64.8
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	8.0	4.0	8.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	6.8	30.7	8.8	17.0	11.4		18.6	
Green Extension Time (g_e), s	0.1	0.9	0.2	14.9	0.3	0.0	0.0	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	1.00	0.03	0.93	0.48		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	77	845	274	115	514	148	223	309	295	517	550	530
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1527	1859	1560	1626	1800	1535	1753	1767	1670	1739	1826	1758
Queue Service Time (g_s), s	4.8	28.7	18.5	6.8	15.0	8.5	9.4	13.3	14.4	16.6	26.0	27.1
Cycle Queue Clearance Time (g_c), s	4.8	28.7	18.5	6.8	15.0	8.5	9.4	13.3	14.4	16.6	26.0	27.1
Green Ratio (*g/C*)	0.30	0.24	0.33	0.31	0.26	0.39	0.51	0.42	0.42	0.56	0.45	0.45
Capacity (*c*), veh/h	233	902	519	180	928	592	331	733	693	519	826	795
Volume-to-Capacity Ratio (*X*)	0.329	0.937	0.529	0.638	0.554	0.250	0.675	0.422	0.425	0.996	0.666	0.666
Back of Queue (*Q*), ft/ln (95 th percentile)	96.5	528.4	298.7	141.8	275.7	149.6	189.8	242.4	237	542	405.2	406.4
Back of Queue (*Q*), veh/ln (95 th percentile)	3.3	20.6	11.6	5.1	10.4	5.7	7.4	9.0	9.5	20.8	15.6	16.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.39	0.00	1.22	0.95	0.00	0.56	0.39	0.00	0.00	1.57	0.00	0.00
Uniform Delay (d_1), s/veh	34.9	43.0	35.1	36.6	36.6	27.2	22.2	19.9	22.2	28.2	19.3	21.1
Incremental Delay (d_2), s/veh	0.8	16.9	1.3	3.7	0.9	0.3	3.5	1.8	1.9	38.3	4.2	4.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	35.7	60.0	36.5	40.3	37.5	27.5	25.7	21.7	24.1	66.5	23.5	25.5
Level of Service (LOS)	D	E	D	D	D	C	C	C	C	E	C	C
Approach Delay, s/veh / LOS	53.0	D		36.0	D		23.7	C		38.1	D	
Intersection Delay, s/veh / LOS	39.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.9	C	2.9	C	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.5	A	1.1	A	1.2	A	1.8	B

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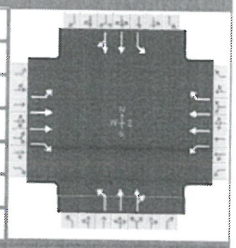
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Intermediate Values

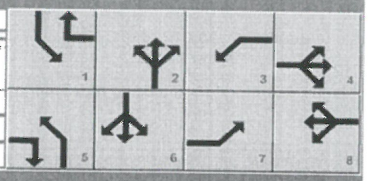
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMEX.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	72	794	258	108	483	139	210	479	89	486	908	107

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.7	1.3	54.0	6.9	2.0	31.5
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.844	0.977	0.969	0.899	0.945	0.953	0.969	0.930	1.000	0.961	0.961	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.945	0.945		0.963	0.963
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1527	3719	1560	1626	3600	1535	1753	2900	536	1739	3206	378
Proportion of Vehicles Arriving on Green (P)	0.05	0.32	0.24	0.07	0.34	0.26	0.09	0.55	0.42	0.13	0.60	0.45
Incremental Delay Factor (k)	0.11	0.46	0.17	0.11	0.19	0.15	0.16	0.50	0.50	0.50	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.30	0.24	0.31	0.26	0.51	0.42	0.56	0.45
Permitted Saturation Flow Rate (s_p), veh/h/ln	760	0	595	0	514	0	796	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	31.5	0.0	32.0	0.0	54.0	0.0	56.0	0.0
Permitted Service Time (g_u), s	16.4	0.0	2.8	0.0	29.7	0.0	39.5	0.0
Permitted Queue Service Time (g_{ps}), s	1.7		2.8		18.6		39.5	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1560		1535				
Protected Right Effective Green Time (g_R), s		11.7		16.6				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	2.107	0.00	2.107	0.00	2.224	0.00	2.224	0.00
Pedestrian F_s / F_{delay}	0.000	0.145	0.000	0.143	0.000	0.124	0.000	0.119
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	484.96	37.30	515.67	35.80	830.32	22.23	904.92	19.49
Bicycle F_w / F_v	-3.64	0.99	-3.64	0.64	-3.64	0.68	-3.64	1.32

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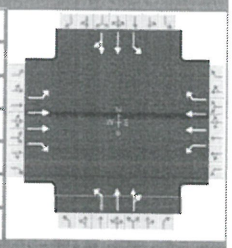
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Results Graphical Summary

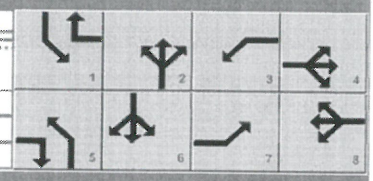
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMEX.xus		
Project Description	A.M. Peak Hour				



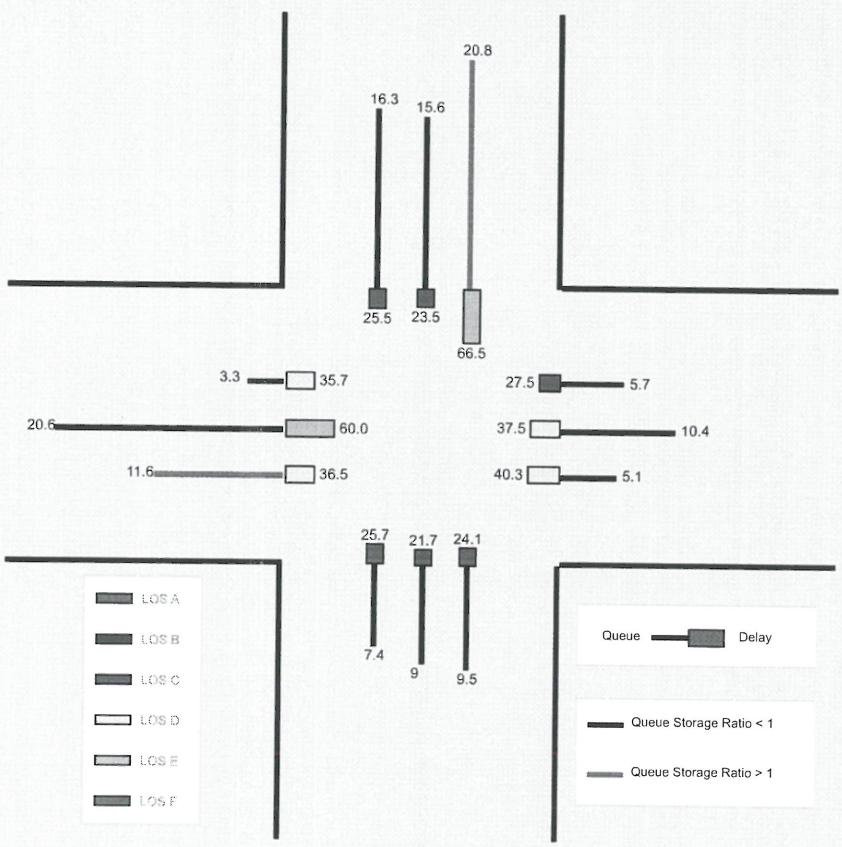
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	72	794	258	108	483	139	210	479	89	486	908	107

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.7	1.3	54.0	6.9	2.0	31.5	
Yellow	3.5	3.5	4.0	3.5	0.0	4.0	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	96.5	528.4	298.7	141.8	275.7	149.6	189.8	242.4	237	542	405.2	406.4
Back of Queue (*Q*), veh/ln (95 th percentile)	3.3	20.6	11.6	5.1	10.4	5.7	7.4	9.0	9.5	20.8	15.6	16.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.39	0.00	1.22	0.95	0.00	0.56	0.39	0.00	0.00	1.57	0.00	0.00
Control Delay (*d*), s/veh	35.7	60.0	36.5	40.3	37.5	27.5	25.7	21.7	24.1	66.5	23.5	25.5
Level of Service (LOS)	D	E	D	D	D	C	C	C	C	E	C	C
Approach Delay, s/veh / LOS	53.0	D		36.0	D		23.7	C		38.1	D	
Intersection Delay, s/veh / LOS	39.1						D					



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HCS7™ Streets Version 7.3

Generated: 10/16/2017 3:09:52 PM

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

--- Messages ---

WARNING: One or more minor street movements was assigned an Arrival Type input value other than 3; this implies signal coordination on the minor street.

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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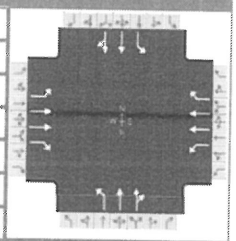
HCS7 Signalized Intersection Input Data

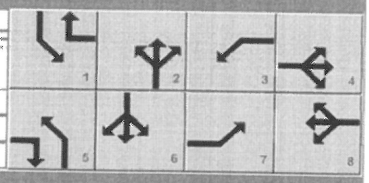
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMEX.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	153	652	273	120	919	570	389	1034	62	243	790	170

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.9	0.1	54.0	9.2	1.9	29.3
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	153	652	273	120	919	570	389	1034	62	243	790	170
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	2	1	2	2	1	3	1	2		1	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	4	3	3	4	3	3	4	3	3	4	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	245	0	245	150	0	265	485	0		345	0	
Grade (Pg), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	20.0	30.0	20.0	30.0	20.0	60.0	20.0	60.0
Yellow Change Interval (Y), s	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Red Clearance Interval (R_c), s	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G_{min}), s	3	8	3	8	3	15	3	15
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk ($Walk$), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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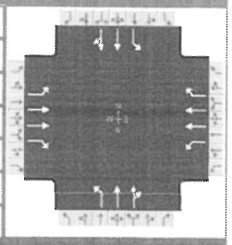
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Results Summary

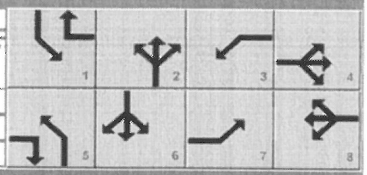
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMEX.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	153	652	273	120	919	570	389	1034	62	243	790	170

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.9	0.1	54.0	9.2	1.9	29.3
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	14.7	37.2	12.7	35.3	20.0	63.6	16.4	60.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	7.5	4.0	7.5	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	11.0	23.5	9.1	31.3	18.6		12.6	
Green Extension Time (g_e), s	0.2	7.6	0.2	0.0	0.0	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.31	1.00	0.05	1.00	1.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	163	694	290	128	978	606	414	589	577	259	527	494
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1889	1585	1781	1889	1572	1795	1870	1833	1795	1885	1769
Queue Service Time (g_s), s	9.0	21.5	18.4	7.1	29.3	29.3	16.6	28.9	29.5	10.6	25.9	27.3
Cycle Queue Clearance Time (g_c), s	9.0	21.5	18.4	7.1	29.3	29.3	16.6	28.9	29.5	10.6	25.9	27.3
Green Ratio (*g/C*)	0.31	0.24	0.37	0.30	0.23	0.33	0.56	0.44	0.44	0.51	0.42	0.42
Capacity (*c*), veh/h	209	908	583	227	852	511	398	828	812	332	783	734
Volume-to-Capacity Ratio (*X*)	0.780	0.764	0.498	0.563	1.148	1.187	1.040	0.711	0.711	0.780	0.673	0.673
Back of Queue (*Q*), ft/ln (95 th percentile)	199.8	379.1	293.5	146.1	817.1	1117.1	480.2	448.7	450.7	223.6	416.3	430
Back of Queue (*Q*), veh/ln (95 th percentile)	7.9	15.0	11.6	5.8	32.4	43.6	19.1	17.7	18.0	8.9	16.5	17.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.82	0.00	1.20	0.97	0.00	4.22	0.99	0.00	0.00	0.65	0.00	0.00
Uniform Delay (d_1), s/veh	37.0	40.9	31.8	36.8	45.5	43.9	25.0	20.7	21.7	24.2	22.8	25.7
Incremental Delay (d_2), s/veh	9.5	4.2	0.9	2.2	80.1	102.4	56.0	5.1	5.2	8.8	4.6	4.9
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	46.4	45.0	32.8	39.0	125.6	146.2	80.9	25.9	27.0	32.9	27.3	30.6
Level of Service (LOS)	D	D	C	D	F	F	F	C	C	C	C	C
Approach Delay, s/veh / LOS	42.1	D		126.4	F		40.7	D		29.7	C	
Intersection Delay, s/veh / LOS	64.2						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.9	C	2.9	C	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.4	A	1.9	B	1.8	B	1.5	B

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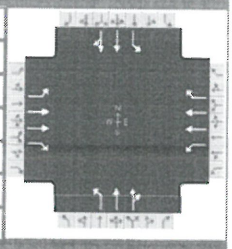
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Intermediate Values

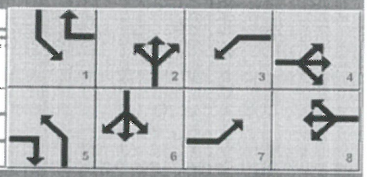
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMEX.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	153	652	273	120	919	570	389	1034	62	243	790	170

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.9	0.1	54.0	9.2	1.9	29.3						
Yellow	3.5	3.5	4.0	3.5	0.0	4.0						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.984	0.992	0.984	0.984	0.992	0.977	0.992	0.984	1.000	0.992	0.992	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.980	0.980		0.938	0.938
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1781	3778	1585	1781	3778	1572	1795	3494	209	1795	3007	647
Proportion of Vehicles Arriving on Green (P)	0.09	0.32	0.24	0.07	0.30	0.23	0.13	0.59	0.44	0.10	0.55	0.42
Incremental Delay Factor (k)	0.17	0.34	0.15	0.11	0.50	0.50	0.50	0.50	0.50	0.25	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.31	0.24	0.30	0.23	0.56	0.44	0.51	0.42
Permitted Saturation Flow Rate (s_p), veh/h/ln	575	0	751	0	557	0	485	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	29.7	0.0	29.3	0.0	56.0	0.0	54.0	0.0
Permitted Service Time (g_u), s	0.0	0.0	7.7	0.0	26.6	0.0	26.1	0.0
Permitted Queue Service Time (g_{ps}), s	0.0		4.4		26.6		26.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1585		1572				
Protected Right Effective Green Time (g_R), s		16.6		12.9				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	2.107	0.00	2.107	0.00	2.224	0.00	2.224	0.00
Pedestrian F_s / F_{delay}	0.000	0.145	0.000	0.147	0.000	0.120	0.000	0.124
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	480.63	37.51	451.00	38.99	885.79	20.17	830.40	22.23
Bicycle F_w / F_v	-3.64	0.95	-3.64	1.41	-3.64	1.30	-3.64	1.06

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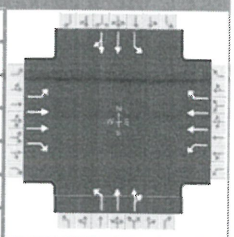
HCS7 Signalized Intersection Results Graphical Summary

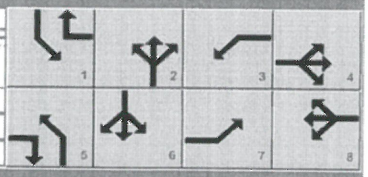
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.94
Urban Street	Rand Road	Analysis Year	Ex Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMEX.xus		
Project Description	P.M. Peak Hour				



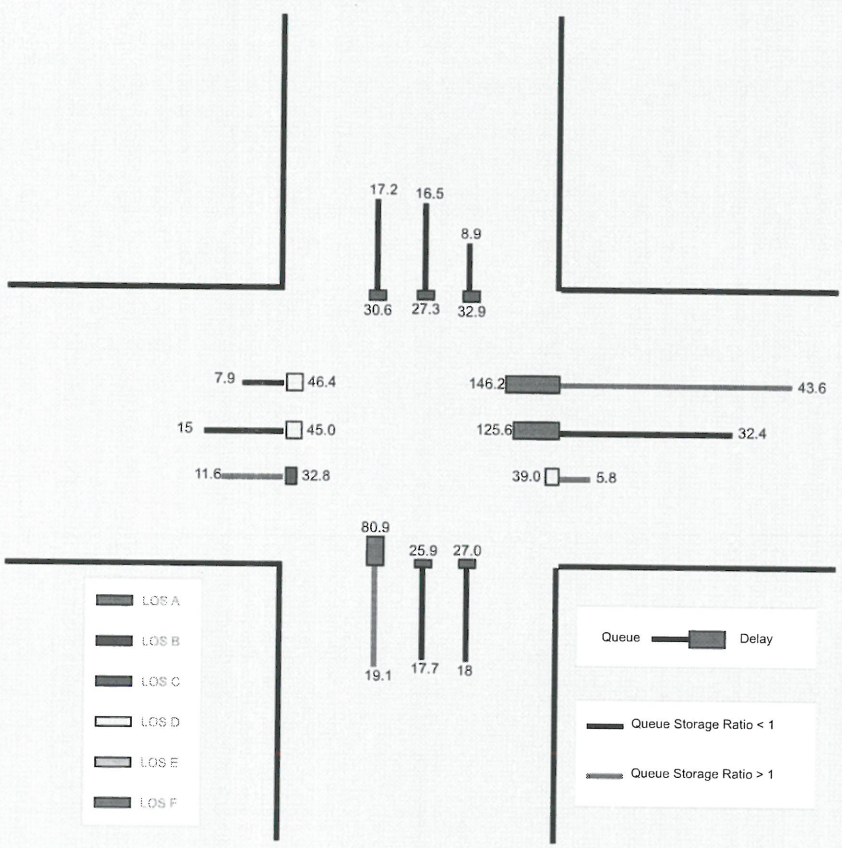
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	153	652	273	120	919	570	389	1034	62	243	790	170

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.9	0.1	54.0	9.2	1.9	29.3	
Yellow	3.5	3.5	4.0	3.5	0.0	4.0	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	199.8	379.1	293.5	146.1	817.1	1117.1	480.2	448.7	450.7	223.6	416.3	430
Back of Queue (*Q*), veh/ln (95 th percentile)	7.9	15.0	11.6	5.8	32.4	43.6	19.1	17.7	18.0	8.9	16.5	17.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.82	0.00	1.20	0.97	0.00	4.22	0.99	0.00	0.00	0.65	0.00	0.00
Control Delay (*d*), s/veh	46.4	45.0	32.8	39.0	125.6	146.2	80.9	25.9	27.0	32.9	27.3	30.6
Level of Service (LOS)	D	D	C	D	F	F	F	C	C	C	C	C
Approach Delay, s/veh / LOS	42.1	D		126.4	F		40.7	D		29.7	C	
Intersection Delay, s/veh / LOS	64.2						E					



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--- Messages ---

WARNING: If demand exceeds capacity, a multiple-period analysis should be conducted.

WARNING: One or more minor street movements was assigned an Arrival Type input value other than 3; this implies signal coordination on the minor street.

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS7 Two-Way Stop-Control Report

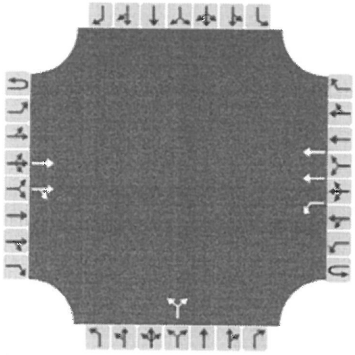
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	A.M. Peak Hour
Intersection Orientation	East-West
Project Description	Existing Traffic

Site Information

Intersection	Dundee/Einstein East Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein East Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1380	0		4	752			0		2				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						4					2					
Capacity, c (veh/h)						472					372					
v/c Ratio						0.01					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						12.7					14.7					
Level of Service, LOS						B					B					
Approach Delay (s/veh)					0.1				14.7							
Approach LOS									B							

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DundeeEinsteinEastDrAMEX.xtw

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

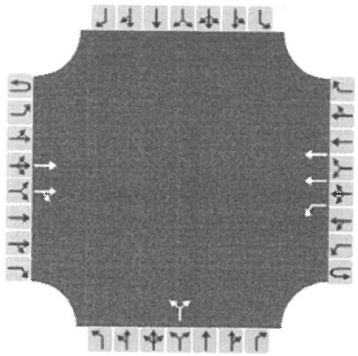
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	P.M. Peak Hour
Intersection Orientation	East-West
Project Description	Existing Traffic

Site Information

Intersection	Dundee/Einstein East Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein East Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			978	1		4	1617			0		3				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						4					3					
Capacity, c (veh/h)						682					510					
v/c Ratio						0.01					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						10.3					12.1					
Level of Service, LOS						B					B					
Approach Delay (s/veh)					0.0				12.1							
Approach LOS									B							

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

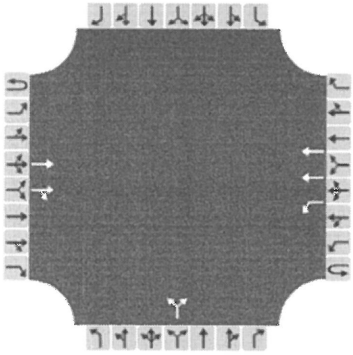
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	A.M. Peak Hour
Intersection Orientation	East-West
Project Description	Existing Traffic

Site Information

Intersection	Dundee/Einstein West Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein West Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1378	1		2	750			2		2				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						2					4					
Capacity, c (veh/h)						472					215					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						12.7					22.1					
Level of Service, LOS						B					C					
Approach Delay (s/veh)					0.0				22.1							
Approach LOS									C							

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

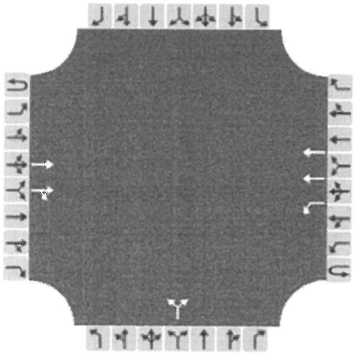
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	P.M. Peak Hour
Intersection Orientation	East-West
Project Description	Existing Traffic

Site Information

Intersection	Dundee/Einstein West Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein West Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			974	2		1	1616			0		5				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				6.80		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					5					
Capacity, c (veh/h)						684					511					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						10.3					12.1					
Level of Service, LOS						B					B					
Approach Delay (s/veh)					0.0				12.1							
Approach LOS									B							

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HCS7™ TWSC Version 7.3
DundeeEinsteinWestDrPMEX.xtw

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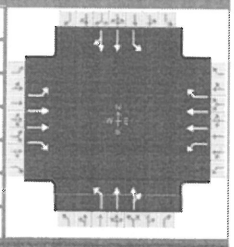
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Input Data

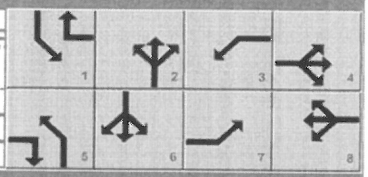
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9	
Yellow	3.5	3.5	4.0	3.5	0.0	4.0	
Red	0.0	0.0	2.0	0.0	0.0	2.0	



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	20	3	4	13	7	6	4	9		5	5	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	4	3	3	4	3	3	4	3	3	4	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	245	0	245	150	0	265	485	0		345	0	
Grade (Pg), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	20.0	30.0	20.0	30.0	20.0	60.0	20.0	60.0
Yellow Change Interval (Y), s	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Red Clearance Interval (R_c), s	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G_{min}), s	3	8	3	8	3	15	3	15
Start-Up Lost Time (lt), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk ($Walk$), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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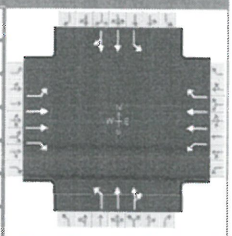
HCS7 Signalized Intersection Results Summary

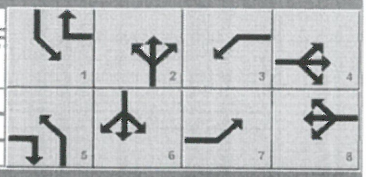
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.6	35.9	14.1	38.3	15.3	60.0	20.0	64.7
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (MAH), s	4.0	8.0	4.0	8.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	8.0	31.9	10.4	18.3	11.5		18.6	
Green Extension Time (g_e), s	0.1	0.0	0.2	13.0	0.3	0.0	0.0	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.01	1.00	0.18	0.95	0.51		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	94	857	277	141	539	153	225	326	310	548	555	535
Adjusted Saturation Flow Rate (s), veh/h/ln	1527	1859	1560	1626	1800	1535	1753	1767	1669	1739	1826	1758
Queue Service Time (g_s), s	6.0	29.9	19.1	8.4	16.3	9.0	9.5	14.2	15.4	16.6	26.4	27.6
Cycle Queue Clearance Time (g_c), s	6.0	29.9	19.1	8.4	16.3	9.0	9.5	14.2	15.4	16.6	26.4	27.6
Green Ratio (g/C)	0.29	0.23	0.32	0.32	0.25	0.38	0.51	0.42	0.42	0.56	0.45	0.45
Capacity (c), veh/h	231	855	500	188	896	577	329	733	693	506	825	794
Volume-to-Capacity Ratio (X)	0.405	1.002	0.554	0.750	0.602	0.264	0.685	0.444	0.447	1.084	0.673	0.673
Back of Queue (Q), ft/ln (95 th percentile)	120.5	597	307.4	183.8	295.7	157.8	193	254.6	250.2	666.5	411.6	432.8
Back of Queue (Q), veh/ln (95 th percentile)	4.2	23.3	11.9	6.7	11.2	6.0	7.5	9.5	10.0	25.6	15.8	16.5
Queue Storage Ratio (RQ) (95 th percentile)	0.49	0.00	1.25	1.23	0.00	0.60	0.40	0.00	0.00	1.93	0.00	0.00
Uniform Delay (d_1), s/veh	35.8	45.1	36.5	36.7	38.1	28.1	22.5	20.2	22.5	28.2	19.4	21.3
Incremental Delay (d_2), s/veh	1.1	31.4	1.7	7.4	1.4	0.3	3.9	1.9	2.1	64.5	4.4	4.5
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	36.9	76.4	38.2	44.1	39.4	28.4	26.3	22.1	24.6	92.7	23.8	25.8
Level of Service (LOS)	D	F	D	D	D	C	C	C	C	F	C	C
Approach Delay, s/veh / LOS	64.8	E		38.2	D		24.1	C		47.5	D	
Intersection Delay, s/veh / LOS	46.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.9	C	2.9	C	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.5	B	1.2	A	1.2	A	1.8	B

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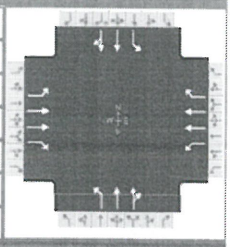
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Intermediate Values

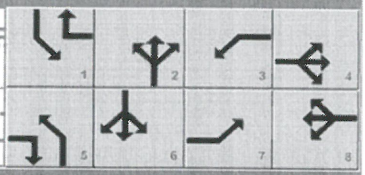
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9						
Yellow	3.5	3.5	4.0	3.5	0.0	4.0						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.844	0.977	0.969	0.899	0.945	0.953	0.969	0.930	1.000	0.961	0.961	0.953
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.945	0.945		0.963	0.963
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1527	3719	1560	1626	3600	1535	1753	2891	544	1739	3207	377
Proportion of Vehicles Arriving on Green (P)	0.06	0.31	0.23	0.08	0.33	0.25	0.09	0.55	0.42	0.13	0.60	0.45
Incremental Delay Factor (k)	0.11	0.50	0.19	0.14	0.22	0.15	0.17	0.50	0.50	0.50	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.29	0.23	0.32	0.25	0.51	0.42	0.56	0.45
Permitted Saturation Flow Rate (s_p), veh/h/ln	743	0	588	0	509	0	773	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	29.9	0.0	30.8	0.0	54.0	0.0	56.0	0.0
Permitted Service Time (g_u), s	14.0	0.0	0.0	0.0	29.2	0.0	38.5	0.0
Permitted Queue Service Time (g_{ps}), s	2.3		0.0		19.7		38.5	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1560		1535				
Protected Right Effective Green Time (g_R), s		11.8		16.6				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	2.107	0.00	2.107	0.00	2.224	0.00	2.224	0.00
Pedestrian F_s / F_{delay}	0.000	0.146	0.000	0.144	0.000	0.124	0.000	0.119
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	459.82	38.55	497.62	36.68	830.35	22.23	903.32	19.54
Bicycle F_w / F_v	-3.64	1.01	-3.64	0.69	-3.64	0.71	-3.64	1.35

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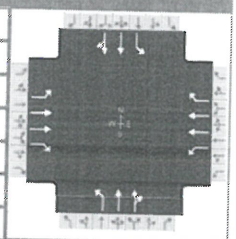
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Results Graphical Summary

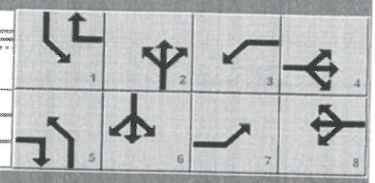
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU.xus		
Project Description	A.M. Peak Hour				



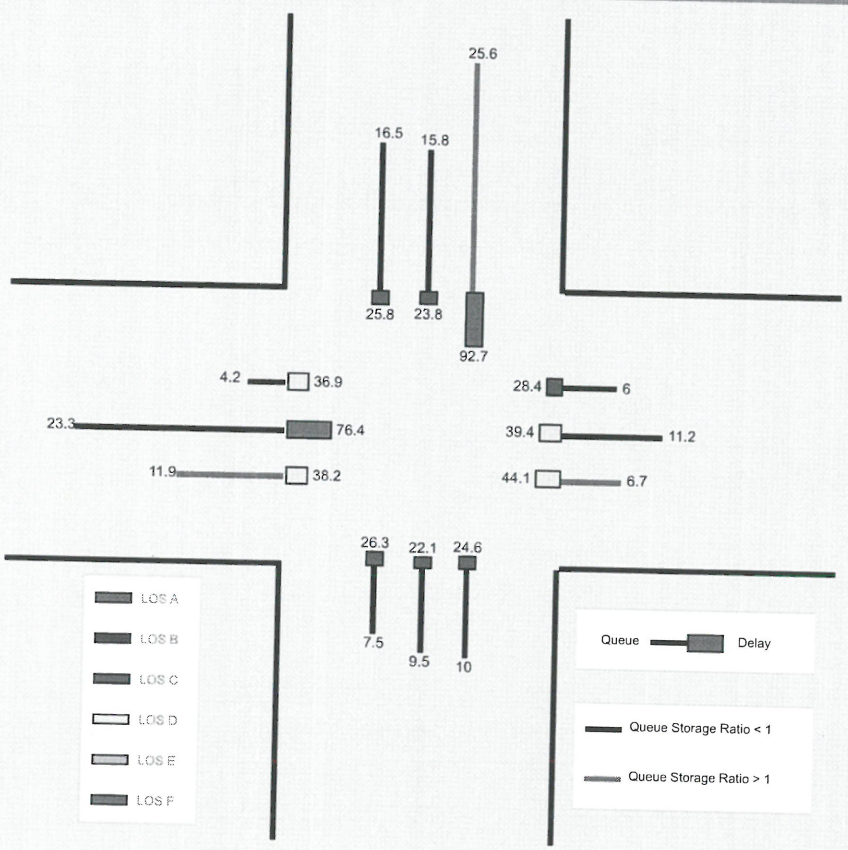
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	120.5	597	307.4	183.8	295.7	157.8	193	254.6	250.2	666.5	411.6	432.8
Back of Queue (*Q*), veh/ln (95 th percentile)	4.2	23.3	11.9	6.7	11.2	6.0	7.5	9.5	10.0	25.6	15.8	16.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.49	0.00	1.25	1.23	0.00	0.60	0.40	0.00	0.00	1.93	0.00	0.00
Control Delay (*d*), s/veh	36.9	76.4	38.2	44.1	39.4	28.4	26.3	22.1	24.6	92.7	23.8	25.8
Level of Service (LOS)	D	F	D	D	D	C	C	C	C	F	C	C
Approach Delay, s/veh / LOS	64.8	E		38.2	D		24.1	C		47.5	D	
Intersection Delay, s/veh / LOS	46.0						D					



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HCS7™ Streets Version 7.3

Generated: 10/17/2017 5:39:05 PM

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

--- Messages ---

WARNING: One or more minor street movements was assigned an Arrival Type input value other than 3; this implies signal coordination on the minor street.

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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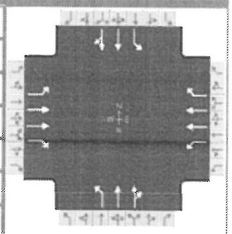
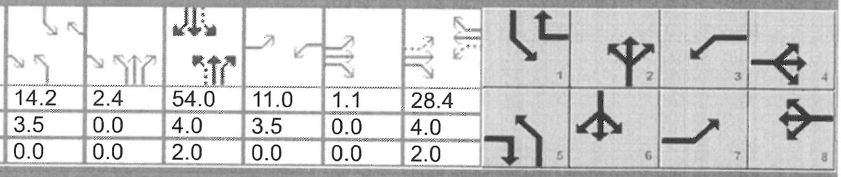
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	P.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	14.2	2.4	54.0	11.0	1.1	28.4	
Yellow	3.5	0.0	4.0	3.5	0.0	4.0	
Red	0.0	0.0	2.0	0.0	0.0	2.0	

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	2	1	2	2	1	3	1	2		1	1	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	4	3	3	4	3	3	4	3	3	4	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	
Turn Bay Length, ft	245	0	245	150	0	265	485	0		345	0	
Grade (P_g), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	20.0	30.0	20.0	30.0	20.0	60.0	20.0	60.0
Yellow Change Interval (Y), s	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Red Clearance Interval (R_c), s	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G_{min}), s	3	8	3	8	3	15	3	15
Start-Up Lost Time (l_t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk ($Walk$), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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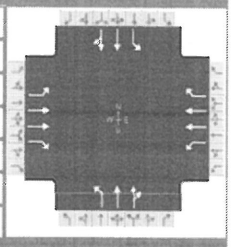
HCS7 Signalized Intersection Results Summary

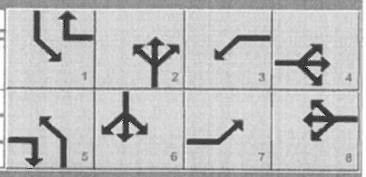
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	P.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.2	2.4	54.0	11.0	1.1	28.4
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	4.0
Phase Duration, s	15.6	35.5	14.5	34.4	20.0	62.3	17.7	60.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (MAH), s	4.0	7.6	4.0	7.6	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	11.9	24.7	10.8	30.4	18.5		13.9	
Green Extension Time (g_e), s	0.2	4.7	0.2	0.0	0.0	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.64	1.00	0.25	1.00	1.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	177	711	293	157	1009	623	418	609	596	289	532	499
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1889	1585	1781	1889	1572	1795	1870	1827	1795	1885	1769
Queue Service Time (g_s), s	9.9	22.7	19.0	8.8	28.4	28.4	16.5	31.6	32.3	11.9	26.2	27.7
Cycle Queue Clearance Time (g_c), s	9.9	22.7	19.0	8.8	28.4	28.4	16.5	31.6	32.3	11.9	26.2	27.7
Green Ratio (g/C)	0.31	0.23	0.35	0.30	0.22	0.33	0.55	0.43	0.43	0.52	0.42	0.42
Capacity (c), veh/h	221	858	562	233	826	515	395	811	792	330	783	734
Volume-to-Capacity Ratio (X)	0.800	0.828	0.521	0.674	1.223	1.210	1.057	0.752	0.753	0.876	0.679	0.679
Back of Queue (Q), ft/ln (95 th percentile)	220.2	408.4	302.2	183.7	936.5	1177.4	501.8	492.5	494	273.8	421.7	438.3
Back of Queue (Q), veh/ln (95 th percentile)	8.7	16.2	11.9	7.2	37.2	46.0	19.9	19.4	19.8	10.9	16.7	17.4
Queue Storage Ratio (RQ) (95 th percentile)	0.90	0.00	1.23	1.22	0.00	4.44	1.03	0.00	0.00	0.79	0.00	0.00
Uniform Delay (d_1), s/veh	37.3	43.0	33.2	37.3	46.1	43.7	24.8	22.2	23.4	25.7	22.8	25.8
Incremental Delay (d_2), s/veh	12.0	7.0	1.2	3.6	111.0	111.6	61.2	6.4	6.5	19.5	4.7	5.0
Initial Queue Delay (d_3), 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
Control Delay (d), s/veh	49.3	50.0	34.4	40.9	157.1	155.3	86.1	28.6	29.9	45.2	27.5	30.8
Level of Service (LOS)	D	D	C	D	F	F	F	C	C	D	C	C
Approach Delay, s/veh / LOS	46.0	D		146.3	F		43.9	D		32.6	C	
Intersection Delay, s/veh / LOS	72.8						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.9	C	2.9	C	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.5	A	2.0	B	1.8	B	1.6	B

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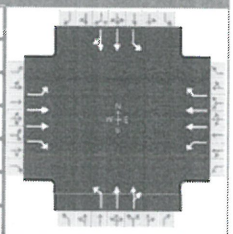
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

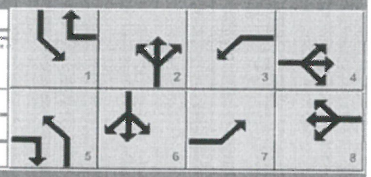
HCS7 Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	P.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information												
Cycle, s	130.0	Reference Phase	2									
Offset, s	0	Reference Point	Begin	Green	14.2	2.4	54.0	11.0	1.1	28.4		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	0.0	4.0	3.5	0.0	4.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	2.0	0.0	0.0	2.0		



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.984	0.992	0.984	0.984	0.992	0.977	0.992	0.984	1.000	0.992	0.992	0.992
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.977	0.977		0.938	0.938
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1781	3778	1585	1781	3778	1572	1795	3455	242	1795	3008	646
Proportion of Vehicles Arriving on Green (P)	0.09	0.30	0.23	0.08	0.29	0.22	0.13	0.58	0.43	0.11	0.55	0.42
Incremental Delay Factor (k)	0.21	0.38	0.17	0.11	0.50	0.50	0.50	0.50	0.50	0.34	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.31	0.23	0.30	0.22	0.55	0.43	0.52	0.42
Permitted Saturation Flow Rate (s_p), veh/h/ln	558	0	739	0	552	0	468	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	28.4	0.0	28.4	0.0	54.8	0.0	54.0	0.0
Permitted Service Time (g_u), s	0.0	0.0	4.7	0.0	26.2	0.0	22.1	0.0
Permitted Queue Service Time (g_{ps}), s	0.0		4.7		26.2		22.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1585		1572				
Protected Right Effective Green Time (g_R), s		16.5		14.2				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	2.107	0.00	2.107	0.00	2.224	0.00	2.224	0.00
Pedestrian F_s / F_{delay}	0.000	0.147	0.000	0.148	0.000	0.122	0.000	0.124
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	454.32	38.82	437.14	39.69	866.88	20.86	830.46	22.23
Bicycle F_w / F_v	-3.64	0.97	-3.64	1.48	-3.64	1.34	-3.64	1.09

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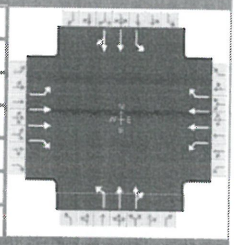
HCS7 Signalized Intersection Results Graphical Summary

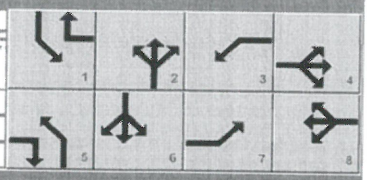
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	P.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU.xus		
Project Description	P.M. Peak Hour				



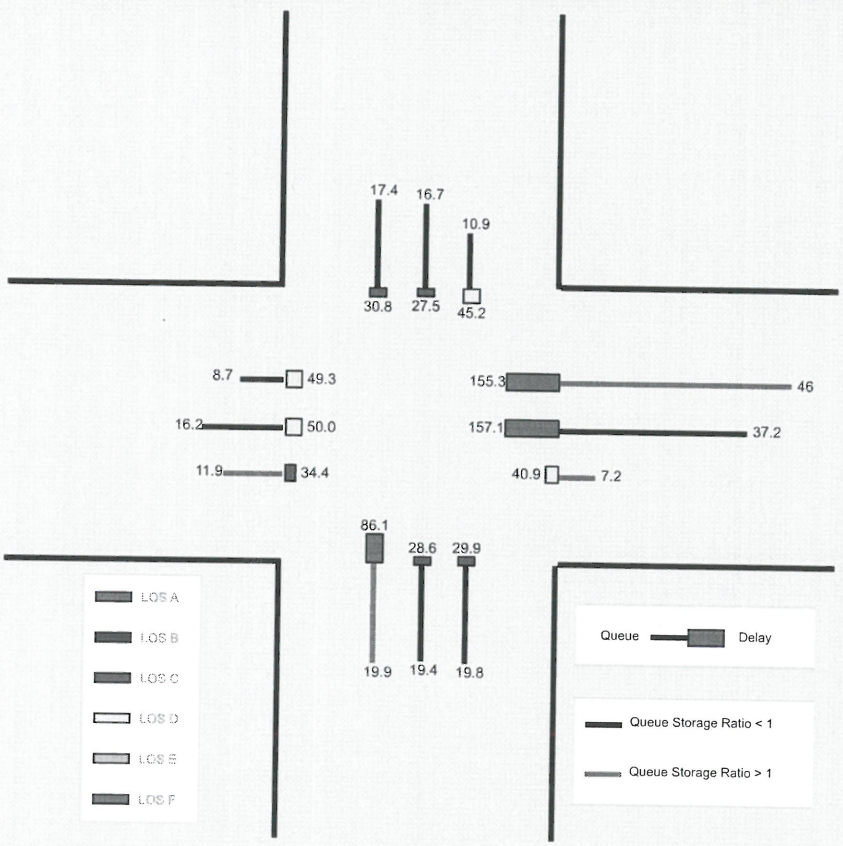
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.2	2.4	54.0	11.0	1.1	28.4
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	220.2	408.4	302.2	183.7	936.5	1177.4	501.8	492.5	494	273.8	421.7	438.3
Back of Queue (*Q*), veh/ln (95 th percentile)	8.7	16.2	11.9	7.2	37.2	46.0	19.9	19.4	19.8	10.9	16.7	17.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.90	0.00	1.23	1.22	0.00	4.44	1.03	0.00	0.00	0.79	0.00	0.00
Control Delay (*d*), s/veh	49.3	50.0	34.4	40.9	157.1	155.3	86.1	28.6	29.9	45.2	27.5	30.8
Level of Service (LOS)	D	D	C	D	F	F	F	C	C	D	C	C
Approach Delay, s/veh / LOS	46.0	D		146.3	F		43.9	D		32.6	C	
Intersection Delay, s/veh / LOS	72.8						E					



Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

--- Messages ---

WARNING: If demand exceeds capacity, a multiple-period analysis should be conducted.

WARNING: One or more minor street movements was assigned an Arrival Type input value other than 3; this implies signal coordination on the minor street.

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS7 Two-Way Stop-Control Report

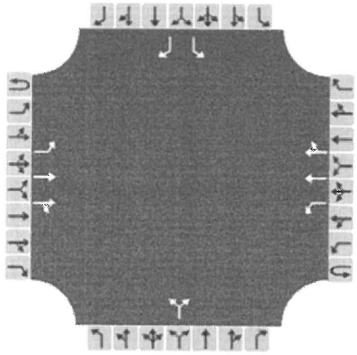
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	A.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic No Impr.

Site Information

Intersection	Dundee/Einstein East Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein East Dr/Access D
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LR			L		R
Volume, V (veh/h)		14	1427	0		4	791	4		0		2		9		8
Percent Heavy Vehicles (%)		0				0				0		0		0		0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		15				4					2			9		8
Capacity, c (veh/h)		806				452					358			184		589
v/c Ratio		0.02				0.01					0.01			0.05		0.01
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0			0.2		0.0
Control Delay (s/veh)		9.6				13.0					15.1			25.6		11.2
Level of Service, LOS		A				B					C			D		B
Approach Delay (s/veh)	0.1				0.1				15.1				18.8			
Approach LOS									C				C			

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DundeeEinsteinEastDrAccessDrAMTONOImp..xtw

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

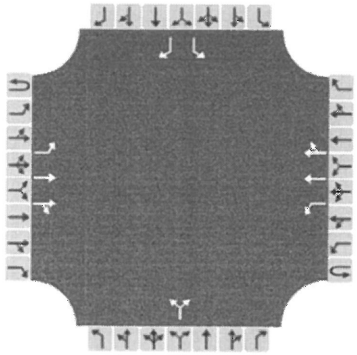
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	P.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic No Improvement

Site Information

Intersection	Dundee/Einstein East Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein East Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LR			L		R
Volume, V (veh/h)		34	1008	1		4	1668	15		0		3		21		35
Percent Heavy Vehicles (%)		0				0				0		0		0		0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		36				4					3			22		37
Capacity, c (veh/h)		356				664					498			70		292
v/c Ratio		0.10				0.01					0.01			0.31		0.13
95% Queue Length, Q_{95} (veh)		0.3				0.0					0.0			1.2		0.4
Control Delay (s/veh)		16.2				10.5					12.3			78.5		19.1
Level of Service, LOS		C				B					B			F		C
Approach Delay (s/veh)	0.5				0.0				12.3				41.3			
Approach LOS									B				E			

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DundeeEinsteinEastDrAccessDrPMTONOImp.xtw

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

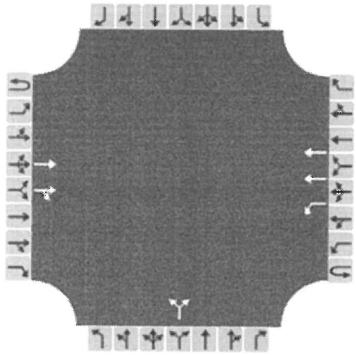
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	A.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic No Imp.

Site Information

Intersection	Dundee/Einstein West Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein West Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1439	1		2	797			2		2				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						2					4					
Capacity, c (veh/h)						447					200					
v/c Ratio						0.00					0.02					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						13.1					23.4					
Level of Service, LOS						B					C					
Approach Delay (s/veh)					0.0				23.4							
Approach LOS									C							

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

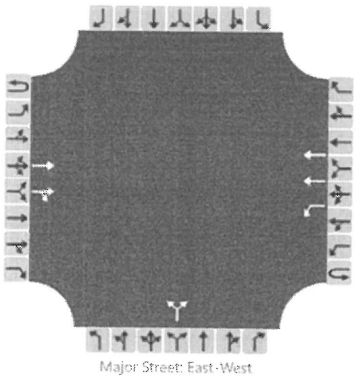
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	P.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic No Imp.

Site Information

Intersection	Dundee/Einstein West Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein West Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume, V (veh/h)			1038	2		1	1702			0		5				
Percent Heavy Vehicles (%)						0				0		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						1					5					
Capacity, c (veh/h)						645					486					
v/c Ratio						0.00					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						10.6					12.5					
Level of Service, LOS						B					B					
Approach Delay (s/veh)					0.0				12.5							
Approach LOS									B							

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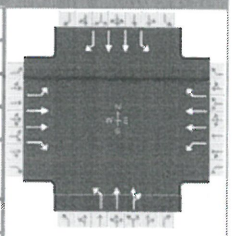
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Input Data

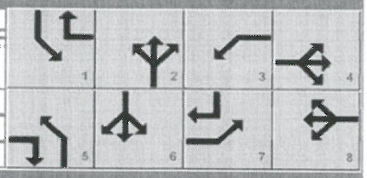
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU with Improvements.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9
Yellow	3.5	3.5	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	20	3	4	13	7	6	4	9		5	5	6
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (AT)	3	4	3	3	4	3	3	4	3	3	4	3
Upstream Filtering (I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (W), ft	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	12.0
Turn Bay Length, ft	400	0	400	250	0	400	400	0		400	0	245
Grade (Pg), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	20.0	30.0	20.0	30.0	20.0	60.0	20.0	60.0
Yellow Change Interval (Y), s	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Red Clearance Interval (R_c), s	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G_{min}), s	3	8	3	8	3	15	3	15
Start-Up Lost Time (lt), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (e), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (PT), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk ($Walk$), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (PC), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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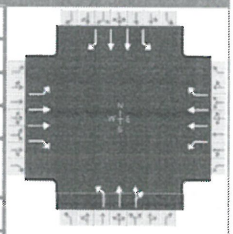
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

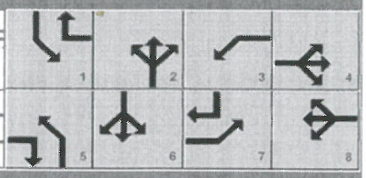
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU with Improvements.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information												
Cycle, s	130.0	Reference Phase	2									
Offset, s	0	Reference Point	Begin	Green	11.8	1.2	54.0	8.1	2.5	29.9		
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	3.5	4.0	3.5	0.0	4.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	2.0	0.0	0.0	2.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	11.6	35.9	14.1	38.3	15.3	60.0	20.0	64.7
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	8.0	4.0	8.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	8.0	31.9	10.4	18.3	11.5		18.6	
Green Extension Time (g_e), s	0.1	0.0	0.2	13.0	0.3	0.0	0.0	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.01	1.00	0.18	0.95	0.51		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	94	857	277	141	539	153	225	326	310	548	975	115
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1527	1859	1560	1626	1800	1535	1753	1767	1669	1739	1830	1535
Queue Service Time (g_s), s	6.0	29.9	19.1	8.4	16.3	9.0	9.5	14.2	15.4	16.6	21.4	5.1
Cycle Queue Clearance Time (g_c), s	6.0	29.9	19.1	8.4	16.3	9.0	9.5	14.2	15.4	16.6	21.4	5.1
Green Ratio (*g/C*)	0.29	0.23	0.32	0.32	0.25	0.38	0.51	0.42	0.42	0.56	0.45	0.51
Capacity (*c*), veh/h	231	855	500	188	896	577	369	733	693	506	1653	789
Volume-to-Capacity Ratio (*X*)	0.405	1.002	0.554	0.750	0.602	0.264	0.610	0.444	0.447	1.084	0.590	0.145
Back of Queue (*Q*), ft/ln (95 th percentile)	120.5	597	307.4	183.8	295.7	157.8	185.6	254.6	250.2	666.5	330.7	88.2
Back of Queue (*Q*), veh/ln (95 th percentile)	4.2	23.3	11.9	6.7	11.2	6.0	7.2	9.5	10.0	25.6	12.7	3.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.30	0.00	0.77	0.74	0.00	0.39	0.46	0.00	0.00	1.67	0.00	0.36
Uniform Delay (d_1), s/veh	35.8	45.1	36.5	36.7	38.1	28.1	20.4	20.2	22.5	28.2	18.4	16.6
Incremental Delay (d_2), s/veh	1.1	31.4	1.7	7.4	1.4	0.3	1.9	1.9	2.1	64.5	1.6	0.4
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	36.9	76.4	38.2	44.1	39.4	28.4	22.3	22.1	24.6	92.7	20.0	17.0
Level of Service (LOS)	D	F	D	D	D	C	C	C	C	F	B	B
Approach Delay, s/veh / LOS	64.8	E		38.2	D		23.0	C		44.1	D	
Intersection Delay, s/veh / LOS	44.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.9	C	3.0	C	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.5	B	1.2	A	1.2	A	1.8	B

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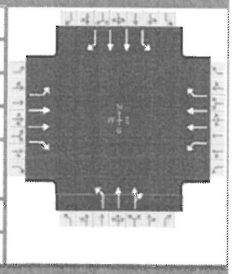
Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Signalized Intersection Intermediate Values

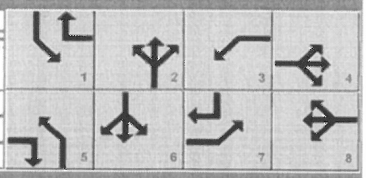
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU with Improvements.xus		
Project Description	A.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9						
Yellow	3.5	3.5	4.0	3.5	0.0	4.0						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.844	0.977	0.969	0.899	0.945	0.953	0.969	0.930	1.000	0.961	0.961	0.953
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	0.952	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.945	0.945		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1527	3719	1560	1626	3600	1535	1753	2891	544	1739	3659	1535
Proportion of Vehicles Arriving on Green (P)	0.06	0.31	0.23	0.08	0.33	0.25	0.09	0.55	0.42	0.13	0.60	0.45
Incremental Delay Factor (k)	0.11	0.50	0.19	0.14	0.22	0.15	0.12	0.50	0.50	0.50	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.29	0.23	0.32	0.25	0.51	0.42	0.56	0.45
Permitted Saturation Flow Rate (s_p), veh/h/ln	743	0	588	0	568	0	773	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	29.9	0.0	30.8	0.0	54.0	0.0	56.0	0.0
Permitted Service Time (g_u), s	14.0	0.0	0.0	0.0	35.4	0.0	38.5	0.0
Permitted Queue Service Time (g_{ps}), s	2.3		0.0		12.2		38.5	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1560		1535				1535
Protected Right Effective Green Time (g_R), s		11.8		16.6				8.1

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	2.107	0.00	2.224	0.00	2.224	0.00	2.224	0.00
Pedestrian F_s / F_{delay}	0.000	0.146	0.000	0.144	0.000	0.124	0.000	0.119
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	459.82	38.55	497.62	36.68	830.35	22.23	903.32	19.54
Bicycle F_w / F_v	-3.64	1.01	-3.64	0.69	-3.64	0.71	-3.64	1.35

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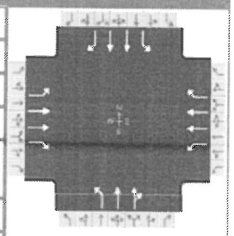
HCS7 Signalized Intersection Results Graphical Summary

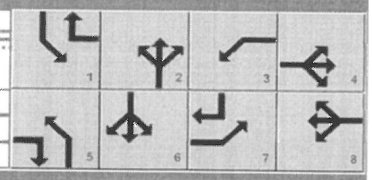
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeeAMFU with Improvements.xus		
Project Description	A.M. Peak Hour				



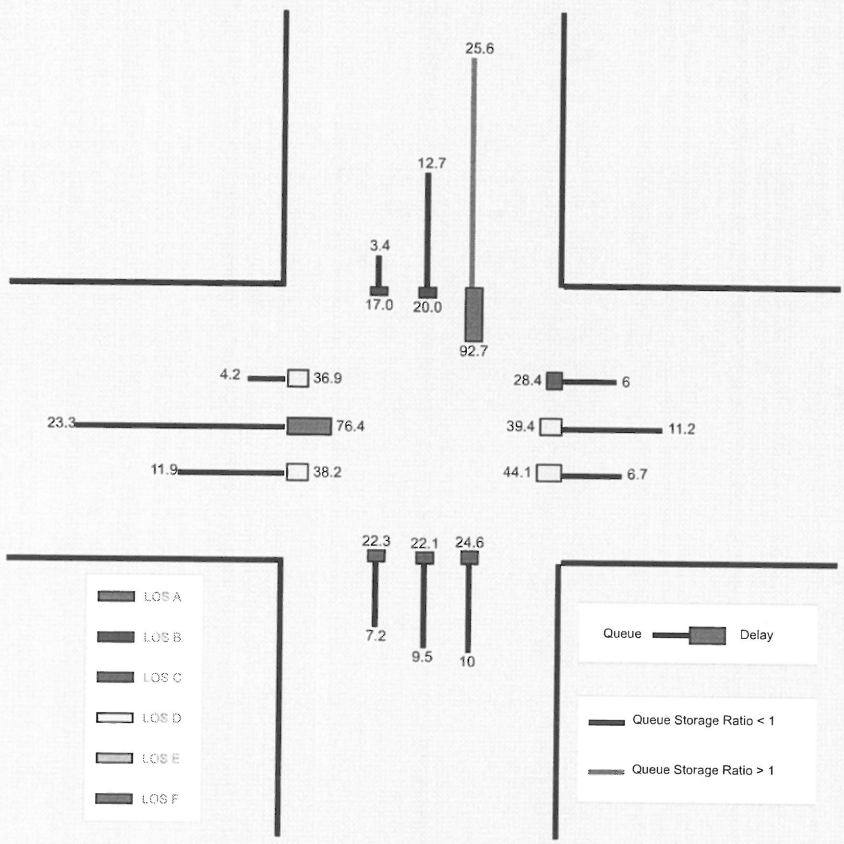
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	89	814	263	134	512	145	214	508	96	521	926	109

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.8	1.2	54.0	8.1	2.5	29.9						
Yellow	3.5	3.5	4.0	3.5	0.0	4.0						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	120.5	597	307.4	183.8	295.7	157.8	185.6	254.6	250.2	666.5	330.7	88.2
Back of Queue (*Q*), veh/ln (95 th percentile)	4.2	23.3	11.9	6.7	11.2	6.0	7.2	9.5	10.0	25.6	12.7	3.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.30	0.00	0.77	0.74	0.00	0.39	0.46	0.00	0.00	1.67	0.00	0.36
Control Delay (*d*), s/veh	36.9	76.4	38.2	44.1	39.4	28.4	22.3	22.1	24.6	92.7	20.0	17.0
Level of Service (LOS)	D	F	D	D	D	C	C	C	C	F	B	B
Approach Delay, s/veh / LOS	64.8	E		38.2	D		23.0	C		44.1	D	
Intersection Delay, s/veh / LOS	44.6						D					



Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

--- Messages ---

WARNING: One or more minor street movements was assigned an Arrival Type input value other than 3; this implies signal coordination on the minor street.

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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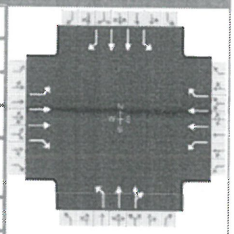
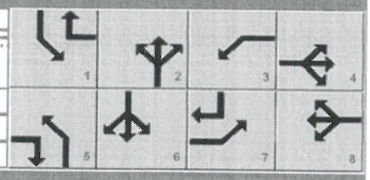
HCS7 Signalized Intersection Input Data

General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU with Improvements.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information					EB			WB			NB			SB		
Cycle, s	130.0	Reference Phase	2													
Offset, s	0	Reference Point	Begin	Green	14.2	2.4		54.0	11.0	1.1	28.4					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	0.0		4.0	3.5	0.0	4.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0		2.0	0.0	0.0	2.0					



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Parking (N_m), man/h		R	0		None			None			None	
Heavy Vehicles (P_{HV}), %	2	1	2	2	1	3	1	2		1	1	1
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	4	3	3	4	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		12.0	12.0	12.0
Turn Bay Length, ft	400	0	400	250	0	400	400	0		400	0	245
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	35	35	35	35	35	35	35	35	35	35	35	35

Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	20.0	30.0	20.0	30.0	20.0	60.0	20.0	60.0
Yellow Change Interval (*Y*), s	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Red Clearance Interval (R_c), s	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Minimum Green (G_{min}), s	3	8	3	8	3	15	3	15
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	4.0	3.0	4.0	3.0	7.0	3.0	7.0
Recall Mode	Off	Off	Off	Off	Off	Min	Off	Min
Dual Entry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk (*Walk*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Clearance Time (*PC*), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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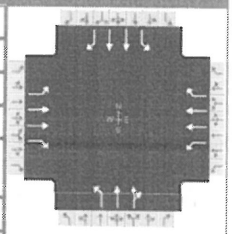
HCS7 Signalized Intersection Results Summary

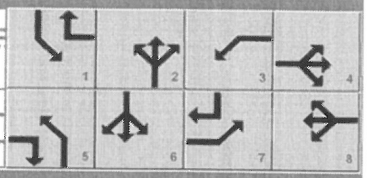
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU with Improvements.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.2	2.4	54.0	11.0	1.1	28.4
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	3.0	1.1	3.0	1.1	4.0	1.1	3.0
Phase Duration, s	15.6	35.5	14.5	34.4	20.0	62.3	17.7	60.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	7.6	4.0	7.6	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s	11.9	24.7	10.8	30.4	18.5		13.9	
Green Extension Time (g_e), s	0.2	4.7	0.2	0.0	0.0	0.0	0.3	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.64	1.00	0.25	1.00	1.00		1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	177	711	293	157	1009	623	418	609	596	289	848	182
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1889	1427	1781	1889	1572	1795	1870	1827	1795	1889	1598
Queue Service Time (g_s), s	9.9	22.7	21.7	8.8	28.4	28.4	16.5	31.6	32.3	11.9	18.6	8.2
Cycle Queue Clearance Time (g_c), s	9.9	22.7	21.7	8.8	28.4	28.4	16.5	31.6	32.3	11.9	18.6	8.2
Green Ratio (*g/C*)	0.31	0.23	0.35	0.30	0.22	0.33	0.55	0.43	0.43	0.52	0.42	0.51
Capacity (*c*), veh/h	221	858	506	233	826	515	462	811	792	330	1569	812
Volume-to-Capacity Ratio (*X*)	0.800	0.828	0.579	0.674	1.223	1.210	0.905	0.752	0.753	0.876	0.541	0.224
Back of Queue (*Q*), ft/ln (95 th percentile)	220.2	408.4	311.7	183.7	936.5	1177.4	378.4	492.5	494	273.8	303.7	143
Back of Queue (*Q*), veh/ln (95 th percentile)	8.7	16.2	12.3	7.2	37.2	46.0	15.0	19.4	19.8	10.9	12.1	5.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.55	0.00	0.78	0.73	0.00	2.94	0.95	0.00	0.00	0.68	0.00	0.58
Uniform Delay (d_1), s/veh	37.3	43.0	34.1	37.3	46.1	43.7	23.0	22.2	23.4	25.7	21.1	17.8
Incremental Delay (d_2), s/veh	12.0	7.0	2.0	3.6	111.0	111.6	21.2	6.4	6.5	19.5	1.3	0.6
Initial Queue Delay (d_3), 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
Control Delay (*d*), s/veh	49.3	50.0	36.1	40.9	157.1	155.3	44.1	28.6	29.9	45.2	22.5	18.4
Level of Service (LOS)	D	D	D	D	F	F	D	C	C	D	C	B
Approach Delay, s/veh / LOS	46.5	D		146.3	F		33.1	C		26.9	C	
Intersection Delay, s/veh / LOS	68.6						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.9	C	3.0	C	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.5	A	2.0	B	1.8	B	1.6	B

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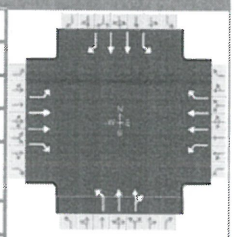
HCS7 Signalized Intersection Intermediate Values

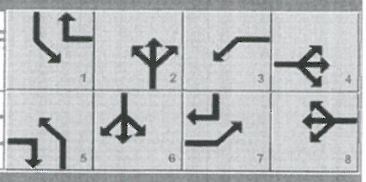
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU with Improvements.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.2	2.4	54.0	11.0	1.1	28.4						
Yellow	3.5	0.0	4.0	3.5	0.0	4.0						
Red	0.0	0.0	2.0	0.0	0.0	2.0						



Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.984	0.992	0.984	0.984	0.992	0.977	0.992	0.984	1.000	0.992	0.992	0.992
Parking Activity Adjustment Factor (f_p)	1.000	1.000	0.900	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	0.952	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.977	0.977		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Movement Saturation Flow Rate (s), veh/h	1781	3778	1427	1781	3778	1572	1795	3455	242	1795	3778	1598
Proportion of Vehicles Arriving on Green (P)	0.09	0.30	0.23	0.08	0.29	0.22	0.13	0.58	0.43	0.11	0.55	0.42
Incremental Delay Factor (k)	0.21	0.38	0.21	0.11	0.50	0.50	0.43	0.50	0.50	0.34	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.31	0.23	0.30	0.22	0.55	0.43	0.52	0.42
Permitted Saturation Flow Rate (s_p), veh/h/ln	558	0	739	0	655	0	468	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	28.4	0.0	28.4	0.0	54.8	0.0	54.0	0.0
Permitted Service Time (g_u), s	0.0	0.0	4.7	0.0	35.3	0.0	22.1	0.0
Permitted Queue Service Time (g_{ps}), s	0.0		4.7		35.3		22.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1427		1572				1598
Protected Right Effective Green Time (g_R), s		16.5		14.2				12.1

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	2.107	0.00	2.224	0.00	2.224	0.00	2.224	0.00
Pedestrian F_s / F_{delay}	0.000	0.147	0.000	0.148	0.000	0.122	0.000	0.124
Pedestrian M_{corner} / M_{cw}								
Bicycle c_b / d_b	454.32	38.82	437.14	39.69	866.88	20.86	830.46	22.23
Bicycle F_w / F_v	-3.64	0.97	-3.64	1.48	-3.64	1.34	-3.64	1.09

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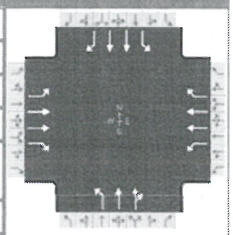
HCS7 Signalized Intersection Results Graphical Summary

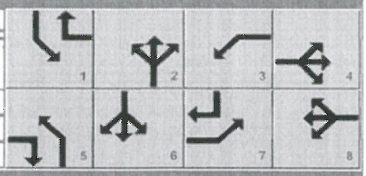
General Information				Intersection Information	
Agency	KLOA, Inc.			Duration, h	0.25
Analyst	JM	Analysis Date	Oct 16, 2017	Area Type	Other
Jurisdiction	IDOT	Time Period	A.M. Peak Hour	PHF	0.95
Urban Street	Rand Road	Analysis Year	Future Traffic with Improvements	Analysis Period	1> 7:00
Intersection	Rand Rd and Dundee Rd	File Name	RandDundeePMFU with Improvements.xus		
Project Description	P.M. Peak Hour				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	168	675	278	149	959	592	397	1070	75	275	806	173

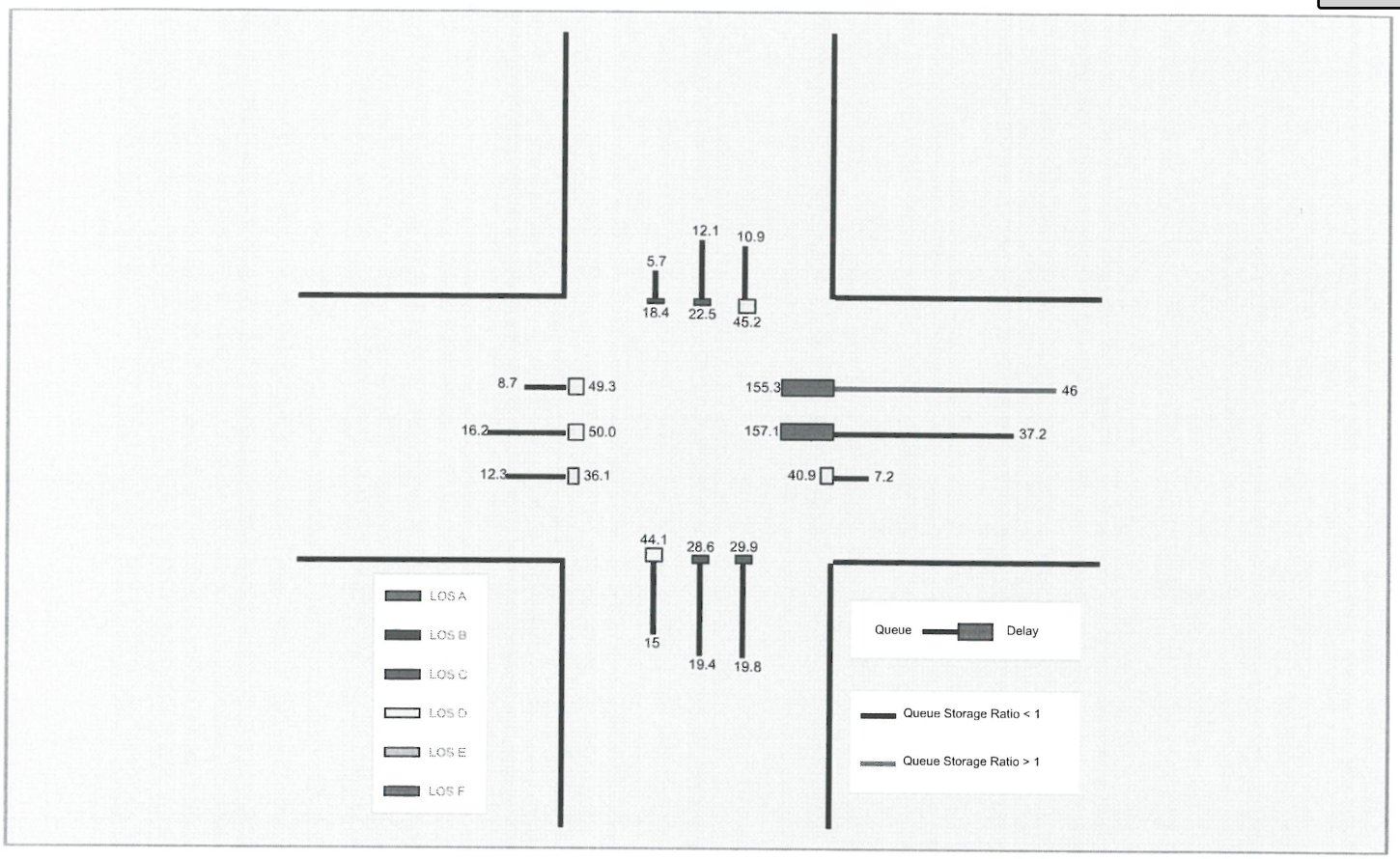
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	14.2	2.4	54.0	11.0	1.1	28.4
Yellow	3.5	0.0	4.0	3.5	0.0	4.0
Red	0.0	0.0	2.0	0.0	0.0	2.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	220.2	408.4	311.7	183.7	936.5	1177.4	378.4	492.5	494	273.8	303.7	143
Back of Queue (*Q*), veh/ln (95 th percentile)	8.7	16.2	12.3	7.2	37.2	46.0	15.0	19.4	19.8	10.9	12.1	5.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.55	0.00	0.78	0.73	0.00	2.94	0.95	0.00	0.00	0.68	0.00	0.58
Control Delay (*d*), s/veh	49.3	50.0	36.1	40.9	157.1	155.3	44.1	28.6	29.9	45.2	22.5	18.4
Level of Service (LOS)	D	D	D	D	F	F	D	C	C	D	C	B
Approach Delay, s/veh / LOS	46.5	D		146.3	F		33.1	C		26.9	C	
Intersection Delay, s/veh / LOS	68.6						E					

Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)



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--- Messages ---

WARNING: If demand exceeds capacity, a multiple-period analysis should be conducted.

WARNING: One or more minor street movements was assigned an Arrival Type input value other than 3; this implies signal coordination on the minor street.

WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS7 Two-Way Stop-Control Report

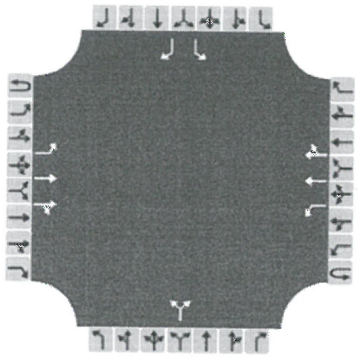
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	A.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic Improved

Site Information

Intersection	Dundee/Einstein East Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein East Dr/Access D
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LR			L		R
Volume, V (veh/h)		34	1408	0		6	789	4		2		2		28		8
Percent Heavy Vehicles (%)		0				0				0		0		0		0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		36				6					4			29		8
Capacity, c (veh/h)		807				460					151			175		589
v/c Ratio		0.04				0.01					0.03			0.17		0.01
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1			0.6		0.0
Control Delay (s/veh)		9.7				12.9					29.6			29.6		11.2
Level of Service, LOS		A				B					D			D		B
Approach Delay (s/veh)	0.2				0.1				29.6				25.6			
Approach LOS									D				D			

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DundeeEinsteinEastDrAccessDrAMTOImp..xtw

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

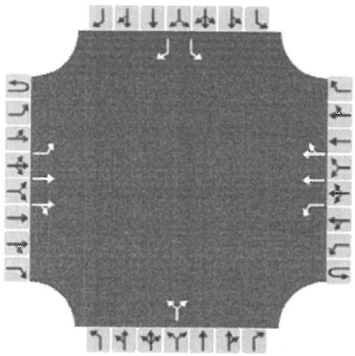
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	P.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic With Improvement

Site Information

Intersection	Dundee/Einstein East Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein East Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LR			L		R
Volume, V (veh/h)		49	999	1		5	1667	15		0		3		31		35
Percent Heavy Vehicles (%)		0				0				0		0		0		0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		52				5					3			33		37
Capacity, c (veh/h)		356				669					502			69		292
v/c Ratio		0.15				0.01					0.01			0.48		0.13
95% Queue Length, Q_{95} (veh)		0.5				0.0					0.0			1.9		0.4
Control Delay (s/veh)		16.8				10.4					12.2			98.8		19.1
Level of Service, LOS		C				B					B			F		C
Approach Delay (s/veh)	0.8				0.0				12.2				56.7			
Approach LOS									B				F			

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

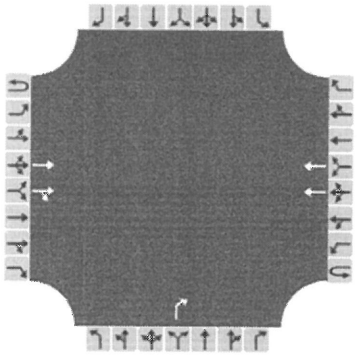
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	A.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic With Imp.

Site Information

Intersection	Dundee/Einstein West Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein West Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume, V (veh/h)			1440	1			797					2				
Percent Heavy Vehicles (%)												0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												2				
Capacity, c (veh/h)												354				
v/c Ratio												0.01				
95% Queue Length, Q_{95} (veh)												0.0				
Control Delay (s/veh)												15.2				
Level of Service, LOS												C				
Approach Delay (s/veh)									15.2							
Approach LOS									C							

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

HCS7 Two-Way Stop-Control Report

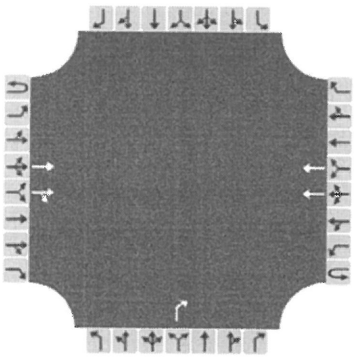
General Information

Analyst	JM
Agency/Co.	KLOA, Inc.
Date Performed	10/16/2017
Analysis Year	2017
Time Analyzed	P.M. Peak Hour
Intersection Orientation	East-West
Project Description	Total Traffic with Imp.

Site Information

Intersection	Dundee/Einstein West Driv
Jurisdiction	IDOT
East/West Street	Dundee Road
North/South Street	Einstein West Dr
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume, V (veh/h)			1043	2			1702					5				
Percent Heavy Vehicles (%)												0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.90				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												5				
Capacity, c (veh/h)												484				
v/c Ratio												0.01				
95% Queue Length, Q_{95} (veh)												0.0				
Control Delay (s/veh)												12.5				
Level of Service, LOS												B				
Approach Delay (s/veh)									12.5							
Approach LOS									B							

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Attachment: Traffic Study (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

VILLAGE OF PALATINE

PRELIMINARY & FINAL PLAT OF SUBDIVISION

Department of Planning & Zoning
200 E. Wood Street · Palatine, IL · 60067-5339
Telephone: (847) 359-9047 · Fax (847) 963-6247

Office Use Only	Project Planner	Zoning Case #
	KR	17-81
	Filing Fee	Notification Deadline

RECEIVED
OCT 24 2017
PLANNING & ZONING DEPARTMENT
Date received

PLEASE TYPE OR PRINT IN INK:

1. Name of Petitioner(s): KC 1000, LLC EDWIN VDOVETS, MEMBER

2. Authorized Agent of Petitioner (if different):

   Name: JAMES K. LENNON

   Address: 345 N. QUENTIN RD, STE 201, PALATINE, IL 60067

   Telephone No. 847-776-6190 Business No. _____

   Relationship to Petitioner: ATTORNEY

3. Property Interest of Petitioner(s): CONTRACT PURCHASER
   Owner, Lessee, Contract Purchaser, etc.

4. Address of the property for which this application is being filed:

   1000-1002 E. DUNDEE RD, PALATINE, IL 60074

5. All existing land use(s) on the property are:
   VACANT COMMERCIAL PROPERTY.

6. The proposed use(s) on the property, if this petition is approved is (are):
   COMMERCIAL RETAIL USES AND BANK WITH DRIVE-THRU WINDOW.

7. Current zoning of property: B-2

8. State the specific action requested
   SEE ATTACHED.

Attachment: Applications (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

8. Approval of Plat of Subdivision along with approval of Planned Unit Development for three commercial buildings including: two multi-tenant retail buildings and one single tenant bank building with drive-thru window and attendant parking for these uses.

VILLAGE OF PALATINE

PRELIMINARY & FINAL PLANNED DEVELOPMENT

Department of Planning & Zoning
200 E. Wood Street · Palatine, IL · 60067-5339
Telephone: (847) 359-9047 · Fax (847) 963-6247

Office Use Only	Project Planner	Zoning Case #
	KR	17-81
	Filing Fee	Notification Deadline

RECEIVED
OCT 24 2017
PLANNING & ZONING DEPARTMENT
Date received

PLEASE TYPE OR PRINT IN INK:

1. Name of Petitioner(s): KC 1000, LLC

2. Authorized Agent of Petitioner (if different):

   Name: JAMES K. LENNON

   Address: 345 N. QUENTIN RD, STE 201, PALATINE, IL 60067

   Telephone No. 847-776-6190 Business No. _____

   Email lennon4@comcast.net

   Relationship to Petitioner: ATTORNEY

3. Property Interest of Petitioner(s): CONTRACT PURCHASER
   Owner, Lessee, Contract Purchaser, etc.

4. Address of the property for which this application is being filed:

   1000-1002 E. DUNDEE RD, PALATINE, IL 60074

5. All existing land use(s) on the property are:
   VACANT COMMERCIAL PROPERTY.

6. Current zoning of property: B-2 Size of the property: 1.88 acres

7. Briefly describe the proposed Planned Development with regard to types of uses proposed, number and types of units, development mix, amenities to be provided, etc:
   SEE ATTACHED.

Attachment: Applications (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

7. The proposed planned unit development is a commercial development that includes three buildings to be utilized as: 1. a building to be operated as a banking facility with two (2) drive thru lanes; and 2. two buildings, each for multi-tenant retail users that complement the Dundee Road corridor. Parking will be provided per code and a full-access to Dundee Road shall be applied for with the Illinois Department of Transportation. Screening will be provided for the benefit of the neighbors to the north of the subject property.

8. Describe any Variations from the Village Ordinances which would be required if the proposed Planned Development ere to be developed as a traditionally zoned project (if any):

SEE ATTACHED.

9. The attached Checklist of Documents outlines all required submittals before a project may be scheduled for the required public hearing before the Plan Commission. All required documents must be submitted with this Petition.

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JAN 19 2018
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DEPARTMENT

Attachment: Applications (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

8. Variations - 1000-1002 E. Dundee Road, Palatine, IL 60074

a. Variation to permit parking stalls to be 17 feet in length instead of the required 19 feet pursuant to Section 7.04 (d) (3) (a) of the Palatine Zoning Ordinance.

b. Variation to permit parking stalls to be 18.8 feet in length instead of the required 19.8 feet pursuant to Section 7.04 (d) (3) (a) of the Palatine Zoning Ordinance.

c. Variation to permit landscape buffer to be 14 feet in width instead of the required 15 feet pursuant to Section 11.03 of the Palatine Zoning Ordinance.

d. Variation to permit 2 monument signs to have tenant panels pursuant to Section 8.03 (b) (1) (c) of the Palatine Zoning Ordinance.

e. Variation to permit EMB sign to be located on a lot with a width of less than 300 feet pursuant to Section 8.01 (i) (2) (b) of the Palatine Zoning Ordinance.

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JAN 19 2018
PLANNING & ZONING
DEPARTMENT

VILLAGE OF PALATINE

SPECIAL USE

Required Materials

- □ Filing Fee of $ _____
- □ Application Form
- □ Plat of Survey (must show all current improvements and be sealed by an Illinois certified surveyor)
- □ Site Plan & Floor plan (dimension, location, and setbacks of all existing and proposed buildings) – **one 11x17 copy each, electronic version preferred**
- □ Real Estate Interest Disclosure Form (see attached)
- □ Proof of Ownership or Lease (e.g. Title Insurance Policy, Deed, or Purchase Contract)
- □ Business Plan (if applicable; including, but not limited to nature of business, hours of operation, number of employees, and menu)

Additional Materials (as required by the Village)

- □ Elevation Plan (front, side, and rear elevations of a proposed building), and/or Floor Plan (proposed interior layout) – **one 11x17 copy of each plan, electronic versions preferred**
- □ Engineering Plans (must indicate existing conditions, topography, storm water management, tree preservation, utility connections, detention calculations, and a cost estimate)
- □ Photographs (e.g. ground-level or aerials)
- □ Other materials as deemed necessary by the Village

Petitioner Justification

The Petitioner is required to present specific evidence related to each of the following standards to justify the request (paraphrased from Section 14.05 of the Palatine Zoning Ordinance). Answer the items below and attach a separate sheet if necessary. ***If you are applying for a Variation only, you do not need to answer these items.***

1. The use is deemed necessary for the public convenience at that location

2. The use is designed, located, and proposed to be operated that the public health, safety and welfare will be protected

SEE ATTACHED.

3. The use will not cause substantial injury to nearby property values

SEE ATTACHED.

4. With respect to live entertainment uses, the use shall not:
   a. Produce noise levels so great as to constitute an unreasonable interference for persons outside the confines of the establishment
   b. Impose undue health, sanitation or safety burdens on the village
   c. Create excessive demands on the Village of Palatine Police Department
   d. Be of a nature otherwise prohibited by law or village ordinance
5. For fence standards, see Section 14.05 of the Palatine Zoning Ordinance

Attachment: Applications (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)

Special Use - 1000-1002 E. Dundee Road, Palatine, IL 60074

2. The subject property is located in the Dundee/Rand Road commercial corridor and is zoned B-2. The petitioner has secured a local bank as a tenant to operate a branch on this site and the bank facility is a permitted use in the B-2 district. The bank is in need of offering drive-thru access to its customers to properly serve their banking needs and to compete with the other bank facilities in this vicinity that offer drive-thru banking services. A drive-thru window will have no negative effect on the health, safety or welfare of the surrounding properties. The low intensity bank use that is proposed will be open during normal business hours and will not affect the commercial uses that are located to the east and west of this property on Dundee Road. The residential property to the north will not be impacted as the drive-thru window faces west toward the retail building on the property and the residences are a considerable distance from the bank building and are screened from this use. These residences have abutted commercial property uses for many years.

3. The bank facility with a drive-thru window will not injure or negatively affect property values in the area. The use is consistent with uses along Rand and Dundee Roads and is the type of business that will provide a strong and viable business presence that positively affects property values. The presence of new development replacing vacant parcels is a positive for adjoining and nearby properties that are located in this commercial corridor. The bank use is also complimentary with the commercial retail uses that are proposed for the other two buildings on this property, which will, when occupied, further impact the economic viability of this area.

VILLAGE OF PALATINE

SPECIAL USE

Required Materials

- ☐ Filing Fee of $ _____
- ☐ Application Form
- ☐ Plat of Survey (must show all current improvements and be sealed by an Illinois certified surveyor)
- ☐ Site Plan & Floor plan (dimension, location, and setbacks of all existing and proposed buildings) – **one 11x17 copy each, electronic version preferred**
- ☐ Real Estate Interest Disclosure Form (see attached)
- ☐ Proof of Ownership or Lease (e.g. Title Insurance Policy, Deed, or Purchase Contract)
- ☐ Business Plan (if applicable, including, but not limited to nature of business, hours of operation, number of employees, and menu)

Additional Materials (as required by the Village)

- ☐ Elevation Plan (front, side, and rear elevations of a proposed building), and/or Floor Plan (proposed interior layout) – **one 11x17 copy of each plan, electronic versions preferred**
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- ☐ Photographs (e.g. ground-level or aerials)
- ☐ Other materials as deemed necessary by the Village

Petitioner Justification

The Petitioner is required to present specific evidence related to each of the following standards to justify the request (paraphrased from Section 14.05 of the Palatine Zoning Ordinance). Answer the items below and attach a separate sheet if necessary. ***If you are applying for a Variation only, you do not need to answer these items.***

1. The use is deemed necessary for the public convenience at that location

   SEE ATTACHED.

2. The use is designed, located, and proposed to be operated that the public health, safety and welfare will be protected

   SEE ATTACHED.

3. The use will not cause substantial injury to nearby property values

   SEE ATTACHED.

4. With respect to live entertainment uses, the use shall not:
   a. Produce noise levels so great as to constitute an unreasonable interference for persons outside the confines of the establishment
   b. Impose undue health, sanitation or safety burdens on the village
   c. Create excessive demands on the Village of Palatine Police Department
   d. Be of a nature otherwise prohibited by law or village ordinance
5. For fence standards, see Section 14.05 of the Palatine Zoning Ordinance

RECEIVED
JAN 19 2018
PLANNING & ZONING DEPARTMENT

GRUND & RIESTERER ARCHITECTS, INC.

22 January 2018

Ms. Katie Romack
Planner
Planning and Zoning Department
Village of Palatine
200 East Wood Street
Palatine, IL 60067-5339

RE: Palatine Bank & Trust
Dundee Road
Palatine, IL 60067
GNR Project: 1730.00

Dear Ms. Romack:

Listed below are our comments regarding the Special Use Variation to permit an Electronic Message Board sign to be located on a lot with a width less than 300 feet pursuant to 8.01 (i) (2) (b) of the Palatine Zoning Ordinance for the Palatine Bank & Trust's Monument Sign:

Petitioner Justification

1. The use is deemed necessary for the public convenience at that location.
   We believe the proposed monument sign and reader board will enhance the visibility of the bank along Dundee Road. To stay competitive with other banking institutions in the Village of Palatine, the Palatine Bank & Trust requests the proposed monument sign and reader board.
2. The use is designed, located and proposed to be operated that the public health, safety and welfare will be protected.
   We believe the proposed monument sign and reader board is designed, located and proposed to be operated that the public health, safety and welfare will be protected.
3. The use will not cause substantial injury to nearly property values.
   We believe the proposed monument sign and reader board along with this new development will increase the property values in the area.

If you need any additional information or have any questions, please do not hesitate to contact us.

With Regards,

Charles P. Riesterer, AIA
Grund & Riesterer Architects, Inc.

THE CIVIC OPERA BUILDING 20 NORTH WACKER DRIVE SUITE 2418 CHICAGO, ILLINOIS 60606
T: 312-372-5353 F: 312-372-5367 E: GNRARCH@GNRARCH.COM I: WWW.GNRARCH.COM

PUBLIC NOTICE
A public hearing will be held before the Palatine Plan Commission on Tuesday, February 6, 2018, at 7:00 PM, in the Palatine Village Council Chambers, 200 E. Wood St., relative to a request for the following:
1. Preliminary and Final Plat of Subdivision for a 3 building commercial development;
2. Preliminary and Final Planned Development to allow a 3-lot commercial subdivision;
3. Rezoning from B-2 General Business district to Planned Development;
4. Special Use to permit a drive-through;
5. Special Use to permit an electronic message board (EMB) sign on one of the proposed lots, with a Variation for the lot having less than 300 feet of frontage.
The property is commonly known as 1000-1002 E. Dundee Road (aka the vacant property directly east of UG Subdivision – Panera/Verizon at the corner of the Dundee and Rand Roads). Parcel ID numbers 01-300-024 & 02-01-300-025.
The above petition has been filed by KC 1000, Inc. and is available for examination in the office of the Village Clerk, 200 E. Wood Street.
FILE #: 17-81
VILLAGE OF PALATINE
Dennis Dwyer, Chair
Palatine Plan Commission
DATED: This 22nd of January, 2018
Published in Daily Herald January 22, 2018 (4491693)

CERTIFICATE OF PUBLICATION

Paddock Publications, Inc.

Daily Herald

Corporation organized and existing under and by virtue of the laws of the State of Illinois, DOES HEREBY CERTIFY that it is the publisher of the **DAILY HERALD**. That said **DAILY HERALD** is a secular newspaper and has been circulated daily in the Village(s) of Algonquin, Antioch, Arlington Heights, Aurora, Barrington, Barrington Hills, Lake Barrington, North Barrington, South Barrington, Bartlett, Batavia, Buffalo Grove, Burlington, Campton Hills, Carpentersville,Cary,Deer Park, Des Plaines, South Elgin, East Dundee, Elburn, Elgin,Elk Grove Village, Fox Lake, Fox River Grove, Geneva, Gilberts,Grayslake, Green Oaks, Gurnee, Hainesville, Hampshire, Hanover Park,Hawthorn Woods, Hoffman Estates, Huntley, Inverness, Island Lake,Kildeer, Lake Villa, Lake in the Hills, Lake Zurich, Libertyville,Lincolnshire, Lindenhurst, Long Grove, Mt.Prospect, Mundelein,Palatine, Prospect Heights, Rolling Meadows, Round Lake, Round Lake Beach,Round Lake Heights,Round Lake park,Schaumburg, Sleepy Hollow, St. Charles, Streamwood, Tower Lakes, Vernon Hills, Volo, Wauconda, Wheeling, West Dundee, Wildwood, Sugar Grove, North Aurora

County(ies) of Cook, Kane, Lake, McHenry
and State of Illinois, continuously for more than one year prior to the date of the first publication of the notice hereinafter referred to and is of general circulation throughout said Village(s), County(ies) and State.

I further certify that the DAILY HERALD is a newspaper as defined in "an Act to revise the law in relation to notices" as amended in 1992 Illinois Compiled Statutes, Chapter 715, Act 5, Section 1 and 5. That a notice of which the annexed printed slip is a true copy, was published January 22, 2018 in said DAILY HERALD.

IN WITNESS WHEREOF, the undersigned, the said PADDOCK PUBLICATIONS, Inc., has caused this certificate to be signed by, this authorized agent, at Arlington Heights, Illinois.

PADDOCK PUBLICATIONS, INC.
DAILY HERALD NEWSPAPERS

BY Paula Raltzer
Authorized Agent

Control # 4491693

Attachment: Public Notice (1000-1002 E. Dundee Road - PD, Rezone, Subdivision, SU for EMB sign & drive-through)