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COUNTY CLERK/REGISTER OF DEEDS

Submitter: FARNHAM & GRIFFIN

By: pm

AMD

SECOND AMENDMENT TO SUBDIVISION AGREEMENT
SPRINGFIELD COMMERCE

This Second Amendment to the Springfield Commerce Subdivision Agreement (hereinafter "Second Amendment") made and entered into this 22nd day of September, 2022, by and between MADDAD LAND, LLC a Nebraska limited liability company (hereinafter "Developer"), Sanitary and Improvement District Number 348 of Sarpy County, Nebraska (hereinafter "District"), and the City of Springfield, State of Nebraska (hereinafter "City"). Collectively, Developer, District, and City are hereinafter sometimes referred to as the "Parties."

RECITALS

Developer, District and City entered into the Original Subdivision Agreement, with respect to Lots 1-4 and Outlots A and B, inclusive of Springfield Commerce on February 12, 2021; and

Developer, District and City entered into a First Amendment to Subdivision Agreement, with respect to Lots 1 through 3, inclusive, Springfield Commerce Replat One, on November 8, 2021; and

Developer is the owner of record of the parcels of land described in Exhibit "A-2" attached hereto, and all such parcels of land owned by Developer are within the City's zoning and platting jurisdiction; and

Developer has requested City to approve a specific platting of such additional parcels of land, to be developed and known as Phase 2 of Springfield Commerce ("Phase 2"), as depicted in the Final Plat Exhibit attached as Exhibit "B-2", and that Phase 2 be included within the definition of "Development Area"; and

Developer proposes that certain Public Improvements (as defined herein) will be made for the benefit of the Property Benefited; and

Developer and District wish to connect to the City's sewer and water system to be constructed by District within the Development Area; and

Developer, District and City wish to agree regarding City provision of water and sewer service to the Development Area; and

Developer and City wish to agree regarding the maintenance of lots within the District; and

Developer, District, and City wish to agree upon the manner, method and the extent to which public funds may be expended in connection with the installation and construction of Public Improvements constructed within and/or serving the Development Area, the extent to which those contemplated Public Improvements specially benefit property within the Development Area or property adjacent thereto, whose costs shall be specially assessed and those Public Improvement costs that are deemed to be of general benefit to the property within the District; and

Developer, District and City agree that the terms and conditions hereof shall govern development of the entire Development Area.

NOW, THEREFORE, it is mutually agreed as follows:

1. Incorporation of Recitals. The recitals set forth above are, by this reference, incorporated into and deemed part of the Original Subdivision Agreement as modified and amended by the First Amendment and this Second Amendment (collectively, the "Agreement").

2. Area of Application. This Second Amendment applies to Lots 1, 3, 4, 5 and 6, and Lots 1 – 3, inclusive, Springfield Commerce Replat One and Outlots A and B, inclusive, of Springfield Commerce.

3. Amendment. The Original Subdivision Agreement terms are hereby amended as follows:

   a. Section II, Item K is hereby amended to read:

      K. "Road Agreement" shall mean collectively that certain Development Agreement dated February 23, 2021 by and between Developer and Sarpy County and that certain Amendment to Development Agreement dated 11/15/22 by and between Developer and Sarpy County, all for the Road Improvements, copies of which are attached as Exhibit F and F-2.

   b. Section IV, Item D is hereby amended to read:

      D. Road Agreement with Sarpy County. District shall contribute to the cost of the Road Improvements as specified in the Road Agreement attached to this Agreement as Exhibit "F" and Exhibit "F-2". No portion of any of City's arterial street improvement program fees shall be used for any of the Road Improvements identified in Exhibit "F" and/or Exhibit "F-2".

   c. Section IV Public Improvements & Other Obligations, Subsection W 150th Street is hereby added to read:

      W. 150th Street. At such time as CITY approval is requested for (1) any development by any Sanitary and Improvement District formed for the development of Tax Lot 8A, Section 23, Township 13, Range 11 East of the 6th P.M., Sarpy County, Nebraska or the Northwest ¼ of Section 23, Township 13, Range 11, East of the 6th P.M. Sarpy County, Nebraska that abuts and will be served by the construction and installation of 150th Street ("Applying SID"), or (2) any development by any private Developer(s) of Tax Lot 8A, Section 23,

Township 13, Range 11 East of the 6th P.M., Sarpy County, Nebraska or the Northwest ¼ of Section 23, Township 13, Range 11, East of the 6th P.M. Sarpy County, Nebraska that abuts and will be served by the construction and installation of 150th Street ("Applying Developer"), and if CITY determines that improvement to 150th Street is Warranted, CITY may, as a condition of CITY's approval, require Applying SID or Applying Developer to design, construct, and install 150th Street. The Applying SID or Applying Developer shall finance the design, construction and installation of 150th Street. During and after the construction of 150th Street, DISTRICT shall pay Applying SID or Applying Developer its proportionate share of the Entire Cost of the 150th Street improvements.

d. Section IV Public Improvements & Other Obligations, Subsection X Trail Improvements is hereby added to read:

X. Trail Improvements. Developer shall be responsible for one hundred percent (100%) of the entire cost of a ten (10) foot concrete sidewalk within the 150th Street right-of-way abutting the Final Plat's frontage along 150th Street (the "150th Street Sidewalk"). Developer shall construct, install, and improve the 150th Street Sidewalk pursuant to this Agreement. The 150th Street Sidewalk shall be maintained by Developer. In the event Developer transfers ownership of the individual lot(s) shown on the Final Plat, the corresponding lot owner(s) shall assume maintenance responsibilities for those portion(s) of the 150th Street Sidewalk that abut their property. Developer shall complete the construction and installation of the 150th Street Sidewalk within eighteen (18) months after the completion of all improvements to the portion of 150th Street abutting the Final Plat's frontage along 150th Street required to complete the roadway.

e. Section VI Allocation of Costs, Subsection D Sewer Connection Capital Facilities Fees, iii is hereby added to read:

iii. One-hundred percent (100%) of Sewer Connection – Capital Facilities Fees, calculated on the basis $17,500 per acre on commercial/industrial land x 28.09 acres in the Development Area of Phase 2, Springfield Commerce for a total cost of $491,575.00, shall be paid to City and assessed as follows: One-Half of Sewer Connection – Capital Facilities Fees in the amount of $245,787.50 shall be paid to City by District in full prior to the Mayor signing the Final Plat, provided, however, that upon City's receipt of a copy of an executed Agreement with D. A . Davidson Company to purchase or place the warrants of the District, which specifically includes the warrants to be issued for payment of Sewer Connection – Capital Facilities Fees, the $245,787.50 may be paid by the issuance of the District's warrants in such amount within sixty (60) days after the filing of the Final Plat. If said Sewer Connection – Capital Facilities Fees in the amount of $245,787.50 are not paid to City in full within sixty (60) days of the Final Plat being filed with the Sarpy County Register of Deeds, this Agreement and the City's approval of the Final Plat shall become null and void and District shall not be permitted to move forward with said Development Area. City permits that One-Quarter of said One-Half portion of Sewer – Connection Capital Facilities Fees paid to the City shall be specially assessed against Lots 5 and 6, Springfield Commerce. One-Quarter

of Sewer Connection – Capital Facilities Fees paid to the City shall be a general obligation of the District, but only if the general obligation debt ratio for Phases 1 and 2 of Springfield Commerce does not exceed 5.01% with this fee included; if the general obligation debt ratio exceeds 5.01% with this fee included then this one-quarter share of Sewer Connection – Capital Facilities Fees shall be specially assessed against Lots 5 and 6, Springfield Commerce. The remaining One-Half of the Sewer Connection – Capital Facilities Fees in the amount of $245,787.50 shall be paid proportionately on each lot by the lot owner immediately prior to the issuance of a building permit applicable to such lot.

f. Section VI Allocation of Costs, Subsection G Water Connection Capital Facilities Fees, iii is hereby added to read:

One hundred percent (100%) of Water Connection – Capital Facilities Fees, calculated on the basis of $1,500.00 per acre on commercial/industrial land x 28.09 acres in the Development Area for a total cost of $42,135.00, shall be paid to City and assessed as follows: One-Half of Water Connection – Capital Facilities Fees paid to the City in the amount of $42,135.00 shall be specially assessed against Lots 5 and 6, Springfield Commerce. One-Half of the Water Connection – Capital Facilities Fees in the amount of $21,067.50 shall be paid to City by District in full prior to the Mayor signing the approved Final Plat, provided, however, that upon City's receipt of a copy of an executed Agreement with D. A. Davidson Company to purchase or place the warrants of the District, which specifically includes the warrants to be issued for payment of Water Connection – Capital Facilities Fees, the $21,067.50 may be paid by the issuance of the District's warrants in such amount within sixty (60) days after the filing of the Final Plat. If said Water Connection – Capital Facilities Fees in the amount of $21,067.50 are not paid to City in full within sixty (60) days of the Final Plat being filed with the Sarpy County Register of Deeds, this Agreement and the City's approval of the Final Plat shall be null and void and District shall not have the right to connect to the City's water or sewer system. The remaining One-Half of the Water Connection – Capital Facilities Fees in the amount of $21,067.50 shall be paid proportionately on each lot by the lot owner immediately prior to the issuance of a building permit applicable to such lot.

d. Section XV City Developer Fee is hereby amended to read:

It is mutually agreed that District and Developer shall pay a fee to City to cover engineering, legal and other miscellaneous expenses incurred by City in connection with any necessary review of plans and specifications in connection with the construction projects performed by District. Said fee shall be the greater of Five Thousand Dollars ($5,000.00) or one percent (1%) of the estimated public improvement construction costs (excluding electrical construction costs) at the time the proposed public improvements are to be constructed. The fee shall be allocated to special assessments and general obligation in the same proportion as costs of the particular construction project and shall be paid within 60 days after the filing of the Final Plat. A separate Developer Fee shall be charged per phase of the Development.

4. Exhibit Modifications. The Agreement exhibits referenced herein or attached hereto are incorporated into this Second Amendment and the Agreement by this reference and are hereby rescinded, modified, and/or added as follows:
    a. Exhibit A-2 – Final Plat for Lots 5 and 6, Springfield Commerce
    b. Exhibit B-2 – Sanitary Sewer Improvement Plans for Lots 5 and 6, Springfield Commerce
    c. Exhibit C-2 – Storm Sewer Improvement Plans
    d. Exhibit D-2 – Water Improvement Plans
    e. Exhibit E-2 – Grading Plans
    f. Exhibit F-2 – Amendment to Sarpy County Road Agreement
    g. Exhibit G-2 – Sewer Agreement with City
    h. Exhibit H-2 – Water Agreement with City
    i. Exhibit I-2 – Landscape Plan
    j. Exhibit J-2 – Second Amended and Restated Bylaws of Property Owner's Association
    k. Exhibit K-2 – Second Amended and Restated Articles of Incorporation of Property Owner's Association
    l. Exhibit M-2 – Traffic Study

5. No Other Amendment. Except as specifically modified and amended by this Second Amendment, the Original Subdivision Agreement shall remain in full force and effect.

6. Binding Effect. This Second Amendment shall be binding upon the Parties, their respective successors, and assigns.

7. Recording of Agreement with Register of Deeds. This Agreement shall be recorded at the office of the Register of Deeds of Sarpy County, Nebraska at the expense of the Developer.

IN WITNESS WHEREOF, we, the contracting Parties, by our respective duly authorized agents, hereby enter into this Agreement, effective on the day and year affixed hereon. Executed in triplicate on the dates indicated with the signatures below.

Executed by City of Springfield this 22nd day of September, 2022.

CITY OF SPRINGFIELD, NEBRASKA,
A Political Subdivision

Mayor

CITY OF SPRINGFIELD CORPORATE SEAL SARPY COUNTY

Attest:

Springfield City Clerk

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 22nd day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Robert Roseland, personally known by me to be the Mayor of the City of Springfield, and Kathleen Gottsch, personally known by me to be the City Clerk of the City of Springfield, and the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the execution thereof to be their voluntary act and deed and the voluntary act and deed of said City.

WITNESS my hand and Notarial Seal the day and year last above written.

Andrea Ledenbach
NOTARY PUBLIC

(SEAL)
GENERAL NOTARY - State of Nebraska
ANDREA S. LEDENBACH
My Comm. Exp. October 31, 2024

Executed by District this 14th day of September, 2022.

SANITARY & IMPROVEMENT DISTRICT
No. 348 of Sarpy County, Nebraska

Chairperson, Board of Trustees

Attest:

Clerk, Board of Trustees

Executed by Developer this 14th day of September, 2022.

Developer:
MADDAD LAND, LLC

Managing Member

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 14th day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Jonathan M. Meyers, personally known by me to be the Chairman of Sanitary and Improvement District No. 348 of Sarpy County, Nebraska, and the identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution thereof to be his/her voluntary act and deed and the voluntary act and deed of said District.

WITNESS my hand and Notarial Seal the day and year last above written.

Andrea M Muldoon
NOTARY PUBLIC

(SEAL)
GENERAL NOTARY - State of Nebraska
ANDREA M. MULDOON
My Comm. Exp. October 24, 2023

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 14th day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Tamara Draeger, personally known by me to be the Manager of MADDAD Land, LLC, and the identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution thereof to be his/her voluntary act and deed and the voluntary act and deed of said Developer.

WITNESS my hand and Notarial Seal the day and year last above written.

Andrea M Muldoon
NOTARY PUBLIC

GENERAL NOTARY - State of Nebraska
ANDREA M. MULDOON
(SEAL)
My Comm. Exp. October 24, 2023

Exhibit A-2 – Final Plat for Lots
5 and 6, Springfield Commerce

SPRINGFIELD COMMERCE

LOTS 5 AND 6

BEING A PLATTING OF PART OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA

SETBACK REQUIREMENTS				
ZONING	FRONT YARD	SIDE YARD	STREET SIDE YARD	REAR YARD
BH	75'	0'	15'	25'
LI	25'	0'	25'	15'

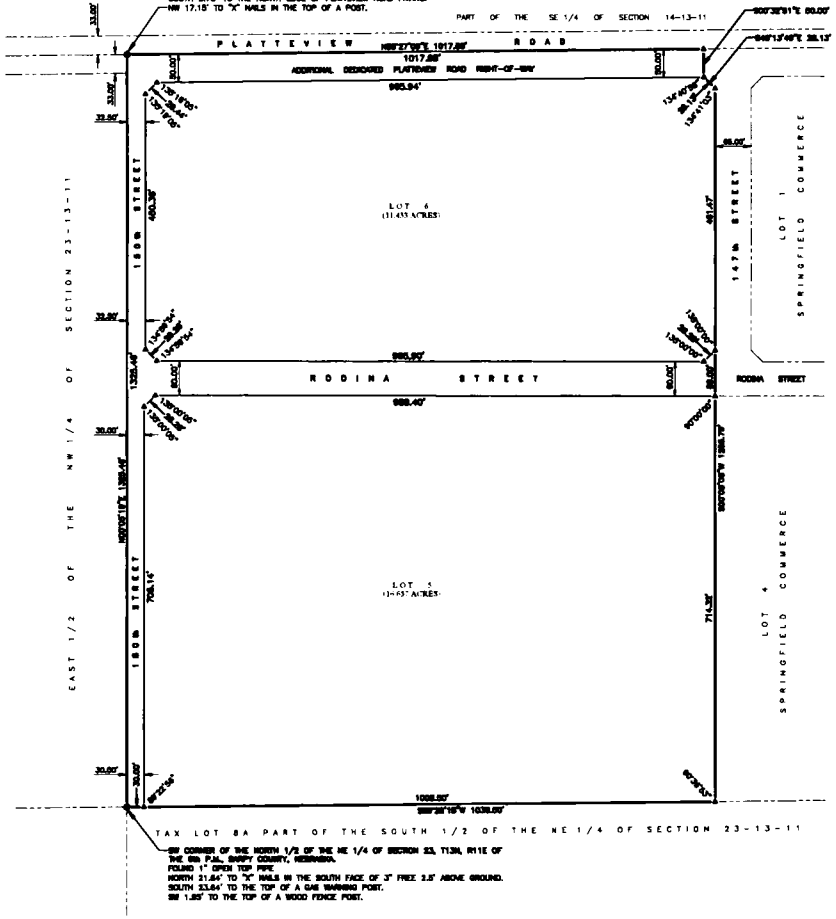
NOTES

1. THERE WILL BE NO DIRECT VEHICULAR ACCESS TO PLATTEVIEW ROAD FROM LOT 6.

LEGEND

● CORNERS FOUND

▲ CORNERS TO BE SET WHEN GRADING IS FINISHED



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT A BOUNDARY SURVEY OF THE SUBDIVISION DESCRIBED HEREIN WAS MADE UNDER MY DIRECT SUPERVISION AND THAT PERMANENT MARKERS HAVE BEEN FOUND OR SET AT ALL CORNERS OF SAID BOUNDARY AND THAT ONCE ALL GRADING HAS BEEN COMPLETED PERMANENT MARKERS WILL BE SET AT ALL LOT CORNERS WITHIN SAID SUBDIVISION TO BE KNOWN AS SPRINGFIELD COMMERCE, LOTS 5 AND 6, BEING A PLATTING OF THAT PART OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA, DESCRIBED AS FOLLOWS, BEGINNING AT THE NW CORNER OF SAID NORTH 1/2;

THENCE N89°27'06"E (ASSUMED BEARING) 1017.88 FEET ON THE NORTH LINE OF SAID NORTH 1/2 TO THE NW CORNER OF PLATTEVIEW ROAD AS DEDICATED IN THE FINAL PLAT OF SPRINGFIELD COMMERCE RECORDED AS INSTRUMENT NO. 2021-08888 OF THE SARPY COUNTY, RECORDS;

THENCE S00°32'51"E 50.00 FEET ON THE WEST LINE OF SAID SPRINGFIELD COMMERCE AND THE WEST LINE OF 147th STREET;

THENCE S48°13'46"E 28.13 FEET ON THE WEST LINE OF SAID SPRINGFIELD COMMERCE AND THE WEST LINE OF 147th STREET;

THENCE S00°05'08"W 1255.78 FEET ON THE WEST LINE OF SAID SPRINGFIELD COMMERCE AND THE WEST LINE OF 147TH STREET TO THE SOUTH LINE OF SAID NORTH 1/2;

THENCE S89°26'15"W 1038.50 FEET ON THE SOUTH LINE OF SAID NORTH 1/2 TO THE SW CORNER THEREOF;

THENCE N00°05'18"E 1325.46 FEET ON THE WEST LINE OF SAID NORTH 1/2 TO THE POINT OF BEGINNING.

NEBRASKA REGISTERED LS-308 LAND SURVEYOR JAMES D WARNER

FEBRUARY 15, 2022
DATE

JAMES D. WARNER, NEBRASKA RLS 308

DEDICATION

KNOW ALL MEN BY THESE PRESENTS: THAT WE, MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY, BEING THE OWNERS, OF THE LAND DESCRIBED WITHIN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT, HAVE CAUSED SAID LAND TO BE SUBDIVIDED INTO STREETS AND LOTS TO BE NAMED AND NUMBERED AS SHOWN, SAID SUBDIVISION TO BE HEREAFTER KNOWN AS SPRINGFIELD COMMERCE, AND WE DO HEREBY RATIFY AND APPROVE OF THE DISPOSITION OF OUR PROPERTY AS SHOWN ON THIS PLAT AND WE HEREBY DEDICATE TO THE PUBLIC, FOR PUBLIC USE, THE STREETS AS SHOWN HEREON AND WE FURTHER GRANT A PERPETUAL EASEMENT TO THE OMAHA PUBLIC POWER DISTRICT AND ANY COMPANY WHICH HAS BEEN GRANTED A FRANCHISE TO PROVIDE A CABLE TELEVISION SYSTEM IN THE AREA TO BE SUBDIVIDED, THEIR SUCCESSORS AND ASSIGNS, TO ERECT, OPERATE, MAINTAIN, REPAIR, AND RENEW POLES, WIRES, CROSSARMS, DOWN GUYS AND ANCHORS, CABLES, CONDUITS AND OTHER RELATED FACILITIES AND TO EXTEND THEREON WIRES OR CABLES FOR THE CARRYING AND TRANSMISSION OF ELECTRIC CURRENT FOR LIGHT, HEAT, AND POWER FOR THE TRANSMISSION OF SIGNALS AND SOUNDS OF ALL KINDS AND THE RECEPTION THEREOF, INCLUDING SIGNALS PROVIDED BY A CABLE TELEVISION SYSTEM AND THEIR RECEPTION, ON, OVER, THROUGH, UNDER AND ACROSS A FIVE (5') FOOT WIDE STRIP OF LAND ABUTTING ALL FRONT LOT LINES; AND AN EIGHT (8') FOOT WIDE STRIP OF LAND ABUTTING THE REAR LOT LINES AND A SIXTEEN (16') FOOT WIDE STRIP OF LAND ABUTTING THE REAR BOUNDARY LOT LINES OF ALL EXTERIOR LOTS. THE TERM EXTERIOR LOT IS HEREIN DEFINED AS THOSE LOTS FORMING THE OUTER PERIMETER OF THE ABOVE DESCRIBED SUBDIVISION, SAID SIXTEEN (16') FOOT WIDE EASEMENT WILL BE REDUCED TO AN EIGHT (8') FOOT WIDE STRIP OF LAND WHEN THE ADJACENT LAND IS SURVEYED, PLATTED AND RECORDED IF SAID SIXTEEN (16') FOOT EASEMENT IS NOT OCCUPIED BY UTILITY FACILITIES AND IF REQUESTED BY THE OWNER.

PERPETUAL EASEMENTS SHALL BE GRANTED TO METROPOLITAN UTILITIES DISTRICT OF OMAHA, AND ANY NATURAL GAS PROVIDER, AND THEIR SUCCESSORS AND ASSIGNS, TO ERECT, INSTALL, OPERATE, MAINTAIN, REPAIR AND RENEW PIPELINES, HYDRANTS, AND OTHER RELATED FACILITIES, AND TO EXTEND THEREON PIPES FOR THE TRANSMISSION OF GAS AND WATER ON, THROUGH, UNDER AND ACROSS A FIVE-FOOT-WIDE STRIP OF LAND ABUTTING ALL CUL-DE-SAC STREETS AND ALONG ALL STREET FRONTAGES OF ALL LOTS.

NO PERMANENT BUILDINGS, TREES, RETAINING WALLS OR LOOSE ROCK WALLS SHALL BE PLACED IN SAID EASEMENT WAYS, BUT THE SAME MAY BE USED FOR GARDENS, SHRUBS, LANDSCAPING, SIDEWALKS, DRIVEWAYS AND OTHER PURPOSES THAT DO NOT THEN OR LATER INTERFERE WITH THE AFORESAID USES OR RIGHTS HEREIN GRANTED.

MADDAD LAND, LLC,
A NEBRASKA LIMITED LIABILITY COMPANY

BY: _____
JON MEYERS, MEMBER

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
COUNTY OF)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME THIS_____ DAY OF_____, 2022 BY JON MEYERS, MEMBER OF MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY ON BEHALF OF SAID COMPANY.

_____
NOTARY PUBLIC

SARPY COUNTY TREASURER'S CERTIFICATE

THIS IS TO CERTIFY THAT I FIND NO REGULAR OR SPECIAL TAXES DUE OR DELINQUENT AGAINST THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT AS SHOWN ON THE RECORDS OF THIS OFFICE THIS_____ DAY OF_____ 2022.

_____
SARPY COUNTY TREASURER

TREASURER'S SEAL

APPROVAL OF THE SPRINGFIELD CITY PLANNING COMMISSION

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE SPRINGFIELD CITY PLANNING COMMISSION THIS_____ DAY OF_____, 2021.

_____
ATTEST: SECRETARY OF PLANNING COMMISSION

_____
CHAIRPERSON

APPROVAL OF THE SPRINGFIELD CITY COUNCIL

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE CITY COUNCIL OF SPRINGFIELD, NEBRASKA THIS_____ DAY OF_____, 2022.

_____
ATTEST: CITY CLERK, KATHLEEN GOTTSCH

_____
MAYOR, ROBERT ROSELAND

APPROVAL OF THE SPRINGFIELD CITY ENGINEER

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE SPRINGFIELD CITY ENGINEER THIS_____ DAY OF_____, 2022.

_____
SPRINGFIELD CITY ENGINEER

REVIEW BY SARPY COUNTY PUBLIC WORKS

THIS PLAT OF SPRINGFIELD COMMERCE WAS REVIEWED BY THE SARPY COUNTY SURVEYORS OFFICE THIS_____ DAY OF_____, 2022.

_____
COUNTY SURVEYOR/ENGINEER

TD2 engineering & surveying
thompson, dreessen & dorner, inc.
10836 Old Mill Rd
Omaha, NE 68154
p.402.330.8860 f.402.330.5866
td2co.com

SPRINGFIELD COMMERCE
LOTS 5 AND 6

Revision Dates

No.	Description	MM-DD-YY

Job No.: E179-126E
Drawn By: RJR
Reviewed By: JDW
Date: FEBRUARY 15, 2022
Book:
Page:

Sheet Title

SPRINGFIELD, NEBRASKA
SARPY COUNTY
FINAL PLAT

Sheet Number

SHEET 1 OF 1

Exhibit B-2 – Sanitary Sewer Improvement Plans

SPRINGFIELD COMMERCE

LOTS 5 AND 6

SARPY COUNTY, NEBRASKA

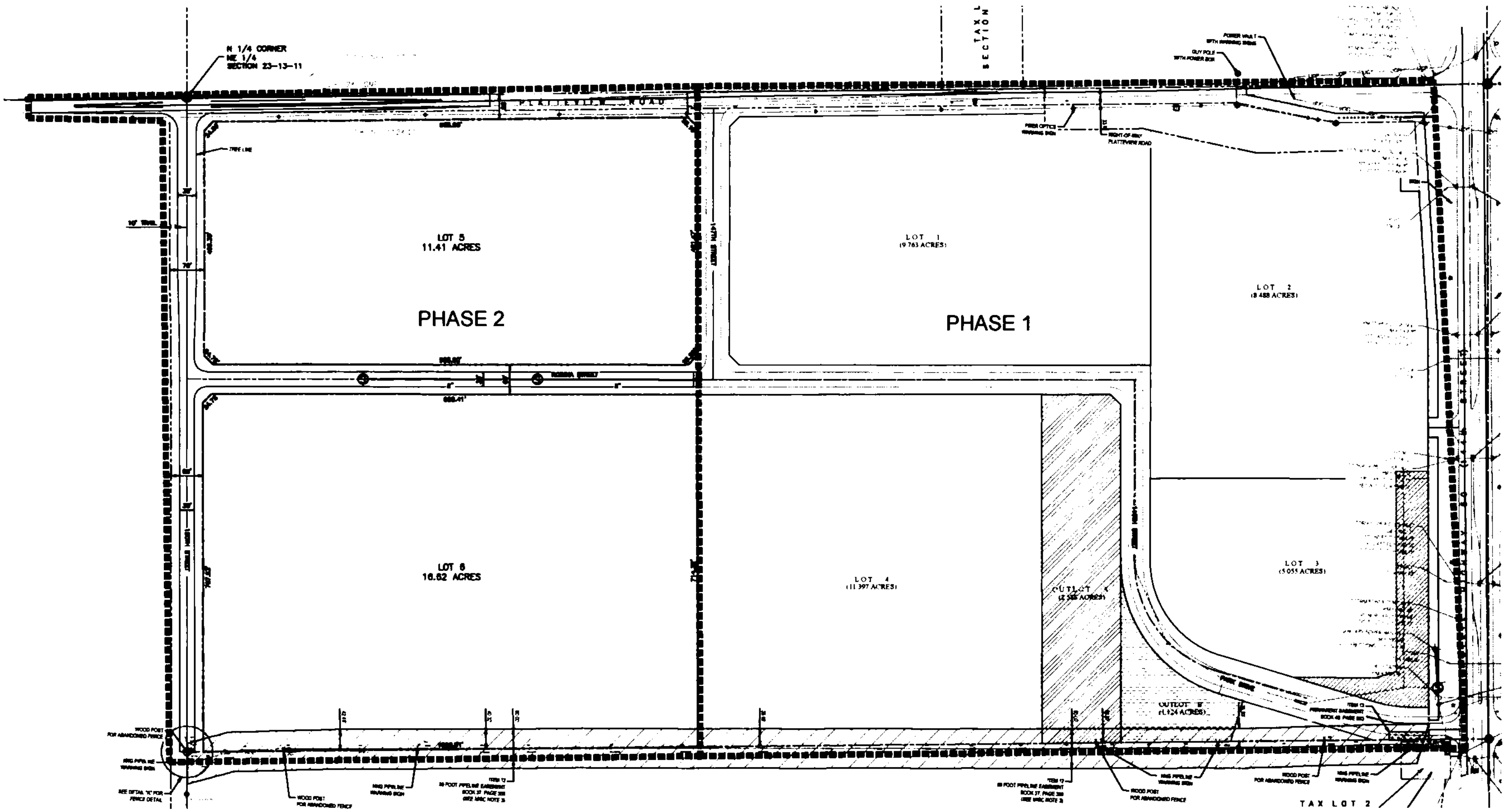
SUBDIVIDER

ENGINEER

LEGAL DESCRIPTION

NOTES

LEGEND



TD2

thompson, dreessen & dorner, inc
10836 Old Mill Rd
Omaha, NE 68154
p.402.330.8860 www.td2co.com

Springfield Commerce

MADDAD Land LLC

No	Description	MM-DD-YY

Drawn By MEM Reviewed By DEK
Job No 179-126 Date 3-7-22

Sanitary Sewer Plan

SPRINGFIELD COMMERCE

LOTS 5 AND 6

SARPY COUNTY, NEBRASKA

SUBDIVIDER

ENGINEER

LEGAL DESCRIPTION

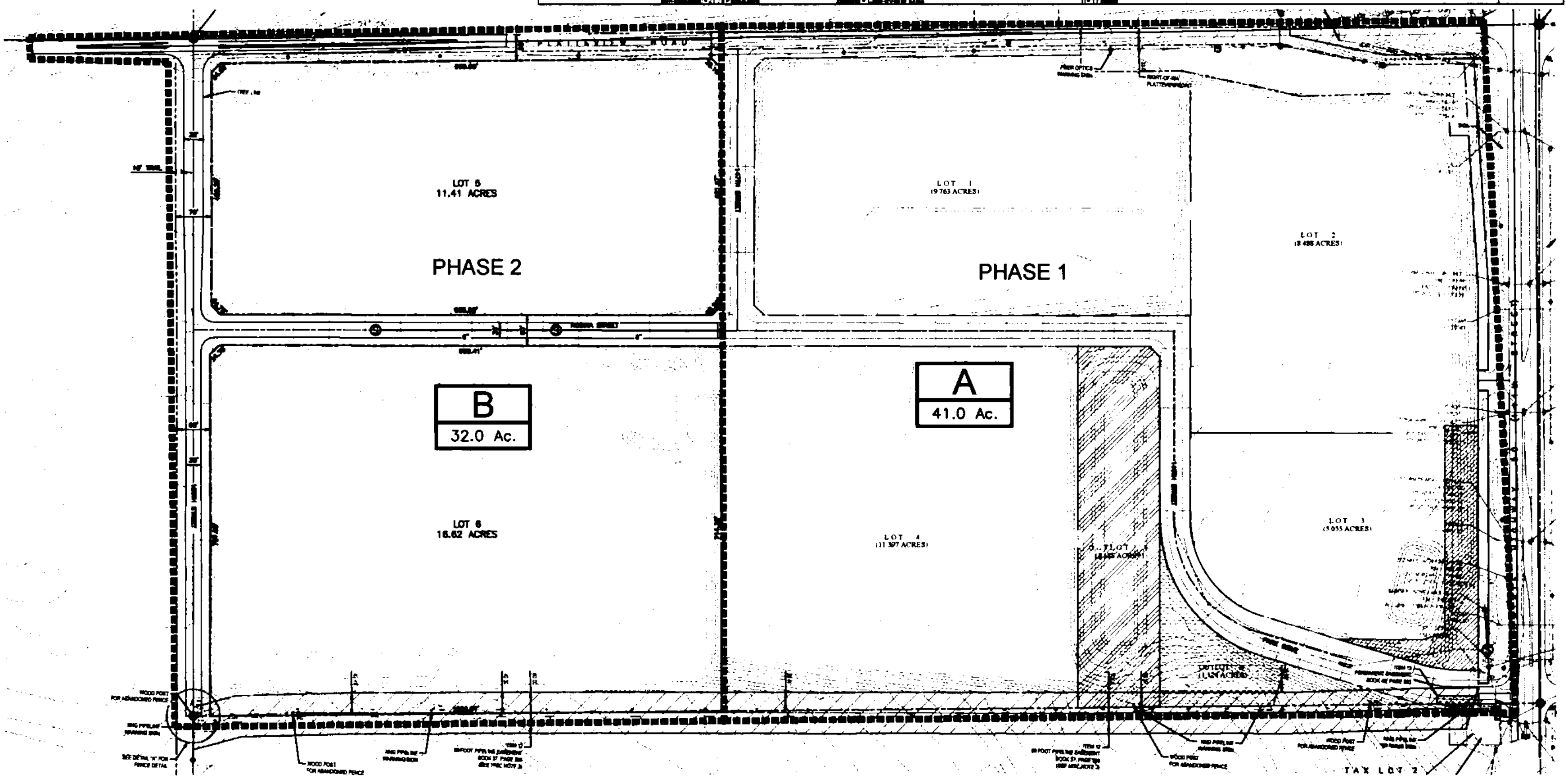
NOTES

LEGEND

PHASE LINE

COMPUTATION FORM
SANITARY SEWER SYSTEM DESIGN

THOMPSON DREESSEN & DORNER
Consulting Engineers & Land Surveyors



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Springfield Commerce

MADDAD Land LLC

No	Description	MM-DD-YY

Drawn By MEM Reviewed By DEK
Job No 179-126 Date 3-7-22

Sanitary Sewer Calculations

Exhibit C-2 – Storm Sewer
Improvements Plans

SPRINGFIELD COMMERCE

LOTS 5 AND 6

SARPY COUNTY, NEBRASKA

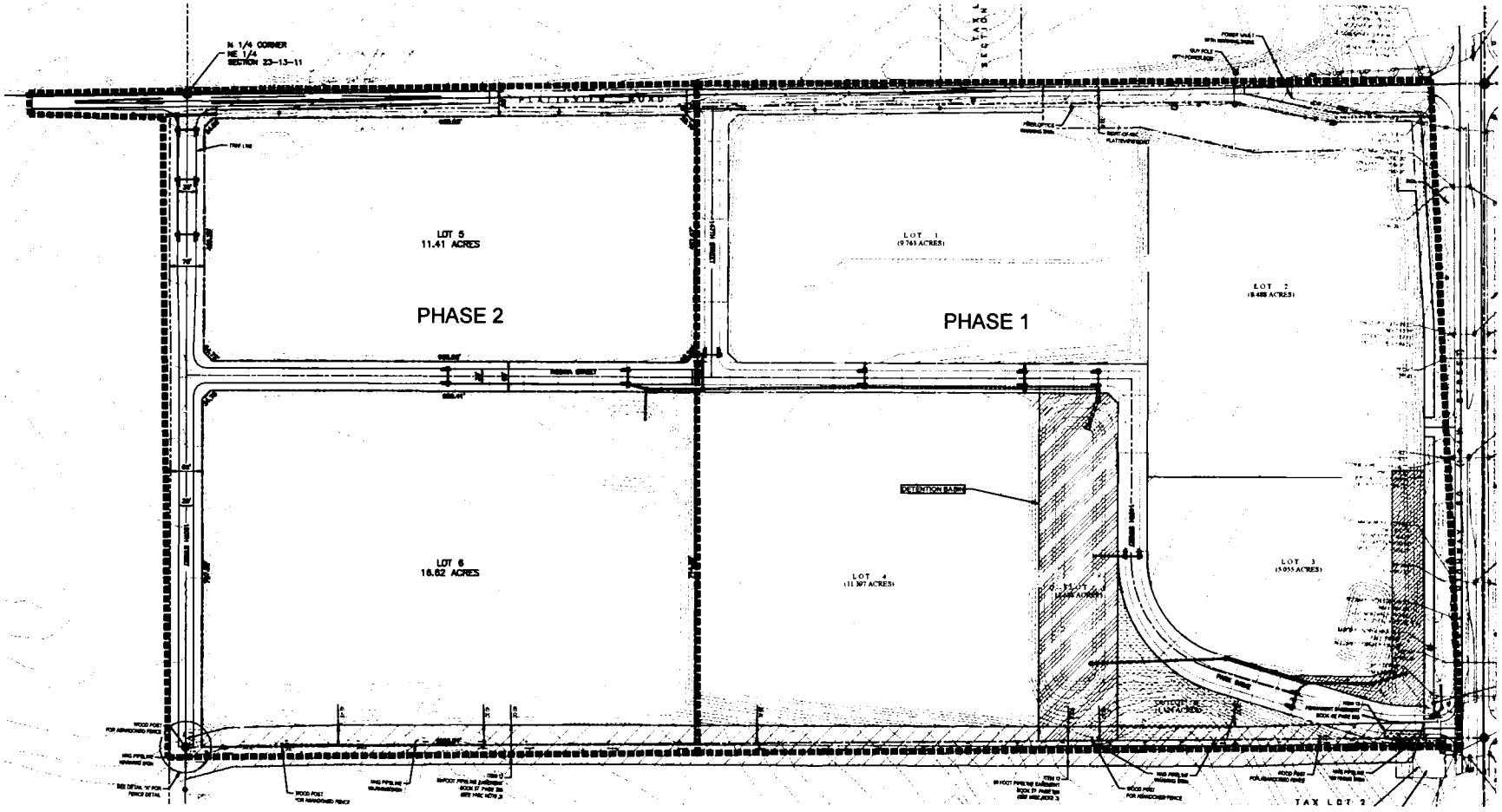
SUBDIVIDER

ENGINEER

LEGAL DESCRIPTION

NOTES

LEGEND



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Springfield
Commerce

MADDAD Land LLC

No	Description	MM-DD-YY

Drawn By MEM Reviewed By DEK
Job No 179-126 Date 3-7-22

Storm Sewer Plan

Exhibit F

Exhibit D-2 – Water
Improvement Plans

SPRINGFIELD COMMERCE

LOTS 5 AND 6

SARPY COUNTY, NEBRASKA

SUBDIVIDER

ENGINEER

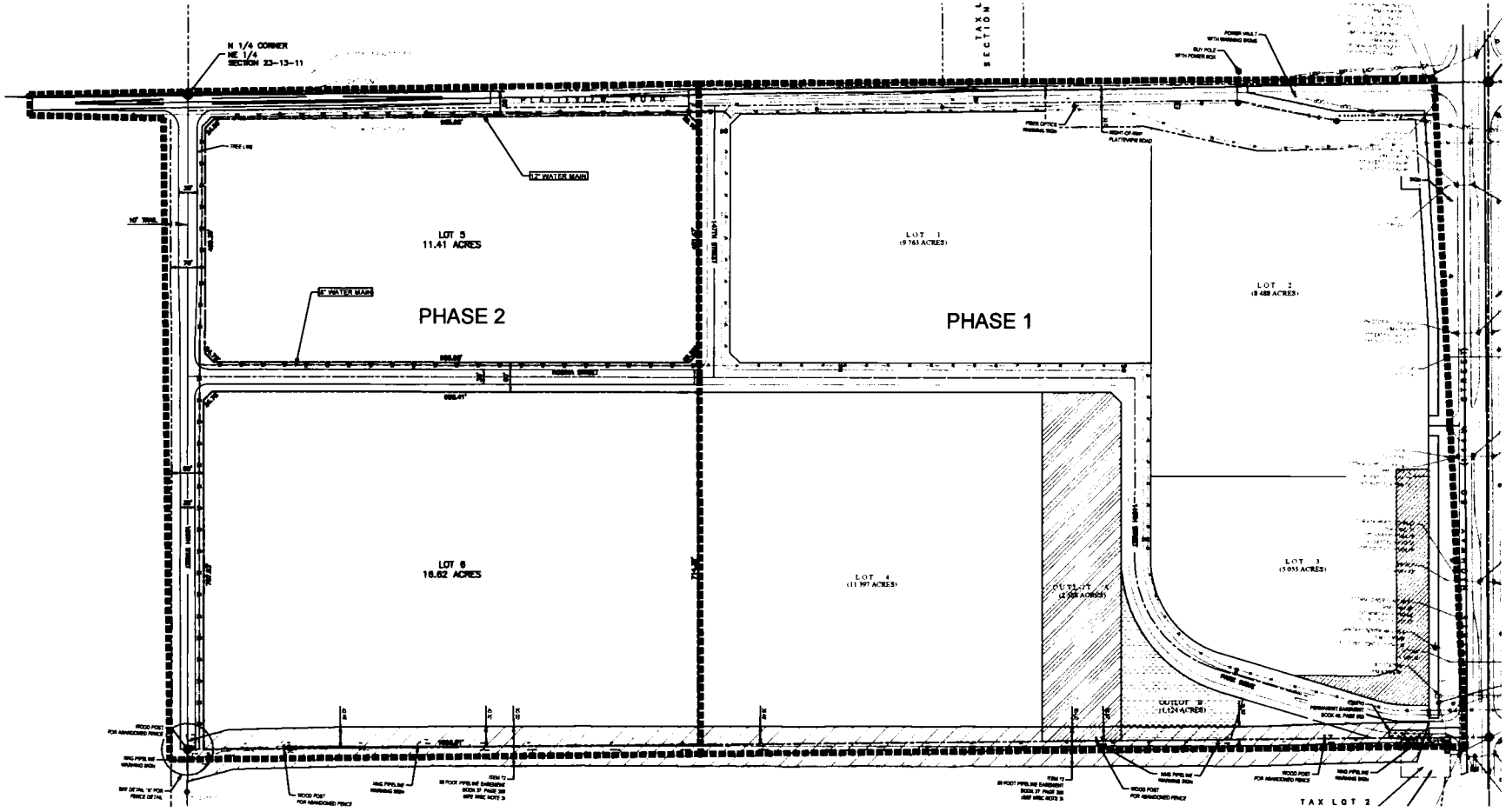
LEGAL DESCRIPTION

LEGAL DESCRIPTION

NOTES

1. OVERALL ZONING IS AG. PROPOSED ZONING IS LI.
2. OVERLAY ZONING DISTRICT IS CD FOR LOTS 5 AND 6.
3. EXISTING AND PROPOSED OVERHEAD ARE SHOWN AT 5' SIDEWALK.
4. WATER SHALL BE FURNISHED BY THE CITY OF SPRINGFIELD.
5. GAS SHALL BE FURNISHED BY THE METROPOLITAN UTILITIES DISTRICT.
6. POWER SHALL BE FURNISHED FROM THE OMAHA PUBLIC POWER DISTRICT.
7. TYPICAL UTILITY EASEMENTS WILL BE REQUIRED WITH THE FINAL PLAT.
8. PAVEMENT FOR HARRIS STREET AND 156TH STREET SHALL BE 28' WIDE, 9-INCH 3,000# P.C.C. PAVEMENT.
9. NO STREET ACCESS TO HIGHWAY 50 OR PLATTEVIEW ROAD SHALL BE PERMITTED BY ANY LOTS OR OUTLOTS.

LEGEND



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Springfield
Commerce

MADDAD Land LLC

No	Description	MM-DD-YY

Drawn By MEM Reviewed By DEK
Job No 179-126 Date 3-7-22

Water Main Plan

Exhibit G

Exhibit E-2 – Grading Plans

SPRINGFIELD COMMERCE

LOTS 1 THROUGH 6 AND OUTLOTS A AND B

SARPY COUNTY, NEBRASKA

SUBDIVIDER

MADDAD HOLDINGS, LLC
10284 SOUTH 134TH STREET
OMAHA, NE 68138

ENGINEER

THOMPSON, DREESSEN & DORNER
10836 OLD MILL ROAD
OMAHA, NEBRASKA 68154
PHONE: 402-330-8860

LEGAL DESCRIPTION

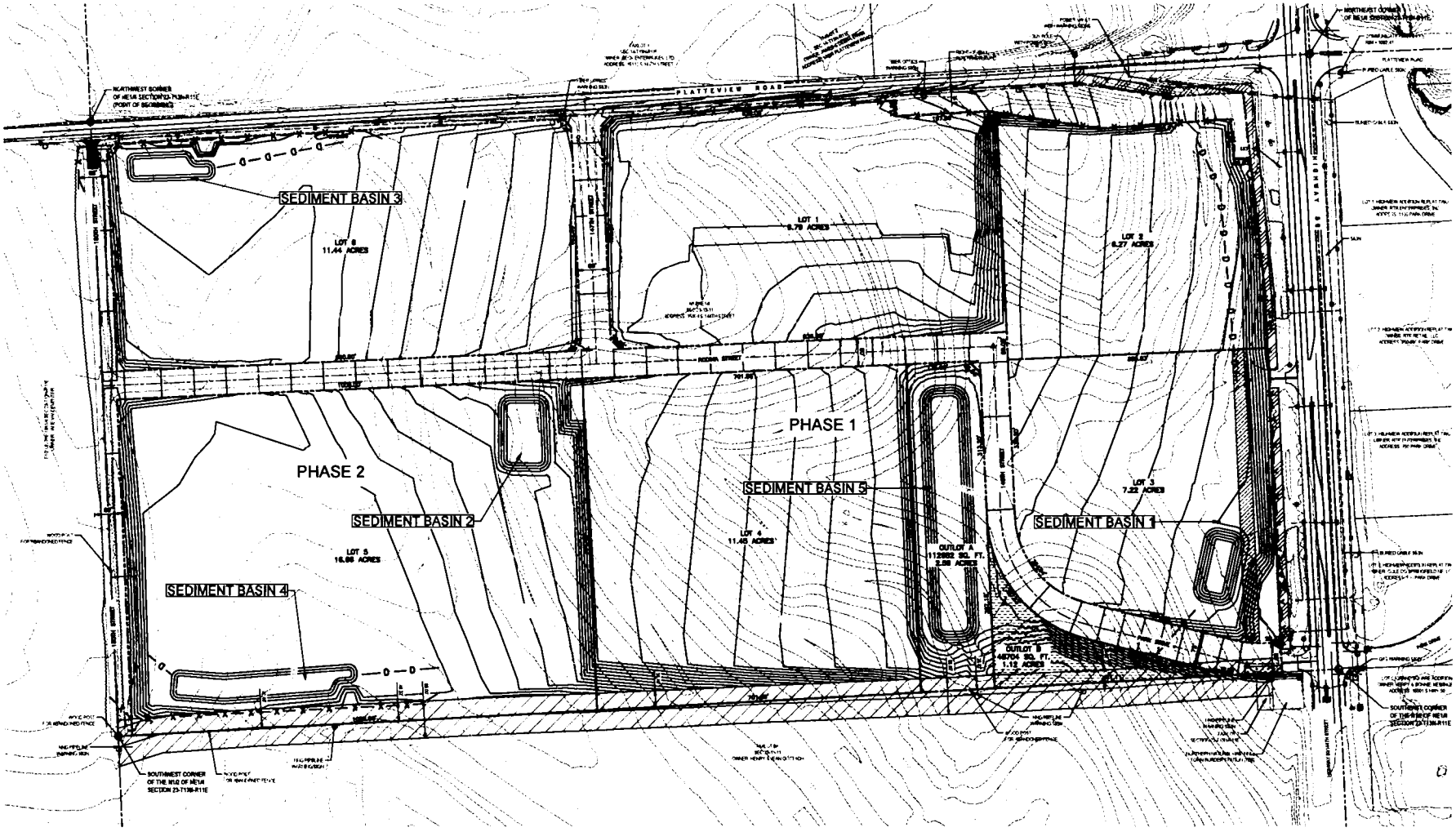
LOTS 1 THROUGH 6 AND OUTLOTS A AND B, BEING A PLATTING OF THE E 1/2 OF THE NE 1/4, OF SECTION 23, T13N, R11E OF THE 6TH P.M., SARPY COUNTY, NEBRASKA.

NOTES

1. EXISTING ZONING IS AG. PROPOSED ZONING IS LI FOR LOTS 1 AND 4-6 AND BH FOR LOTS 2, 3, AND OUTLOTS A AND B.
2. OVERLAY ZONING DISTRICT IS HCO FOR LOTS 1-4 AND OUTLOTS A AND B AND CO FOR LOTS 5 AND 6.
3. CONTOURS AND PROPOSED CONTOURS ARE SHOWN AT 2' INTERVALS.
4. WATER SHALL BE PROVIDED BY THE CITY OF SPRINGFIELD.
5. SEWER SHALL BE PROVIDED BY THE METROPOLITAN UTILITIES DISTRICT (MUD).
6. POWER SHALL BE PROVIDED FROM THE OMAHA PUBLIC POWER DISTRICT.
7. TYPICAL UTILITY SETBACKS WILL BE DEDICATED WITH THE FINAL PLAT.
8. PAVEMENT FOR PARK DRIVE, 140TH STREET AND 138TH STREET SHALL BE 30' WIDE, 8-INCH THICK P.C.C. PAVEMENT.
9. NO DIRECT ACCESS TO HIGHWAY 50 OR PLATTEVIEW ROAD SHALL BE PERMITTED BY ANY LOTS OR OUTLOTS.
10. OUTLOT A WILL PROVIDE POST CONSTRUCTION STORMWATER MANAGEMENT FOR THE DEVELOPMENT AND WILL BE OWNED AND MAINTAINED BY THE HOA.
11. OUTLOT B WILL BE MAINTAINED AS GREEN SPACE AND BE RESERVED FOR A FUTURE ACCESS POINT FROM THE ADJACENT PROPERTY TO THE SOUTH. IT WILL BE OWNED AND MAINTAINED BY THE HOA.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- — X — SILT FENCE
- — D — DIVERSION BERM
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED DRAINAGE EASEMENT
- PROPOSED SEWER EASEMENT
- 33 FOOT PIPELINE EASEMENT BOOK 37, PAGE 308
- HO INGRESS/EGRESS OVER COUNCILLOR ACRES BOOK 48, PAGE 883
- RETAINMENT EASEMENT BOOK 48, PAGE 883



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p.402.330.8860 www.td2co.com

Springfield Commerce

MADDAD Holdings, LLC

No.	Description	MM-DD-YY

Drawn By MEM Reviewed By DEK
Job No. 179-126 Date 11-4-22

Grading Plans

Exhibit E-2

Exhibit F-2 – Amendment to Sarpy County Road Agreement

AMENDMENT TO

DEVELOPMENT AGREEMENT

THIS AMENDMENT TO DEVELOPMENT AGREEMENT is made and entered by and between MADDAD LAND, LLC, a Nebraska limited liability company (hereinafter "Developer"), and the COUNTY OF SARPY, STATE OF NEBRASKA, (hereinafter "County").

RECITALS

WHEREAS, Developer and County entered into a Development Agreement (the "Agreement") wherein the parties set forth terms and conditions for the construction of certain road improvements as described therein to be constructed in connection with the development of a parcel of land consisting of approximately 80 acres in Sarpy County, Nebraska, and generally located at the southwest corner or Highway 50 and Platteview Road, and legally described on Exhibit "A" attached hereto and incorporated herein by this reference; and

WHEREAS, Developer has completed construction of the Phase One improvements as described therein; and

WHEREAS, Developer and County have agreed to postpone the Phase Two improvements as described therein; and

WHEREAS, the Developer and County wish to memorialize their agreement as to the Phase Two Improvements.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. That paragraph 9 of the Agreement shall be deleted in its entirety and the following shall be substituted therefor:

   9. Completion of Platteview Road Improvements. It is the mutual desire and intention of the Parties that Phase One of the Platteview Road Improvements shall correspond with the approval and filing of the Phase One Final Plat and is anticipated to commence in the fall of 2020. Phase Two of the Platteview Road Improvements may be postponed until such improvements are Warranted; such improvements shall be considered "Warranted" as soon as either of the following occurs: (1) it is deemed so by a third-party review of a Traffic Impact Study or (2) the construction of such improvements are deemed necessary by County to promote public health, safety, and welfare.

   Construction of the Phase One Platteview Road Improvements shall commence within three (3) years of the date of the County signature of this Agreement (the "Commencement Deadline"). If construction of Phase One Platteview Road Improvements have not commenced on or before the Commencement Deadline, Developer shall be required to resubmit the Plans and Specifications with the County Engineer for new review, written approval, and signature. Should the original Plans and Specifications no longer conform to the standard of the County in place at the time they are resubmitted, they shall be required to be updated for compliance before approval and signature will be granted.

   If Phase Two Platteview Road Improvements have not commenced before the Commencement Deadline, Developer shall be required to resubmit any approved

Plans and Specifications to the County Engineer for new review, written approval, and signature. Should the original Plans and Specifications no longer conform to the standard of the County in place at the time they are resubmitted, they shall be required to be updated for compliance before approval and signature will be granted. For the purposes of this Section 9, Construction of Platteview Road Improvements shall mean the Developer contractor has physically started to construct the appropriate phase of the Platteview Road Improvements as described herein.

2. That Sanitary and Improvement District No. 348 of Sarpy County, Nebraska (the "District"), be and hereby is added as a party to the Development Agreement. Sanitary Improvement District No. 348 of Sarpy County, Nebrasks shall be jointly and severally liable for any and all of Developer's obligations under the terms of the Development Agreement.
3. All references to the Parties in the Development Agreement and this Amendment to Development Agreement shall include the Developer, District, and County.
4. Except as modified herein, all terms and conditions of the original Development Agreement shall remain in full force and effect.
5. In the event of a conflict between the terms and conditions of the Development Agreement and this Amendment to Development Agreement the terms of this Amendment to Purchase Agreement shall control.

[The next page is the signature page.]

IN WITNESS WHEREOF, we, the contracting Parties, by our respective duly authorized agents, hereby enter into this Amendment to Development Agreement, effective on the day and year affixed hereon. Executed on the dates indicated with the signatures below.

Executed by Sarpy County this 15 day of November, 2022.

SARPY COUNTY, NEBRASKA,
A Political Subdivision

Chairperson, Board of Commissioners

Attest:

Sarpy County Clerk

Approved as to form:

Sarpy County Attorney

Executed by Developer this 1 day of November 2022.

MADDAD Land, LLC

By: [signature]

Title: Member

Executed by District this 7th day of November, 2022.

Attest:

SANITARY AND IMPROVEMENT DISTRICT NO. 348 OF SARPY COUNTY, NEBRASKA

By: _____
Chairman

Date

Date

EXHIBIT "A"
(3 Pages to Follow)

SPRINGFIELD COMMERCE

LOTS 1, 2, 3, AND 4 AND OUTLOTS A AND B

BEING A PLATTING OF PART OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA.

FILED SARPY COUNTY, NEBRASKA
INSTRUMENT NUMBER
2021-06968
02/23/2021 02:35:57 PM
$57.00
Deb Houghtaling
COUNTY CLERK/REGISTER OF DEEDS
By:
[redacted] PLAT

SETBACK REQUIREMENTS				
ZONING	FRONT YARD	SIDE YARD	STREET SIDE YARD	REAR YARD
BH	75'	0'	15'	25'
LI	25'	0'	25'	15'

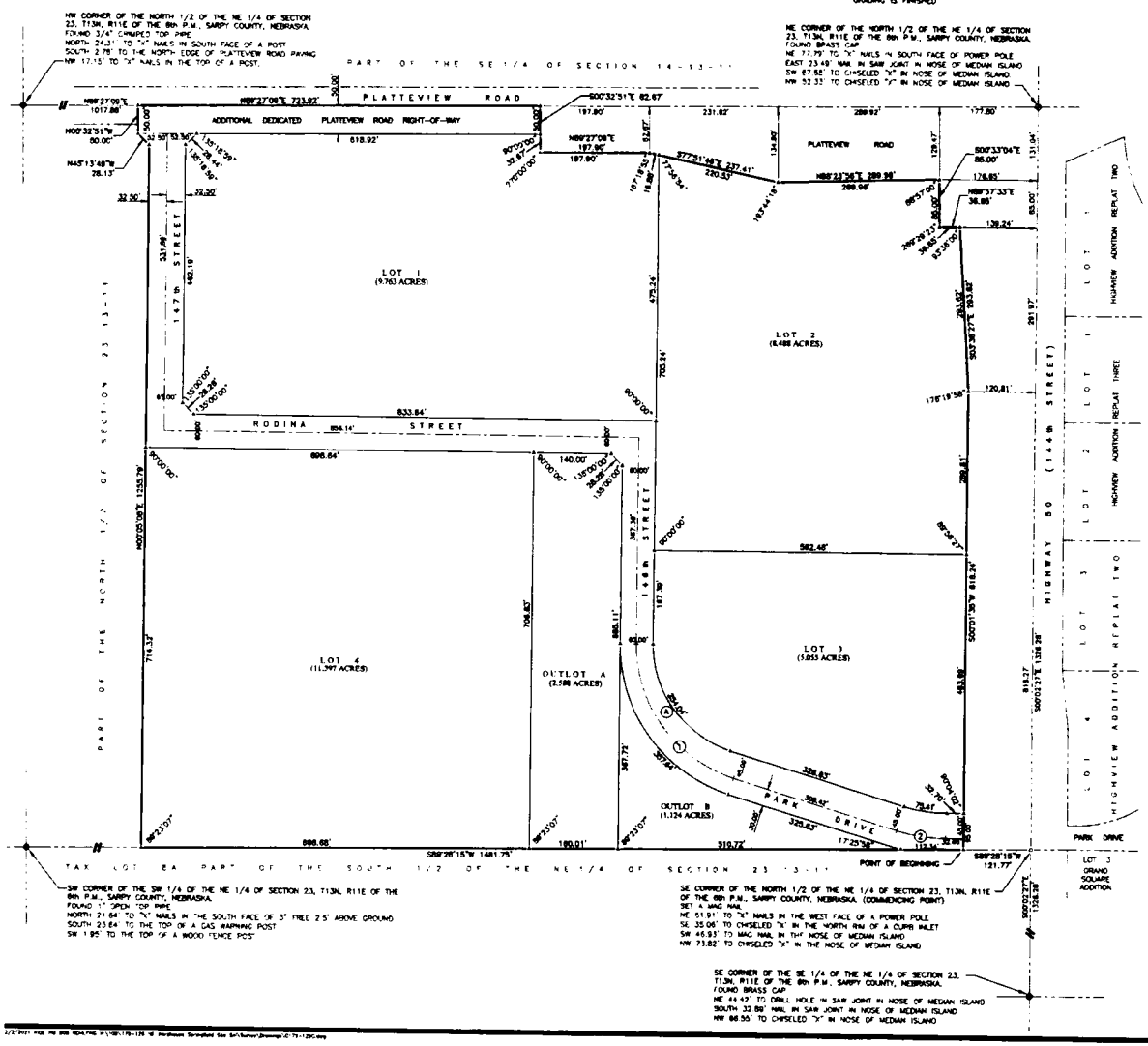
NOTES

1. THERE WILL BE NO DIRECT VEHICULAR ACCESS TO HIGHWAY 50 (144th STREET) FROM LOTS 2 AND 3
2. THERE WILL BE NO DIRECT VEHICULAR ACCESS TO PLATTEVIEW ROAD FROM LOTS 1 AND 2
3. OUTLOT A WILL PROVIDE POST CONSTRUCTION STORMWATER MANAGEMENT FOR THE DEVELOPMENT AND WILL BE OWNED AND MAINTAINED BY THE SANITARY SEWER AND IMPROVEMENT DISTRICT.
4. OUTLOT B WILL BE MAINTAINED AS GREEN SPACE AND BE RESERVED FOR A FUTURE ACCESS POINT FROM THE ADJACENT PROPERTY TO THE SOUTH. IT WILL BE OWNED AND MAINTAINED BY THE SANITARY SEWER AND IMPROVEMENT DISTRICT.

CENTERLINE CURVE INFORMATION					
CURVE #	DELTA	LENGTH	TANGENT	RADIUS	
1	73°10'56"	319.35'	186.61'	250.00'	
2	16°36'40"	86.72'	44.88'	300.00'	

PROPERTY LINE CURVE INFORMATION				
CURVE #	DELTA	LENGTH	TANGENT	RADIUS
A	73°10'56"	254.64'	147.88'	199.89'

LEGEND
- ● CORNERS FOUND
- ○ CORNERS SET
- ▲ CORNERS TO BE SET WHEN GRADING IS FINISHED



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT A BOUNDARY SURVEY OF THE SUBDIVISION DESCRIBED HEREIN WAS MADE UNDER MY DIRECT SUPERVISION AND THAT PERMANENT MARKERS HAVE BEEN FOUND OR SET AT ALL CORNERS OF SAID BOUNDARY AND THAT ONCE ALL GRADING HAS BEEN COMPLETED PERMANENT MARKERS WILL BE SET AT ALL LOT CORNERS WITHIN SAID SUBDIVISION TO BE KNOWN AS SPRINGFIELD COMMERCE, LOTS 1, 2, 3 AND 4 AND OUTLOTS A AND B, BEING A PLATTING OF THAT PART OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA, DESCRIBED AS FOLLOWS, COMMENCING AT THE SE CORNER OF SAID NORTH 1/2; THENCE S89°28'15"W (ASSUMED BEARING) 121.77 FEET ON THE SOUTH LINE OF SAID NORTH 1/2 TO THE WEST LINE OF HIGHWAY 50 AND THE POINT OF BEGINNING;
THENCE CONTINUING S89°28'15"W 1481.75 FEET ON THE SOUTH LINE OF SAID NORTH 1/2;
THENCE N00°05'08"E 1255.79 TO A POINT 70.00 FEET SOUTH OF THE NORTH LINE OF SAID NORTH 1/2;
THENCE N45°13'48"E 28.13 FEET TO A POINT 50.00 FEET SOUTH OF THE NORTH LINE OF SAID NORTH 1/2;
THENCE N00°32'51"W 50.00 FEET TO THE NORTH LINE OF SAID NE 1/4;
THENCE N89°27'09"E 723.92 FEET ON THE NORTH LINE OF SAID NE 1/4;
THENCE S00°32'51"E 82.67 FEET TO THE SOUTH LINE OF PLATTEVIEW ROAD;
THENCE N89°27'09"E 197.90 FEET ON THE SOUTH LINE OF PLATTEVIEW ROAD;
THENCE S77°51'48"E 237.41 FEET ON THE SOUTH LINE OF PLATTEVIEW ROAD;
THENCE N89°27'09"E 289.99 FEET ON THE SOUTH LINE OF PLATTEVIEW ROAD TO THE WEST LINE OF HIGHWAY 50;
THENCE S00°33'04"E 85.00 FEET ON THE WEST LINE OF HIGHWAY 50;
THENCE N89°57'33"E 36.85 FEET ON THE WEST LINE OF HIGHWAY 50;
THENCE S00°36'27"E 29.85 FEET ON THE WEST LINE OF HIGHWAY 50;
THENCE S00°01'35"W 818.24 FEET ON THE WEST LINE OF HIGHWAY 50 TO THE POINT OF BEGINNING.

CONTAINING 42.886 ACRES MORE OR LESS

LS-308
JAMES D. WARNER
NEBRASKA RLS 308

MAY 27, 2020
DATE

DEDICATION

KNOW ALL MEN BY THESE PRESENTS, THAT WE, MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY, BEING THE OWNERS, OF THE LAND DESCRIBED WITHIN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT, HAVE CAUSED SAID LAND TO BE SUBDIVIDED INTO STREETS, LOTS AND OUTLOTS TO BE NAMED, NUMBERED AND LETTERED AS SHOWN, SAID SUBDIVISION TO BE HEREAFTER KNOWN AS SPRINGFIELD COMMERCE, AND WE DO HEREBY RATIFY AND APPROVE OF THE DISPOSITION OF OUR PROPERTY AS SHOWN ON THIS PLAT AND WE HEREBY GRANT A PERPETUAL EASEMENT TO THE OMAHA PUBLIC POWER DISTRICT, CENTURYLINK QC AND ANY COMPANY WHICH HAS BEEN GRANTED A FRANCHISE TO PROVIDE A CABLE TELEVISION SYSTEM IN THE AREA TO BE SUBDIVIDED, THEIR SUCCESSORS AND ASSIGNS, TO ERECT, OPERATE, MAINTAIN, REPAIR, AND RENEW POLES, WIRES, CROSSARMS, DOWN GUYS AND ANCHORS, CABLES, CONDUITS AND OTHER RELATED FACILITIES AND TO EXTEND THEREON WIRES OR CABLES FOR THE CARRYING AND TRANSMISSION OF ELECTRIC CURRENT FOR LIGHT, HEAT, AND POWER FOR THE TRANSMISSION OF SIGNALS AND SOUNDS OF ALL KINDS AND THE RECEPTION THEREOF, INCLUDING SIGNALS PROVIDED BY A CABLE TELEVISION SYSTEM AND THEIR RECEPTION, ON, OVER, THROUGH, UNDER AND ACROSS A FIVE (5') FOOT WIDE STRIP OF LAND ABUTTING ALL FRONT LOT LINES; AND AN EIGHT (8') FOOT WIDE STRIP OF LAND ABUTTING THE REAR LOT LINES AND A SIXTEEN (16') FOOT WIDE STRIP OF LAND ABUTTING THE REAR BOUNDARY LOT LINES OF ALL EXTERIOR LOTS. THE TERM EXTERIOR LOT IS HEREIN DEFINED AS THOSE LOTS FORMING THE OUTER PERIMETER OF THE ABOVE DESCRIBED SUBDIVISION. SAID SIXTEEN (16') FOOT WIDE EASEMENT WILL BE REDUCED TO AN EIGHT (8') FOOT WIDE STRIP OF LAND WHEN THE ADJACENT LAND IS SURVEYED, PLATTED AND RECORDED IF SAID SIXTEEN (16') FOOT EASEMENT IS NOT OCCUPIED BY UTILITY FACILITIES AND IF REQUESTED BY THE OWNER.

PERPETUAL EASEMENTS SHALL BE GRANTED TO METROPOLITAN UTILITIES DISTRICT OF OMAHA, AND ANY NATURAL GAS PROVIDER, AND THEIR SUCCESSORS AND ASSIGNS, TO ERECT, INSTALL, OPERATE, MAINTAIN, REPAIR AND RENEW PIPELINES, HYDRANTS, AND OTHER RELATED FACILITIES AND TO EXTEND THEREON PIPES FOR THE TRANSMISSION OF GAS AND WATER ON, THROUGH, UNDER AND ACROSS A FIVE-FOOT-WIDE STRIP OF LAND ABUTTING ALL CUL-DE-SAC STREETS AND ALONG ALL STREET FRONTAGES OF ALL LOTS.

NO PERMANENT BUILDINGS, TREES, RETAINING WALLS OR LOOSE ROCK WALLS SHALL BE PLACED IN SAID EASEMENT WAYS, BUT THE SAME MAY BE USED FOR GARDENS, SHRUBS, LANDSCAPING, SIDEWALKS, DRIVEWAYS AND OTHER PURPOSES THAT DO NOT THEN OR LATER INTERFERE WITH THE AFORESAID USES OR RIGHTS HEREIN GRANTED.

MADDAD LAND, LLC,
A NEBRASKA LIMITED LIABILITY COMPANY
By:
JON MEYERS, MEMBER

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
COUNTY OF)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME THIS 2nd DAY OF February, 2021 BY JON MEYERS, MEMBER OF MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY ON BEHALF OF SAID COMPANY.

NOTARY PUBLIC

SARPY COUNTY TREASURER'S CERTIFICATE

THIS IS TO CERTIFY THAT I FIND NO REGULAR OR SPECIAL TAXES DUE OR DELINQUENT AGAINST THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT AS SHOWN ON THE RECORDS OF THIS OFFICE THIS 11 DAY OF February, 2021

SARPY COUNTY TREASURER

TREASURER'S SEAL
...D LEVIED FOR THE
... NEITHER DUE NOR
...S CERTIFICATION
...D UNTIL DECEMBER 30th
...S YEAR

APPROVAL OF THE SPRINGFIELD CITY PLANNING COMMISSION

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE SPRINGFIELD CITY PLANNING COMMISSION THIS 11 DAY OF February, 2021

ATTEST: SECRETARY OF PLANNING COMMISSION

CHAIRPERSON

APPROVAL OF THE SPRINGFIELD CITY COUNCIL

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE CITY COUNCIL OF SPRINGFIELD, NEBRASKA THIS 16 DAY OF February, 2021.

ATTEST: CITY CLERK, KATHLEEN GOTTSCH

MAYOR, ROBERT ROSELAND

APPROVAL OF THE SPRINGFIELD CITY ENGINEER

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE SPRINGFIELD CITY ENGINEER THIS 8th DAY OF February, 2021.

SPRINGFIELD CITY ENGINEER

REVIEW BY SARPY COUNTY PUBLIC WORKS

THIS PLAT OF SPRINGFIELD COMMERCE WAS REVIEWED BY THE SARPY COUNTY SURVEYORS OFFICE THIS 22 DAY OF February, 2021.

MICHAEL R. SHAW
SURVEYOR
SARPY COUNTY, NEBRASKA

COUNTY SURVEYOR/ENGINEER

2021-06968

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10836 Old Mill Rd
Omaha, NE 68154
p.402.330.8860 f.402.330.5866
td2co.com

SPRINGFIELD COMMERCE
LOTS 1, 2, 3, AND 4 AND OUTLOTS A AND B

N

Revision Dates

No.	Description	MM-DD-YY
-	-	-
-	-	-
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Job No.: C179-126C
Drawn By: RJR
Reviewed By: JDW
Date: MAY 27, 2020
Book:
Page:

Sheet Title
SPRINGFIELD, NEBRASKA
SARPY COUNTY
FINAL PLAT

Sheet Number
SHEET 1 OF 1

SPRINGFIELD COMMERCE REPLAT ONE

LOTS 1, 2, AND 3

BEING A REPLATTING OF LOT 2, SPRINGFIELD COMMERCE, A SUBDIVISION IN SARPY COUNTY, NEBRASKA, LOCATED IN THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SAID SARPY COUNTY.

FILED SARPY COUNTY NEBRASKA
INSTRUMENT NUMBER
2021-45915
12/14/2021 03:51:10 PM
Recording fees paid $28.00
Pages:
Deb Houghtaling
COUNTY CLERK/REGISTER OF DEEDS
By: jby
Submitter: JON MEYERS
[redacted] PLAT

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10836 Old Mill Rd
Omaha, NE 68154
p.402.330.8860 f.402.330.8866
td2co.com

APPROVAL OF THE SPRINGFIELD CITY ENGINEER

THIS PLAT OF SPRINGFIELD COMMERCE REPLAT ONE WAS APPROVED BY THE SPRINGFIELD CITY ENGINEER THIS 23rd DAY OF September, 2021.

SPRINGFIELD CITY ENGINEER

REVIEW BY SARPY COUNTY PUBLIC WORKS

THIS PLAT OF SPRINGFIELD COMMERCE REPLAT ONE WAS REVIEWED BY THE SARPY COUNTY SURVEYORS OFFICE THIS 12th DAY OF December, 2021.

MICHAEL R. SHARP SURVEYOR SARPY COUNTY NEBRASKA
COUNTY SURVEYOR/ENGINEER

NOTES

1. THERE WILL BE NO DIRECT VEHICULAR ACCESS TO HIGHWAY 50 (144th STREET) FROM LOTS 2 AND 3.
2. THERE WILL BE NO DIRECT VEHICULAR ACCESS TO PLATTEVIEW ROAD FROM LOTS 1 AND 2.
3. DIMENSIONS IN PARENTHESIS REFERS TO THE EASEMENT.

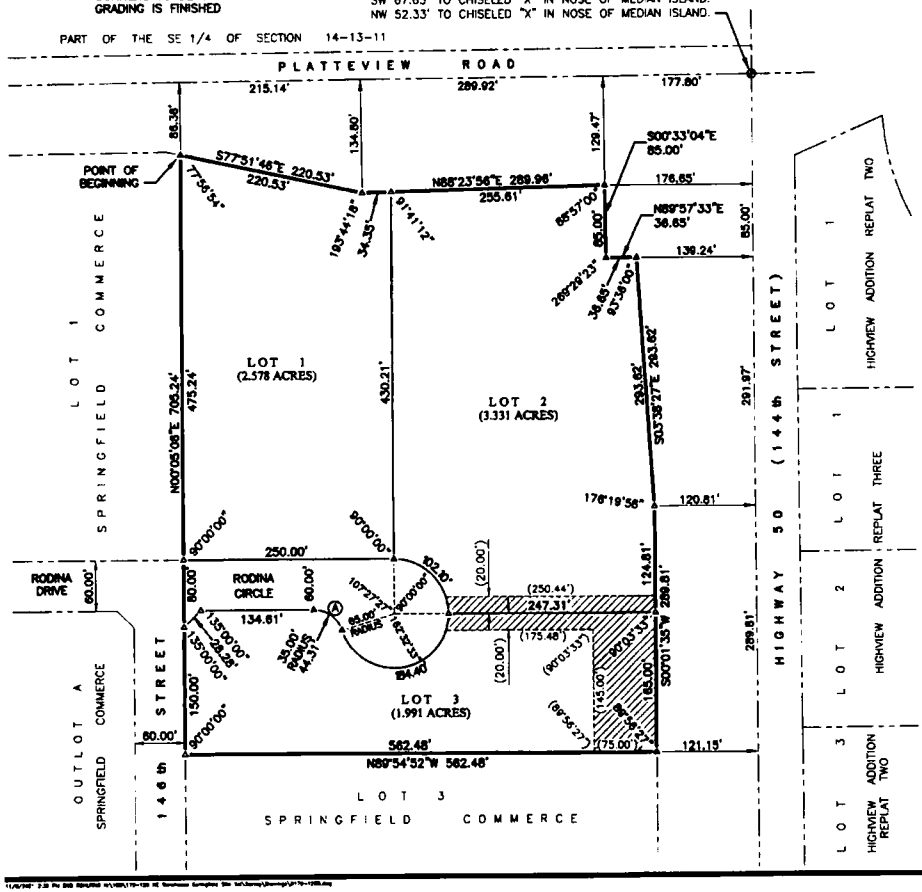
PROPERTY LINE CURVE INFORMATION				
CURVE #	DELTA	LENGTH	TANGENT	RADIUS
A	72°14'30"	44.31'	25.54 '	35.00'

SETBACK REQUIREMENTS				
ZONING	FRONT YARD	SIDE YARD	STREET SIDE YARD	REAR YARD
BH	75'	0'	15'	25'

SEWER AND DRAINAGE EASEMENT TO BE RECORDED BY SEPARATE DOCUMENT

LEGEND
- ● CORNERS FOUND
- ▲ CORNERS TO BE SET WHEN GRADING IS FINISHED

NE CORNER OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA. FOUND BRASS CAP
NE 77.79' TO "X" NAILS IN SOUTH FACE OF POWER POLE.
EAST 23.49' NAIL IN SAW JOINT IN NOSE OF MEDIAN ISLAND.
SW 67.65' TO CHISELED "X" IN NOSE OF MEDIAN ISLAND.
NW 52.33' TO CHISELED "X" IN NOSE OF MEDIAN ISLAND.



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT A BOUNDARY SURVEY OF THE SUBDIVISION DESCRIBED HEREIN WAS MADE UNDER MY DIRECT PERSONAL SUPERVISION AND THAT PERMANENT MARKERS WERE FOUND OR SET ALL CORNERS OF SAID BOUNDARY AND AT ALL LOT CORNERS WITHIN SAID SUBDIVISION TO BE KNOWN AS SPRINGFIELD COMMERCE REPLAT ONE, BEING A REPLATTING OF LOT 2, SPRINGFIELD COMMERCE, A SUBDIVISION IN SARPY COUNTY, NEBRASKA, MORE PARTICULARLY DESCRIBED AS FOLLOWS, BEGINNING AT THE NW CORNER OF SAID LOT 2;
THENCE S77°51'46"E (ASSUMED BEARING) 220.53 FEET ON THE NORTH LINE OF SAID LOT 2;
THENCE N88°23'56"E 289.96 FEET ON THE NORTH LINE OF SAID LOT 2 TO THE NE CORNER THEREOF;
THENCE S00°33'04"E 85.00 FEET ON THE EAST LINE OF SAID LOT 2;
THENCE N89°57'33"E 36.65 FEET ON THE EAST LINE OF SAID LOT 2;
THENCE S03°38'27"E 283.62 FEET ON THE EAST LINE OF SAID LOT 2;
THENCE S00°01'35"W 289.81 FEET ON THE EAST LINE OF SAID LOT 2 TO THE SE CORNER THEREOF;
THENCE N89°54'52"W 562.48 FEET ON THE SOUTH LINE OF SAID LOT 2 TO THE SW CORNER THEREOF;
THENCE N00°05'08"E 705.24 FEET ON THE WEST LINE OF SAID LOT 2 TO THE POINT OF BEGINNING.

CONTAINING 8.488 ACRES MORE OR LESS

NEBRASKA REGISTERED LAND SURVEYOR L.S.-308 JAMES D. WARNER

SEPTEMBER 1, 2021
DATE

JAMES D. WARNER, NEBRASKA RLS 308

DEDICATION

KNOW ALL MEN BY THESE PRESENTS: THAT WE, MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY, BEING THE OWNERS, OF THE LAND DESCRIBED WITHIN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT, HAVE CAUSED SAID LAND TO BE SUBDIVIDED INTO A STREET AND LOTS TO BE NAMED AND NUMBERED AS SHOWN, SAID SUBDIVISION TO BE HEREAFTER KNOWN AS SPRINGFIELD COMMERCE REPLAT ONE, AND WE DO HEREBY RATIFY AND APPROVE OF THE DISPOSITION OF OUR PROPERTY AS SHOWN ON THIS PLAT AND WE HEREBY GRANT TO THE PUBLIC, FOR PUBLIC USE, THE STREET AS SHOWN HEREON AND WE DO FUTHER GRANT A PERPETUAL EASEMENT TO THE OMAHA PUBLIC POWER DISTRICT AND ANY COMPANY WHICH HAS BEEN GRANTED A FRANCHISE TO PROVIDE A CABLE TELEVISION SYSTEM IN THE AREA TO BE SUBDIVIDED, THEIR SUCCESSORS AND ASSIGNS, TO ERECT, OPERATE, MAINTAIN, REPAIR, AND RENEW POLES, WIRES, CROSSARMS, DOWN GUYS AND ANCHORS, CABLES, CONDUITS AND OTHER RELATED FACILITIES AND TO EXTEND THEREON WIRES OR CABLES FOR THE CARRYING AND TRANSMISSION OF ELECTRIC CURRENT FOR LIGHT, HEAT, AND POWER FOR THE TRANSMISSION OF SIGNALS AND SOUNDS OF ALL KINDS AND THE RECEPTION THEREOF, INCLUDING SIGNALS PROVIDED BY A CABLE TELEVISION SYSTEM AND THEIR RECEPTION, ON, OVER, THROUGH, UNDER AND ACROSS A FIVE (5') FOOT WIDE STRIP OF LAND ABUTTING ALL FRONT LOT LINES; AND AN EIGHT (8') FOOT WIDE STRIP OF LAND ABUTTING THE REAR LOT LINES AND A SIXTEEN (16') FOOT WIDE STRIP OF LAND ABUTTING THE REAR BOUNDARY LOT LINES OF ALL EXTERIOR LOTS. THE TERM EXTERIOR LOT IS HEREIN DEFINED AS THOSE LOTS FORMING THE OUTER PERIMETER OF THE ABOVE DESCRIBED SUBDIVISION. SAID SIXTEEN (16') FOOT WIDE EASEMENT WILL BE REDUCED TO AN EIGHT (8') FOOT WIDE STRIP OF LAND WHEN THE ADJACENT LAND IS SURVEYED, PLATTED AND RECORDED IF SAID SIXTEEN (16') FOOT EASEMENT IS NOT OCCUPIED BY UTILITY FACILITIES AND IF REQUESTED BY THE OWNER.

PERPETUAL EASEMENTS SHALL BE GRANTED TO METROPOLITAN UTILITIES DISTRICT OF OMAHA, AND ANY NATURAL GAS PROVIDER, AND THEIR SUCCESSORS AND ASSIGNS, TO ERECT, INSTALL, OPERATE, MAINTAIN, REPAIR AND RENEW PIPELINES, HYDRANTS, AND OTHER RELATED FACILITIES, AND TO EXTEND THEREON PIPES FOR THE TRANSMISSION OF GAS AND WATER ON, THROUGH, UNDER AND ACROSS A FIVE-FOOT-WIDE STRIP OF LAND ABUTTING ALL CUL-DE-SAC STREETS AND ALONG ALL STREET FRONTAGES OF ALL LOTS.

NO PERMANENT BUILDINGS, TREES, RETAINING WALLS OR LOOSE ROCK WALLS SHALL BE PLACED IN SAID EASEMENT WAYS, BUT THE SAME MAY BE USED FOR GARDENS, SHRUBS, LANDSCAPING, SIDEWALKS, DRIVEWAYS AND OTHER PURPOSES THAT DO NOT THEN OR LATER INTERFERE WITH THE AFORESAID USES OR RIGHTS HEREIN GRANTED.

MADDAD LAND, LLC,
A NEBRASKA LIMITED LIABILITY COMPANY
BY: JON MEYERS, MEMBER

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
COUNTY OF)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME THIS 9TH DAY OF Nov., 2021 BY JON MEYERS, MEMBER OF MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY ON BEHALF OF SAID COMPANY.

GENERAL NOTARY - State of Nebraska JAMES D. WARNER My Comm. Exp. February 1, 2022

NOTARY PUBLIC

SARPY COUNTY TREASURER'S CERTIFICATE

THIS IS TO CERTIFY THAT I FIND NO REGULAR OR SPECIAL TAXES DUE OR DELINQUENT AGAINST THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT AS SHOWN ON THE RECORDS OF THIS OFFICE THIS 10th DAY OF November, 2021.

SARPY COUNTY TREASURER

TREASURER'S SEAL
TAXES ASSESSED AND LEVIED FOR THE CURRENT YEAR ARE NEITHER DUE NOR PAID. TREASURERS CERTIFICATION IS ONLY VALID UNTIL DECEMBER 30th OF THIS YEAR.

APPROVAL OF THE SPRINGFIELD CITY PLANNING COMMISSION

THIS PLAT OF SPRINGFIELD COMMERCE REPLAT ONE WAS APPROVED BY THE SPRINGFIELD CITY PLANNING COMMISSION THIS 14 DAY OF November, 2021.

ATTEST: SECRETARY OF PLANNING COMMISSION

CHAIRPERSON

APPROVAL OF THE SPRINGFIELD CITY COUNCIL

THIS PLAT OF SPRINGFIELD COMMERCE REPLAT ONE WAS APPROVED BY THE CITY COUNCIL OF SPRINGFIELD, NEBRASKA THIS 16 DAY OF November, 2021.

ATTEST: CITY CLERK, KATHLEEN GOTTSCH

MAYOR, ROBERT ROSELAND

SPRINGFIELD COMMERCE REPLAT ONE
LOTS 1, 2 AND 3

N

0' 50' 100'

Revision Dates

No.	Description	MM-DD-YY
-	-	-
-	-	-
-	-	-
-	-	-

Job No.: D179-126D
Drawn By: RJR
Reviewed By: JDW
Date: SEPTEMBER 1, 2021
Book:
Page:

Sheet Title
SPRINGFIELD, NEBRASKA
SARPY COUNTY
FINAL PLAT

Sheet Number
SHEET 1 OF 1

SPRINGFIELD COMMERCE

LOTS 5 AND 6

BEING A PLATTING OF PART OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA.

SETBACK REQUIREMENTS				
ZONING	FRONT YARD	SIDE YARD	STREET SIDE YARD	REAR YARD
BH	75'	0'	15'	25'
LI	25'	0'	25'	15'

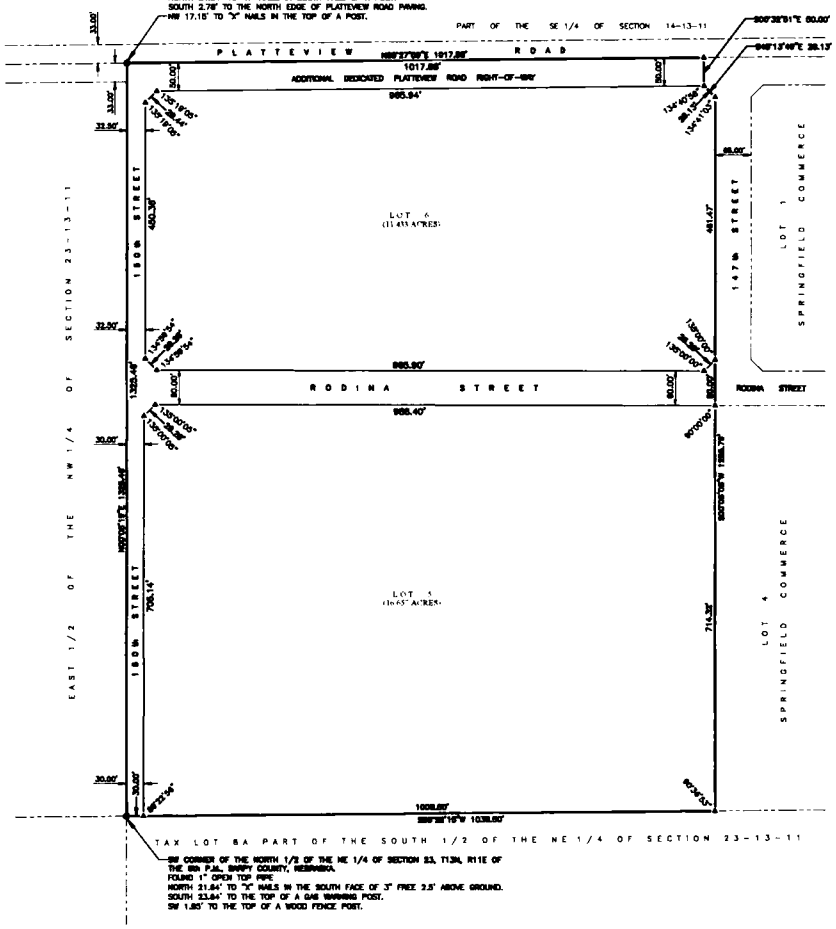
NOTES

1. THERE WILL BE NO DIRECT VEHICULAR ACCESS TO PLATTEVIEW ROAD FROM LOT 6.

LEGEND

● CORNERS FOUND

▲ CORNERS TO BE SET WHEN GRADING IS FINISHED



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT A BOUNDARY SURVEY OF THE SUBDIVISION DESCRIBED HEREIN WAS MADE UNDER MY DIRECT SUPERVISION AND THAT PERMANENT MARKERS HAVE BEEN FOUND OR SET AT ALL CORNERS OF SAID BOUNDARY AND THAT ONCE ALL GRADING HAS BEEN COMPLETED PERMANENT MARKERS WILL BE SET AT ALL LOT CORNERS WITHIN SAID SUBDIVISION TO BE KNOWN AS SPRINGFIELD COMMERCE, LOTS 5 AND 6, BEING A PLATTING OF THAT PART OF THE NORTH 1/2 OF THE NE 1/4 OF SECTION 23, T13N, R11E OF THE 6th P.M., SARPY COUNTY, NEBRASKA, DESCRIBED AS FOLLOWS, BEGINNING AT THE NW CORNER OF SAID NORTH 1/2;

THENCE N89°27'08"E (ASSUMED BEARING) 1017.88 FEET ON THE NORTH LINE OF SAID NORTH 1/2 TO THE NW CORNER OF PLATTEVIEW ROAD AS DEDICATED IN THE FINAL PLAT OF SPRINGFIELD COMMERCE RECORDED AS INSTRUMENT NO. 2021-08888 OF THE SARPY COUNTY, RECORDS;

THENCE S00°32'51"E 50.00 FEET ON THE WEST LINE OF SAID SPRINGFIELD COMMERCE AND THE WEST LINE OF 147th STREET;

THENCE S45°13'48"E 28.13 FEET ON THE WEST LINE OF SAID SPRINGFIELD COMMERCE AND THE WEST LINE OF 147th STREET;

THENCE S00°05'08"W 1255.78 FEET ON THE WEST LINE OF SAID SPRINGFIELD COMMERCE AND THE WEST LINE OF 147TH STREET TO THE SOUTH LINE OF SAID NORTH 1/2;

THENCE S88°26'15"W 1038.50 FEET ON THE SOUTH LINE OF SAID NORTH 1/2 TO THE SW CORNER THEREOF;

THENCE N00°05'18"E 1325.46 FEET ON THE WEST LINE OF SAID NORTH 1/2 TO THE POINT OF BEGINNING.

NEBRASKA REGISTERED LS-308 LAND SURVEYOR JAMES D. WARNER

FEBRUARY 15, 2022
DATE

JAMES D. WARNER, NEBRASKA RLS 308

DEDICATION

KNOW ALL MEN BY THESE PRESENTS: THAT WE, MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY, BEING THE OWNERS, OF THE LAND DESCRIBED WITHIN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT, HAVE CAUSED SAID LAND TO BE SUBDIVIDED INTO STREETS AND LOTS TO BE NAMED AND NUMBERED AS SHOWN, SAID SUBDIVISION TO BE HEREAFTER KNOWN AS SPRINGFIELD COMMERCE, AND WE DO HEREBY RATIFY AND APPROVE OF THE DISPOSITION OF OUR PROPERTY AS SHOWN ON THIS PLAT AND WE HEREBY DEDICATE TO THE PUBLIC, FOR PUBLIC USE, THE STREETS AS SHOWN HEREON AND WE FURTHER GRANT A PERPETUAL EASEMENT TO THE OMAHA PUBLIC POWER DISTRICT AND ANY COMPANY WHICH HAS BEEN GRANTED A FRANCHISE TO PROVIDE A CABLE TELEVISION SYSTEM IN THE AREA TO BE SUBDIVIDED, THEIR SUCCESSORS AND ASSIGNS, TO ERECT, OPERATE, MAINTAIN, REPAIR, AND RENEW POLES, WIRES, CROSSARMS, DOWN GUYS AND ANCHORS, CABLES, CONDUITS AND OTHER RELATED FACILITIES AND TO EXTEND THEREON WIRES OR CABLES FOR THE CARRYING AND TRANSMISSION OF ELECTRIC CURRENT FOR LIGHT, HEAT, AND POWER, FOR THE TRANSMISSION OF SIGNALS AND SOUNDS OF ALL KINDS AND THE RECEPTION THEREOF, INCLUDING SIGNALS PROVIDED BY A CABLE TELEVISION SYSTEM AND THEIR RECEPTION, ON, OVER, THROUGH, UNDER AND ACROSS A FIVE (5') FOOT WIDE STRIP OF LAND ABUTTING ALL FRONT LOT LINES; AND AN EIGHT (8') FOOT WIDE STRIP OF LAND ABUTTING THE REAR LOT LINES AND A SIXTEEN (16') FOOT WIDE STRIP OF LAND ABUTTING THE REAR BOUNDARY LOT LINES OF ALL EXTERIOR LOTS. THE TERM EXTERIOR LOT IS HEREIN DEFINED AS THOSE LOTS FORMING THE OUTER PERIMETER OF THE ABOVE DESCRIBED SUBDIVISION. SAID SIXTEEN (16') FOOT WIDE EASEMENT WILL BE REDUCED TO AN EIGHT (8') FOOT WIDE STRIP OF LAND WHEN THE ADJACENT LAND IS SURVEYED, PLATTED AND RECORDED IF SAID SIXTEEN (16') FOOT EASEMENT IS NOT OCCUPIED BY UTILITY FACILITIES AND IF REQUESTED BY THE OWNER.

PERPETUAL EASEMENTS SHALL BE GRANTED TO METROPOLITAN UTILITIES DISTRICT OF OMAHA, AND ANY NATURAL GAS PROVIDER, AND THEIR SUCCESSORS AND ASSIGNS, TO ERECT, INSTALL, OPERATE, MAINTAIN, REPAIR AND RENEW PIPELINES, HYDRANTS, AND OTHER RELATED FACILITIES, AND TO EXTEND THEREON PIPES FOR THE TRANSMISSION OF GAS AND WATER ON, THROUGH, UNDER AND ACROSS A FIVE-FOOT-WIDE STRIP OF LAND ABUTTING ALL CUL-DE-SAC STREETS AND ALONG ALL STREET FRONTAGES OF ALL LOTS.

NO PERMANENT BUILDINGS, TREES, RETAINING WALLS OR LOOSE ROCK WALLS SHALL BE PLACED IN SAID EASEMENT WAYS, BUT THE SAME MAY BE USED FOR GARDENS, SHRUBS, LANDSCAPING, SIDEWALKS, DRIVEWAYS AND OTHER PURPOSES THAT DO NOT THEN OR LATER INTERFERE WITH THE AFORESAID USES OR RIGHTS HEREIN GRANTED.

MADDAD LAND, LLC,
A NEBRASKA LIMITED LIABILITY COMPANY

BY: _____
JON MEYERS, MEMBER

ACKNOWLEDGEMENT OF NOTARY

STATE OF NEBRASKA)
COUNTY OF)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME THIS_____ DAY OF _____, 2022 BY JON MEYERS, MEMBER OF MADDAD LAND, LLC, A NEBRASKA LIMITED LIABILITY COMPANY ON BEHALF OF SAID COMPANY.

_____
NOTARY PUBLIC

SARPY COUNTY TREASURER'S CERTIFICATE

THIS IS TO CERTIFY THAT I FIND NO REGULAR OR SPECIAL TAXES DUE OR DELINQUENT AGAINST THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE AND EMBRACED WITHIN THIS PLAT AS SHOWN ON THE RECORDS OF THIS OFFICE THIS _____ DAY OF _____, 2022.

_____
SARPY COUNTY TREASURER

TREASURER'S SEAL

APPROVAL OF THE SPRINGFIELD CITY PLANNING COMMISSION

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE SPRINGFIELD CITY PLANNING COMMISSION THIS_____DAY OF _____, 2021.

_____
ATTEST: SECRETARY OF PLANNING COMMISSION

_____
CHAIRPERSON

APPROVAL OF THE SPRINGFIELD CITY COUNCIL

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE CITY COUNCIL OF SPRINGFIELD, NEBRASKA THIS_____DAY OF _____, 2022.

_____
ATTEST: CITY CLERK, KATHLEEN GOTTSCH

_____
MAYOR, ROBERT ROSELAND

APPROVAL OF THE SPRINGFIELD CITY ENGINEER

THIS PLAT OF SPRINGFIELD COMMERCE WAS APPROVED BY THE SPRINGFIELD CITY ENGINEER THIS_____DAY OF _____, 2022.

_____
SPRINGFIELD CITY ENGINEER

REVIEW BY SARPY COUNTY PUBLIC WORKS

THIS PLAT OF SPRINGFIELD COMMERCE WAS REVIEWED BY THE SARPY COUNTY SURVEYORS OFFICE THIS_____DAY OF _____, 2022.

_____
COUNTY SURVEYOR/ENGINEER

TD2 engineering & surveying

thompson, dreessen & dorner, inc.
10836 Old Mill Rd
Omaha, NE 68154
p.402.330.8860 f.402.330.5866
td2co.com

SPRINGFIELD COMMERCE
LOTS 5 AND 6

N

Revision Dates

No.	Description	MM-DD-YY

Job No.: E179-126E
Drawn By: RJR
Reviewed By: JDW
Date: FEBRUARY 15, 2022
Book:
Page:

Sheet Title

SPRINGFIELD, NEBRASKA
SARPY COUNTY
FINAL PLAT

Sheet Number

SHEET 1 OF 1

EXHIBIT G-2

Exhibit G-2 – Sewer Agreement with City of Springfield

SANITARY SEWER AGREEMENT

This Agreement, made and entered into this 22nd day of September, 2022, among MADDAD LAND, LLC, a Nebraska Limited Liability Company (hereinafter referred to as "Developer"), and SANITARY AND IMPROVEMENT DISTRICT NO. 348 of Sarpy County, Nebraska (hereinafter referred to as "District"), and the CITY OF SPRINGFIELD, a Municipal Corporation in the State of Nebraska (hereinafter referred to as "City").

WITNESSETH:

WHEREAS, Developer, District and City have entered into a Subdivision Agreement; and

WHEREAS, City operates its own sanitary sewer system; and

WHEREAS, the land to be developed is outside of the current sanitary sewer system area of City; and

WHEREAS, Developer and District wish to provide for a sanitary sewer system for Lots 5 and 6, Springfield Commerce.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Developer and District will install all sanitary sewer lines for Lots 5 and 6.
2. After construction of the mains in a manner satisfactory to the City's Engineer, Developer and District shall be allowed to connect the mains in the District to the City sanitary sewer system.
3. During such time as District remains outside of the corporate limits of City, District shall have the responsibility to maintain all sanitary sewer mains within the District. All maintenance shall meet the requirements of City.
4. Individual lot owners shall be permitted to connect to the sanitary sewer mains and City will provide sanitary sewer service to them, provided, however, the lots must pay all applicable taxes and fees.
5. All individual consumers will have to enter into a sanitary sewer system agreement with City and obey all City ordinances and regulations regarding sanitary sewer use.
6. Developer, District and City have agreed to City providing 24,000 gallons per day (GPD) calculated at domestic loading rates. City shall have the right to monitor the quality of

effluent from all premises. No industrial process water or high-strength waste shall be permitted. Domestic loading is hereby defined as less than 200 mg/L BOD and less than 250 mg/L TSS at the permissible hydraulic flow.

7. District shall have the right to designate which premises are eligible for sewer service and how much capacity they are eligible to receive. If sewer usage is exhausted before all lots are developed, further development cannot occur until additional sewer capacity is available. City is not obligated to add additional sewer capacity.

8. All individual consumers will pay for sanitary sewer service at 1.5 times the rate for consumers within the corporate limits of City.

9. Developer reserves the sanitary sewer system for Lots 1, 3, 4, 5 and 6, and Lots 1-3, inclusive, Springfield Commerce Replat One and Outlots A and B, inclusive, of Springfield Commerce and Developer and District will not develop any more than that number of lots without the written permission of City.

10. If no lot within District has become a sanitary sewer service customer of City within two years after the date of this Sanitary Sewer Agreement, this Agreement shall terminate and City shall have no further obligations under this Agreement, provided that (i) in the event a lot owner applies for a building permit for a permitted use during such two year period, and the City denies the application and does not issue the permit, or (ii) in the event a building permit has been issued and the building is under construction at the end of the two year period, but not yet a sanitary sewer service customer of the City, then this Agreement shall not terminate and City's obligations shall continue.

11. This Agreement shall terminate twenty-five (25) years after the date of this Sanitary Sewer Agreement and City shall have no further obligation under this Agreement.

12. This Agreement incorporates all of the terms of the Subdivision Agreement between Developer, District, and City.

Attest: CITY OF SPRINGFIELD, NEBRASKA

City Clerk Date: 9/22/22 By: Robert Rosland, Mayor Date: 9/22/22

CITY OF SPRINGFIELD CORPORATE SEAL SARPY COUNTY

EXHIBIT G-2

Attest:

SANITARY AND IMPROVEMENT DISTRICT NO. 348 OF SARPY COUNTY, NEBRASKA

Date

By: 9/14/22
Chairman Date

Attest:

MADDAD LAND, LLC

Date

By: 9/14/22
Manager Date

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 22nd day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Robert Roseland, personally known by me to be the Mayor of the City of Springfield, and Kathleen Gottsch, personally known by me to be the City Clerk of the City of Springfield, and the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the execution thereof to be their voluntary act and deed and the voluntary act and deed of said City.

WITNESS my hand and Notarial Seal the day and year last above written.

NOTARY PUBLIC

GENERAL NOTARY - State of Nebraska
ANDREA S. LEDENBACH
My Comm. Exp. October 31, 2024

(SEAL)

EXHIBIT G-2

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 14th day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Jonathan M Myers, personally known by me to be the Chairman of Sanitary and Improvement District No. 348 of Sarpy County, Nebraska, and the identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution thereof to be his/her voluntary act and deed and the voluntary act and deed of said District.

WITNESS my hand and Notarial Seal the day and year last above written.

Andrea M Muldoon
NOTARY PUBLIC

(SEAL)
GENERAL NOTARY - State of Nebraska
ANDREA M. MULDOON
My Comm. Exp. October 24, 2023

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 14th day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Tamara Draeger, personally known by me to be the Manager of MADDAD Land, LLC, and the identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution thereof to be his/her voluntary act and deed and the voluntary act and deed of said Developer.

WITNESS my hand and Notarial Seal the day and year last above written.

Andrea M Muldoon
NOTARY PUBLIC

(SEAL)
GENERAL NOTARY - State of Nebraska
ANDREA M. MULDOON
My Comm. Exp. October 24, 2023

EXHIBIT H-2

Exhibit H-2 – Water Agreement with City of Springfield

WATER AGREEMENT

This Agreement, made and entered into this 22nd day of September, 2022, among MADDAD LAND, LLC, a Nebraska limited liability company (hereinafter referred to as "Developer"), and SANITARY AND IMPROVEMENT DISTRICT NO. 348 of Sarpy County, Nebraska (hereinafter referred to as "District"), and the CITY OF SPRINGFIELD, a Municipal Corporation in the State of Nebraska (hereinafter referred to as "City").

WITNESSETH:

WHEREAS, Developer, District and City have entered into a Subdivision Agreement; and

WHEREAS, City operates its own water supply system; and

WHEREAS, the land to be developed is outside of the current water supply area of City; and

WHEREAS, Developer and District wish to provide for a water supply for Lots 5 and 6, Springfield Commerce.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Developer and District will install all water mains for Lots 5 and 6.
2. After construction of the mains in a manner satisfactory to the City's Engineer, Developer and District shall be allowed to connect the mains in the District to the City water supply mains.
3. During such time as District remains outside of the corporate limits of City, District shall have the responsibility to maintain all water mains within the District. All maintenance shall meet the requirements of City.
4. Individual lot owners shall be permitted to connect to the water mains and City will provide water to them, provided, however, the lots must pay all applicable taxes and fees.
5. All individual consumers will have to enter into a water supply agreement with City and obey all City ordinances and regulations regarding water metering and water use.
6. All individual consumers will pay for water at 1.5 times the rate for consumers within the corporate limits of City.

7. Developer reserves the water supply for Lots 1, 3, 4, 5 and 6, and Lots 1-3, inclusive, Springfield Commerce Replat One and Outlots A and B, inclusive, of Springfield Commerce, and Developer and District will not develop any more than that number of lots without the written permission of City.

8. If no lot within District has become a water customer of City within two years after the date of this Water Agreement, this Agreement shall terminate and City shall have no further obligations under this Agreement, provided that (i) in the event a lot owner applies for a building permit for a permitted use during such two year period and the City denies the application and does not issue the permit, or (ii) in the event a building permit has been issued and the building is under construction at the end of the two year period, but not yet a sanitary sewer service customer of the City, then this Agreement shall not terminate and City's obligations shall continue.

9. This Agreement shall terminate twenty-five (25) years after the date of this Water Agreement and City shall have no further obligation under this Agreement.

10. The combined usage of all lots within the District shall not be more than 24,000 gallons per day of water that is discharged to the City's sewer system. Additional, separately metered, water can be used for water that is not discharged to the City's sewer system, such as separately metered lawn sprinklers.

11. This Agreement incorporates all of the terms of the Subdivision Agreement between Developer, District, and City.

CITY OF SPRINGFIELD, NEBRASKA

Attest: _____ 9/22/22 By: _____ 9/22/22

City Clerk Date Mayor Date

Attest:

SANITARY AND IMPROVEMENT DISTRICT NO. 348 OF SARPY COUNTY, NEBRASKA

_____ By: _____

Date Chairman Date

EXHIBIT H-2

Attest: _____ Date

MADDAD LAND, LLC

By: _____ Manager 9-14-22 Date

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 22nd day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Robert Roseland, personally known by me to be the Mayor of the City of Springfield, and Kathleen Gottsch, personally known by me to be the City Clerk of the City of Springfield, and the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the identical persons whose names are affixed to the foregoing Agreement, and they acknowledged the execution thereof to be their voluntary act and deed and the voluntary act and deed of said City.

WITNESS my hand and Notarial Seal the day and year last above written.

_____
NOTARY PUBLIC

(SEAL)

GENERAL NOTARY - State of Nebraska
ANDREA S. LEDENBACH
My Comm. Exp. October 31, 2024

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 14th day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Jonathan M Meyers, personally known by me to be the Chairman of Sanitary and Improvement District No. 348 of Sarpy County, Nebraska, and the identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution thereof to be his/her voluntary act and deed and the voluntary act and deed of said District.

WITNESS my hand and Notarial Seal the day and year last above written.

_____
NOTARY PUBLIC

GENERAL NOTARY - State of Nebraska
SEAL ANDREA M. MULDOON
My Comm. Exp. October 24, 2023

EXHIBIT H-2

ACKNOWLEDGMENT OF NOTARY:

STATE OF NEBRASKA)
) ss.
COUNTY OF SARPY)

On this 14th day of September, 2022, before me, a Notary Public, duly commissioned and qualified in and for said County and State, personally appeared Tamara Draeger, personally known by me to be the Manager of MADDAD Land, LLC, and the identical person whose name is affixed to the foregoing Agreement, and acknowledged the execution thereof to be his/her voluntary act and deed and the voluntary act and deed of said Developer.

WITNESS my hand and Notarial Seal the day and year last above written.

Andrea M Muldoon
NOTARY PUBLIC

GENERAL NOTARY - State of Nebraska
ANDREA M. MULDOON
My Comm. Exp. October 24, 2023
(SEAL)

SPRINGFIELD COMMERCE

LOTS 1 THROUGH 6 AND OUTLOTS A AND B

SARPY COUNTY, NEBRASKA

SUBDIVIDER

MADDAD HOLDINGS, LLC
10864 SOUTH 134TH STREET
OMAHA, NE 68138

ENGINEER

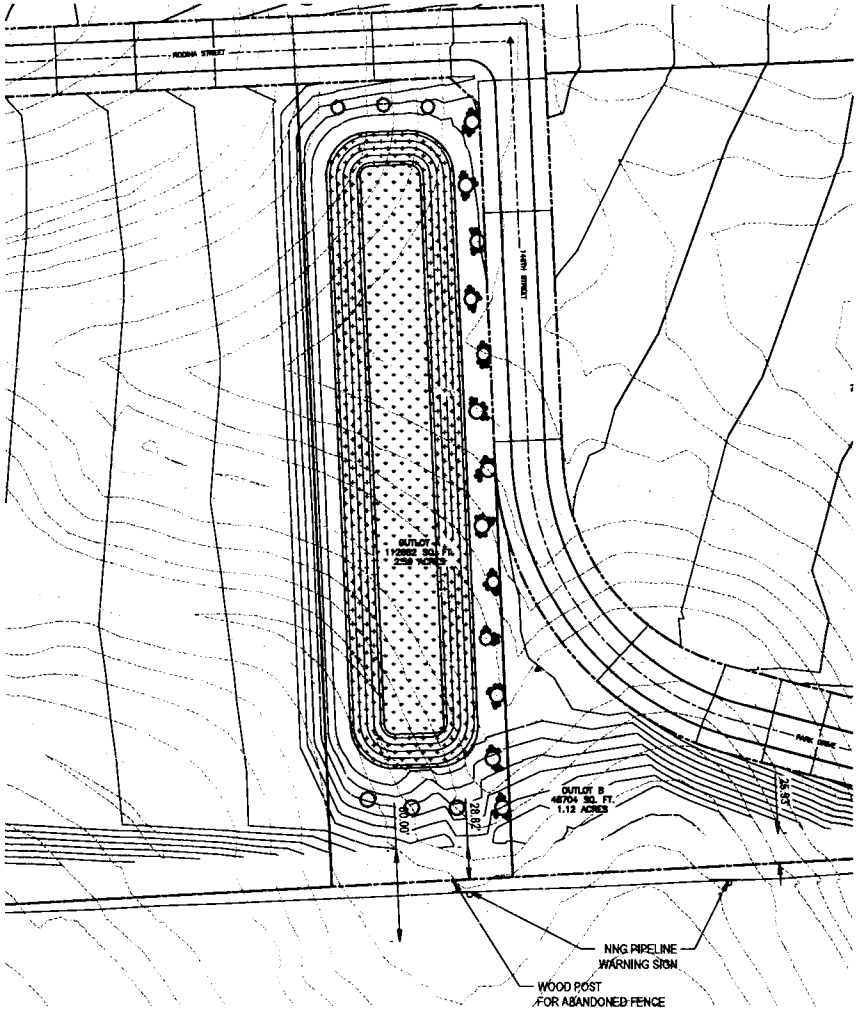
THOMPSON, DREESSEN & DORNER
10836 OLD MILL ROAD
OMAHA, NEBRASKA 68154
PHONE: 402-330-8860

LEGAL DESCRIPTION

LOTS 1 THROUGH 6 AND OUTLOT A, BEING A PLATTING OF THE N 1/2 OF THE NE 1/4, OF SECTION 33, T13N, R11E OF THE 6TH P.M., SARPY COUNTY, NEBRASKA.

NOTES

1. EXISTING ZONING IS AG. PROPOSED ZONING IS LI FOR LOTS 1 AND 4–6 AND BH FOR LOTS 2, 3, AND OUTLOTS A AND B.
2. OVERLAY ZONING DISTRICT IS HOD FOR LOTS 1–6 AND OUTLOTS A AND B AND CO FOR LOTS 5 AND 6.
3. EXISTING AND PROPOSED CONTOURS ARE SHOWN AT 2' INTERVALS.
4. WATER SHALL BE PROVIDED BY THE CITY OF SPRINGFIELD.
5. SAS SHALL BE PROVIDED BY THE METROPOLITAN UTILITIES DISTRICT (MUD).
6. POWER SHALL BE PROVIDED FROM THE OMAHA PUBLIC POWER DISTRICT.
7. TYPICAL UTILITY SEPARATIONS WILL BE DEDICATED WITH THE FINAL PLAT.
8. PAVEMENT FOR PARK DRIVE, 147TH STREET AND 188TH STREET SHALL BE 30' WIDE, 8–INCH THICK P.C.C. PAVEMENT.
9. NO DIRECT ACCESS TO HIGHWAY 36 OR PLATTEVIEW ROAD SHALL BE PERMITTED BY ANY LOTS OR OUTLOTS.
10. OUTLOT A WILL PROVIDE JOINT CONSTRUCTION STORMWATER MANAGEMENT FOR THE DEVELOPMENT AND WILL BE OWNED AND MAINTAINED BY THE SID.
11. OUTLOT B WILL BE MAINTAINED AS GREEN SPACE AND BE RESERVED FOR A FUTURE ACCESS POINT FROM THE ADJACENT PROPERTY TO THE SOUTH. IT WILL BE OWNED AND MAINTAINED BY THE SID.



LANDSCAPE PLAN SCHEDULE

	CONIFEROUS TREES	
	Picea omorika / Serbian Spruce	5' HT. B&B
	Picea pungens / Colorado Spruce	5' HT. B&B
	Pinus flexilis 'Vanderwolf's Pyramid' / Vanderwolf's Pyramid Pine	5' HT. B&B
	DECIDUOUS TREES	
	Gleditsia triacanthos inermis 'Shademaster' TM / Shademaster Locust	2" Cal. B&B
	Quercus bicolor / Swamp White Oak	2" Cal. B&B
	SHRUBS	
	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	2 GAL.
	Bouteloua gracilis 'Blonde Ambition' / Blue Grama	2 GAL.
	Spiraea Japonica 'Gold Mound' / Spiraea, Gold Mound	2 GAL.
	SEED MIXTURES	
	United Seeds FACW Mix	Seed
	United Seeds Floodplain Mix	Seed

LANDSCAPE NOTES:

1. LANDSCAPING SPECIES AND LOCATIONS SHALL BE COORDINATED WITH THE CITY OF SPRINGFIELD STAFF

N

TD2

thompson, dreessen & dorner, inc.
10836 Old Mill Rd
Omaha, NE 68154
p.402.330.8860 www.td2co.com

Springfield Commerce

MADDAD Holdings, LLC

No.	Description	MM-DD-YY

Drawn By: MEM Reviewed By: DEK
Job No.: 179-126 Date: 11-4-22

Landscape Plan

Exhibit I-2

Exhibit J-2 – Second Amended
and Restated Bylaws of
Property Owner's Association

SECOND AMENDED AND RESTATED BY-LAWS OF SPRINGFIELD COMMERCE PROPERTY OWNERS ASSOCIATION, INC.

ARTICLE I
NAME AND LOCATION

The name of the Corporation is SPRINGFIELD COMMERCE PROPERTY OWNERS ASSOCIATION, INC., hereinafter referred to as the "Association". The principal office of the corporation shall be as designated by the Board of Directors from time to time, and meetings of Members and Directors may be held at such places within Sarpy County, Nebraska, as may be designated by the Board of Directors.

ARTICLE II
MEMBERSHIP

Section 1: Membership. The Association shall have members. The record owner of Lots 3,4, 5 and 6, Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One, including contract purchasers, shall be a voting member of the Association. The record owners of Outlots A and B shall be non-voting members of the Association. The foregoing is not intended to include mortgagees, trustees holding deeds of trust, or other persons or entities who hold an interest merely as security for the performance of an obligation. Membership shall be appurtenant to and may not be separated from ownership of any Lot which is subject to assessment by the Association.

Section 2: Succession. The membership of each Owner shall terminate when they cease to be an Owner of any of Lots 1, 3 4, 5 and 6 Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One, or Outlot A or B, and their membership in the Association shall automatically be transferred to the new Owner succeeding to such ownership interest.

ARTICLE III
MEMBERSHIP MEETINGS

Section 1: Annual Meeting. The annual meeting of the Association shall be held at the office of the Association during the month of February on the second Tuesday in each year, commencing at 4:00 p.m., or such other time or place as may be designated by the Association's Board of Directors. Each annual meeting shall be for the purpose of electing Directors and transacting any other business authorized to be transacted by the Members. If the date set for the annual meeting of the membership is a legal holiday, the meeting will be held at the same hour on the first day following such legal holiday.

Section 2: Special Meetings. Special meetings shall be held whenever called by the President or Vice-President or by a majority of the Association's Board of Directors, and must be called by such officers upon receipt of a written request from Members entitled to cast one-third of the votes of the entire membership.

Section 3: Notice of Meetings. Notice of all meetings, stating the time, date, place and purpose for which the meeting is called, shall be given by the President of Vice-President or

Secretary, unless waived in writing. Such notice shall be in writing to each Member at the last known address shown on the records of the Association and shall be mailed at least ten (10) days but no more than thirty (30) days prior to the date of the meeting. Proof of such mailings shall be made by affidavit, duly executed by the Person giving the notice. Notice of meeting may be waived before or after any such meeting.

Section 4: Quorum. A Quorum at any meeting shall consist of thirty (30%) percent of those Members entitled to cast all votes of the Association. A Quorum is represented by persons in attendance and by proxy. If any meeting of the Members cannot be organized because a quorum has not attended, the Members present either in person or by proxy, may adjourn the meeting for at least ten (10) days, and adequate notice of the new date shall be given as described in Section 3 of this Article. For the purposes of this Article III Section 4, if a Member attends any meeting via telephone or video conference, he/she shall not be considered absent from such meeting.

Section 5: Voting. The Association shall have only one class of voting membership. Each Lot Owner of Lots 1, 3, 4, 5 and 6 Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One, shall be entitled to the number of votes equaling the number of memberships owned by such Lot Owner. Each Owner shall have one membership rounded off to the nearest Net Acre for each Net Acre owned by such Owner within its Lot, provided, however, that any Owner owning a Lot containing less than one acre shall have one membership. Each vote must be cast as a single unit. If an Owner consists of more than one Person, then all persons constituting an Owner of such Lot shall, simultaneously with or immediately after their acquisition of such Lot, deliver to the Association a written instrument appointing one Person as the agent for all Persons constituting the Owner of such Lot, which agent shall thereupon receive notices of Assessment and other notices, demands, cast votes hereunder, and take any and all actions required or permitted to be taken by an Owner. An Owner may change its designated agent by written notice to the Association as set forth above, which change shall be effective only upon actual receipt of such notice by the Association. No change in the ownership of a Lot shall be effective for voting purposes until the Board receives written notice of such change together with satisfactory evidence thereof. An Owner may assign all, but not less than all, of its voting rights attributable to a particular Lot to a Lessee, which shall be effective only upon actual receipt of such notice by the Association. If more than one Person casts or attempts to cast a vote for a particular Lot, all such votes shall be deemed void.

Section 6: Proxies. Votes may be cast in Person or by proxy, as provided in the Nebraska Nonprofit Corporation Act (Neb. Rev. Stat. Section 21-1901 et. seq.). In addition, proxies established via electronic mail from a Member shall be considered a valid form of proxy for the purposes of these By-Laws. In the event the Board of Directors elects to implement a voting process whereby votes may submitted by Members electronically, such electronic vote shall be deemed to satisfy the requirements of these By-Laws.

ARTICLE IV
BOARD OF DIRECTORS

Section 1: Number. The business of the Association shall be managed by a Board of Directors of at least three (3) directors nor more than five (5) directors (each a "Director" and collectively, the "Directors"), who shall serve without compensation. However, any Director may be reimbursed for his actual expenses incurred in the performance of his or her duties as a Director. The Directors do not need to be Members of the Association. The names and addresses of the Board of Directors who are to act in the capacity of Directors (the "Initial Directors") until the selection of their successors are:

Jonathan M. Meyers
10064 S. 134th Street
Omaha, NE 68138

James Meyers
10064 S. 134th Street
Omaha, NE 68138

Tamara Draeger
10064 S. 134th Street
Omaha, NE 68138

Section 2: Term of Office. The Initial Directors shall serve until the first annual meeting of the Association or until such time as their successors are elected. At such time, new Directors shall be elected for terms staggered on a one (1), two (2) and three (3) year basis. One (1) Director shall be elected for one (1) year, one (1) Director shall be elected for two (2) years and one (1) Director shall be elected for three (3) years. After the initial term of each such Director, all Directors shall thereafter be elected for three (3) year terms. In the event that there are more than three (3) Directors, each additional Director shall be for three (3) year terms. Each Director shall serve for the term set forth hereinabove and until his or her successor is duly elected and qualified, or until removed from office as provided herein.

Section 3: Election. The election shall be by ballot (unless dispensed with by unanimous consent) and by a plurality of votes cast. Each person entitled to vote may cast his vote for each of as many nominees as there are vacancies to be filled. There shall be no cumulative voting.

Section 4: Removal. Any Director may be removed from the Board, with or without cause, by concurrence of a two thirds (2/3) majority of the votes cast by the quorum present at any regular or special meeting of the Association called for that purpose.

Section 5: Vacancies. In the event of the death, resignation or removal of a Director, their successor shall be selected by a majority of the remaining members of the Board and shall serve for the unexpired term of their predecessor.

VOTING V
MEETING OF DIRECTORS

Section 1: Regular Meeting. Regular meetings of the Board of Directors shall be held at such times and places which are determined, from time to time, by a majority of the Board of Directors. Notice of regular meetings shall be given to each Director, personally or by mail, telephone or equivalent service, at least five (5) days prior to the date of any regular meeting. Notice of meeting may be waived before or after any such meeting.

Section 2: Special Meetings. Special meetings of the Board of Directors may be held at the request of the President, Vice-President or Secretary, and must be held at the written request of two-thirds (2/3) of the Directors. Notice of special meetings shall be given to each Director, personally or by mail, telephone or equivalent service, at least five (5) days prior to the date of any special meeting. Such notice shall state the time, date, place and purpose of the special meeting. Notice of meeting may be waived before or after any such meeting.

Section 3: Quorum. A majority of the current number of directors shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, but if less than such majority is present at a meeting, a majority of the directors present may adjourn the meeting from time to time without further notice. The acts approved by a majority of those Directors present at any meeting at which a quorum is present shall constitute the acts of the Association, except where approval by a greater number of Directors is required by these By-Laws. If at any meeting of the Board of Directors less than a quorum is present, the majority of those present may adjourn the meeting until a quorum is present. Upon reconvening an adjourned meeting, any business called may be transacted without the necessity of providing any further notice. For the purposes of this Article V, Section 3, if a Director attends any meeting via telephone or video conference, he/she shall not be considered absent from such meeting.

Section 4: Action Taken Without A Meeting. The Directors shall have the right to take any action in the absence of a meeting which they could take at a meeting by obtaining the written approval of all Directors. Any action so approved shall have the same effect as though taken at a meeting of the Directors.

ARTICLE VI
POWERS AND DUTIES OF THE BOARD OF DIRECTORS

The Association shall have all powers and duties necessary and appropriate to accomplish the purposes and administer the affairs of the Association. The powers and duties exercised by the Board of Directors, and upon authorization of the Board of Director by the Officers, as applicable, shall include, but shall not be limited to the following:

(a) The election and removal of the officers of the Association.

(b) The acquisition, development, maintenance (including, but not limited to, snow plowing, if necessary), repair, replacement, operation and administration of the common areas within Springfield Commerce, a subdivision located within Sarpy County, Nebraska (the "Common Areas"), and the enforcement of the

rules and regulations relating to the Common Areas and the development as a whole.

(c) The landscaping, mowing, watering, repair and replacement of the Common Areas, including the power to contract with parties to conduct such landscaping, mowing, watering, repair and replacement of the Common Areas.

(d) The fixing, levying, collecting, abatement, and enforcement of all charges, dues, or assessments made pursuant to the terms of any recorded Declaration of Covenants, Conditions, Restrictions and Easements for Springfield Commerce or these By-Laws and to enforce liens as provided for in any such Declaration.

(e) The commencement and maintenance of actions to or restrain and enjoin any actual or threatened breach of any such recorded Declaration and enforce by mandatory injunction or otherwise any of the provision of any such recorded Declaration.

(f) The expenditure, commitment and payment of Association funds to accomplish the purposes of the Association including, but not limited to, payment and purchase of insurance, if necessary, covering any Common Areas against property damage and casualty, and purchase of liability insurance coverages for the Association, and the Directors or Officers of the Association, if any.

(g) The acquisition by purchase or otherwise, holding, or disposition of any right, title, or interest in real or personal property, wherever located, in connection with the affairs of the Association.

(h) The deposit, investment and reinvestment of Association funds in interest-bearing bank accounts (if possible), money market funds or accounts, certificates of deposits, or similar investments in which principal is not diminished and the borrowing of funds to pay costs of operation, secured by Assessments revenues due for succeeding years or by assignment or pledge of rights against delinquent Owners; provided, however, that a majority of the outstanding votes of the Owners shall be required to borrow in excess of one year's budgeted expenses of the Association.

(i) The payment of any taxes, special assessments or other liabilities which are or would become a lien on the Property located within Springfield Commerce.

(j) The employment of professionals and consultants to advise and assist the Officers and Directors of the Association in the performance of their duties and responsibilities for the Association.

(k) The general administration and management of the Association, execution of such documents and doing and performance of such acts as may be necessary or appropriate to accomplish such administration, management, or purposes of the Association.

(l) The adoption and publication of rules and regulations governing the use of the Common Areas.

(m) Suspend the right of a Member to vote during any period when such Member shall be in default in the payment of any assessments levied by the Association. Such right may also be suspended after notice and hearing, for a period not to exceed ninety (90) days, for infraction of published rules and regulations promulgated by the Board of Directors.

(n) Engage the services of an agent, manager, independent contractors or employees as they deem necessary to maintain, repair, replace, administer and operate the Common Area, or any part thereof, and manage all other affairs and business of the Association for all of the Members, upon such terms and for such compensation as the Board of Directors may approve. Any agreement for the services of any such agent, manager, independent contractor or employee shall provide for termination by the Association with or without cause, and without payment of a termination fee, upon thirty (30) days written notice, and no such agreement shall be of a duration in excess of one (1) year, renewable by agreement of the parties for successive one (1) year periods.

(o) The granting or relocating of easements over, across or through the Common Areas as the Board of Directors may determine to be beneficial to the Members.

(p) To cause to be kept a record of all acts and corporate affairs.

(q) The exercise of all of the powers and privileges, and the performance of all of the duties and obligations of the Association as set forth in these By-Laws, as the same are amended from time to time.

(r) To perform all obligations to maintain Outlots A and B pursuant to a Subdivision Agreement between the City of Springfield, Nebraska and MADDAD Land, LLC and SID 348 of Sarpy County, Nebraska.

ARTICLE VII
OFFICERS AND THEIR DUTIES

Section 1: Enumeration of Officers. The executive officers of the Association shall consist of a President (who must also be a Director), a Vice-President, Treasurer, and Secretary.

Section 2: Election of Officers. The election of officers shall be made by a majority vote of the Board of Directors at the first meeting of the Board following each annual meeting of the membership.

Section 3: Term. The officers of this Association shall be elected annually by the Board and each shall hold office for one (1) year unless they shall sooner resign, or shall be removed, or otherwise become disqualified to service.

Section 4: Special Appointments. The Board may elect such other officers as the affairs of the Association may require, each of whom shall hold office for such period, have such authority, and perform such duties as the Board may, from time to time, determine.

Section 5: Resignation and Removal. Any officer may be removed from office with or without cause by the Board. Any officer may resign at any time by giving written notice to the Board, the President or the Secretary. Such resignation shall take effect on the date of receipt of such notice or at any later time specified therein, and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 6: Vacancies. A vacancy in any officer may be filled by a majority vote of the quorum present of the Directors. The officer elected to such vacancy shall serve for the remainder of the term of the officer they replace.

Section 7: Multiple Offices. Any two or more offices may be held by the same person, except the offices of President and Secretary.

Section 8: Duties. The duties of the officers are as follows:

(a) President. The President shall be the Chief Executive Officer of the Association, and shall supervise and control all of the business and affairs of the Association. The President shall, when present, preside at all meetings of the Members and all meetings of the Board. The President may sign, with or without any other officer of the Association as authorized by the Board, deeds, mortgages, bonds, contracts or other instruments which the Board has authorized to be executed, except where the signing and the execution thereof shall be expressly delegated by the Board or by these By-Laws to some other officer or agent of the corporation or shall be required by law to be otherwise signed or executed. The President shall have the power to appoint and remove one or more administrative Vice-Presidents of the Association and such other assistants to the various elected officers of the Association as is necessary of the accomplishment of their duties. In general, the President shall perform all duties incident to the office of the President and such other duties as may be prescribed by the Board.

(b) Vice-President. In the absence of the President, or in the event of the President's death, inability or refusal to act, the Vice-President, or if there is more than one Vice-President, the Senior Vice-President, shall perform the duties of the President, and when so acting shall have all the powers, of, and be subject to, all the restrictions upon the President. Otherwise, such Senior and other Vice-Presidents shall perform only such duties as may be assigned by the President or by the Board.

(c) Secretary. The Secretary shall keep the minutes of the meetings of the Members and the Board in one or more books provided for that purpose; see that all notices are duly given in accordance with the provisions of these By-Laws, or as required by law; be custodian of the records of the Association, except those of the Treasurer; keep or cause to be kept under their general supervision by a registrar or transfer agent appointed by the Board, a register of the name and post office address of each Member as furnished by such Member; have general charge of the transfer books of the corporation; and in general perform all duties incidental to the office of the Secretary and such other duties as may be assigned to them by the President or by the Board.

(d) Treasurer. The Treasurer shall have charge and custody of, and be responsible for, all funds and securities of the Association; receive and give receipts for monies due and payable to the corporation from any source whatsoever, and deposit all monies in the name of the Association in such banks, trust companies or other depositories as shall be directed by the Board; shall sign all checks and promissory notes of the Association except in those instances where the Board has delegated the authority to sign checks to a managing agent employed by the Association; shall keep proper books of account; shall cause an annual audit of the books of the Association to be made by a public accountant at the completion of each fiscal year; and shall prepare an annual budget and a statement of income and expenditures to be presented to the Members at the regular annual meeting of the Members, and shall deliver a copy of such to the Members. The duties of the Treasurer may be performed by the Managing Agent.

Section 9: Committees. The Board shall appoint committees as the Board may deem appropriate to carry out the purposes of the Association.

ARTICLE VIII
BOOKS AND RECORDS

The books, records and papers of the Association shall at all times, during reasonable business hours, be subject to inspection by any Member. The Articles of Incorporation and the By-Laws of the Association shall be available for inspection by any Member at the principal office

of the Association. A copy shall be provided initially for the Owners of each Lot, and additional copies shall be made available for purchase by Members at reasonable costs.

ARTICLE IX
INDEMNIFICATION

The Association shall indemnify and hold harmless each of its Directors and Officers against any and all liability arising out of any acts or the Directors, Officers, Committee Members, or Board arising out of their status as Directors, Officers, or committee members, unless any such act is a result of gross negligence or criminal intent. It is intended that the foregoing indemnification shall include indemnification against all costs and expenses including, by way of illustration but not of limitation, attorney's fees and costs reasonably incurred in connection with the defense of any claim, action or proceeding, whether civil, criminal, administrative or other, in which any such Director, Officer, or committee member may be involved by virtue of such person having the status of a Director, Officer, or committee member provided, however, that such indemnity shall not be operative with respect to any matters to which such person shall have been finally adjudged in such action or proceeding to be liable for gross negligence or criminal intent in the performance of his duties.

ARTICLE X
AMENDMENTS

If the City of Springfield consents to the Amendment, then these By-Laws may be changed, modified or amended, at a regular or special meeting of the Members, by eighty percent (80%) of the votes entitled to be cast by the Members at a regular or special meeting called for that purpose.

ARTICLE XI
MISCELLANEOUS

The fiscal year of the Association shall begin on the first day of January and end on the last day of December of every year, except that the first fiscal year shall begin on the date of incorporation.

ARTICLE XII
COLLECTION OF CHARGES

The Association shall have an obligation to levy a charge on each member to pay for the maintenance of Outlots A and B, Springfield Commerce, a subdivision in Sarpy County, Nebraska and, if such charge is not paid upon demand, it may be recorded as a lien against the lot of such non-paying owner.

DATED this ____ day of June, 2022

Jonathan M. Meyers, Director

James Meyers, Director

Tamara Draeger, Director

Exhibit K-2 – Second Amended and Restated Articles of Incorporation of Property Owner's Association

SECOND AMENDED AND RESTATED ARTICLES OF INCORPORATION OF SPRINGFIELD COMMERCE PROPERTY OWNERS ASSOCIATION, INC.

The undersigned, for the purpose of incorporating and organizing a corporation under the Nebraska Nonprofit Corporation Act, does hereby certify and adopt the following Articles of Incorporation:

ARTICLE I
Name

The name of the corporation is Springfield Commerce Property Owners Association, Inc., hereinafter called the "Association."

ARTICLE II
Mutual Benefit Corporation

The Association is a mutual benefit corporation.

ARTICLE III
Principal Office

The principal office of the Association is located at 10064 S. 134th Street, Omaha, Nebraska 68138.

ARTICLE IV
Registered Address and Agent

The address of the initial registered office of the Association is 220 N. 89th Street, Suite 201, Omaha, Nebraska 68114, and the name of the Association's registered agent is Jeffrey B. Farnham.

ARTICLE V
Purposes and Powers

This Association does not contemplate pecuniary gain or profit either to it or to the members thereof, and the specified purposes for which it is formed are to provide for the maintenance, preservation and architectural control of the improvements, amenities, and common areas and maintain Outlots A and B within Springfield Commerce, a subdivision located within Sarpy County, Nebraska; and to promote the health, safety, recreation and welfare of the owners and occupants of the above described property and any additions thereto as may hereafter be brought within the jurisdiction of this Association, and for this purpose to:

a. Exercise all of the powers and privileges and to perform all of the duties and obligations of the Association as set forth in the Association's By-Laws.

b. Have and exercise any and all powers, rights and privileges which a corporation organized under the Nebraska Nonprofit Corporation Act may have, as amended from time to time.

c. To perform all obligations to maintain Outlots A and B pursuant to a Subdivision Agreement between the City of Springfield, Nebraska and MADDAD Land, LLC and SID 348 of Sarpy County, Nebraska.

d. To create an obligation by the owners of Lots 1, 3, 4, 5 and 64, Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One, Sarpy County, to pay for the maintenance of Outlots A and B, Springfield Commerce, a subdivision in Sarpy County, Nebraska.

e. To collect fees from all voting members of the Association.

ARTICLE VI
Membership

The Association shall have members. The record owner of Lots 1, 3,4, 5 and 6, Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One and Outlots A and B, Springfield Commerce, including contract purchasers, shall be members of the Association. The foregoing is not intended to include mortgagees, trustees holding deeds of trust, or other persons or entities who hold an interest merely as security for the performance of an obligation. Membership shall be appurtenant to and may not be separated from ownership of Lots 1, 3,4, 5 and 6, Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One and Outlots A and B, Springfield Commerce which is subject to assessment by the Association.

ARTICLE VII
Voting Rights

The Association shall have one class of voting membership and one class of non-voting members. Each Lot Owner of Lots 1, 3,4, 5 and 6, Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One shall be entitled to the number of votes equaling the number of memberships owned by such Lot Owner of Lots 1, 3,4, 5 and 6, Springfield Commerce and Lots 1, 2 and 3, Springfield Commerce Replat One. Each Owner shall have one membership rounded off to the nearest Net Acre for each Net Acre owned by such Owner within its Lot, provided, however, that any Owner owning a Lot containing less than one acre shall have one membership. The voting rights shall otherwise be governed by the provisions of the Bylaws.

Outlots A and B shall each have one non-voting membership.

ARTICLE VIII
Board of Directors

The affairs of this Association shall be managed by a Board of Directors of not less than three (3) Directors nor more than five (5), who need not be members of the Association or be Owners. The initial Board of Directors shall consist of three (3) members.

ARTICLE IX

Duration

The corporation shall exist perpetually.

ARTICLE X
Incorporator

The name and address of the sole incorporator is:

Jeffrey B. Farnham
FARNHAM & GRIFFIN, PC, LLO
220 N. 89th Street, Suite 201
Omaha, NE 68114

ARTICLE XI
Dissolution

If the City of Springfield consents to the dissolution, then the Association may be dissolved with the assent given in writing and signed by not less than seventy-five percent (75%) of the memberships in the Association. Upon dissolution of the Association, other than incident to a merger or consolidation, the assets of the Association, after paying or making provision for payment of all of the liabilities of the Association, shall be distributed to the Members of the Association.

IN WITNESS WHEREOF, the undersigned, being duly authorized under the laws of the State of Nebraska, has executed these Articles of Incorporation of Springfield Commerce Property Owners Association, Inc., this ___ day of June, 2022.

Jonathan M. Meyers, Director

James Meyers, Director

Tamara Draeger, Director

Exhibit M-2 – Traffic Study

SPRINGFIELD COMMERCE

TRAFFIC IMPACT ANALYSIS

Prepared for:

Mr. Matt Maly, PE
Thompson, Dreessen & Dorner, Inc.
10836 Old Mill Road
Omaha, NE 68154

Prepared by:

Felsburg Holt & Ullevig
11422 Miracle Hills Drive, Suite 115
Omaha, NE 68154
402.445.4405

Project Manager: Adam Denney, PE, PTOE
Project Engineer: Timothy Adams, EI

FELSBURG HOLT & ULLEVIG
connecting & enhancing communities

FHU Reference No. 20-100-09

November 2020

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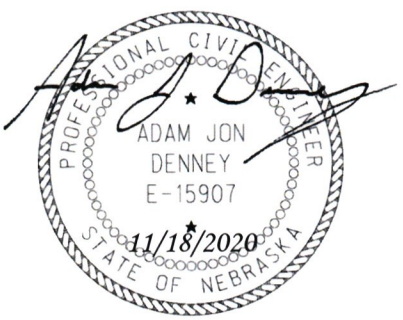


LIST OF FIGURES

LIST OF TABLES

I. INTRODUCTION

A. *Summary*

This is a traffic impact analysis (TIA) for the proposed Springfield Commerce development located in Springfield, NE. The project is generally located west of the City of Springfield along the west side of Nebraska Highway 50 (N-50) south of Platteview Road. This analysis utilizes information from the development plans (Preliminary Plat) provided to Felsburg Holt & Ullevig (FHU) by Thompson Dreessen Dorner (TD2), dated 3-9-20, and information provided by the Nebraska Department of Transportation (NDOT). The location of the development site in relation to the surrounding roadway network is shown on **Figure 1**.

The site is on 66.63 acres of property and will consist of 6 lots and 2 outlets (A and B). Lots 1, 4, 5, and 6 will be zoned Light Industrial, and Lot 2 and 3 will be Business Highway zoning (retail/commercial). Exact land uses and building square footages for the light industrial and retail/commercial lots will be assumed based on similar developments, but it is known a gas station will be located on Lot 3. A floor to area ratio (FAR) of 0.22 will be used to determine building sizes for retail and commercial lots and FAR of 0.50 for industrial lots. Access to the site will be provided at one location onto N-50 via Park Drive and one location onto Platteview Road via 147th Street. Both access locations are proposed full access.

The development is proposed to to be constructed in two phases with the first phase (Phase 1) completed by 2022 and the second phase (Phase 2) completed by 2025. Phase 1 of the project will include the construction of Lots 1, 2, 3, and 4. Phase 2 will construct the remaining Lots (5 and 6). For purposes of this study three scenarios will be analyzed: Phase 1 (2022), Phase 2 (2025), and Future (2040). Full buildout of the proposed development is assumed for Phase 2 (2025) and Future (2040) scenarios. The site plan for the proposed development is shown on **Figure 2**.

B. *Scope of Services*

The purpose of this TIA is to determine the anticipated traffic operations at the intersections associated with the proposed development and the impact to the area roadway network. Also included in this report is an auxiliary turn lane analysis, queueing analysis, and MUTCD control device warrant evaluation for study intersections. The primary focus for traffic operations are at the following intersections:

Signalized Intersections

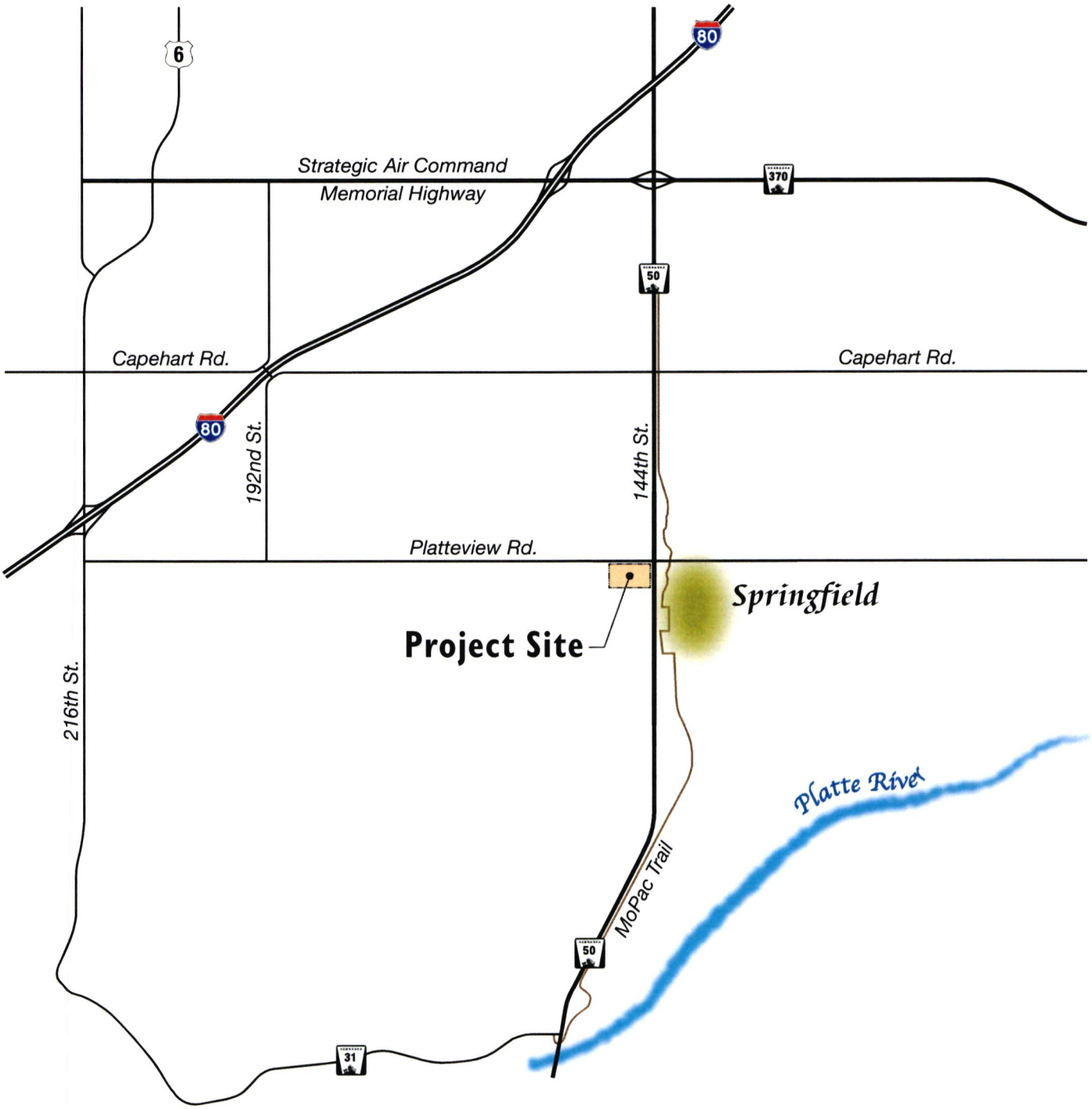
- N-50 with Platteview Road

Stop-controlled Intersections

- N-50 with Park Drive
- Platteview Road with 147th Street (Proposed)

The study will evaluate the following time periods:

- Existing (2020) AM and PM peak hours.
- Phase 1 (2022) of the development for AM and PM peak hours.
- Phase 2 (2025) of full buildout of the development for AM and PM peak hours.
- Future (2040) of full buildout of the development and surrounding areas for AM and PM peak hours.



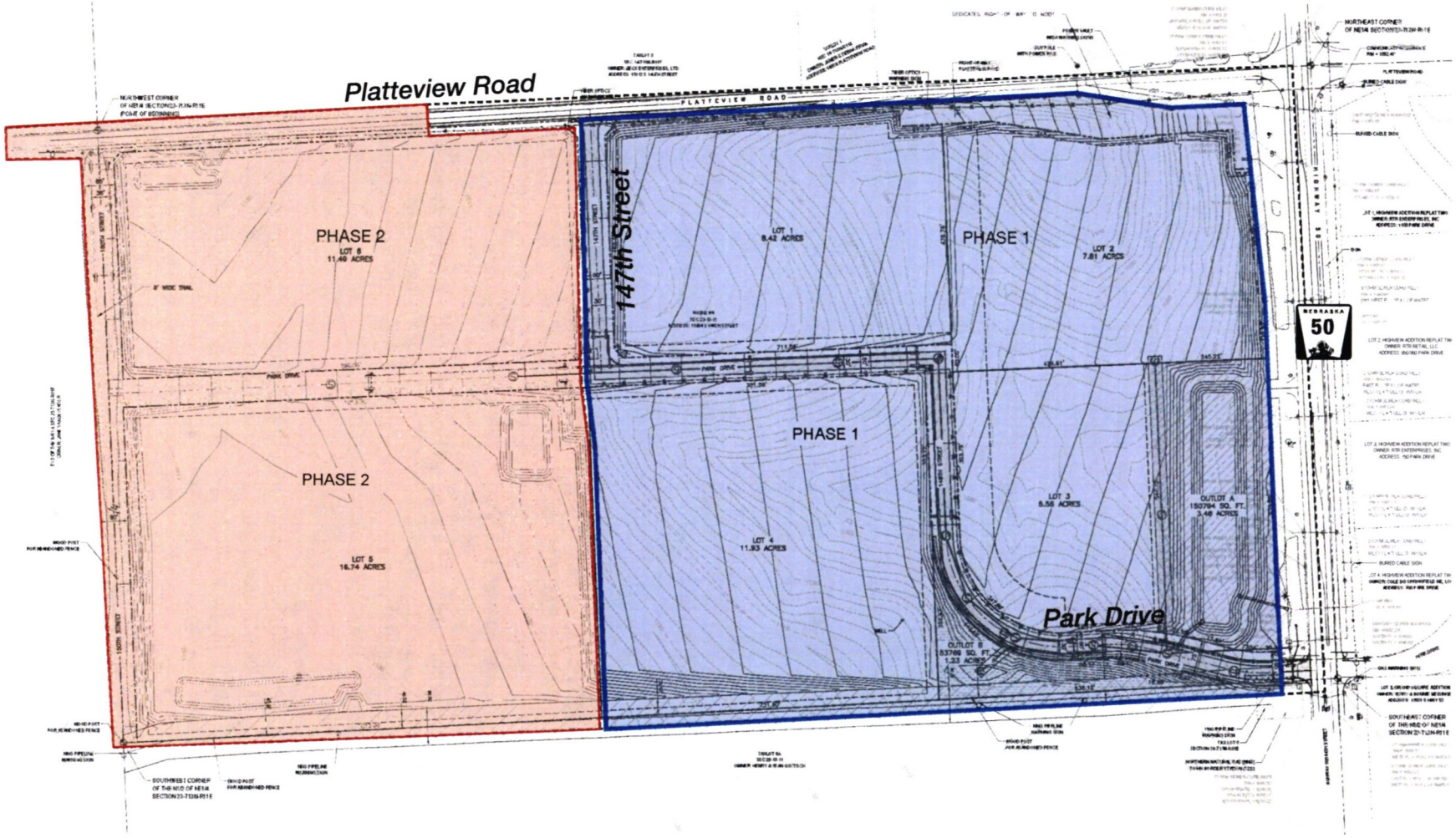
NORTH

FELSBURG HOLT & ULLEVIG

NOTE: Drawing Not to Scale

FIGURE 1
Vicinity Map

Springfield Commerce 20-100-09 11/12/20



FELSBURG HOLT & ULLEVIG

NOTE: Drawing Not to Scale

FIGURE 2
Site Plan

Springfield Commerce 20-100-09 11/12/20

II. EXISTING (2020) CONDITIONS

A. *Surrounding Land Uses*

The proposed development is on the northwest side of Springfield, NE. Interstate 80 (I-80) and Nebraska Highway 370 (N-370) lie to the north. The areas immediately surrounding are commercial to the north and east. The land to the north, south, and west of the proposed project area is agricultural. The Sarpy County Landfill and Impound Lot are located northwest of the site.

B. *Roadway Network*

The existing roadway system in the study area includes the following primary facilities:

- **N-50** runs north-south along the east side of the proposed project area. The roadway is a four-lane divided road throughout the study area. The posted speed limit in the study area is 50 miles per hour (mph).

- **Park Drive** only runs to the east of N-50 bending north to connect with Platteview Road just east of N-50. The roadway is a two-lane roadway that provides access to the commercial developments along the east side of N-50. The posted speed limit is 20 mph. The west leg of the intersection provides access to a gas pipeline and farm ground.

- **Platteview Road** is a two-lane undivided roadway that provides access to Springfield, NE to the east of N-50. The posted speed limit to the east is 35 mph. To the west, it provides access to the Sarpy County Landfill and access to I-80. To the west, the posted speed limit is 55 mph.

C. *Traffic Volumes*

Due to the current social distancing and travel restriction guidance from the COVID-19 pandemic causing lower than normal traffic volumes, historic traffic counts were provided by NDOT for the intersection of N-50 with Platteview Road. Historic counts were completed on August 16, 2016, November 27, 2018, July 9, 2019, and December 12, 2019. These counts were compared, and it was determined that the November 27, 2018 count best reflected typical traffic conditions for the area and was used as a baseline for existing traffic conditions. An additional traffic count was completed on June 11, 2020 at the intersection of N-50 with Park Drive. The AM peak hour for the study area network was determined to be 7:00 AM to 8:00 AM and the PM peak hour was 4:45 PM to 5:45 PM. Trucks were counted separately from passenger vehicles to develop truck percentages for the study area. The count at Park Drive was balanced with the historic count at Platteview Road.

The developed Existing (2020) traffic volumes can be seen on **Figure 3** and a detailed report of the traffic count data is provided in the **Appendix**. Volumes shown on **Figure 3** have been adjusted to ensure traffic balancing between the analysis intersections. Any adjustments made were done by raising the volume to ensure a conservative analysis was achieved.

D. *Traffic Operations*

Traffic operations were analyzed for the study intersections using procedures documented in the *Highway Capacity Manual (HCM) 6th Edition*, Transportation Research Board, 2016. From the analyses, a key measure or "level of service" rating of the traffic operational condition was obtained. In general, level of service (LOS) is a qualitative assessment of traffic operational conditions within a traffic stream in terms of the average stopped delay per vehicle at a controlled intersection.

Levels of service are described by a letter designation of either A, B, C, D, E or F, with LOS A representing essentially uninterrupted flow, and LOS F representing a breakdown of traffic flow with noticeable congestion and delay. Unsignalized, or stop sign controlled, intersection capacity analyses

produce LOS results for each movement which must yield to conflicting traffic at the intersection. **Table 1** summarizes LOS criteria for signalized and unsignalized (stop sign controlled) intersections.

Table 1. Level of Service (LOS) Criteria

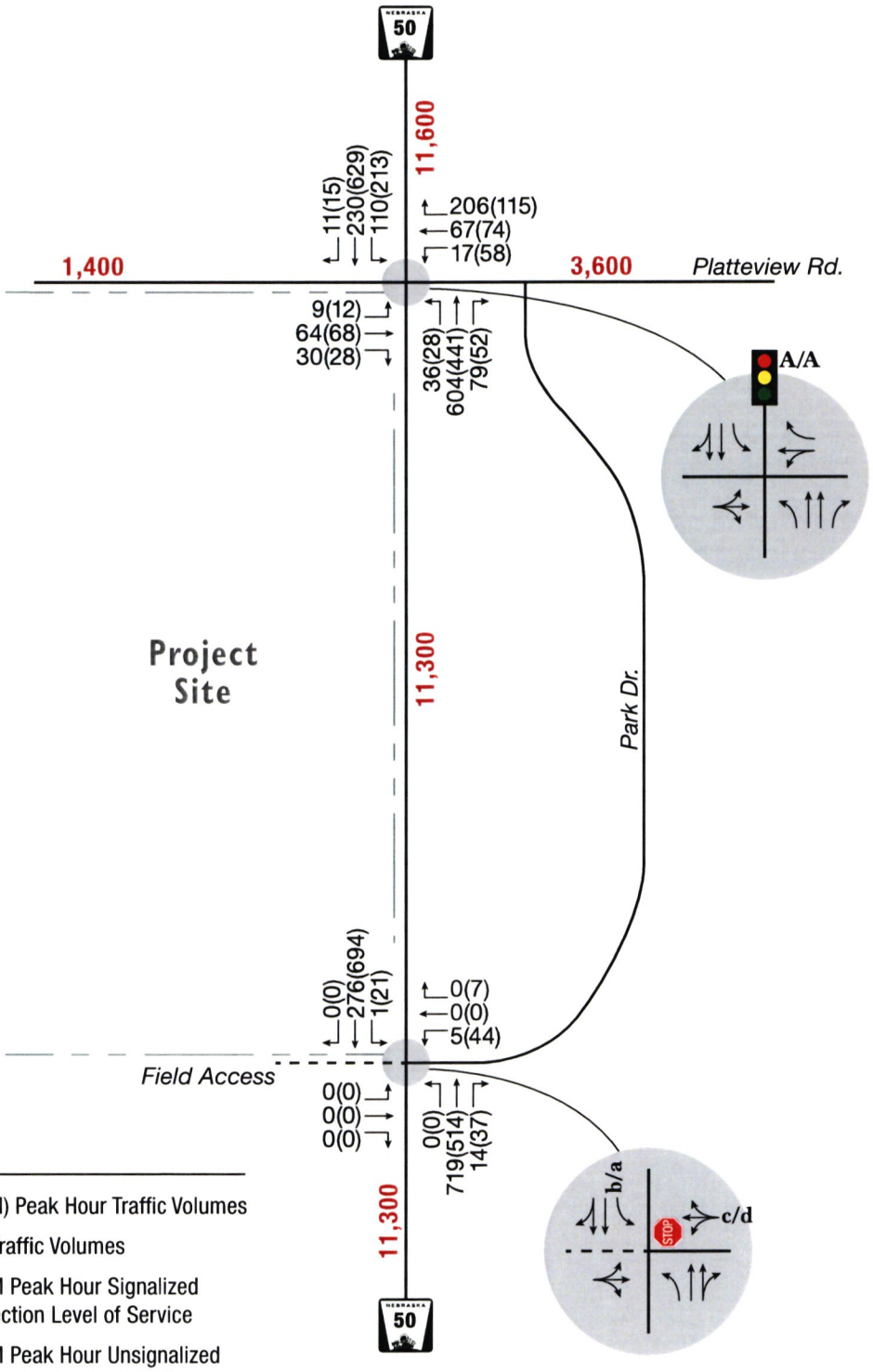
Level of Service	Average Control Delay per Vehicle (sec/veh)	
	Signalized Intersections	Stop Sign Controlled Intersections
A	≤ 10	≤ 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80	> 50
HCM 6th Edition, Exhibit 19-8 & Exhibit 20-2		

Synchro traffic analysis software was utilized to evaluate traffic operations at the study intersections for Existing (2020) traffic conditions. All unsignalized intersection movements are anticipated to perform at LOS D or better for AM and PM peak hour periods. The signalized intersection of N-50 with Platteview Road operates at LOS A during both peak periods.

Figure 3 shows the lane geometry, traffic control, and levels of service results for the Existing (2020) traffic operations analysis. Capacity analysis worksheets are included in the **Appendix**.

E. Pedestrian Facilities

Within the vicinity area, the MoPac Trail exists to the east of the proposed development and runs north-south along the east side of N-50 through Springfield, NE. The trail crosses the Platte River to the south continuing to Lincoln, NE. The trail runs northward, ending at Schram Road. Future trail plans will eventually connect the MoPac Trail with the greater Omaha trail system. No sidewalks exist along N-50 in the study area. There is a sidewalk present along the west side of Park Drive, however, it does not extend to N-50 or Platteview Road.



LEGEND

XXX(XXX)	=	AM(PM) Peak Hour Traffic Volumes
XXXX	=	Daily Traffic Volumes
X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
STOP	=	Stop Sign
	=	Traffic Signal

NORTH

FELSBURG HOLT & ULLEVIG

NOTE: Drawing Not to Scale

FIGURE 3
Existing (2020) Traffic Conditions

Springfield Commerce 20-100-09 11/18/20

III. TRAVEL DEMAND & FUTURE GROWTH

A. Site Trip Generation

Land uses were assumed and exact building square footages for the retail/commercial lots (Lots 2 and 3) were developed using a floor to area ratio (FAR) of 0.22 to determine building sizes. Land uses for these lots were assumed based on engineering judgement. For the light industrial lots (Lots 1, 4, 5, and 6) a FAR of 0.50 was assumed. The Industrial Park and Warehousing land uses were assumed for these lots.

Trip generation average rates from the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, Tenth Edition, 2017*, were utilized to estimate the traffic generated by the site. Anticipated site uses were analyzed from the provided site plans using the appropriate land use types from the *Trip Generation Manual*. Trips were generated separately for Phase 1 (2022) and Phase 2 (2025).

Due to the nature of business anticipated for this development truck traffic generated by light industrial land uses of the site were developed separately from car traffic. **Table 2** and **Table 3** summarize the estimated vehicle-trips that would be generated by Phase 1 (2022) of the Total Site Generated Trips and Truck Site Generated Trips, respectively, by each land use type anticipated to be a part of the proposed development. **Table 4** and **Table 5** summarize the estimated vehicle-trips that would be generated apart of Phase 2 (2025) for the Total Site Generated Trips and Truck Site Generated Trips, respectively.

Table 2. Phase 1 (2022) Total Site Trips Generated

Lot #	ITE Code	Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	130	Industrial Park (Cars)	183.0	KSF	512	56	10	66	12	54	66
	130	Industrial Park (Trks)	183.0	KSF	106	3	4	7	3	4	7
2	820	Shopping Center	38.0	KSF	1,435	22	14	36	70	75	145
	840	Automobile Sales (New)	36.0	KSF	1,000	49	18	67	35	52	87
3	960	Super Conv. Market w Gas Pumps (Cars)	16.0	VFP	3,690	225	225	449	184	184	368
	960	Super Conv. Market w Gas Pumps (Trks)	5.5	KSF	39	2	2	4	1	1	2
4	150	Warehousing (Cars)	260.0	KSF	295	31	8	39	9	32	41
	150	Warehousing (Trks)	260.0	KSF	157	3	2	5	4	4	8
Phase 1 (2022) Vehicle Trips					**7,234**	**391**	**283**	**673**	**318**	**406**	**724**

***Average Rates Utilized* *KSF=1,000 Square Feet*

Table 3. Phase 1 (2022) Truck Site Trips Generated

Lot #	ITE Code	Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	130	Industrial Park	183.0	KSF	106	3	4	7	3	4	7
3	960	Super Conv. Market w Gas Pumps	5.5	KSF	39	2	2	4	1	1	2
4	150	Warehousing	260.0	KSF	157	3	2	5	4	4	8
Phase 1 (2022) Truck Trips					**302**	**8**	**8**	**16**	**8**	**9**	**17**

***Average Rates Utilized KSF=1,000 Square Feet*

Table 4. Phase 2 (2025) Total Site Trips Generated

Lot #	ITE Code	Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
5	150	Warehousing (Cars)	365.0	KSF	416	44	11	55	13	45	58
5	150	Warehousing (Trks)	365.0	KSF	221	4	3	7	6	5	11
6	130	Industrial Park (Cars)	250.0	KSF	700	76	13	90	17	73	90
6	130	Industrial Park (Trks)	250.0	KSF	144	5	6	10	4	6	10
Phase 2 (2025) Vehicle Trips					**1,481**	**129**	**33**	**162**	**40**	**129**	**169**

***Average Rates Utilized KSF=1,000 Square Feet*

Table 5. Phase 2 (2025) Truck Site Trips Generated

Lot #	ITE Code	Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
5	150	Warehousing	365.0	KSF	221	4	3	7	6	5	11
6	130	Industrial Park	250.0	KSF	144	5	6	10	4	6	10
Phase 2 (2025) Truck Trips					**365**	**9**	**9**	**17**	**10**	**11**	**21**

***Average Rates Utilized KSF=1,000 Square Feet*

Table 6 display the anticipated total trips generated by the full buildout of the site in 2025. Upon completion of both phases, buildout of the development is anticipated to generate approximately 8,715 daily weekday vehicle-trips, with 835 trips during the AM peak hour and 893 trips during the PM peak hour.

Table 6. Total Site Trips Generated

Phase	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Phase 1 (Lots 1, 2, 3, 4) Total	7,234	391	283	673	318	406	724
Phase 2 (Lots 5, 6) Total	1,481	129	33	162	40	129	169
Total Trips Generated	**8,715**	**520**	**316**	**835**	**358**	**535**	**893**

***Average Rates Utilized KSF=1,000 Square Feet*

B. Traffic Distribution

The estimated distribution of site generated trips within the roadway network was based upon existing traffic patterns, location of the site in relationship to the interstate and other communities, and projected growth in the project area. Distribution percentages used to assign site generated vehicle-trips to the adjacent roadway network were developed for Car and Truck traffic separately, as shown below:

Car Traffic Distribution:

- **55%** to/from the north via N-50
- **5%** to/from the east via Platteview Road
- **25%** to/from the south via N-50
- **15%** to the west via Platteview Road

Truck Traffic Distribution:

- **45%** to/from the north via N-50
- **0%** to/from the east via Platteview Road
- **25%** to/from the south via N-50
- **30%** to the west via Platteview Road

The distribution percentages were used to assign site generated vehicle-trips from the preceding tables. It was assumed that truck traffic would exclusively use the north access to the site via 147th Street onto Platteview Road. Car traffic would use both access points.

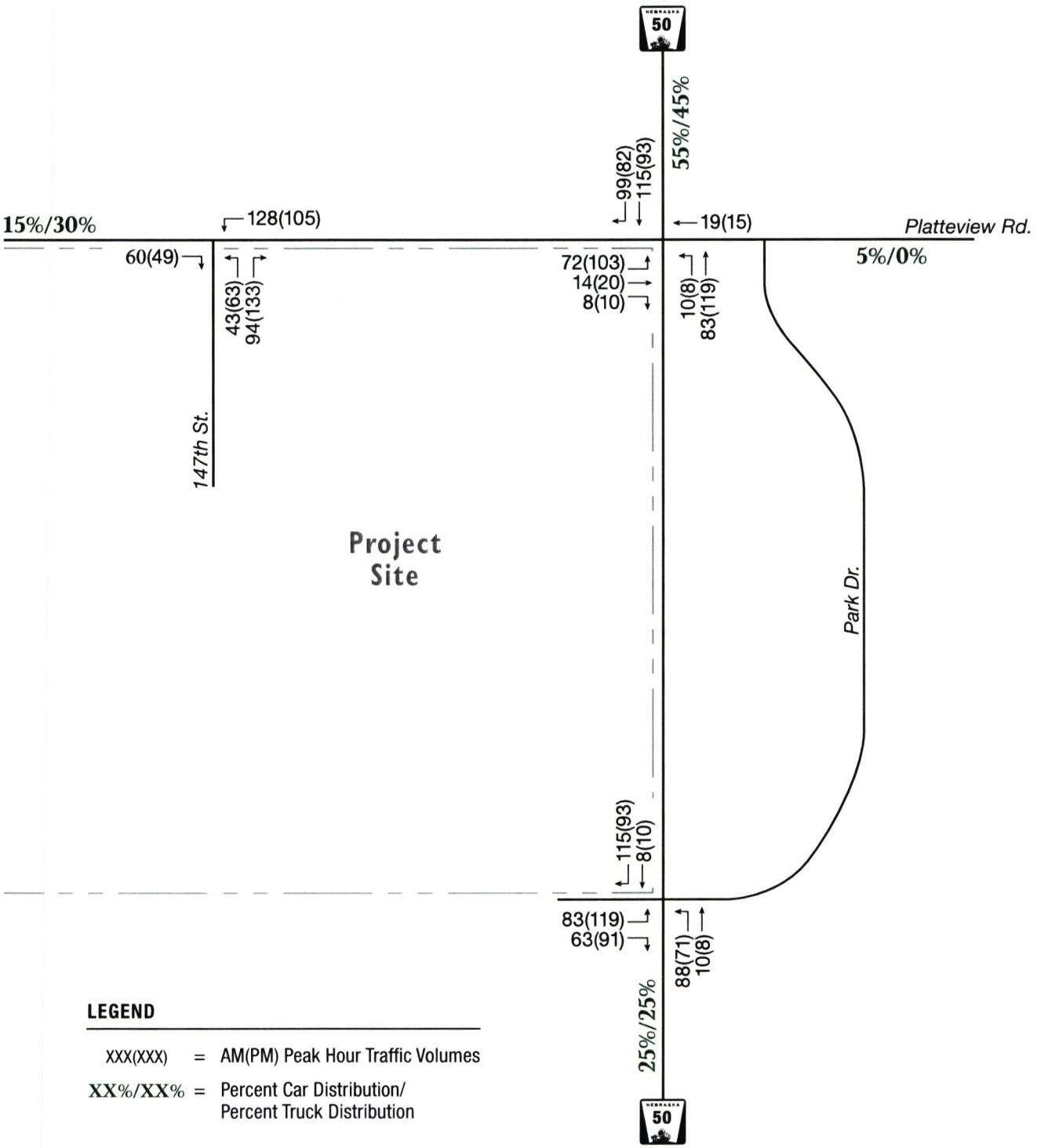
Figure 4 shows the distribution percentages and the anticipated site generated traffic volumes upon Phase 1 (2022) distributed within the roadway network. **Figure 5** shows the distribution percentages and the total anticipated site generated traffic volumes upon full buildout, encompassing Phase 1 (2022) and Phase 2 (2025), distributed within the roadway network. A truck traffic only distribution model is included in the **Appendix**.

C. Background Growth

Historical average daily traffic (ADT) volumes, provided by NDOT, were used to create a straight-line projection for traffic growth in the study area. The historical ADT's showed traffic volumes increasing between 3%-7% on various roadway sections, with an average rate of 4% per year for the overall project area. NCHRP 255 methodology was used to grow the background traffic volumes for Phase 1 (2022), Phase 2 (2025), and Future (2040) analysis scenarios. A complete forecast model is provided in the **Appendix**.

D. Other Area Projects & Studies

NDOT has recently studied the intersection of N-50 with Platteview Road and a temporary signal was installed. It was assumed for the purposes of this study that it would remain signalized. A permanent traffic signal is planned for the intersection as well as providing exclusive left-turn lanes on Platteview Road. Additionally, a recent corridor study of Platteview Road was completed and reviewed as part of this study. Based on the study review and the proposed future alignment of Platteview Road around Springfield, it was also assumed that Platteview Road will remain a two-lane roadway for all future year analysis scenarios.



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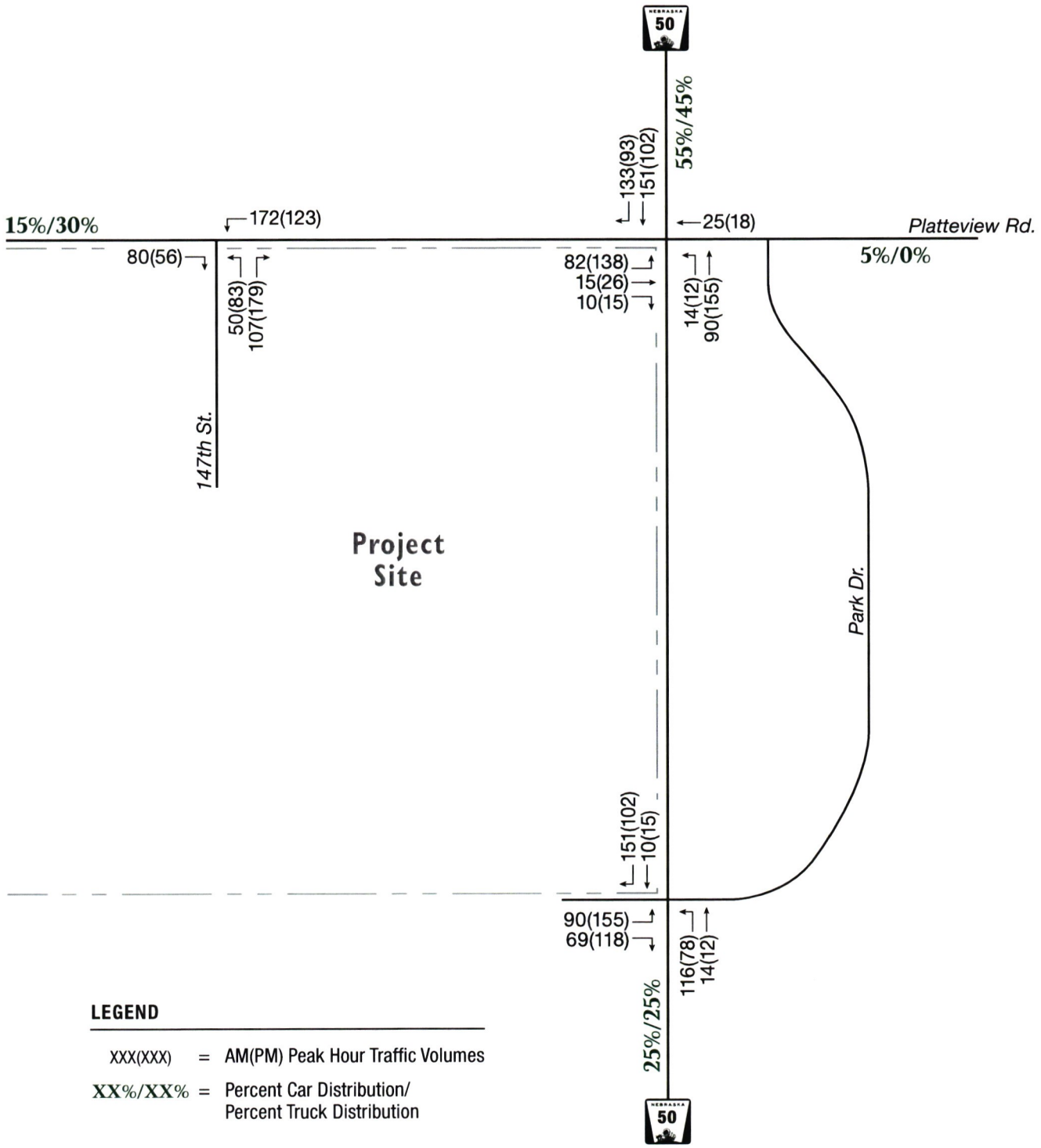
NOTE: Drawing Not to Scale

FIGURE 4

Phase 1 (2022) Trip Generation and Traffic Distribution

Springfield Commerce 20-100-09 11/12/20



NORTH

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NOTE: Drawing Not to Scale

FIGURE 5

Total Trip Generation and Traffic Distribution

Springfield Commerce 20-100-09 11/12/20

IV. TRAFFIC CONDITIONS & OPERATIONAL ANALYSIS

A. *Volume Development*

Traffic volumes for Phase 1 (2022), Phase 2 (2025), and Future (2040) traffic conditions are shown on **Figure 6**, **Figure 7**, and **Figure 8**, respectively. These volumes represent the Existing (2020) volumes shown on **Figure 3**, grown by methodology outlined in *National Cooperative Highway Research Program (NCHRP) Report 255*, and added with the trip generated traffic shown on either **Figure 4** and **Figure 5**. Phase 2 (2025) and Future (2040) traffic conditions assumed full buildout of the site and therefore used the total trips generated from **Figure 5**.

B. *Signal Warrant Analysis*

A review was performed to determine if *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, 2009 Edition* traffic signal Warrant 1 (Eight-Hour Vehicular Volume) and/or Warrant 2 (Four-Hour Vehicular Volume) are satisfied for two-way stop controlled study intersection(s) under Phase 1 (2022), Phase 2 (2025), and Future (2040) traffic conditions. Rural site conditions and two-lanes moving vehicles in both directions were assumed at both intersections for each analysis scenario. Right-turn reductions were examined at both locations and it was found that signal warrant outcomes were unaffected by any amount of reduction. **Table 7** summarizes the results of the analysis and graphical results of the MUTCD Warrant Analysis are included in the **Appendix**.

Table 7. MUTCD Signal Warrants

Intersection	Existing Traffic Control	Phase 1 (2022) Signal Warrant	Phase 2 (2025) Signal Warrant	Future (2040) Signal Warrant
N-50 & Park Drive	Unsignalized	Warranted	Warranted	Warranted
Platteview Road & 147th Street	Unsignalized	Not Warranted	Not Warranted	Not Warranted

With future signalization at the intersection of N-50 with Park Drive anticipated, it is recommended that a two-lane eastbound approach be provided. The configuration shall be a left-turn lane and shared through-right lane.

C. *Auxiliary Right-Turn Lane Analysis*

The NCHRP has developed guidance to determine if an auxiliary right-turn is warranted on the major road of a two-way stop-controlled intersection. These guidelines are published in *NCHRP Report 457: Evaluating Intersection Improvements*. The methodologies are based on an evaluation of the operating and collision costs associated with the turning maneuver relative to the cost of constructing a turn lane. In addition, for right-turn lanes, *NCHRP Report 457* guidelines are based upon the following measures:

- Major road 85th percentile speed (posted speed can be used if data is unavailable)
- Major road peak hour approaching traffic volumes
- Right-turn traffic volumes

The AM and PM peak hour volumes for Phase 1 (2022), Phase 2 (2025), and Future (2040) traffic conditions were examined at the stop-controlled intersection(s) within the study area. **Table 8** summarizes the results of the analysis and graphical results of the analysis are included in the **Appendix**.

Table 8. NCHRP Auxiliary Right-Turn Lane Warrants

Intersection	Approach Direction	Existing Turn Lane (ft)	Phase 1 (2022) Lane Warrant	Phase 2 (2025) Lane Warrant	Future (2040) Lane Warrant
Platteview Road & 147th Street	Eastbound	-	Warranted	Warranted	Warranted

For the design of right-turn lanes along Platteview Road, deceleration lengths are based on Table 3-1 of the *A Policy on Geometric Design of Highways and Streets (Green Book)*, AASHTO, 7th Edition, 2018 for the posted speed assuming a 10 mph reduction in speed prior to entering the turn lane.

For the design of a right-turn lane on Platteview Road with a design speed of 45 mph (posted speed limit of 55 mph minus 10 mph), the right-turn lane(s) should provide a total length of 540 feet, including a 15:1 taper (180 feet) and 360 feet of deceleration length. The deceleration length includes vehicle storage.

D. Auxiliary Left-Turn Lane Analysis

NCHRP Report 457 also provides guidance for determining if an auxiliary left-turn is warranted on the major road of a two-way stop-controlled intersection. For left-turn lanes, *NCHRP Report 457* guidelines are based upon the following measures:

- Major road 85th percentile speed (posted speed can be used if data is unavailable)
- Percent of left-turns in advancing volume
- Major road peak hour advancing and opposing traffic volumes

The AM and PM peak hour volumes for Phase 1 (2022), Phase 2 (2025), and Future (2040) traffic conditions were examined at the stop-controlled intersection(s) within the study area. **Table 9** summarizes the results of the analysis and graphical results of the NCHRP Auxiliary Left-turn Analysis are included in the **Appendix**.

Table 9. NCHRP Auxiliary Left-Turn Lane Warrants

Intersection	Approach Direction	Existing Turn Lane (ft)	Phase 1 (2022) Lane Warrant	Phase 2 (2025) Lane Warrant	Future (2040) Lane Warrant
Platteview Road & 147th Street	West-bound	-	Warranted	Warranted	Warranted

For the design of a left-turn lane on Platteview Road with a design speed of 45 mph (posted speed limit of 55 mph minus 10 mph), the right-turn lane(s) should provide a total length of 540 feet, including a 15:1 taper (180 feet) and 360 feet of deceleration length. The deceleration length includes vehicle storage.

E. Minor Road Approach Analysis

NCHRP Report 457 also provides guidance on when an additional approach lane on the minor leg of a two-way stop-controlled intersection. It is based on the need to provide the side street with an acceptable level of service. To determine the approach geometry, *NCHRP Report 457* guidelines are based upon the following measures:

- Major road peak hour traffic volumes (total of both directions)
- Minor road peak hour approaching traffic volumes
- Minor road right-turn traffic volumes
- Percentage of minor road right-turns

The AM and PM peak hour volumes for Phase 1 (2022), Phase 2 (2025), and Future (2040) traffic conditions were examined at the stop-controlled intersection(s) within the study area. **Table 10** summarizes the results of the analysis and graphical results of the NCHRP Auxiliary Minor Road Approach Analysis are included in the **Appendix**.

Table 10. NCHRP Minor Approach Warrants

Intersection	Approach Direction	Existing # of Lanes	Phase 1 (2022) Lane Warrant	Phase 2 (2025) Lane Warrant	Future (2040) Lane Warrant
Platteview Road & 147th Street	North-bound	-	Two-lanes Warranted	Two-lanes Warranted	Two-lanes Warranted

It is recommended that exclusive left and right-turn lanes be provided on the northbound approach by Phase 1 (2022). For the northbound right-turn lane, 150 feet of vehicle storage is recommended. The left-turn lane will be a capture lane.

F. Traffic Operations

At the signalized intersection of N-50 with Platteview Road, NDOT pavement marking plans provided to FHU depict left-turn lanes at the eastbound and westbound approaches. It was assumed for the purposes of this analysis that the turn lanes would be in place by Phase 1 (2022) traffic conditions. The NDOT plans are included in the **Appendix**.

Additionally, it is recommended at the intersection of N-50 with Platteview Road that a westbound right-turn lane be installed by Future (2040) traffic conditions due to operational concerns. It is estimated that approximately 290 vehicles will be making the westbound right-turn movement during the AM peak hour. At the intersection of N-50 with Park Drive, due to operational concerns and anticipated signalization, it is recommended that an eastbound left-turn lane be installed at the intersection N-50 with Park Drive upon Phase 1 (2022) of the development.

All signalized intersection(s) are anticipated to perform at LOS C or better during AM and PM peak hour periods for Phase 1 (2022), Phase 2 (2025), and Future (2040) traffic conditions. All unsignalized intersection movements are anticipated to perform at LOS D or better for AM and PM peak hour periods. Although, it is not uncommon for side-street traffic movements to operate at LOS E or F during peak hour traffic conditions. **Figure 6**, **Figure 7**, and **Figure 8** show the lane geometry, traffic control, and levels of service results of the traffic operations analysis. Capacity analysis worksheets are included in the **Appendix**.

G. Storage Length & Queueing Analysis

The 95th percentile queue lengths were reviewed at the signalized intersection(s) for Phase 2 (2025) and Future (2040) traffic conditions. **Table 11** summarizes the findings for the intersection(s) within the study area. The existing turn bay lengths are listed, unless the lane does not exist, as well as the 95th queue length for the AM and PM peak hours.

Table 11. Turn Lane Storage & 95th Percentile Queue Lengths

Location	Critical Movements	Existing Turn Lane Storage Length (ft)	95% Queue Length (ft)	
			Phase 2 (2025) (AM/PM Peak)	Future (2040) (AM/PM Peak)
N-50 & Park Drive	EB Left	-	53 / 96	57 / 88
	EB Thru/Right	-	23 / 41	25 / 57
	NB Left-turn	100	59 / 51	58 / 93
	NB Thru/Right	Continuous	170 / 93	276 / 127
	WB Left/Thru/Right	Continuous	16 / 41	32 / 48
	SB Left-turn	110	6 / 14	6 / 23
	SB Thru/Right	Continuous	61 / 153	87 / 251
N-50 & Platteview Road	EB Left-turn	-	100 / 141	112 / 234
	EB Thru/Right	Continuous	73 / 86	209 / 216
	NB Left-turn	100	32 / 32	#104 / #114
	NB Through	Continuous	133 / 92	402 / 144
	NB Right-turn	140	16 / 12	12 / 11
	WB Left-turn	-	19 / 43	43 / 79
	WB Thru/Right*	Continuous	148 / 105	170 / 183
	WB Right*	-	81 / 187	181 / 54
	SB Left-turn	160	74 / 146	146 / #369
	SB Thru/Right	Continuous	53 / 96	133 / 296

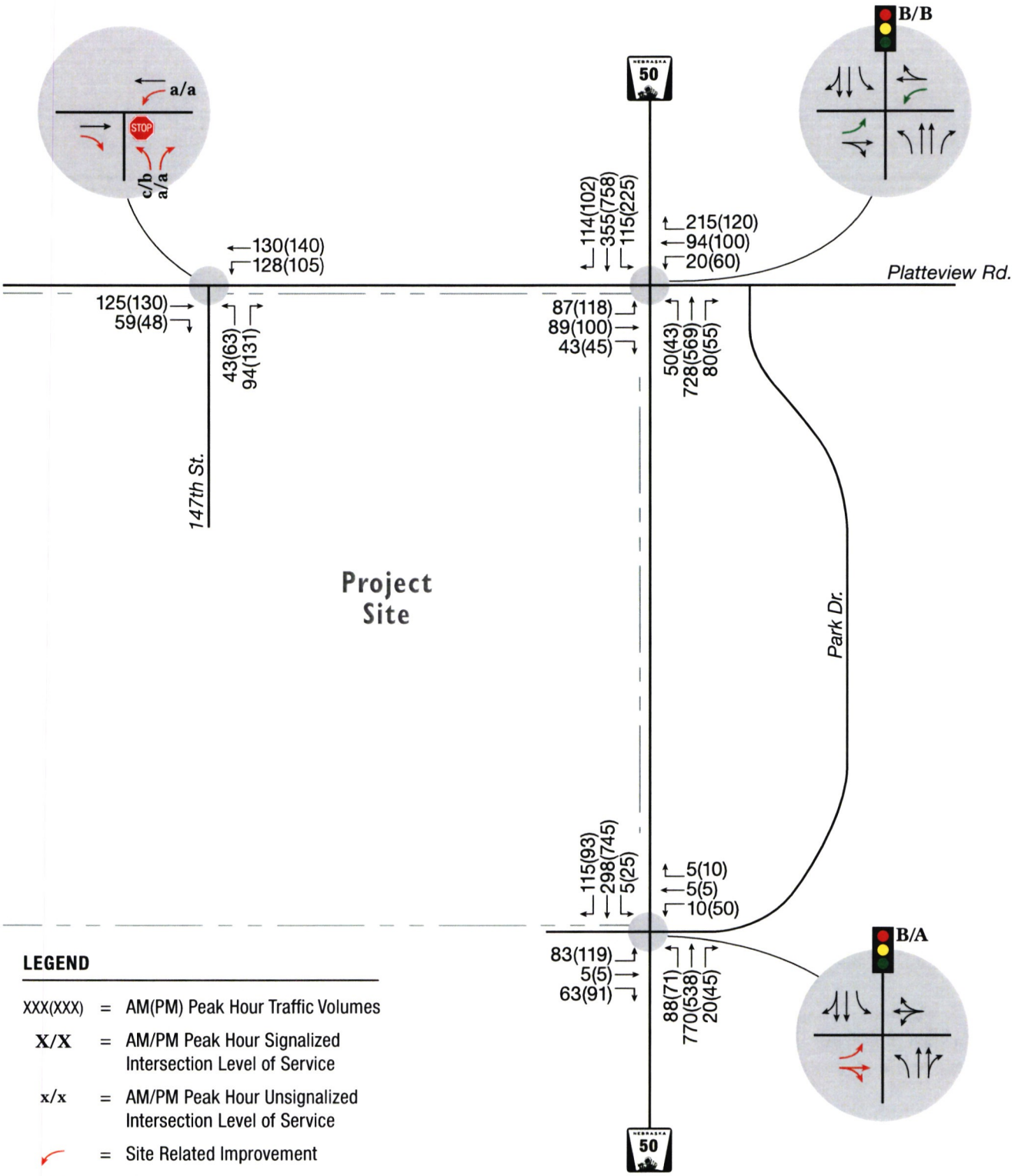
*# - 95th percentile volume exceeds capacity, queues may be longer *WB Right turn-lane is recommended for Future (2040)*

Based on the queueing analysis at the intersection of N-50 with Platteview Road, southbound and northbound left-turning queues exceed the existing turn lane storage length. Based on Future (2040) traffic conditions, it is recommended that the southbound left-turn lane be extended to provide 380 feet of vehicle storage. The northbound left-turn lane should be extended to provide a minimum of 150 feet of vehicle storage. The southbound left-turn lane extension is a non-site related improvement.

Upon initial buildout at the intersection of N-50 with Platteview Road eastbound and westbound left-turn lanes are recommended and currently in the design stage by NDOT. 95th percentile queue lengths listed in **Table 11** should be taken into consideration. The eastbound left-turn lane should be built with at least 240 feet of vehicle storage and the westbound left-turn lane should be built with at least 80 feet of vehicle storage to accommodate for Future (2040) traffic conditions.

At the intersection of N-50 with Platteview Road, it is recommended a westbound right-turn lane be installed by Future (2040) traffic conditions. When built, the right-turn lane should have at least 180 feet of vehicle storage.

At the intersection of N-50 with Park Drive, it is recommended the eastbound left-turn lane be built with at least 100 feet of vehicle storage.



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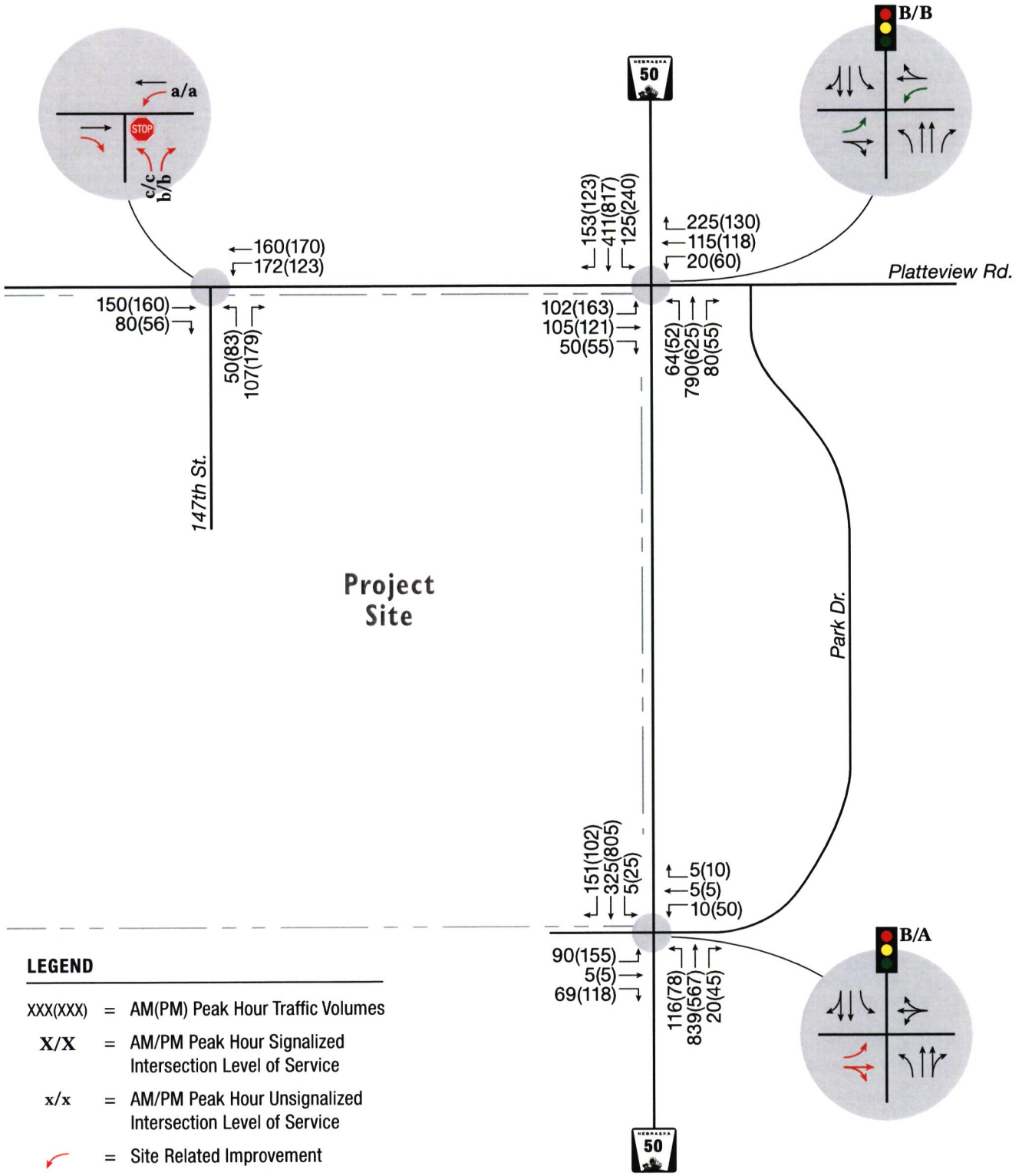
NOTE: Drawing Not to Scale

FIGURE 6

Phase I (2022) Traffic Conditions

Springfield Commerce 20-100-09 11/12/20



LEGEND

XXX(XXX)	=	AM(PM) Peak Hour Traffic Volumes
X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
	=	Site Related Improvement
	=	Improvement by Others
STOP	=	Stop Sign
	=	Traffic Signal

NORTH

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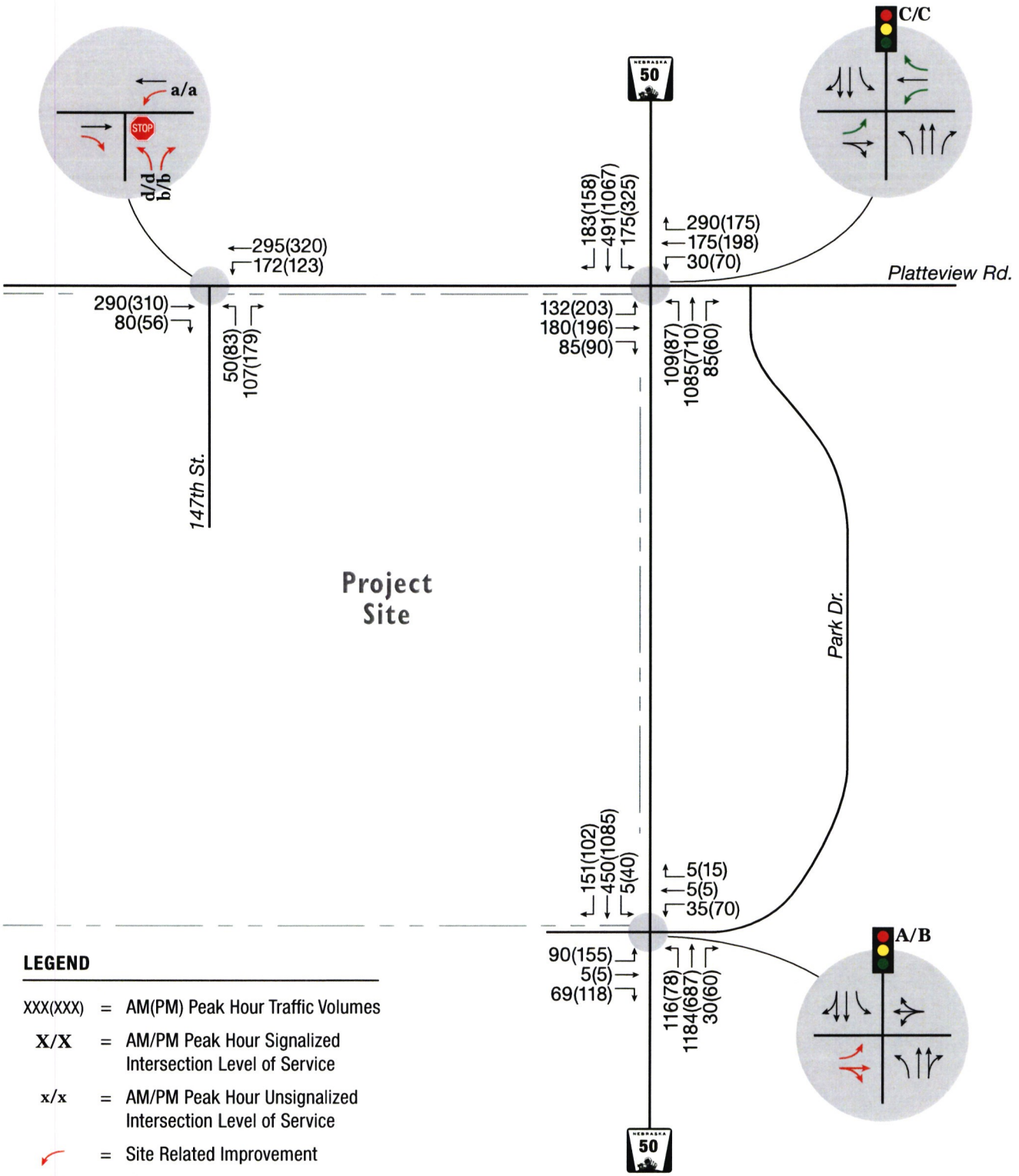
NOTE: Drawing Not to Scale

FIGURE 7
Phase 2 (2025) Traffic Conditions

Springfield Commerce 20-100-09 11/12/20



LEGEND

XXX(XXX)	=	AM(PM) Peak Hour Traffic Volumes
X/X	=	AM/PM Peak Hour Signalized Intersection Level of Service
x/x	=	AM/PM Peak Hour Unsignalized Intersection Level of Service
	=	Site Related Improvement
	=	Improvement by Others
STOP	=	Stop Sign
	=	Traffic Signal

NORTH

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NOTE: Drawing Not to Scale

FIGURE 8
Future (2040) Traffic Conditions

Springfield Commerce 20-100-09 11/12/20

VI. SUMMARY AND RECOMMENDATIONS

Based on results of the analysis, the key findings and recommendations of this study are listed.

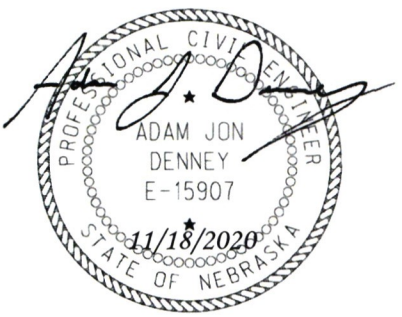
- The AM peak hour for the study area network was determined to be 7:00 AM to 8:00 AM and the PM peak hour was 4:45 PM to 5:45 PM.
- Based on the *Trip Generation Manual*, upon full buildout the proposed development is anticipated to generate approximately 6,854 daily weekday vehicle-trips, with 457 trips during the AM peak hour and 741 trips during the PM peak hour.
- Under Existing (2020) Traffic Conditions, all unsignalized movements operate at LOS D or better during peak periods. The signalized intersection of N-50 with Platteview Road operates at LOS A for both AM and PM peak hour traffic.
- Based on historical growth along N-50 and Platteview Road, it is anticipated that traffic will grow by approximately 4% per year. Existing volumes were grown by this rate with NCHRP 255 methodology to develop background traffic volumes for both future scenarios.

Under Phase 1 (2022) & Phase 2 (2025) Traffic Conditions;

- At N-50 with Platteview Road, based upon Synchro operational analysis, **it is recommended** an eastbound left-turn lane and westbound left-turn lane be installed by Phase 1 (2022). These are considered non-site related improvements and a project currently planned by NDOT. Based upon Synchro queue analysis, the eastbound left-turn lane should be built with 240 feet of vehicle storage and the westbound right-turn lane should be built with 80 feet of storage.
- At 147th Street with Platteview Road, based upon NCHRP methodology, **it is recommended** an eastbound right-turn lane, westbound left-turn lane, and a two-lane northbound approach be provided at the new intersection by completion of Phase 1 (2022).
- Based on expected truck traffic, all turn lanes on Platteview Road should provide 360 feet of vehicle storage and 180 feet of taper, for a total turn lane length of 540 feet. Due to a crest vertical curve east of the proposed intersection location, intersection sight distance should be evaluated during the design. For the south leg, **it is recommended** that exclusive left and right-turn lanes be provided. 150 feet of vehicle storage is recommended for the northbound right-turn lane. The intersection of 147th Street with Platteview Road did not satisfy MUTCD Signal Warrants.
- At N-50 with Park Drive, MUTCD Signal Warrants are met. **It is recommended** that a traffic signal be installed upon Phase 1 (2022). As development fills in on the site, the intersection should be continually monitored to determine when the traffic signal should be activated. The eastbound approach should have a left-turn lane with 100 feet of storage and a shared through-right-turn lane.
- By Phase 2 (2025) traffic conditions, all unsignalized movements are expected to operate at LOS C or better for AM and PM peak hours. All signalized intersections are expected to operate at LOS B or better for AM and PM peak hour.

Under Future (2040) Traffic Conditions:

- At N-50 with Platteview Road, based upon Synchro queue analysis, **it is recommended** the northbound and southbound left-turn lanes be extended to provide 150 and 380 feet of vehicle storage, respectively. The southbound left-turn lane is a non-site related improvement.
- Under Future (2040) Traffic Conditions, all unsignalized movements are expected to operate at LOS D or better for AM and PM peak hours. All signalized intersections are expected to operate at LOS C or better for AM and PM peak hour.



APPENDICES

TRAFFIC COUNT DATA

WARRANT ANALYSIS WORKSHEETS

NCHRP Geometric Improvement Evaluation
MUTCD Signal Warrants

CAPACITY ANALYSIS WORKSHEETS

Existing (2020)
Phase 1 (2022) & Phase 2 (2025)
Future (2040)

BACKGROUND INFORMATION

Traffic Forecast Model
Synchro Queue Analysis
Truck Traffic Distribution Model
NDOT Plans: N-50 with Platteview Road

TRAFFIC COUNT DATA

Location: Springfield Commerce (N-50 and Park Drive)
Date: 6/11/2020

Prepared By: FELSBURG HOLT & ULLEVIG

Total Vehicles

AM Peak	Eastbound			Westbound			E-W total	Hourly	Northbound			Southbound			N-S total	Hourly	Grand	Hourly
Time Period (beginning)	LT	TH	RT	LT	TH	RT		Total	LT	TH	RT	LT	TH	RT		Total	Total	Total
6:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	424	0	424
6:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	596	0	596
6:30	0	0	0	0	0	0	0	0	0	141	0	0	79	0	220	826	220	826
6:45	0	0	0	0	0	0	0	3	0	135	2	0	67	0	204	857	204	860
7:00	0	0	0	0	0	0	0	4	0	106	0	0	66	0	172	864	172	868
7:15	0	0	0	0	0	0	0	**5**	0	164	3	0	63	0	230	**884**	230	**889**
7:30	0	0	0	3	0	0	3	9	0	153	3	0	95	0	251	839	254	848
7:45	0	0	0	1	0	0	1	6	0	119	3	0	89	0	211	588	212	594
8:00	0	0	0	1	0	0	1	5	0	117	5	1	69	0	192	377	193	382
8:15	0	0	0	3	0	1	4	4	0	104	5	0	76	0	185	185	189	189
8:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
8:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
10:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
10:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
10:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
10:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
11:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
11:15	-	-	-	-	-	-	0		-	-	-	-	-	-	0		0	
11:30	-	-	-	-	-	-	0		-	-	-	-	-	-	0		0	
11:45	-	-	-	-	-	-	0		-	-	-	-	-	-	0		0	
Total	0	0	0	8	0	1	9		0	1039	21	1	604	0	1665		1674	PHF
peak (7:15 - 8:15)	**0**	**0**	**0**	**5**	**0**	**0**	**5**		**0**	**553**	**14**	**1**	**316**	**0**	**884**		**889**	**0.88**

PM Peak	Eastbound			Westbound			E-W total	Hourly	Northbound			Southbound			N-S total	Hourly	Grand	Hourly
Time Period (beginning)	LT	TH	RT	LT	TH	RT		Total	LT	TH	RT	LT	TH	RT		Total	Total	Total
12:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
12:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
12:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
12:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
13:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
13:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
13:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
13:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
14:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
14:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
14:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
14:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
15:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
15:15	-	-	-	-	-	-	0	10	-	-	-	-	-	-	0	284	0	294
15:30	-	-	-	-	-	-	0	24	-	-	-	-	-	-	0	565	0	589
15:45	-	-	-	-	-	-	0	38	-	-	-	-	-	-	0	946	0	984
16:00	0	0	0	10	0	0	10	46	0	125	6	3	150	0	284	1236	294	1282
16:15	0	0	0	12	0	2	14	49	0	116	6	4	155	0	281	1232	295	1281
16:30	0	0	0	12	0	2	14	**51**	0	165	13	6	197	0	381	**1266**	395	**1317**
16:45	0	0	0	7	0	1	8	50	0	115	7	3	165	0	290	1133	298	1183
17:00	0	0	0	10	0	3	13	53	0	113	4	8	155	0	280	1058	293	1111
17:15	0	0	0	15	0	1	16		0	121	13	4	177	0	315		331	
17:30	0	0	0	11	0	2	13		0	85	8	3	152	0	248		261	
17:45	0	0	0	10	0	1	11		0	81	3	1	130	0	215		226	
Total	0	0	0	87	0	12	99		0	921	60	32	1281	0	2294		2393	PHF
peak (16:30 - 17:30)	**0**	**0**	**0**	**44**	**0**	**7**	**51**		**0**	**514**	**37**	**21**	**694**	**0**	**1266**		**1317**	**0.83**

Location: Springfield Commerce (N-50 and Platteview Road)
Date: 11/27/2018

Prepared By: FELSBURG HOLT & ULLEVIG

Total Vehicles

AM Peak	Eastbound			Westbound			E-W total	Hourly	Northbound			Southbound			N-S total	Hourly	Grand	Hourly
Time Period (beginning)	LT	TH	RT	LT	TH	RT		Total	LT	TH	RT	LT	TH	RT		Total	Total	Total
6:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
6:15	-	-	-	-	-	-	0	72	-	-	-	-	-	-	0	226	0	298
6:30	-	-	-	-	-	-	0	178	-	-	-	-	-	-	0	483	0	661
6:45	-	-	-	-	-	-	0	288	-	-	-	-	-	-	0	762	0	1050
7:00	2	11	5	1	14	39	72	370	5	148	17	10	45	1	226	1033	298	1403
7:15	0	10	7	3	20	66	106	**382**	7	167	15	27	39	2	257	**1024**	363	**1406**
7:30	2	20	8	3	21	56	110	331	6	174	19	23	57	0	279	942	389	1273
7:45	1	22	6	1	13	39	82	266	12	137	32	24	59	7	271	841	353	1107
8:00	2	10	9	7	11	45	84	229	10	125	13	19	48	2	217	736	301	965
8:15	3	10	7	0	5	30	55	145	5	103	10	12	44	1	175	519	230	664
8:30	0	11	1	0	15	18	45	90	7	96	10	20	44	1	178	344	223	434
8:45	1	9	1	5	6	23	45	45	7	69	8	20	62	0	166	166	211	211
9:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
9:45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
10:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
10:15	-	-	-	-	-	-	0	46	-	-	-	-	-	-	0	127	0	173
10:30	-	-	-	-	-	-	0	78	-	-	-	-	-	-	0	268	0	346
10:45	-	-	-	-	-	-	0	121	-	-	-	-	-	-	0	428	0	549
11:00	1	11	6	2	7	19	46	163	1	58	7	12	48	1	127	566	173	729
11:15	2	7	1	5	5	12	32		3	70	12	15	41	0	141		173	
11:30	1	5	3	4	9	21	43		2	72	12	22	51	1	160		203	
11:45	3	5	6	5	4	19	42		4	54	8	17	53	2	138		180	
Total	18	131	60	36	130	387	762		69	1273	163	221	591	18	2335		3097	**PHF**
peak (7:15 - 8:15)	**5**	**62**	**30**	**14**	**65**	**206**	**382**		**35**	**603**	**79**	**93**	**203**	**11**	**1024**		**1406**	**0.90**

PM Peak	Eastbound			Westbound			E-W total	Hourly	Northbound			Southbound			N-S total	Hourly	Grand	Hourly
Time Period (beginning)	LT	TH	RT	LT	TH	RT		Total	LT	TH	RT	LT	TH	RT		Total	Total	Total
12:00	2	7	6	5	6	27	53	194	5	63	13	25	49	3	158	651	211	845
12:15	5	12	3	4	5	20	49	214	2	65	9	31	58	3	168	625	217	839
12:30	1	9	2	7	4	21	44	237	5	71	8	22	57	1	164	599	208	836
12:45	2	2	3	6	11	24	48	244	5	76	6	18	53	3	161	563	209	807
13:00	4	10	7	4	17	31	73	276	5	46	4	18	57	2	132	522	205	798
13:15	5	12	4	8	9	34	72	203	3	64	12	10	51	2	142	390	214	593
13:30	2	6	3	3	8	29	51	131	2	61	8	19	36	2	128	248	179	379
13:45	7	12	2	6	14	39	80	80	3	63	7	11	36	0	120	120	200	200
14:00	-	-	-	-	-	-	0	0	-	-	-	-	-	-	0	0	0	0
14:15	-	-	-	-	-	-	0	46	-	-	-	-	-	-	0	166	0	212
14:30	-	-	-	-	-	-	0	99	-	-	-	-	-	-	0	396	0	495
14:45	-	-	-	-	-	-	0	186	-	-	-	-	-	-	0	631	0	817
15:00	1	5	4	10	3	23	46	272	5	38	6	22	94	1	166	883	212	1155
15:15	2	15	4	9	7	16	53	295	4	60	7	45	109	5	230	959	283	1254
15:30	1	13	1	18	12	42	87	296	4	65	7	43	108	8	235	1036	322	1332
15:45	0	13	8	7	24	34	86	279	3	74	8	34	130	3	252	1103	338	1382
16:00	2	9	7	6	19	26	69	267	9	70	7	30	120	6	242	1155	311	1422
16:15	0	13	9	6	9	17	54	274	6	87	13	36	164	1	307	1186	361	1460
16:30	0	8	4	12	18	28	70	**295**	6	90	14	49	140	3	302	**1219**	372	**1514**
16:45	2	12	9	8	16	27	74	294	6	85	7	50	154	2	304	1171	378	1465
17:00	1	22	7	3	11	32	76	269	10	70	16	44	131	2	273	1104	349	1373
17:15	1	17	8	3	18	28	75		6	93	14	66	156	5	340		415	
17:30	2	15	6	12	11	23	69		7	55	11	53	126	2	254		323	
17:45	1	11	6	5	8	18	49		4	44	15	35	137	2	237		286	
Total	41	223	103	142	230	539	1278		100	1340	192	661	1966	56	4315		5593	**PHF**
peak (16:30 - 17:30)	**4**	**59**	**28**	**26**	**63**	**115**	**295**		**28**	**338**	**51**	**209**	**581**	**12**	**1219**		**1514**	**0.91**

WARRANT ANALYSIS WORKSHEETS

NCHRP Geometric Improvement Evaluation

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	442
Percentage of right-turns on minor road, %:	69%
Minor-road volume (one direction), veh/h:	137

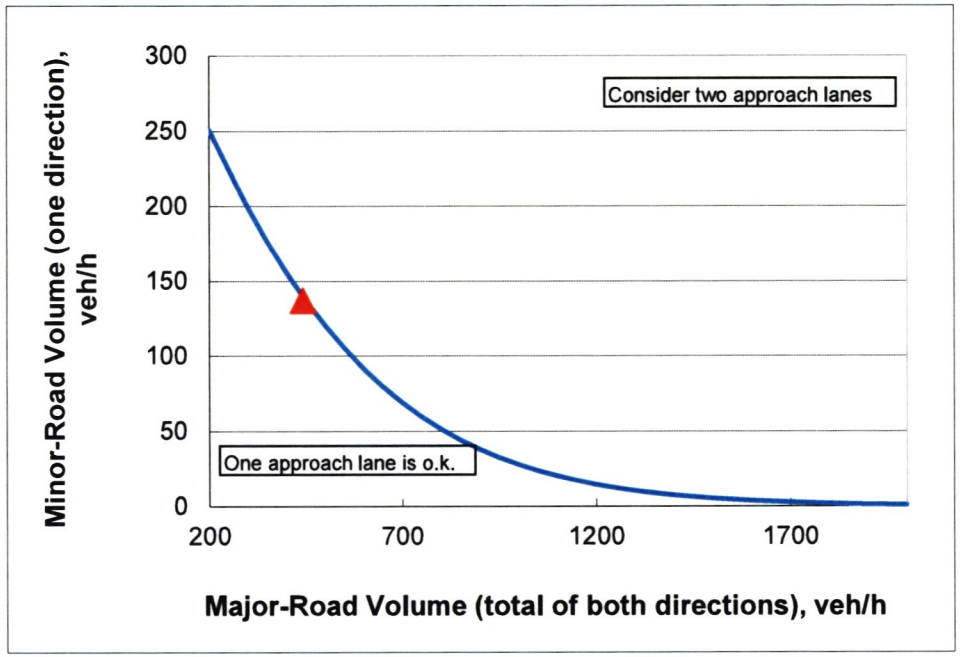
OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	139
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	10	5
Left-turn and through capacity, veh/h:	15	8.0

* according to Table 17 - 5 of the HCM



147th St & Platteview Rd	Intersection #: 3
Scenario:	**Phase 1 (2022)**
Time Period:	**AM**
Minor Road:	**147th St**
Direction:	**Northbound**
NCHRP Analysis:	**Minor-road Approach**

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway

INPUT

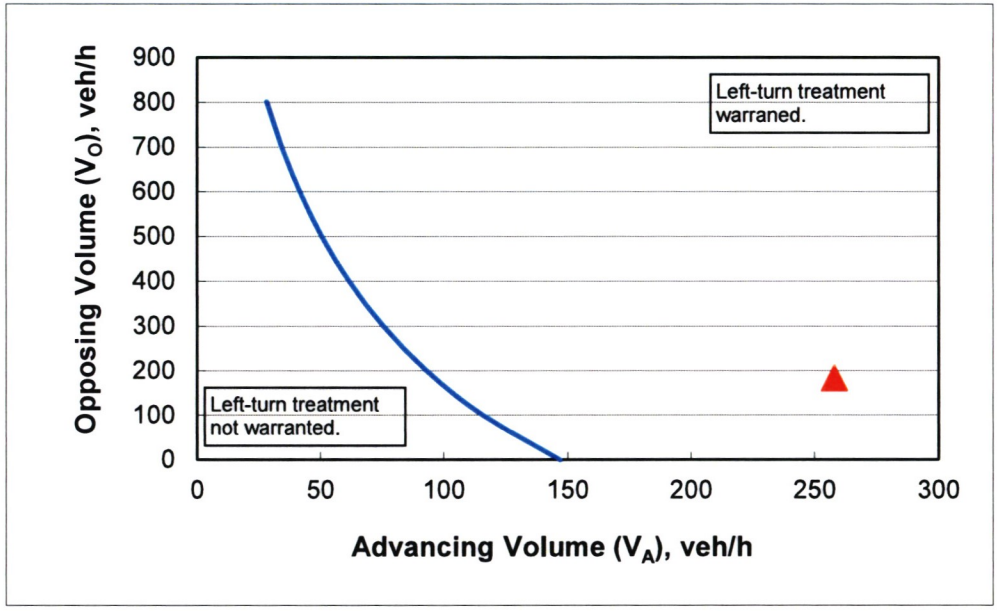
Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	50%
Advancing volume (V_A), veh/h:	258
Opposing volume (V_O), veh/h:	184

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	96
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	5.0
Critical headway, s:	10.0
Average time left-turn vehicle to clear advancing lane, s:	4.0



147th St & Platteview Rd Intersection #: **3**

Scenario: **Phase 1 (2022)**
Time Period: **AM**
Major Road: **Platteview Rd**
Direction: **Westbound**
NCHRP Analysis: **Major-road Left-turn Lane**

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	184
Right-turn volume, veh/h:	59

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	34
Guidance for determining the need for a major-road right-turn bay for a :	
Add right-turn bay.	

147th St & Platteview Rd Intersection #: **3**

Scenario: **Phase 1 (2022)**
Time Period: **AM**
Major Road: **Platteview Rd**
Direction: **Eastbound**
NCHRP Analysis: **Major-road Right-turn Lane**

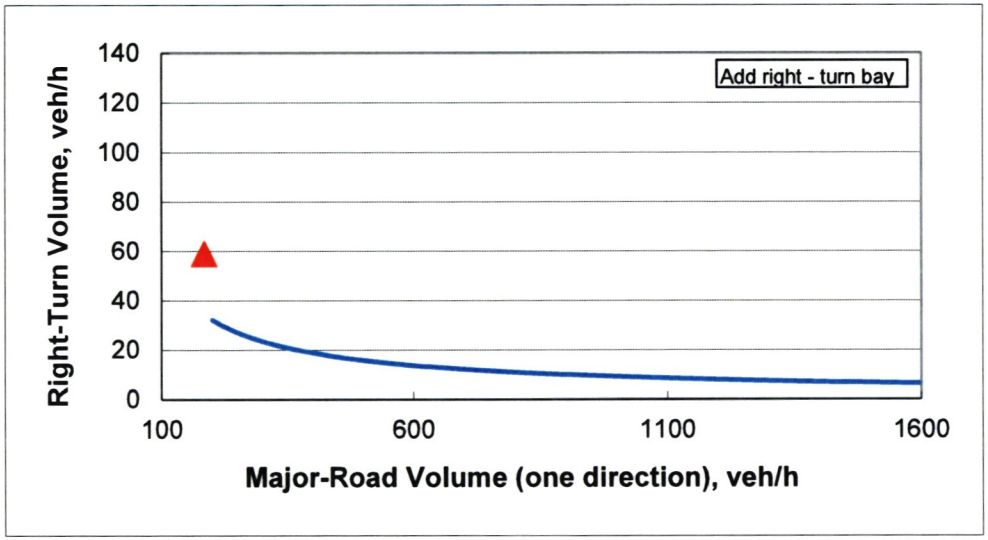


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	422
Percentage of right-turns on minor road, %:	68%
Minor-road volume (one direction), veh/h:	192

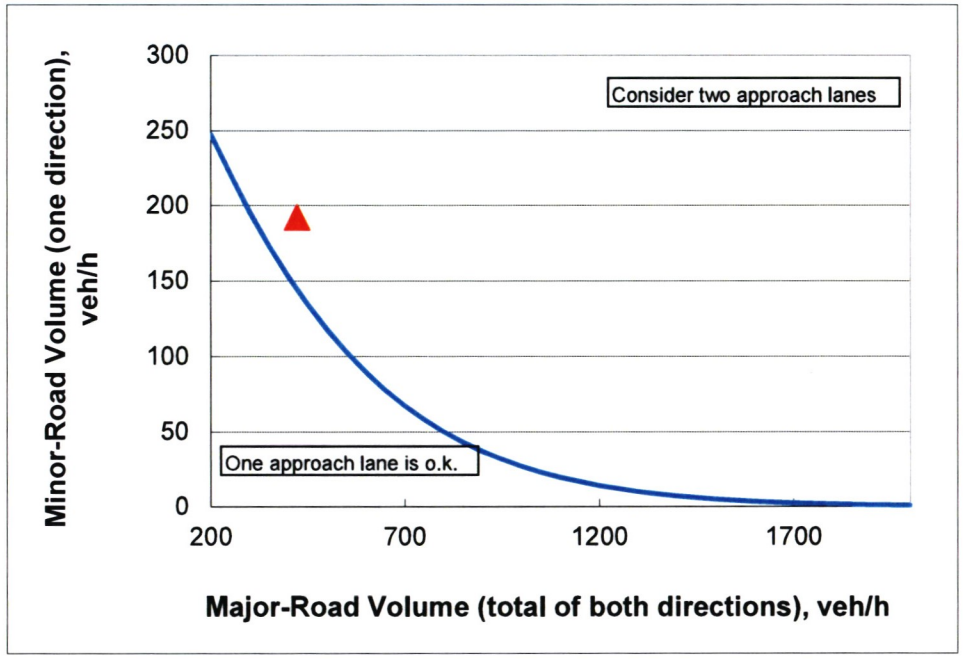
OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	144
Guidance for determining minor-road approach geometry:	
Consider TWO approach lanes	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	10	5
Left-turn and through capacity, veh/h:	15	8.0

* according to Table 17 - 5 of the HCM



147th St & Platteview Rd Intersection #: **3**

Scenario: **Phase 1 (2022)**
Time Period: **PM**
Minor Road: **147th St**
Direction: **Northbound**
NCHRP Analysis: **Minor-road Approach**

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway

INPUT

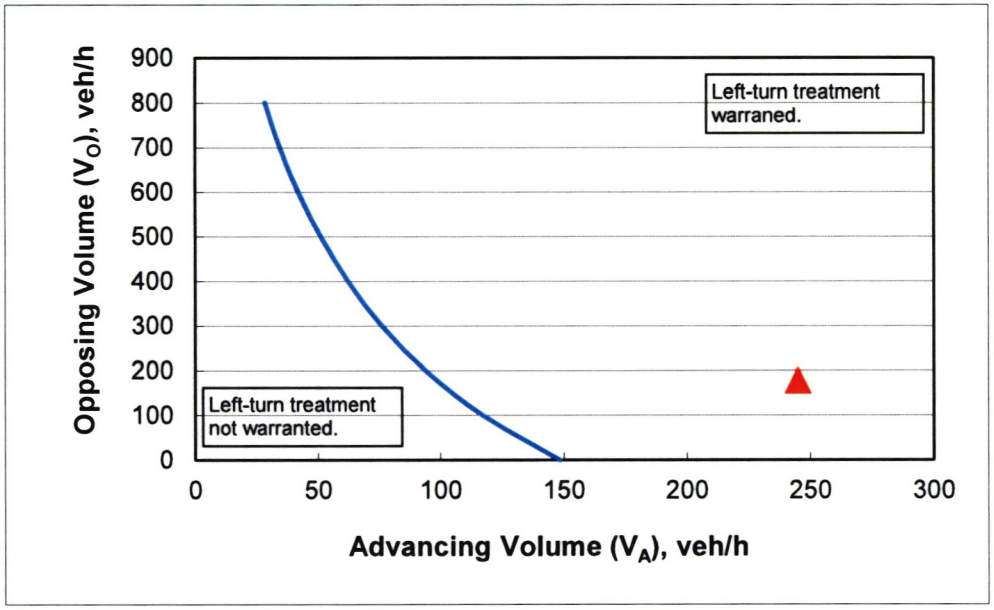
Variable	Value
85th percentile speed, mph:	55
Percent of left-turns in advancing volume (V_A), %:	43%
Advancing volume (V_A), veh/h:	245
Opposing volume (V_O), veh/h:	178

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	99
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	5.0
Critical headway, s:	10.0
Average time left-turn vehicle to clear advancing lane, s:	4.0



147th St & Platteview Rd	Intersection #: 3
Scenario:	**Phase 1 (2022)**
Time Period:	**PM**
Major Road:	**Platteview Rd**
Direction:	**Westbound**
NCHRP Analysis:	**Major-road Left-turn Lane**

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

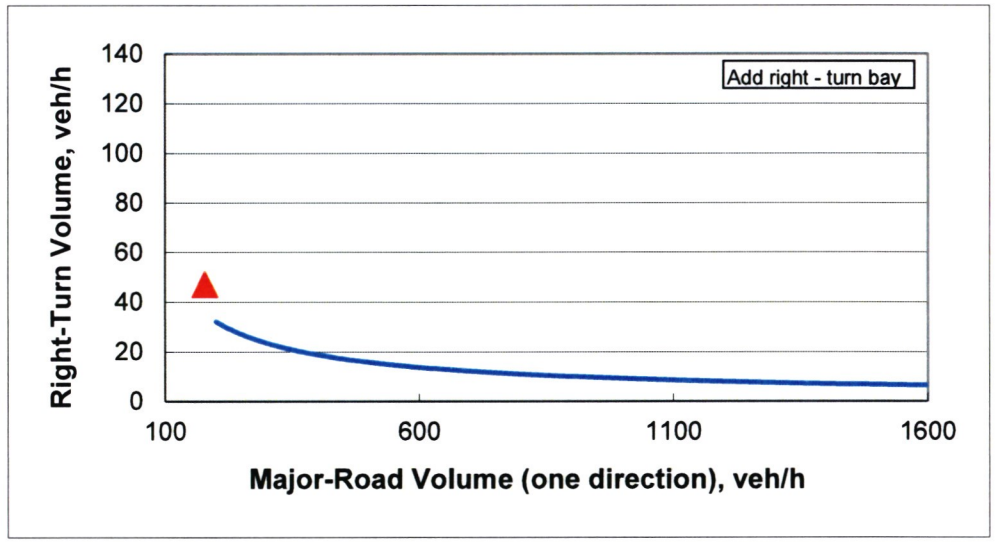
Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	55
Major-road volume (one direction), veh/h:	178
Right-turn volume, veh/h:	47

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	35
Guidance for determining the need for a major-road right-turn bay for a :	
Add right-turn bay.	

147th St & Platteview Rd Intersection #: **3**

Scenario: **Phase 1 (2022)**
Time Period: **PM**
Major Road: **Platteview Rd**
Direction: **Eastbound**
NCHRP Analysis: **Major-road Right-turn Lane**



WARRANT ANALYSIS WORKSHEETS
MUTCD Signal Warrants

MUTCD Volume-based Warrant Evaluation - Phase 1 (2022) - AM
N-50 & Park Dr

Major Street: N-50
Minor Street: Park Dr
Major Street Approach Speed: 50 MPH
Option: High speed, rural community
Time Period: AM

WARRANT 1, Condition A - Minimum Vehicular Volume | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	420 (336)	1296	1217	1137	1058	978	899	819	740
Highest Apprch. Minor Street	2 or more	140 (112)	151	142	132	123	114	105	95	86

WARRANT 1, Condition B - Interruption of Continuous Traffic | 70% Satisfied | Yes

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	630 (504)	1296	1217	1137	1058	978	899	819	740
Highest Apprch. Minor Street	2 or more	70 (56)	151	142	132	123	114	105	95	86

WARRANT 1, Condition A and Condition B | 56% Satisfied | No

WARRANT 2, Four Hour Volume | 70% Satisfied | Yes

	Number of lanes moving traffic	Peak Hour	2nd Highest	3rd Highest	4th Highest
Both Apprchs. Major Street	2 or more	1296	1217	1137	1058
Highest Apprch. Minor Street	2 or more	151	142	132	123

MUTCD Volume-based Warrant Evaluation - Phase 1 (2022) - AM
147th St & Platteview Rd

Major Street: Platteview Rd
Minor Street: 147th St
Major Street Approach Speed: 55 MPH
Option: High speed, rural community
Time Period: AM

WARRANT 1, Condition A - Minimum Vehicular Volume | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	1	350 (280)	442	415	388	361	334	307	279	252
Highest Apprch. Minor Street	1	105 (84)	137	129	120	112	103	95	87	78

WARRANT 1, Condition B - Interruption of Continuous Traffic | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	1	525 (420)	442	415	388	361	334	307	279	252
Highest Apprch. Minor Street	1	53 (42)	137	129	120	112	103	95	87	78

WARRANT 1, Condition A and Condition B | 56% Satisfied | No

WARRANT 2, Four Hour Volume | 70% Satisfied | No

	Number of lanes moving traffic	Peak Hour	2nd Highest	3rd Highest	4th Highest
Both Apprchs. Major Street	1	442	415	388	361
Highest Apprch. Minor Street	1	137	129	120	112

MUTCD Volume-based Warrant Evaluation - Phase 1 (2022) - PM
N-50 & Park Dr

Major Street: N-50
Minor Street: Park Dr
Major Street Approach Speed: 50 MPH
Option: High speed, rural community
Time Period: PM

WARRANT 1, Condition A - Minimum Vehicular Volume | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	420 (336)	1517	1424	1331	1238	1145	1052	959	866
Highest Apprch. Minor Street	2 or more	140 (112)	215	202	189	175	162	149	136	123

WARRANT 1, Condition B - Interruption of Continuous Traffic | 70% Satisfied | Yes

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	630 (504)	1517	1424	1331	1238	1145	1052	959	866
Highest Apprch. Minor Street	2 or more	70 (56)	215	202	189	175	162	149	136	123

WARRANT 1, Condition A and Condition B | 56% Satisfied | Yes

WARRANT 2, Four Hour Volume | 70% Satisfied | Yes

	Number of lanes moving traffic	Peak Hour	2nd Highest	3rd Highest	4th Highest
Both Apprchs. Major Street	2 or more	1517	1424	1331	1238
Highest Apprch. Minor Street	2 or more	215	202	189	175

MUTCD Volume-based Warrant Evaluation - Phase 1 (2022) - PM
147th St & Platteview Rd

Major Street: Platteview Rd
Minor Street: 147th St
Major Street Approach Speed: 55 MPH
Option: High speed, rural community
Time Period: PM

WARRANT 1, Condition A - Minimum Vehicular Volume | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	1	350 (280)	423	397	371	345	319	293	267	242
Highest Apprch. Minor Street	1	105 (84)	194	182	170	158	146	135	123	111

WARRANT 1, Condition B - Interruption of Continuous Traffic | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	1	525 (420)	423	397	371	345	319	293	267	242
Highest Apprch. Minor Street	1	53 (42)	194	182	170	158	146	135	123	111

WARRANT 1, Condition A and Condition B | 56% Satisfied | No

WARRANT 2, Four Hour Volume | 70% Satisfied | No

	Number of lanes moving traffic	Peak Hour	2nd Highest	3rd Highest	4th Highest
Both Apprchs. Major Street	1	423	397	371	345
Highest Apprch. Minor Street	1	194	182	170	158

MUTCD Volume-based Warrant Evaluation - AM
147th St & Platteview Rd

Major Street: Platteview Rd
Minor Street: 147th St
Major Street Approach Speed: 55 MPH
Option: High speed, rural community
Time Period: AM

WARRANT 1, Condition A - Minimum Vehicular Volume | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	420 (336)	837	786	734	683	632	581	529	478
Highest Apprch. Minor Street	2 or more	140 (112)	157	147	138	128	119	109	99	90

WARRANT 1, Condition B - Interruption of Continuous Traffic | 70% Satisfied | No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	630 (504)	837	786	734	683	632	581	529	478
Highest Apprch. Minor Street	2 or more	70 (56)	157	147	138	128	119	109	99	90

WARRANT 1, Condition A and Condition B | 56% Satisfied | No

WARRANT 2, Four Hour Volume | 70% Satisfied | No

	Number of lanes moving traffic	Peak Hour	2nd Highest	3rd Highest	4th Highest
Both Apprchs. Major Street	2 or more	837	786	734	683
Highest Apprch. Minor Street	2 or more	157	147	138	128

MUTCD Volume-based Warrant Evaluation - PM
147th St & Platteview Rd

Major Street: Platteview Rd
Minor Street: 147th St
Major Street Approach Speed: 55 MPH
Option: High speed, rural community
Time Period: PM

WARRANT 1, Condition A - Minimum Vehicular Volume — 70% Satisfied — No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	420 (336)	809	759	710	660	611	561	512	462
Highest Apprch. Minor Street	2 or more	140 (112)	181.45	170	159	148	137	126	115	104

WARRANT 1, Condition B - Interruption of Continuous Traffic — 70% Satisfied — No

	Number of lanes moving traffic	Vehicles per hour 70% (56%)	Peak Hour	2nd Highest	3rd Highest	4th Highest	5th Highest	6th Highest	7th Highest	8th Highest
Both Apprchs. Major Street	2 or more	630 (504)	809	759	710	660	611	561	512	462
Highest Apprch. Minor Street	2 or more	70 (56)	181	170	159	148	137	126	115	104

WARRANT 1, Condition A and Condition B — 56% Satisfied — No

WARRANT 2, Four Hour Volume — 70% Satisfied — No

	Number of lanes moving traffic	Peak Hour	2nd Highest	3rd Highest	4th Highest
Both Apprchs. Major Street	2 or more	809	759	710	660
Highest Apprch. Minor Street	2 or more	181	170	159	148

CAPACITY ANALYSIS WORKSHEETS

Existing (2020)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	64	30	17	67	206	36	604	79	110	230	11
Future Volume (veh/h)	9	64	30	17	67	206	36	604	79	110	230	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1781	1559	1811	1737	1841	1693	1826	1841	1781	1648	1633
Adj Flow Rate, veh/h	10	70	33	19	74	226	40	664	87	121	253	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	11	8	23	6	11	4	14	5	4	8	17	18
Cap, veh/h	96	235	102	125	320	330	671	1924	865	457	1688	80
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	58	1111	482	155	1512	1560	1008	3469	1560	678	3044	144
Grp Volume(v), veh/h	113	0	0	93	0	226	40	664	87	121	130	135
Grp Sat Flow(s),veh/h/ln	1652	0	0	1667	0	1560	1008	1735	1560	678	1566	1622
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.3	0.9	5.0	1.2	5.6	1.9	1.9
Cycle Q Clear(g_c), s	2.7	0.0	0.0	2.1	0.0	6.3	2.9	5.0	1.2	10.6	1.9	1.9
Prop In Lane	0.09		0.29	0.20		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	433	0	0	445	0	330	671	1924	865	457	868	899
V/C Ratio(X)	0.26	0.00	0.00	0.21	0.00	0.68	0.06	0.35	0.10	0.26	0.15	0.15
Avail Cap(c_a), veh/h	756	0	0	768	0	646	744	2175	978	506	982	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	15.4	0.0	17.1	5.8	5.8	4.9	8.7	5.1	5.1
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.7	0.0	2.0	0.1	0.8	0.2	0.5	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	0.0	15.5	0.0	18.0	5.8	5.8	5.0	8.8	5.1	5.1
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		113			319			791			386	
Approach Delay, s/veh		15.8			17.3			5.7			6.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.5		31.6		15.5		31.6				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		19.5		29.5		19.5		29.5				
Max Q Clear Time (g_c+I1), s		4.7		12.6		8.3		7.0				
Green Ext Time (p_c), s		0.2		8.4		0.5		19.1				

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	719	14	1	276
Future Vol, veh/h	5	0	719	14	1	276
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	14	0	23	0
Mvmt Flow	6	0	817	16	1	314

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	984	417	0	0	833	0
Stage 1	825	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.56	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.43	-
Pot Cap-1 Maneuver	249	590	-	-	674	-
Stage 1	396	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	249	590	-	-	674	-
Mov Cap-2 Maneuver	249	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	858	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	249	674	-
HCM Lane V/C Ratio	-	-	0.023	0.002	-
HCM Control Delay (s)	-	-	19.8	10.3	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	68	28	58	74	115	28	441	52	213	629	15
Future Volume (veh/h)	12	68	28	58	74	115	28	441	52	213	629	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1841	1796	1870	1841	1752	1900	1796	1870	1856	1841	1796
Adj Flow Rate, veh/h	13	73	30	62	80	124	30	474	56	229	676	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	4	7	2	4	10	0	7	2	3	4	7
Cap, veh/h	95	231	86	202	217	290	515	2009	933	594	2056	49
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	85	1184	443	513	1112	1485	764	3413	1585	867	3492	83
Grp Volume(v), veh/h	116	0	0	142	0	124	30	474	56	229	338	354
Grp Sat Flow(s),veh/h/ln	1711	0	0	1625	0	1485	764	1706	1585	867	1749	1826
Q Serve(g_s), s	0.0	0.0	0.0	0.7	0.0	3.7	1.1	3.4	0.8	8.7	5.0	5.0
Cycle Q Clear(g_c), s	2.9	0.0	0.0	3.6	0.0	3.7	6.1	3.4	0.8	12.1	5.0	5.0
Prop In Lane	0.11		0.26	0.44		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	413	0	0	419	0	290	515	2009	933	594	1030	1075
V/C Ratio(X)	0.28	0.00	0.00	0.34	0.00	0.43	0.06	0.24	0.06	0.39	0.33	0.33
Avail Cap(c_a), veh/h	642	0	0	632	0	495	545	2143	995	628	1098	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	0.0	17.9	0.0	18.0	6.9	5.0	4.5	7.9	5.3	5.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.3	0.0	1.2	0.1	0.6	0.1	0.9	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	0.0	0.0	18.1	0.0	18.4	6.9	5.0	4.5	8.0	5.4	5.4
LnGrp LOS	B	A	A	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		116			266			560			921	
Approach Delay, s/veh		17.8			18.2			5.1			6.1	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.5		35.5		15.5		35.5				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		17.0		32.0		17.0		32.0				
Max Q Clear Time (g_c+I1), s		4.9		14.1		5.7		8.1				
Green Ext Time (p_c), s		0.1		15.9		0.4		16.6				
Intersection Summary												
HCM 6th Ctrl Delay			8.2									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	7	514	37	21	694
Future Vol, veh/h	44	7	514	37	21	694
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	7	0	8	0
Mvmt Flow	53	8	619	45	25	836

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1110	332	0	0	664	0
Stage 1	642	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.26	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.28	-
Pot Cap-1 Maneuver	207	670	-	-	882	-
Stage 1	492	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	670	-	-	882	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	585	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.3	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	222	882	-
HCM Lane V/C Ratio	-	-	0.277	0.029	-
HCM Control Delay (s)	-	-	27.3	9.2	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-

CAPACITY ANALYSIS WORKSHEETS

Phase 1 (2022) & Phase 2 (2025)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	89	43	20	94	215	50	728	80	115	355	114
Future Volume (veh/h)	87	89	43	20	94	215	50	728	80	115	355	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1781	1663	1811	1752	1811	1693	1826	1856	1781	1648	1870
Adj Flow Rate, veh/h	96	98	47	22	103	236	55	800	88	126	390	125
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	11	8	16	6	10	6	14	5	3	8	17	2
Cap, veh/h	273	387	185	457	161	368	463	1813	822	350	1223	387
Arrive On Green	0.34	0.34	0.31	0.34	0.34	0.31	0.52	0.52	0.52	0.52	0.52	0.50
Sat Flow, veh/h	967	1138	546	1204	473	1084	802	3469	1572	596	2340	741
Grp Volume(v), veh/h	96	0	145	22	0	339	55	800	88	126	259	256
Grp Sat Flow(s),veh/h/ln	967	0	1683	1204	0	1557	802	1735	1572	596	1566	1515
Q Serve(g_s), s	5.4	0.0	3.7	0.8	0.0	10.8	2.5	8.3	1.6	9.7	5.5	5.8
Cycle Q Clear(g_c), s	16.2	0.0	3.7	4.4	0.0	10.8	8.2	8.3	1.6	18.0	5.5	5.8
Prop In Lane	1.00		0.32	1.00		0.70	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	273	0	572	457	0	529	463	1813	822	350	818	792
V/C Ratio(X)	0.35	0.00	0.25	0.05	0.00	0.64	0.12	0.44	0.11	0.36	0.32	0.32
Avail Cap(c_a), veh/h	277	0	579	462	0	536	486	1910	866	367	862	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	14.0	15.5	0.0	16.7	10.4	8.6	7.0	14.2	7.9	8.2
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.0	0.0	1.9	0.0	0.1	0.0	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	1.1	0.2	0.0	3.7	0.3	2.0	0.4	1.0	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	0.0	14.1	15.5	0.0	18.6	10.4	8.7	7.0	14.4	8.0	8.3
LnGrp LOS	C	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		241			361			943			641	
Approach Delay, s/veh		17.8			18.4			8.6			9.4	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	23.8	34.4	23.8	34.4
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	18.5	30.5	18.5	30.5
Max Q Clear Time (g_c+I1), s	18.2	20.0	12.8	10.3
Green Ext Time (p_c), s	0.0	8.7	0.5	18.6

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	5	63	10	5	5	88	770	20	5	298	115
Future Volume (veh/h)	83	5	63	10	5	5	88	770	20	5	298	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1693	1870	1870	1559	1870
Adj Flow Rate, veh/h	94	6	72	11	6	6	100	875	23	6	339	131
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	14	2	2	23	2
Cap, veh/h	621	44	524	317	173	141	504	1637	43	324	1074	408
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.51	0.51	0.50	0.51	0.51	0.50
Sat Flow, veh/h	1402	123	1480	643	488	399	923	3201	84	620	2100	797
Grp Volume(v), veh/h	94	0	78	23	0	0	100	439	459	6	237	233
Grp Sat Flow(s),veh/h/ln	1402	0	1604	1531	0	0	923	1608	1677	620	1481	1416
Q Serve(g_s), s	2.1	0.0	2.0	0.0	0.0	0.0	4.2	10.9	10.9	0.4	5.5	5.7
Cycle Q Clear(g_c), s	2.6	0.0	2.0	0.5	0.0	0.0	10.0	10.9	10.9	11.3	5.5	5.7
Prop In Lane	1.00		0.92	0.48		0.26	1.00		0.05	1.00		0.56
Lane Grp Cap(c), veh/h	621	0	567	631	0	0	504	822	858	324	758	724
V/C Ratio(X)	0.15	0.00	0.14	0.04	0.00	0.00	0.20	0.53	0.53	0.02	0.31	0.32
Avail Cap(c_a), veh/h	621	0	567	631	0	0	514	840	876	331	773	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	13.2	12.6	0.0	0.0	11.4	9.7	9.8	13.6	8.4	8.6
Incr Delay (d2), s/veh	0.5	0.0	0.5	0.1	0.0	0.0	0.2	0.6	0.6	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.7	0.2	0.0	0.0	0.7	2.7	2.8	0.0	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	13.7	12.7	0.0	0.0	11.6	10.4	10.4	13.6	8.7	8.8
LnGrp LOS	B	A	B	B	A	A	B	B	B	B	A	A
Approach Vol, veh/h		172			23			998			476	
Approach Delay, s/veh		13.7			12.7			10.5			8.8	
Approach LOS		B			B			B			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	34.4	25.0	34.4	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.5	20.5	30.5	20.5
Max Q Clear Time (g_c+I1), s	12.9	4.6	13.3	2.5
Green Ext Time (p_c), s	16.9	3.3	13.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	125	59	128	130	43	94
Future Vol, veh/h	125	59	128	130	43	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	175	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	10	2	31	30
Mvmt Flow	136	64	139	141	47	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	200	0	555	136
Stage 1	-	-	-	-	136	-
Stage 2	-	-	-	-	419	-
Critical Hdwy	-	-	4.2	-	6.71	6.5
Critical Hdwy Stg 1	-	-	-	-	5.71	-
Critical Hdwy Stg 2	-	-	-	-	5.71	-
Follow-up Hdwy	-	-	2.29	-	3.779	3.57
Pot Cap-1 Maneuver	-	-	1326	-	447	843
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1326	-	400	843
Mov Cap-2 Maneuver	-	-	-	-	400	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	542	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	400	843	-	-	1326	-
HCM Lane V/C Ratio	0.117	0.121	-	-	0.105	-
HCM Control Delay (s)	15.2	9.9	-	-	8	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0.4	-	-	0.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	100	45	60	100	120	43	569	55	225	758	102
Future Volume (veh/h)	118	100	45	60	100	120	43	569	55	225	758	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1841	1781	1870	1841	1826	1870	1796	1870	1856	1841	1796
Adj Flow Rate, veh/h	127	108	48	65	108	129	46	612	59	242	815	110
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	4	8	2	4	5	2	7	2	3	4	7
Cap, veh/h	311	350	156	394	222	265	350	1953	907	455	1772	239
Arrive On Green	0.29	0.29	0.26	0.29	0.29	0.26	0.53	0.57	0.57	0.53	0.57	0.55
Sat Flow, veh/h	1089	1207	537	1231	764	913	605	3413	1585	760	3096	418
Grp Volume(v), veh/h	127	0	156	65	0	237	46	612	59	242	460	465
Grp Sat Flow(s),veh/h/ln	1089	0	1744	1231	0	1676	605	1706	1585	760	1749	1766
Q Serve(g_s), s	6.4	0.0	4.1	2.5	0.0	6.9	3.0	5.4	1.0	15.3	8.9	9.0
Cycle Q Clear(g_c), s	13.2	0.0	4.1	6.6	0.0	6.9	12.0	5.4	1.0	20.7	8.9	9.0
Prop In Lane	1.00		0.31	1.00		0.54	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	311	0	506	394	0	486	350	1953	907	455	1001	1010
V/C Ratio(X)	0.41	0.00	0.31	0.16	0.00	0.49	0.13	0.31	0.07	0.53	0.46	0.46
Avail Cap(c_a), veh/h	342	0	555	429	0	534	353	1967	914	458	1008	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	16.3	18.7	0.0	17.4	12.3	6.5	5.5	13.6	7.2	7.3
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.1	0.0	0.3	0.1	0.0	0.0	0.6	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	1.3	0.7	0.0	2.4	0.3	1.2	0.2	2.0	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	16.4	18.7	0.0	17.7	12.4	6.5	5.5	14.2	7.3	7.5
LnGrp LOS	C	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		283			302			717			1167	
Approach Delay, s/veh		19.3			17.9			6.8			8.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	20.9	37.3	20.9	37.3
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	17.0	32.0	17.0	32.0
Max Q Clear Time (g_c+I1), s	15.2	22.7	8.9	14.0
Green Ext Time (p_c), s	0.1	9.0	0.5	15.1

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	5	91	50	5	10	71	538	45	25	745	93
Future Volume (veh/h)	119	5	91	50	5	10	71	538	45	25	745	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1796	1870	1870	1781	1870
Adj Flow Rate, veh/h	143	6	110	60	6	12	86	648	54	30	898	112
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	7	2	2	8	2
Cap, veh/h	469	18	322	285	34	35	391	1932	161	522	1835	229
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	1395	83	1515	737	161	163	558	3189	265	745	3028	378
Grp Volume(v), veh/h	143	0	116	78	0	0	86	346	356	30	502	508
Grp Sat Flow(s),veh/h/ln	1395	0	1598	1062	0	0	558	1706	1748	745	1692	1713
Q Serve(g_s), s	0.0	0.0	3.1	1.7	0.0	0.0	5.1	5.0	5.0	1.0	8.2	8.2
Cycle Q Clear(g_c), s	3.6	0.0	3.1	4.8	0.0	0.0	13.3	5.0	5.0	6.0	8.2	8.2
Prop In Lane	1.00		0.95	0.77		0.15	1.00		0.15	1.00		0.22
Lane Grp Cap(c), veh/h	469	0	340	354	0	0	391	1034	1059	522	1025	1038
V/C Ratio(X)	0.30	0.00	0.34	0.22	0.00	0.00	0.22	0.34	0.34	0.06	0.49	0.49
Avail Cap(c_a), veh/h	750	0	661	626	0	0	396	1050	1076	529	1042	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	0.0	16.6	17.6	0.0	0.0	9.2	4.8	4.8	6.3	5.5	5.5
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.3	0.0	0.0	0.3	0.2	0.2	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.1	0.8	0.0	0.0	0.4	0.8	0.8	0.1	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	0.0	17.2	17.9	0.0	0.0	9.5	5.0	5.0	6.4	5.8	5.8
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		259			78			788			1040	
Approach Delay, s/veh		17.2			17.9			5.5			5.8	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	34.5	15.0	34.5	15.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.5	20.5	30.5	20.5
Max Q Clear Time (g_c+I1), s	15.3	5.6	10.2	6.8
Green Ext Time (p_c), s	14.0	4.9	19.8	2.6

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	130	48	105	140	63	131
Future Vol, veh/h	130	48	105	140	63	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	175	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	13	14	2	9	9
Mvmt Flow	141	52	114	152	68	142

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	193	0	521	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	380	-
Critical Hdwy	-	-	4.24	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	-	-	2.326	-	3.581	3.381
Pot Cap-1 Maneuver	-	-	1312	-	504	889
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1312	-	460	889
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	460	889	-	-	1312	-
HCM Lane V/C Ratio	0.149	0.16	-	-	0.087	-
HCM Control Delay (s)	14.2	9.8	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.6	-	-	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	105	50	20	115	225	64	790	80	125	411	153
Future Volume (veh/h)	102	105	50	20	115	225	64	790	80	125	411	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1781	1663	1811	1752	1811	1693	1826	1856	1781	1648	1870
Adj Flow Rate, veh/h	112	115	55	22	126	247	70	868	88	137	452	168
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	11	8	16	6	10	6	14	5	3	8	17	2
Cap, veh/h	211	354	169	396	165	322	395	1748	792	310	1128	416
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	937	1139	545	1177	529	1036	727	3469	1572	559	2240	826
Grp Volume(v), veh/h	112	0	170	22	0	373	70	868	88	137	315	305
Grp Sat Flow(s),veh/h/ln	937	0	1683	1177	0	1565	727	1735	1572	559	1566	1499
Q Serve(g_s), s	5.7	0.0	4.6	0.9	0.0	12.8	3.9	9.8	1.7	12.8	7.4	7.5
Cycle Q Clear(g_c), s	18.5	0.0	4.6	5.5	0.0	12.8	11.5	9.8	1.7	22.6	7.4	7.5
Prop In Lane	1.00		0.32	1.00		0.66	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	211	0	524	396	0	487	395	1748	792	310	789	756
V/C Ratio(X)	0.53	0.00	0.32	0.06	0.00	0.77	0.18	0.50	0.11	0.44	0.40	0.40
Avail Cap(c_a), veh/h	211	0	524	396	0	487	402	1780	807	315	803	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	15.7	17.8	0.0	18.5	12.8	9.8	7.8	17.2	9.2	9.2
Incr Delay (d2), s/veh	1.3	0.0	0.1	0.0	0.0	6.5	0.1	0.1	0.0	0.4	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.4	0.2	0.0	4.9	0.5	2.6	0.4	1.3	1.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	15.8	17.8	0.0	25.0	12.8	9.8	7.8	17.6	9.3	9.3
LnGrp LOS	C	A	B	B	A	C	B	A	A	B	A	A
Approach Vol, veh/h		282			395			1026			757	
Approach Delay, s/veh		21.0			24.6			9.9			10.8	
Approach LOS		C			C			A			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		24.0		35.5		24.0		35.5				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		18.5		30.5		18.5		30.5				
Max Q Clear Time (g_c+I1), s		20.5		24.6		14.8		13.5				
Green Ext Time (p_c), s		0.0		5.4		0.4		16.1				

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	5	69	10	5	5	116	839	20	5	325	151
Future Volume (veh/h)	90	5	69	10	5	5	116	839	20	5	325	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1693	1870	1870	1559	1870
Adj Flow Rate, veh/h	102	6	78	11	6	6	132	953	23	6	369	172
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	14	2	2	23	2
Cap, veh/h	628	41	536	321	175	143	440	1570	38	278	965	443
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1402	114	1488	643	485	398	865	3209	77	576	1972	905
Grp Volume(v), veh/h	102	0	84	23	0	0	132	478	498	6	276	265
Grp Sat Flow(s),veh/h/ln	1402	0	1603	1526	0	0	865	1608	1679	576	1481	1396
Q Serve(g_s), s	2.4	0.0	2.1	0.0	0.0	0.0	6.8	12.9	12.9	0.5	7.0	7.2
Cycle Q Clear(g_c), s	2.9	0.0	2.1	0.5	0.0	0.0	13.9	12.9	12.9	13.3	7.0	7.2
Prop In Lane	1.00		0.93	0.48		0.26	1.00		0.05	1.00		0.65
Lane Grp Cap(c), veh/h	628	0	577	639	0	0	440	787	821	278	725	683
V/C Ratio(X)	0.16	0.00	0.15	0.04	0.00	0.00	0.30	0.61	0.61	0.02	0.38	0.39
Avail Cap(c_a), veh/h	628	0	577	639	0	0	444	794	829	281	732	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	12.9	12.4	0.0	0.0	14.0	11.1	11.1	15.9	9.6	9.6
Incr Delay (d2), s/veh	0.6	0.0	0.5	0.1	0.0	0.0	0.4	1.3	1.3	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.8	0.2	0.0	0.0	1.1	3.5	3.6	0.1	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.0	13.4	12.5	0.0	0.0	14.4	12.4	12.3	16.0	9.9	10.0
LnGrp LOS	B	A	B	B	A	A	B	B	B	B	A	A
Approach Vol, veh/h		186			23			1108			547	
Approach Delay, s/veh		13.6			12.5			12.6			10.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.7	26.0	33.7	26.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	29.5	21.5	29.5	21.5
Max Q Clear Time (g_c+I1), s	15.9	4.9	15.3	2.5
Green Ext Time (p_c), s	13.3	3.7	11.7	0.6

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	150	8	172	160	50	107
Future Vol, veh/h	150	8	172	160	50	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	175	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	10	2	31	30
Mvmt Flow	163	9	187	174	54	116

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	172	0	711	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	548	-
Critical Hdwy	-	-	4.2	-	6.71	6.5
Critical Hdwy Stg 1	-	-	-	-	5.71	-
Critical Hdwy Stg 2	-	-	-	-	5.71	-
Follow-up Hdwy	-	-	2.29	-	3.779	3.57
Pot Cap-1 Maneuver	-	-	1358	-	359	814
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	525	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1358	-	309	814
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	453	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	309	814	-	-	1358	-
HCM Lane V/C Ratio	0.176	0.143	-	-	0.138	-
HCM Control Delay (s)	19.1	10.2	-	-	8.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	0.5	-	-	0.5	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	121	55	60	118	130	52	625	55	240	817	123
Future Volume (veh/h)	163	121	55	60	118	130	52	625	55	240	817	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1841	1781	1870	1841	1826	1870	1796	1870	1856	1841	1796
Adj Flow Rate, veh/h	175	130	59	65	127	140	56	672	59	258	878	132
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	4	8	2	4	5	2	7	2	3	4	7
Cap, veh/h	307	370	168	387	247	272	307	1904	885	413	1701	256
Arrive On Green	0.31	0.31	0.28	0.31	0.31	0.28	0.52	0.56	0.56	0.52	0.56	0.53
Sat Flow, veh/h	1059	1199	544	1194	800	882	558	3413	1585	719	3049	458
Grp Volume(v), veh/h	175	0	189	65	0	267	56	672	59	258	504	506
Grp Sat Flow(s),veh/h/ln	1059	0	1743	1194	0	1682	558	1706	1585	719	1749	1758
Q Serve(g_s), s	9.8	0.0	5.1	2.7	0.0	7.9	4.4	6.5	1.0	19.9	10.7	10.8
Cycle Q Clear(g_c), s	17.7	0.0	5.1	7.8	0.0	7.9	15.3	6.5	1.0	26.4	10.7	10.8
Prop In Lane	1.00		0.31	1.00		0.52	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	307	0	538	387	0	519	307	1904	885	413	976	981
V/C Ratio(X)	0.57	0.00	0.35	0.17	0.00	0.51	0.18	0.35	0.07	0.62	0.52	0.52
Avail Cap(c_a), veh/h	307	0	538	387	0	519	308	1907	886	414	977	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	16.3	19.1	0.0	17.4	14.7	7.3	6.1	16.4	8.2	8.4
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.1	0.0	0.4	0.1	0.0	0.0	2.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.6	0.7	0.0	2.8	0.5	1.5	0.2	2.7	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	16.4	19.2	0.0	17.8	14.8	7.3	6.1	18.6	8.4	8.6
LnGrp LOS	C	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		364			332			787			1268	
Approach Delay, s/veh		21.0			18.1			7.8			10.6	
Approach LOS		C			B			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		37.5		22.5		37.5				
Change Period (Y+Rc), s		5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s		17.0		32.0		17.0		32.0				
Max Q Clear Time (g_c+I1), s		19.7		28.4		9.9		17.3				
Green Ext Time (p_c), s		0.0		3.6		0.5		13.1				
Intersection Summary												
HCM 6th Ctrl Delay			12.0									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	5	118	50	5	10	78	567	45	25	805	102
Future Volume (veh/h)	155	5	118	50	5	10	78	567	45	25	805	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1796	1870	1870	1781	1870
Adj Flow Rate, veh/h	187	6	142	60	6	12	94	683	54	30	970	123
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	7	2	2	8	2
Cap, veh/h	479	15	356	275	33	34	346	1921	152	488	1811	230
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1395	65	1530	672	141	148	516	3204	253	721	3022	383
Grp Volume(v), veh/h	187	0	148	78	0	0	94	364	373	30	543	550
Grp Sat Flow(s),veh/h/ln	1395	0	1595	961	0	0	516	1706	1751	721	1692	1712
Q Serve(g_s), s	0.0	0.0	4.2	2.0	0.0	0.0	7.1	5.8	5.8	1.2	10.2	10.2
Cycle Q Clear(g_c), s	5.6	0.0	4.2	6.2	0.0	0.0	17.2	5.8	5.8	7.0	10.2	10.2
Prop In Lane	1.00		0.96	0.77		0.15	1.00		0.14	1.00		0.22
Lane Grp Cap(c), veh/h	479	0	372	343	0	0	346	1023	1049	488	1014	1027
V/C Ratio(X)	0.39	0.00	0.40	0.23	0.00	0.00	0.27	0.36	0.36	0.06	0.54	0.54
Avail Cap(c_a), veh/h	634	0	549	490	0	0	349	1033	1060	492	1024	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	17.4	18.8	0.0	0.0	11.4	5.5	5.5	7.3	6.3	6.3
Incr Delay (d2), s/veh	0.5	0.0	0.7	0.3	0.0	0.0	0.4	0.2	0.2	0.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.5	0.8	0.0	0.0	0.6	1.1	1.1	0.1	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	0.0	18.1	19.1	0.0	0.0	11.8	5.7	5.7	7.3	6.9	6.9
LnGrp LOS	B	A	B	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		335			78			831			1123	
Approach Delay, s/veh		18.3			19.1			6.4			6.9	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	36.7	17.0	36.7	17.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	32.5	18.5	32.5	18.5
Max Q Clear Time (g_c+I1), s	19.2	7.6	12.2	8.2
Green Ext Time (p_c), s	12.4	4.9	20.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	160	56	123	170	83	179
Future Vol, veh/h	160	56	123	170	83	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	175	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	13	14	2	9	9
Mvmt Flow	174	61	134	185	90	195

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	235	0	627	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	453	-
Critical Hdwy	-	-	4.24	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	-	-	2.326	-	3.581	3.381
Pot Cap-1 Maneuver	-	-	1265	-	436	852
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1265	-	390	852
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	560	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	390	852	-	-	1265	-
HCM Lane V/C Ratio	0.231	0.228	-	-	0.106	-
HCM Control Delay (s)	17	10.5	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.9	-	-	0.4	-

CAPACITY ANALYSIS WORKSHEETS
Future (2040)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	180	85	30	175	290	109	1085	85	175	491	183
Future Volume (veh/h)	132	180	85	30	175	290	109	1085	85	175	491	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1781	1663	1811	1752	1811	1693	1826	1856	1781	1648	1870
Adj Flow Rate, veh/h	145	198	93	33	192	319	120	1192	93	192	540	201
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	11	8	16	6	10	6	14	5	3	8	17	2
Cap, veh/h	265	355	167	257	344	430	359	1483	672	278	1260	467
Arrive On Green	0.06	0.31	0.31	0.20	0.20	0.20	0.43	0.43	0.43	0.08	0.56	0.56
Sat Flow, veh/h	1654	1146	538	1054	1752	1535	650	3469	1572	1697	2235	829
Grp Volume(v), veh/h	145	0	291	33	192	319	120	1192	93	192	378	363
Grp Sat Flow(s),veh/h/ln	1654	0	1685	1054	1752	1535	650	1735	1572	1697	1566	1499
Q Serve(g_s), s	5.3	0.0	12.5	2.3	8.6	16.4	11.3	26.0	3.1	5.1	12.0	12.1
Cycle Q Clear(g_c), s	5.3	0.0	12.5	5.0	8.6	16.4	11.6	26.0	3.1	5.1	12.0	12.1
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	265	0	521	257	344	430	359	1483	672	278	882	845
V/C Ratio(X)	0.55	0.00	0.56	0.13	0.56	0.74	0.33	0.80	0.14	0.69	0.43	0.43
Avail Cap(c_a), veh/h	265	0	521	257	344	430	359	1486	674	343	944	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	25.0	31.2	31.4	28.3	17.6	21.6	15.1	17.9	10.9	10.9
Incr Delay (d2), s/veh	2.4	0.0	0.8	0.1	1.2	6.0	0.2	3.1	0.0	4.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	4.6	0.6	3.6	6.2	1.5	9.7	1.0	1.9	3.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	0.0	25.8	31.2	32.7	34.3	17.8	24.7	15.1	22.2	11.0	11.0
LnGrp LOS	C	A	C	C	C	C	B	C	B	C	B	B
Approach Vol, veh/h		436			544			1405			933	
Approach Delay, s/veh		26.8			33.5			23.5			13.3	
Approach LOS		C			C			C			B	

Timer - Assigned Phs		2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s		32.3		54.3	9.8	22.5	11.8	42.5				
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5	4.5	5.5				
Max Green Setting (Gmax), s		26.8		52.2	5.3	17.0	10.6	37.1				
Max Q Clear Time (g_c+I1), s		14.5		14.1	7.3	18.4	7.1	28.0				
Green Ext Time (p_c), s		0.5		32.2	0.0	0.0	0.2	9.1				

Intersection Summary												
HCM 6th Ctrl Delay			22.7									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	5	69	35	5	5	116	1184	30	5	450	151
Future Volume (veh/h)	90	5	69	35	5	5	116	1184	30	5	450	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1693	1870	1870	1559	1870
Adj Flow Rate, veh/h	102	6	78	40	6	6	132	1345	34	6	511	172
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	14	2	2	23	2
Cap, veh/h	560	28	365	392	59	36	468	1627	41	257	1107	371
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1402	114	1488	886	242	147	758	3205	81	393	2179	730
Grp Volume(v), veh/h	102	0	84	52	0	0	132	674	705	6	346	337
Grp Sat Flow(s),veh/h/ln	1402	0	1603	1275	0	0	758	1608	1678	393	1481	1428
Q Serve(g_s), s	0.0	0.0	1.5	0.3	0.0	0.0	4.9	12.9	13.0	0.5	5.5	5.5
Cycle Q Clear(g_c), s	1.7	0.0	1.5	1.8	0.0	0.0	10.5	12.9	13.0	13.5	5.5	5.5
Prop In Lane	1.00		0.93	0.77		0.12	1.00		0.05	1.00		0.51
Lane Grp Cap(c), veh/h	560	0	393	487	0	0	468	817	852	257	752	725
V/C Ratio(X)	0.18	0.00	0.21	0.11	0.00	0.00	0.28	0.83	0.83	0.02	0.46	0.46
Avail Cap(c_a), veh/h	1468	0	1430	1386	0	0	468	817	852	257	752	725
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	11.0	10.9	0.0	0.0	9.1	7.6	7.6	13.3	5.8	5.8
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.1	0.0	0.0	0.3	7.0	6.8	0.0	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.5	0.3	0.0	0.0	0.5	3.0	3.1	0.0	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.2	0.0	11.2	11.0	0.0	0.0	9.5	14.6	14.4	13.4	6.2	6.2
LnGrp LOS	B	A	B	B	A	A	A	B	B	B	A	A
Approach Vol, veh/h		186			52			1511			689	
Approach Delay, s/veh		11.2			11.0			14.0			6.3	
Approach LOS		B			B			B			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	23.0	13.4	23.0	13.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	32.5	18.5	32.5
Max Q Clear Time (g_c+I1), s	15.0	3.7	15.5	3.8
Green Ext Time (p_c), s	3.5	5.3	2.9	2.8

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

Notes

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

Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	290	80	172	295	50	107
Future Vol, veh/h	290	80	172	295	50	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	175	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	10	2	31	30
Mvmt Flow	315	87	187	321	54	116

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	402	0	1010	315
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	695	-
Critical Hdwy	-	-	4.2	-	6.71	6.5
Critical Hdwy Stg 1	-	-	-	-	5.71	-
Critical Hdwy Stg 2	-	-	-	-	5.71	-
Follow-up Hdwy	-	-	2.29	-	3.779	3.57
Pot Cap-1 Maneuver	-	-	1115	-	235	665
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	446	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1115	-	196	665
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	371	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	196	665	-	-	1115	-
HCM Lane V/C Ratio	0.277	0.175	-	-	0.168	-
HCM Control Delay (s)	30.3	11.6	-	-	8.9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	1.1	0.6	-	-	0.6	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	196	90	70	198	175	87	710	60	325	1067	158
Future Volume (veh/h)	203	196	90	70	198	175	87	710	60	325	1067	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1841	1781	1870	1841	1826	1870	1796	1870	1856	1841	1796
Adj Flow Rate, veh/h	218	211	97	75	213	188	94	763	65	349	1147	170
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	4	8	2	4	5	2	7	2	3	4	7
Cap, veh/h	233	328	151	211	301	253	254	2156	1001	429	1931	285
Arrive On Green	0.06	0.27	0.26	0.16	0.16	0.16	0.63	0.63	0.63	0.63	0.63	0.61
Sat Flow, veh/h	1697	1193	549	1071	1841	1547	417	3413	1585	657	3057	452
Grp Volume(v), veh/h	218	0	308	75	213	188	94	763	65	349	655	662
Grp Sat Flow(s),veh/h/ln	1697	0	1742	1071	1841	1547	417	1706	1585	657	1749	1759
Q Serve(g_s), s	5.5	0.0	13.4	5.7	9.4	9.9	14.7	9.1	1.3	44.9	18.8	19.2
Cycle Q Clear(g_c), s	5.5	0.0	13.4	9.5	9.4	9.9	33.9	9.1	1.3	54.0	18.8	19.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	233	0	479	211	301	253	254	2156	1001	429	1105	1111
V/C Ratio(X)	0.93	0.00	0.64	0.36	0.71	0.74	0.37	0.35	0.06	0.81	0.59	0.60
Avail Cap(c_a), veh/h	233	0	571	268	398	335	254	2156	1001	429	1105	1111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	27.5	35.7	33.8	34.0	19.4	7.5	6.0	20.5	9.3	9.4
Incr Delay (d2), s/veh	41.3	0.0	1.0	0.4	2.0	3.8	0.3	0.0	0.0	10.6	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	5.1	1.5	4.2	3.9	1.3	2.4	0.3	6.8	5.4	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	0.0	28.6	36.1	35.9	37.9	19.7	7.5	6.1	31.1	9.9	10.1
LnGrp LOS	E	A	C	D	D	D	B	A	A	C	A	B
Approach Vol, veh/h		526			476			922			1666	
Approach Delay, s/veh		47.7			36.7			8.6			14.4	
Approach LOS		D			D			A			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		27.5		58.0	9.5	18.0		58.0				
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		5.5				
Max Green Setting (Gmax), s		26.5		52.5	5.0	17.0		52.5				
Max Q Clear Time (g_c+I1), s		15.4		56.0	7.5	11.9		35.9				
Green Ext Time (p_c), s		0.5		0.0	0.0	0.6		15.4				

Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	5	118	70	5	15	78	687	60	40	1085	102
Future Volume (veh/h)	155	5	118	70	5	15	78	687	60	40	1085	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1796	1870	1870	1781	1870
Adj Flow Rate, veh/h	187	6	142	84	6	18	94	828	72	48	1307	123
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	7	2	2	8	2
Cap, veh/h	515	17	396	307	30	43	246	1872	163	412	1843	173
Arrive On Green	0.26	0.26	0.25	0.26	0.26	0.25	0.59	0.59	0.58	0.59	0.59	0.58
Sat Flow, veh/h	1387	65	1530	718	115	167	374	3177	276	619	3128	293
Grp Volume(v), veh/h	187	0	148	108	0	0	94	445	455	48	705	725
Grp Sat Flow(s),veh/h/ln	1387	0	1595	1000	0	0	374	1706	1747	619	1692	1729
Q Serve(g_s), s	0.0	0.0	4.0	3.0	0.0	0.0	12.5	7.6	7.6	2.5	15.4	15.6
Cycle Q Clear(g_c), s	5.4	0.0	4.0	7.0	0.0	0.0	28.1	7.6	7.6	10.1	15.4	15.6
Prop In Lane	1.00		0.96	0.78		0.17	1.00		0.16	1.00		0.17
Lane Grp Cap(c), veh/h	515	0	412	380	0	0	246	1006	1029	412	997	1019
V/C Ratio(X)	0.36	0.00	0.36	0.28	0.00	0.00	0.38	0.44	0.44	0.12	0.71	0.71
Avail Cap(c_a), veh/h	711	0	637	565	0	0	246	1006	1030	412	998	1019
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	16.1	17.9	0.0	0.0	17.6	6.0	6.0	8.8	7.6	7.7
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.4	0.0	0.0	1.0	0.3	0.3	0.1	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.4	1.1	0.0	0.0	0.9	1.4	1.5	0.2	3.3	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	0.0	16.7	18.3	0.0	0.0	18.6	6.3	6.3	8.9	9.9	10.0
LnGrp LOS	B	A	B	B	A	A	B	A	A	A	A	B
Approach Vol, veh/h		335			108			994			1478	
Approach Delay, s/veh		16.8			18.3			7.5			9.9	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		17.6		35.0		17.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		30.5		20.5		30.5		20.5				
Max Q Clear Time (g_c+I1), s		30.1		7.4		17.6		9.0				
Green Ext Time (p_c), s		0.4		5.7		12.9		3.3				
Intersection Summary												
HCM 6th Ctrl Delay			10.2									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Traffic Vol, veh/h	310	56	123	320	83	179
Future Vol, veh/h	310	56	123	320	83	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	175	175	-	175	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	13	14	2	9	9
Mvmt Flow	337	61	134	348	90	195

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	398	0	953	337
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	616	-
Critical Hdwy	-	-	4.24	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	-	-	2.326	-	3.581	3.381
Pot Cap-1 Maneuver	-	-	1098	-	279	689
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1098	-	245	689
Mov Cap-2 Maneuver	-	-	-	-	245	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	462	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	245	689	-	-	1098	-
HCM Lane V/C Ratio	0.368	0.282	-	-	0.122	-
HCM Control Delay (s)	28	12.3	-	-	8.7	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	1.6	1.2	-	-	0.4	-

BACKGROUND INFORMATION
Traffic Forecast Model

N-50 & Platteview Road Area

6/17/2020

Intersection	Leg	2010 Base Year Count	2018 Trafic Flow Map Count	2040 Model Forecast
N-50 & Platteview	North	11300	11600	20200
	East	3500	3600	9500
	South	9000	11300	17600
	West	2000	1400	8800
N-50 & Main	North	9000	11300	15000
	East	3500	700	5800
	South	8700	7900	14700
	West	No Count	No Count	No Forecast
156th & Platteview	North	125	200	600
	East	1300	1200	8100
	South	50	50	1800
	West	1000	900	7500

Note: volumes are 2-way AAWTs

Forecast volumes are post-processed estimates based on NCHRP 225 and use 2010 traffic counts as a base.

Sources:

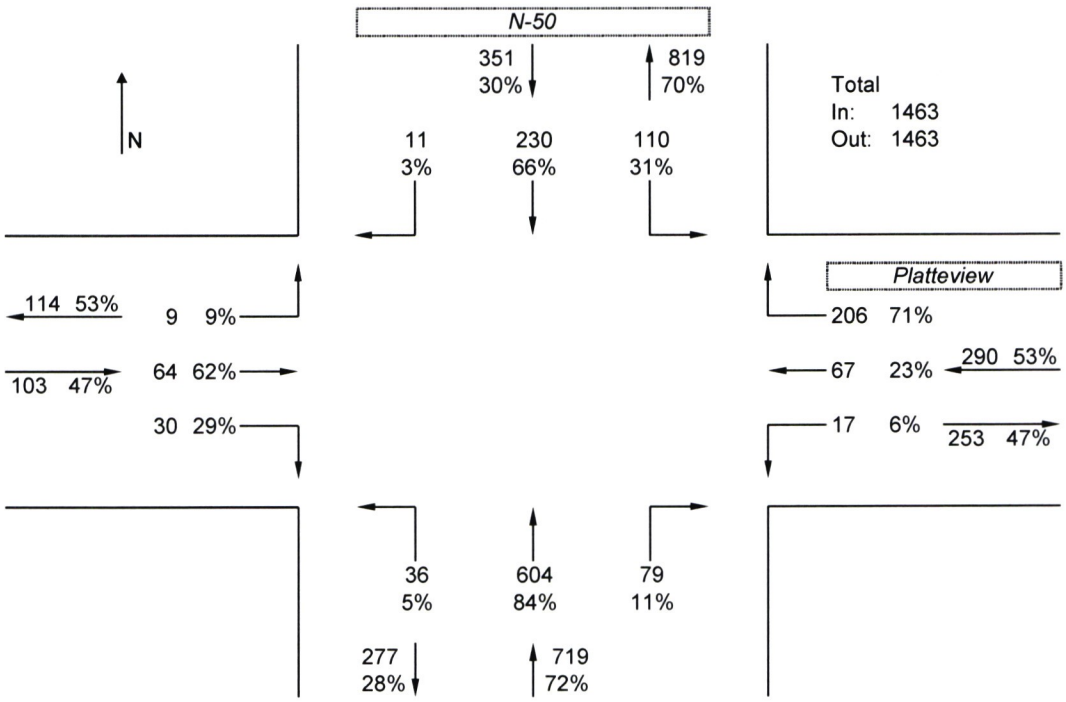
2040 assignments: Streets_n35d40.dbd as supplied

by MAPA on June 15th, 2015

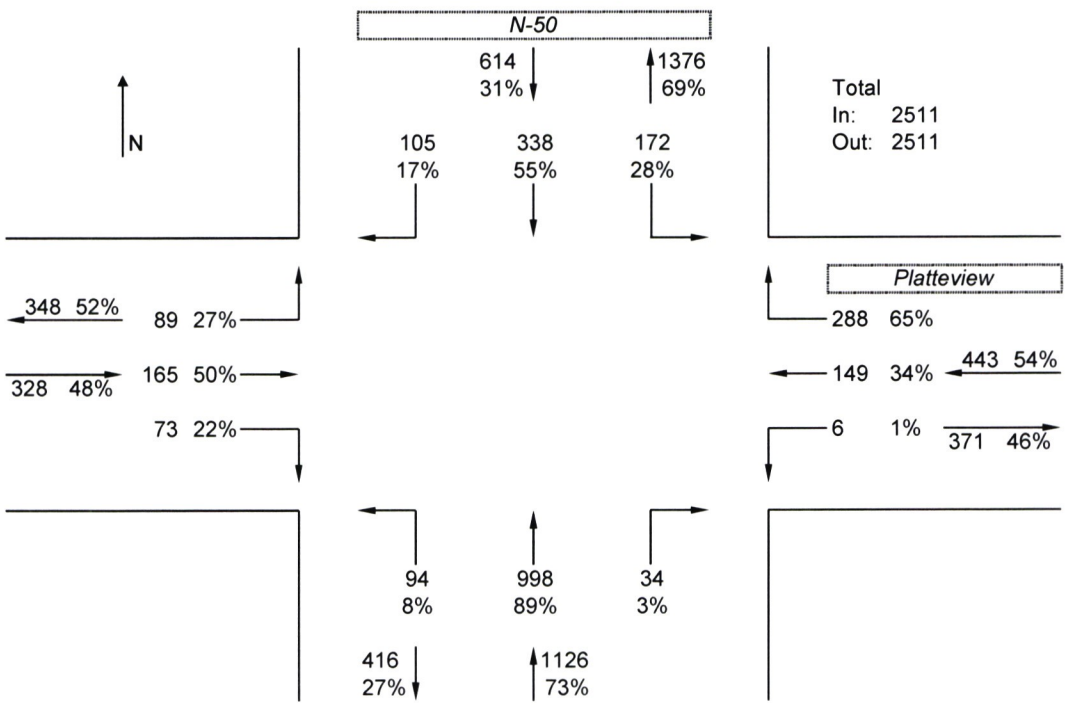
2018 Counts: 2018 Traffic Flow Map, MAPA Website

Junction: N-50 & Platteview Road (2-Lane)

Initial Volumes: 2020 **Time:** AM Peak

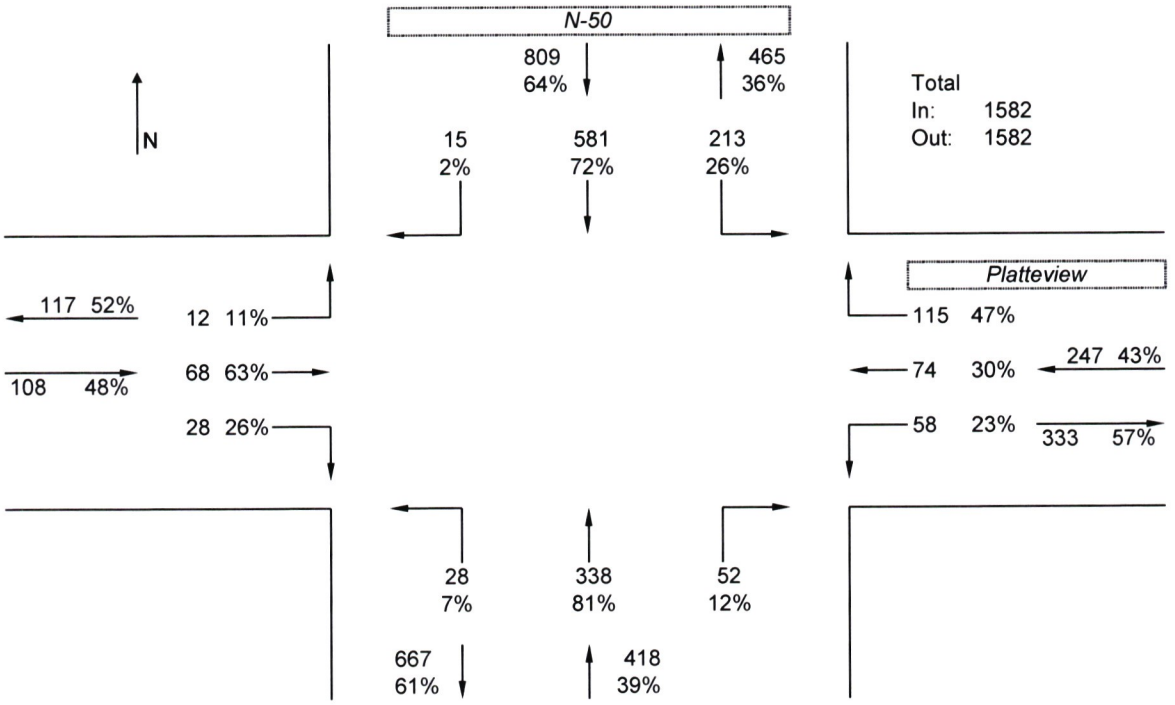


Future Volumes: 2040 **Time:** AM Peak

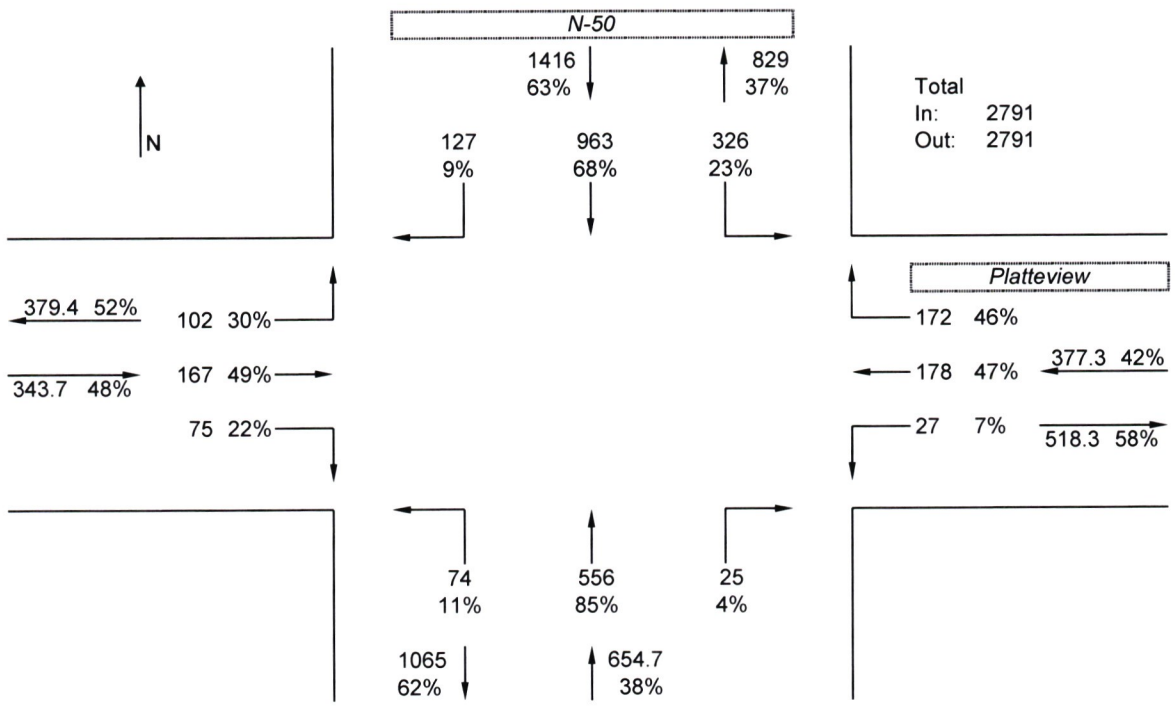


Junction: N-50 & Platteview Road (2-Lane)

Initial Volumes: 2020 **Time:** PM Peak



Future Volumes: 2040 **Time:** PM Peak



BACKGROUND INFORMATION

Synchro Queue Analysis

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	170	22	373	70	868	88	137	620
v/c Ratio	0.70	0.34	0.07	0.68	0.19	0.45	0.10	0.49	0.35
Control Delay	43.8	13.8	14.5	18.4	8.4	8.3	2.2	15.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	13.8	14.5	18.4	8.4	8.3	2.2	15.8	5.9
Queue Length 50th (ft)	33	33	5	69	10	75	0	23	37
Queue Length 95th (ft)	#100	73	19	148	32	133	16	81	74
Internal Link Dist (ft)		1468		522		1236			920
Turn Bay Length (ft)	175		175		125		175	175	
Base Capacity (vph)	207	633	431	671	395	2039	966	296	1874
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.27	0.05	0.56	0.18	0.43	0.09	0.46	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	84	23	132	976	6	541
v/c Ratio	0.20	0.13	0.04	0.33	0.62	0.03	0.35
Control Delay	14.4	4.8	10.7	12.0	12.9	8.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	4.8	10.7	12.0	12.9	8.2	6.7
Queue Length 50th (ft)	25	1	4	26	123	1	36
Queue Length 95th (ft)	53	23	16	59	170	6	61
Internal Link Dist (ft)		517	497		920		1236
Turn Bay Length (ft)				125		125	
Base Capacity (vph)	506	637	604	397	1584	200	1563
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.13	0.04	0.33	0.62	0.03	0.35

Intersection Summary

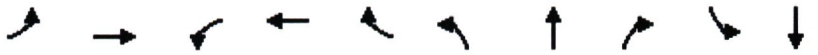
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	175	189	65	267	56	672	59	258	1010
v/c Ratio	0.75	0.37	0.21	0.50	0.25	0.34	0.06	0.70	0.51
Control Delay	41.5	15.2	17.4	14.3	11.5	7.3	2.2	24.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	15.2	17.4	14.3	11.5	7.3	2.2	24.6	8.3
Queue Length 50th (ft)	55	40	17	47	10	62	0	66	101
Queue Length 95th (ft)	#141	86	43	105	32	92	12	#187	146
Internal Link Dist (ft)		1468		522		1236			920
Turn Bay Length (ft)	175		175		125		175	175	
Base Capacity (vph)	268	579	361	603	228	1963	945	369	1991
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.33	0.18	0.44	0.25	0.34	0.06	0.70	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	187	148	78	94	737	30	1093
v/c Ratio	0.54	0.30	0.22	0.42	0.38	0.08	0.57
Control Delay	23.7	8.3	15.3	15.9	7.8	7.3	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	8.3	15.3	15.9	7.8	7.3	9.6
Queue Length 50th (ft)	54	12	17	19	71	5	123
Queue Length 95th (ft)	96	41	41	51	93	14	153
Internal Link Dist (ft)		489	541		920		1236
Turn Bay Length (ft)				125		125	
Base Capacity (vph)	430	589	440	222	1934	372	1916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.25	0.18	0.42	0.38	0.08	0.57

Intersection Summary



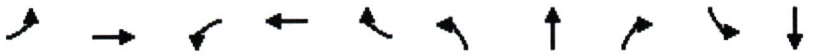
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	145	291	33	192	319	120	1192	93	192	741
v/c Ratio	0.61	0.63	0.20	0.70	0.56	0.45	0.81	0.12	0.69	0.39
Control Delay	36.6	31.6	34.5	49.0	20.6	25.4	27.4	1.4	28.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	31.6	34.5	49.0	20.6	25.4	27.4	1.4	28.7	8.7
Queue Length 50th (ft)	62	126	16	101	100	45	292	0	49	85
Queue Length 95th (ft)	112	209	43	170	181	104	402	12	#146	133
Internal Link Dist (ft)		1468		522			1236			920
Turn Bay Length (ft)	175		175		125	125		175	175	
Base Capacity (vph)	239	527	205	340	581	265	1479	753	288	1896
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.55	0.16	0.56	0.55	0.45	0.81	0.12	0.67	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	84	52	132	1379	6	683
v/c Ratio	0.35	0.20	0.17	0.30	0.72	0.04	0.37
Control Delay	19.8	6.3	15.3	9.2	11.5	7.0	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	6.3	15.3	9.2	11.5	7.0	5.8
Queue Length 50th (ft)	27	1	11	16	124	1	35
Queue Length 95th (ft)	57	25	32	58	276	6	87
Internal Link Dist (ft)		517	497		920		1236
Turn Bay Length (ft)				125		125	
Base Capacity (vph)	507	651	529	435	1924	157	1838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.13	0.10	0.30	0.72	0.04	0.37

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	218	308	75	213	188	94	763	65	349	1317
v/c Ratio	0.97	0.60	0.40	0.66	0.44	0.57	0.36	0.06	0.94	0.62
Control Delay	85.1	29.7	38.1	43.5	8.4	27.9	9.0	1.3	52.6	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.1	29.7	38.1	43.5	8.4	27.9	9.0	1.3	52.6	11.9
Queue Length 50th (ft)	98	132	37	110	0	28	98	0	159	208
Queue Length 95th (ft)	#234	216	79	183	54	#114	144	11	#369	296
Internal Link Dist (ft)		1468		522			1236			920
Turn Bay Length (ft)	175		175		125	125		175	175	
Base Capacity (vph)	224	572	226	388	475	166	2095	1014	373	2119
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.54	0.33	0.55	0.40	0.57	0.36	0.06	0.94	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	187	148	108	94	900	48	1430
v/c Ratio	0.46	0.30	0.27	0.71	0.48	0.17	0.77
Control Delay	19.5	12.8	14.1	48.2	9.3	9.7	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	12.8	14.1	48.2	9.3	9.7	14.5
Queue Length 50th (ft)	50	28	22	25	100	9	207
Queue Length 95th (ft)	88	57	48	#93	127	23	251
Internal Link Dist (ft)		489	541		920		1236
Turn Bay Length (ft)				125		125	
Base Capacity (vph)	517	626	503	132	1880	278	1863
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.24	0.21	0.71	0.48	0.17	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

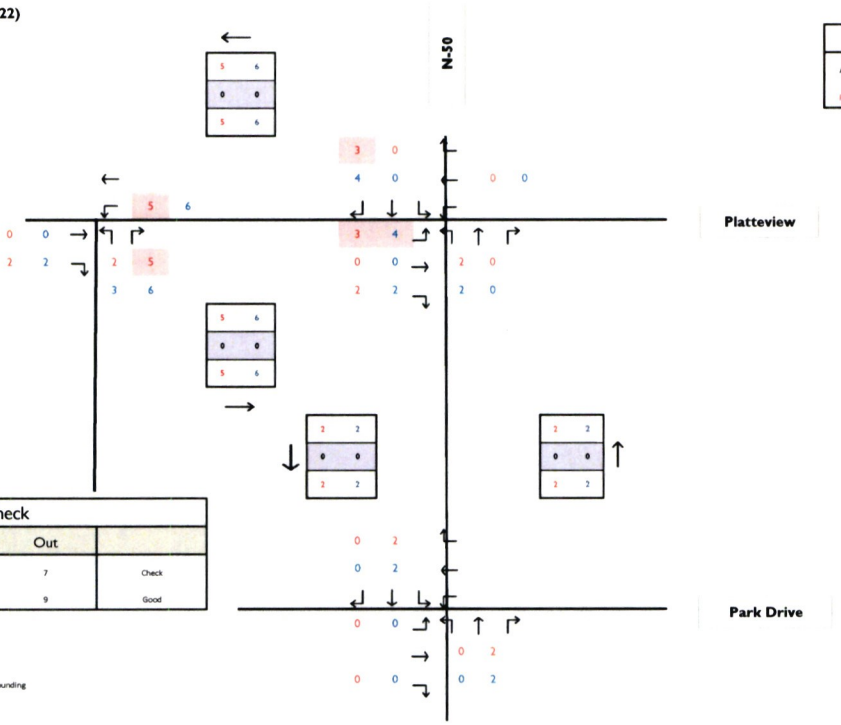
BACKGROUND INFORMATION
Truck Traffic Distribution Model

Truck - Trip Generation (2022)

Key
AM
PM
Dismissal

* not to scale

	IN	OUT
AM Total	8	8
PM Total	8	9



Check			
	IN	Out	
AM	7	7	Check
PM	8	9	Good

Checker

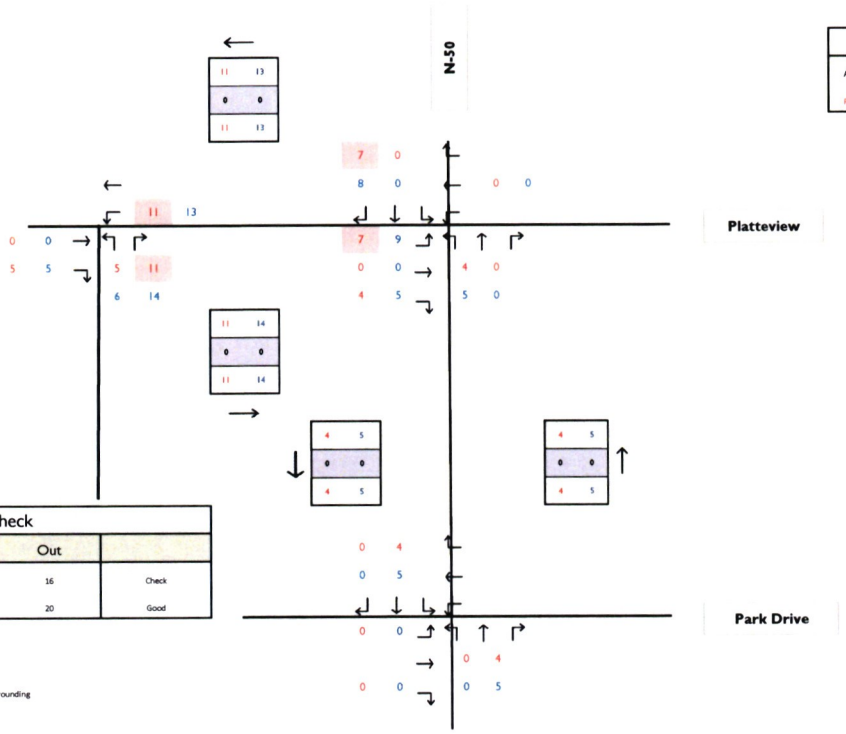
Edited (to make balance) *due to rounding

Truck - Trip Generation

Key
AM
PM
Dismissal

* not to scale

	IN	OUT
AM Total	17	17
PM Total	18	20



Check			
	IN	Out	
AM	16	16	Check
PM	18	20	Good

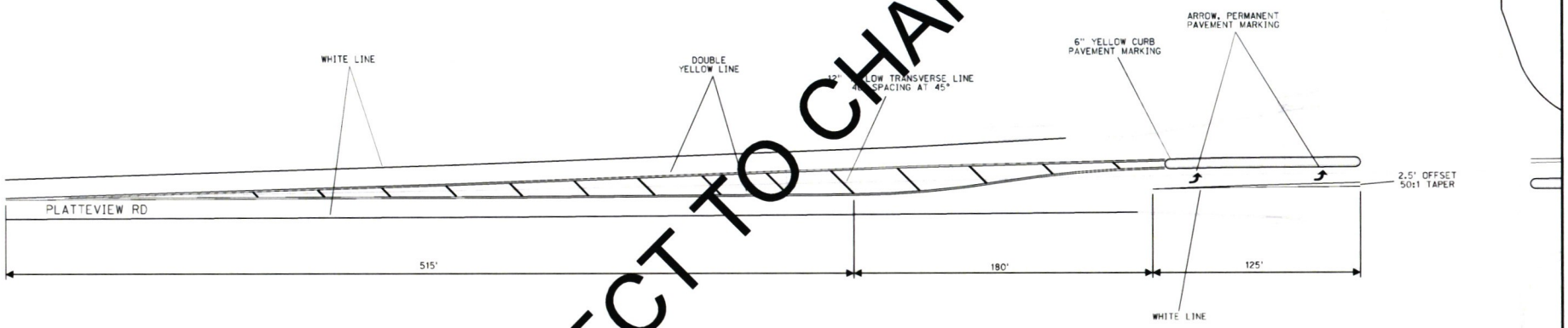
Checker

Edited (to make balance) *due to rounding

BACKGROUND INFORMATION

NDOT Plans: N-50 with Platteview Road

PROJECT NO.	SHEET NO.
50-2(1136)	M8
C.N. 22726	



GENERAL NOTES

1. PAVEMENT MARKINGS SHOWN SHALL BE 5" WET REFLECTIVE POLYUREA PAVEMENT MARKING, GROOVED, UNLESS SHOWN OTHERWISE OR APPROVED BY THE ENGINEER.
2. SEE "STANDARD PLAN 941: PAVEMENT MARKING" AND "TYPICAL PAVEMENT MARKING PLAN: PAVEMENT MARKING DETAILS" FOR DETAILS NOT SHOWN.
3. ALL PERMANENT PAVEMENT MARKING SHALL BE INSTALLED WITH SMOOTH AND GRADUAL TRANSITIONS AND ALIGNMENTS. WHEN NECESSARY, THE CONTRACTOR SHALL PREMARK THE SURFACE PRIOR TO PLACING THE MARKINGS.
4. NEW PAVEMENT MARKING SHALL BE ALIGNED WITH EXISTING PAVEMENT MARKING WHERE NECESSARY.
5. MINIMUM WIDTH OF TRAVELLED LANE SHALL BE 12', UNLESS SHOWN OTHERWISE OR APPROVED BY THE ENGINEER.
6. REMOVE ALL CONFLICTING PAVEMENT MARKING FROM ROADWAY.
7. EXACT LIMITS OF PAVEMENT MARKING INSTALLATION SHALL BE DETERMINED BY THE ENGINEER. ADDITIONAL PAVEMENT MARKINGS MAY NEED TO BE INSTALLED DUE TO CONSTRUCTION ACTIVITIES ALONG N-50 OR PLATTEVIEW ROAD.

Apr [illegible] 20

NEBRASKA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

PAVEMENT MARKING PLAN

DESIGNED	DJS	N-50 / PLATTEVIEW RD IN SPRINGFIELD	1/2
REVIEWED			
APPROVED		DATE DRAWN 04/20	TRAFFIC ENGINEER / DATE

PROJECT NO.	SHEET NO.
50-2(1136) C.N. 22726	M9

TRAFFIC ENGINEERING DIVISION

Files: 22726tr-officontrolplan Date: 16-APR-2020 14:16 Computer: NDOTTRAFFICE

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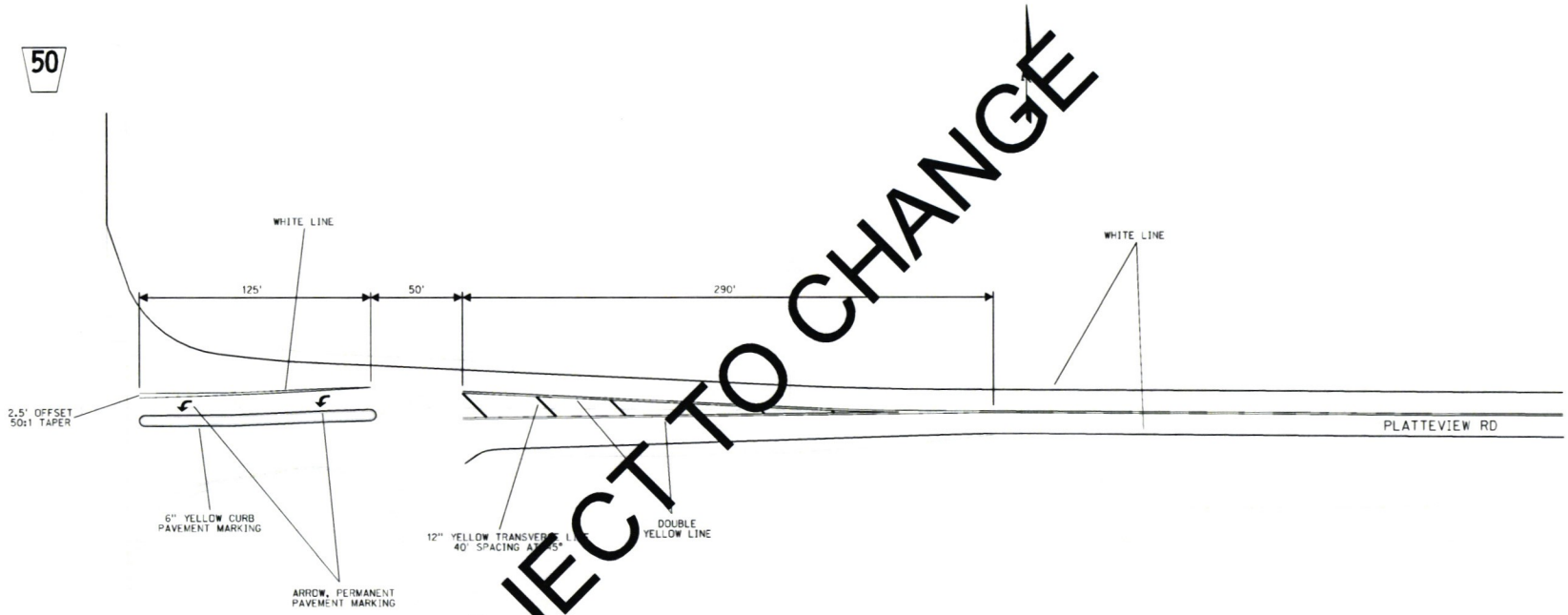

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GENERAL NOTES

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Apr [illegible] 2020

NEBRASKA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION

PAVEMENT MARKING PLAN

DESIGNED	DJS	N-50 / PLATTEVIEW RD IN SPRINGFIELD	2/2
REVIEWED			
APPROVED		DATE DRAWN 04/20	TRAFFIC ENGINEER / DATE