



**REGULAR MEETING
AMENDED AGENDA
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
APRIL 24, 2017
7:30 PM**

CALL TO ORDER

PLEDGE OF ALLEGIANCE

INVOCATION

ROLL CALL

COMMENTS FROM THE GENERAL PUBLIC

(Citizens are asked to limit comments to three minutes and to complete a speaker card)

ACCEPTANCE OF THE AGENDA

ANNOUNCEMENTS

*The City Council meets the 2nd and 4th Monday of each month
6:00 p.m. - 7:00 p.m. - Work Session
7:00 p.m. - Regular Meeting of the City Council*

*However, the regularly scheduled Council meeting of Monday, May 8, 2017 will
begin at 7:30 p.m. due to an extended work session*

ACCEPTANCE OF CERTIFIED ELECTION RESULTS OF APRIL 4, 2017

SWEARING IN OF NEWLY ELECTED OFFICIALS

1. CONSENT AGENDA

a. Council Minutes Dated April 13, 2017

b. Park Sponsorship Program

Summary: The Parks Sponsorship Program received a \$1,000 donation from Parkcrest Plastic Surgery Inc. to sponsor the Heart 2 Heart event and is awaiting Council's approval.

c. Park Sponsorship Program

Summary: The Park Sponsorship Program received a \$2,000 donation from Bruton Stroube Studios to sponsor the Farmer's Market for \$1,000 and the summer concert series for \$1,000 and is awaiting Council's approval.



**AMENDED AGENDA
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
APRIL 24, 2017
7:30 PM**

BILLS PAYABLE REPORT

For Information Only

Summary: Attached for your information is a bills payable listing dated April 20, 2017 in the amount of \$331,317.84. No vote is required.

UNFINISHED BUSINESS

- 2. Bill No. 5648 - an Ordinance Authorizing and Directing the Issuance, Sale and Delivery of General Obligation Bonds, Series 2017, of the City of Creve Coeur, Missouri; Providing for the Levy and Collection of an Annual Tax for the Purpose of Paying the Principal of and Interest on the Bonds as They Become Due; and Authorizing Certain Other Documents and Actions in Connection Therewith. Final Reading and Passage**

Summary: The ordinance will provide for the issuance of general obligation bonds for the purpose of constructing, furnishing and equipping a new police station on the current government center property and making safety, security and accessibility renovations to the existing building, and establishing a tax levy to retire the bonds.

NEW BUSINESS

- 3. Bill No. 5649 - an Ordinance Repealing Ordinance No. 1882 and Authorizing the Issuance of a New Conditional Use Permit for a 2,600 Square-Foot Eating and Drinking Establishment, with Drive-Thru Service, Located at 10453 Olive Boulevard, Within the Creve Coeur Pavilion Shopping Center. First Reading**

Summary: Eric Abeln, Architect for Heights Venture, has submitted revised drawings for a new Panda Express drive-thru restaurant located on the 10453 Olive Boulevard lot within the Creve Coeur Pavilion Shopping Center on the site near the former Macaroni Grill Restaurant. The subject property is zoned CB, Core Business District. All Limited-Service Restaurants (NAICS 722513), with Drive-thru Services (NAICS 722) are permitted as a conditional use with review and approval by the City Council upon the recommendation of the Planning and Zoning Commission. The Commission recommended approval on April 17, 2017.

- 4. Presentation of a Conditional Use Permit, Site Development Plan and Boundary Adjustment for a Mobil-On-The-Run Convenience Store with Gas Pumps and Briteworx Car Wash Facility Located at 11109-11141 Olive Boulevard & 11100-11114 Oak Lake Court, Currently Zoned GC General Commercial and C Single Family Residential**

Summary: Kevin Kamp, of Civil & Environmental Consultants, Inc. has submitted a revised application on behalf of Wallis Companies (Arch Energy, LLC), for the rezoning



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of 11127,11135 & 11141 Olive Boulevard, from C-Single Family Residential District to GC-General Commercial District and a Conditional Use Permit and Site Development Plan application for a new Mobil on the Run convenience store with gas pumps and BriteWorx Car Wash facility encompassing 11109-11141 Olive Boulevard and 11100-11114 Oak Lake Court. The Planning and Zoning Commission conducted a public hearing on this request on December 5, 2016 and recommended against the request. The Applicants have requested that the revised proposal proceed to City Council for review. An ordinance to approve this request has not been provided at this time pending further direction from the City Council.

5. Resolution No. 1285 - a Resolution Approving Attorney Retainer Agreement Regarding Disputes Concerning Telecommunications License Taxes.

Summary: Telecommunications license tax collections have dropped significantly without adequate explanation by the companies. The Resolution will authorize legal counsel to investigate further and pursue remedies, without cost to City absent recovery of unpaid taxes.

APPOINTMENTS

6. Council President

BUSINESS FROM MAYOR AND CITY COUNCIL

7. Council Liaison Reports

BUSINESS FROM CITY ADMINISTRATOR

Pursuant to Section 610.022 RSMo., the City Council could, at any time during the meeting, vote to close the public meeting and move to closed session to discuss matters relating to litigation, legal actions and/or communications from the City Attorney as provided under Section 610.021(1) RSMo. and/or personnel matters under Section 610.021(13) RSMo. And/or employee matters under Section 610.021(3) RSMo. and/or real estate matters under Section 610.021(2) or other matters as permitted by Chapter 610.

Posted: _____ posted 04/20/2017
Deborah Ryan, MPCC
City Clerk



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Legislative /City Clerk
Category: Report
Prepared By: Debbie Ryan
Department Head: Debbie Ryan

SCHEDULED

STAFF REPORT

Acceptance of Certified Election Results of April 4, 2017

CITY OF CREVE COEUR

GENERAL MUNICIPAL ELECTION
ST. LOUIS COUNTY, MISSOURI
TUESDAY, APRIL 4, 2017

OFFICIAL FINAL RESULTS

RUN DATE:04/17/17 10:00 AM

WITH 19 OF 19 PRECINCTS REPORTING

	TOTAL	PERCENT		TOTAL	PERCENT
01 = REGISTERED VOTERS - TOTAL	13,808		03 = VOTER TURNOUT - TOTAL	2,502	18.12
02 = BALLOTS CAST - TOTAL	2,502				

	01	02	03
0301 CC1	1341	225	16.78
0304 CC4,54	522	49	9.39
0309 CC9,11,16,21,28	1887	311	16.48
0310 CC10	229	47	20.52
0314 CC14	1625	338	20.80
0323 CC23	1347	266	19.75
0325 CC25	640	91	14.22
0330 CC30	170	15	8.82
0332 CC32,56	53	20	37.74
0333 CC33,48,58	920	175	19.02
0336 CC36,46	981	240	24.46
0349 CC49	683	100	14.64
0352 CC52	171	48	28.07
0355 CC55	423	83	19.62
1609 MHT9	1442	241	16.71
1650 MHT50	915	155	16.94
1651 MHT51	151	26	17.22
1653 MHT53	116	39	33.62
1655 MHT55	192	33	17.19

WITH 5 OF 5 REPORTING

COUNCIL MEMBER CREVE COEUR WARD 1

	VOTES	PERCENT
(Vote for) 1		
01 = ALEXIS TRAVERS	542	97.48
02 = INVALID WRITE-IN	14	2.52

	01	02
0323 CC23	203	5
0330 CC30	12	1
0332 CC32,56	17	0
0333 CC33,48,58	135	1
0336 CC36,46	175	7

WITH 6 OF 6 REPORTING

COUNCIL MEMBER CREVE COEUR WARD 2

	VOTES	PERCENT
(Vote for) 1		
01 = ELLEN LAWRENCE	548	96.82
02 = INVALID WRITE-IN	18	3.18

	01	02
0304 CC4,54	40	1
0314 CC14	287	14
0325 CC25	80	2
0352 CC52	41	0
0355 CC55	70	1
1653 MHT53	30	0

WITH 4 OF 4 REPORTING

COUNCIL MEMBER CREVE COEUR WARD 3

	VOTES	PERCENT
(Vote for) 1		
01 = CHARLOTTE D'ALFONSO	444	96.52
02 = INVALID WRITE-IN	16	3.48

	01	02
0309 CC9,11,16,21,28	264	8
0310 CC10	37	1
1650 MHT50	127	5
1651 MHT51	16	2

WITH 4 OF 4 REPORTING

COUNCIL MEMBER CREVE COEUR WARD 4

	VOTES	PERCENT
(Vote for) 1		
01 = SCOTT SAUNDERS	487	95.12
02 = INVALID WRITE-IN	25	4.88

	01	02
0301 CC1	187	5
0349 CC49	87	3
1609 MHT9	192	8
1655 MHT55	21	9

WE, THE BOARD OF ELECTION COMMISSIONERS OF ST. LOUIS COUNTY, MISSOURI, ACTING AS THE VERIFICATION BOARD PURSUANT TO SECTION 115.507,RSMo, HEREBY CERTIFY T
FOREGOING TO BE A TRUE AND CORRECT ABSTRACT OF VOTES CAST FOR THE CANDIDATES AND ISSUES AT THE MUNICIPAL GENERAL ELECTION HELD IN ST. LOUIS COUNTY, MISSOU
APRIL 4,2017. IN TESTIMONY WHEREOF, WE HAVE HEREUNTO SET OUR HAND AT OUR OFFICE IN MAPLEWOOD, ST. LOUIS COUNTY, MISSOURI, ON APRIL 17, 2017.

Richard H. Kellett
RICHARD H. KELLETT, CHAIRMAN

John W. Hauptin
JOHN W. HAUPTIN, SECRETARY

Trudi McCollum Foushee
TRUDI MCCOLLUM FOUSHEE, COMMISSIONER





City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Debbie Ryan
City Clerk
(314) 872-2517
www.creve-coeur.org/

Meeting: 04/24/17 07:30 PM

DOC ID: 2417

COUNCIL MINUTES (ID # 2417)

Council Minutes Dated April 13, 2017



**MINUTES
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
APRIL 13, 2017
7:30 PM**

CALL TO ORDER

A regular meeting of the City Council of the City of Creve Coeur was called to order by Mayor Glantz at the Creve Coeur Government Center, 300 N. New Ballas Road on Thursday, April 13, 2017 at 7:30 p.m.

PLEDGE OF ALLEGIANCE

Mayor Glantz led the Pledge of Allegiance.

INVOCATION

Mayor Glantz gave the invocation.

ROLL CALL

Mr. Glantz	Mayor
Mr. Faron	Council Member Ward I
Ms. Travers	Council Member Ward I
Mr. Ruzicka	Council Member Ward II
Mrs. Lawrence	Council Member Ward II
Mrs. D'Alfonso	Council Member Ward III
Mr. Hoffman	Council Member Ward III
Mr. Saunders	Council Member Ward IV
Mrs. Baseley	Council Member Ward IV

COMMENTS FROM THE GENERAL PUBLIC

(Citizens are asked to limit comments to three minutes and to complete a speaker card)

Corey Mueller, Police Department Detective, read a statement for the record supporting the proposed LAGERS retirement program. (Exhibit A)

Omar Hamzehzadah, employee of the Police Department, stated tomorrow is his last day and one of the larger reasons he was leaving his employment with Creve Coeur and going to another jurisdiction was because of the retirement plan.

Kirsten Ellerbush, Police Department Detective, read a statement for the record supporting the proposed LAGERS retirement program. (Exhibit B)

Rabbi Shook, resident of 44 Oak Parc Drive and PD Rabbi, stated he has been a resident for over 40 years and a PD Chaplain for 27 years. There have been three significant events over the last 20 years that have changed law enforcement and transformed how officers look at their jobs. Providing a good retirement for the officers and their families tells the officers that the city and elected officials have their best interest at heart and he urged the Council to approve the proposed change to LAGERS retirement.

Emily Manninger, spouse of a Creve Coeur Officer, asked the Council to consider all the



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neighboring municipalities that currently provide LAGERS for their employees. Those are the departments that all of the Creve Coeur employees are leaving to go to.

James Gerst, Chair of the Police and Safety Committee read and submitted a letter for the record. (Exhibit C)

Council Member D'Alfonso suggested inviting a few employee representatives to the planned joint work session on pension plans.

ACCEPTANCE OF THE AGENDA

Council Member Saunders moved, seconded by Council Member Faron to accept the agenda as presented, with the vote upon such motion as follows, to-wit:

Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member D'Alfonso – Aye
Council Member Saunders – Aye
Council Member Lawrence – Aye
Council Member Hoffman – Aye
Council Member Baseley – Aye
Council Member Travers – Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

ANNOUNCEMENTS

***The City Council meets the 2nd and 4th Monday of each month
6:00 p.m. - 7:00 p.m. - Work Session
7:00 p.m. - Regular Meeting of the City Council***

***However, the regularly scheduled Council meeting of Monday, April 24,
2017 will begin at 7:30 p.m. due to an extended work session***

Public Hearing: Thursday, April 13, 2017 - 7:30 P.M. - Capital Improvement Plan for Fiscal Years 2018 through 2022 www.Creve-Coeur.Org/CIP

A presentation was made by Sharon Stott, Assistant to the City Administrator, regarding the Capital Improvement Plan for Fiscal Years 2018 through 2022. Mark Perkins also spoke during the presentation.

Mel Klearman resident of 746 Bergerac Drive spoke during the hearing.

There being no further comments, the City Attorney presented exhibits for the record



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and the public hearing was closed.

1. CONSENT AGENDA

Council Member Saunders moved, seconded by Council Member Hoffman to approve the consent agenda as presented.

a. Council Minutes Dated March 27, 2017

b. Park Sponsorship Program Business List

c. Records Destruction

Mayor Glantz called the question to approve the consent agenda as presented, with the votes upon such motion as follows, to-wit:

Council Member Saunders - Aye
Council Member D'Alfonso – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Travers – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence - Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

BILLS PAYABLE REPORT

For Information Only

Summary: Attached for your information is a list of bills payable dated April 4, 2017 in the amount of \$441,091.67. No Vote is required.

UNFINISHED BUSINESS

**2. Bill No. 5647 - an Ordinance Amending Section 405.310, "PH" Planned Hospital District, of the Code of Ordinances of the City of Creve Coeur.
Final Reading and Passage**

City Clerk read Bill No. 5647 for the final time.

Council Member Hoffman disclosed he sees patients at the hospital but has no financial gain with Mercy.

Council Member Travers recused herself as Mercy is her employer.

Council Member Baseley moved, seconded by Council Member Faron to approve Bill No. 5647, with the vote upon such motion as follows, to-wit:



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Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence – Aye
Council Member Saunders – Aye
Council Member D’Alfonso – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye

The vote on the motion being 7 ayes and 0 nays, motion carried. Bill No. 5647 becomes Ordinance No. 5526.

NEW BUSINESS

3. Resolution No. 1281 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Approving the 2018-2020 Strategic Plan

City Clerk read Resolution No. 1281.

Council Member Hoffman moved, seconded by Council Member Baseley to approve Resolution No. 1281, with the vote upon such motion as follows, to-wit:

Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member D’Alfonso – Aye
Council Member Saunders – Aye
Council Member Lawrence – Aye
Council Member Hoffman – Aye
Council Member Baseley – Aye
Council Member Travers – Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

4. Resolution No. 1282 - a Resolution to Adopt the Capital Improvement Plan for the City of Creve Coeur for the Period FY 2018 through FY 2022

City Clerk read Resolution No. 1282.

Council Member Faron moved, seconded by Council Member Saunders to approve Resolution No. 1282, with the vote upon such motion as follows, to-wit:

Council Member Travers – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence – Aye
Council Member Faron – Aye
Council Member Ruzicka – Aye



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Council Member D'Alfonso – Aye
Council Member Saunders – Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

5. Resolution No. 1283 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Authorizing the Execution of the Necessary Documents for Submitting the Project Proposal Application and Later for Executing an Agreement with the Missouri Highway and Transportation Commission for a Grant-In-Aid through the Federal Transportation Alternatives Program (TAP) for the North New Ballas Phase 2A Sidewalk Project.

City Clerk read Resolution No. 1283.

Council Member Hoffman moved, seconded by Council Member D'Alfonso to approve Resolution No. 1283.

Council Member Lawrence asked if staff is expecting the need to purchase easements.

Mark Perkins stated it is a possibility but staff will work on getting property owners to grant easements for the project.

Mayor Glantz called the question to approve Resolution No. 1283, with the vote upon such motion as follows, to-wit:

Council Member Lawrence – Aye
Council Member Hoffman – Aye
Council Member Baseley – Aye
Council Member Travers – Aye
Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member D'Alfonso – Aye
Council Member Saunders – Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

6. Resolution No. 1284 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Authorizing the Execution of the Necessary Documents for Submitting an Application to Partner with East West Gateway Council of Governments, the Saint Louis Economic Development Partnership, and Saint Louis County for a Great Streets Planning Study for Old Olive Street Road and Later for the Execution of the Related Agreements.

City Clerk read Resolution No. 1284.



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300 NORTH NEW BALLAS RD
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7:30 PM**

Council Member Faron moved, seconded by Council Member Hoffman to approve Resolution No. 1284, with the votes upon such motion as follows, to-wit:

Council Member Saunders - Aye
Council Member D'Alfonso – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Travers – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence - Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

APPOINTMENTS

7. Olive/Graeser TDD Board

Mayor Glantz stated with Dan Smith retiring and the hiring of Tracy Hansen as Finance Director the change needs to be made on the Olive/Graeser TDD Board.

Council Member Saunders moved, seconded by Council Member D'Alfonso to approve the appointment of Tracy Hansen to the Olive/Graeser TDD Board to replace Dan Smith, with the votes upon such motion as follows, to-wit:

Council Member Saunders - Aye
Council Member D'Alfonso – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Travers – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence - Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

BUSINESS FROM MAYOR AND CITY COUNCIL

8. Council Liaison Reports

Council Member Hoffman stated the HEB will hold its annual Arbor Day event on April 30, 2017.

Council Member Lawrence stated the Heart to Heart subcommittee met and requested Council members send out information from their personal list serves about the event.



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7:30 PM**

Council Member Lawrence stated there was a Parks and Recreation Committee meeting and Katy Dixon has obtained a grant for 50/50 advertising. The Farmers Market has made the front cover of Our Town Magazine. The Parks Sign subcommittee met and the Parks Master Sign Plan is coming along. There will be a dog Easter-bone hunt on April 15, 2017 from 1 – 3 p.m.

Council Member Faron stated the next meeting of the Storm Water Committee is scheduled for May 4, 2017. Many of the storm water issues and projects were covered in tonight's Public Hearing for the CIP.

Council Member D'Alfonso stated the EDC will meet April 20, 2017.

Council Member Baseley stated the Police and Safety Committee held an informal meeting with staff regarding the proposed DB plan and a letter was submitted tonight for the record supporting the move to the new plan.

BUSINESS FROM CITY ADMINISTRATOR

9. Ice Rink Garage Door Replacement

Mark Perkins stated although this purchase is within the amount the staff can approve, it is an unbudgeted replacement and wanted to bring it to Council's attention. A budget amendment will be forthcoming for this purchase.

Council Member Hoffman moved, seconded by Council Member D'Alfonso to go into Executive Session for Attorney Client and Real Estate discussions, with the vote upon such motion being as follows, to-wit:

Council Member Travers – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence – Aye
Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member D'Alfonso – Aye
Council Member Saunders – Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.

Council Member Hoffman moved, seconded by Council Member Saunders to resume regular session at 9:06 p.m., with the votes upon such motion as follows, to-wit:

Council Member Saunders - Aye
Council Member D'Alfonso – Aye



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Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Travers – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence - Aye

The vote on the motion being 8 ayes and 0 nays, motion carried.
Council Member Baseley moved, seconded by Council Member Lawrence to adjourn at 9:07 p.m., with the vote upon such motion being as follows, to-wit:

Council Member Baseley – Aye
Council Member Lawrence - Aye
Council Member Saunders – Aye
Council Member D'Alfonso - Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Hoffman – Aye
Council Member Travers - Aye

The vote on the motion being 8 ayes and 0 nays, motioned carried.

Submitted by:

Deborah Ryan
City Clerk

Barry Glantz
Mayor



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Parks and Recreation Department
Category: Report
Prepared By: Jason Valvero
Department Head: Jason Valvero

SCHEDULED

STAFF REPORT

Park Sponsorship Program

The Parks Sponsorship Program received a \$1,000 donation from Parkcrest Plastic Surgery Inc. to sponsor the Heart 2 Heart event and is awaiting Council's approval.

CITY OF CREVE COEUR

**MEMORANDUM**

Date: April 18, 2017
To: Mark Perkins, City Administrator
From: Jason Valvero, Director of Recreation
CC:
Subject: Park Program Sponsorship Donations

Please consider acceptance of the following donations for three (3) programs presented by the Parks and Recreation Department:

- A \$1,000 donation from the Parkcrest Plastic Surgery, Inc. for sponsorship of the annual Heart 2 Heart event.
- A \$1,000 donation from Bruton Stroube Studios for sponsorship of the farmer's market.
- A \$1,000 donation from Bruton Stroube Studios for sponsorship of the park concert series.

The donations will help off-set some of the costs associated with planning and implementing the programs and events.



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Parks and Recreation Department
Category: Report
Prepared By: Jason Valvero
Department Head: Jason Valvero

SCHEDULED

STAFF REPORT

Park Sponsorship Program

The Park Sponsorship Program received a \$2,000 donation from Bruton Stroube Studios to sponsor the Farmer's Market for \$1,000 and the summer concert series for \$1,000 and is awaiting Council's approval.

CITY OF CREVE COEUR

**MEMORANDUM**

Date: April 18, 2017
To: Mark Perkins, City Administrator
From: Jason Valvero, Director of Recreation
CC:
Subject: Park Program Sponsorship Donations

Please consider acceptance of the following donations for three (3) programs presented by the Parks and Recreation Department:

- A \$1,000 donation from the Parkcrest Plastic Surgery, Inc. for sponsorship of the annual Heart 2 Heart event.
- A \$1,000 donation from Bruton Stroube Studios for sponsorship of the farmer's market.
- A \$1,000 donation from Bruton Stroube Studios for sponsorship of the park concert series.

The donations will help off-set some of the costs associated with planning and implementing the programs and events.



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Finance Department
Category: Report
Prepared By: Sherry Hall
Initiator: Debbie Loso
Sponsors:
DOC ID: 2421

SCHEDULED

BILLS LISTING (ID # 2421)

Bills Payable Listing

Attached for your information is a bills payable listing dated April 20, 2017 in the amount of \$331,317.84. No vote is required.



City of Creve Coeur
300 N. New Ballas Road
Creve Coeur, Missouri 63141
(314) 432-6000
www.creve-coeur.org

DATE: April 20, 2017

TO: Mark Perkins, City Administrator

FROM: Daniel Smith, Director of Finance

SUBJECT: Bills Payable

For your information and transmittal to the City Council, is a list of bills payable dated April 20, 2017 in the amount of \$331,317.84.



CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

a

4/20/2017

NO DEPT - NO DIV

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01940	P002707	080736	09-Mar-17	ADVERTISING PREMIUM SALES, INC.	SHIRTS FOR MASTERS MAYHEM	06-00-00-1628	1,184.40
00344		1002610150	28-Mar-17	BRIDGESTONE GOLF, INC.	GOLF BALLS FOR RESALE	06-00-00-1625	178.32
00121		927646706	28-Mar-17	CALLAWAY GOLF	HATS FOR RESALE	06-00-00-1628	295.20
00121		927646706	28-Mar-17	CALLAWAY GOLF	TOWELS FOR RESALE	06-00-00-1631	85.50
00188	157	101216	12-Oct-16	ANDREW DIELMANN	SEWER LATERAL REPAIR REIMB	02-00-00-1901	356.80
00188	255	032117	21-Mar-17	CHARLES REEVES	SEWER LATERAL REPAIR REIMB	02-00-00-1901	899.50
Sum of Invoices							2,999.72



**CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING**

a

4/20/2017

LEGISLATIVE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00136		3947	17-Apr-17	CHAMBER OF COMMERCE CREVE COEUR/OLIVETTE	ANNUAL MEMBERSHIP DUES	01-11-12-6262	850.00
00019	P002524	124723	04-Apr-17	CURTIS, HEINZ, GARRETT & O'KEEFE	LEGAL FEES-CITY ATTY-MAR 2017	01-11-12-6201	11,739.00
00080		4691-145-5	13-Apr-17	DIERBERGS	FOOD FOR STAFF/COUNCIL	01-11-12-6264	19.96
02689		033117	31-Mar-17	RICHARD C. BRESNAHAN, ATTY	LEGAL FEES-PROSC. ATTY-MAR 17	01-11-12-6201	3,409.00
Sum of Invoices							16,017.96



CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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Administration

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01120		040317	03-Apr-17	ASI	HRA FEES-MARCH 2017	01-12-11-6202	200.00
01120		A00017867303HUY	31-Mar-17	ASI	HRA/FSA ADMIN FEES-MAR 2017	01-12-11-6203	511.50
02443		106440	15-Apr-17	BENEFLEX HR RESOURCES, INC.	MONTHLY COBRA ADMINISTRATION	01-12-11-6203	297.95
01997		4210649	31-Mar-17	EQUIFAX INFORMATION SERVICES	INFORMATION SERVICE	01-12-11-6202	15.86
00053		392247	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	140.00
00053		391591	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	140.00
00053		391089	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	142.00
00053		393994	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	140.00
00053		390313	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	140.00
00053		390274	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	140.00
00053		395507	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-12-11-6271	140.00
01305		TMS032817	05-Apr-17	MISSOURI-LTAP	TRACTOR MOWER SAFETY TNG	01-12-11-6203	45.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-12-11-6253	52.28
Sum of Invoices							2,104.59



CITY OF CREVE COEUR
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IT

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02338		78209	10-Apr-17	ID EDGE INC	ID CARDS/INK RIBBON	01-12-51-7331	123.25
02654		0115519	19-Apr-17	UMZUZU LLC	VIRTRU-EMAL ENCRYPTION	01-12-51-7332	360.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-12-51-6253	62.28
Sum of Invoices							545.53



CITY OF CREVE COEUR
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FINANCE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00030		40417	04-Apr-17	DANIEL SMITH	SVCS PROVIDED 3/15 - 31/2017	01-13-11-6202	2,600.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-13-11-6253	68.41
Sum of Invoices							2,668.41



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INTERDEPARTMENTAL

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02737		126	29-Mar-17	ZANDER INSURANCE GROUP	17 YEARLY SUBSCRIPTIONS	01-13-15-6262	1,105.00
						Sum of Invoices	1,105.00



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ICE ARENA

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01550		312290538	11-Apr-17	ARAMARK UNIFORM SERVICES	MOP RENTAL (4/11/17)	06-14-31-7301	7.91
01550		312265486	04-Apr-17	ARAMARK UNIFORM SERVICES	MOP RENTAL (4/4/17)	06-14-31-7301	7.91
01550		312290538	11-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/11/17)	06-14-31-7308	5.89
01550		312265486	04-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/4/17)	06-14-31-7308	5.89
00164		064069	31-Mar-17	NEW SYSTEM CARPET & BUILDING CARE LTD.	CLEANING SUPPLIES	06-14-31-7301	122.70
00045		907988928001	22-Feb-17	OFFICE DEPOT	LABEL MAKER TAPE	06-14-31-7304	18.99
00048		218486	27-Mar-17	PAVYER	OLYMPIA BLADE SHARPENING	06-14-31-6211	20.20
00711		363816829	15-Apr-17	TERMINIX	PEST CONTROL SVC	06-14-31-6212	36.50
01048		9783070916 EF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-APRIL 2017	06-14-31-6253	104.56
Sum of Invoices							330.55



CITY OF CREVE COEUR
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GOLF MAINTENANCE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02683		S0597265	03-Apr-17	ADVANCED TURF SOLUTIONS, INC.	26-0-6 FOR FAIRWAYS AND TEES	06-14-32-6212	584.00
02187		9248	04-Apr-17	EARTH CITY SUPPLY LLC	25 YD MULCH	06-14-32-6212	500.00
02187		9243	29-Mar-17	EARTH CITY SUPPLY LLC	8 YARDS MULCH	06-14-32-6212	128.00
01415		INV0022295	06-Apr-17	GREENSPRO, INC.	CHEMICALS FOR COURSE	06-14-32-7303	504.00
00117		8063004	05-Apr-17	HOME DEPOT	2-CYCLE OIL	06-14-32-6211	47.52
00117		8063004	05-Apr-17	HOME DEPOT	MISC. SUPPLIES FOR STOCK	06-14-32-6212	83.11
00117		7022918	06-Apr-17	HOME DEPOT	COLD PATCH	06-14-32-6212	9.97
00117		8063004	05-Apr-17	HOME DEPOT	PAINT AND STAIN	06-14-32-7301	22.49
00458		706948874	31-Mar-17	LAFARGE NORTH AMERICA, INC.	TOPDRESS SAND	06-14-32-6212	680.28
00042		174445	06-Apr-17	MPR SUPPLY	IRRIGATION PARTS	06-14-32-6212	51.95
02741		MI01506	04-Apr-17	TURFWERKS-SCOTT'S POWER EQUIPMENT LLC	SOLENOID KIT FOR CUSHMAN	06-14-32-6210	52.93
01048		9783070916 EF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-APRIL 2017	06-14-32-6253	52.28
Sum of Invoices							2,716.53



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PRO SHOP

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01159		PSI103981	21-Mar-17	1ST AYD CORPORATION	CLEANING PRODUCTS	06-14-33-7301	141.60
01940		080736A	09-Mar-17	ADVERTISING PREMIUM SALES, INC.	SHIPPING FEE	06-14-33-8325	0.12
01140		56647	06-Apr-17	ARCHWAY BOWLING & TROPHY	TOURNAMENT SUPPLIES/AWARDS	06-14-33-7304	215.00
00344		1002610150	28-Mar-17	BRIDGESTONE GOLF, INC.	SHIPPING FEE	06-14-33-8324	0.18
00121		927646706	28-Mar-17	CALLAWAY GOLF	SHIPPING FEE	06-14-33-8325	0.43
00080		4929-106-5	05-Apr-17	DIERBERGS	GENERAL SUPPLIES	06-14-33-7304	45.97
00721		22115	05-Apr-17	PATTONVILLE SCHOOL DISTRICT	5000 EA GOLF CLUB SCORE CARDS	06-14-33-7304	749.00
00711		363816829	15-Apr-17	TERMINIX	PEST CONTROL SVC	06-14-33-6212	36.50
Sum of Invoices							1,188.80



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SNACK BAR

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01159		PSI103981	21-Mar-17	1ST AYD CORPORATION	CLEANING PRODUCTS	06-14-34-7301	66.00
00249		190430	07-Apr-17	AMERICAN CARNIVAL MART	TOURNAMENT SUPPLIES	06-14-34-7304	39.98
00249		190430	07-Apr-17	AMERICAN CARNIVAL MART	TOURNAMENT SUPPLIES	06-14-34-8321	74.60
01550		312290538	11-Apr-17	ARAMARK UNIFORM SERVICES	WIPING TOWELS (4/11/17)	06-14-34-7301	5.18
01550		312265486	04-Apr-17	ARAMARK UNIFORM SERVICES	WIPING TOWELS (4/4/17)	06-14-34-7301	13.76
00080		4929-106-5	05-Apr-17	DIERBERGS	FOOD FOR RESALE	06-14-34-8315	26.97
00080		8801-103-5	08-Apr-17	DIERBERGS	BEER FOR RESALE	06-14-34-8316	59.97
02776		6058200092	11-Mar-17	HEARTLAND COCA-COLA BOTTLING COMPANY LLC	SODA PRODUCTS FOR RESALE	06-14-34-8317	725.64
02776		6060200268	30-Mar-17	HEARTLAND COCA-COLA BOTTLING COMPANY LLC	SODA PRODUCTS FOR RESALE	06-14-34-8317	570.88
02632		3433802	30-Mar-17	PERFORMANCE FOOD GROUP, INC.	FOOD FOR RESALE	06-14-34-8315	386.30
02632		3433802	30-Mar-17	PERFORMANCE FOOD GROUP, INC.	SNACKS FOR RESALE	06-14-34-8319	147.71
02684		1020828021	07-Apr-17	TROVERCO, INC.	SNACKS FOR RESALE	06-14-34-8319	98.34
Sum of Invoices							2,215.33



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BUILDING MAINTENANCE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00195		P5689	09-Mar-17	ALARM 24, INC.	REPLACE POWER SUPPLY ON DBL DR	01-16-11-6212	659.96
01550		312265485	04-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/4/17)	01-16-11-7308	4.07
00564	P002665	17-1184	29-Mar-17	BOB RAEKER PLUMBING CO.	REPLACE 2 DRINKING FOUNTAINS	01-16-11-6212	2,073.00
00796		SVC/525990	30-Mar-17	OVERHEAD DOOR COMPANY OF ST. LOUIS	REPAIR SALLYPORT DOOR	01-16-11-6212	355.65
00116		430	12-Apr-17	SAM'S CLUB	COFFEE, LOUNGE SUPPLIES	01-16-11-7304	474.66
02773	P002688	5229776	07-Mar-17	SERVEPRO	EMERGENCY CLEANUP REPAIR OF GL	01-16-11-6212	17,577.17
02773	P002689	5229793	21-Mar-17	SERVEPRO	EMERGENCY CLEANUP/REPAIR OF GL	01-16-11-6212	6,124.28
00087		61664	24-Mar-17	SYSTEMAIRE	REPAIR HEAT PUMP #33	01-16-11-6212	279.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-16-11-6253	32.65
Sum of Invoices							27,580.44



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POLICE-ADMIN

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02705		INV4191642	07-Apr-17	MARCO TECHNOLOGIES LLC	MAINT CHARGE CHIEF'S COPIER	01-21-11-6213	7.78
02705		INV4035841	08-Feb-17	MARCO TECHNOLOGIES LLC	MAINT CHARGE CHIEF'S COPIER	01-21-11-6213	12.94
00053		390999	03-Apr-17	MERCY CORPORATE HEALTH	D.O.T. TESTING	01-21-11-6271	140.00
02094		812HP027M62403	05-Apr-17	MISSOURI STATE HIGHWAY PATROL	(3)CRIMINAL RECORD SEARCHES	01-21-11-6203	39.00
01378		22823	31-Mar-17	PERSONNEL EVALUATION INC.	(4)PERSONNEL EVAL PROFILES	01-21-11-6203	80.00
00092		95560	04-Apr-17	ST LOUIS COUNTY TREASURER	APRIL CARE CONTRACT	01-21-11-6202	17.93
01048		9783341725	04-Apr-17	VERIZON WIRELESS	BROADBAND FOR CHIEF/3 VEHICLES	01-21-11-6253	160.04
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-21-11-6253	253.60
Sum of Invoices							711.29



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POLICE-INVESTIGATIONS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02119		240921	30-Mar-14	DAVE SINCLAIR LINCOLN-MERCURY, INC.	3000 MI SERV, BATTERY CAR 2425	01-21-21-6210	153.40
01228		1432814-20170331	31-Mar-17	LEXISNEXIS	MARCH 2017 USER FEES	01-21-21-6202	185.76
01567		IN1734	31-Mar-17	PRIMARY MARKING SYSTEMS, INC.	ANNUAL SOFTWARE MAINT ETWIST	01-21-21-6213	500.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-21-21-6253	161.90
00445		452017	05-Apr-17	MAJOR CASE SQUAD OF GREATER ST. LOUIS	2017 ANNUAL MCS AGENCY FEE	01-21-21-6262	250.00
Sum of Invoices							1,251.06



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POLICE-PATROL

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00007		379-681816	30-Mar-17	BATTERIES PLUS BULBS	BATTERIES FOR LIGHTS	01-21-22-7302	25.95
00007		379-681025	14-Mar-17	BATTERIES PLUS BULBS	BATTERIES	01-21-22-7302	74.49
02119		241061	04-Apr-17	DAVE SINCLAIR LINCOLN-MERCURY, INC.	3000 MILE SERVICE CAR 2404	01-21-22-6210	42.95
02119		241076	04-Apr-17	DAVE SINCLAIR LINCOLN-MERCURY, INC.	3000 MILE SERVICE CAR 2409	01-21-22-6210	42.95
02119		240955	30-Mar-17	DAVE SINCLAIR LINCOLN-MERCURY, INC.	3000 MILE SERVICE CAR 2408	01-21-22-6210	42.95
02119		240974	31-Mar-17	DAVE SINCLAIR LINCOLN-MERCURY, INC.	3000 MILE SERVICE CAR 2416	01-21-22-6210	42.95
02119		241237	11-Apr-17	DAVE SINCLAIR LINCOLN-MERCURY, INC.	HEADLIGHT CAR 2404	01-21-22-6210	31.71
02119		241089	05-Apr-17	DAVE SINCLAIR LINCOLN-MERCURY, INC.	3000 MILE SERVICE CAR 2411	01-21-22-6210	42.95
00117		3007 00001 46647	10-Apr-17	HOME DEPOT	ROLLING TOOL TOTE	01-21-22-7302	129.00
00125		403086	13-Feb-17	LEON UNIFORM	UNIFORM ITEMS FOR M CROWELL	01-21-22-5107	643.35
00125		403086-01	22-Feb-17	LEON UNIFORM	UNIFORM ITEMS FOR M CROWELL	01-21-22-5107	261.65
00125		403086-02	16-Mar-17	LEON UNIFORM	UNIFORM ITEMS FOR M CROWELL	01-21-22-5107	433.98
00125		403086-03	04-Apr-17	LEON UNIFORM	UNIFORM ITEMS FOR M CROWELL	01-21-22-5107	73.50
00125	P002518	404290	05-Apr-17	LEON UNIFORM	VEST FOR C. MUELLER	01-21-22-9503	775.00
02780	P002705	0008838-IN	07-Apr-17	STOP STICK, LTD.	9' STOP STICK KIT W/STORAGE BA	01-21-22-9503	1,350.00
02780	P002705	0008838-IN	07-Apr-17	STOP STICK, LTD.	S & H	01-21-22-9503	38.00
00913		SI1477200	30-Mar-17	TASER INTERNATIONAL	10 25'HYBRID TASER CARTRIDGES	01-21-22-7313	305.96
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-21-22-6253	482.92
						Sum of Invoices	4,840.26



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PUBLIC WORKS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00005		1694610	10-Apr-17	AMERICAN STAMP	INVOICE STAMP	01-31-11-7304	113.37
02169		452608	29-Mar-17	DREXEL TECHNOLOGIES, INC.	SVC CONTRACT MONTHLY FEE	01-31-11-6213	51.20
00117		6022047	28-Mar-17	HOME DEPOT	TELEPHONE CORD-CONFERENCE CALL	01-31-11-7304	19.94
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-31-11-6253	301.51
Sum of Invoices							486.02



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STREETS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01550		312265484	04-Apr-17	ARAMARK UNIFORM SERVICES	MOP RENTAL (4/4/17)	01-31-41-6212	4.39
01550		312290536	11-Apr-17	ARAMARK UNIFORM SERVICES	MOP RENTAL (4/11/17)	01-31-41-6212	4.39
01550		312265484	04-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/4/17)	01-31-41-7308	94.22
01550		312290536	11-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/11/17)	01-31-41-7308	22.91
01550		312290536	11-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/11/17)	01-31-41-7308	68.74
00008		5209327	07-Apr-17	BEARING HEADQUARTERS	SHAFT BEARINGS FOR LEAF VAC	01-31-41-6211	200.83
01793	P002501	534558	09-Mar-17	BEELMAN LOGISTICS, LLC	HAUL/DELIVER 308.63 TONS ROAD	01-31-41-7310	2,450.53
00099		1449470	31-Mar-17	CEEKAY SUPPLY	WELDING GAS/TANKS	01-31-41-7307	54.34
02766	P002677	1076	04-Apr-17	CREATIVE GRAPHIC SOLUTION LLC	CITY ENTRANCE SIGN 36" X 24" X	01-31-41-7311	750.00
02766	P002677	1076	04-Apr-17	CREATIVE GRAPHIC SOLUTION LLC	CITY ENTRANCE SIGN 72" X 48" X	01-31-41-7311	1,915.00
00826		2368737	04-Apr-17	CREST INDUSTRIES, INC.	PARTS FOR SHOP STOCK	01-31-41-6210	61.29
00127		222564	10-Apr-17	ERB EQUIPMENT COMPANY	EQUIPMENT PARTS	01-31-41-6211	111.34
00438		1095231125	07-Feb-17	FERRELLGAS	PROPANE FOR CRACK SEAL TORCH	01-31-41-7305	131.14
00439		153989	14-Feb-17	HEAVY DUTY EQUIPMENT	LAN.FSP700 FERTILIZER SPREADER	01-31-41-6211	524.25
00439		154426	24-Feb-17	HEAVY DUTY EQUIPMENT	RADIATOR SEAL	01-31-41-6211	6.60
00439		153526	26-Jan-17	HEAVY DUTY EQUIPMENT	GRA.504571 MULCHING KIT	01-31-41-6211	176.25
00117		4154113	18-Feb-17	HOME DEPOT	RENTAL DEPOSIT	01-31-41-6266	75.00
00117		7063111	06-Apr-17	HOME DEPOT	TOOLS FOR SHOP	01-31-41-7302	139.02
00117		7063110	06-Apr-17	HOME DEPOT	CONCRETE TOOLS	01-31-41-7302	391.82
00117		2011749	11-Apr-17	HOME DEPOT	BOXES	01-31-41-7304	17.81
00117		1010957	12-Apr-17	HOME DEPOT	MATERIAL FOR CITY LIMIT SIGN	01-31-41-7311	23.77
00117		8010572	05-Apr-17	HOME DEPOT	MATERIALS FOR CITY LIMIT SIGN	01-31-41-7311	37.32
00117		7063120	06-Apr-17	HOME DEPOT	SIGN PAINT	01-31-41-7311	62.88
02659		0347-000199865	31-Mar-17	JOHNNY ON THE SPOT #347	2 EA RENTAL UNITS	01-31-41-6266	88.66
00819		SLS47380	31-Mar-17	KNAPHEIDE TRUCK EQ CENTER	LIGHT BAR MOUNT TRK 111	01-31-41-6210	204.16
02680		10-7883	12-Apr-17	LOWE AUTOMOTIVE WAREHOUSE	MECHANICS TOOLS	01-31-41-7302	47.99
00040		896762	01-Mar-17	MILBRADT	FUEL LINE FOR POWER WASHER	01-31-41-6211	17.28
00627		E17-80397	30-Mar-17	MISSOURI DIVISION OF FIRE SAFETY	TAPMEYER HSE LIFT CERTIFICATE	01-31-41-6212	25.00
00042		I174302	04-Apr-17	MPR SUPPLY	IRRIGATION REPAIR PARTS	01-31-41-6211	215.89
00970		1388-226053	31-Mar-17	O'REILLY AUTO PARTS	BATTERY FOR WALK BEHIND MOWER	01-31-41-6211	32.62
00047	P002673	E08250	27-Mar-17	PAT KELLY EQUIPMENT	2017 BOMAG EW900-50 ROLLER	01-31-41-9503	12,548.00
00169	P002682	71121234	23-Mar-17	PURCELL TIRE CO.	4 NEW REAR TIRES FOR 317	01-31-41-6211	1,227.57
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-31-41-6253	84.66
02777		313	31-Mar-17	WASTE CONNECTIONS	LANDFILL FEE-CONSTRUCTION DEBR	01-31-41-9501	320.68

Sum of Invoices 22,136.35



CITY OF CREVE COEUR
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HEALTH & WELFARE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01836		122785	02-Apr-17	CRITTER CONTROL OF ST. LOUIS	DEAD DEAR REMOVAL	01-31-42-6214	300.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-31-42-6253	32.38
Sum of Invoices							332.38



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PARKS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00647		368080-1	10-Apr-17	ANGO KERNAN RENTALS & SALES	CONCRETE PAD FOR DOG PARK	01-31-43-6212	471.12
01550		312265484	04-Apr-17	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (4/4/17)	01-31-43-7308	31.41
00008		5209327	07-Apr-17	BEARING HEADQUARTERS	SHAFT BEARINGS FOR LEAF VAC	01-31-43-6211	66.95
00099		1449470	31-Mar-17	CEEKAY SUPPLY	WELDING GAS/TANKS	01-31-43-7307	18.12
00826		2368737	04-Apr-17	CREST INDUSTRIES, INC.	PARTS FOR SHOP STOCK	01-31-43-6210	20.43
00127		222564	10-Apr-17	ERB EQUIPMENT COMPANY	EQUIPMENT PARTS	01-31-43-6211	37.11
00439		153989	14-Feb-17	HEAVY DUTY EQUIPMENT	LAN.FSP700 FERTILIZER SPREADER	01-31-43-6211	174.75
00439		154426	24-Feb-17	HEAVY DUTY EQUIPMENT	RADIATOR SEAL	01-31-43-6211	2.20
00439		153526	26-Jan-17	HEAVY DUTY EQUIPMENT	GRA.504571 MULCHING KIT	01-31-43-6211	58.75
00117		4154113	18-Feb-17	HOME DEPOT	RENTAL DEPOSIT	01-31-43-6266	75.00
02659		0347-000199865	31-Mar-17	JOHNNY ON THE SPOT #347	2 EA RENTAL UNITS	01-31-43-6266	88.67
00819		SLS47380	31-Mar-17	KNAPHEIDE TRUCK EQ CENTER	LIGHT BAR MOUNT TRK 111	01-31-43-6210	68.05
00040		896762	01-Mar-17	MILBRADT	FUEL LINE FOR POWER WASHER	01-31-43-6211	5.76
00042		I174302	04-Apr-17	MPR SUPPLY	IRRIGATION REPAIR PARTS	01-31-43-6211	71.97
00970		1388-226053	31-Mar-17	O'REILLY AUTO PARTS	BATTERY FOR WALK BEHIND MOWER	01-31-43-6211	10.37
00169	P002682	71121234	23-Mar-17	PURCELL TIRE CO.	4 NEW REAR TIRES FOR 317	01-31-43-6211	409.19
00492	P002629	180130	31-Mar-17	TOMASOVIC GREENHOUSE & NURSERY INC	REPLACEMENT PLANTS-OLIVE MEDIA	01-31-43-7303	1,000.00
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-31-43-6253	32.38
01394		7546	03-Apr-17	WATERWORKS INTERNATIONAL	PARTS FOR SPLASH PAD	01-31-43-6212	11.25
Sum of Invoices							2,653.48



CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

a

4/20/2017

COMMUNITY DEVELOPMENT - PLANNING

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01550		20068831	24-Mar-17	ARAMARK UNIFORM SERVICES	JACKET FOR G. SIEFRIED	01-32-11-7304	47.99
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-32-11-6253	104.56
						Sum of Invoices	152.55



CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

a

4/20/2017

COMMUNITY DEVELOPMENT - BUILDING

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01048		9783341725	04-Apr-17	VERIZON WIRELESS	INSPECTOR TABLETS MAR 2017	01-32-61-6253	320.08
01048		9783070916 GF	01-Apr-17	VERIZON WIRELESS	CELL PHONES-MARCH 2017	01-32-61-6253	232.01
Sum of Invoices							552.09



CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

a

4/20/2017

CAPITAL IMPROVEMENTS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02778	P002702	11326570	22-Mar-17	STANDARD & POOR'S FINANCIAL SERVICES LLC	BOND RATING- ANALYTICAL SERVIC	02-61-71-9501-15104	16,500.00
02735	P002611	16063-0005	28-Mar-17	PARIC CORPORATION	OWNER'S REP SERVICES-POLICE BL	02-61-71-9501-15104	13,568.00
01934	P002669	PAY #1 EMERSON	05-Apr-17	AMCON MUNICIPAL CONCRETE LLC	SIDEWALK IMPROVEMENT PROJECT	02-61-71-9510-15604	200,662.50
00564	P002662	17-1183	23-Mar-17	BOB RAEKER PLUMBING CO.	UNDER DRAINS-LADUEMONT PAVEMEN	02-61-71-9510-17602	7,999.00
Sum of Invoices							238,729.50
Grand Total of all Invoices							331,317.84



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: City Administrator
Category: Ordinance
Prepared By: Mark Perkins
Department Head: Carl Lumley

SCHEDULED

STAFF REPORT

Bill No. 5648 - an Ordinance Authorizing and Directing the Issuance, Sale and Delivery of General Obligation Bonds, Series 2017, of the City of Creve Coeur, Missouri; Providing for the Levy and Collection of an Annual Tax for the Purpose of Paying the Principal of and Interest on the Bonds as They Become Due; and Authorizing Certain Other Documents and Actions in Connection Therewith. Final Reading and Passage

The ordinance will provide for the issuance of general obligation bonds for the purpose of constructing, furnishing and equipping a new police station on the current government center property and making safety, security and accessibility renovations to the existing building, and establishing a tax levy to retire the bonds.

HISTORY:

03/27/17

City Council

CONTINUED

Next: 04/24/17

ORDINANCE NO. _____

OF THE

CITY OF CREVE COEUR, MISSOURI

PASSED

APRIL 24, 2017

\$10,690,000

**GENERAL OBLIGATION BONDS
SERIES 2017**

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Exhibit A - Form of Bonds

Exhibit B - Preliminary Official Statement

Exhibit C – Continuing Disclosure Undertaking

BILL NO. 5648

ORDINANCE NO. _____

**AN ORDINANCE AUTHORIZING AND DIRECTING THE
ISSUANCE, SALE AND DELIVERY OF GENERAL OBLIGATION
BONDS, SERIES 2017, OF THE CITY OF CREVE COEUR,
MISSOURI; PROVIDING FOR THE LEVY AND COLLECTION
OF AN ANNUAL TAX FOR THE PURPOSE OF PAYING THE
PRINCIPAL OF AND INTEREST ON THE BONDS AS THEY
BECOME DUE; AND AUTHORIZING CERTAIN OTHER
DOCUMENTS AND ACTIONS IN CONNECTION THEREWITH.**

WHEREAS, the City of Creve Coeur, Missouri (the “City”), is a home rule city and political subdivision of the State of Missouri, duly created, organized and existing under and by virtue of its Charter and the Constitution and laws of the State of Missouri; and

WHEREAS, the City is authorized under its Charter and the provisions of Article VI, Section 26 of the Constitution of Missouri, as amended, and Section 95.115 et seq. of the Revised Statutes of Missouri, as amended (the “General Obligation Bond Law”), to incur indebtedness and issue and sell general obligation bonds of the City to evidence such indebtedness for lawful purposes, upon obtaining the approval of at least four-sevenths of the qualified electors of the City voting on the question to incur indebtedness at a general municipal election, primary election or general election; and

WHEREAS, pursuant to the General Obligation Bond Law, an election was duly held in the City at the general election on November 8, 2016 (the “Election”), on the following proposition:

PROPOSITION P

Shall the City of Creve Coeur, Missouri, issue its general obligation bonds in an amount up to \$10,690,000 for the purpose of constructing, furnishing and equipping a new police station on the current government center property and making safety, security and accessibility renovations to the existing building?

WHEREAS, the votes cast at the Election were duly canvassed as provided by law, and it was found and declared that more than four-sevenths of the qualified voters of the City voting at the Election on the proposition voted in favor of the issuance of the bonds, the vote on the proposition having been 6,078 votes for the issuance of the bonds and 3,772 votes against the issuance of the bonds; and

WHEREAS, the City has not issued any of the bonds authorized at the Election and desires to issue the entire amount of the bonds authorized at the Election; and

WHEREAS, it is hereby found and determined that it is necessary and advisable and in the best interest of the City and of its inhabitants at this time to authorize the issuance and delivery of the bonds pursuant to the General Obligation Bond Law for the purposes aforesaid as herein provided;

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF CREVE COEUR, MISSOURI, AS FOLLOWS:

ARTICLE I

DEFINITIONS

Section 101. Definitions of Words and Terms. In addition to words and terms defined elsewhere herein, the following words and terms as used in this Ordinance shall have the following meanings:

“Bond Counsel” means Gilmore & Bell, P.C., St. Louis, Missouri, or other attorneys or firm of attorneys with a nationally recognized standing in the field of municipal bond financing selected by the City.

“Bond Payment Date” means any date on which principal or Redemption Price of or interest on any Bond is payable.

“Bond Register” means the books for the registration, transfer and exchange of Bonds kept at the office of the Paying Agent.

“Bondowner,” “Owner” or “Registered Owner” when used with respect to any Bond means the Person in whose name such Bond is registered on the Bond Register.

“Bonds” means the General Obligation Bonds, Series 2017, authorized and issued by the City pursuant to this Ordinance.

“Business Day” means a day other than a Saturday, Sunday or holiday on which the Paying Agent is scheduled in the normal course of its operations to be open to the public for conduct of its banking operations.

“City” means the City of Creve Coeur, Missouri, and any successors or assigns.

“Code” means the Internal Revenue Code of 1986, as amended, and the applicable regulations of the Treasury Department proposed or promulgated thereunder.

“Continuing Disclosure Undertaking” means the Continuing Disclosure Undertaking dated as of May 1, 2017, executed by the City, in substantially the form attached hereto as **Exhibit C**.

“Debt Service Fund” means the fund by that name referred to in **Section 501**.

“Defaulted Interest” means interest on any Bond which is payable but not paid on any Interest Payment Date.

“Defeasance Obligations” means any of the following obligations, if and to the extent the same are at the time legal for investment of the City’s funds:

(a) United States Government Obligations that are not subject to redemption in advance of their maturity dates; or

(b) obligations of any state or political subdivision of any state, the interest on which is excluded from gross income for federal income tax purposes and which meet the following conditions:

(1) the obligations are (i) not subject to redemption prior to maturity or (ii) the trustee for such obligations has been given irrevocable instructions concerning their calling and redemption and the issuer of such obligations has covenanted not to redeem such obligations other than as set forth in such instructions;

(2) the obligations are secured by cash or United States Government Obligations that may be applied only to principal of, premium, if any, and interest payments on such obligations;

(3) such cash and the principal of and interest on such United States Government Obligations serving as security for the obligations (plus any cash in the escrow fund) are sufficient to meet the liabilities of the obligations;

(4) such cash and United States Government Obligations serving as security for the obligations are held in an escrow fund by an escrow agent or a trustee irrevocably in trust;

(5) such cash and United States Government Obligations serving as security for the obligations are not available to satisfy any other claims, including those against the trustee or escrow agent; and

(6) the obligations are rated in the same rating category as United States Government Obligations or higher by a nationally recognized rating service.

“FAST Agent” means the Paying Agent when acting as agent for DTC in accordance with rules established by DTC for Fast Automated Securities Transfers.

“Federal Tax Certificate” means the Federal Tax Certificate relating to the Bonds, executed by the City, as the same may be amended or supplemented in accordance with the provisions thereof.

“Fiscal Year” means the fiscal year of the City, currently the period beginning July 1 and ending June 30.

“General Obligation Bond Law” means, collectively, Article VI, Section 26 of the Constitution of Missouri, as amended, and Section 95.115 *et seq.*, of the Revised Statutes of Missouri, as amended.

“Interest Payment Date” means the Stated Maturity of an installment of interest on any Bond.

“Maturity” when used with respect to any Bond means the date on which the principal of such Bond becomes due and payable as therein and herein provided, whether at the Stated Maturity thereof or call for redemption or otherwise.

“Ordinance” means this Ordinance adopted by the City Council of the City, authorizing the issuance of the Bonds, as amended from time to time.

“Outstanding” means, when used with reference to Bonds, as of any particular date of determination, all Bonds theretofore authenticated and delivered hereunder, except the following Bonds:

(a) Bonds theretofore canceled by the Paying Agent or delivered to the Paying Agent for cancellation;

(b) Bonds deemed to be paid in accordance with the provisions of **Section 701**; and

(c) Bonds in exchange for or in lieu of which other Bonds have been authenticated and delivered hereunder.

“Paying Agent” means UMB Bank, N.A., Kansas City, Missouri, and any successors or assigns.

“Permitted Investments” means any legally permissible investment of the City’s funds.

“Person” means any natural person, corporation, limited liability company, partnership, joint venture, association, firm, joint-stock company, trust, unincorporated organization, or government or any agency or political subdivision thereof or other public body.

“Preliminary Official Statement” means the Preliminary Official Statement, in substantially the form attached hereto as **Exhibit B**.

“Project” means constructing, furnishing and equipping a new police station on the current government center property and making safety, security and accessibility renovations to the existing building.

“Project Fund” means the fund by that name referred to in **Section 501** hereof.

“Purchaser” means [*Purchaser*], the original purchaser of the Bonds.

“Rebate Fund” means the fund by that name referred to in **Section 501** hereof.

“Record Date” for the interest payable on any Interest Payment Date means the 15th day (whether or not a Business Day) of the calendar month next preceding such Interest Payment Date.

“Redemption Date” when used with respect to any Bond to be redeemed means the date fixed for such redemption pursuant to the terms of this Ordinance.

“Redemption Price” when used with respect to any Bond to be redeemed means the price at which such Bond is to be redeemed pursuant to the terms of this Ordinance, including the applicable redemption premium, if any, but excluding installments of interest whose Stated Maturity is on or before the Redemption Date, which price is to be stated as a percentage of the principal amount of those Bonds to be redeemed.

“Special Record Date” means the date prior to the payment date of Defaulted Interest fixed by the Paying Agent pursuant to **Section 204**.

“Stated Maturity” when used with respect to any Bond or any installment of interest thereon means the date specified in such Bond and this Ordinance as the fixed date on which the principal of such Bond or such installment of interest thereon is due and payable.

“United States Government Obligations” means bonds, notes, certificates of indebtedness, treasury bills or other securities constituting direct obligations of, or obligations the principal of and interest on which are fully and unconditionally guaranteed as to full and timely payment by, the United States of America, including evidences of a direct ownership interest in future interest or principal payments on obligations issued or guaranteed by the United States of America (including the interest component of obligations of the Resolution Funding Corporation), or securities which represent an undivided interest in such obligations, which obligations are rated in the same rating category or higher as the United States of America by a nationally recognized rating service and such obligations are held in a custodial account for the benefit of the City.

ARTICLE II

AUTHORIZATION OF BONDS

Section 201. Authorization of Bonds. There shall be issued and hereby are authorized and directed to be issued the General Obligation Bonds, Series 2017, of the City in the principal amount of \$10,690,000 (the “Bonds”), for the purpose of providing funds to pay the costs of the Project and pay the costs of issuing the Bonds.

Section 202. Description of Bonds. The Bonds shall consist of fully-registered bonds numbered from 1 upward in order of issuance, in denominations of \$5,000 or any integral multiple thereof. The Bonds, as originally issued or issued upon transfer, exchange or substitution, shall be substantially in the form set forth in **Exhibit A** attached hereto, and shall be subject to registration, transfer and exchange as provided in **Section 205**. All of the Bonds shall be dated the date of original issuance and delivery thereof, shall become due in the amounts on the Stated Maturity dates, subject to redemption and payment prior to their Stated Maturity dates as provided in **Article III**, and shall bear interest at the rates per annum as follows:

SERIAL BONDS

Stated Maturity (<u>March 1</u>)	Principal <u>Amount</u>	Annual Rate <u>of Interest</u>
2018	\$	%
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
2031		
2032		
2033		
2034		
2035		
2036		
2037		

The Bonds shall bear interest at the above-specified rates (computed on the basis of a 360-day year of twelve 30-day months) from the date thereof or from the most recent Interest Payment Date to which interest has been paid or duly provided for. Interest is payable semiannually on March 1 and September 1 in each year, beginning on March 1, 2018.

Section 203. Designation of Paying Agent.

(a) UMB Bank, N.A. (the “Paying Agent”), a national banking association with a corporate trust office located in Kansas City, Missouri, is hereby designated as the City’s paying agent for the payment of principal of and interest on the Bonds and bond registrar with respect to the registration, transfer and exchange of Bonds.

(b) The City will at all times maintain a Paying Agent meeting the qualifications herein described for the performance of the duties hereunder. The City reserves the right to appoint a successor Paying Agent by (1) filing with the Paying Agent then performing such function a certified copy of the proceedings giving notice of the termination of such Paying Agent and appointing a successor, and (2) causing notice of the appointment of the successor Paying Agent to be given by first class mail to each Registered Owner. The Paying Agent may at any time resign and be discharged from its duties and responsibilities hereunder by giving

written notice by first class mail to the City and the Bondowners not less than 60 days prior to the date such resignation is to take effect. No resignation or removal of the Paying Agent shall become effective until a successor has been appointed and has accepted the duties of Paying Agent.

(c) Every Paying Agent appointed hereunder shall at all times be a commercial banking association or corporation or trust company located in the State of Missouri organized and doing business under the laws of the United States of America or of the State of Missouri, authorized under such laws to exercise trust powers, and subject to supervision or examination by federal or state regulatory authority.

(d) The Paying Agent shall be paid its fees and expenses for its services in connection with the Bonds.

Section 204. Method and Place of Payment of Bonds.

(a) The principal or Redemption Price of and interest on the Bonds shall be payable in any coin or currency of the United States of America that, on the respective dates of payment thereof, is legal tender for the payment of public and private debts.

(b) The principal or Redemption Price of each Bond shall be paid at Maturity by check, electronic transfer or draft to the Person in whose name such Bond is registered on the Bond Register at the Maturity thereof, upon presentation and surrender of such Bond at such payment office as designated by the Paying Agent.

(c) The interest payable on each Bond on any Interest Payment Date shall be paid to the Registered Owner of such Bond as shown on the Bond Register at the close of business on the Record Date for such interest (i) by check or draft mailed by the Paying Agent to the address of such Registered Owner shown on the Bond Register or such other address furnished to the Paying Agent in writing by such Registered Owner, or (ii) by electronic transfer to such Registered Owner upon written notice signed by such Registered Owner and given to the Paying Agent not less than 15 days prior to the Record Date for such interest, containing the electronic transfer instructions including the name and address of the bank, the bank's ABA routing number and the account number to which such Registered Owner wishes to have such transfer directed and an acknowledgment that an electronic transfer fee may be applicable.

(d) Notwithstanding the foregoing provisions of this Section, any Defaulted Interest with respect to any Bond shall cease to be payable to the Registered Owner of such Bond on the relevant Record Date and shall be payable to the Registered Owner in whose name such Bond is registered at the close of business on the Special Record Date for the payment of such Defaulted Interest, which Special Record Date shall be fixed as hereinafter specified in this paragraph. The City shall notify the Paying Agent in writing of the amount of Defaulted Interest proposed to be paid on each Bond and the date of the proposed payment (which date shall be at least 30 days after receipt of such notice by the Paying Agent unless the City and the Paying Agent agree to a shorter time period) and shall deposit with the Paying Agent at the time of such notice an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Paying Agent for such deposit prior to the date of the proposed payment. Following receipt of such funds the Paying Agent shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 nor less than 10 days prior to the date of the proposed payment, unless the City and the Paying Agent agree to a shorter time period. The Paying Agent shall promptly notify the City of such Special Record Date and, in the name and at the expense of the City, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, by first class mail, postage prepaid, to each Registered Owner of a Bond entitled to such notice at the address of such Registered Owner as it appears on the Bond Register on such Special Record Date.

(e) The Paying Agent shall keep a record of the payment of principal and Redemption Price of and interest paid on all Bonds and, upon the City's written request, shall forward a copy or summary of such records to the City.

Section 205. Registration, Transfer and Exchange of Bonds.

(a) The City covenants that, as long as any of the Bonds remain Outstanding, it will cause the Bond Register to be kept at the principal corporate trust office of the Paying Agent or such other office designated by the Paying Agent for the registration, transfer and exchange of Bonds as herein provided. Each Bond when issued shall be registered in the name of the Registered Owner thereof on the Bond Register.

(b) Bonds may be transferred and exchanged only on the Bond Register as provided in this Section. Upon surrender of any Bond at the principal payment office of the Paying Agent, or at such other office designated by the Paying Agent, the Paying Agent shall transfer or exchange such Bond for a new Bond or Bonds in any authorized denomination of the same Stated Maturity and in the same aggregate principal amount as the Bond that was presented for transfer or exchange. Bonds presented for transfer or exchange shall be accompanied by a written instrument or instruments of transfer or authorization for exchange, in a form and with guarantee of signature satisfactory to the Paying Agent, duly executed by the Registered Owner thereof or by the Registered Owner's duly authorized agent.

(c) In all cases in which the privilege of transferring or exchanging Bonds is exercised, the Paying Agent shall authenticate and deliver Bonds in accordance with the provisions of this Ordinance. The City shall pay the reasonable fees and expenses of the Paying Agent for the registration, transfer and exchange of Bonds provided for by this Ordinance and the reasonable cost of printing a reasonable supply of registered bond blanks. Any additional costs or fees that might be incurred in the secondary market, other than fees of the Paying Agent, are the responsibility of the Registered Owners of the Bonds. If any Registered Owner fails to provide a correct taxpayer identification number to the Paying Agent, the Paying Agent may make a charge against such Registered Owner sufficient to pay any governmental charge required to be paid as a result of such failure. In compliance with Section 3406 of the Code, such amount may be deducted by the Paying Agent from amounts otherwise payable to such Registered Owner hereunder or under the Bonds.

(d) The City and the Paying Agent shall not be required (i) to register the transfer or exchange of any Bond that has been called for redemption after notice of such redemption has been mailed by the Paying Agent pursuant to **Section 303** and during the period of 15 days next preceding the date of mailing of such notice of redemption, or (ii) to register the transfer or exchange of any Bond during a period beginning at the opening of business on the day after receiving written notice from the City of its intent to pay Defaulted Interest and ending at the close of business on the date fixed for the payment of Defaulted Interest pursuant to **Section 204**.

(e) The City and the Paying Agent may deem and treat the Person in whose name any Bond is registered on the Bond Register as the absolute owner of such Bond, whether such Bond is overdue or not, for the purpose of receiving payment of, or on account of, the principal or Redemption Price of and interest on said Bond and for all other purposes. All payments so made to any such Registered Owner or upon the Registered Owner's order shall be valid and effective to satisfy and discharge the liability upon such Bond to the extent of the sum or sums so paid, and neither the City nor the Paying Agent shall be affected by any notice to the contrary.

(f) At reasonable times and under reasonable regulations established by the Paying Agent, the Bond Register may be inspected and copied by the Registered Owners of 10% or more in principal amount of the Bonds then Outstanding or any designated representative of such Registered Owners. The authority of any designated representative of such Registered Owners must be evidenced to the satisfaction of the Paying Agent.

Section 206. Execution, Registration, Authentication and Delivery of Bonds.

(a) Each of the Bonds, including any Bonds issued in exchange or as substitutions for the Bonds initially delivered, shall be signed by the manual or facsimile signature of the City Administrator and attested by the manual or facsimile signature of the City Clerk and shall have the official seal of the City affixed or imprinted thereon. In case any officer whose signature appears on any Bond ceases to be such officer before the delivery of such Bond, such signature shall nevertheless be valid and sufficient for all purposes, as if such person had remained in office until delivery. Any Bond may be signed by such persons who at the actual time of the execution of such Bond are the proper officers to sign such Bond although at the date of such Bond such persons may not have been such officers.

(b) The City Administrator and City Clerk are hereby authorized and directed to prepare and execute the Bonds in the manner herein specified, and to cause the Bonds to be registered in the office of the State Auditor of Missouri as provided by law, and, when duly executed and registered, to deliver the Bonds to the Paying Agent for authentication.

(c) The Bonds shall have endorsed thereon a certificate of authentication substantially in the form set forth in **Exhibit A** attached hereto, which shall be manually executed by an authorized signatory of the Paying Agent, but it shall not be necessary that the same signatory sign the certificate of authentication on all of the Bonds that may be issued hereunder at any one time. No Bond shall be entitled to any security or benefit under this Ordinance or be valid or obligatory for any purpose unless and until such certificate of authentication has been duly executed by the Paying Agent. Such executed certificate of authentication upon any Bond shall be conclusive evidence that such Bond has been duly authenticated and delivered under this Ordinance. Upon authentication, the Paying Agent shall deliver the Bonds to or upon the order of the Purchaser, or shall hold the Bonds as FAST Agent for the benefit of the Beneficial Owners (as hereinafter defined), upon payment to the City of the purchase price of the Bonds plus accrued interest thereon, if any, to the date of their delivery.

Section 207. Mutilated, Destroyed, Lost and Stolen Bonds.

(a) If (i) any mutilated Bond is surrendered to the Paying Agent or the Paying Agent receives evidence to its satisfaction of the destruction, loss or theft of any Bond, and (ii) there is delivered to the Paying Agent such security or indemnity as may be required by the Paying Agent to save each of the City and the Paying Agent harmless, then, in the absence of notice to the Paying Agent that such Bond has been acquired by a bona fide purchaser, the City shall execute and, the Paying Agent shall authenticate and deliver, in exchange for or in lieu of any such mutilated, destroyed, lost or stolen Bond, a new Bond of the same Stated Maturity and of like tenor and principal amount.

(b) If any such mutilated, destroyed, lost or stolen Bond has become or is about to become due and payable, the Paying Agent, in its discretion, may pay such Bond instead of delivering a new Bond.

(c) Upon the issuance of any new Bond under this Section, the City or the Paying Agent may require the payment by the Registered Owner of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Paying Agent) connected therewith.

(d) Every new Bond issued pursuant to this Section shall constitute a replacement of the City's prior obligation, and shall be entitled to all the benefits of this Ordinance equally and ratably with all other Outstanding Bonds.

Section 208. Cancellation and Destruction of Bonds Upon Payment. All Bonds that have been paid or redeemed or that otherwise have been surrendered to the Paying Agent, either at or before Maturity, shall be canceled by the Paying Agent immediately upon the payment, redemption and surrender thereof to the Paying Agent and subsequently destroyed in accordance with the customary practices of the Paying Agent. The Paying Agent shall execute a certificate in duplicate describing the Bonds so canceled and shall file an executed counterpart of such certificate with the City.

Section 209. Preliminary and Final Official Statement.

(a) The Preliminary Official Statement, in the form attached hereto as **Exhibit B**, is hereby ratified and approved, and the final Official Statement is hereby authorized and approved by supplementing, amending and completing the Preliminary Official Statement, with such changes and additions thereto as are necessary to conform to and describe the transaction. The City Administrator is hereby authorized to execute the final Official Statement as so supplemented, amended and completed, and the use and public distribution of the final Official Statement by the Purchaser in connection with the reoffering of the Bonds is hereby authorized. The proper officials of the City are hereby authorized to execute and deliver a certificate pertaining to the Official Statement as prescribed therein, dated as of the date of payment for and delivery of the Bonds.

(b) For the purpose of enabling the Purchaser to comply with the requirements of Rule 15c2-12(b)(1) of the Securities and Exchange Commission (the "SEC"), the City hereby deems the Preliminary Official Statement to be "final" as of its date, except for the omission of such information as is permitted by Rule 15c2-12(b)(1), and the appropriate officers of the City are hereby authorized, if requested, to provide the Purchaser a letter or certification to such effect and to take such other actions or execute such other documents as such officers in their reasonable judgment deem necessary to enable the Purchaser to comply with the requirement of such Rule.

(c) The City agrees to provide to the Purchaser within seven business days of the date of the sale of Bonds sufficient copies of the final Official Statement to enable the Purchaser to comply with the requirements of Rule 15c2-12(b)(4) of the SEC and with the requirements of Rule G-32 of the Municipal Securities Rulemaking Board (the "MSRB").

Section 210. Sale of Bonds. The City hereby ratifies and confirms the sale of the Bonds to the Purchaser at a purchase price of \$_____ (which is equal to the aggregate principal amount of the Bonds, plus a net original issue premium of \$_____, and less an underwriting discount of \$_____), plus accrued interest, if any. The City shall deliver the Bonds to the Purchaser as soon as practicable after the adoption of this Ordinance, upon payment therefor in accordance with the terms of sale.

Section 211. Securities Depository.

(a) For purposes of this **Section 211**, the following terms shall have the following meanings:

"Beneficial Owner" means, whenever used with respect to a Bond, the Person in whose name such Bond is recorded as the beneficial owner of such Bond by a Participant on the records of such Participant, or such Person's subrogee.

"Cede & Co." means Cede & Co., the nominee of DTC, and any successor nominee of DTC with respect to the Bonds.

"DTC" means The Depository Trust Company of New York, New York.

"Participant" means any broker-dealer, bank or other financial institution for which DTC holds Bonds as securities depository.

“Representation Letter” means, collectively, the Representation Letter from the City to DTC and the Representation Letter from the Paying Agent to DTC.

(b) The Bonds shall be initially issued as one single authenticated fully registered bond for each Stated Maturity. Upon initial issuance, the ownership of such Bonds shall be registered in the City’s Bond Register kept by the Paying Agent in the name of Cede & Co., as nominee of DTC. The Paying Agent and the City may treat DTC (or its nominee) as the sole and exclusive owner of the Bonds registered in its name for the purposes of payment of the principal or Redemption Price of and interest on the Bonds, selecting the Bonds or portions thereof to be redeemed, giving any notice permitted or required to be given to Registered Owners of Bonds under this Ordinance, registering the transfer of Bonds, and for all other purposes whatsoever; and neither the Paying Agent nor the City shall be affected by any notice to the contrary. Neither the Paying Agent nor the City shall have any responsibility or obligation to any Participant, any Person claiming a beneficial ownership interest in the Bonds under or through DTC or any Participant, or any other Person which is not shown on the Bond Register kept by the Paying Agent as being a Registered Owner of any Bonds, with respect to the accuracy of any records maintained by DTC or any Participant, with respect to the payment by DTC or any Participant of any amount with respect to the principal or Redemption Price of and interest on the Bonds, with respect to any notice which is permitted or required to be given to the Registered Owners of Bonds under this Ordinance, with respect to the selection by DTC or any Participant of any Person to receive payment in the event of a partial redemption of the Bonds, or with respect to any consent given or other action taken by DTC as Registered Owner of the Bonds. The Paying Agent shall pay all principal or Redemption Price of and interest on the Bonds only to Cede & Co. in accordance with the Representation Letter, and all such payments shall be valid and effective to fully satisfy and discharge the City’s obligations with respect to the principal or Redemption Price of and interest on the Bonds to the extent of the sum or sums so paid. No Person other than DTC (or the Paying Agent as FAST Agent) shall receive an authenticated Bond for each separate Stated Maturity evidencing the obligation of the City to make payments of principal and interest. Upon delivery by DTC to the Paying Agent of written notice to the effect that DTC has determined to substitute a new nominee in place of Cede & Co., the Bonds will be transferable to such new nominee in accordance with paragraph (e) hereof.

(c) If the Participants holding a majority position in the Bonds determine that it is in the best interest of the Beneficial Owners that they be able to obtain certificated bonds, the Participants may notify DTC and the Paying Agent, whereupon DTC shall notify the Participants of the availability through DTC of bond certificates. In such event, the Bonds will be transferable in accordance with paragraph (e) hereof. DTC may determine to discontinue providing its services with respect to the Bonds at any time by giving notice to the City and the Paying Agent and discharging its responsibilities with respect thereto under applicable law. In such event the Bonds will be transferable in accordance with paragraph (e) hereof.

(d) Notwithstanding any other provision of this Ordinance to the contrary, so long as any Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to the principal or Redemption Price of and interest on such Bond and all notices with respect to such Bond shall be made and given, respectively, to DTC as provided in the Representation Letter.

(e) If any transfer or exchange of Bonds is permitted under paragraph (b) or (c) hereof, such transfer or exchange shall be accomplished upon receipt by the Paying Agent from the Registered Owners thereof of the Bonds to be transferred or exchanged and appropriate instruments of transfer to the permitted transferee in accordance with the provisions of this Ordinance. If Bonds are issued to holders other than Cede & Co., its successor as nominee for DTC as holder of all the Bonds, or other securities depository as holder of all the Bonds, the provisions of this Ordinance shall also apply to all matters relating thereto, including, without limitation, the printing of such Bonds and the method of payment of the principal or Redemption Price of and interest on such Bonds. In the event that Bonds are issued to holders other than DTC, the Paying Agent may

rely on information provided by DTC or any Participant as to the names, addresses of and principal amounts held by the Beneficial Owners of the Bonds.

ARTICLE III

REDEMPTION OF BONDS

Section 301. Optional Redemption of Bonds. At the option of the City, the Bonds or portions thereof maturing on March 1, 2026 and thereafter may be called for redemption and payment prior to their Stated Maturity on March 1, 2025 and thereafter as a whole or in part at any time at the Redemption Price of 100% of the principal amount thereof plus accrued interest thereon to the Redemption Date.

Section 302. Selection of Bonds to be Redeemed.

(a) The Paying Agent shall call Bonds for redemption and payment and shall give notice of such redemption as herein provided upon receipt by the Paying Agent at least 45 days prior to the Redemption Date of the City's written instructions specifying the principal amount, Stated Maturity, Redemption Date and Redemption Prices of the Bonds to be called for redemption. If the Bonds are refunded more than 90 days in advance of the Redemption Date, any escrow agreement entered into by the City in connection with the refunding shall provide that the written instructions to the Paying Agent shall be given by the escrow agent on the City's behalf not less than 45 days prior to the Redemption Date. The Paying Agent may in its discretion waive such notice period so long as the notice requirements set forth in **Section 303** are met.

(b) Bonds shall be redeemed only in the principal amount of \$5,000 or any integral multiple thereof. When less than all of the Outstanding Bonds are to be redeemed, such Bonds shall be redeemed in such order of their Stated Maturity as determined by the City, and Bonds of less than a full Stated Maturity shall be selected by the Paying Agent in \$5,000 units of principal amount in such equitable manner as the Paying Agent may determine.

(c) In the case of a partial redemption of Bonds when Bonds of denominations greater than \$5,000 are then Outstanding, then for all purposes in connection with such redemption each \$5,000 of face value shall be treated as though it were a separate Bond of the denomination of \$5,000. If it is determined that one or more, but not all, of the \$5,000 units of face value represented by any Bond are selected for redemption, then upon notice of intention to redeem such \$5,000 unit or units, the Registered Owner of such Bond or the Registered Owner's duly authorized agent shall present and surrender such Bond to the Paying Agent (i) for payment of the Redemption Price and interest to the Redemption Date of such \$5,000 unit or units of face value called for redemption, and (ii) for exchange, without charge to the Registered Owner thereof, for a new Bond or Bonds of the aggregate principal amount of the unredeemed portion of the principal amount of such Bond. If the Registered Owner of any such Bond fails to present such Bond to the Paying Agent for payment and exchange as aforesaid, such Bond shall, nevertheless, become due and payable on the Redemption Date to the extent of the \$5,000 unit or units of face value called for redemption (and to that extent only).

Section 303. Notice and Effect of Call for Redemption.

(a) Unless waived by any Registered Owner of Bonds to be redeemed, official notice of any redemption shall be given by the Paying Agent on the City's behalf by mailing a copy of an official redemption notice by first class mail at least 30 days but not more than 60 days prior to the Redemption Date to the State Auditor of Missouri and each Registered Owner of the Bond or Bonds to be redeemed at the address shown on the Bond Register.

(b) All official notices of redemption shall be dated and shall contain the following information:

(i) the Redemption Date;

(ii) the Redemption Price;

(iii) if less than all Outstanding Bonds are to be redeemed, the CUSIP numbers, if any, of all Bonds being redeemed, Stated Maturity and, in the case of partial redemption of any Bonds, the respective principal amounts of the Bonds to be redeemed;

(iv) a statement that on the Redemption Date the Redemption Price will become due and payable upon each such Bond or portion thereof called for redemption and that interest thereon shall cease to accrue from and after the Redemption Date; and

(v) the place where such Bonds are to be surrendered for payment of the Redemption Price.

(c) Prior to any Redemption Date, the City shall deposit with the Paying Agent an amount of money sufficient to pay the Redemption Price of all the Bonds or portions of Bonds that are to be redeemed on such Redemption Date.

(d) With respect to optional redemptions, such notice may be conditional upon moneys being on deposit with the Paying Agent on or prior to the Redemption Date in an amount sufficient to pay the Redemption Price on the Redemption Date. If such notice is conditional and moneys are not received, such notice shall be of no force and effect, the Paying Agent shall not redeem such Bonds and the Paying Agent shall give notice, in the same manner in which the notice of redemption was given, that such moneys were not so received and that such Bonds will not be redeemed.

(e) Official notice of redemption having been given as aforesaid, the Bonds or portions of Bonds to be redeemed shall become due and payable on the Redemption Date, at the Redemption Price therein specified, and from and after the Redemption Date (unless the City defaults in the payment of the Redemption Price) such Bonds or portion of Bonds shall cease to bear interest. Upon surrender of such Bonds for redemption in accordance with such notice, the Redemption Price of such Bonds shall be paid by the Paying Agent. Installments of interest due on or prior to the Redemption Date shall be payable as herein provided for payment of interest. Upon surrender for any partial redemption of any Bond, the Paying Agent shall prepare for the Registered Owner a new Bond or Bonds of the same Stated Maturity in the amount of the unpaid principal as provided herein. All Bonds that have been surrendered for redemption shall be canceled and destroyed by the Paying Agent as provided herein and shall not be reissued.

(f) The failure of any Registered Owner to receive the foregoing notice or any defect therein shall not invalidate the effectiveness of the call for redemption.

(g) In addition to the foregoing notice, further notice shall be given by the Paying Agent on the City's behalf as set out below, but no defect in said further notice nor any failure to give all or any portion of such further notice shall in any manner defeat the effectiveness of a call for redemption if official notice thereof is given as above prescribed.

(i) Each further notice of redemption given hereunder shall contain the information required above for an official notice of redemption plus (A) the CUSIP numbers of all Bonds being redeemed; (B) the date of issue of the Bonds as originally issued; and (C) any other descriptive information needed to identify accurately the Bonds being redeemed.

(ii) Each further notice of redemption shall be filed on the Electronic Municipal Market Access system for municipal securities disclosures ("EMMA") established and maintained by the

MSRB (or any successor to EMMA established by the MSRB), at least one day before the mailing of notice to Registered Owners. If EMMA ceases to exist, then each further notice of redemption shall be sent by first class, registered or certified mail or overnight delivery, as determined by the Paying Agent, to one or more national information services that disseminate notices of redemption of obligations such as the Bonds.

(h) Each check or other transfer of funds issued for the payment of the Redemption Price of Bonds being redeemed shall bear or have enclosed therewith the CUSIP number of the Bonds being redeemed with the proceeds of such check or other transfer.

(i) The Paying Agent is also directed to comply with any mandatory standards then in effect for processing redemptions of municipal securities established by the SEC. Failure to comply with such standards shall not affect or invalidate the redemption of any Bond.

ARTICLE IV

SECURITY FOR AND PAYMENT OF BONDS

Section 401. Security for the Bonds. The Bonds are general obligations of the City payable as to both principal or Redemption Price of and interest on the Bonds from ad valorem taxes which may be levied without limitation as to rate or amount upon all the taxable tangible property, real and personal, within the City's territorial limits. The full faith, credit and resources of the City are hereby irrevocably pledged for the prompt payment of the principal of and interest on the Bonds as the same become due.

Section 402. Levy and Collection of Annual Tax.

(a) For the purpose of providing for the payment of the principal or Redemption Price of and interest on the Bonds as the same become due, there is hereby levied upon all of the taxable tangible property within the City a direct annual tax sufficient to produce the amounts necessary for the payment of such principal or Redemption Price of and interest as the same become due and payable in each year.

(b) The taxes referred to above shall be extended upon the tax rolls in each of the several years, respectively, and shall be levied and collected at the same time and in the same manner as the City's other ad valorem taxes are levied and collected. The proceeds derived from said taxes shall be deposited in the Debt Service Fund, shall be kept separate and apart from all other funds of the City and shall be used solely for the payment of the principal or Redemption Price of and interest on the Bonds as and when the same become due, taking into account scheduled mandatory redemptions, if any, the fees and expenses of the Paying Agent and, if permitted by law and determined by the City to be appropriate, expenses of complying with federal and state tax and securities laws following the issuance of the Bonds.

(c) If at any time said taxes are not collected in time to pay the principal or Redemption Price of and interest on the Bonds when due, the City's Finance Director is hereby authorized and directed to pay said principal or Redemption Price of and interest on the Bonds out of the City's general funds and to reimburse said general funds for money so expended when said taxes are collected.

ARTICLE V

ESTABLISHMENT OF FUNDS; DEPOSIT AND APPLICATION OF MONEY

Section 501. Establishment of Funds. There have been or shall be established in the City's treasury and shall be held and administered by the City's Finance Director the following separate funds:

- (a) Debt Service Fund.
- (b) Project Fund.
- (c) Rebate Fund.

Section 502. Deposit of Bond Proceeds. The net proceeds received from the sale of the Bonds (\$_____) shall be deposited in the Project Fund and shall be applied in accordance with **Section 504**.

Section 503. Application of Money in Debt Service Fund.

(a) All amounts paid and credited to the Debt Service Fund shall be expended and used by the City for the sole purpose of paying the principal or Redemption Price of and interest on the Bonds on any Bond Payment Date and the usual and customary fees and expenses of the Paying Agent. The City's Finance Director is authorized and directed to withdraw from the Debt Service Fund sums sufficient to pay the principal or Redemption Price of and interest on the Bonds and the fees and expenses of the Paying Agent as and when the same become due, and to forward such sums to the Paying Agent in a manner which ensures that the Paying Agent will receive immediately available funds in such amounts on or before 11:00 a.m. of the Business Day when such principal or Redemption Price, interest and the fees and expenses of the Paying Agent will become due. If, through the lapse of time or otherwise, the Registered Owners of Bonds are no longer entitled to enforce payment of the Bonds or the interest thereon, the Paying Agent shall return said funds to the City. All money deposited with the Paying Agent shall be deemed to be deposited in accordance with and subject to all of the provisions contained in this Ordinance and shall be held in trust by the Paying Agent for the benefit of the Registered Owners of the Bonds entitled to payment from such money.

(b) Any money or investments remaining in the Debt Service Fund after the retirement of the indebtedness for which the Bonds were issued and all other indebtedness of the City shall be transferred and paid into the City's general fund.

Section 504. Application of Money in the Project Fund.

(a) Moneys in the Project Fund shall be used by the City solely for the purpose of (i) paying the costs of the Project in accordance with the plans and specifications therefor prepared by the City's architects and engineers, including any alterations in or amendments to said plans and specifications deemed advisable by the City's architects and engineers and approved by the City, and (ii) paying the costs and expenses of issuing the Bonds.

(b) The City shall make withdrawals from the Project Fund solely for the purpose of paying the costs of the Project, including the payment of all costs and expenses incident to the issuance of the Bonds, in accordance with the City's customary practices for expenditure of funds. Such withdrawals shall be made only for purposes within the scope of this Ordinance and only if the amount of any such payment represents the contract price of the property, equipment, labor, materials or service being paid for or, if such payment is not being made pursuant to an express contract, an amount not in excess of the reasonable value thereof. Nothing hereinbefore contained shall prevent the payment out of the Project Fund of all costs and expenses incident to

the issuance of the Bonds, including the fees of attorneys, financial consultants, printers and others employed to render professional services and other costs, fees and expenses incurred in connection with the issuance of the Bonds.

(c) Upon completion of the Project, any surplus remaining in the Project Fund shall be transferred to and deposited in the Debt Service Fund.

Section 505. Application of Money in the Rebate Fund.

(a) There shall be deposited in the Rebate Fund such amounts as are required to be deposited therein pursuant to the Federal Tax Certificate. All money at any time deposited in the Rebate Fund shall be held in trust, to the extent necessary to satisfy the Federal Tax Certificate for payment to the United States of America, and neither the City nor the Registered Owner of any Bonds shall have any rights in or claim to such money. All amounts deposited into or on deposit in the Rebate Fund shall be governed by this Section and the Federal Tax Certificate.

(b) The City shall periodically determine the amount of arbitrage rebate under Section 148(f) of the Code in accordance with the Federal Tax Certificate, and the City shall make payments to the United States of America at the times and in the amounts determined under the Federal Tax Certificate. Any money remaining in the Rebate Fund after redemption and payment of all of the Bonds and payment and satisfaction of any arbitrage rebate required pursuant to the Federal Tax Certificate, or provision made therefor, shall be released to the City.

(c) Notwithstanding any other provision of this Ordinance, including in particular **Article VII** hereof, the obligation to pay arbitrage rebate to the United States and to comply with all other requirements of this Section and the Federal Tax Certificate shall survive the defeasance or payment in full of the Bonds.

Section 506. Deposits and Investment of Money.

(a) Money in each of the funds and accounts created by and referred to in this Ordinance shall be deposited in a bank or banks or other legally permitted financial institutions located in the State of Missouri that are members of the Federal Deposit Insurance Corporation. All such deposits shall be continuously and adequately secured by the financial institutions holding such deposits as provided by the laws of the State of Missouri. All such money shall be kept separate and apart from all other funds of the City so that there shall be no commingling of such funds with any other funds of the City.

(b) Money held in any fund or account referred to in this Ordinance may be invested by the City's Finance Director in accordance with the investment policy of the City, as such policy may be amended from time to time, in accordance with this Ordinance and the Federal Tax Certificate, in Permitted Investments; provided, however, that no such investment shall be made for a period extending longer than to the date when the money invested may be needed for the purpose for which such fund was created. All earnings on any investments held in any fund shall accrue to and become a part of such fund.

Section 507. Nonpresentment of Bonds. If any Bond is not presented for payment when the principal thereof becomes due at Maturity, if funds sufficient to pay such Bond have been made available to the Paying Agent all liability of the City to the Registered Owner thereof for the payment of such Bond shall forthwith cease, determine and be completely discharged, and thereupon it shall be the duty of the Paying Agent to hold such funds, without liability for interest thereon, for the benefit of the Registered Owner of such Bond, who shall thereafter be restricted exclusively to such funds for any claim of whatever nature on his or her part under this Ordinance or on, or with respect to, said Bond. If any Bond is not presented for payment within one year following the date when such Bond becomes due at Maturity, the Paying Agent shall, without liability for interest thereon, repay to the City the funds theretofore held by it for payment of such Bond, and such Bond

shall, subject to the defense of any applicable statute of limitation, thereafter be an unsecured obligation of the City, and the Registered Owner thereof shall be entitled to look only to the City for payment, and then only to the extent of the amount so repaid to it by the Paying Agent, and the City shall not be liable for any interest thereon and shall not be regarded as a trustee of such money.

Section 508. Payments Due on Saturdays, Sundays and Holidays. In any case where a Bond Payment Date is not a Business Day, then payment of the principal or Redemption Price of and interest on the Bonds need not be made on such Bond Payment Date but may be made on the next succeeding Business Day with the same force and effect as if made on such Bond Payment Date, and no interest shall accrue for the period after such Bond Payment Date.

ARTICLE VI

REMEDIES

Section 601. Remedies. The provisions of this Ordinance, including the covenants and agreements herein contained, shall constitute a contract between the City and the Registered Owners of the Bonds, and the Registered Owner or Owners of not less than 10% in principal amount of the Bonds at the time Outstanding shall have the right for the equal benefit and protection of all Registered Owners of Bonds similarly situated:

- (a) by mandamus or other suit, action or proceedings at law or in equity to enforce the rights of such Registered Owner or Owners against the City and its officers, agents and employees, and to require and compel duties and obligations required by the provisions of this Ordinance or by the Constitution and laws of the State of Missouri;
- (b) by suit, action or other proceedings in equity or at law to require the City, its officers, agents and employees to account as if they were the trustees of an express trust; and
- (c) by suit, action or other proceedings in equity or at law to enjoin any acts or things which may be unlawful or in violation of the rights of the Registered Owners of the Bonds.

Section 602. Limitation on Rights of Registered Owners. The covenants and agreements of the City contained herein and in the Bonds shall be for the equal benefit, protection and security of the legal owners of any or all of the Bonds. All of the Bonds shall be of equal rank and without preference or priority of one Bond over any other Bond in the application of the funds herein pledged to the payment of the principal of and the interest on the Bonds, or otherwise, except as to rate of interest, or date of Maturity or right of prior redemption as provided in this Ordinance. No one or more Registered Owners secured hereby shall have any right in any manner whatever by his or their action to affect, disturb or prejudice the security granted and provided for herein, or to enforce any right hereunder, except in the manner herein provided, and all proceedings at law or in equity shall be instituted, had and maintained for the equal benefit of all Registered Owners of such Outstanding Bonds.

Section 603. Remedies Cumulative. No remedy conferred herein upon the Registered Owners is intended to be exclusive of any other remedy, but each such remedy shall be cumulative and in addition to every other remedy and may be exercised without exhausting and without regard to any other remedy conferred herein. No waiver of any default or breach of duty or contract by the Registered Owner of any Bond shall extend to or affect any subsequent default or breach of duty or contract or shall impair any rights or remedies consequent thereon. No delay or omission of any Registered Owner to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or acquiescence therein. Every substantive right and every remedy conferred upon the Registered Owners of the Bonds by this Ordinance may be enforced and exercised from time to time and as often as may be deemed

expedient. If any suit, action or proceedings taken by any Registered Owner on account of any default or to enforce any right or exercise any remedy has been discontinued or abandoned for any reason, or has been determined adversely to such Registered Owner, then, and in every such case, the City and the Registered Owners of the Bonds shall be restored to their former positions and rights hereunder, respectively, and all rights, remedies, powers and duties of the Registered Owners shall continue as if no such suit, action or other proceedings had been brought or taken.

Section 604. Exception for Continuing Disclosure. This **Article VI** shall not apply to **Section 805** hereof regarding the City's continuing disclosure obligations, and Registered Owners or Beneficial Owners (as defined in the Continuing Disclosure Undertaking) of the Bonds shall have no remedies for enforcement of said obligations other than the remedies provided for in **Section 805** hereof and the City's Continuing Disclosure Undertaking.

ARTICLE VII

DEFEASANCE

Section 701. Defeasance.

(a) When any or all of the Bonds or scheduled interest payments thereon have been paid and discharged, then the requirements contained in this Ordinance and the pledge of the City's faith and credit hereunder and all other rights granted hereby shall terminate with respect to the Bonds or scheduled interest payments thereon so paid and discharged. Bonds or scheduled interest payments thereon shall be deemed to have been paid and discharged within the meaning of this Ordinance if there has been deposited with the Paying Agent, or other commercial bank or trust company located in the State of Missouri and having full trust powers, at or prior to the Stated Maturity or Redemption Date of said Bonds or the interest payments thereon, in trust for and irrevocably appropriated thereto, money and/or Defeasance Obligations which, together with the interest to be earned on any such Defeasance Obligations, will be sufficient for the payment of the principal of and redemption premium, if any, on said Bonds and interest accrued to the Stated Maturity or Redemption Date, or if default in such payment has occurred on such date, then to the date of the tender of such payments; provided, however, that if any such Bonds are to be redeemed prior to their Stated Maturity, (i) the City has elected to redeem such Bonds, and (ii) either notice of such redemption has been given, or the City has given irrevocable instructions, or shall have provided for an escrow agent to give irrevocable instructions, to the Paying Agent to give such notice of redemption in compliance with **Section 302(a)**.

(b) Any money and Defeasance Obligations that at any time shall be deposited with the Paying Agent or other commercial bank or trust company by or on behalf of the City, for the purpose of paying and discharging any of the Bonds, or the interest payments thereon, shall be and are hereby assigned, transferred and set over to the Paying Agent or other bank or trust company in trust for the respective Registered Owners of the Bonds, and such money shall be and is hereby irrevocably appropriated to the payment and discharge thereof. All money and Defeasance Obligations deposited with the Paying Agent or other bank or trust company shall be deemed to be deposited in accordance with and subject to all of the provisions of this Ordinance.

ARTICLE VIII

MISCELLANEOUS PROVISIONS

Section 801. Tax Covenant. The City covenants and agrees to comply with all provisions and requirements of the Federal Tax Certificate, which is hereby approved, with such changes therein as shall be

approved by the City Administrator and the Finance Director, which officers are hereby authorized to execute the Federal Tax Certificate for and on behalf of the City, such officers' signatures thereon being conclusive evidence of their approval thereof.

Section 802. Annual Audit.

(a) Annually, promptly after the end of the Fiscal Year, the City will cause an audit to be made of its funds and accounts for the preceding Fiscal Year by an independent certified public accountant or firm of independent certified public accountants.

(b) Within 30 days after the completion of each such audit, a copy thereof shall be filed in the office of the City Clerk. Such audits shall at all times during the usual business hours be open to the examination and inspection by any taxpayer, any Registered Owner of any of the Bonds, or by anyone acting for or on behalf of such taxpayer or Registered Owner.

(c) As soon as possible after the completion of the annual audit, the City Council shall review such audit, and if the audit discloses that proper provision has not been made for all of the requirements of this Ordinance, the City shall promptly cure such deficiency.

Section 803. Amendments.

(a) Notwithstanding the City's obligations under the Continuing Disclosure Undertaking which may be modified as provided therein, the rights and duties of the City and the Registered Owners, and the terms and provisions of the Bonds or of this Ordinance, may be amended or modified at any time in any respect by ordinance of the City with the written consent of the Registered Owners of not less than a majority in principal amount of the Bonds then Outstanding, such consent to be evidenced by an instrument or instruments executed by such Registered Owners and duly acknowledged or proved in the manner of a deed to be recorded, and such instrument or instruments shall be filed with the City Clerk. No such modification or alteration may:

- (i) extend the maturity of any payment of principal or interest due upon any Bond;
- (ii) alter the optional Redemption Date of any Bond;
- (iii) effect a reduction in the amount which the City is required to pay as principal of or interest on any Bond;
- (iv) permit preference or priority of any Bond over any other Bond; or
- (v) reduce the percentage in principal amount of Bonds required for the written consent to any modification or alteration of the provisions of this Ordinance.

(b) Any provision of the Bonds or of this Ordinance may, however, be amended or modified by ordinance duly adopted by the City Council at any time in any legal respect with the written consent of the Registered Owners of all of the Bonds at the time Outstanding.

(c) Without notice to or the consent of any Registered Owners, the City may amend or supplement this Ordinance for the purpose of curing any formal defect, omission, inconsistency or ambiguity therein or in connection with any other change therein which is not materially adverse to the interests of the Registered Owners.

(d) Every amendment or modification of the provisions of the Bonds or of this Ordinance, to which the written consent of the Registered Owners is given, as above provided, shall be expressed in an

ordinance adopted by the City Council amending or supplementing the provisions of this Ordinance and shall be deemed to be a part of this Ordinance. A certified copy of every such amendatory or supplemental ordinance if any, and a certified copy of this Ordinance shall always be kept on file in the office of the City Clerk and shall be made available for inspection by the Registered Owner of any Bond or a prospective purchaser or owner of any Bond authorized by this Ordinance, and upon payment of the reasonable cost of preparing the same, a certified copy of any such amendatory or supplemental ordinance or of this Ordinance will be sent by the City Clerk to any such Registered Owner or prospective Registered Owner.

(e) Any and all modifications made in the manner hereinabove provided shall not become effective until there has been filed with the City Clerk a copy of the ordinance of the City hereinabove provided for, duly certified, as well as proof of any required consent to such modification by the Registered Owners of the Bonds then Outstanding. It shall not be necessary to note on any of the Outstanding Bonds any reference to such amendment or modification.

(f) The City shall furnish to the Paying Agent a copy of any amendment to the Bonds or this Ordinance which affects the duties or obligations of the Paying Agent under this Ordinance.

Section 804. Notices, Consents and Other Instruments by Registered Owners.

(a) Any notice, consent, request, direction, approval or other instrument to be signed and executed by the Registered Owners may be in any number of concurrent writings of similar tenor and may be signed or executed by such Registered Owners in person or by agent appointed in writing. Proof of the execution of any such instrument or of the writing appointing any such agent and of the ownership of Bonds (other than the assignment of the ownership of a Bond as provided for in the form of Bond set forth in **Exhibit A** attached hereto), if made in the following manner, shall be sufficient for any of the purposes of this Ordinance, and shall be conclusive in favor of the City and the Paying Agent with regard to any action taken, suffered or omitted under any such instrument, namely:

(i) The fact and date of the execution by any Person of any such instrument may be proved by a certificate of any officer in any jurisdiction who by law has power to take acknowledgments within such jurisdiction that the Person signing such instrument acknowledged before such officer the execution thereof, or by affidavit of any witness to such execution.

(ii) The fact of ownership of Bonds, the amount or amounts, numbers and other identification of Bonds, and the date of holding the same shall be proved by the Bond Register.

(b) In determining whether the Registered Owners of the requisite principal amount of Bonds Outstanding have given any request, demand, authorization, direction, notice, consent or waiver under this Ordinance, Bonds owned by the City shall be disregarded and deemed not to be Outstanding under this Ordinance, except that, in determining whether the Registered Owners shall be protected in relying upon any such request, demand, authorization, direction, notice, consent or waiver, only Bonds which the Registered Owners know to be so owned shall be so disregarded. Notwithstanding the foregoing, Bonds so owned which have been pledged in good faith shall not be disregarded as aforesaid if the pledgee establishes to the satisfaction of the Registered Owners the pledgee's right so to act with respect to such Bonds and that the pledgee is not the City.

Section 805. Continuing Disclosure. The City hereby covenants and agrees that it will comply with and carry out all of the provisions of the Continuing Disclosure Undertaking upon the terms and conditions set forth therein and with such changes therein as shall be approved by the City Administrator, who is hereby authorized to execute the Continuing Disclosure Undertaking for and on the City's behalf, such officer's signature thereon being conclusive evidence of his approval thereof. If the City fails to comply with the Continuing Disclosure Undertaking, the sole remedy of any Bondowner shall be an action to compel

performance with the provisions thereof. In no event shall the City be liable for any monetary damages, and in no event will a default under the Continuing Disclosure Undertaking be considered a default pursuant to this Ordinance.

Section 806. Electronic Transactions. The transaction described herein may be conducted and related documents may be sent, received or stored by electronic means. Copies, telecopies, facsimiles, electronic files and other reproductions of original executed documents shall be deemed to be authentic and valid counterparts of such original documents for all purposes, including the filing of any claim, action or suit in the appropriate court of law.

Section 807. Further Authority. The officers of the City, including the Mayor, City Administrator, Finance Director, City Clerk and City Attorney, are hereby authorized and directed to execute all documents and take such actions as they may deem necessary or advisable in order to carry out and perform the purposes of this Ordinance and to make ministerial alterations, changes or additions in the foregoing agreements, statements, instruments and other documents herein approved, authorized and confirmed which they may approve, and the execution or taking of such action shall be conclusive evidence of such necessity or advisability.

Section 808. Parties Interested Herein. Nothing in this Ordinance expressed or implied is intended or shall be construed to confer upon, or to give to, any person or entity, other than the City, the Paying Agent and the Registered Owners of the Bonds, any right, remedy or claim under or by reason of this Ordinance or any covenant, condition or stipulation thereof, and all covenants, stipulations, promises and agreements in this Ordinance contained by and on behalf of the City shall be for the sole and exclusive benefit of the City, the Paying Agent and the Registered Owners of the Bonds.

Section 809. Severability. If any section or other part of this Ordinance is for any reason held invalid, the invalidity thereof shall not affect the validity of the other provisions of this Ordinance.

Section 810. Governing Law. This Ordinance shall be governed exclusively by and construed in accordance with the applicable laws of the State of Missouri.

Section 811. Effective Date. This Ordinance shall take effect and be in full force and effect immediately after its adoption by the City Council and approval by the Mayor.

[Remainder of Page Intentionally Left Blank.]

ADOPTED THIS 24TH DAY OF APRIL, 2017.

Ellen Lawrence, President of City Council

APPROVED THIS 24TH DAY OF APRIL, 2017.

Barry Glantz, Mayor

(SEAL)

ATTEST:

Deborah Ryan, City Clerk

(FORM OF BONDS)

UNITED STATES OF AMERICA
STATE OF MISSOURI

Registered
\$ _____

**GENERAL OBLIGATION BOND
SERIES 2017**

REGISTERED OWNER: CEDE & CO.

PRINCIPAL AMOUNT: _____ **DOLLARS**

The principal or Redemption Price of this Bond shall be paid at maturity or upon earlier redemption by check, electronic transfer or draft to the Person in whose name this Bond is registered on the Bond Register (hereafter defined) at the Maturity or Redemption Date thereof, upon presentation and surrender of this Bond at the principal payment office of UMB Bank, N.A. (the “Paying Agent”) in Kansas City, Missouri or such other office as the Paying Agent designates. The interest payable on this Bond on any

Interest Payment Date shall be paid to the Person in whose name this Bond is registered on the registration books maintained by the Paying Agent (the “Bond Register”) at the close of business on the Record Date for such interest, which shall be the 15th day (whether or not a business day) of the calendar month next preceding the applicable Interest Payment Date. Such interest shall be payable (a) by check or draft mailed by the Paying Agent to the address of such Registered Owner shown on the Bond Register or such other address furnished to the Paying Agent in writing by such Registered Owner, or (b) by electronic transfer to such Registered Owner upon written notice signed by such Owner, given to the Paying Agent, not less than 15 days prior to the Record Date for such interest, containing the electronic transfer instructions including the name and address of the bank, the bank’s ABA routing number and the account number to which such Registered Owner wishes to have such transfer directed and an acknowledgment that an electronic transfer fee may be applicable. The principal or Redemption Price of and interest on the Bonds shall be payable by check or draft in any coin or currency that, on the respective dates of payment thereof, is legal tender for the payment of public and private debts.

This Bond is one of an authorized series of bonds of the City designated “General Obligation Bonds, Series 2017,” aggregating the principal amount of \$10,690,000 (the “Bonds”), issued by the City for the purpose of providing funds to pay the costs of the Project and pay the costs of issuing the Bonds. The Bonds are issued under the authority of and in full compliance with the City’s Charter and the Constitution and laws of the State of Missouri, and pursuant to an ordinance duly passed (the “Ordinance”) and proceedings duly and legally had by the governing body of the City. *Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to such terms in the Ordinance.*

At the option of the City, the Bonds or portions thereof maturing on March 1, 2026 and thereafter may be called for redemption and payment prior to their Stated Maturity on March 1, 2025 and thereafter as a whole or in part at any time in such order of maturity as shall be determined by the City (Bonds of less than a full maturity to be selected in multiples of \$5,000 in such equitable manner as the Paying Agent shall designate), at the Redemption Price of 100% of the principal amount thereof plus accrued interest thereon to the Redemption Date.

Notice of redemption, unless waived, is to be given by the Paying Agent by mailing an official redemption notice by first class mail at least 30 days but not more than 60 days prior to the Redemption Date to the State Auditor of Missouri and each Registered Owner of the Bond or Bonds to be redeemed at the address shown on the Bond Register maintained by the Paying Agent. Notice of redemption having been given as aforesaid, the Bonds or portions of Bonds to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the City defaults in the payment of the Redemption Price) such Bonds or portions of Bonds shall cease to bear interest.

The Bonds constitute general obligations of the City payable as to both principal and interest from ad valorem taxes which may be levied without limitation as to rate or amount upon all the taxable tangible property, real and personal, within the territorial limits of the City. The full faith, credit and resources of the City are irrevocably pledged for the prompt payment of the principal of and interest on the Bonds as the same become due.

The Bonds are issuable in the form of fully-registered Bonds in the denominations of \$5,000 or any integral multiple thereof.

The Bonds are being issued by means of a book-entry system with no physical distribution of bond certificates to be made except as provided in the Ordinance. One Bond certificate with respect to each date on which the Bonds are stated to mature, registered in the nominee name of The Depository Trust Company, New York, New York (the “Securities Depository”), is being issued and required to be deposited with the Securities Depository and immobilized in its custody or in the custody of the Paying Agent as the Security Depository’s FAST Agent. The book-entry system will evidence positions held in the Bonds by the Securities Depository’s participants, beneficial ownership of the Bonds in authorized denominations being evidenced in the records of such participants. Transfers of ownership shall be effected on the records of the Securities Depository and its participants. The Paying Agent and the City will recognize the Securities Depository nominee, while the Registered Owner of this Bond, as the owner of this Bond for all purposes, including (i) payments of principal of, redemption premium, if any, and interest on this Bond, (ii) notices and (iii) voting. Transfers of principal, interest and any redemption premium payments to participants of the Securities Depository will be the responsibility of such participants and other nominees of such beneficial owners. The Paying Agent and the City will not be responsible or liable for such transfers of payments or for maintaining, supervising or reviewing the records maintained by the Securities Depository, the Securities Depository nominee, its participants or persons acting through such participants. While the Securities Depository nominee is the owner of this Bond, notwithstanding the provision hereinabove contained, payments of principal or Redemption Price of and interest on this Bond shall be made in accordance with existing arrangements between the Securities Depository, the Paying Agent and the City.

EXCEPT AS OTHERWISE PROVIDED IN THE ORDINANCE, THIS GLOBAL BOND MAY BE TRANSFERRED, IN WHOLE BUT NOT IN PART, ONLY TO ANOTHER NOMINEE OF THE SECURITIES DEPOSITORY OR TO A SUCCESSOR SECURITIES DEPOSITORY OR TO A NOMINEE OF A SUCCESSOR SECURITIES DEPOSITORY.

This Bond may be transferred or exchanged, as provided in the Ordinance, only on the Bond Register kept for that purpose at the principal corporate trust office or such other office designated by the Paying Agent, upon surrender of this Bond together with a written instrument of transfer or authorization for exchange satisfactory to the Paying Agent duly executed by the Registered Owner or the Registered Owner’s duly authorized agent, and thereupon a new Bond or Bonds in any authorized denomination of the same maturity and in the same aggregate principal amount shall be issued to the transferee in exchange therefor as provided in the Ordinance and upon payment of the charges therein prescribed. The City and the Paying Agent may deem and treat the Person in whose name this Bond is registered on the Bond Register as the absolute owner hereof for the purpose of receiving payment of, or on account of, the principal or Redemption Price hereof and interest due hereon and for all other purposes.

The proceedings relating to the issuance of the Bonds have been presented to and filed with the State Auditor of Missouri, who has examined the same and has issued a certificate that such proceedings comply with the laws of the State of Missouri and that the conditions of the contract under which the Bonds were ordered to be issued have been complied with.

This Bond shall not be valid or become obligatory for any purpose or be entitled to any security or benefit under the Ordinance until the Certificate of Authentication hereon has been executed by the Paying Agent.

IT IS HEREBY DECLARED AND CERTIFIED that all acts, conditions and things required to be done and to exist precedent to and in the issuance of the Bonds have been done and performed and do exist in due and regular form and manner as required by the Constitution and laws of the State of Missouri; that a direct annual tax upon all taxable tangible property situated in the City has been levied for the purpose of paying the principal of and interest on the Bonds when due; and that the total indebtedness of the City, including this Bond and the series of which it is one, does not exceed any constitutional or statutory limitation.

IN WITNESS WHEREOF, the **CITY OF CREVE COEUR, MISSOURI**, has caused this Bond to be executed by the manual or facsimile signature of its City Administrator and attested by the manual or facsimile signature of its City Clerk and its official seal to be affixed or imprinted hereon.

CERTIFICATE OF AUTHENTICATION

CITY OF CREVE COEUR, MISSOURI

This Bond is one of the Bonds
of the issue described in the
within-mentioned Ordinance.

By: _____
City Administrator

Registration Date: _____

UMB BANK, N.A.,
as Paying Agent

(Seal)

ATTEST:

By _____
Authorized Signatory

City Clerk

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

Print or Type Name, Address and Social Security Number
or other Taxpayer Identification Number of Transferee

the within Bond and all rights thereunder, and hereby irrevocably constitutes and appoints _____ agent to transfer the within Bond on the books kept by the Paying Agent for the registration thereof, with full power of substitution in the premises.

Dated: _____

NOTICE: The signature to this assignment must correspond with the name of the Registered Owner as it appears upon the face of the within Bond in every particular.

Signature Guaranteed By:

(Name of Eligible Guarantor Institution as defined by SEC Rule 17 Ad-15 (17 CFR 240.17 Ad-15))

By: _____
Title: _____

**EXHIBIT B
TO ORDINANCE**

PRELIMINARY OFFICIAL STATEMENT

[On file in the office of the City Clerk.]

**EXHIBIT C
TO ORDINANCE
CONTINUING DISCLOSURE UNDERTAKING**

[On file in the office of the City Clerk.]

CERTIFICATE

I, the undersigned, hereby certify that the above and foregoing is a true and correct copy of the Ordinance of the City of Creve Coeur, Missouri, adopted by the City Council on April 24, 2017, authorizing the issuance of \$10,690,000 principal amount of General Obligation Bonds, Series 2017, as the same appears of record in my office, and that said Ordinance has not been modified, amended or repealed and is in full force and effect as of this date.

DATED: May 8, 2017.

(Seal)

City Clerk of the City of Creve Coeur, Missouri



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Planning and Zoning Commission
Category: Ordinance
Prepared By: Whitney Kelly
Department Head: Jason Jaggi

SCHEDULED

ORDINANCE

**Bill No. 5649 - an Ordinance Repealing Ordinance No. 1882
and Authorizing the Issuance of a New Conditional Use
Permit for a 2,600 Square-Foot Eating and Drinking
Establishment, with Drive-Thru Service, Located at 10453
Olive Boulevard, Within the Creve Coeur Pavilion Shopping
Center. First Reading**

Eric Abeln, Architect for Heights Venture, has submitted revised drawings for a new Panda Express drive-thru restaurant located on the 10453 Olive Boulevard lot within the Creve Coeur Pavilion Shopping Center on the site near the former Macaroni Grill Restaurant. The subject property is zoned CB, Core Business District. All Limited-Service Restaurants (NAICS 722513), with Drive-thru Services (NAICS 722) are permitted as a conditional use with review and approval by the City Council upon the recommendation of the Planning and Zoning Commission. The Commission recommended approval on April 17, 2017.

Ordinance

Meeting of April 24, 2017

BILL NO. 5649

ORDINANCE NO. _____

**AN ORDINANCE REPEALING ORDINANCE NO. 1882 AND AUTHORIZING THE
ISSUANCE OF A NEW CONDITIONAL USE PERMIT FOR A 2,600 SQUARE-FOOT
EATING AND DRINKING ESTABLISHMENT, WITH DRIVE-THRU SERVICE,
LOCATED AT 10453 OLIVE BOULEVARD, WITHIN
THE CREVE COEUR PAVILION SHOPPING CENTER**

WHEREAS, under Section 405.370(C), all eating and drinking places in the CB-Core Business zoning district require the issuance of a conditional use permit as provided in Section 405.470 and Section 405.1070, Conditional Use Permits; and

WHEREAS, an application was submitted by Eric Abeln, Architect for Heights Venture for a new conditional use permit for a 2,600 sq. ft., limited service restaurant (NAICS 722513) for a new Panda Express drive-thru restaurant located on the 10453 Olive Boulevard lot within the Creve Coeur Pavilion Shopping Center, at the former Macaroni Grill Restaurant site; and

WHEREAS, a public hearing was held by the Creve Coeur Planning and Zoning Commission on Monday, November 21, 2016, beginning at 6:30 p.m., and continued on April 17, 2017, beginning at 7:30 p.m. or immediately following the close of the previous public hearing, on said application for the conditional use permit as provided by Section 405.1070(D)(2); and

WHEREAS, notice of publication for said public hearing had been previously published at least 15 days prior to the hearing, in the St. Louis Countian, a newspaper of general circulation in the City of Creve Coeur; and

WHEREAS, the Planning and Zoning Commission reviewed and, by a 5-0 vote, recommended approval of the conditional use permit and site plan, subject to the conditions contained herein, at its meeting on April 17, 2017; and

WHEREAS, all parties desiring to be heard, either for or against said application, were given an opportunity to be heard, and a copy of the proposed ordinance has been made available for public inspection prior to its consideration by the Council; and this Bill having been read by title in open meeting two times before final passage by the City Council, and

WHEREAS, the City Council finds that the application and evidence presented clearly indicate that the proposed conditional use, when subject to certain conditions set forth herein:

1. Will contribute to and promote the community welfare and convenience at the specific location.
2. Will not cause substantial injury to the value of neighboring property.
3. Meets the applicable provisions of the City's Comprehensive Plan and any applicable neighborhood or sector plans and complies with other applicable zoning district regulations and provisions of this Chapter, unless good cause exists for deviation therefrom.
4. Will be compatible with the surrounding area and thus will not impose an excessive burden or have a substantial negative impact on surrounding or adjacent users or on community facilities or services.

NOW, THEREFORE, be it ordained by the City Council of the City of Creve Coeur, St. Louis County, Missouri, as follows:

BILL NO. 5649

ORDINANCE NO. _____

Section 1: Ordinance No. 1882 for the former Macaroni Grill is hereby repealed.

Section 2: A Conditional Use Permit is authorized to be issued pursuant to Section 4 hereof for the operation of a restaurant with drive-thru service located at 10453 Olive Boulevard, in the CB-Core Business zoning district, within the Creve Coeur Pavilion Retail Development, whose legal description is as follows:

Lot 3 of Pavilion Subdivision No. 1, according to the plat thereof recorded in Plat Book 350, Page(s) 195 through 197 of the St. Louis County Records.

Section 3: The Conditional Use Permit granted shall be subject to all applicable statutes, ordinances, rules and regulations, and the following conditions:

1. The Conditional Use Permit shall be for the operation of a 2,600 square foot eating and drinking establishment with drive-thru service at 10453 Olive Boulevard.
2. Maximum seating permitted is limited to 62 indoor seats and 16 outdoor seats. The Zoning Administrator may authorize additional outdoor seating, based upon review of an outdoor seating plan to ensure all relevant Zoning and Building Codes are adequately addressed.
3. Hours of operation shall be 10:00 a.m. to 10:00 p.m., Monday through Saturday, and 10:00 a.m. to 9:00 p.m. Sunday. Additional business hours may be permitted with the Zoning Administrator's approval including, but not limited to, the catering of special events.
4. The site shall remain under common ownership with a contiguous site or sites that total no less than 2.0 acres in aggregate, or alternatively be increased in size to at least 2.0 acres, to comply with Section 405.470(14) Food services and drinking places.
5. The Applicant is required to submit Grading and Site Improvement Plans, showing all exterior improvements, for all new construction to the Division of Planning for review, as required by Section 410.380 of the Subdivision and Land Development Regulations (Subdivision Code). The Grading and Site Improvement Plans shall be in substantial conformance with the "Site Development Plans," received March 17, 2017, and the Landscape Plan submitted on March 16, 2017 as bound together and submitted in conjunction with Application #16-030 by CEDC Civil Engineering Design Consultants, and as amended below.
6. The Applicant is required to submit a Building Permit application, as required by Article II of the Building Code. Exterior elevations shall be in substantial conformance with the "Exterior Elevations" and "Trash Enclosure Detail" submitted on March 17, 2017 as bound together and submitted in conjunction with Application #16-030 by CEDC Civil Engineering Design Consultants, and as amended below.
7. The EIFS shown on the rear and north corner of the west elevation shall be removed, and replaced with a material consistent with the front elevations for the Zoning Administrator's approval and the proposed fence at the rain garden near the southwest corner of the building at the drive-up window shall be the same design as that proposed for the pedestrian plaza area.
8. The Landscape Plan shall be amended to include additional plants along the east pedestrian area consistent with the design of the rest of the development, and with the requirements of Section 405.540 Landscaping including but not limited to the minimum caliper and height of the trees, and hedges of not less than two (2) feet in height and two (2) feet in spread at time of installation; however, no hedge or wall or berm shall exceed three (3) feet in height within ten (10) feet of any driveway opening. The individual plants

BILL NO. 5649

ORDINANCE NO. _____

used in the development of such a hedge shall be placed so as to be not more than thirty (30) inches on center.

9. An underground irrigation system shall be installed and maintained to serve all new landscaped areas. Vegetation that is totally or predominantly dead and/or disfigured due to disease or injury shall be replaced as needed and in a prompt manner.
10. All internal sidewalks shall be in compliance with Section 405.730 Sidewalks of the Zoning Ordinance, that requires a minimum of 6 feet in width or 8 feet if used as curb stop, and provide accessible connections with the existing sidewalks throughout the center. All sidewalk crossing, shall be constructed using the same material, color, and pattern as the existing as found within the Shopping Center.
11. The Applicant shall demonstrate to the satisfaction of the Zoning Administrator that adequate turning radius is provided to verify appropriate passenger vehicles ingress/egress to the parking stalls and delivery truck circulation and the serviceability of the location of the trash enclosure can be accommodated, and that all of the recommendations from the *Updated Traffic Impact Study* submitted are provided prior to the issuance of a building and site improvement permit. The Zoning Administrator may allow for deviation in the location of the trash enclosure to allow for proper maneuverability.
12. All lighting shall be in conformance with Section 405.680, Lighting, of the Zoning Code, and Section 205.810 of the Parking Ordinance.
13. All signs and banners shall be in conformance with Article VIII, Sign Regulations, of the Zoning Code, included, but not limited to, any delivery and/or company vehicles shall park as far from the right-of-way and in the least visible area possible, per Section 405.930 General Provisions of the Sign Ordinance.
14. Any mechanical equipment installed for the site shall be properly screened with approved materials.
15. Any future enlargement, extension, expansion or alteration in the use of the structures or site must be approved by the City Council upon receipt of the recommendation of the Planning and Zoning Commission as an amendment to the Conditional Use Permit before a Building Permit for the enlargement, expansion or alteration may be issued.
16. Failure to comply with any one or all of the conditions of this permit shall be adequate cause for the revocation of said permit by the City Council, provided, however, no permit shall be revoked without prior notice to the owner of the intention of the City Council to revoke this permit and reasonable time granted to the owner to correct or remedy any such breach of conditions, except for repeated breaches or violations.
17. No conditional use permit granted by the City Council shall be valid for a period longer than one year from the date it grants the conditional use permit, unless within such period: (1) a building permit is obtained and construction is begun; or (2) if a building permit is not required, an occupancy permit is obtained and the use of the building commenced. The City Council may grant extensions to the one (1) year period of not more than one hundred and eighty (180) days each, without notice or hearing, provided that a written request for such extension is filed by the original applicant and approved by the City Council prior to the date the conditional use permit is scheduled to expire.
18. Any transfer of ownership or lease of the property shall include in the transfer or lease agreement a provision that the purchaser or lessee agrees to be bound by the approved Site Development Plan for the property and the conditions herein set forth, and written confirmation thereof signed by the new owner or lessee shall be filed with the City at the time of such transfer or lease. Failure to comply with this provision shall not excuse anyone from these conditions.

BILL NO. 5649

ORDINANCE NO. _____

Section 4: The City Administrator of the City of Creve Coeur is hereby authorized and directed to issue a Conditional Use Permit in accordance with the provisions of this ordinance, said permit to expressly provide for the conditions and stipulations hereinabove set out in Section 3 of this ordinance. Exercise of the rights granted pursuant to the issued permit shall constitute acceptance of all conditions and stipulations set forth herein.

Section 5: This ordinance shall become effective in accordance with Section 3.11 (g) of the City Charter.

ADOPTED THIS ____ DAY OF _____, 2017.

ELLEN LAWRENCE
PRESIDENT OF CITY COUNCIL

APPROVED THIS ____ DAY OF _____, 2017.

BARRY GLANTZ
MAYOR

ATTEST:

DEBORAH RYAN, MPCC
CITY CLERK



city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
(314) 432-6000 • Fax (314) 872-2539 • Relay MO 1-800-735-2966
www.creve-coeur.org

**APPLICATION TO PLANNING AND ZONING COMMISSION
#16-030 FOR A CONDITIONAL USE PERMIT AND SITE DEVELOPMENT PLAN
FOR A PANDA EXPRESS RESTAURANT, WITH DRIVE-THRU SERVICE AT
10453 OLIVE BOULEVARD WITHIN
CREVE COEUR PAVILION SHOPPING CENTER**

FOR THE MEETING OF: Monday, April 17, 2017

LOCATION: 10453 Olive Boulevard, within the Creve Coeur Pavilion Shopping Center at the northwest corner of Olive Boulevard and Pavilion Drive.

REQUEST: Eric Abeln, Architect for Heights Venture, has submitted revised drawings for a new Panda Express drive-thru restaurant located on the 10453 Olive Boulevard lot within the Creve Coeur Pavilion Shopping Center on the site near the former Macaroni Grill Restaurant, based upon the comments from the November 21, 2016 Planning and Zoning Commission meeting. Adjustments include reorienting the drive through lane to the west façade of the building, with the stacking lane at the north side of the parking lot.

ADDITIONAL INFORMATION: On November 10, 2014, City Council authorized the text amendment to amend the ordinance governing drive-thru restaurants in the City. For larger commercial areas, not directly abutting a residential use, one free standing drive-thru restaurant is allowed on combined development sites over three acres, with certain conditions. The Creve Coeur Pavilion Center is 13.34 acres. It was originally developed in phases in 1999-2001, with pre-existing non-conforming site coverage of 76%. The proposed drive-thru restaurant would be located on a 1.88 acre lot within the center and the development would lower the overall site coverage to 72%. The Draft Ordinance includes a repeal of the conditional use permit for the Macaroni Grill (Ordinance No. 1882) that has since been torn down.

Key Issues:

- Integration with the surrounding uses.
- Implementation of the goals of the Comprehensive Plan.
- Consistency with the required findings for a conditional use permit.

Creve Coeur 2030 Plan Reference

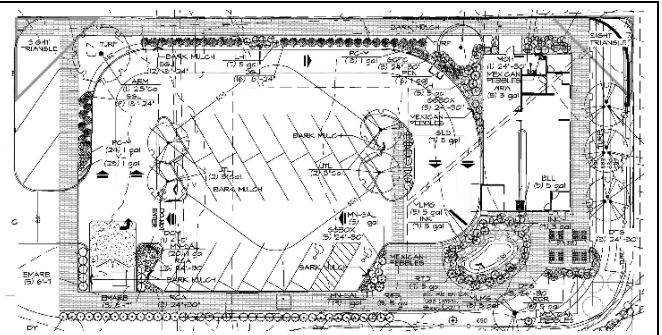
- Mixed-Use Innovation Campus District
- 39 North Master Plan
- Design Guidelines

Zoning Code References

- Section 405.210: Regulation of Uses
- Section 405.370: CB-Core Business District
- Section 405.470 Conditional Uses
- Article VII Off-Street Parking and Loading Regulations

APPLICANTS: Eric J. Abeln, AIA, NCARB
Project Architect, Senior Associate
Heights Venture Architecture + Design
1111 North Loop West, Suite 800
Houston, Texas 77008

PROPERTY OWNER: Creve Coeur Pavilion Shopping Center
Altus Properties, LLC
1010 Des Peres Road, Suite 320
St. Louis, MO 63131



REPORT PREPARED BY: Whitney Kelly, AICP, City Planner

DATE: 4/13/2017

ATTACHMENTS: Applicant's Revised Materials received March 17, 2017
Revised Traffic Study
Updated Sound Study
Draft Ordinance

REVISED PROPOSAL

The Applicants have revised the drawings since the prior discussion to locate the drive-thru stacking lane along the north portion of the parking lot, and relocated the pedestrian landscaping and outdoor dining to the south and west side of the building:

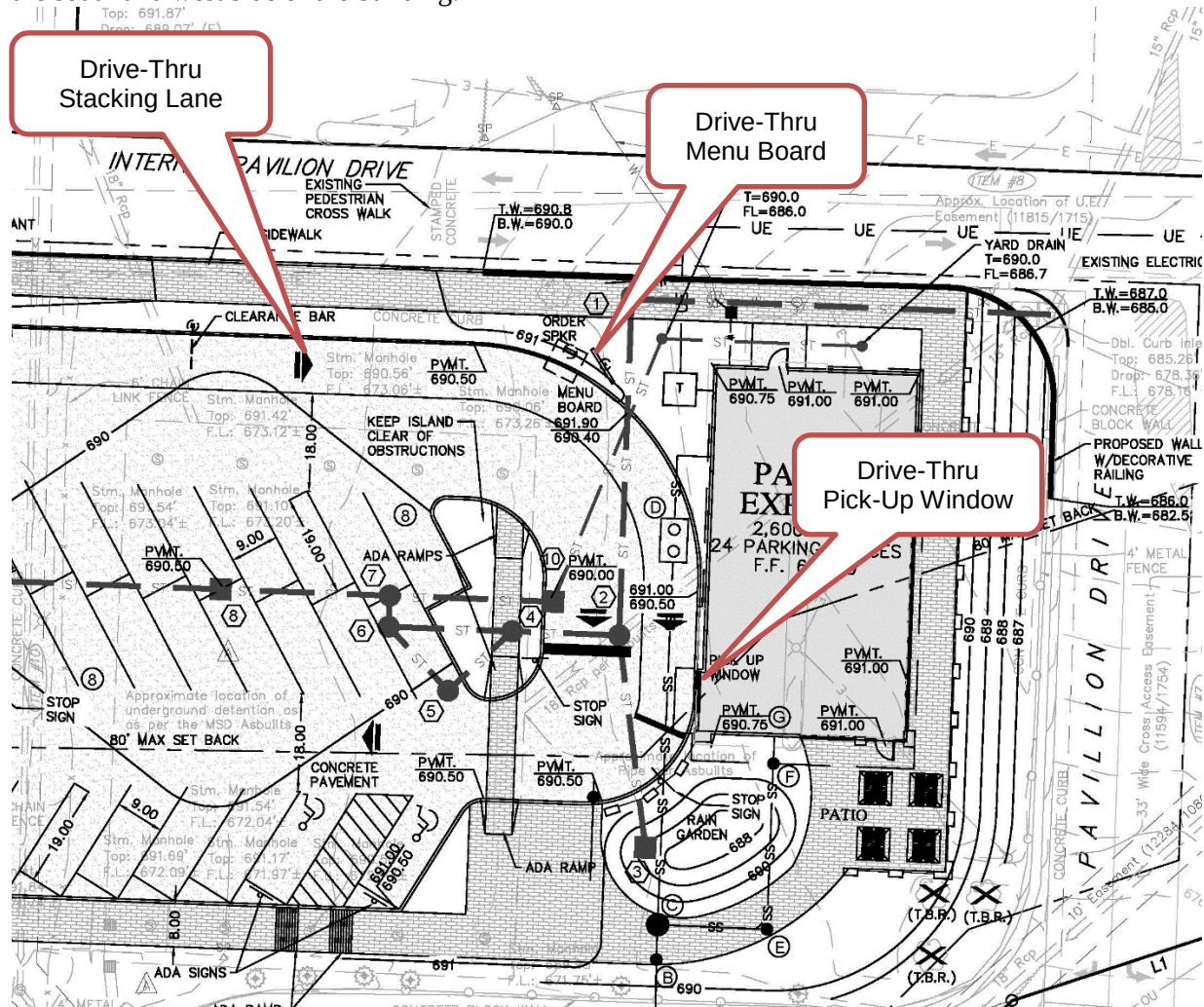


Figure 1: Close-up of the site development plan

The elevations of the proposed building have been revised to limit the amount of EIFS, to include a grey “Industrial Block” Nichiha fiber cement rainscreen, along with the same brick material as found throughout the center; the Nichiha “Cedar” fiber cement boards originally proposed, black metal coping, and limestone water table at the bottom of the structure remain. It should be noted that the drawings indicate that the EIFS remains at the rear of the building and the rear corner of the west elevations, however the Applicant has indicated that this is an error, and that these areas are intended to be the same gray fiber cement rainscreen material as the front and east elevations, to be consistent with the Design Guidelines that all elevations are treated the same. Therefore, a condition of approval includes that the EIFS shall be removed from these locations and replaced with the materials consistent with the rest of the building. An open-slatted metal fence with brick pillars approximately four feet in height is included along the pedestrian areas, and at the drive-thru window, to direct pedestrians and prevent cutting across directly in front of the drive-thru windows.



Figure 2: Close-up of the South Elevation



Figure 3: Close-up of the West Elevation.



Figure 4: Close-up of the East Elevation



Figure 5: Close-up of the North Elevation

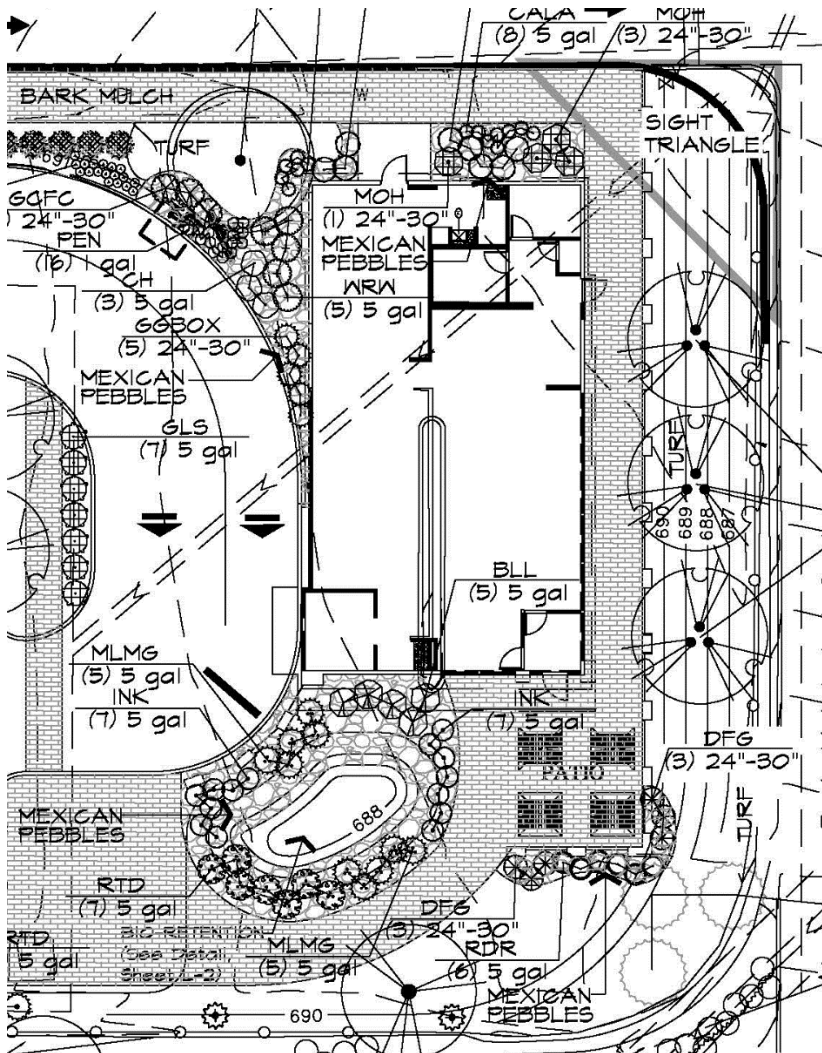


Figure 6: Close-up of the proposed Landscape Plan

COMPREHENSIVE PLAN REVIEW

As the prior Staff Report outlined the background regarding the ordinance on drive-thru restaurants, this report will focus on the proposed changes with the Creve Coeur 2030 Comprehensive Plan and the 39 North Master Plan currently under review, and the Design Guidelines.

Creve Coeur 2030 Plan

The subject property is located within the Mixed-Use Innovation Campus District with a vision for a sustainable hub for cutting-edge research, job opportunities, and community amenities that encourages innovation, collaboration, and entrepreneurship in vibrant, mixed-use environment. This district is supported by diverse housing options, active uses and other community amenities in support of the proposed 39 North Master Plan. Olive and Lindbergh Boulevard are identified as the primary streets, where a variety of active, office, and residential ground floor uses should be encouraged, with a front build-to line to encourage a consistent location and orientation of building frontages to primary street, and parking primarily located in shared facilities, behind buildings. Pedestrian amenities should be provided along the front façade of each building and connect to adjacent buildings.

The Applicant has located the building to within 80 feet of the front setback along Olive Boulevard, and approximately 25 feet from the internal, Pavilion Drive, where pedestrian amenities and the required greenspace along the building has been provided, as well as the greenspace and outdoor dining in front of the building. Although reduced from the prior layout, there remains vacant area to the west which could include future development which would fill in this area with an additional building along the Olive Boulevard street frontage. A specific layout and details of any future development within this area are unknown at this time.

39 North Master Plan

The 39 North Master Plan currently under review was developed in conjunction with St. Louis County and the St. Louis Economic Development Partnership to allocate resources and talent to grow the plant science and aggrotech sector in the area surrounding the Danforth Plant Science Center, Monsanto, this area of retail, and the City's Light Industrial District, to provide a mix of uses including residential, retail, office, and research, and to create high quality public spaces with a variety of amenities and design that encourages interaction, defining a place where people want to be, to attract a talented workforce and promote broad based prosperity. (p.11). Old Olive Street Road is seen as the primary frontage where building facades should address the public realm and ground floors should have active and engaging uses, while Olive Boulevard and Lindbergh Boulevard would be an arterial frontage, where the first impression of the district is made (p. 64). The plan foresees this quadrant of Olive and Lindbergh Boulevard as remaining as an existing retail component with possible redevelopment opportunities in the longer term. A goal of the plan includes connectivity to the employment centers along Old Olive Street Road across Lindbergh Boulevard. Since this project is positioned along the Olive frontage and, due to site conditions, is elevated significantly from the roadway, it would appear to not create a conflict with the objectives of the master plan.

Whether or not the project is in general conformance with these Plans and fulfills the intent of the City's Zoning Regulations should be determined by the Commission and City Council.

DESIGN GUIDELINES

Site Layout -Pedestrian and Vehicular Circulation

The revised layout significantly improves on the pedestrian amenities and outdoor dining area. The pedestrian conflicts between the by-pass lane, those leaving the drive-thru lane and the pedestrians crossing from the parking lot still remain but have been reduced with the redesign. The revised traffic report from the Applicants recommends that to minimize conflicts, the circulation lane be required to stop adjacent to the drive-thru area and be designated with a stop bar, as well as additional signage at the entrance into the stacking lane, and that a stop condition be required for the westbound exiting traffic near the trash enclosure area. Additionally, a four foot fence with brick columns, matching that surrounding

the outdoor patio/dining area, is provided from the corner of the building to the pedestrian walkway southward to prevent people from cutting-through directly in-front of the pick-up window. The Commission should review these revisions with the applicant to confirm the conflicts have been mitigated appropriately.

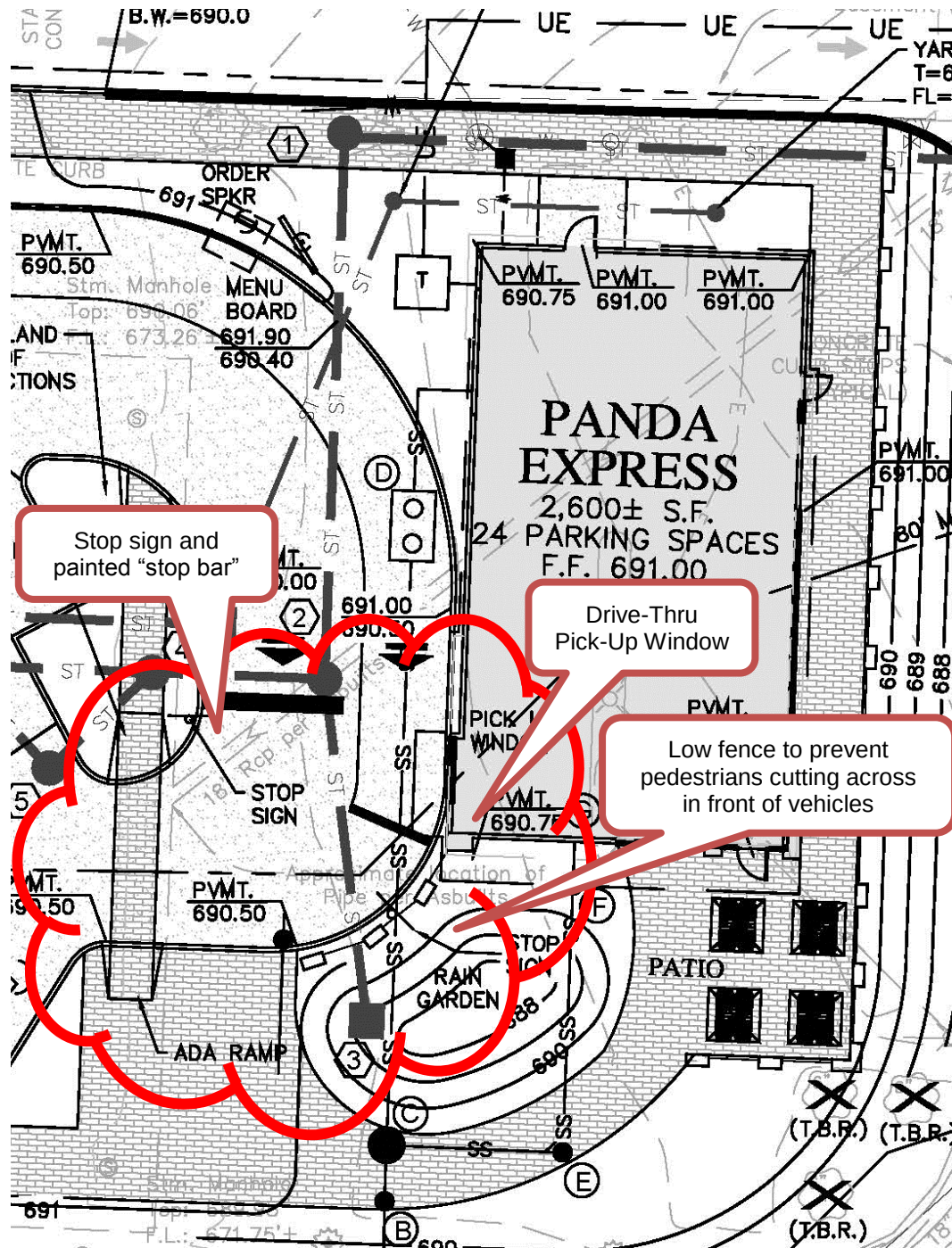


Figure 7: Close-up of the Applicant's Site Development Plan of the drive-thru pick up window, the bypass lane, and the outdoor dining/patio area.

Staff has included a condition of the ordinance that the recommendation of the Updated Traffic Impact Study dated March 15th, 2017 be incorporated into the final Site Development Plans. And while it may not be clear in the elevations, a condition is also included that the proposed fence shall match that surrounding outdoor dining area, which is an open, slatted black metal style with brick columns.

Building Design

As discussed in the prior Staff Report, the City's Design Guidelines recommend the use of natural "green" building materials, with preferred building materials including stone, brick, aluminum and glass; architectural consistency of colors and materials are to be provided between all elevations, and the primary building entrance should be clearly defined and to provide a sense of entry it should be oriented to the street and provide protection from the elements, such as recesses, roof overhangs, projecting canopies or other similar features. Additionally, the Design Guidelines recommend that false or decorative façade treatments, where one or more unrelated materials are placed upon the building, should be avoided, and coordination between the actual or apparent height of the adjacent structures is strongly encouraged, especially where buildings are located close to each other. Restaurants, occupying a pad within a shopping center should be designed to be consistent with the theme or design of the center, drive-thru elements are to be architecturally integrated into the building, and the site design should accommodate a logical and safe vehicle and pedestrian circulation pattern through the site. Outdoor seating areas and perimeter fencing should be compatible with an attractive design that is integrated with the main building's architecture.



Figure 8: Close-up South / Front Elevation

Paint:

EFIS: Wool Skien SW6148

Metal:

Awnings, mullions,
lighting: dark bronze

Fiber Cement RainScreen
Nichiha "Industrial Block"

Shopping Center Masonry:

Face Brick – Interstate "Mountain Red"
Stone – Arriscraft 8x24 Limestone

Porcelain Tile:

Pantheon mfg. Edge group
Tavern 760-701 color
6x40 tile

Figure 9: Applicants Proposed Material Scheme

The Applicants have adjusted the design to address comments from the previous meeting, while utilizing the same brick and limestone to be consistent with the design of the Pavilion Center; low fencing with brick columns are provided around the outdoor dining area, in compliance with the Design Guidelines. The use of EIFS has been changed to an “industrial block” grey rainscreen product. As previously noted, the drawings submitted incorrectly show that EIFS remains on the rear and north corner of the west elevation, therefore a condition of approval includes that all elevations are treated with similar material, with no EIFS. As this is a prominent feature of the building elevations, the color selection of the “industrial block” grey Nichiha panels should be reviewed with the Applicant to determine if it is compatible with the other buildings of the Shopping Center to provide a positive addition to the architecture as stated in the Design Guidelines. Any further direction on the use of the various materials should be discussed with the Applicant.

Landscape Design

The Design Guidelines encourage high quality landscape designs that minimize the appearance of the parking lot, accentuate the building and site, and aide vehicular and pedestrian circulation. Landscaping should provide for consistency in design throughout a development, while also allowing for distinction of site elements and the relationship to the building. Overall, the Landscape Plan is consistent with the Design Guidelines, and the Applicant’s limited use of a corporate element of Mexican Pebbles as a ground cover, as well as the use of plant material is consistent with the rest of the Shopping Center. However, the area to the east of the building adjacent to the side walk is lacking in material other than the Street trees and turf which creates a degree of inconsistency with the rest of the site. By bringing the building up, the slope indicated in this area is at a 3 to 1 ratio, and plantings may be difficult to provide. Nonetheless, Staff has suggested a hedge row along the fence line that is consistent with the rest of the landscaping which would further the proposal toward the Design Guidelines by creating a balanced design. Additionally, the trees indicated are shown at 2.5 inch caliper, where 3 inch is the minimum required by Section 405.540 Landscaping of the Zoning Ordinance. Therefore, a condition of approval includes that the Landscape Plan shall be revised to provide for additional plantings along the east side of the building, and correct caliper be indicated for the Zoning Administrator’s approval.

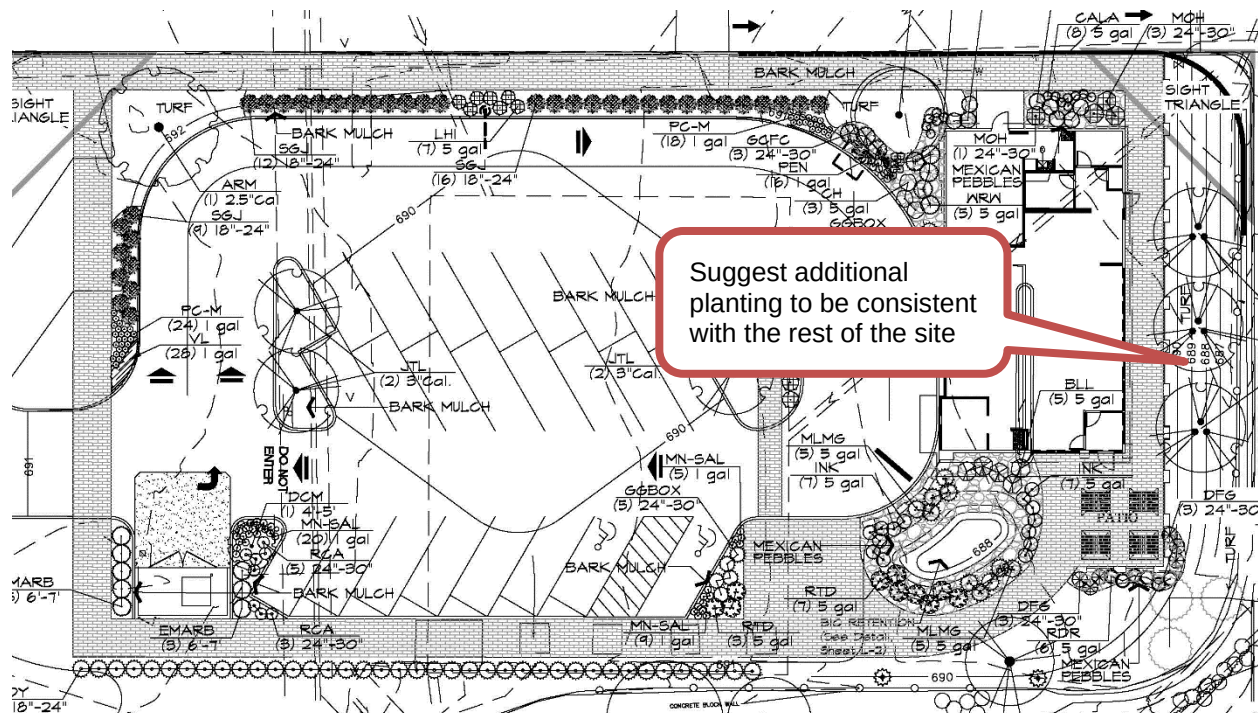


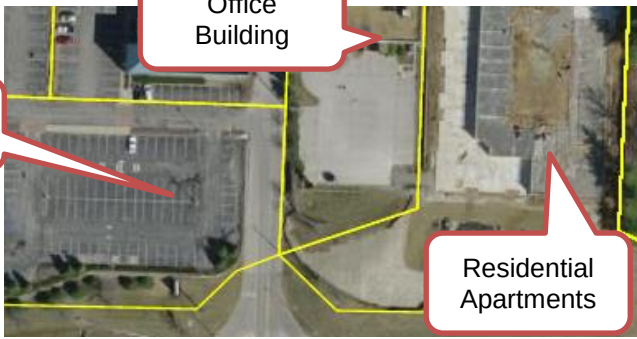
Figure 10: Close-up of the Landscape Plan

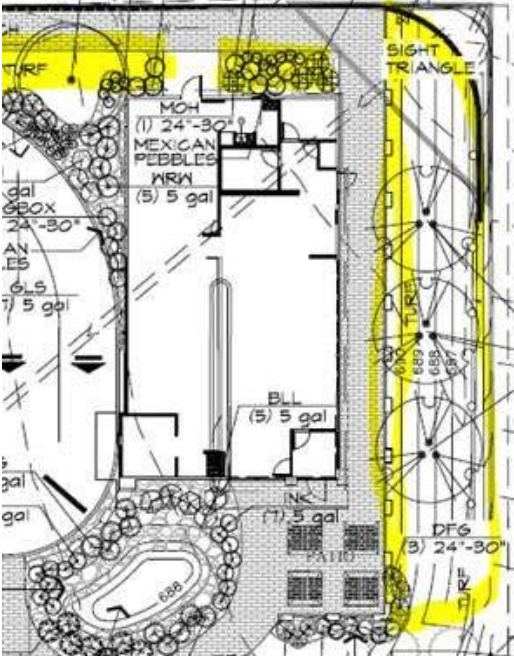
ZONING REVIEW

As the prior Staff Report provided zoning information this review will focus on the requirements of the Drive-Thru Restaurant based upon the submitted revisions.

Conditional Use

Section 405.470, Conditional Uses provides further requirements for certain uses throughout the city. In particular, the recently adopted Ordinance No. 5400 provided specific regulations regarding drive-thru facilities for all restaurants, coffee shops, beverage bars, and the like. Below is a table of the requirements and the analysis of the proposed site plan.

Ordinance Requirement	Proposed Development
<i>Section 405.470. Conditional Uses.</i> <i>14. Food services and drinking places — (NAICS 722). Shall be located on sites of not less than two (2) acres. With the following exceptions and conditions:</i>	The Panda Express is a Limited-Service Restaurant, NAICS 722513, on a 1.88 acre site within the larger Creve Coeur Pavilion under the same ownership. A condition of approval includes that the center and this lot remain under single ownership.
<i>d. Drive-thru services on sites in the "MX," "GC," "CB," "PO," "PC," and "LI" Districts that only about non-residential uses are subject to the following:</i>	The subject property is zoned CB, and is separated from residential structures by the Pavilion Drive and the office building to the east, per the image below:  The image is an aerial photograph showing a commercial area. A yellow outline marks a specific lot labeled 'Proposed Restaurant'. To the east of this lot is a larger building labeled 'Office Building'. To the south of the proposed restaurant lot is an area labeled 'Residential Apartments'. The surrounding area includes parking lots and other commercial buildings. Figure 11: Detail of the aerial photo
<i>(1) Drive-thru facilities shall be limited to one (1) restaurant with no more than two (2) service windows, two (2) order facilities and two (2) designated stacking lanes in a coordinated development located on one (1) or more lots totaling three (3) or more acres, with shared access and two (2) or more buildings, one (1) of which shall have a continuous structure frontage of at least two hundred (200) feet. Such frontage may include one (1) passageway or arcade (not open on the sides). All buildings shall be designed with similar use of materials and design elements such that the buildings are aesthetically complementary to each other.</i>	This is the first application for a drive-thru facility within Creve Coeur Pavilion. Therefore, if approved, it would preclude any other drive-thru food services and drinking places within the Center. The subject property is a 1.88 acre lot within the 13.34 acre Creve Coeur Pavilion Shopping Center that has 5 different buildings. The AMC Building is approximately 283 feet in length. The Applicant has incorporated materials to aesthetically complement the other structures. However, given the pre-existing nature of the other buildings, and the more modern design required by Panda Express, the Planning and Zoning Commission will have to determine if the overall design is in keeping with the character of the Center.

Ordinance Requirement	Proposed Development
(2) <i>The drive-thru order facility and service window shall only be on or adjacent to a wall not facing a street, unless otherwise approved.</i>	The drive-thru order facility is along the north parking lot, and the service window is along the west elevation of the building, not facing a street.
(3) <i>The drive-thru restaurant shall have pedestrian-oriented landscape adjacent to the building equivalent in area to fifty percent (50%) of the gross floor area of the entire restaurant use (area under roof).</i>	The restaurant is 2,600 square feet of gross floor area. 1,400 square feet is provided at the front of the building, which includes the front outdoor dining space.
(4) <i>If the drive-thru restaurant is freestanding, an eight-foot-wide planted landscape strip shall be adjacent to at least two (2) other sides of the building, exclusive of the pedestrian area.</i>	A 12-15 foot wide landscaped area is provided along the east elevation between the sidewalk and the internal Pavilion Drive and 8 feet along the north elevation, between the building and the Pedestrian Connections (highlighted in yellow):  Figure 12: Close-up of Landscape area adjacent to building
(5) <i>If the drive-thru restaurant is freestanding, it shall have no less than two thousand five hundred (2,500) square feet of gross floor area (area under roof) and a minimum of fifty-five (55) indoor seats for customers.</i>	The proposal is 2,600 square feet of gross floor area, with 62 indoor seats and 16 outdoor seats. The Zoning Administrator may authorize additional outdoor seats, should the Applicant's wish to provide additional outdoor dining along the east elevation.
(6) <i>Any service areas, including, but not limited to, trash receptacles, compactors, transformers, outdoor cooking or refrigeration equipment and utility connections, must be fully enclosed. Such enclosures shall appear as a part of the restaurant building to the maximum</i>	The trash facility is located away from the building at the southwest portion of the parking area near the access drive exit and stacking lane, where visibility is limited due to the existing site constraints. The materials are consistent with the building materials with solid metal gates. The Commission should review this element to determine the location is

Ordinance Requirement	Proposed Development
<i>extent as found to be practicable by the City.</i>	appropriate as practicable to the site conditions and layout. Additional discussion is below.
<i>(7) The designated stacking lane shall be no less than one-hundred ninety (190) feet long [approximately ten (10) cars], excluding the space being served by the window, which shall be no less than nine (9) feet wide by nineteen (19) feet long. The lane shall, at a minimum, provide for vehicular escape prior to the point of the facility order board, which escape route can be shared with the general parking lot circulation.</i>	The stacking lane has been adjusted to wrap to the north of the parking facility with the order facility and pick-up window on the west side the building, and is 225 feet in length, providing for sufficient number of vehicles.
<i>(8) The entrance to the designated stacking lane shall be no less than fifty (50) feet from the nearest point on the property line across the nearest vehicular entrance.</i>	The entrance to the designated stacking lane is at the south west portion of the property.
<i>(9) The designated stacking lane shall not cross between the building and principal street frontage.</i>	The stacking lane has been adjusted based upon the prior discussion and does not cross between the building and principal street frontage.
<i>(10) A traffic study shall be submitted by the applicant that demonstrates, to the satisfaction of the City, that the required drive-thru facilities shall not interfere with site circulation or be hazardous to motorists or pedestrians entering, exiting or passing by the site.</i>	See the Applicant submitted an Updated Traffic Impact Study attached. Additional discussion is below.
<i>(11) The order facility shall utilize automatic volume control which adjusts outbound volume based on the outdoor ambient noise level.</i>	The applicant will be utilizing an automatic volume control, and the draft ordinance can reinforce this by including a condition of approval for the use of such.
<i>(12) An acoustical study shall be submitted demonstrating that the order facility and service windows will not increase ambient sound levels at the property lines above the average Monday to Friday midday level.</i>	The Applicant submitted an updated Sound Study from McClure Engineering indicating that sound level contribution from the order station with the automatic volume control would be below the typical ambient traffic sound for the area.

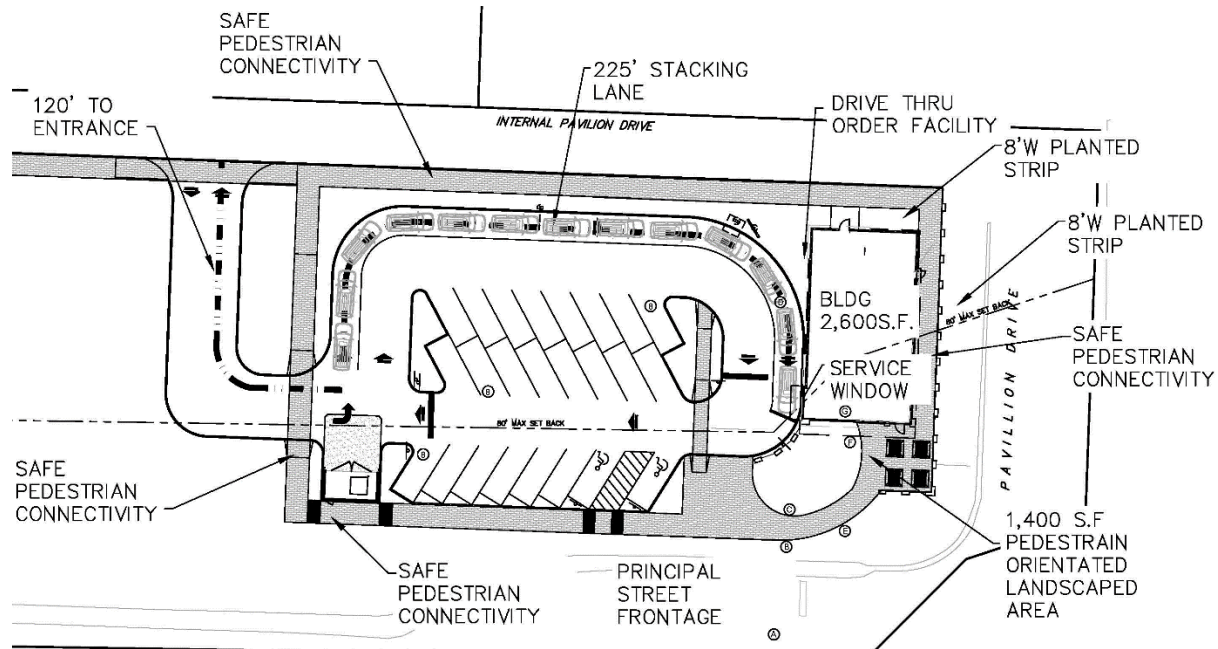


Figure 13: Detail of the Applicant's Zoning Compliance Exhibit

Trash Enclosure:

As indicated in the Ordinance Compliance Table above, any service areas, including, but not limited to, trash receptacles, compactors, transformers, outdoor cooking or refrigeration equipment and utility connections, must be fully enclosed. Such enclosures shall appear as a part of the restaurant building to the maximum extent as found to be practicable by the City. The proposed site plan shows the trash enclosure at the southwest portion of the parking lot at the entrance area into the parking lot, and will be utilizing the same brick and limestone material as the main building and the rest of the center.

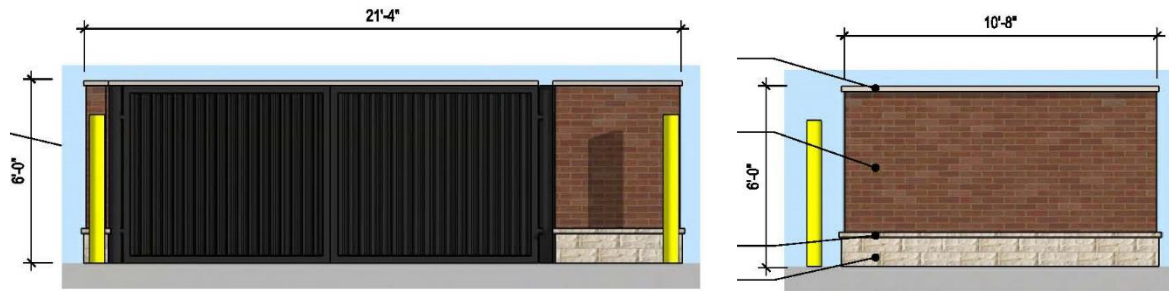


Figure 14: Close-up of the trash enclosure drawing

The Director of Public Works reviewed the layout and had a concern regarding the ability of trucks to service trash enclosure. The Commission should review of the enclosure which is detached from the building to confirm that the location is appropriate for this site. Staff has included a recommended condition of approval that allows the enclosure to remain at this location but requires the Applicant to demonstrate the serviceability at this location and if necessary, the Zoning Administrator may authorize minor adjustments to the location/layout of the parking lot.

Parking Lot layout and Traffic Study:

It should be noted that the *Updated Traffic Impact Study* indicated that turning templates were not provided to show circulation of vehicles or maneuvering abilities to and from the parking spaces that are adjacent to the staking lane, and that they recommend that these evaluations be completed to verify appropriate passenger vehicles ingress/egress to the parking stalls and delivery truck circulation can be accommodated. Therefore, Staff has included a condition of approval that such be demonstrated for the Zoning Administrator's approval prior to the issuance of Building Permits, or Site Improvement Permits.

The drawings indicate that the parking stalls are at a 60 degree angle. Section 405.810(A)(1) Size of Parking Spaces provides for minimum width of parking spaces of 9 feet wide by 21 feet in length for 60 degree angle parking, and the minimum one-way drive aisle width of 18 feet. Other parking angles may be approved, provided that the resulting stall width are 9 feet by 19 feet of usable space. The site plan indicates that the parking stalls are 9 feet by 19 feet, with a one way aisle of 18 feet in width. The Planning and Zoning Commission may approve the use of a continuous curb as wheel stops, thus shortening the stall length by two feet, per the regulations below:

Section 405.810(A)(1) Size of parking spaces.

- a. The following schedule of parking space and layout standards shall apply to all parking facilities provided in the City in accordance with this Article. Each parking space shall provide seven (7) feet of vertical clearance.*

Parking Angle (in degrees)¹	Stall Width (in feet)	Stall End to Curb (in feet)	Aisle Width² (in feet)	Bay Width (in feet)
60	9	21	18 (one-way) 22 (two-way)	60 64

¹ Other parking angles between forty-five and ninety degrees (45° — 90°) may be approved by the Planning and Zoning Commission provided that the resulting stall widths are nine (9) feet wide, the usable stall length is nineteen (19) feet long and the minimum two-way drive aisles are twenty-two (22) feet wide.

² Additional width of drive aisles may be required where the aisle serves as the principal means of access to on-site buildings or structures.

- b. The Planning and Zoning Commission may approve the use of continuous concrete curbs as wheel stops and thus measure the size of parking spaces to be two (2) feet less in length than otherwise required. In such instances the parking layout should allow for the vehicle to overhang the curb by two (2) feet and such overhang area must be clear of all obstructions (signs, trees, etc.) and may not be regarded as required landscape area or pedestrian circulation space.*

Therefore, in addition to showing the turning radius, Staff has included a condition of approval that the stalls be adjusted, as may be required, to meet with Section 405.810 of the Zoning Ordinance for the Zoning Administrators approval.

Parking regulations for restaurants are discussed under Section 405.820(F)(5) Required Off-Street Parking Spaces. The Applicant has indicated that a total of 1014 parking spaces are provided for the entire Creve Coeur Pavilion Center. Below is the table of uses and the required number of parking spaces that was completed in 2014 for a Kim Cheese Restaurant CUP that includes the updated information for this application:

Tenant	Use	Size (sq. ft.)	Parking Regulations	# of spaces
St. Louis Bread Co.*	Restaurant	4,563 (+ 156 maximum occupancy)	1/3 seats in C.U.P., + 1/250 sq. ft.	64
Big Frog T-shirts	Retail	1,059	4/1000 sq. ft.	5
Great Clips	Hair Salon	968	4/1000 sq. ft.	4
Sensory Solutions	Office	4,554	4/1000 sq. ft.	19
IFG Advisors	Office	2,375	4/1000 sq. ft.	10
Vacant	Office	2,018	4/1000 sq. ft.	8
AMC Theater	Theater	39,799 (2,130 seats)	1 space per 6 seats	355

Vacant (Former Sweet Tomatoes*)	Restaurant	7,433	1/3 seats in C.U.P., + 1/250 sq. ft.	143
Ideal Image	Office	2,543	4/1000 sq. ft.	11
Victor Ho Nails & Spa	Nail Salon	1,900	4/1000 sq. ft.	8
Moe's Southwest Grill	Restaurant	4,133 (+90 indoor seats)	1/3 seats in C.U.P., + 1/250 sq. ft.	47
Kim Cheese**	Restaurant	2,925 (+65 indoor seats)	1/3 seats in C.U.P. + 1/250 sq. ft.	34
Stir Crazy Cafe	Restaurant	5,930 (+235 for the restaurant, +32 outdoor seats)	1/3 seats in C.U.P., 1/8 outdoor seats, + 1/250 sq. ft.	108
California Pizza Kitchen*	Restaurant	5,169	1/3 seats in C.U.P., + 1/250 sq. ft.	80
Panda Express**	Restaurant	2,600 (+62 indoor seats, +16 outdoor seats)	1/3 seats in C.U.P., + 1/250 sq. ft.	34
Sub-total:				930
Minus 15% Reduction				139.5
Total # of Parking Spaces Required:				791
Total Available On-site:				1014

Note: * Original CUP issued prior to 2000 did not include seating count. The number provided here is based upon a prior analysis.

** Pending Application

Prior to mid-2000, restaurant parking was based square on footage of the space at 1 per 50 square feet, plus 1 space per 8 outdoor seats. For those restaurants indicated by an * above, seating information is based on the maximum occupancy load of the original CUP when provided. For example, St. Louis Bread Company, Ordinance # 2106 indicated a maximum occupancy of 156, where seating could be indoor or out, provided that the total number of seats did not exceed the maximum occupancy. For those where the City does not have a record of the existing number of seating, a prior analysis from a request in 2005 included a total number of parking spaces for each use. However, Staff cannot verify how this number was created. Additionally, since the closure of the Sweet Tomato's Restaurant, Ideal Image expanded into a portion of the former space. A rent roll providing the square footage of the current uses within the center has not been provided, however, the parking rate for this minimal change would not have an impact on the parking calculations as both are 4 spaces/1000 square feet of floor area. Based upon observation of the site, it has plenty of parking available and it is reasonable to assume that the numbers represent more than enough parking for each use.

The proposed Panda Express Restaurant requires a minimum of 34 spaces. 24 spaces are proposed with the new development and the remaining would be shared within the entire center. Therefore, as indicated in the above table, a total of 790 parking spaces are required, with 1014 spaces available on-site. Thus, a surplus of 223 spaces is available on site. Due to the excess amount of parking available, Staff has included a condition of approval that the Zoning Administrator may authorize additional outdoor seating without having to return for an amendment to the Ordinance based upon review of an outdoor seating plan to ensure adequate pedestrian access is provided, and all other Zoning Code and Building Code requirements are met.

SUMMARY AND RECOMMENDATION

The proposed changes represent a significant improvement in addressing the issues discussed in the prior Staff Report, namely conformance with the conditional use regulations for the use and the pedestrian and vehicular conflicts. Staff acknowledges that conflicts between pedestrians and vehicles remain but they have been minimized as much as possible given the location of the building at this corner.

The Commission should also review and provide direction, if necessary, the use of materials/color scheme on the building, as well as the location of the trash enclosure and the intent of the Section 405.470(14)(6) that such enclosure shall appear as part of the restaurant building to the maximum extent as found to be practicable by the City.

Based on the above analysis, Staff's recommended conditions of approval discussed within the report are below, which are included in the draft ordinance:

1. The Conditional Use Permit shall be for the operation of a 2,600 square foot eating and drinking establishment with drive-thru service at 10453 Olive Boulevard.
2. Maximum seating permitted is limited to 62 indoor seats and 16 outdoor seats. The Zoning Administrator may authorize additional outdoor seating, based upon review of an outdoor seating plan to ensure all relevant Zoning and Building Codes are adequately addressed.
3. Hours of operation shall be 10:00 a.m. to 10:00 p.m., Monday through Saturday, and 10:00 a.m. to 9:00 p.m. Sunday. Additional business hours may be permitted with the Zoning Administrator's approval including, but not limited to, the catering of special events.
4. The site shall remain under common ownership with the Creve Coeur Pavilion Center, to comply with Section 405.470(14) Food services and drinking places.
5. The Applicant is required to submit Grading and Site Improvement Plans, showing all exterior improvements, for all new construction to the Division of Planning for review, as required by Section 410.380 of the Subdivision and Land Development Regulations (Subdivision Code). The Grading and Site Improvement Plans shall be in substantial conformance with the "Site Development Plans," received March 17, 2017, and the Landscape Plan submitted on March 16, 2017 as bound together and submitted in conjunction with Application #16-030 by CEDC Civil Engineering Design Consultants, and as amended below.
6. The Applicant is required to submit a Building Permit application, as required by Article II of the Building Code. Exterior elevations shall be in substantial conformance with the "Exterior Elevations" and "Trash Enclosure Detail" submitted on March 17, 2017 as bound together and submitted in conjunction with Application #16-030 by CEDC Civil Engineering Design Consultants, and as amended below.
7. The EIFS shown on the rear and north corner of the west elevation shall be removed, and replaced with a material consistent with the front elevations for the Zoning Administrator's approval and the proposed fence at the rain garden near the southwest corner of the building at the drive-up window shall be the same design as that proposed for the pedestrian plaza area.
8. The Landscape Plan shall be amended to include additional plants along the east pedestrian area consistent with the design of the rest of the development, and with the requirements of Section 405.540 Landscaping including but not limited to the minimum caliper and height of the trees, and hedges of not less than two (2) feet in height and two (2) feet in spread at time of installation; however, no hedge or wall or berm shall exceed three (3) feet in height within ten (10) feet of any driveway opening. The individual plants used in the development of such a hedge shall be placed so as to be not more than thirty (30) inches on center.
9. An underground irrigation system shall be installed and maintained to serve all new landscaped areas. Vegetation that is totally or predominantly dead and/or disfigured due to disease or injury shall be replaced as needed and in a prompt manner.
10. All internal sidewalks shall be in compliance with Section 405.730 Sidewalks of the Zoning Ordinance, that requires a minimum of 6 feet in width or 8 feet if used as curb stop, and provide accessible connections with the existing sidewalks throughout the center. All sidewalk crossing, shall be constructed using the same material, color, and pattern as the existing as found within the Shopping Center.

11. The Applicant shall demonstrate to the satisfaction of the Zoning Administrator that adequate turning radius is provided to verify appropriate passenger vehicles ingress/egress to the parking stalls and delivery truck circulation and the serviceability of the location of the trash enclosure can be accommodated, and that all of the recommendations from the *Updated Traffic Impact Study* submitted are provided prior to the issuance of a building and site improvement permit. The Zoning Administrator may allow for deviation in the location of the trash enclosure to allow for proper maneuverability.
12. All lighting shall be in conformance with Section 405.680, Lighting, of the Zoning Code, and Section 205.810 of the Parking Ordinance.
13. All signs and banners shall be in conformance with Article VIII, Sign Regulations, of the Zoning Code, included, but not limited to, any delivery and/or company vehicles shall park as far from the right-of-way and in the least visible area possible, per Section 405.930 General Provisions of the Sign Ordinance.
14. Any mechanical equipment installed for the site shall be properly screened with approved materials.
15. Any future enlargement, extension, expansion or alteration in the use of the structures or site must be approved by the City Council upon receipt of the recommendation of the Planning and Zoning Commission as an amendment to the Conditional Use Permit before a Building Permit for the enlargement, expansion or alteration may be issued.
16. Failure to comply with any one or all of the conditions of this permit shall be adequate cause for the revocation of said permit by the City Council, provided, however, no permit shall be revoked without prior notice to the owner of the intention of the City Council to revoke this permit and reasonable time granted to the owner to correct or remedy any such breach of conditions, except for repeated breaches or violations.
17. No conditional use permit granted by the City Council shall be valid for a period longer than one year from the date it grants the conditional use permit, unless within such period: (1) a building permit is obtained and construction is begun; or (2) if a building permit is not required, an occupancy permit is obtained and the use of the building commenced. The City Council may grant extensions to the one (1) year period of not more than one hundred and eighty (180) days each, without notice or hearing, provided that a written request for such extension is filed by the original applicant and approved by the City Council prior to the date the conditional use permit is scheduled to expire.
18. Any transfer of ownership or lease of the property shall include in the transfer or lease agreement a provision that the purchaser or lessee agrees to be bound by the approved Site Development Plan for the property and the conditions herein set forth, and written confirmation thereof signed by the new owner or lessee shall be filed with the City at the time of such transfer or lease. Failure to comply with this provision shall not excuse anyone from these conditions.

ACTION

If the Planning and Zoning Commission finds the attached draft conditional use permit ordinance to be in conformance with the purposes and regulations of the Comprehensive Plan and Zoning Code, it may vote on a recommendation to the City Council. Any changes to the draft ordinance should be discussed and made by separate actions.

MOTION

The following is an example of an appropriate motion for this application:

“I move to recommend approval of Application #16-030 for a Conditional Use Permit for an eating and drinking establishment with Drive-thru services for Panda Express located at 10453 Olive Boulevard, within the Creve Coeur Pavilion Shopping Center, subject to the conditions discussed in the Staff Report and Draft Ordinance for the meeting of April 17, 2017” (conditions may be added, eliminated, or modified by preceding motion).

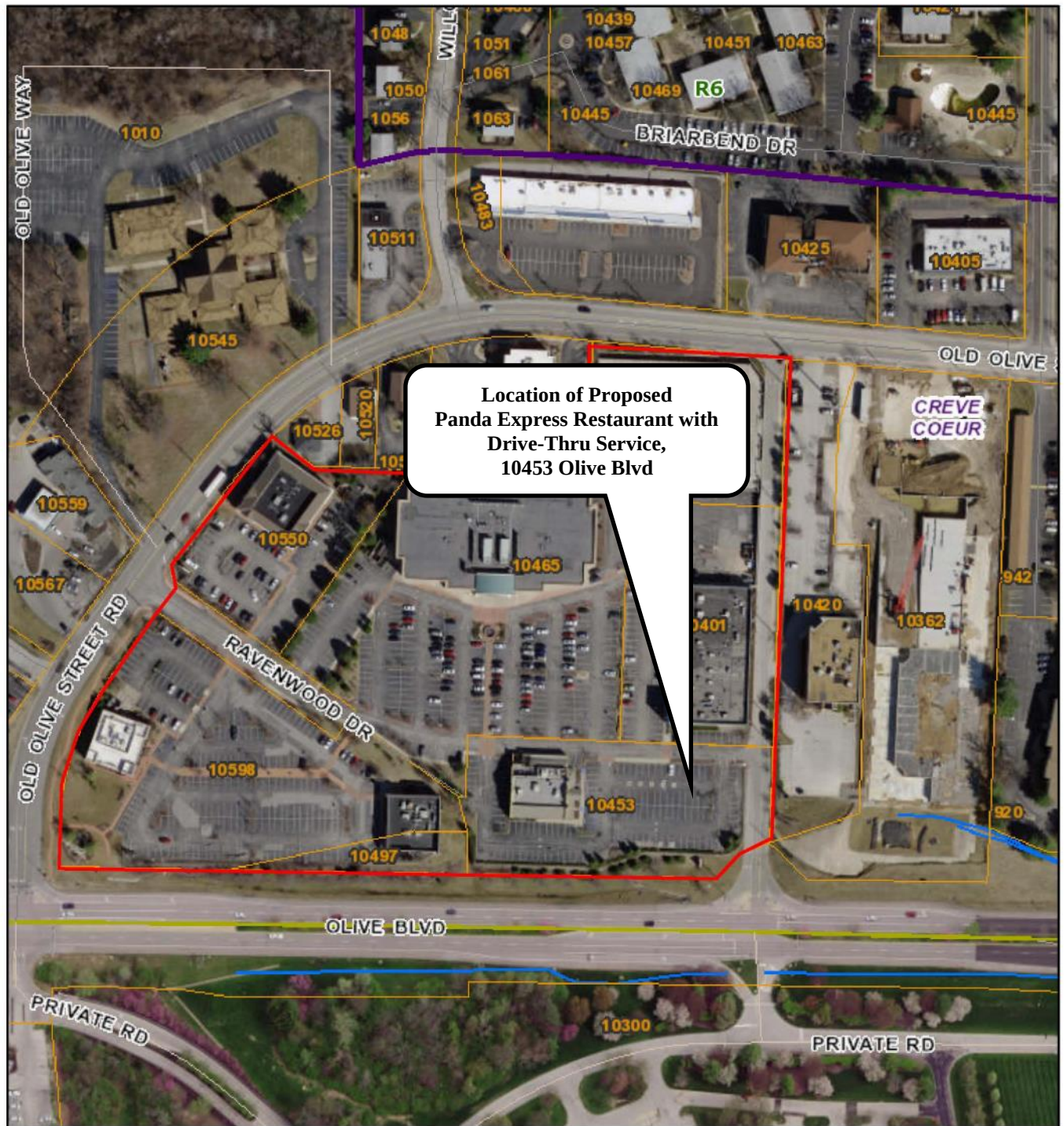
APPENDIX 1: COMPREHENSIVE PLAN, INCLUDING DESIGN GUIDELINES

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

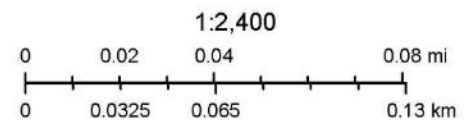
Included and attached by reference. See body of report for specific excerpts.

APPENDIX 3: AERIAL PHOTO



November 1, 2016

— User drawn lines



APPENDIX 4: SITE PHOTOGRAPHS

Photo Date: 11-18-2016



Description: View from the southeast corner of the existing parking lot looking north west at the adjacent retail building and AMC theater.

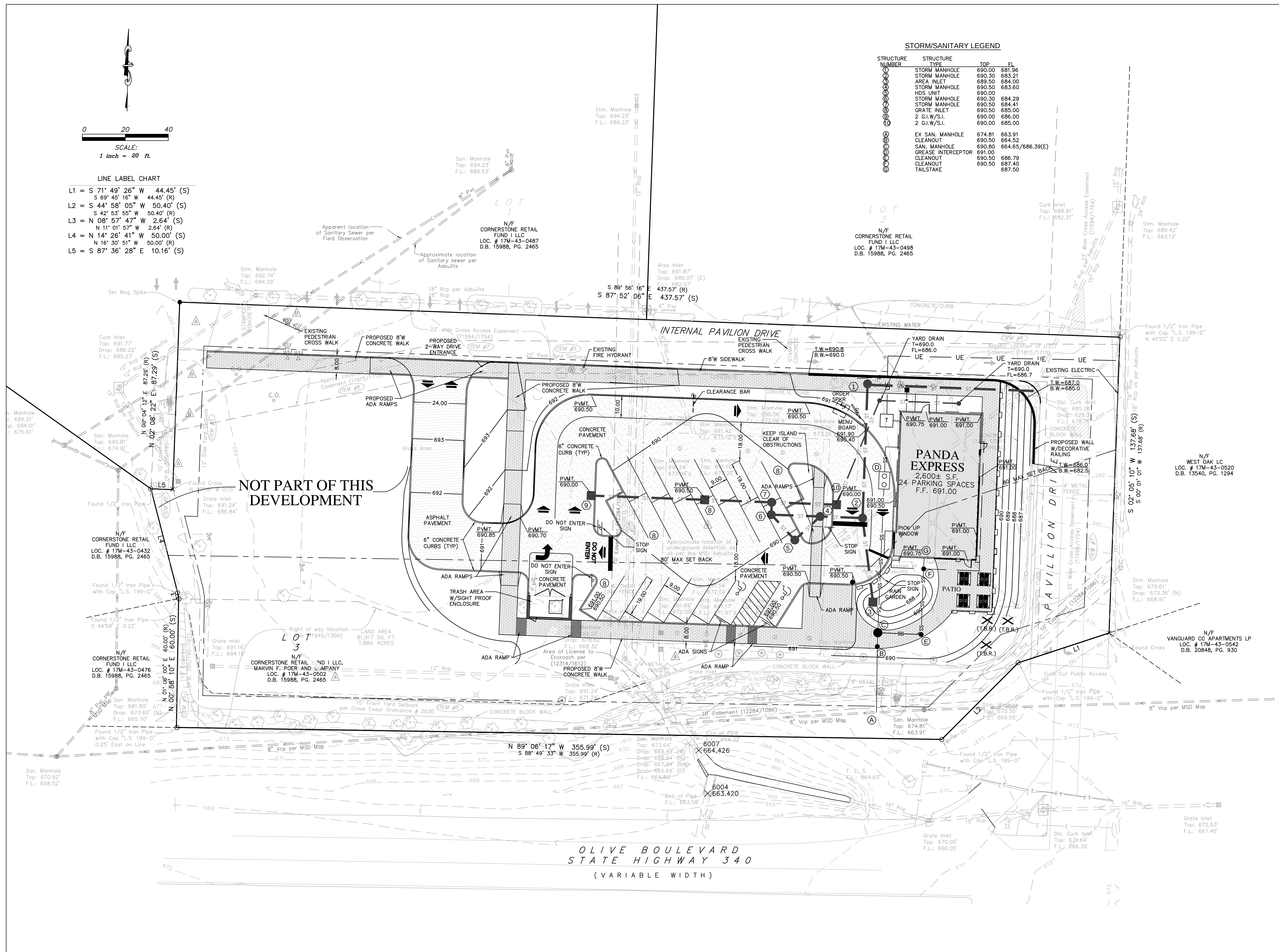


Description: View looking west toward the Stir Crazy building.



Description: View looking northeast toward the adjacent Office building and residential development.

	Description: View looking northwest from the Olive Boulevard and Pavilion Drive intersection at the existing retaining wall.
	Description: View looking west along Olive Boulevard.
	Description: View looking west along the south property line at Pavilion Drive.



PANDA RESTAURANT GROUP INC.

1683 Walnut Grove Ave.
Rosemead, California
91770

Telephone: 626.799.9898
Facsimile: 626.372.8288

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REVISIONS:

ISSUE DATE:

CUP SUBMITTAL	10-14-16
CITY SUBMITTAL	11-10-16
CITY RESUBMITTAL	03-17-17

DRAWN BY: BAH/WW

PANDA PROJECT #: S8-17-D4999

CEDC #: 1596



BRANDON A. HARP, P.E. E-28650
PROFESSIONAL ENGINEER
CEDC LICENSE NO.: 2003004674

CEDC
CIVIL ENGINEERING
DESIGN CONSULTANTS
11402 Gravois Road, Suite 100
Saint Louis, Missouri 63126
314.729.1400

PANDA EXPRESS

10453 Olive Blvd

Creve Coeur, MO. 63141

FREE STANDING DT

WARM & WELCOME - Custom

**SITE
DEVELOPMENT
PLAN**

C02

PROTOTYPE#WARM & WELCOME(2)

Packet Pg. 103

CUP SUBMITTAL

EXISTING CONDITIONS

BUILDINGS		
BLDG A	39,076 S.F.	0.90 AC
BLDG B	19,463 S.F.	0.45 AC
BLDG D	10,019 S.F.	0.23 AC
BLDG E	5,083 S.F.	0.12 AC
BLDG F	6,225 S.F.	0.14 AC
PROP. BLDG	2,600 S.F.	0.06 AC
LOTS/DRIVES	79,866 S.F.	1.84 AC

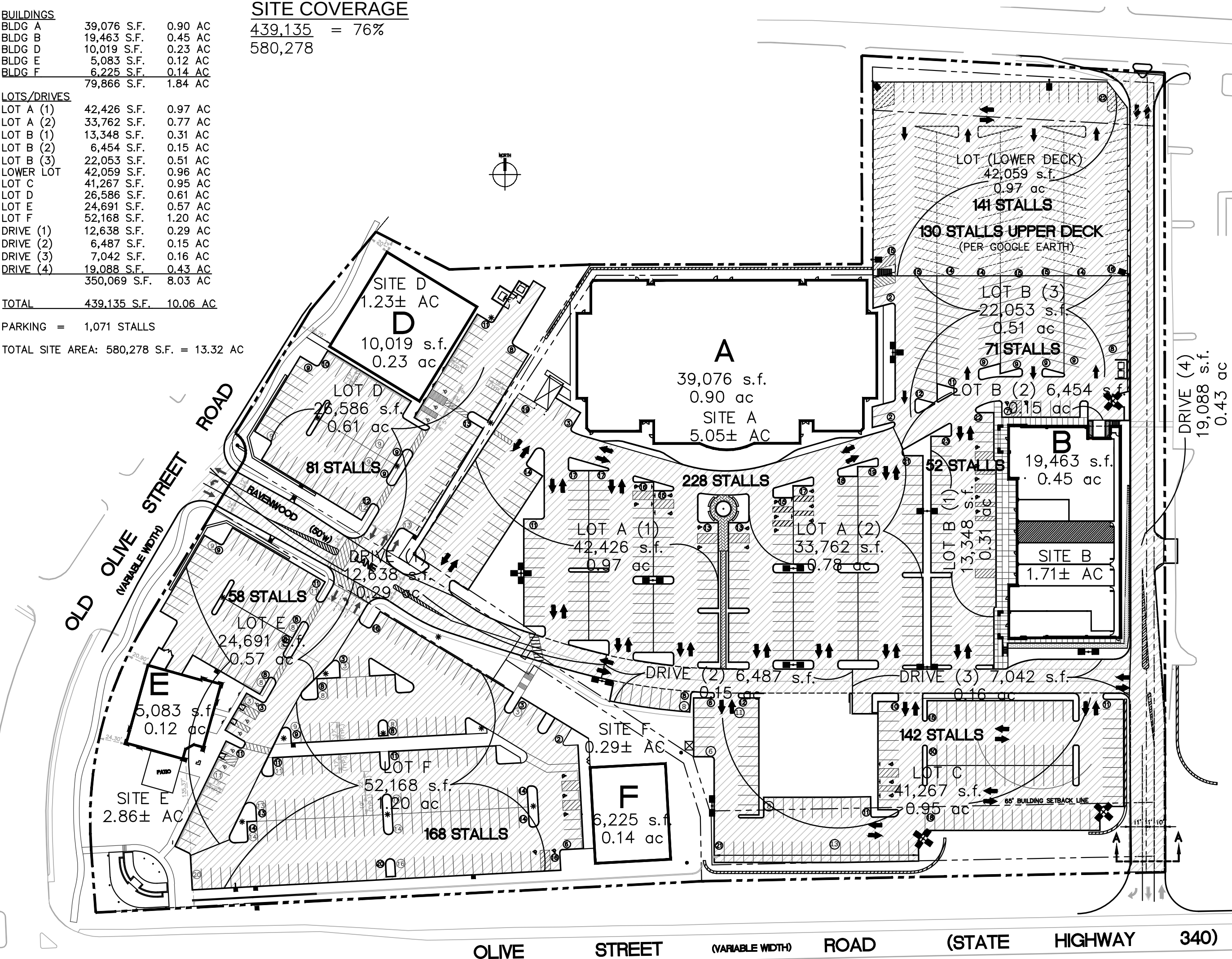
LOTS/DRIVES		
LOT A (1)	42,426 S.F.	0.97 AC
LOT A (2)	33,762 S.F.	0.77 AC
LOT B (1)	13,348 S.F.	0.31 AC
LOT B (2)	6,454 S.F.	0.15 AC
LOT B (3)	22,053 S.F.	0.51 AC
LOWER LOT	42,059 S.F.	0.96 AC
LOT C	41,267 S.F.	0.95 AC
LOT D	26,586 S.F.	0.61 AC
LOT E	24,691 S.F.	0.57 AC
LOT F	52,168 S.F.	1.20 AC
DRIVE (1)	12,638 S.F.	0.29 AC
DRIVE (2)	6,487 S.F.	0.15 AC
DRIVE (3)	7,042 S.F.	0.16 AC
DRIVE (4)	19,088 S.F.	0.43 AC
PROP. LOT	29,189 S.F.	0.67 AC

TOTAL 439,135 S.F. 10.06 AC

PARKING = 1,071 STALLS

TOTAL SITE AREA: 580,278 S.F. = 13.32 AC

SITE COVERAGE
439,135 = 76%
580,278



PROPOSED CONDITIONS

BUILDINGS		
BLDG A	39,076 S.F.	0.90 AC
BLDG B	19,463 S.F.	0.45 AC
BLDG D	10,019 S.F.	0.23 AC
BLDG E	5,083 S.F.	0.12 AC
BLDG F	6,225 S.F.	0.14 AC
PROP. BLDG	2,600 S.F.	0.06 AC
LOTS/DRIVES	82,466 S.F.	1.90 AC

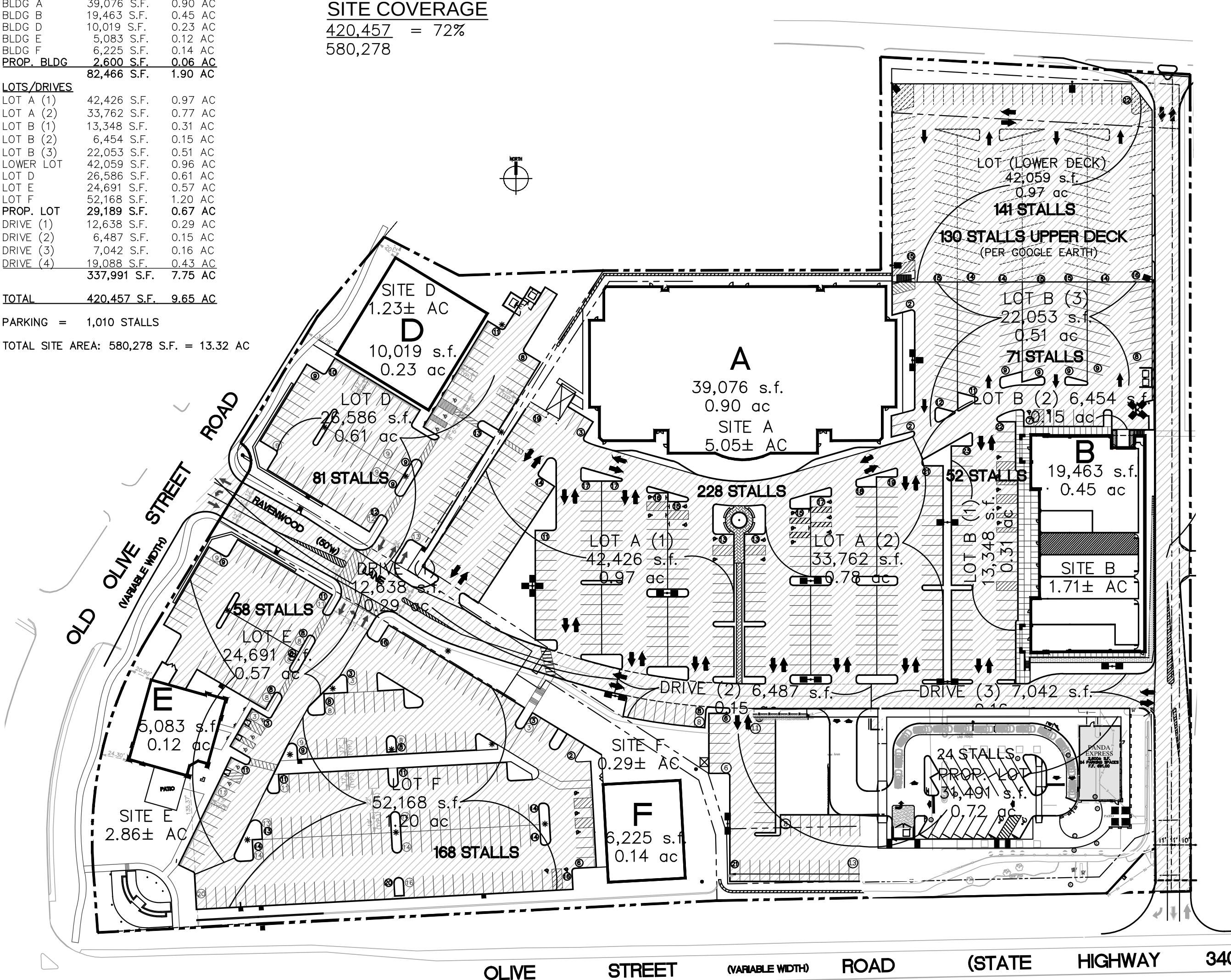
LOTS/DRIVES		
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LOT F	52,168 S.F.	1.20 AC
PROP. LOT	29,189 S.F.	0.67 AC
DRIVE (1)	12,638 S.F.	0.29 AC
DRIVE (2)	6,487 S.F.	0.15 AC
DRIVE (3)	7,042 S.F.	0.16 AC
DRIVE (4)	19,088 S.F.	0.43 AC

TOTAL 420,457 S.F. 9.65 AC

PARKING = 1,010 STALLS

TOTAL SITE AREA: 580,278 S.F. = 13.32 AC

SITE COVERAGE
420,457 = 72%
580,278



PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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REVISIONS:

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CITY SUBMITTAL 11-10-16
CITY RESUBMITTAL 03-17-17

DRAWN BY: BAH/GW

PANDA PROJECT # S8-17-D4999
CEDC # 1596

BRANDON ASHER HARP
NUMBER E-28650
PROFESSIONAL ENGINEER
CEDC LICENSE NO.: 2003004674

CEDC
CIVIL ENGINEERING
DESIGN CONSULTANTS
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314.729.1400

PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT
WARM & WELCOME - Custom

SITE COVERAGE
AND PARKING FOR
CREVE COEUR
PAVILION
C03

PROTOTYPE#WARM & WELCOME(2)
Packet Pg. 104

CUP SUBMITTAL

EXTERIOR FINISH SCHEDULE

INSTALLED AND FURNISHED BY: G.C. UNLESS NOTED OTHERWISE

NO	MANUFACTURER	MFG#	COLOR	FINISH	NOTES
(W-1)	STO	3-PART STUCCO SYSTEM	SW 6148 WOOL SKEIN	FINE	BUILDING BODY
(W-3)	NICHIHA	-	INDUSTRIALBLOCK 18" X 10"	-	BUILDING BODY
(B-1)	INTERSTATE	2-1/4" NORMAN FACE BRICK	MOUNTAIN RED	-	BUILDING BODY
(ECT-1)	PANTHEON (CRYSTAL BANKS: 972-360-9752)	EDGE (6 x 40)		760-701	BUILDING ACCENT TILE *
(M-1)	GREENHECK	-	DARK BRONZE	-	ALUM. AWNINGS/CANOPY (PRE-FINISHED)
(ST-1S)	ARRISCRAFT	-	LIMESTONE	-	STONE CAP
(ST-1)	ARRISCRAFT	#X24	LIMESTONE	-SPLIT MODULAR	WAINSCOT
(F-1)	SUNBRELLA	-	LOGO RED	-	PATIO UMBRELLAS

* NOTE: INSTALL ECT-1 WITH LATEX MODIFIED GROUT #7, CHOCOLATE COLOR, 1/8" JOINT SIZE, POLY BLEND, NON-SANDED BY MAPEI. CONTACT 80042MAPEI OR WWW.MAPEI.COM. GC NOTIFY PANDA PM IF ANY INSTALLATION ISSUES OR GROUT ISSUES.



SOUTHEAST CORNER 4
Scale= NTS A-200



NORTHEAST CORNER 3
Scale= NTS A-200



SOUTH ELEVATION 2
Scale= 1/4" = 1'-0" A-200



EAST ELEVATION 1
Scale= 1/4" = 1'-0" A-200



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CUP SUBMITTAL	11-10-16
CUP SUBMITTAL	03-17-17

DRAWN BY: PM

PANDA PROJECT #: S8-17-D4999
ARCH PROJECT #: 16075-003

Heights Venture
ARCHITECTURE • DESIGN

HOUSTON 1111 North Loop West, Suite 800 Houston, Texas 77008 713 869 1103 V
DALLAS 5717 Legacy Drive, Suite 240 Plano, Texas 75024 972 490 7292 V

PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT
TRUE WARM & WELCOM (custom)

A-200

EXTERIOR
ELEVATIONS

PROTOTYPE#TURE WARM & WELCOM

CUP SUBMITTAL
326

EXTERIOR FINISH SCHEDULE					
INSTALLED AND FURNISHED BY: G.C. UNLESS NOTED OTHERWISE					
NO	MANUFACTURER	MFG#	COLOR	FINISH	NOTES
(W-1)	STO	3-PART STUCCO SYSTEM	SW 6148 WOOL SKEIN	FINE	BUILDING BODY
(W-3)	NICHIHA	-	INDUSTRIALBLOCK 18" X 10"	-	BUILDING BODY
(B-1)	INTERSTATE	2-1/4" NORMAN FACE BRICK	MOUNTAIN RED	-	BUILDING BODY
(ECT-1)	PANTHEON (CRYSTAL BANKS: 972-360-9752)	EDGE (6 x 40)		760-701	BUILDING ACCENT TILE *
(M-1)	GREENHECK	-	DARK BRONZE	-	ALUM. AWNINGS/CANOPY (PRE-FINISHED)
(ST-1S)	ARRISCRAFT	-	LIMESTONE	-	STONE CAP
(ST-1)	ARRISCRAFT	#X24	LIMESTONE	-SPLIT MODULAR	WAINSCOT
(F-1)	SUNBRELLA	-	LOGO RED	-	PATIO UMBRELLAS
* NOTE: INSTALL ECT-1 WITH LATEX MODIFIED GROUT #7, CHOCOLATE COLOR, 1/8 JOINT SIZE, POLY BLEND, NON-SANDED BY MAPEI. CONTACT 80042MAPEI OR WWW.MAPEI.COM. GC NOTIFY PANDA PM IF ANY INSTALLATION ISSUES OR GROUT ISSUES.					



NORTHWEST CORNER 4
Scale= NTS A-201



NORTH ELEVATION 2
Scale= 1/4" = 1'-0" A-201



SOUTHWEST CORNER 3
Scale= NTS A-201



WEST ELEVATION 1
Scale= 1/4" = 1'-0" A-201



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Heights Venture
ARCHITECTURE • DESIGN

HOUSTON 1111 North Loop West, Suite 800 Houston, Texas 77008 713 868 1103 V

DALLAS 5717 Legacy Drive, Suite 240 Plano, Texas 75024 972 490 7292 V

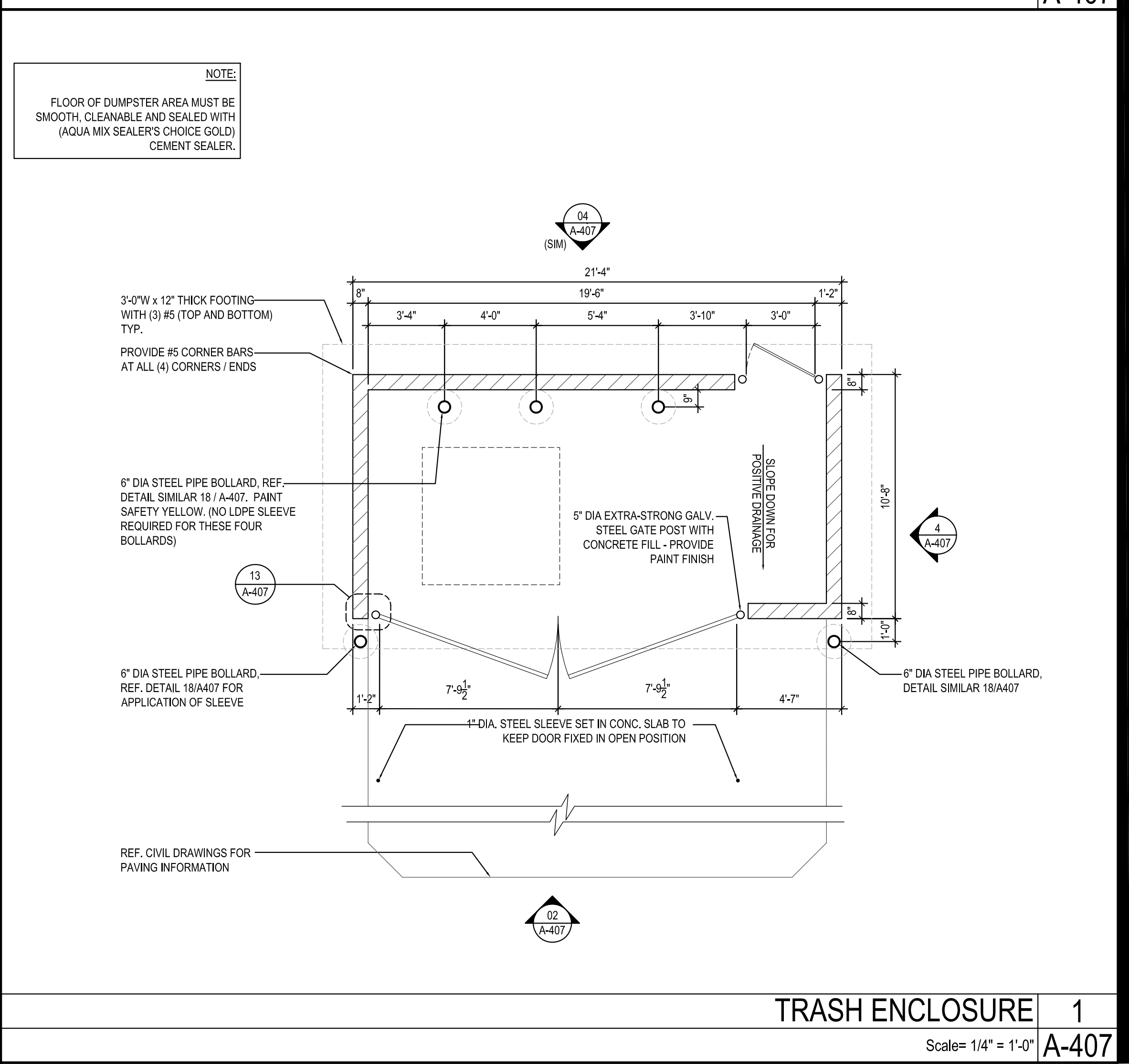
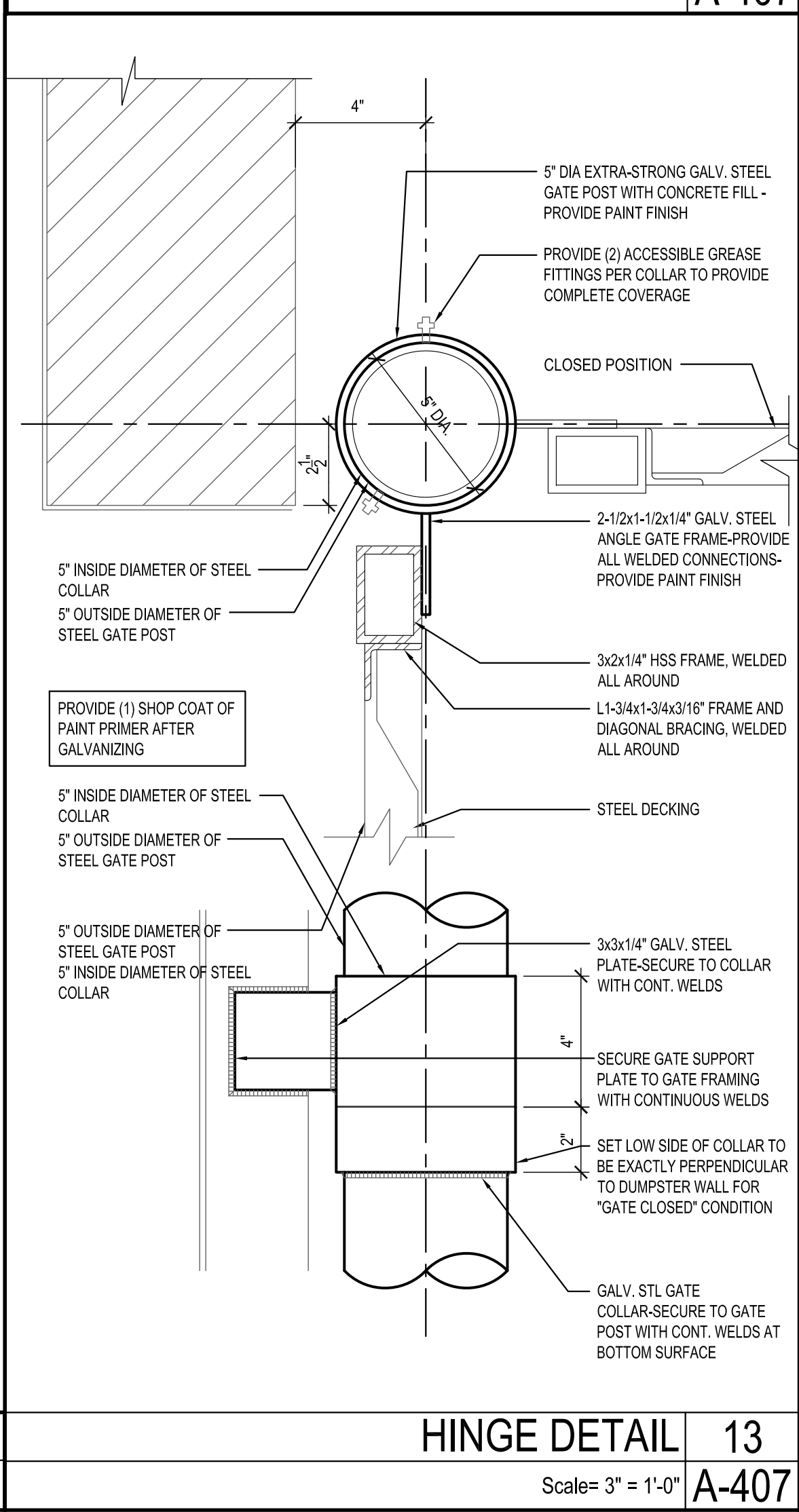
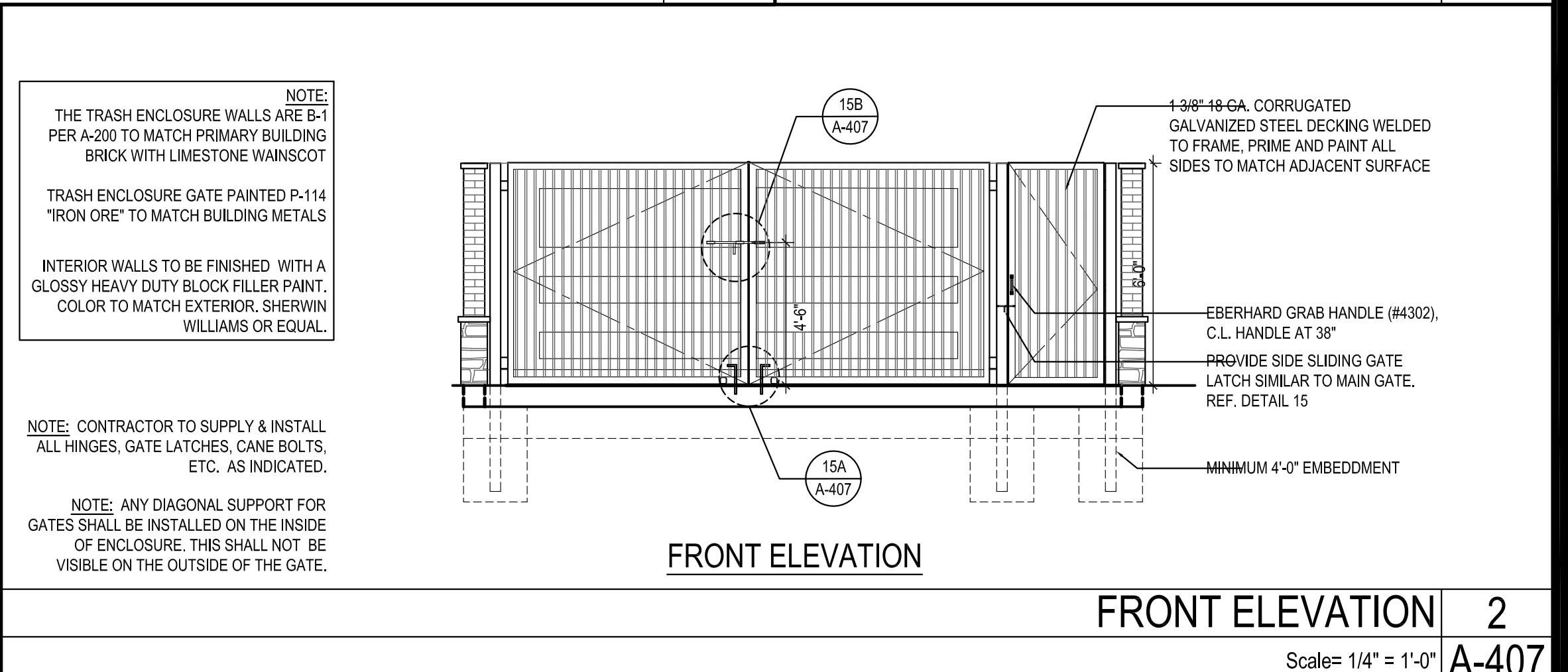
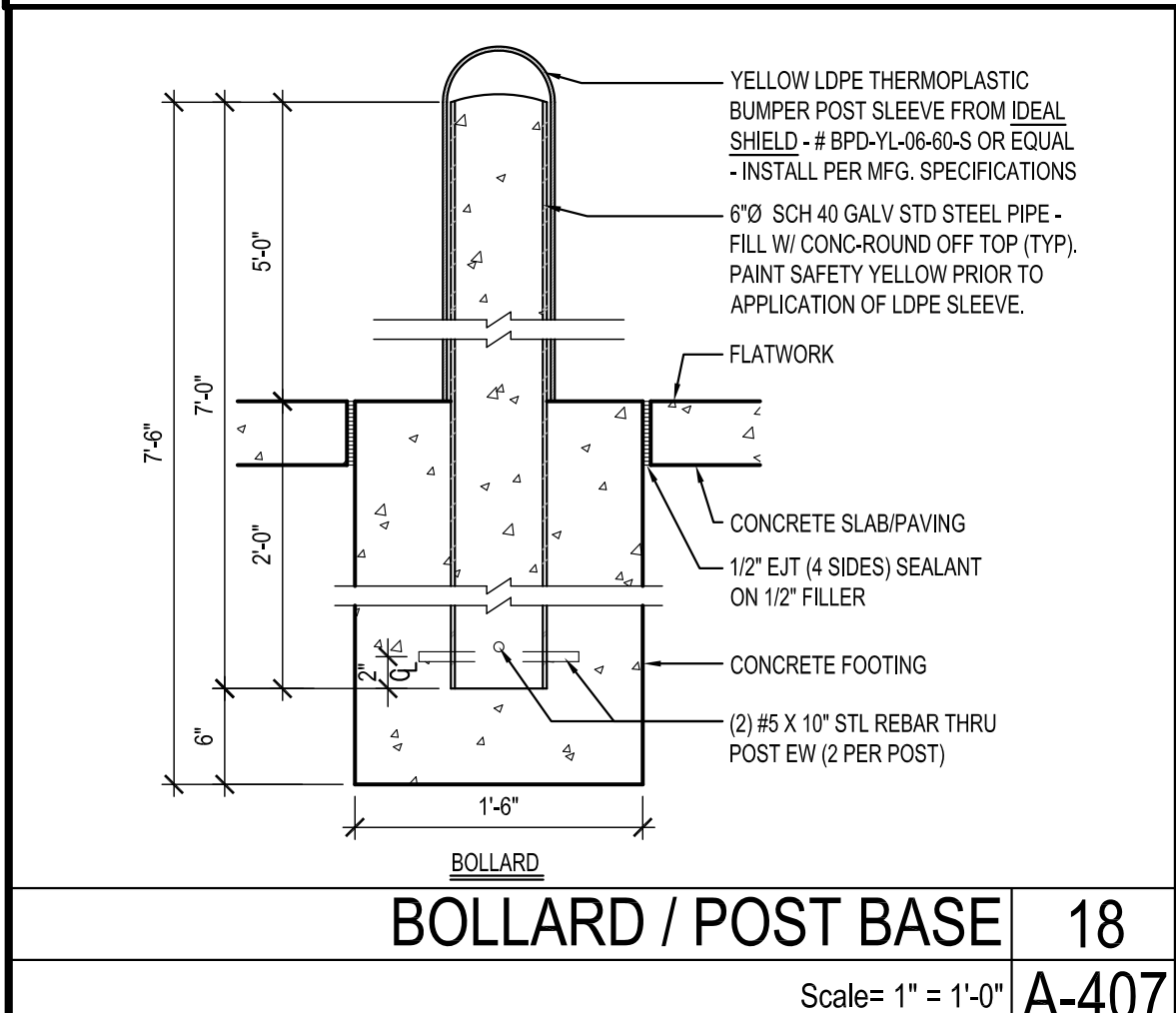
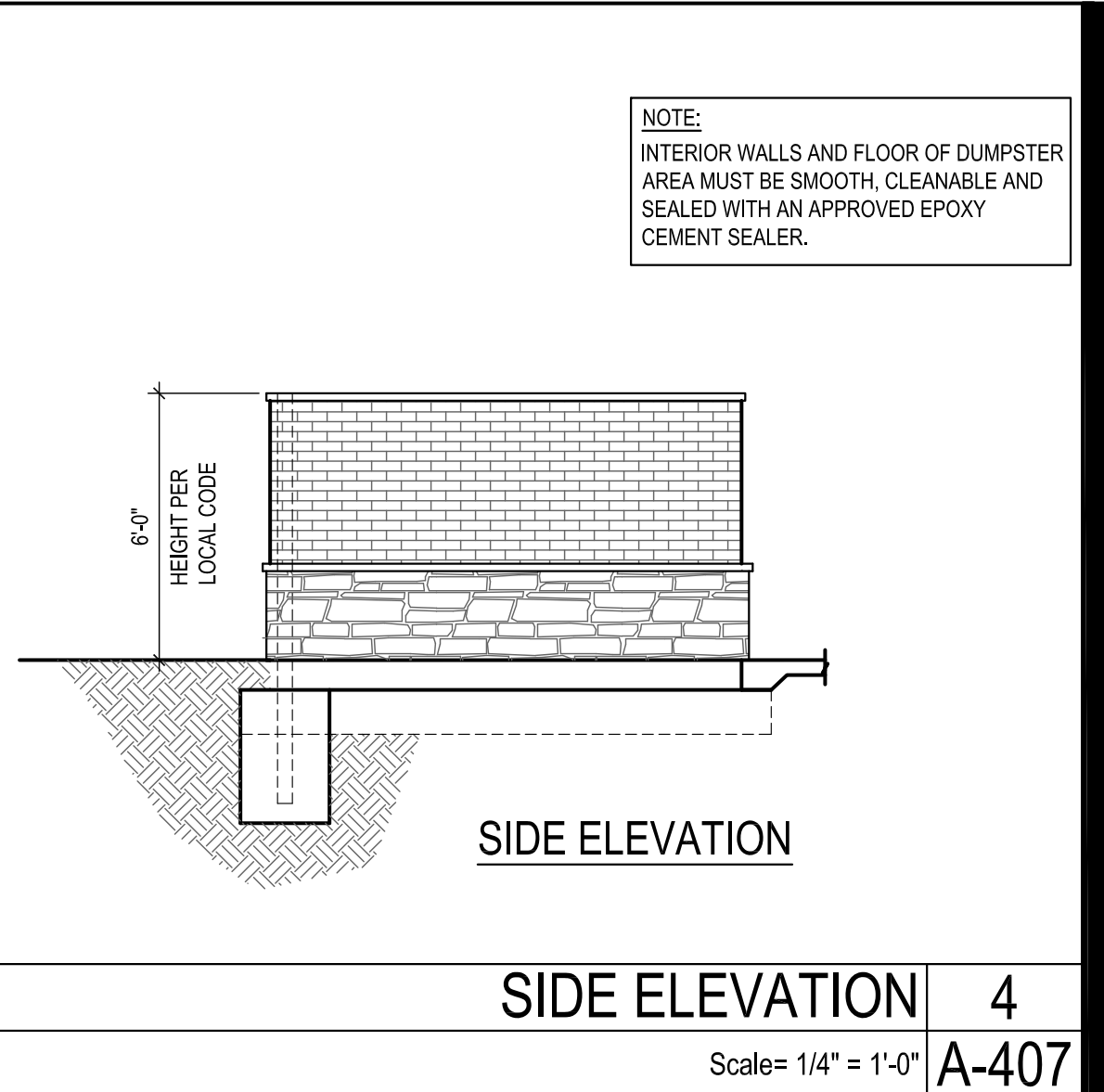
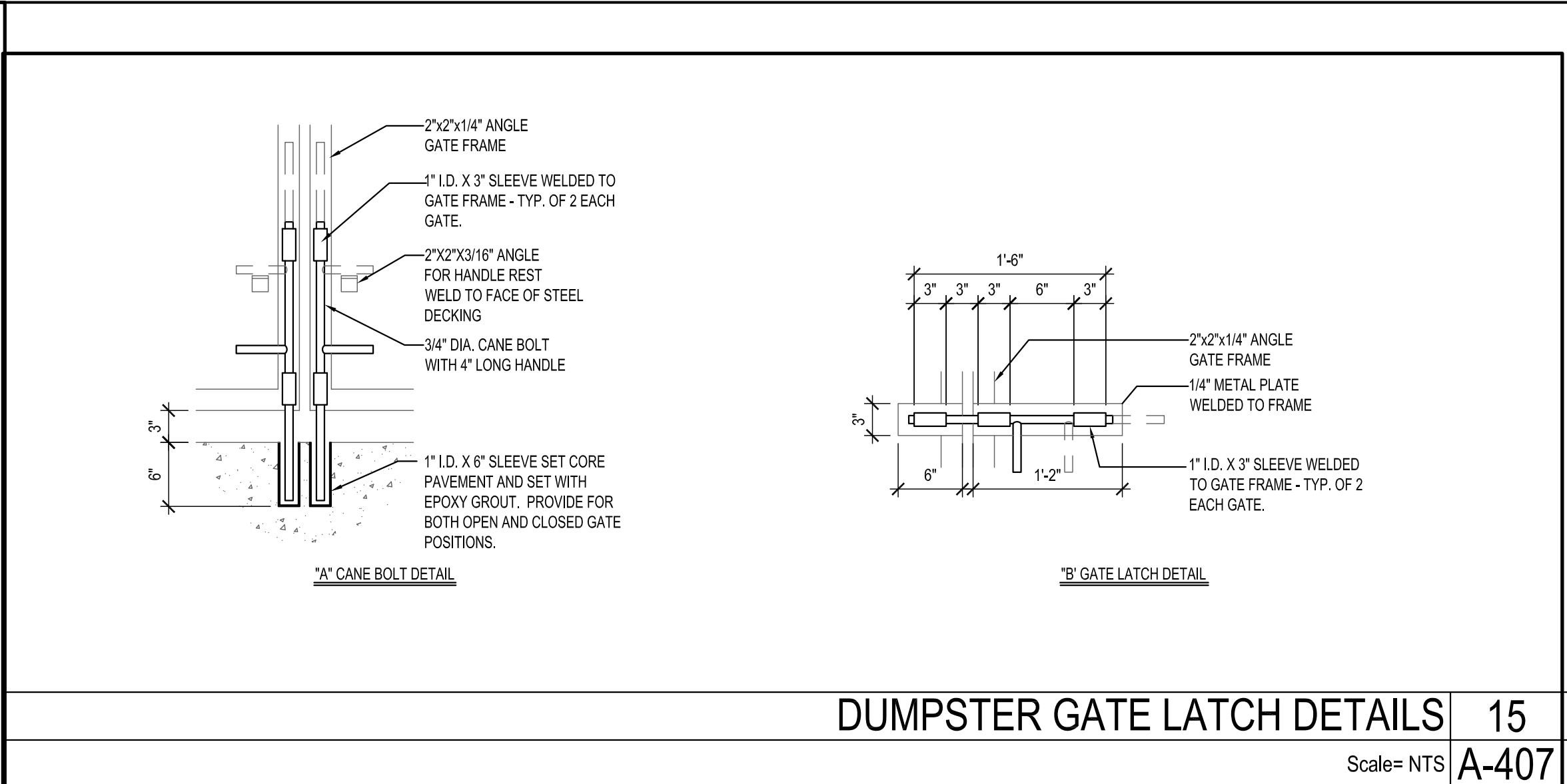
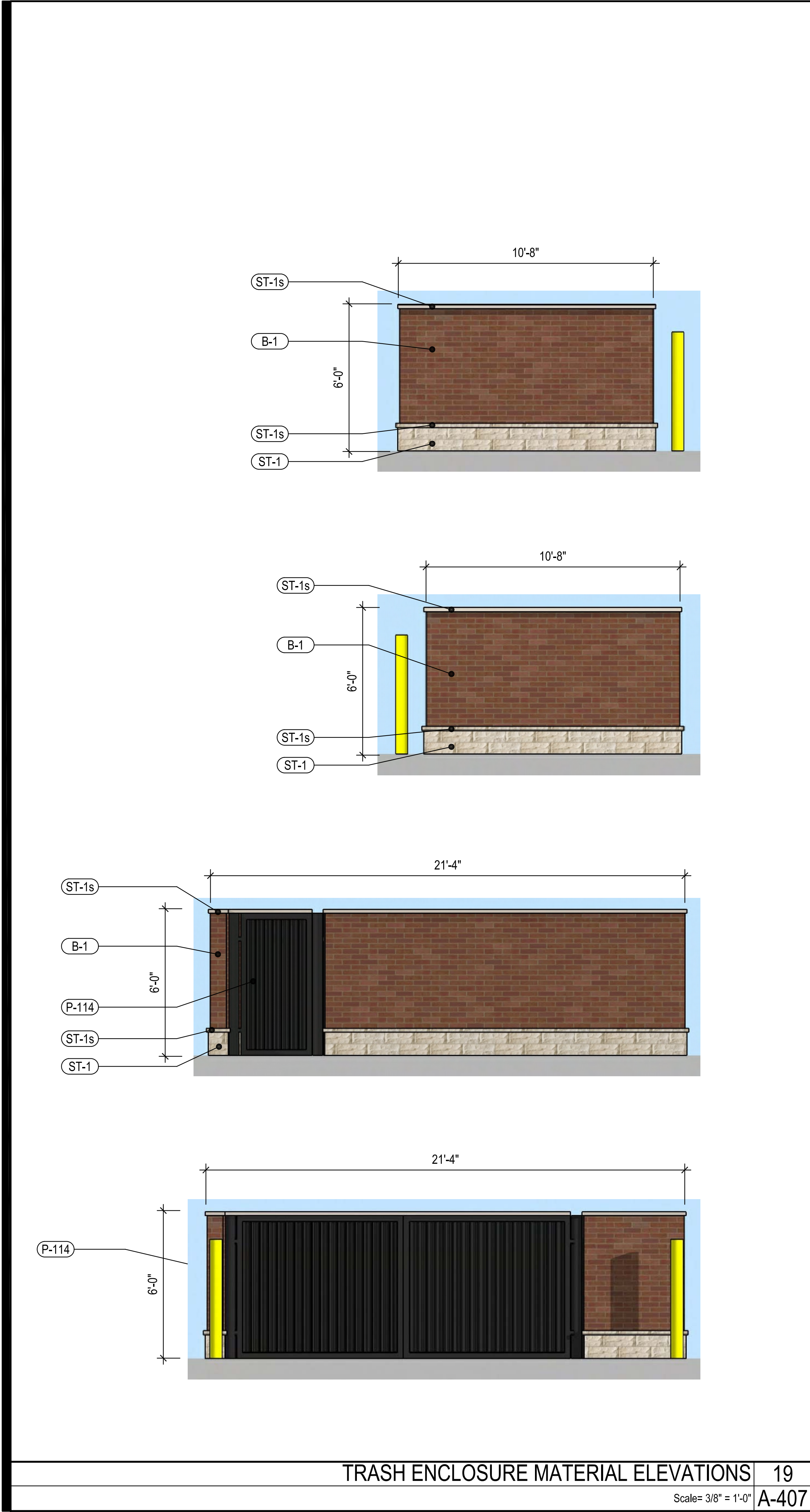
PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT
TRUE WARM & WELCOM (custom)

A-201

EXTERIOR ELEVATIONS

PROTOTYPE#TURE WARM & WELCOM



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1683 Walnut Grove Ave.
Rosemead, California 91770
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DRAWN BY: PM

PANDA PROJECT #: S8-17-D4999

ARCH PROJECT #: 16075-003

Heights Venture

ARCHITECTURE • DESIGN

HOUSTON 1111 North Loop West, Suite 800 Houston, Texas 77008 713 869 1103 Y

DALLAS 5717 Legacy Drive, Suite 240 Plano, Texas 75024 972 490 7292 Y

PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT
TRUE WARM & WELCOM (custom)

A-407

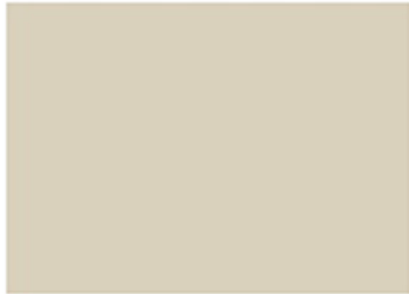
TRASH ENCLOSURE DETAILS

PROTOTYPE#TURE WARM & WELCOM



Paint:

EFIS: Wool Skien SW6148



Metal:

Awnings, mullions,
lighting: dark bronze



Fiber Cement RainScreen
Nichiha "Industrial Block"



Shopping Center Masonry:

Face Brick – Interstate "Mountain Red"
Stone – Arriscraft 8x24 Limestone



Porcelain Tile:

Pantheon mfg, Edge group
Tavern 760-701 color
6x40 tile



FURNITURE SCHEDULE

		L x W x H / (SEAT HEIGHT)		
e	LOW 2 TOP TABLE	PLASTIC LAMINATE	RICHWOOD	23 1/2" x 21" x 30"
h	LOW 4 TOP (ADA) TABLE	PLASTIC LAMINATE	RICHWOOD	23 1/2" x 47 1/4" x 30"
cb	LOW 4 TOP TABLE-BOOTH	TETON BEIGE	RICHWOOD	48" x 23 1/2" x 30"
c	LOW 4 TOP (ADA) TABLE-BOOTH	TETON BEIGE	RICHWOOD	48" x 23 1/2" x 30"
j	COMMUNAL TABLE (6)	TEAK WOOD	RICHWOOD	28 x 96" x 34" x 2.5" TH
j	YARDROB DINING CHAIR	BLACK MAT' W/ SANDING FINISH	EDMANS	
cg	COUNTER CHAIR	SD943B- WI BACK	EDMANS	
j	SETTEE	RICHWOOD		46" L x 18" H
j	SETTEE	RICHWOOD		58 1/2" L x 18" H
k	SETTEE	RICHWOOD		99 1/2" L x 18" H
m	SETTEE	RICHWOOD		CUSTOM
n	LOW WALL	RICHWOOD		CUSTOM
j	DIVIDER LOW WALL	RICHWOOD		47"
n	END CAP	RICHWOOD		CUSTOM
o	TRASH RECEPTACLE BN	LEFT BROOM	RICHWOOD	
tp	TRASH RECEPTACLE BN	RIGHT BROOM	RICHWOOD	
CL	BEVERAGE COUNTER	LEFT TETON BEIGE	RICHWOOD	SEE PLAN
CR	BEVERAGE COUNTER	RIGHT TETON BEIGE	RICHWOOD	SEE PLAN
d	SERVICE COUNTER	STRAIGHT-8F	RICHWOOD	SEE PLAN
db	45" COMMUNITY BOARD	BF-POWDER COAT "OF 15 SILVER"	FAO	45" x 32"



1
A-101



LANDSCAPE GUIDELINE SPECS:

GENERAL:

- All natural vegetation shall be maintained where it does not interfere with construction or the permanent plan of operation. Every effort possible shall be made to protect existing structures or vegetation from damage due to equipment usage. Contractor shall at all times protect all materials and work against injury to public.
- The landscape contractor shall be responsible for any coordination and sequencing with other site related work being performed by other contractors. Refer to additional drawings for further coordination of work to be done.
- Underground facilities, structures and utilities must be considered approximate only. There may be others not presently known or shown. It shall be the landscape contractor's responsibility to determine or verify the existence of and exact location of the above (Call 1-800-DIG-RITE in Missouri).
- Plant material are to be planted in the same relationship to grade as was grown in nursery conditions. All planting beds shall be cultivated to 6" depth minimum and graded smooth immediately before planting of plants. Plant groundcover to within 12" of trunk of trees or shrubs planted within the area.
- It shall be the landscape contractor's responsibility to:
 - Verify all existing and proposed features shown on the drawings prior to commencement of work.
 - Report all discrepancies found with regard to existing conditions or proposed design to the landscape architect immediately for a decision.
 - Stake the locations of all proposed plant material and obtain the approval of the owner's representative or landscape architect ten (10) days prior to installation.
- Items shown on this drawing take precedence over the material list. It shall be the landscape contractor's responsibility to verify all quantities and conditions prior to implementation of this plan. No substitutions of types or size of plant materials will be accepted without written approval from the landscape architect.
- Provide single-stem trees unless otherwise noted in plant schedule.
- All plant material shall comply with the recommendations and requirements of ANSI Z601 "American Standards for Nursery Stock".
- It shall be the contractor's responsibility to provide for inspection of the plant material by the Landscape Architect (or Owners' Representative) prior to acceptance. Inspections may take place before, during or after installation. Plants not conforming exactly to the plant list will not be accepted and shall be replaced at the landscape contractor's expense.
- All bids are to have unit prices listed. The Owner has the option to delete any portion of the contract prior to signing the contract or beginning work. This will be a unit price contract; quotes shall be valid for 12 months.
- Should any equipment be utilized in excavating any plant pits, vertical sides of plant pits shall be thoroughly scarified to avoid creation of "polished side walls" prior to plant material installation.
- All excess topsoil, rocks, debris and/or tainted soils shall be removed by the general contractor prior to point project is turned over to the landscape contractor to commence landscape installation.
- Keep all plants material (except turf) a minimum of 36" clear of fire hydrants.
- Landscape contractor shall kill & remove all existing weeds within the project site.
- All tags, nursery stakes, labels, etc. shall be removed by the landscape contractor at completion of all landscape installation.
- Landscape contractor shall be in compliance with all federal, state and local laws / regulations relating to insect infestation and/or plant diseases.

PRUNING:

- Lightly prune trees at time of planting. Prune only the crossover limbs, intermingled leaders and/or broken branches. Some interior twigs and lateral branches may be pruned. However, do not remove the terminal buds of branches that extend to the edge of the crown.
- All pruning shall comply with ANSI A500 standards.

INSURANCE:

- The landscape contractor shall submit certificates of insurance for workman's compensation and general liability.

MULCH:

- All mulch in planting beds to be shredded oak bark mulch at 3" depth (after compaction) unless otherwise noted. Mulch shall be clean and free of all foreign materials, including weeds, mold, deleterious materials, etc.
- Mexican Pebbles shall be installed where indicated on plan. Mirafix fabric shall be used beneath all gravel mulch beds.
- Edge all beds with spade-cut edge unless otherwise noted.

MAINTENANCE:

- Landscape Contractor shall provide a separate proposal to maintain all plants, shrubs, groundcover, perennials and annuals for a period of 12 months after acceptance.
- Contractor shall ensure that only competent and trained personnel shall provide such services and that such services be provided in a timely manner.

TOPSOIL:

- Topsoil mix for all proposed landscape plantings shall be five (5) parts well-drained screened organic topsoil to one (1) part Canadian sphagnum peat moss as per planting details. Roto-till topsoil mix to a depth of 6" minimum and grade smooth.
- Provide a soil analysis, as requested, made by an independent soil-testing agency outlining the % of organic matter, inorganic matter, deleterious material, pH and mineral content.
- Any foreign topsoil used shall be free of roots, stumps, weeds, brush, stones (larger than 1"), litter or any other extraneous or toxic material. Landscape contractor shall be fully responsible for correcting all negative soil issues prior to plant installation. Killing and removal of all weeds shall be the responsibility of the landscape contractor as part of this task.
- Landscape contractor to apply pre-emergent herbicide to all planting beds upon completion of planting operations and before application of shredded bark mulch.
- Install siltation controls prior to commencement of any grading operations. Inspect and maintain all siltation fences on a weekly basis until vegetation is established.

MISC. MATERIAL:

- Provide stakes and deadmen of sound, new hardwood, free of knotholes and defects.
- Tree wrap tape shall be 4" minimum, designed to prevent borer damage and winter freezing. Additionally, only 3-ply tying material shall be used.

TURF:

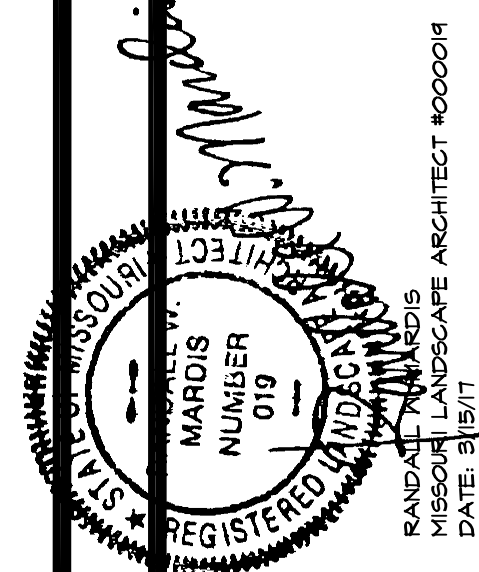
- All disturbed lawn areas to be seeded with a mixture of Turf-Type fescue (500# per acre) and bluegrass (10# per acre). Lawn areas shall be unconditionally warranted for a period of 90 days from date of final acceptance. Bare areas more than one square foot per any 50 square feet shall be replaced.
- The turf contractor shall be responsible for protection of finished grade; restore and repair any erosion or water damage and obtain owners' approval prior to seeding or sod installation.
- Landscape contractor shall offer an alternate price for sod in lieu of seed. Sod shall be cut at a uniform thickness of 3/4".
- No broken pieces, irregular pieces or torn pieces will be accepted. Any points carrying concentrated water loads and all slopes of 15% or greater shall be sodded.
- All sod shall be placed a maximum of 24 hours after harvesting.
- Recondition existing lawn areas damaged by Contractor's operations including equipment/material storage and movement of vehicles.
- Sod Contractor to ensure sod is placed below sidewalk and all paved area elevations to allow for proper drainage.

WARRANTY:

- All plant material (excluding ground cover, perennials and annuals) are to be warranted for a period of 12 months after complete installation of all landscape material at 100% of the installed price.
- Any plant material found to be defective shall be removed and replaced within 30 days of notification or in growth season determined to be best for that plant.
- Only one replacement per tree or shrub shall be required at the end of the warranty period, unless loss is due to failure to comply with warranty.
- Lawn establishment period will be in effect once the lawn has been mowed three times. Plant establishment period shall commence on the date of acceptance and 100% completion.
- A written guarantee shall be provided to the owner per conditions outlined in #1 above.

REVISIONS	BY

Landscape
TECHNOLOGIES
67 Jacobs Creek Drive
St. Louis, MO 63112
(888) 428-1250
info@landscapearchitect.com

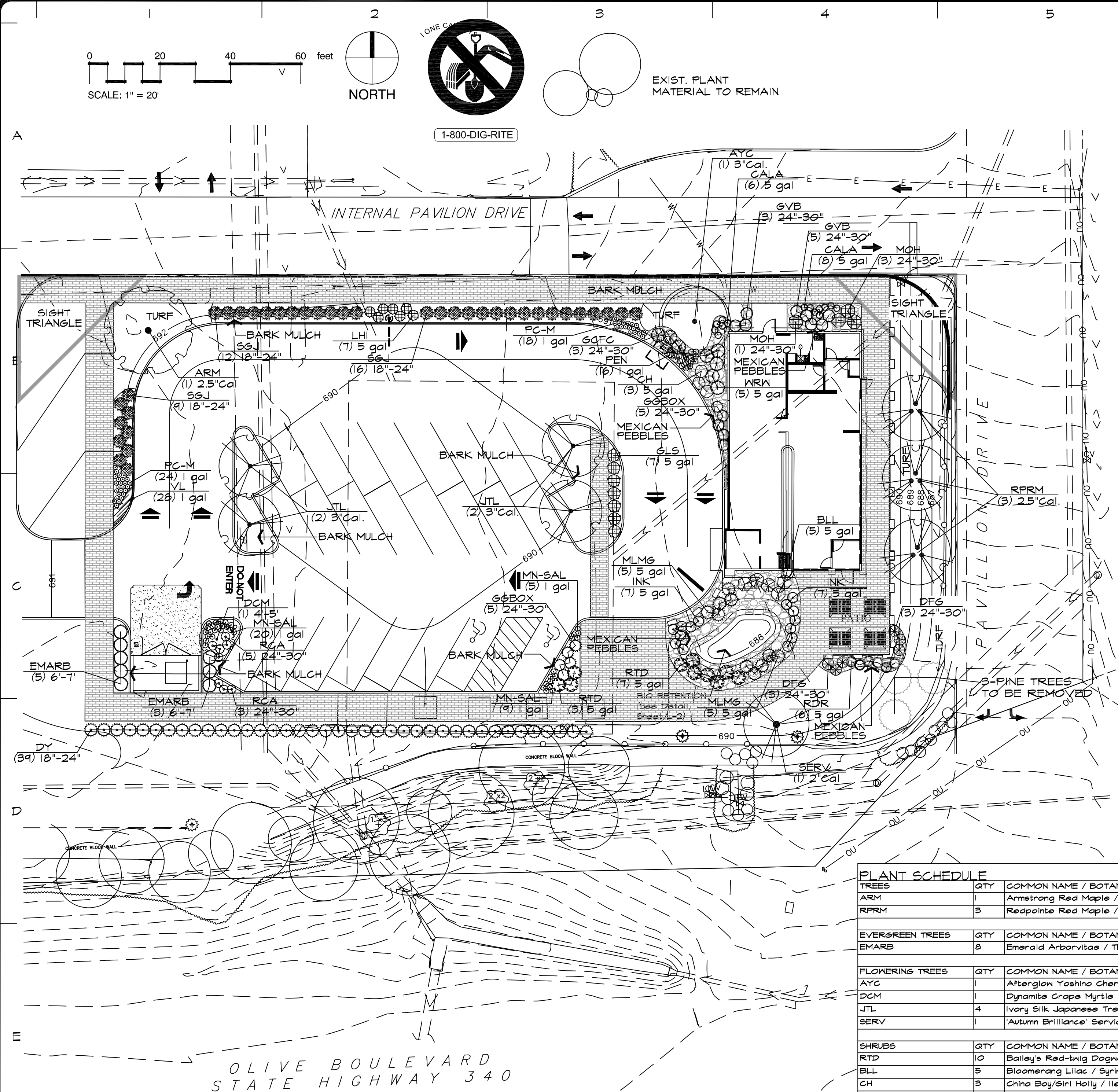


PLANTING PLAN FOR THE PROPOSED
Panda Express
CREVE COEUR, MISSOURI

DRAWN
R. HARDS
CHECKED
RPM
DATE
5/5/17
SCALE
1"=20'-0"
JOB No.
2016-174
SHEET

L-1

OF TWO SHEETS



PLANT SCHEDULE			
TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
ARM	1	Armstrong Red Maple / <i>Acer rubrum</i> 'Armstrong'	2.5" Cal
RPRM	3	Redpointe Red Maple / <i>Acer rubrum</i> 'Redpointe'	2.5" Cal.
EVERGREEN TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
EMARB	8	Emerald Arborvitae / <i>Thuja occidentalis</i> 'Emerald'	6'-1'
FLOWERING TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
AYC	1	'Afterglow' Yoshino Cherry / <i>Prunus yedoensis</i> 'Afterglow'	3" Cal.
DCM	1	'Dynamite' Grape Myrtle / <i>Lagerstroemia indica</i> 'Whit II'	4'-5'
JTL	4	'Ivory Silk' Japanese Tree Lilac / <i>Syringa reticulata</i> 'Ivory Silk'	3" Cal.
SERV	1	'Autumn Brilliance' Serviceberry / <i>Amelanchier x grandiflora</i> 'Autumn Brilliance'	2' Cal.
SHRUBS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
RTD	10	Bailey's Red-twig Dogwood / <i>Cornus sericea</i> 'Cardinal'	5 gal
BLL	5	Blooming Lilac / <i>Syringa x 'Penda'</i>	5 gal
CH	3	China Bay/Girl Holly / <i>Ilex meserveae</i> 'China Bay/Girl' TM	5 gal
INK	14	Dense Inkberry / <i>Ilex glabra</i> 'Dense'	5 gal
DY	34	Dense Yew / <i>Taxus media</i> 'Densiformis'	18"-24"
GCFC	3	Golden Charm False Cypress / <i>Chamaecyparis platifera filifera</i> 'Golden Charm'	24"-30"
GGBOX	10	Green Gem Boxwood / <i>Buxus x 'Green Gem'</i>	24"-30"
GVB	8	Green Velvet Boxwood / <i>Buxus 'Green Velvet'</i>	24"-30"
GLS	7	Gro-Low Fragrant Sumac / <i>Rhus aromatica</i> 'Gro-Low'	5 gal
LHI	7	Little Henry Sweetpire / <i>Itea virginica</i> 'Little Henry' TM	5 gal
MOH	4	Munchkin Oakleaf Hydrangea / <i>Hydrangea quercifolia</i> 'Munchkin'	24"-30"
RCA	8	Rose Creek Abella / <i>Abelia x grandiflora</i> 'Rose Creek'	24"-30"
SSJ	37	Sea Green Juniper / <i>Juniperus chinensis</i> 'Sea Green'	18"-24"
WRN	5	Wine & Roses Meigela / <i>Meigela florida</i> 'Wine & Roses'	5 gal
ANNUALS/PERENNIALS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
FEN	16	Husker Red Penstemon / <i>Penstemon digitalis</i> 'Huskers Red'	1 gal
MN-SAL	34	May Night Salvia / <i>Salvia nemorosa</i> 'May Night'	1 gal
PG-M	42	Purple Coneflower / <i>Echinacea purpurea</i> 'Magnus'	1 gal
FORBS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
CI	18	Copper Iris / <i>Iris fulva</i> 'Louisiana'	2 Qt. @ 18" OC
FFRM	6	Forty Favor Rose Mallow / <i>Hibiscus lasiocarpus</i>	1 Gal @ 30" OC
SMW	1	Swamp Milkweed / <i>Asclepias incarnata</i>	2 Qt. @ 24" OC
GRASSES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
DFG	6	Dwarf Fountain Grass / <i>Pennisetum alopecuroides</i> 'Hameln'	24"-30"
CALA	14	Foerster's Reed Grass / <i>Calamagrostis acutifolia</i> 'Karl Foerster'	5 gal
MLMS	10	Morning Light Maiden Grass / <i>Miscanthus sinensis</i> 'Morning Light'	5 gal
ROSES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
RDR	6	Red Drift Rose / <i>Rosa x 'Meigapio'</i>	5 gal
GROUND COVERS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
	28	Variegated Liriope / <i>Liriope muscari</i> 'Variegata'	1 gal
NATIVE GRASSES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
	131	Brown Fox Sedge / <i>Carex vulpinoidea</i>	Plug at 18" OC
	76	Great Green Bulrush / <i>Scirpus atrovirens</i>	Plug at 18" OC
	47	Morning Star Sedge / <i>Carex grayi</i>	Plug at 18" OC

PLEASE NOTE:
EXISTING VEGETATION SHALL BE RETAINED WHEREVER POSSIBLE WITH THE EXCEPTION OF VOLUNTEER TREES, WILD VINES, HONEYSUCKLE, MULBERRY, ETC. UNDER THE DIRECTION OF AN ARBORIST OR A LANDSCAPE ARCHITECT. NO TREES EXCEEDING 3" CALIPER SHALL BE REMOVED UNLESS APPROVED BY OWNER'S REPRESENTATIVE. LANDSCAPE ARCHITECT SHALL STAKE LOCATIONS OF ALL TREES PRIOR TO INSTALLATION.

LANDSCAPE REQUIREMENTS:

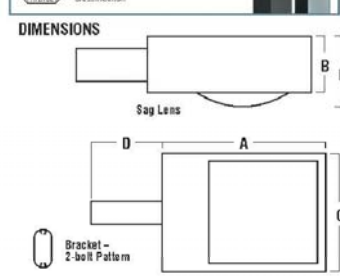
- ONE (1) STREET TREE PER 30' OF FRONTAGE
● EXISTING STREET TREES ALONG OLIVE BLVD. ARE TO REMAIN AND SATISFY REQUIRED STREET TREES

- CONTINUOUS OPAQUE SCREEN REQUIRED WHERE RESIDENTIAL ADJUTS COMMERCIAL PROPERTIES, MINIMUM 4' HEIGHT (NOT APPLICABLE AT THIS LOCATION).

LOT AREA = 81,917 Sq. Ft. (1.88 Ac.)
SITE COVERAGE: 31,431 Sq. Ft. OR 38%
AREA OF PARKING LOT: 16,000 Sq. Ft.
INTERIOR LANDSCAPE REQUIRED: 457 Sq. Ft.
INTERIOR LANDSCAPE PROVIDED: 1,010 Sq. Ft.

IN-GROUND, AUTOMATIC IRRIGATION SYSTEM IS REQUIRED AND WILL BE PROVIDED AS A CONDITION OF DEVELOPMENT (By Others)

CITATION® Precision reflectors are protected by U.S. Patent No. 6,864,378.



REFLECTOR TYPE	REFLECTOR SIZE	REFLECTOR WEIGHT	REFLECTOR LENGTH	REFLECTOR WIDTH	REFLECTOR HEIGHT
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CITATION® LUMINAIRE ORDERING INFORMATION

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REFLECTORS/DISTRIBUTION PATTERNS

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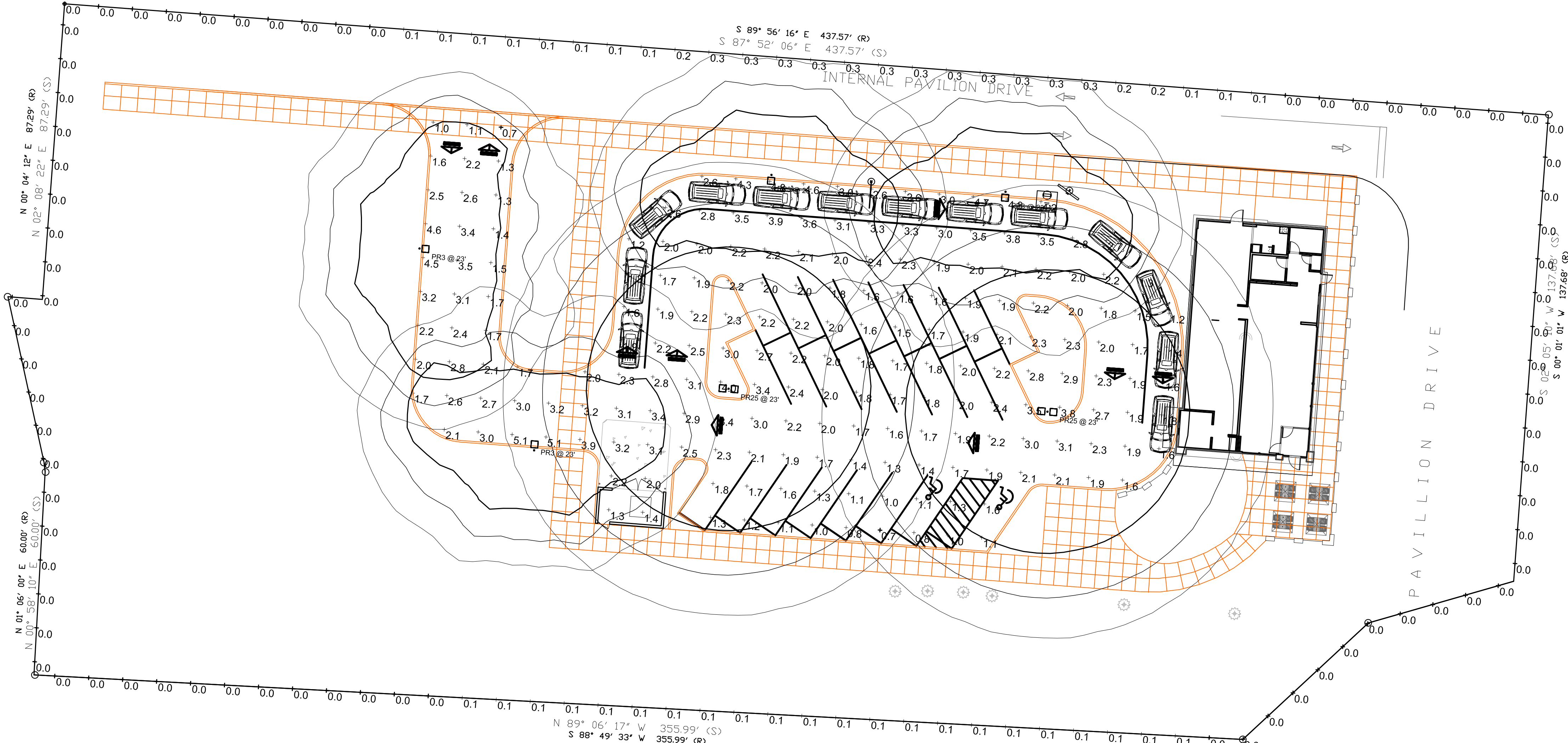
EXISTING SITE LIGHTING FIXTURES

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking Lot Light Levels	+	2.3 fc	5.1 fc	0.7 fc	7.3:1	3.3:1
Property Line Light Levels	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	Qty	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	LLF	Wattage
PR3	PR3	4	LITHONIA LIGHTING	KVS3-400M-R3	Single Head Lithonia Ligting KVS3 Series 400w Metal Halide Area Unit w/Type R3 Distribution (Retrofit Lunera Lamp) 20ft. Pole Height w/3ft. Estimated Base	(Qty.1) SN-H-E39-400W/320W-4000-G2	1	12300	0.95	145
PR25	PR25	2	LITHONIA LIGHTING	KVS3-400M-R5	Double Head Lithonia Ligting KVS3 Series 400w Metal Halide Area Unit w/Type R5 Distribution (Retrofit Lunera Lamp) 20ft. Pole Height w/3ft. Estimated Base	(Qty.2) SN-H-E39-400W/320W-4000-G2	1	12300	0.95	290



PHOTOMETRIC SITE PLAN

1

Scale: 1:20

A-100P



PANDA RESTAURANT GROUP INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9888
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

REVISIONS:

ISSUE DATE:

CUP SUBMITTAL	10-14-16
CUP SUBMITTAL	11-10-16
CUP SUBMITTAL	03-17-17

DRAWN BY: PM

PANDA PROJECT #: S8-17-D4999

ARCH PROJECT #: 16075-003

Heights Venture

ARCHITECTURE • DESIGN

HOUSTON 1111 North Loop West, Suite 800
Houston, Texas 77008
713 889 1103 V

DALLAS 5717 Legacy Drive, Suite 240
Plano, Texas, 75024
972 490 7292 V

PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT

TRUE WARM & WELCOM (custom)

A-100P

PHOTOMETRIC SITE PLAN

PROTOTYPE#TURE WARM & WELCOME

UP SUBMITTAL
3/26

PANDA EXPRESS DRIVE-THRU SITE PLAN UPDATE

Date: March 15, 2017

To: Mr. Eric Abeln, Heights Venture Architecture Design

From: Mr. Lee Cannon, P.E., PTOE
Mr. Brian Rensing, P.E., PTOE

CBB Job Number: 089-16-1

Project: Update to Traffic Impact Study—Internal Site Circulation and Drive-Thru Review
Proposed Panda Express – Creve Coeur Pavillion
Creve Coeur, Missouri

As requested, CBB has prepared an addendum related to the revised site plan for the proposed Panda Express located in the Creve Coeur Pavillion. The center is generally located on the north side of Olive Boulevard between Pavillion Drive and Old Olive Street Road in Creve Coeur, Missouri.

It is our understanding that a 2,600-square foot (SF) Panda Express with Drive-Thru is proposed on the east parking lot area of the previous Macaroni Grill site. The west side of the lot, which included the old restaurant building is now vacant. Access to the Panda Express would still be provided via one shared curb cut to Ravenwood Lane, approximately 290 feet west of Pavillion Drive. **Figure 1** shows the revised site plan for the Panda Express provided by Civil Engineering Design Consultants (CEDC) dated March 15, 2017.

Since the size of the building remains the same as the previously proposed building (2,600 SF), the trip generation and traffic impacts to the adjacent public road system would remain the same as summarized in the previously submitted Traffic Study dated November 11, 2016.

The purpose of this update was to evaluate the new layout of the drive-thru facility itself and to provide input so that the drive-thru does not interfere with site circulation or parking, and that it does not create hazards to motorists or pedestrians, entering, exiting or passing by the site.

Revised Site Access Plan

The revised site plan keeps one full access driveway to Ravenwood Lane located approximately 290 feet west of Pavillion Drive, which is as far away from Pavillion Drive as practical. Traffic would enter the site from Ravenwood Lane, travel along a north-south drive aisle approximately 85 feet then turn left to an east-west drive aisle. Within approximately 50-feet, all traffic entering the site would make a left turn to either enter the drive-thru queue area or to circulate clockwise around to park in one of the angled parking stalls.

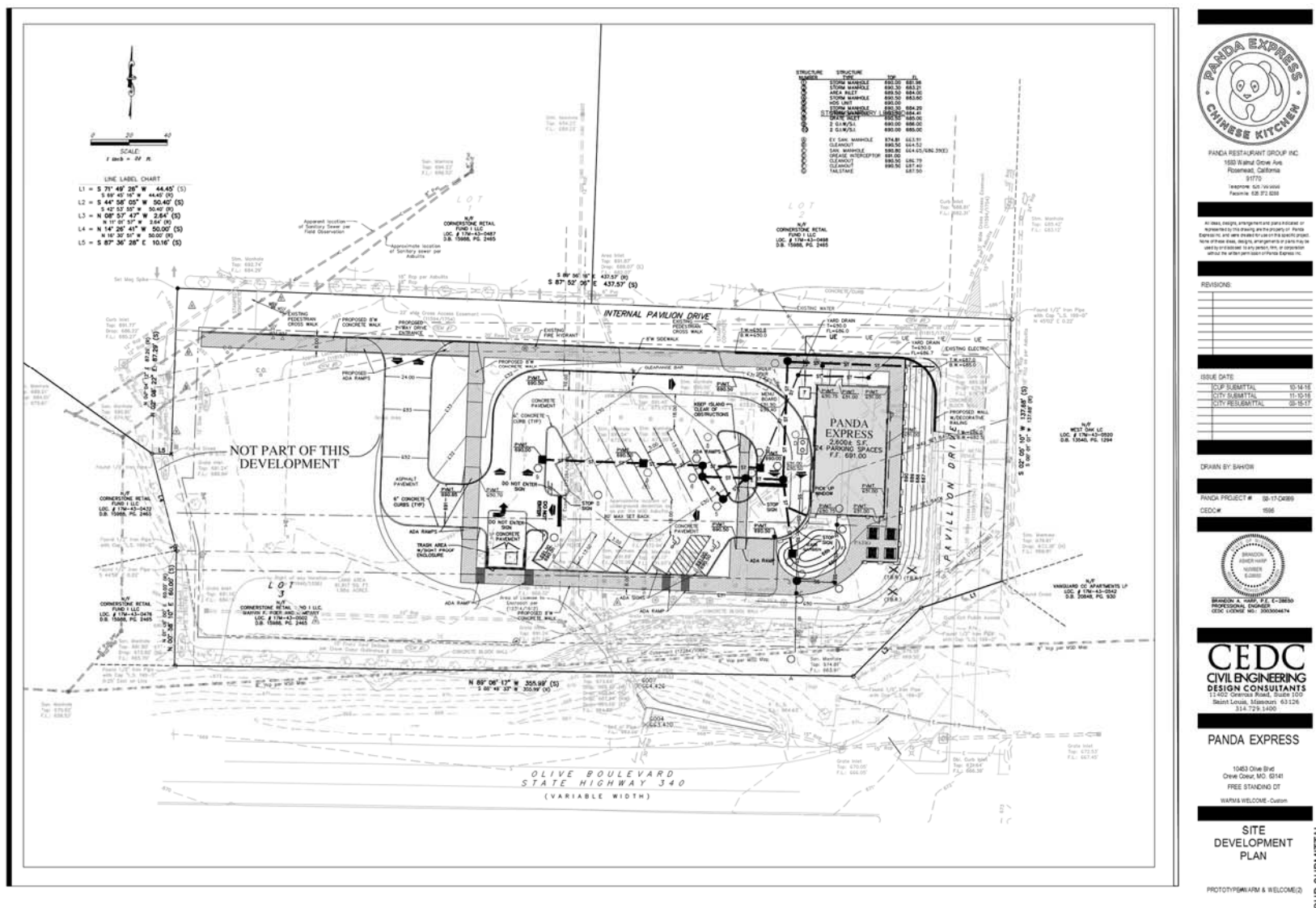


Figure 1 – Current Site Plan Provided by CEDC



The internal circulation was revised to a clockwise flow instead of the previous counter-clockwise flow, and the new drive-thru will not wrap around the building since the zoning requirements for a drive-thru do not allow the designated stacking lane to cross between the building and principal street frontages (Olive Boulevard or Pavillion Drive). Instead, the drive-thru stacking is provided parallel to Ravenwood Lane, internal to the site; the drive-thru pick-up window is located on the southwest corner of the building.

The Panda Express will provide more than the minimum 190 feet of drive-thru storage (10 vehicles) required by the City of Creve Coeur ordinances, and will instead provide approximately 250 feet before potentially impacting the circulation of parking vehicles in the Panda Express inbound traffic lane. Therefore, the site plan exceeds the City's requirement. The stacking provided is also expected to be more than sufficient to accommodate the anticipated drive-thru demands.

To minimize conflicts near the pick-up window, it is recommended that the circulation lane be required to Stop adjacent to the drive-thru area so that circulating vehicles, drive-thru patrons and any potential pedestrians can be safely accommodated. It is also recommended that the island near the stop bar be clear of any potential sight distance obstructions (landscaping, signs, berms, etc.) between 3 feet above the pavement to about 10 feet above the pavement so that the vehicles and pedestrians have an unimpeded view of each other. The stop condition will also require vehicles to navigate around this area in a slower manner. In addition, the westbound exiting traffic should Stop at the site exit near the trash receptacle. To further promote safety, it is also recommended that a left-turn pavement arrow be added where the inbound flow must turn left and be supplemented with DO NOT ENTER traffic control (MUTCD R5-1) signs.

If the STOP and DO NOT ENTER signs are mounted back-to-back, potentially on the same post, the size and/or shape of the DO NOT ENTER sign should be such that the STOP sign maintain an octagonal shape when viewed in silhouette. If the corners of the DO NOT ENTER sign extend beyond that silhouette, they must be cut away (chamfered corners). **Figure 2** illustrates these recommendations on the site plan.

Overall, the layout and internal circulation is good from a traffic circulation perspective, and the drive-thru stacking and escape lanes are designed to minimize interference with site circulation as well as minimize hazards to motorists or pedestrians entering, exiting, or passing the site. It should be noted that turning templates (Autoturn) were not provided to CBB to show adequate circulation of the design vehicle or maneuvering abilities to and from the parking spaces that are adjacent to the stacking lane, we recommend that these evaluations be completed by the site civil engineer to verify appropriate passenger vehicles ingress/egress to the parking stalls and delivery truck circulation can be accommodated.



Update to Traffic Impact Study for
Proposed Panda Express Drive-Thru Update

March 15, 2017

Page 4 of 4

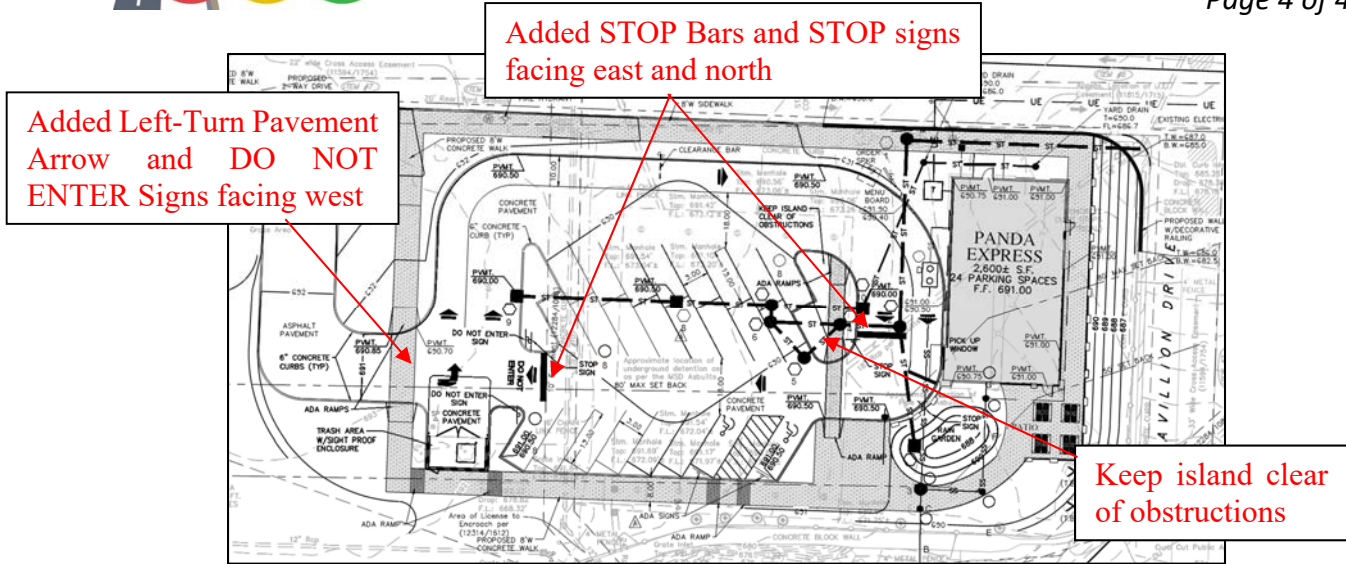


Figure 1 – Recommended Improvements to Site Plan

We trust that this drive thru and site circulation update adequately addresses the traffic issues related to the changes in the drive-thru stacking and internal site layout. Should you have any question or comments, please contact me via email at LCannon@cbbtraffic.com or by phone at 314-449-8242.

McCLURE ENGINEERING

March 16, 2017

Via email: eric.abeln@hva.cc

Mr. Eric Abeln
Heights Venture
1111 North Loop West, Suite 800
Houston, Texas 77008

Re: Panda Express
Proposed Drive Thru Sound Study
McClure Project: 104168.000

Dear Mr. Abeln:

McClure has reviewed the property line distance information and the typical sound pressure levels emitted from the proposed Panda Express order station. Appropriate acoustical models have been assembled using manufacture data to find the acoustical impact this speaker system will have on the surrounding area. Based on this information and measured sound levels at the east property line, the sound level from the speaker system will be below the Creve Coeur Zoning Ordinance No. 5400 sound control code for both day and night operation and will have negligible impact on the ambient sound in the area. The technology within the order station compensates for the ambient sound resulting in sound levels similar to two people having a conversation in the parking lot.

Calculations

The proposed site plan provided by Heights Venture March 14, 2017, indicates the approximate distance from the closest point on the west property line to the order station to be about 60'. The attached sound data provided by order station manufacturer, HME Electronics, includes maximum sound levels as well as sound levels with the AVC activated. The worst case is calculated to be 52 dBA at the property line and less than 49 dBA at the apartment complex located at Pavilion Drive. This is based on a maximum output of 86.5 dBA at 1' from the order station. The order station will employ AVC and typically operates at only 60 dBA at 1' from the order station when the ambient sound level is low. **Based on the manufacturer's data the sound level contribution from the order station with the AVC activated is calculated to be 24 dBA at the property line and 20 dBA at the apartment building. These levels are far below any typical ambient sound.** While the sound levels will typically be somewhere in between 60 and 84 dBA at 1' from the order station, the data and calculations show the order station remains as quiet as possible based on the ambient sound of the area. Sound maps are in Appendix A.

Mr. Eric Abeln
 March 16, 2017
 Page 2 of 7

The Creve Coeur sound code (Ordinance No. 5400) states that the sound level will not exceed 60 dBA at the property line. The sound emitted by the order station is at least 15 dB below this criterion at the property line at all times.

The test station for the manufacturer's data was 8' in front of a reflective building as is the same for this site condition. We have conducted our own tests to verify the operation of the AVC system. We have also included calculations for both the worst case sound levels as well as typical levels with the AVC system.

Background Sound Level Measurements

Noise Monitoring Data and Results

A Larson Davis Model 720 Sound Level Meters (SLM) was used for the sound measurements. The SLMs recorded and stored the following A-weighted quantities for each one-hour increment of the measurement period: (1) energy equivalent sound level [Leq], (2) the maximum sound level [Lmax], (3) the sound level exceeded 10% of the time [L10] and (4) the sound level exceeded 90% of the time [L90]. All measurements were A-weighted per ANSI S1.4 and were designated as decibels (dBA).

All the data has been plotted into 24-hour charts, one chart for each day, and can be found in Appendices B attached. Figure 1 is the site map showing monitor location. These charts also summarize the energy equivalent sound levels (Leq) for each day (7:00 AM to 10:00 PM) and night (10:00 PM to 7:00 AM). The entire set of monitoring data collected are charted in Figure 2.



Figure 1 - Site Plan and Monitor Location

Figure 1- Ariel view of Site Plan

Mr. Eric Abeln
 March 16, 2017
 Page 3 of 7

Table 1: L/D 720 - 24-Hour Ldn, Day and Night Leq for each day

Date	(Ldn24) dBA	(Lday) dBA	(Lnite) dBA
Friday, September 23, 2016	n/a*	50.6	49.2
Saturday, September 24, 2016	61.0	57.6	53.7
Sunday, September 25, 2016	60.9	56.4	54.1
Monday, September 26, 2016	62.4	59.3	55.1
Tuesday, September 27, 2016	62.1	59.8	54.4
Wednesday, September 28, 2016	60.8	59.6	52.3
Thursday, September 29, 2016	n/a	56.7	52.2

*n/a – Not a complete 24 hours set of data

Sound level monitor was setup in the center of the proposed site for Panda Express parking lot on the east side of the site. The monitor was placed approximately 215 feet from the Vanguard Heights apartments to the monitor location for seven (7) days.

The monitors measured all sounds, including but not limited to sound from aircraft overflights, the nearby roadways, nature sounds (insects) and rooftop mechanical equipment. However, the majority of the sound is from road noise from Olive Boulevard. This is reflected in part of the noise patterns shown in the data. The sound levels were very consistent over the noise monitoring period.

All the sound in the area of our study is considered background noise. Background noise at the site was determined by monitoring A-weighted sound levels at the site for a period of seven (7) days. The average one-hour daytime Leq data was used to establish the current background sound levels for this site. The nominal Leq day-time and night-time background sound level in the area ranged from 60 dBA during the day-time hours and as low 48 in the late night hours 12 and 5 am).

The data was very consistent which can be seen in the Table 1 and Figure 2. Each graph represents the environmental noise throughout the monitoring period. On several days during the monitoring period, the dBA levels were comparable between the days.

Mr. Eric Abeln
 March 16, 2017
 Page 4 of 7

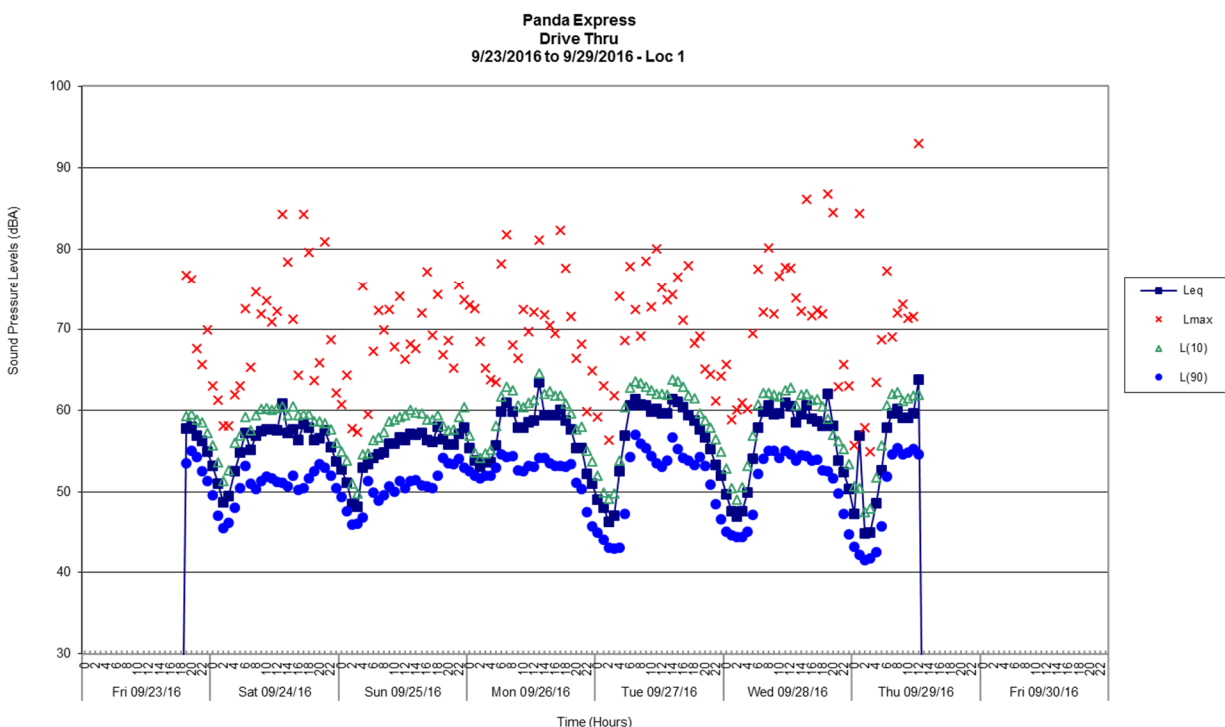


Figure 2 – On Site Sound Data

Conclusions

The background sound level is controlled by traffic sound based on site observations and measured data rather than the ordering station. From our measurements, data indicated the Automatic Volume Control (AVC) functions well since the ordering station level blends in with the traffic and other ambient sounds.

The calculated sound levels at the east property line will be far below the 60 dBA Creve Coeur sound code and will not have any insignificant impact on the ambient sound in the area. The technology within the order station compensates for the ambient sound resulting in sound levels similar to two people having a conversation in the parking lot. The property line and the apartments will experience sound levels from the order station to be less than 45 dBA, sound levels typical of a quiet office or urban environment. As a reference, conversational speech levels are typically 55 to 65 dBA.

Mr. Eric Abeln
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Recommendations

The sound from the ordering station and drive-thru is less than the Creve Coeur sound code requires and is below typical ambient traffic sound for this area. No further remediation is required.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Gary Brown". The signature is fluid and cursive, with the first name "Gary" and last name "Brown" clearly distinguishable.

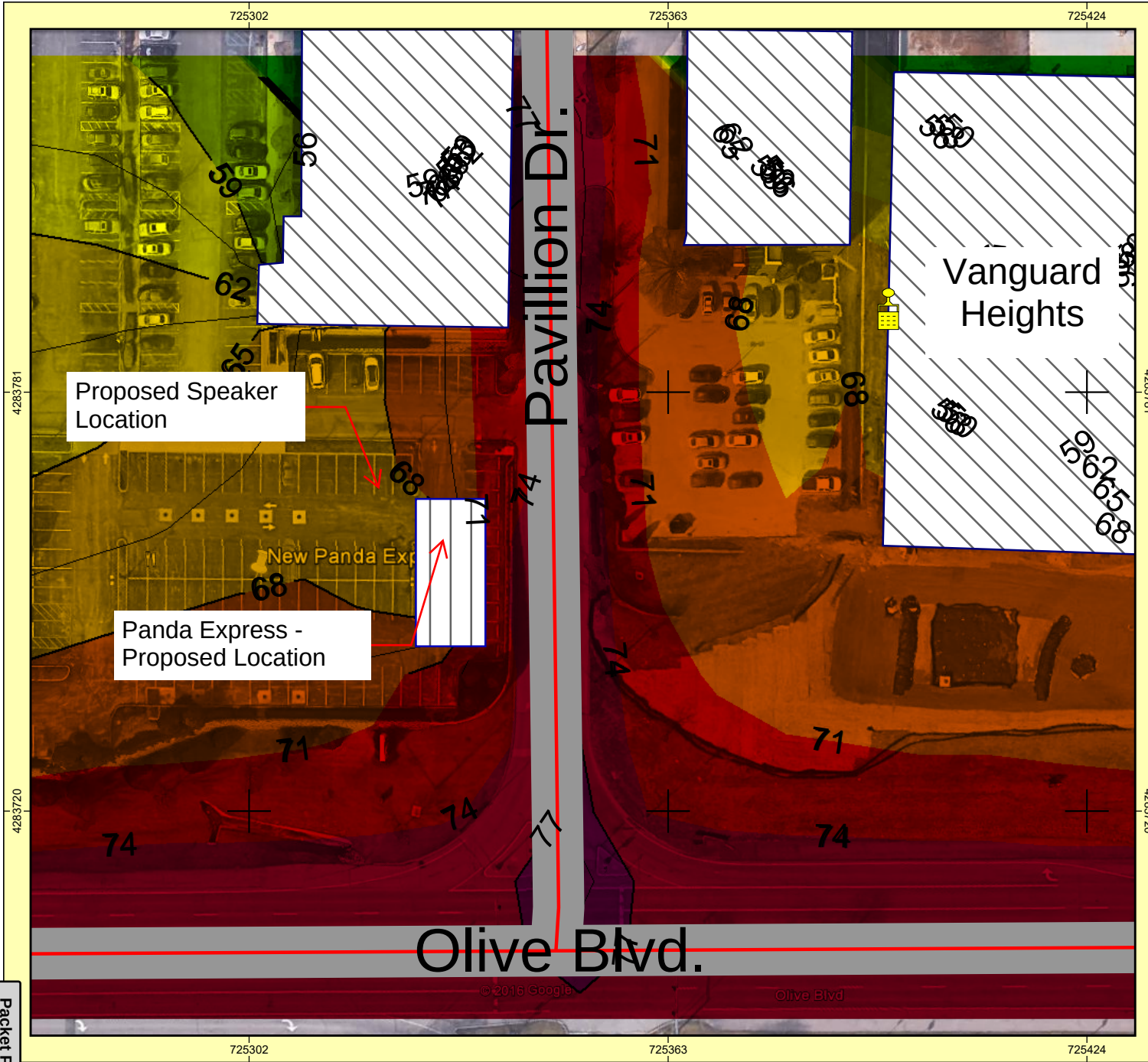
Gary Brown, ASA, INCE

GPB:tbm
cc: Brandon Harp bharp@cedc.net

Attachments

Mr. Eric Abeln
March 16, 2017
Page **6** of **7**

Appendix A Sound Maps



Customer:

Project: Panda Express Creve Coeur
Project-No. 104168.000

Map

1

rev1 Roads No Speaker
Result number 7
 Calculation in 1.5 m above ground

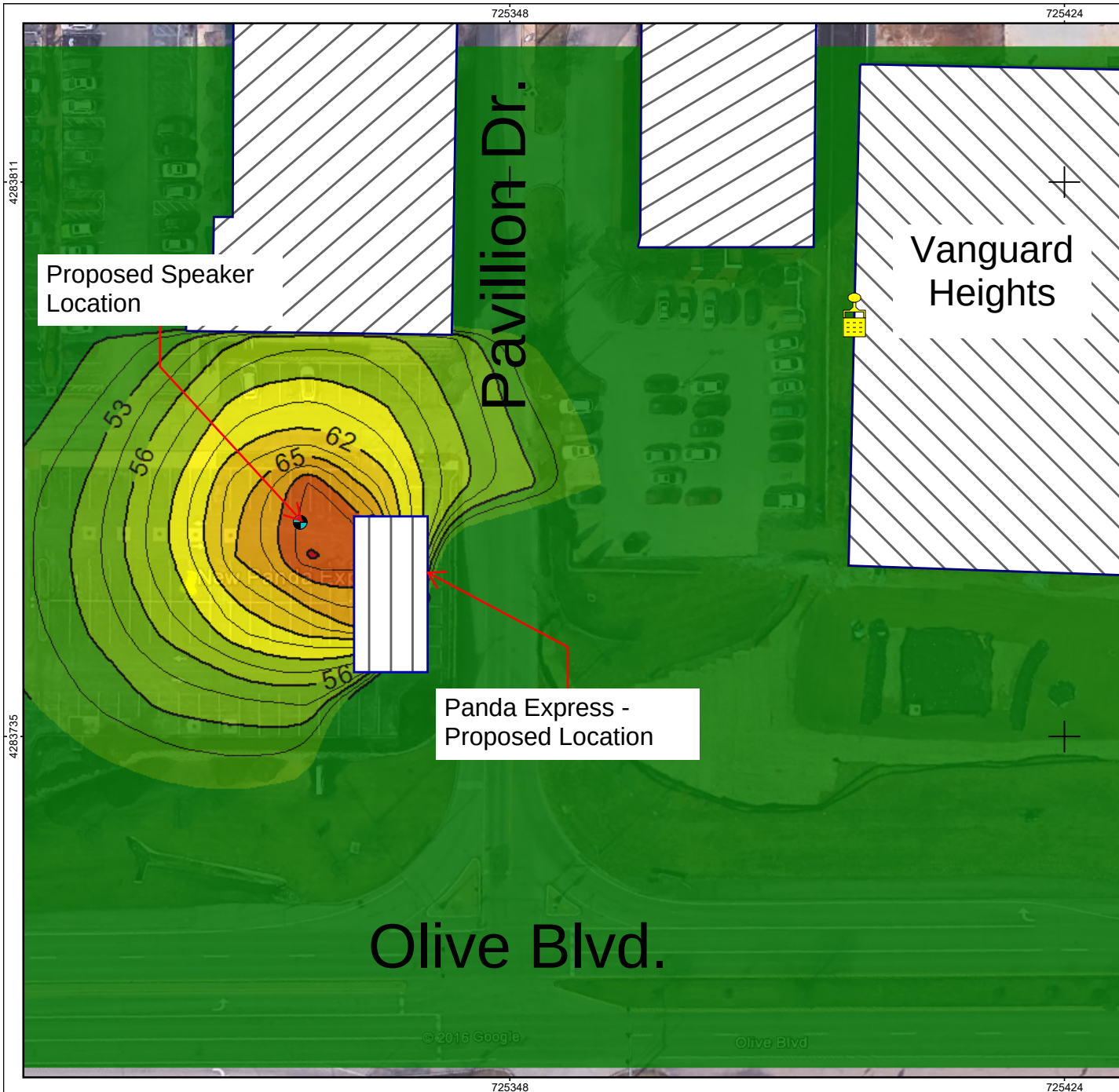
Project engineer: Sam Jamison
 Created: 3/16/2017
 Processed with SoundPLAN 7.4, Update 3/27/2015

Levels Ldn in dB(A)	Signs and symbols
< 50	Road axis
50 - 53	Emission line
53 - 56	Surface
56 - 59	Main building
59 - 62	Auxiliary building
62 - 65	Point receiver
65 - 68	
68 - 71	
71 - 74	
74 - 77	
77 - 80	
>= 80	

Length scale 1:792

0 5 10 20 30 40 m

McCLURE ENGINEERING



Customer:

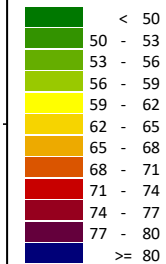
Project: Panda Express Creve Coeur
Project-No. 104168.000

Map
1

rev1 Non-Volume Controlled No Roads
Calculation in 1.5 m above ground

Project engineer: Sam Jamison
Created: 3/16/2017
Processed with SoundPLAN 7.4, Update 3/27/2015

Levels Ldn
in dB(A)

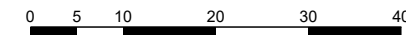


Signs and symbols

- Main building
- Auxiliary building
- Point receiver
- Source
- Geometry bitmap



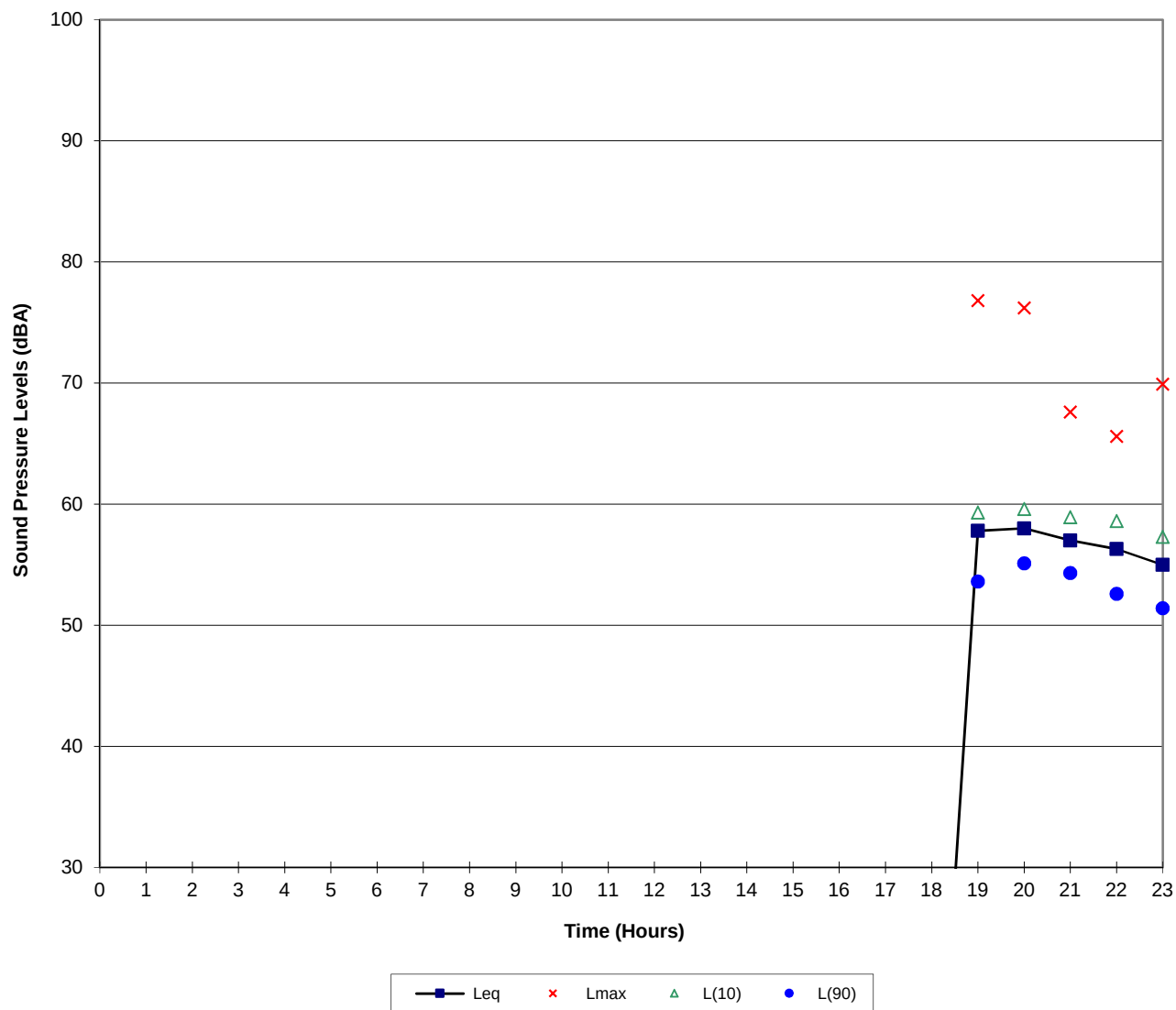
Length scale 1:543



McCLURE ENGINEERING

Mr. Eric Abeln
March 16, 2017
Page 7 of 7

Appendix B
24 Hour Data Plots



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

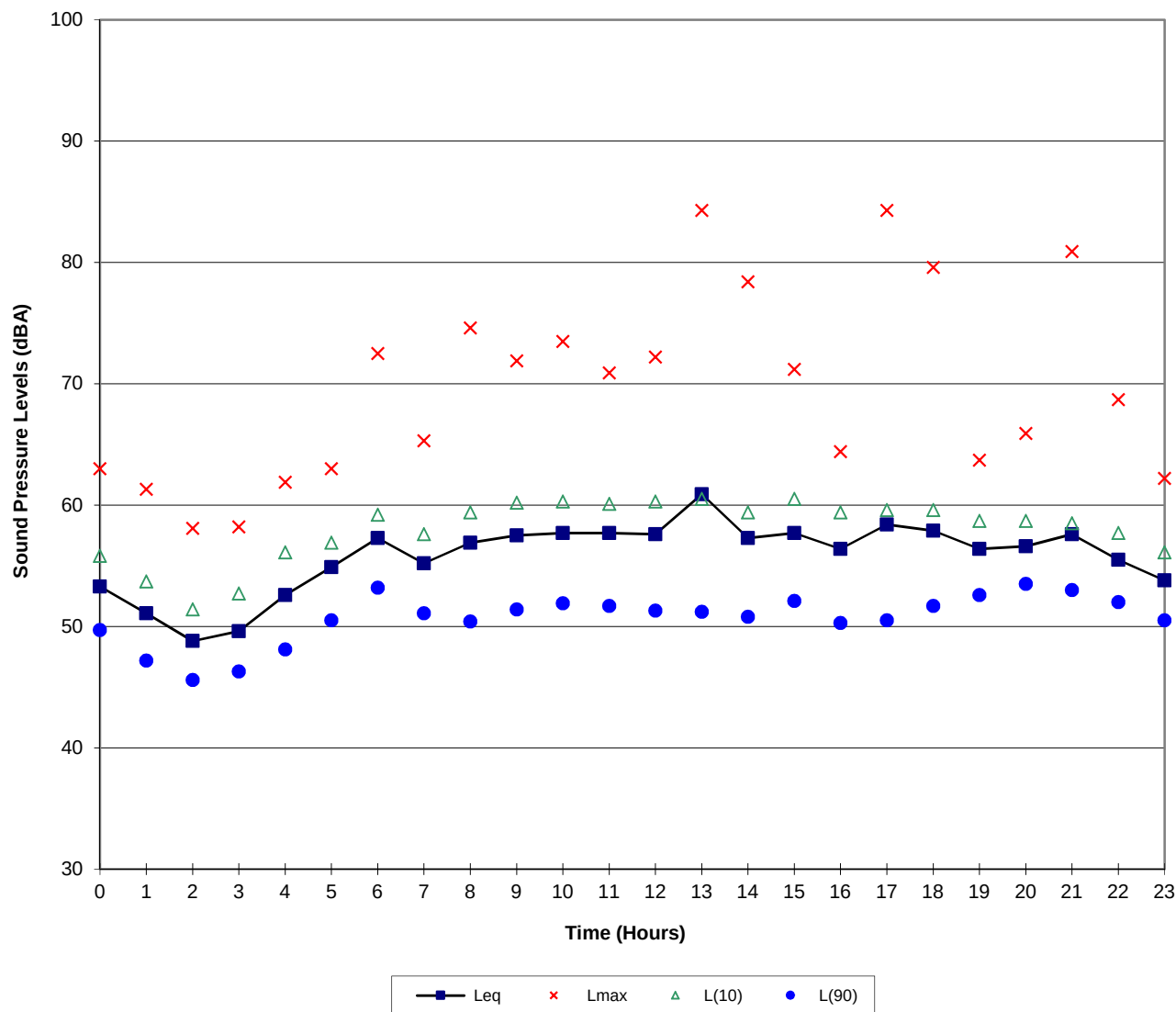
Loc 1

L/D 720 -

Friday September 23, 2016

Leq(n) 49.2 dBA
Leq(d) 50.6 dBA
Ldn(24) 55.8 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

Loc 1

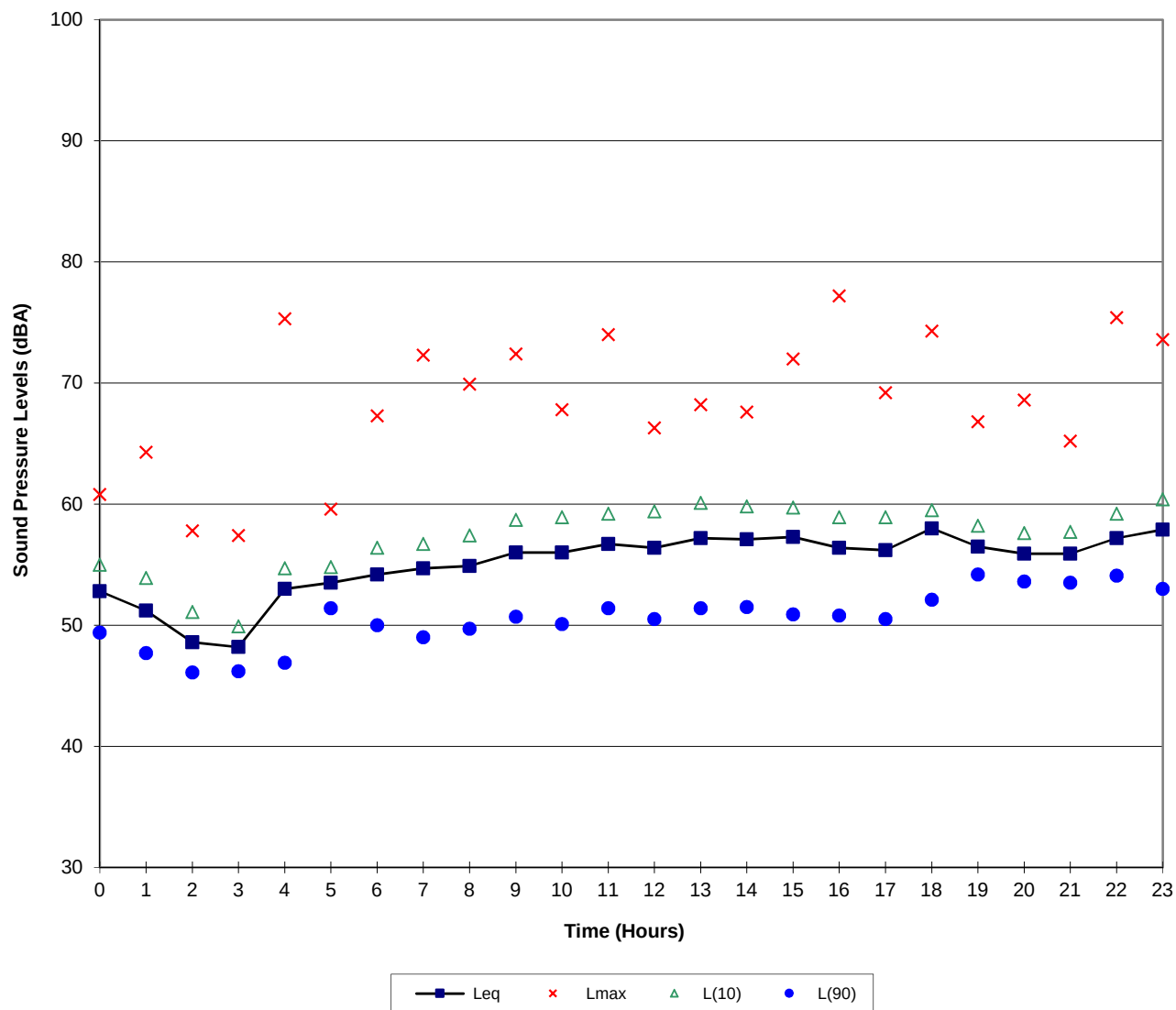
L/D 720 -

Saturday September 24, 2016

Leq(n) 53.7 dBA
Leq(d) 57.6 dBA
Ldn(24) 61.0 dBA

Rain and Thunderstorm

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

Loc 1

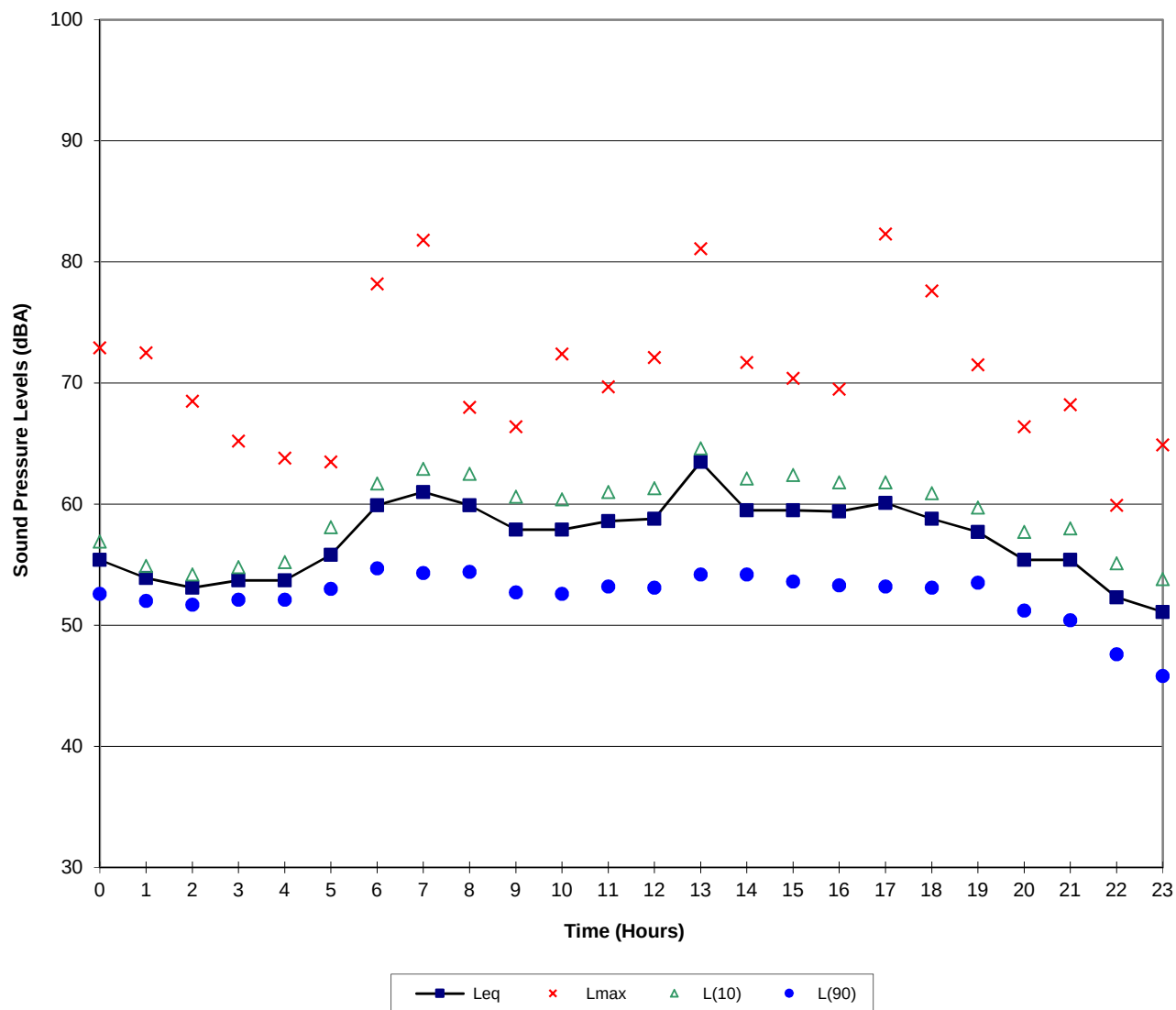
L/D 720 -

Sunday September 25, 2016

Leq(n) 54.1 dBA
Leq(d) 56.4 dBA
Ldn(24) 60.9 dBA

Rain and Thunderstorm

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

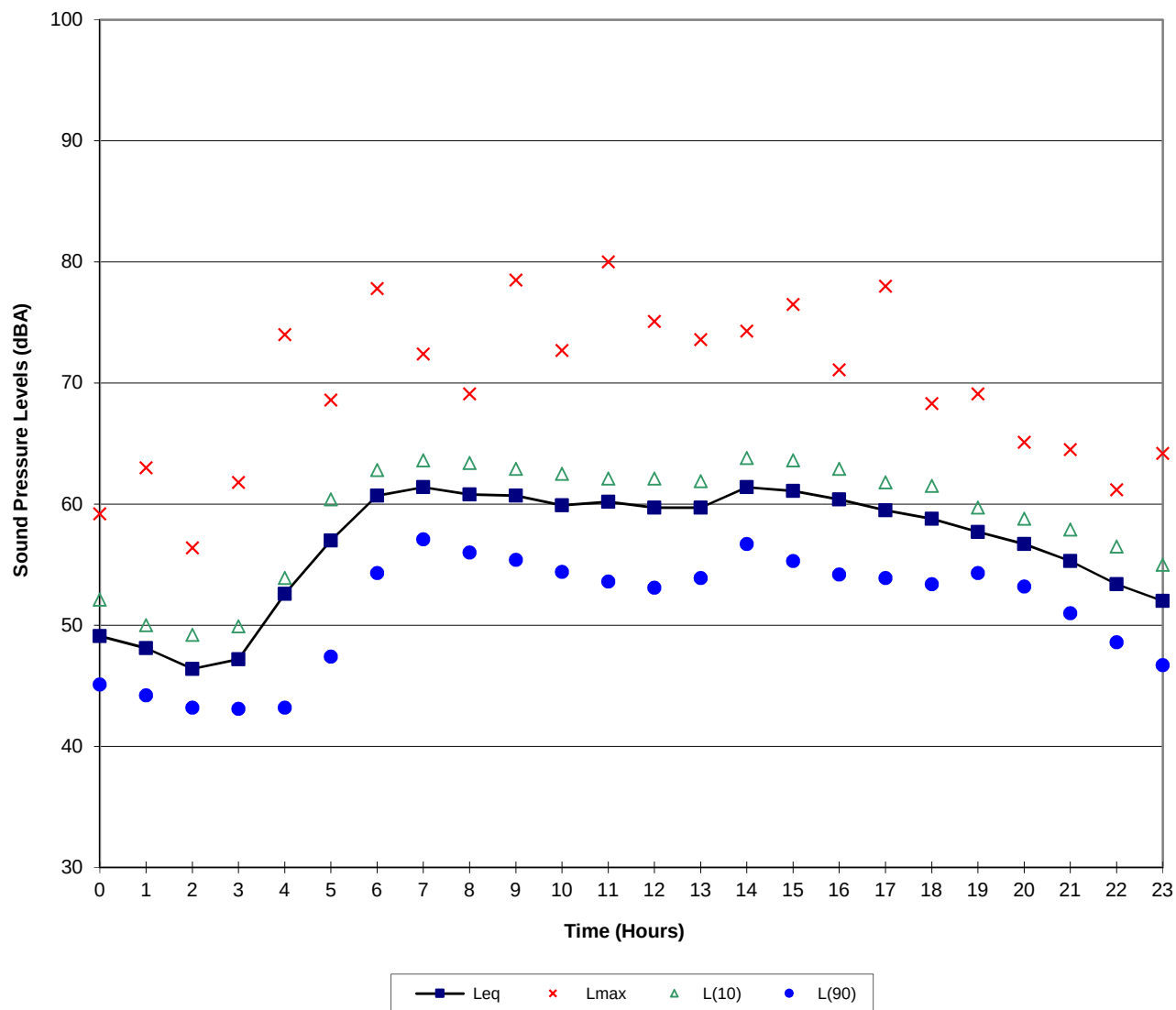
Loc 1

L/D 720 -

Monday September 26, 2016

Leq(n) 55.1 dBA
Leq(d) 59.3 dBA
Ldn(24) 62.4 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

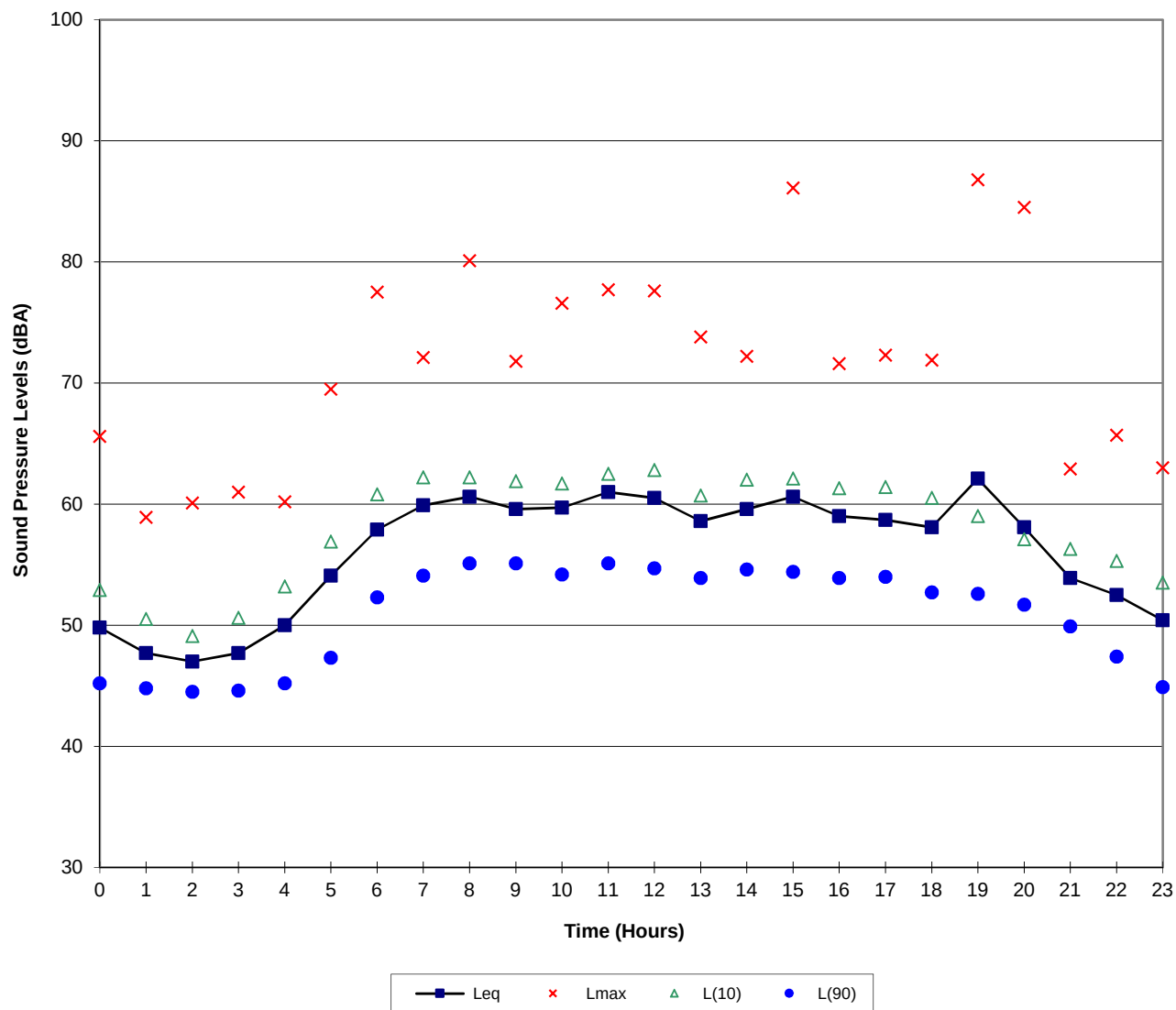
Loc 1

L/D 720 -

Tuesday September 27, 2016

Leq(n)	54.4 dBA
Leq(d)	59.8 dBA
Ldn(24)	62.1 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

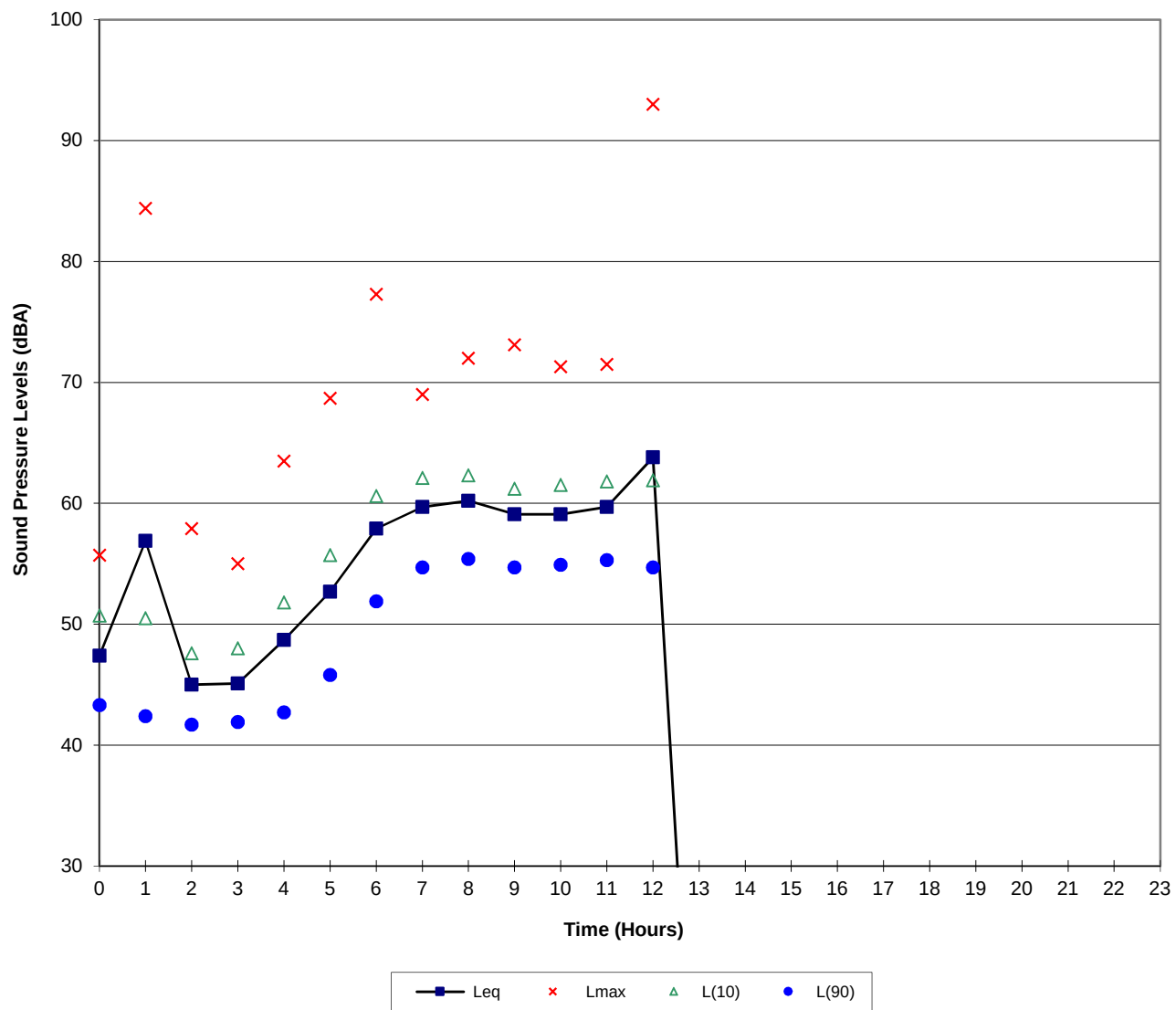
Loc 1

L/D 720 -

Wednesday September 28, 2016

Leq(n) 52.3 dBA
Leq(d) 59.6 dBA
Ldn(24) 60.8 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

Loc 1

L/D 720 -

Thursday September 29, 2016

Leq(n) 52.2 dBA
Leq(d) 56.7 dBA
Ldn(24) 59.6 dBA

McClure/EDI Acoustics
St. Louis, Missouri



P
A
N
D
A



10453 Olive Blvd
Creve Coeur, MO 63141
S8-17-D4999



2016 Panda Cares



**SPIRIT
OF
GIVING**

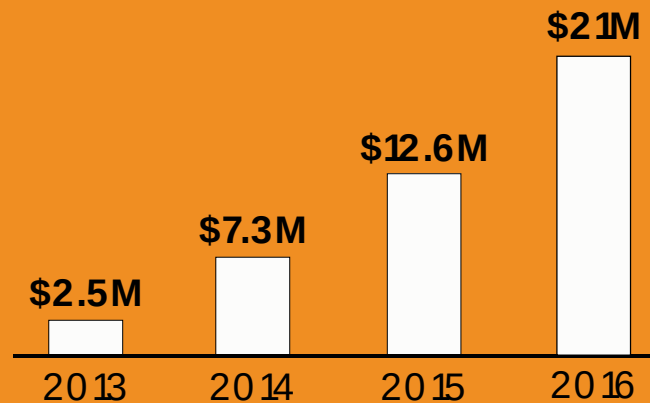


350 events nationwide
Served **109,251** Children
2,588 Panda Volunteers
10,352 Volunteer Hours



**Donation Box
\$21 Million**

123 Children's Hospitals
720 Leader In Me Schools





2016 Panda Cares



PAAF (Panda Associate Assistance Fund)
& LEAVE SHARE
 \$111,632 Donated
 To Aid 628 Associates



18th ANNUAL CHARITY
 GOLF INVITATIONAL
\$2 Million Raised
 By 550 Business Partners



2016
 Public Counsel's
 Corporate
 Achievement
 Award



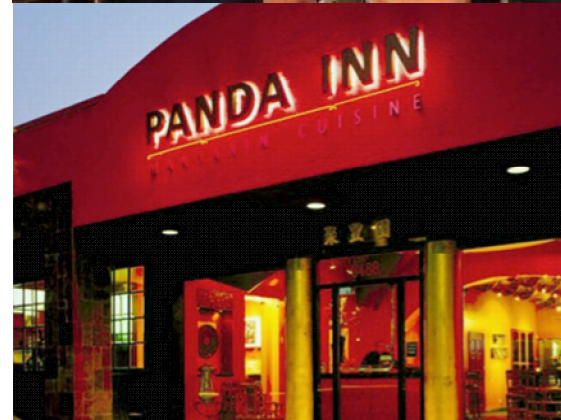
ASSOCIATES
 GIVING CAMPAIGN
88% PARTICIPATION
 RAISED **\$428,000**



IT'S WHO WE ARE
that makes us stand out

Panda Restaurant Group was founded in 1973 by the Cherng family with the opening of their full service restaurant, Panda Inn, in Pasadena, California.

- ◆ Family Owned & Operated
- ◆ Heritage Authenticity
- ◆ Deep Rooted Company Culture
- ◆ Flexible Business Model
- ◆ Strong Store and Territory Business Model
- ◆ Culinary Expertise
- ◆ Operational Excellence
- ◆ Community Service





FOOD & SERVICE

Fresh, Casual, Contemporary Chinese

- ◇ Complex savory flavors
- ◇ Consistent Quality
- ◇ High quality proteins
- ◇ Fresh-cut vegetables in house
- ◇ No added MSG
- ◇ Fast, satisfying, convenient

Dining in or take-out

- ◇ We have fewer transactions at our DT window than a typical fast food concept: 30% compared to 70%.
- ◇ Our ticket per guest is higher than fast food which is conducive to dine-in. Most to-go guests take home dinner instead of eat on-the-go.

Flexibility in Service

- ◇ In-restaurant dining
- ◇ Take-away meals
- ◇ Catering for groups
- ◇ Delivery
- ◇ Drive-Thru
- ◇ Online Ordering



CORE DISHES



**Orange
Chicken**



**Honey Walnut
Shrimp**



**Broccoli
Beef**



**Kung Pao
Chicken**



**Beijing
Beef**



**String Bean
Chicken**

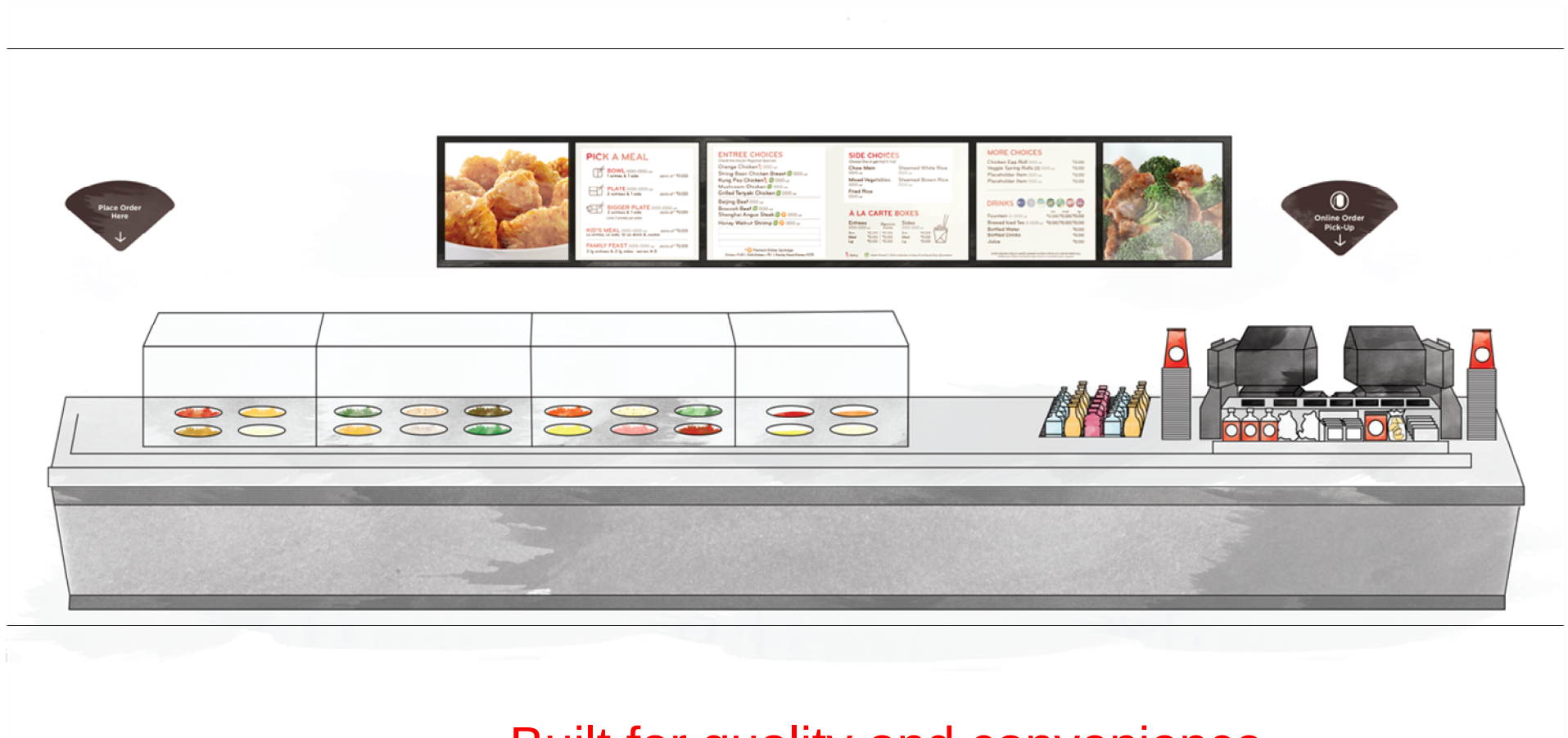


We specialize in delivering customized builds to suit, ensuring we meet the needs and design of the community.





A CUSTOMER EXPERIENCE



Built for quality and convenience

We cook to order, made fresh! Our core business is inside.

We present our freshly prepared food to the customer in a serving line. Drive-Thru is a convenience we offer for meals enjoyed at home or elsewhere, most guests choose to come in to see freshly prepared food, even if it is to-go.



Community Impact

Since 1999, Panda Cares brings hope to children in need...

1.3M
MEALS

Provided over
1.3 Million meals
to the Community



Support of over 720 Leader In Me® schools

555,567

Students enriched by
Leader In Me program

48,098

Teachers and Staff supporting
Leader In Me program

\$31.6

Millions of dollars donated in support of
Leader In Me program

Leader In Me

Curriculum integrates timeless leadership principles with practical character and life skills relevant to today's challenges. Panda's goal is to develop every child to become a leader in their field of interest.

300,000
HOURS

Provided over 300,000
Hours of associate
Volunteer time



Support of Children's Miracle Network®

\$21.9

Millions of dollars donated by Panda in
support of Children's Miracle Network

\$2.3

Millions of dollars donated by Panda Associates
in support of Children's Miracle Network

123

Number of Children's Hospitals
supported by funds raised by Panda

Children's Miracle Network

Advance the health and well-being of children and adolescents by integrating medical care, preventive services, medical education and research in an atmosphere of love, compassion and respect for people.

\$46.5
MILLION

Your change makes a difference.
Raised \$46.5 Million
through donation boxes

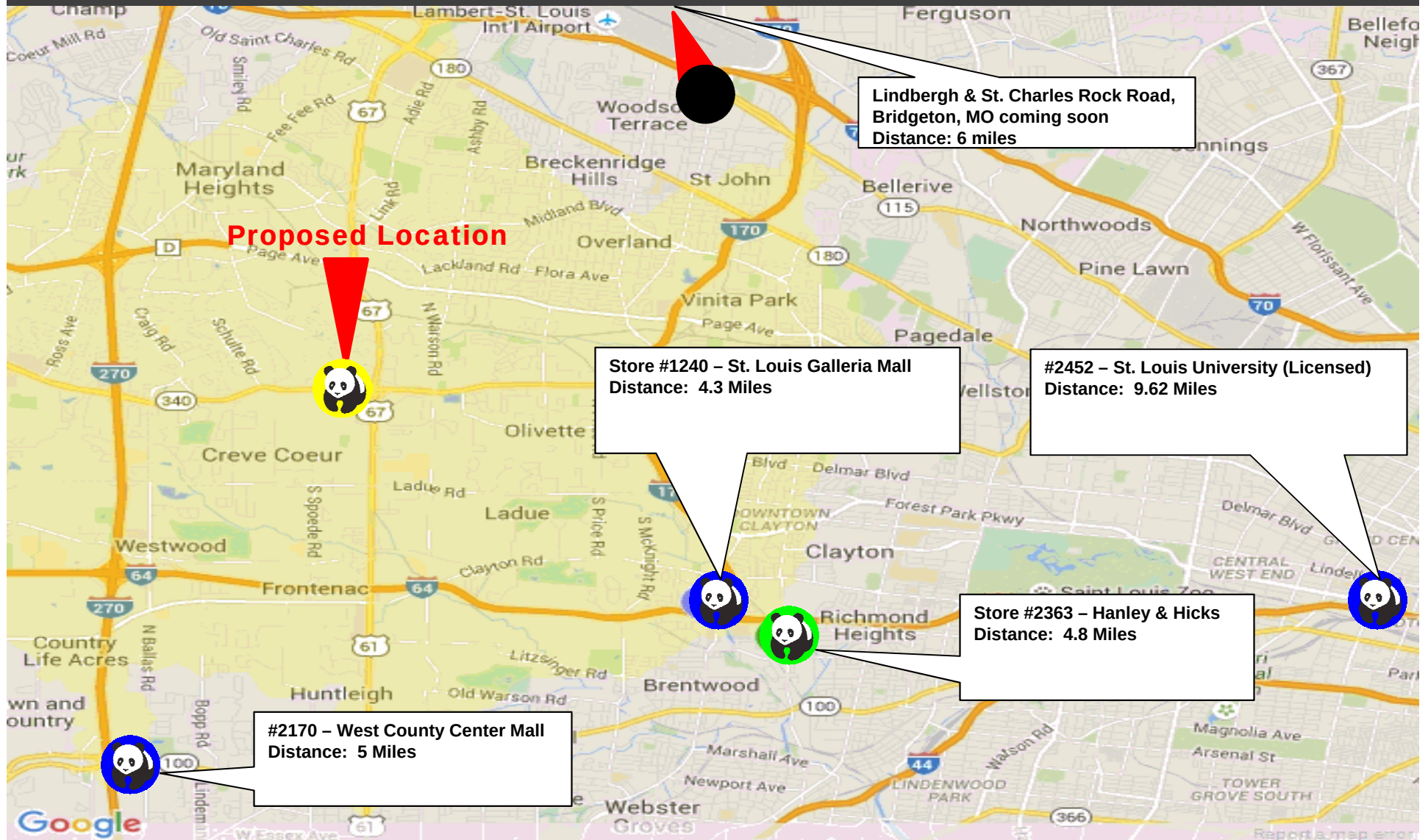


In the St. Louis community

In the St. Louis community Panda team participated in local children's miracles hospital fundraising event for a donation of 150k. We expect even more this year. The Panda team in your community also supports "leader's in me" program with local schools.



VICINITY MAP



MAP LEGEND



Existing Street



Existing Other



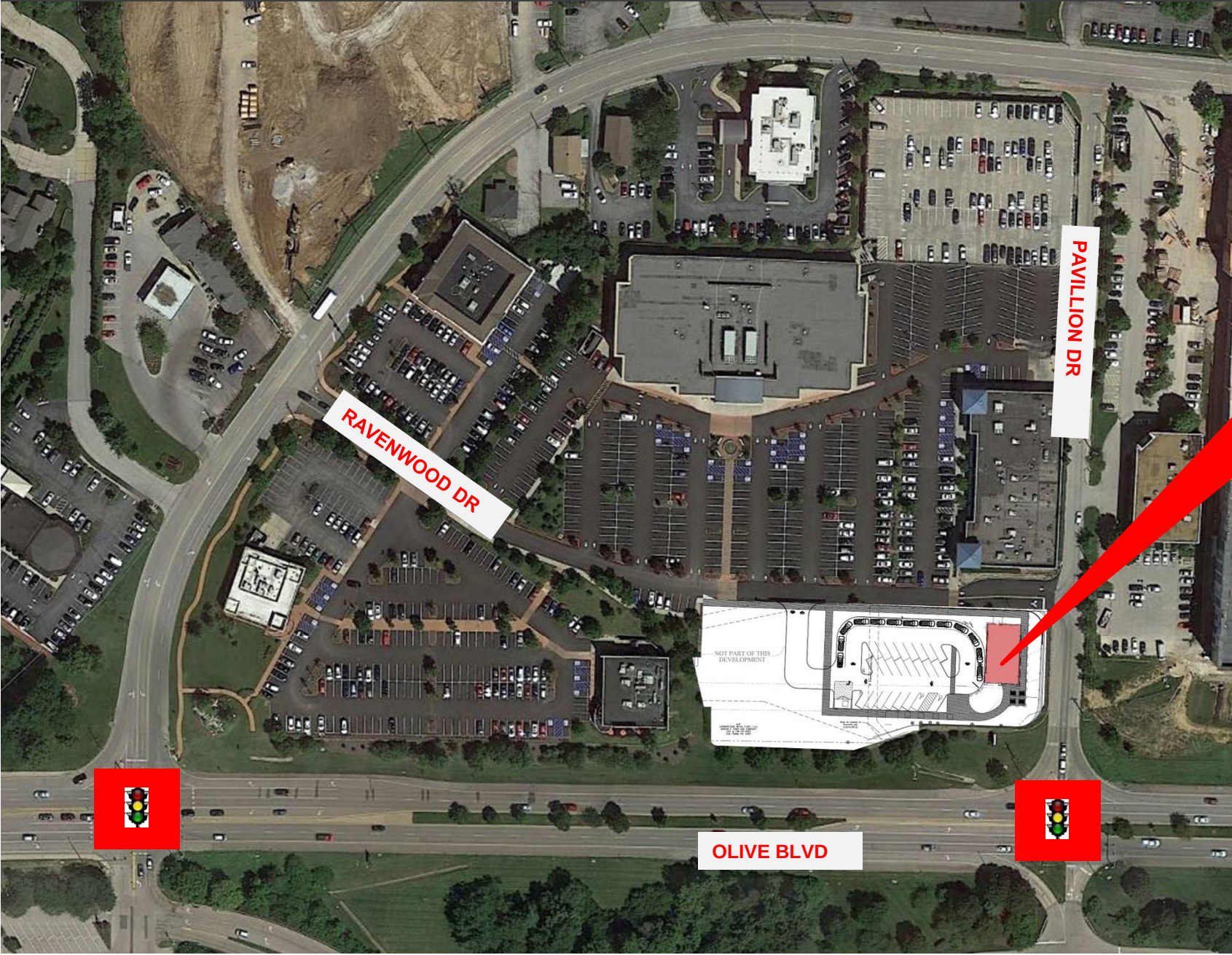
Coming Soon



Proposed



OVERALL SITE PLAN
S8-17-D4999



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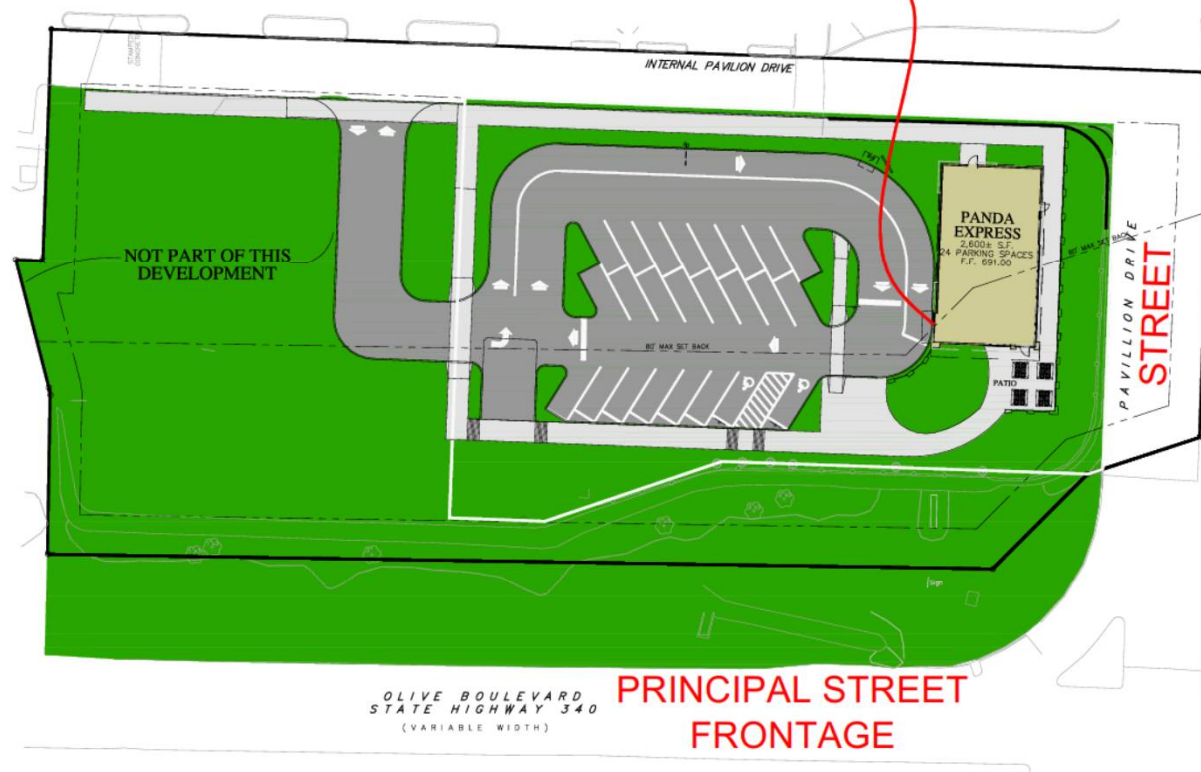


SITE PLAN

S8-17-D4999

ORDINANCE 5400
SECTION 405.470
14(d)

(2)
ORDER WINDOW

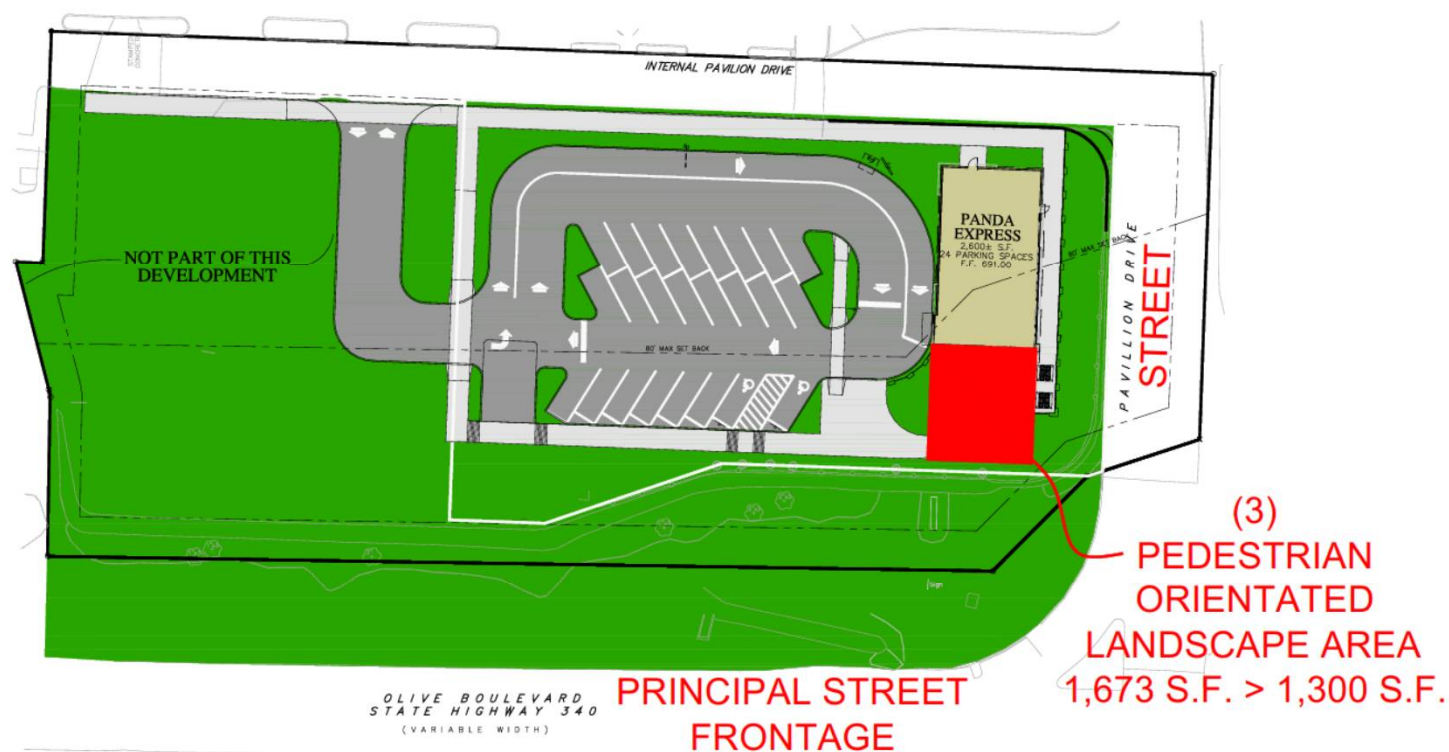




SITE PLAN

S8-17-D4999

ORDINANCE 5400
SECTION 405.470
14(d)





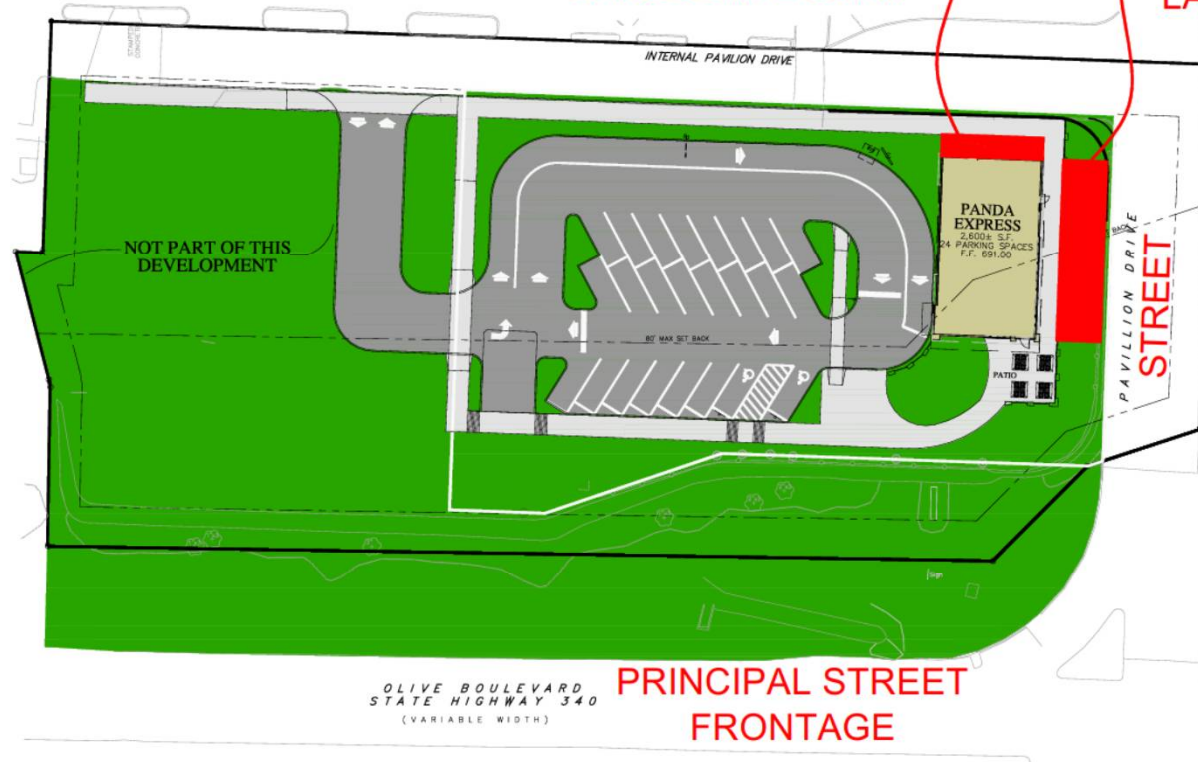
SITE PLAN

S8-17-D4999

ORDINANCE 5400
SECTION 405.470
14(d)

(4)
8' WIDE PLANTED
LANDSCAPE STRIP

(4)
16' WIDE PLANTED
LANDSCAPE STRIP

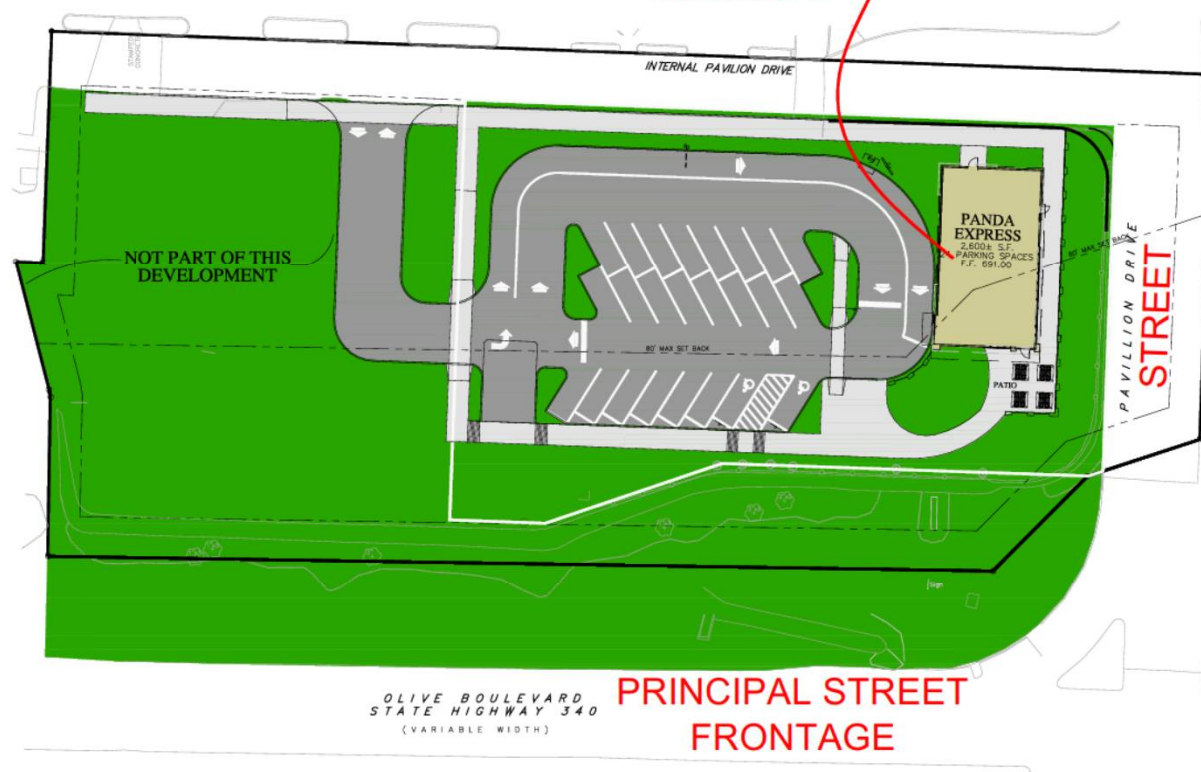




SITE PLAN
S8-17-D4999

ORDINANCE 5400
SECTION 405.470
14(d)

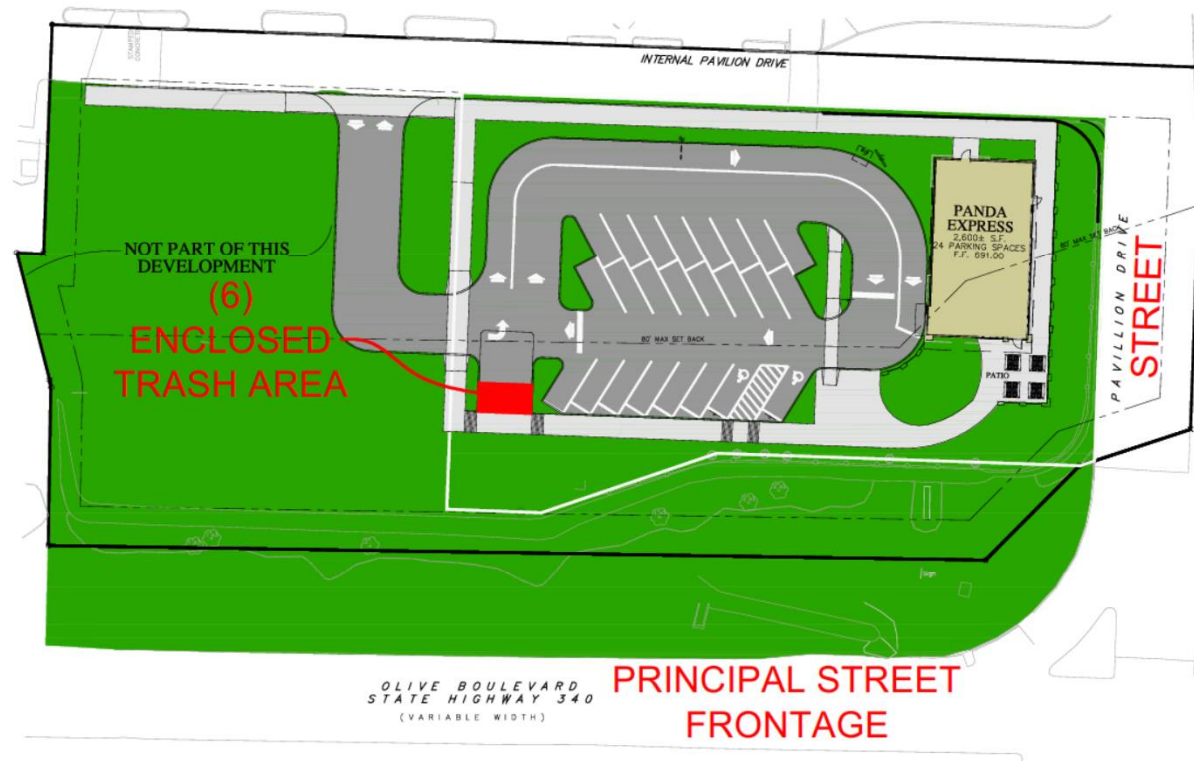
(5)
2,600 S.F.
80 SEATS





SITE PLAN S8-17-D4999

ORDINANCE 5400
SECTION 405.470
14(d)





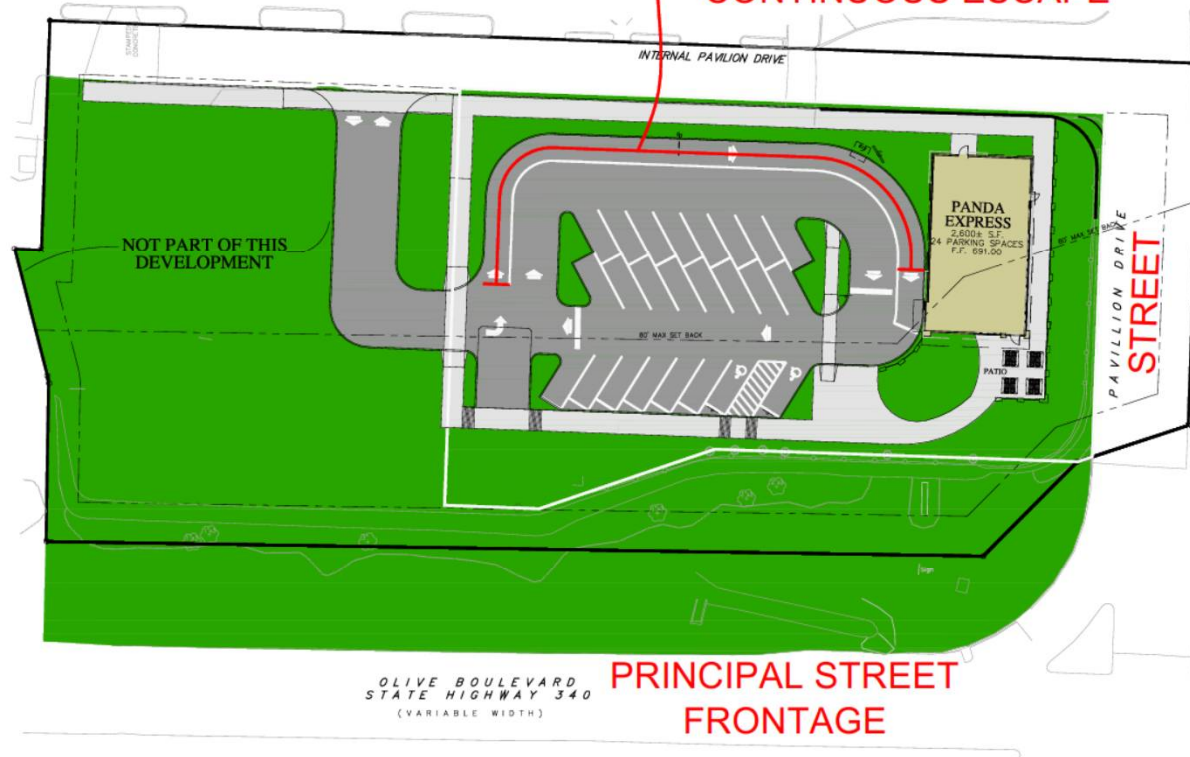
SITE PLAN S8-17-D4999

ORDINANCE 5400
SECTION 405.470

14(d)

(7)

9' WIDE x 227' > 190'
STACKING LANE WITH
CONTINUOUS ESCAPE



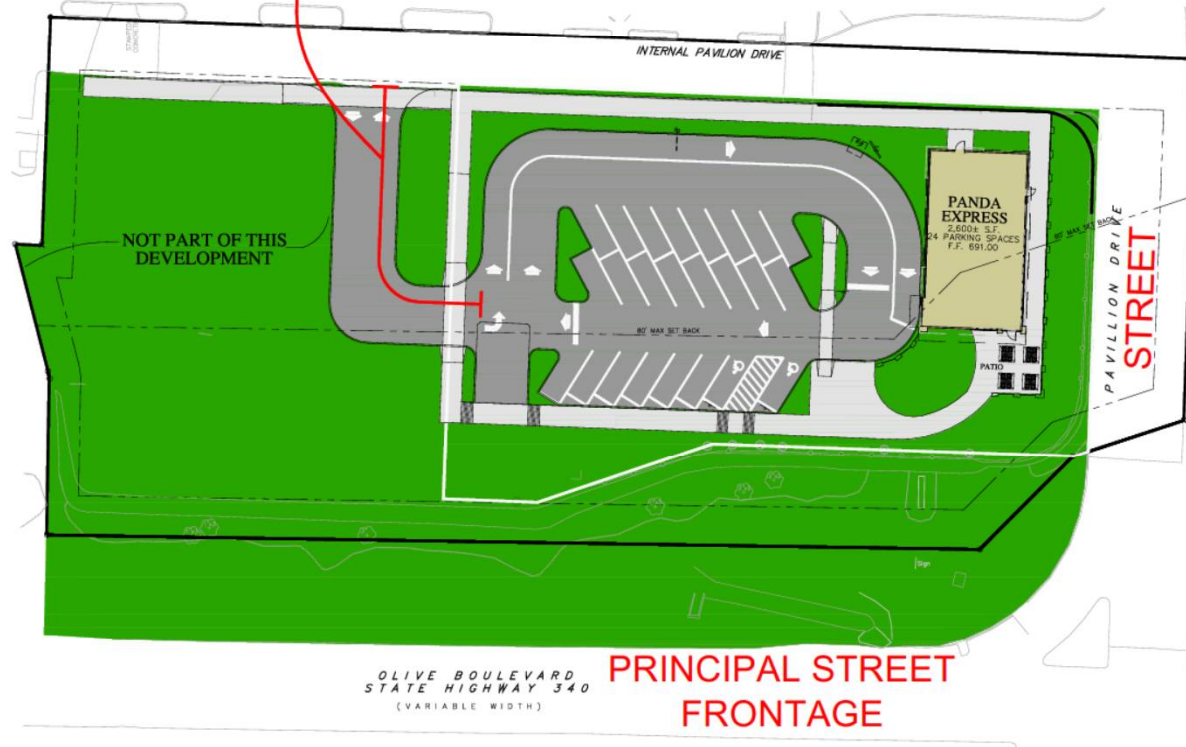


SITE PLAN

S8-17-D4999

(8)
114' > 50' STACKING
LANE TO NEAREST
VEHICLE ENTRANCE AT
PROPERTY LINE

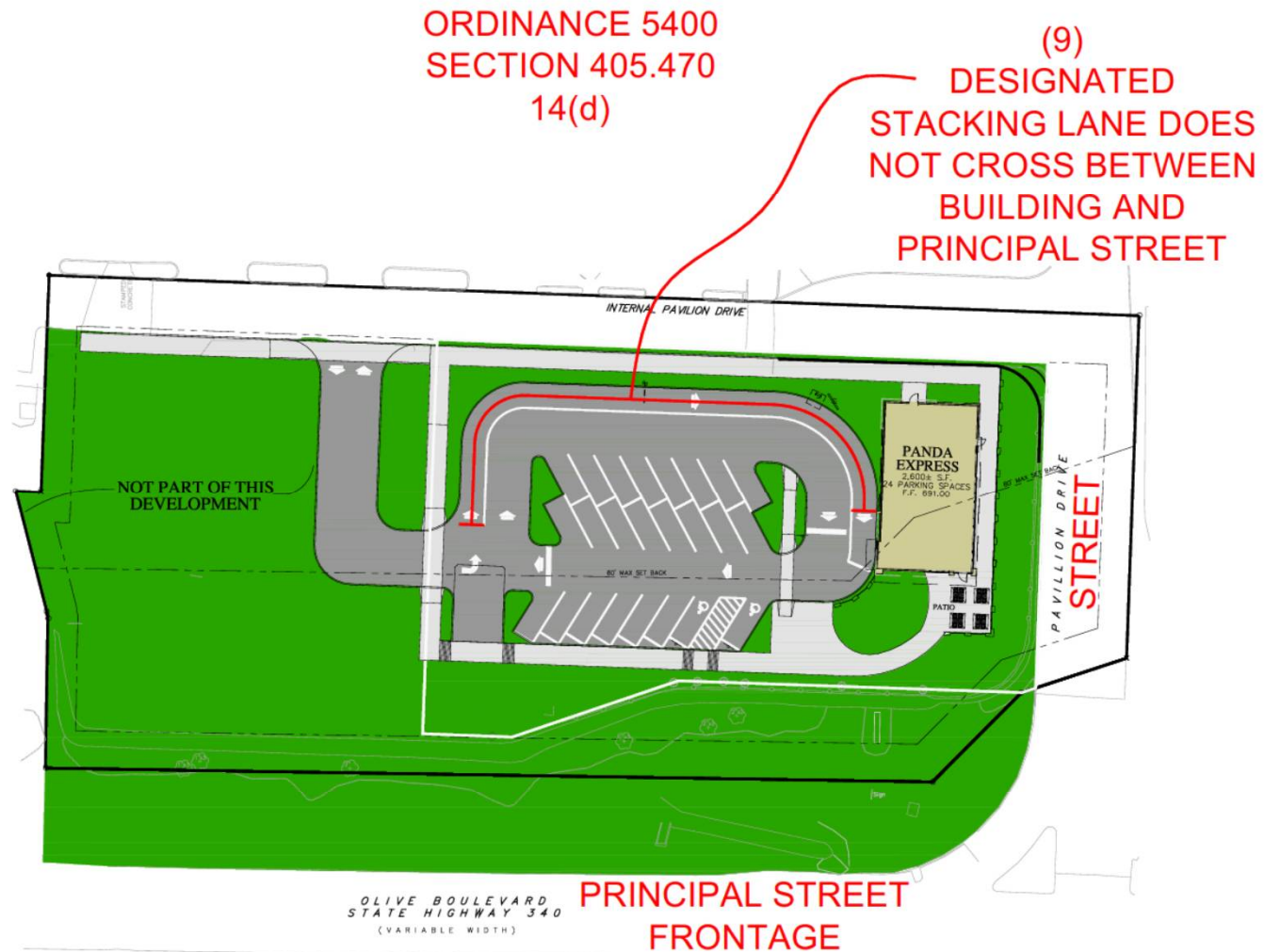
ORDINANCE 5400
SECTION 405.470
14(d)





SITE PLAN

S8-17-D4999





ORDINANCE 5400
SECTION 405.470
14(d)

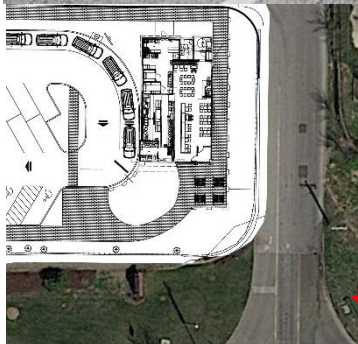
(10) TRAFFIC STUDY

(11) AUTOMATIC VOLUME CONTROL ON ORDER FACILITY

(12) ACOUSTICAL STUDY



WESTBOUND OLIVE
S8-17-D4999





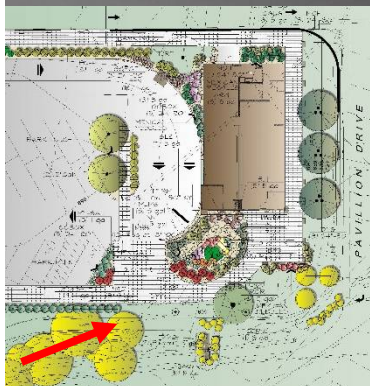
PEDESTRIAN EXPERIENCE
S8-17-D4999





PEDESTRIAN EXPERIENCE

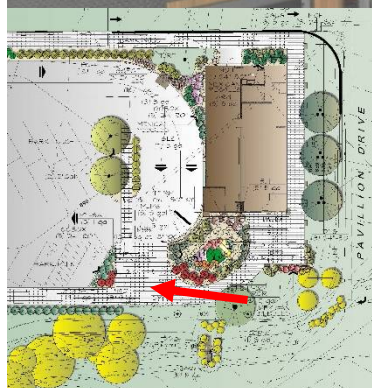
S8-17-D4999





PEDESTRIAN EXPERIENCE

S8-17-D4999





EXISTING CONDITIONS

S8-17-D4999



Existing Multi-Retail at North



Proposed Panda Express





MATERIAL PALETTE

S8-17-D4999



Paint:

EFIS: Wool Skien SW6148



Metal:

Awnings, mullions,
lighting: dark bronze



Fiber Cement RainScreen

Nichiha "Industrial Block"



Shopping Center Masonry:

Face Brick – Interstate "Mountain Red"
Stone – Arriscraft 8x24 Limestone



Porcelain Tile:

Pantheon mfg, Edge group
Tavern 760-701 color
6x40 tile





EXTERIOR DESIGN

S8-17-D4999

EXTERIOR FINISH SCHEDULE

NO.	MANUFACTURER	MPOR	COLOR	FINISH	NOTES
(WB)	BTO	3 PART STUCCO SYSTEM	SW 9148 WOOL DRAIN	FINE	BUILDING BODY
(WB)	NOBIA		INDUSTRIAL BLOCK 18" X 12"		BUILDING BODY
(BT)	INTERSTATE	3 1/4" NOIRMAN FACE BRICK	MOUNTAIN RED		BUILDING BODY
(CB)	PRINCECHEN CRYSTAL BANDS	82366-4782	EDGE 45 X 45	260-T01	BUILDING ACCENT TILE *
(BT)	GREENHECK		DARK BRONZE		ALUM. Awnings/CANOPY (PRE-FINISHED)
(BT)	ARRISCHWART		LIMESTONE		STONE CAP
(CB)	ARRISCHWART	BONA	LIMESTONE	SPLIT MODULAR	WAINSCOT
(BT)	BUNIBELLA		LOGO RED		PATIO UMBRELLAS

* NOTE: INSTALL ECT-1 WITH LATEX MOOPFED GROUT #7 CHOCOLATE COLOR, 1/8 JOINT SIZE, POLY BLEND, NON-SANDED BY MAPEI. CONTACT BUNIBELLA OR WWW.MAPEI.COM, GC NOTIFY PANDA/PMP ANY INSTALLATION ISSUES OR GROUT ISSUES.



SOUTHEAST CORNER 4

Scale= NTS A-200



NORTHEAST CORNER 3

Scale= NTS A-200



SOUTH ELEVATION 2

Scale= 1/4" = 1'-0" A-200



EAST ELEVATION 1

Scale= 1/4" = 1'-0" A-200



EXTERIOR DESIGN

S8-17-D4999

EXTERIOR FINISH SCHEDULE

NO.	MANUFACTURER	MTG	COLOR	FINISH	NOTES
(B-1)	STO	3-PART STUCCO SYSTEM	SW 6148 VISTA GREY	FINE	BUILDING BODY
(W-1)	WICOMA	-	WATERFALL BLOCK 16" X 12"	-	BUILDING BODY
(B-2)	INTERSTATE	2-1/4" MODULAR FACE BRICK	MOUNTAIN RED	-	BUILDING BODY
(C-1)	PAINTCHALK CRYSTAL LARKS 870-SH-WTS	-	EDGE (B & D)	780-P21	BUILDING ACCENT TILE *
(M-1)	GREENHECK	-	DARK BRONZE	-	ALUM. AWNING/CANOPY (PRE-FINISHED)
(S-1)	ARMORCRAFT	-	LIMESTONE	-	STONE CAP
(C-2)	ARMORCRAFT	IRON	LIMESTONE	-	SPILT MODULAR
(P-1)	SUNBRELLA	-	LOGO RED	-	AWNING/ PATIO UMBRELLAS

* NOTE: INSTALL ECT-1 WITH LATEX MODIFIED GROUT (Y, CHOCOLATE COLOR, 1/8 JOINT SIZE, POLY BLEND, NON-SANDED BY NAME). CONTACT B&B GROUPS OR WWW.MAPEI.COM. CC NOTIFY PANCA PM IF ANY INSTALLATION ISSUES OR GROUT ISSUES.



NORTHWEST CORNER 4
Scale: NTS A-201



NORTH ELEVATION 2
Scale: 1/4" = 1'-0" A-201



SOUTHWEST CORNER 3
Scale: NTS A-201



WEST ELEVATION 1
Scale: 1/4" = 1'-0" A-201



P
A
N
D
A

Thank-you.



10453 Olive Blvd
Creve Coeur, MO 63141
S8-17-D4999

ORANGE CHICKEN

Our signature dish. Crispy chicken wok-tossed in a sweet and spicy orange sauce.

30



city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
 (314) 432-6000 • Fax (314) 872-2539 • Relay MO 1-800-735-2966
www.creve-coeur.org

APPLICATION TO PLANNING AND ZONING COMMISSION
#16-030 FOR A CONDITIONAL USE PERMIT AND SITE DEVELOPMENT PLAN
FOR A PANDA EXPRESS RESTAURANT, WITH DRIVE-THRU SERVICE AT
10453 OLIVE BOULEVARD WITHIN
CREVE COEUR PAVILION SHOPPING CENTER

FOR THE MEETING OF: Monday, November 21, 2016

LOCATION: 10453 Olive Boulevard, within the Creve Coeur Pavilion Shopping Center at the northwest corner of Olive Boulevard and Pavilion Drive.

REQUEST: Eric Abeln, Architect for Heights Venture, has submitted an application for a new Panda Express drive-thru restaurant located on the 10453 Olive Boulevard lot within the Creve Coeur Pavilion Shopping Center on the site near the former Macaroni Grill Restaurant. The subject property is zoned CB, Core Business District. All Limited-Service Restaurants (NAICS 722513), with Drive-thru Services (NAICS 722) are permitted as a conditional use with review and approval by the City Council upon the recommendation of the Planning and Zoning Commission.

ADDITIONAL INFORMATION: On November 10, 2014, City Council authorized the text amendment to amend the ordinance governing drive-thru restaurants in the City. For larger commercial areas, not directly abutting a residential use, one free standing drive-thru restaurant is allowed on combined development sites over three acres, with certain conditions. The Creve Coeur Pavilion Center is 13.34 acres. It was originally developed in phases in 1999-2001, with pre-existing non-conforming site coverage of 76%. The proposed drive-thru restaurant would be located on a 1.88 acre lot within the center and the development would lower the overall site coverage to 73%. Staff has not prepared a draft Ordinance at this time, as this is the first proposal for a free-standing drive-thru restaurant under the new ordinance, and there are a few discussion items.

Key Issues:

- Integration with the surrounding uses.
- Implementation of the goals of the Comprehensive Plan.
- Consistency with the required findings for a conditional use permit.

Comp. Plan References

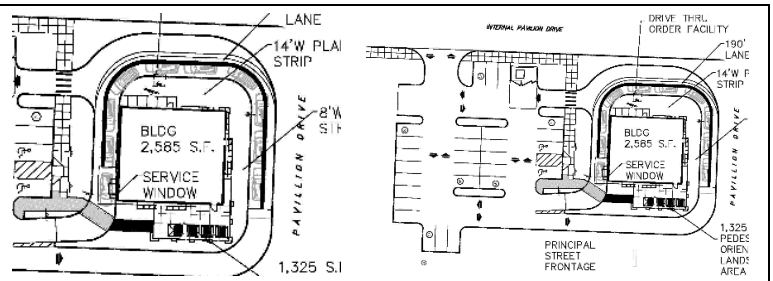
- Community Health and Connectivity
- Design Guidelines
- Pedestrian Plan

Zoning Code References

- Section 405.210: Regulation of Uses
- Section 405.370: CB-Core Business District
- Section 405.470 Conditional Uses
- Section 405.820 Required Off-Street Parking Spaces

APPLICANTS: Eric J. Abeln, AIA, NCARB
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PROPERTY OWNER: Creve Coeur Pavilion Shopping Center
 Altus Properties, LLC
 1010 Des Peres Road, Suite 320
 St. Louis, MO 63131



REPORT PREPARED BY: Whitney Kelly, AICP, City Planner

DATE: 11/16/2016

ATTACHMENTS: Applicant's Materials received November 10, 2016

Lighting Plan submitted October 17, 2016

Sound Study submitted October 17, 2016

Revised Traffic Impact Study from CBB submitted November 16, 2016,

MoDOT's letter of concurrence

City's Traffic Engineer Review Memo

PROPOSAL

The applicants are seeking approval of a 2,585 square foot restaurant with 58 indoor seats and 16 outdoor seats, at the northwest corner of Olive Boulevard and Pavilion Drive above the existing retaining wall. Just east of the proposed building on the lot is an underground stormwater detention basin, and the vacant area that was once the Macaroni Grill Restaurant. The proposal includes the same brick material as the brick found throughout the center, along with the Nichiha "Cedar" fiber cement boards, black metal coping, and fence detail, and limestone water table at the bottom of the structure. The order board would be located at the rear of the building and pick-up window along the west elevation. The proposed drive-thru lane extends around the building, however, the minimum distance of 190 feet as required by the Zoning Ordinance ends before crossing in front of the structure.

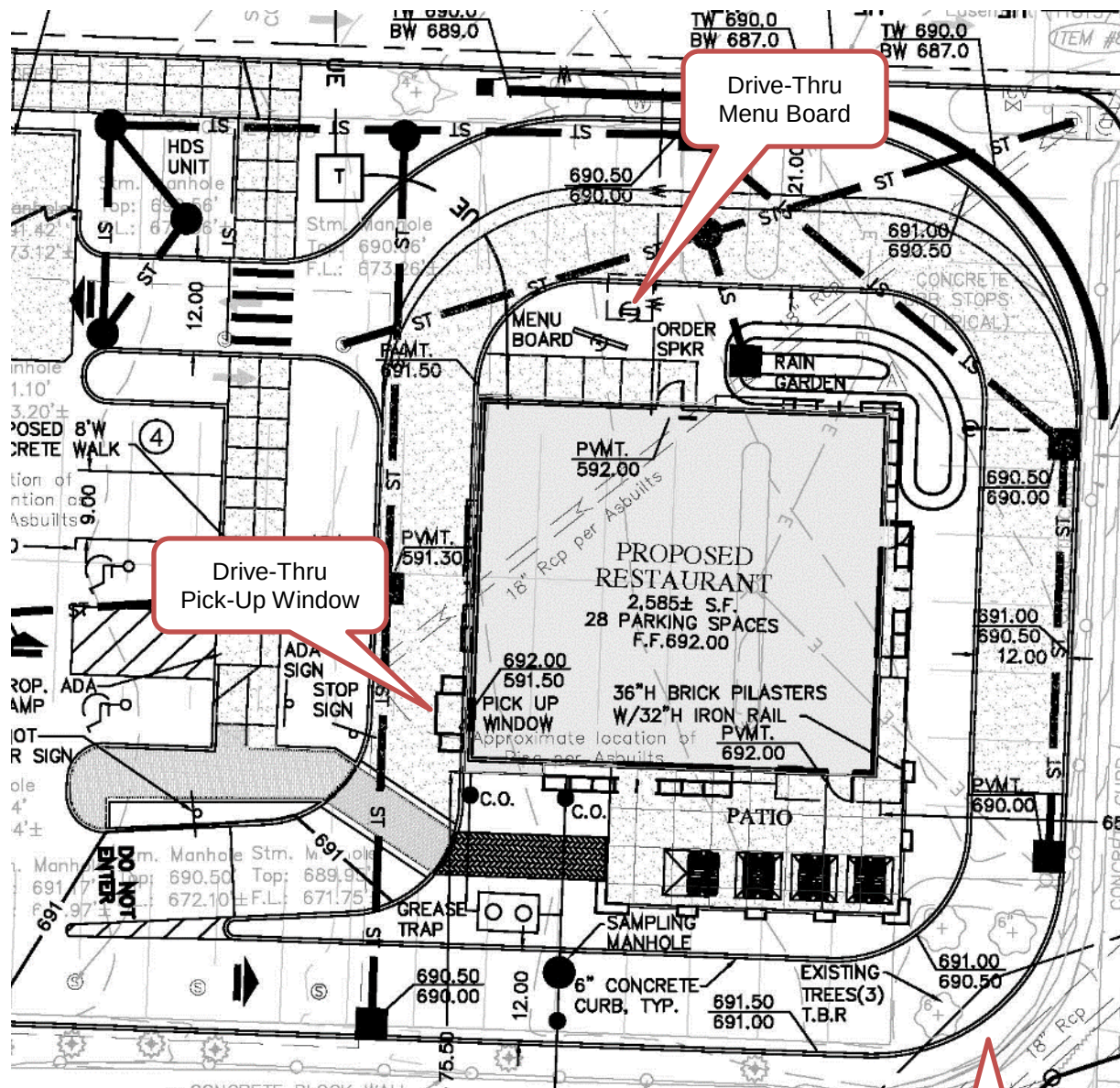


Figure 1: Close-up of the site development plan

Designated
Stacking Lane



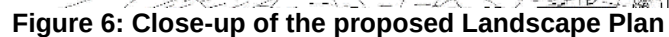
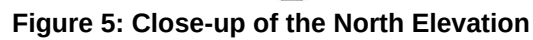
Figure 2: Close-up of the West Elevation



Figure 3: Close-up of the South Elevation.



Figure 4: Close-up of the East Elevation



The adjacent zoning and land uses are as follows:

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COMPREHENSIVE PLAN REVIEW

Background

In the 2011 discussion of a proposed text amendment regarding the regulations for drive-thru restaurants, it was pointed out that the Comprehensive Plan outlines several goals and strategies regarding community health and connectivity to the surrounding neighborhoods by: providing pedestrian amenities; creating a “green-line” park along Olive Boulevard; and improving community image and identity by maintaining the compatibility of existing commercial development areas with the surrounding single-family neighborhoods through quality of development that creates a “sense of place” and maintains the City’s strong low-density residential image and character. Drive-thru restaurants were noted to be in direct opposition to the promotion of pedestrian activity and are inconsistent with the surrounding neighborhoods. The need to include a looping traffic lane for a drive-thru causes auto-oriented developments to functionally divide themselves from neighborhoods and surrounding commercial developments. Further, the high level of moving vehicles on the site poses conflicts with pedestrian activity along the commercial corridors, and within the site. The regulations were again reviewed in 2013 and 2014, in an effort to address the conflict of the type of development, with the need for convenience of the drive-thru restaurant. In 2014, the City adopted new regulations with the intent to offset the typical drive-thru layout, by providing as much pedestrian activity as possible, hiding the drive-thru services, and stacking lane within to a more internal area, behind the building as much as feasibly possible.

Proposal’s Compatibility with the Comprehensive Plan

The subject property is located within the Commerce Center Action Area that calls for retail shops, restaurants, and personal service businesses, particularly those providing services to the business and workers in the area, especially in a small scale, pedestrian friendly environment that is intended to serve the growing life science and biotechnology industry in the area, where the proposed use is infilling a vacant lot within an existing shopping center.

The Applicant has located the building to within 80 feet of the front setback along Olive Boulevard, and as close to Pavilion Drive as possible to allow for the stacking lane of the use, and has included pedestrian outdoor dining in front of the building, in keeping with the recommendation of the current Comprehensive Plan. However, the drive aisle in front of the patio seating could be in opposition to Plan recommendations. The applicants contend that the proposed site features including a landscaped buffer and fencing provide sufficient screening of the vehicles and therefore, achieve consistency with the intent of the current Comprehensive Plan. Whether or not the project is in general conformance with the Comprehensive Plan and fulfills the intent of the City’s Zoning Regulations is the up to the Commission and City Council.

DESIGN GUIDELINES

Site Layout -Pedestrian and Vehicular Circulation

The City’s Design Guidelines make recommendations regarding the site plan and use of drive-through elements, including being sensitive to the existing site features, and providing for a high quality, pedestrian-scale and walkable area, and at intersections, crosswalks, and main building entries, a change in sidewalk color, texture, or material should emphasize the location, be a minimum of 10 feet in front of retail businesses that include pedestrian amenities, and the “Use” Section for Restaurants recommends that outdoor seating areas, play equipment and perimeter fencing should be compatible and of an attractive design that is integrated with the main buildings architecture (p.11). The Design Guidelines, Pedestrian and Vehicular Circulation Section (Page 6), recommends that circulation patterns should be safe, clearly defined and

directed, and that circulation systems should be designed to avoid conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian circulation should take precedence over vehicular circulation, and provide for direct access from the street and from parking areas to the principal structure. In order to emphasize conflict points and improve pedestrian safety and visibility, the use of textured or tinted materials for pedestrian crossings should be utilized where pedestrian circulation paths cross a vehicular route. Further, the sidewalk throughout the Shopping Center is eight feet wide to meet with the Zoning Regulations below, but in the area indicated it is showing a six foot wide sidewalk to the outdoor dining area. Staff recommends that the pedestrian connection should be consistent throughout the entire development.

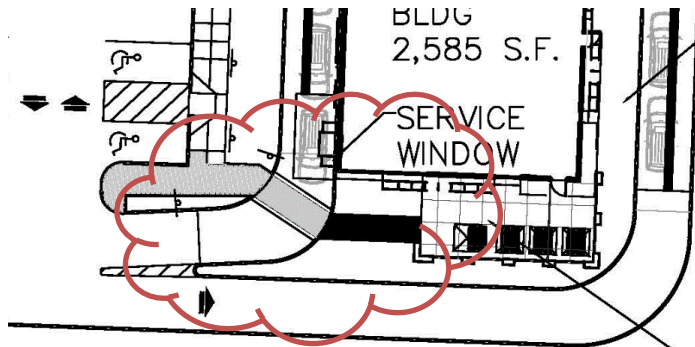


Figure 7: Close-up of the Zoning Compliance Exhibit Drawing with the potential conflict question before the Commission with the potential conflict area in red.

Staff has expressed a concern to the applicant regarding the conflict created between the vehicles exiting from the pick-up window, vehicles going through the drive-thru lane, and pedestrians entering the restaurant, indicated in red on the left. The City's Consulting Traffic Engineer reviewed this area in particular and provided recommendations in order to mitigate this conflict that include the crosswalk be constructed with brick pavers or stamped and/or colored concrete to accentuate this pedestrian conflict area or

provide a "Stop Bar" pavement marking. The applicants have agreed to utilize a raised hump for the pedestrian cross-walk, as well as signage, to reinforce the slow progression of vehicular traffic, and the red concrete, patterned pavement that is consistent with the rest of the Center will be utilized, in furtherance of the Design Guidelines. The Commission should discuss whether these are sufficient to meet with the intent of the Comprehensive Plan and Design Guidelines.

Generally speaking, comfortable and pleasing outdoor dining spaces that promote pedestrian connections are further away from passing vehicles. At existing shopping center developments, the only location for outdoor dining activities is often along drive aisles. During the prior discussions on the text amendment, it was the intent to separate the outdoor, pedestrian elements as far away from the drive-thru elements as possible. The applicants have provided for sufficient landscaping as required by the Zoning Regulations, and the outdoor dining areas are buffered by a low fence, with brick columns, and landscaping, per the image below:

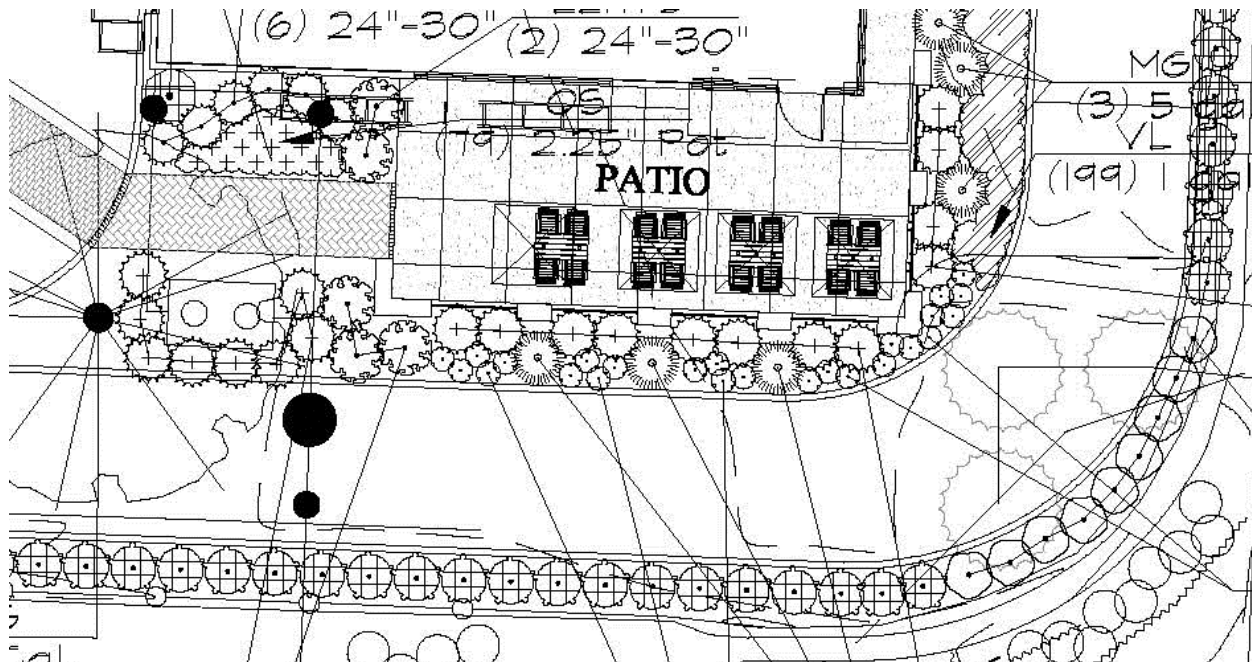


Figure 8: Close-up of the Applicant's Landscape Plan surrounding the outdoor dining area and drive-thru service lane.

Staff requested that the elements of the proposal be discussed with the Applicant during the meeting to determine whether the conflicts have been mitigated appropriately, and the intent of the ordinance has been met.

Building Design

The City's Design Guidelines recommend the use of natural "green" building materials, with preferred building materials including stone, brick, aluminum and glass, and that materials selected should require minimum maintenance and EIFS [Staff notes that stucco is often used as another term as EIFS, and therefore considers it in the same manner] should be used as a way to accentuate an architectural element and should be limited to areas not subject to damage or abuse. Architectural consistency of colors and materials are to be provided between all elevations, while each elevation should not look alike, an overall architectural continuity is strongly encouraged, and inconsistent adornment and frequent changes in material should be avoided (p. 9-10). The primary building entrance should be clearly defined and to provide a sense of entry it should be oriented to the street and provide protection from the elements, such as recesses, roof overhangs, projecting canopies or other similar features. Varied and interesting building facades are key to creating a "pedestrian oriented" place. Rear and side facades should be designed with similar architectural detailing and material to be compatible with the principal facades of the building. Solid, blank wall and other "dead" or dull spaces at the street level should be avoided. Visually interesting building facades and activities should be maintained and or/or established to engage pedestrian interest (p. 5). Specific for restaurants, franchise or corporate style architecture is strongly discouraged. Freestanding restaurant buildings within a shopping center should be designed to be consistent with the "theme" or design of the center (p.11). Chapter 3 of the Design Guidelines provides specific recommendations regarding certain uses. Drive-thru elements are to be architecturally integrated into the building rather than appearing to be applied or "stuck-on to the building, and are not to be located on the primary street frontage.

The Applicant has included the use of materials to be consistent with the rest of the Shopping Center while creating a unique identity for this use. However, Staff has a concern regarding the

use of EIFS/Stucco in place of windows, and the rear elevation that is inconsistent with the other elevations. Further the west elevation, that will be the most visible for pedestrians within the center and entering into the building, generally lacks interest, where the materials have been offset to some degree to break up the blank space, and where the brick focal element along the main entrance could provide for greater offset sufficient enough to create a shadow line, and/or provide other pedestrian elements to create additional interest. The members of the Commission should discuss these design elements with the applicant.



Figure 9: Southwest Corner Elevation



Figure 10: Northeast Corner Elevation

Landscape Design

The Design Guidelines encourage high quality landscape designs that minimize the appearance of the parking lot, accentuate the building and site, and aide vehicular and pedestrian circulation. Landscaping should provide for consistency in design thought a development, while also allowing for distinction of site elements and the relationship to the building. Overall the Landscape Plan is consistent with the Design Guidelines, and the Applicant's limited use of a corporate element of Mexican Pebbles as a ground cover, as well as the use of plant material is consistent with the rest of the Shopping Center. Staff has requested an updated Landscape Plan for the entire Creve Coeur Pavilion Center; however the landscape plan has not been provided.

The landscaping along Olive Boulevard is a pre-existing condition, and therefore not reviewed under this proposal.

ZONING REVIEW

All food services and drinking places with drive-thru facilities are permitted with conditions in all commercial zoning districts within the city. The proposed site is within the Creve Coeur Pavilion Center Development, where a portion of the development is zoned GC-General Commercial and CB-Core Business District, with the proposed restaurant located within the CB-District portion. The maximum site coverage for properties in the CB District is 63%, or 70% in consideration of outstanding public features or amenities. Creve Coeur Pavilion has pre-existing non-conforming site coverage of 76%. The proposal will decrease the overall site coverage from 76% to 73%.

Section 405.360(E)(4) *Yard and setback requirements provides for a maximum setback of 15 feet for 50% of the building along any street right-of-way other than Olive Boulevard. And a maximum setback of 80 feet for 50% of the building for any parcel fronting Olive Boulevard, per the regulations below:*

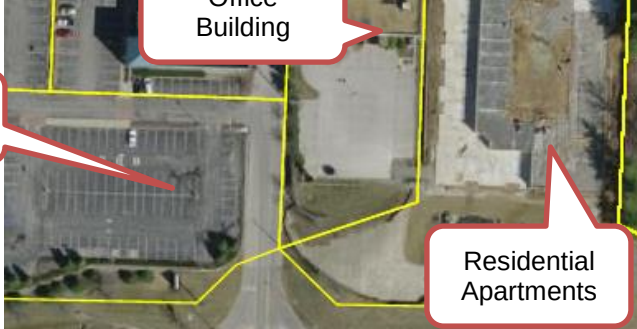
4. *Yard and setback requirements.*

- a. (1) *Maximum front yard. A minimum of fifty percent (50%) of the building elevation parallel to the street right-of-way shall be located a maximum of fifteen (15) feet from the right-of-way established by the adopted site development plan for the "CB" Core Business District. In the event that the planned right-of-way is greater than the present right-of-way, the required setback shall be measured from a line located a distance equal to one-half (½) the width of the planned right-of-way from the centerline of the present right-of-way. The provisions of Section 405.240 shall prevail where applicable on major streets or highways. In every instance, the first ten (10) feet of the front yard setback from the right-of-way, excluding the building placement, shall be provided with and maintained with sidewalks, unless improved sidewalks exist in the abutting public right-of-way, and with landscaping including, but not limited to, deciduous street trees at regular intervals.*
- (2) *Maximum front yard for parcels fronting Olive Boulevard. A building or structure shall be located a maximum of eighty (80) feet from established right-of-way. The provisions of Section 405.240 shall prevail if they are stricter than the requirements of this district. In every instance, the first ten (10) feet of the front yard setback from the right-of-way, excluding building placement, shall be provided with and maintained with sidewalks, unless improved sidewalks exist in the abutting public right-of-way, and with landscaping including, but not limited to, deciduous street trees at regular intervals.*

Frontage is defined as LOT FRONTAGE: The length of the property line of any lot along any street it borders (Section 405.120 Definition Of Terms). Distinction between public and private street is not provided. Sheet C02 indicates a setback from Pavilion Drive at approximately 65.8 feet from the east property line. However Pavilion Drive serves as an entrance/internal drive, similarly to Ravenwood Drive that serves the development, and therefore the maximum setback regulation of 15 feet should not be applied. The Site Plan indicates that the building is 75.5 feet from the south property line at the furthest distance in compliance with the Zoning Regulation. Similarly, the side and rear yard setback of 10 feet does not apply as this would be applied to the overall development. All of the other district regulations have been met.

Conditional Use

Section 405.470, Conditional Uses provides further requirements for certain uses throughout the city. In particular, the recently adopted Ordinance No. 5400 provided specific regulations regarding drive-thru facilities for all restaurants, coffee shops, beverage bars, and the like. Below is a table of the requirements and the analysis of the proposed site plan.

Ordinance Requirement	Proposed Development
<i>Section 405.470. Conditional Uses.</i> 14. Food services and drinking places — (NAICS 722). Shall be located on sites of not less than two (2) acres ...	The Panda Express is a Limited-Service Restaurant, NAICS 722513.
d. Drive-thru services on sites in the "MX," "GC," "CB," "PO," "PC," and "LI" Districts that only about non-residential uses are subject to the following:	The subject property is zoned CB, and is separated from residential structures by the Pavilion Drive and the office building to the east, per the image below:  Figure 11: Detail of the aerial photo
(1) Drive-thru facilities shall be limited to one (1) restaurant with no more than two (2) service windows, two (2) order facilities and two (2) designated stacking lanes in a coordinated development located on one (1) or more lots totaling three (3) or more acres, with shared access and two (2) or more buildings, one (1) of which shall have a continuous structure frontage of at least two hundred (200) feet. Such frontage may include one (1) passageway or arcade (not open on the sides). All buildings shall be designed with similar use of materials and design elements such that the buildings are aesthetically complementary to each other.	This is the first application for a drive-thru facility within Creve Coeur Pavilion. Therefore, if approved, it would preclude any other drive-thru food services and drinking places within the Center. The subject property is a 1.88 acre lot within the 13.34 acre Creve Coeur Pavilion Shopping Center that has 5 different buildings. The AMC Building is approximately 283 feet in length. The Applicant has incorporated materials to aesthetically complement the other structures. However, given the pre-existing nature of the other buildings, and the more modern design required by Panda Express, the Planning and Zoning Commission will have to determine if the overall design is in keeping with the character of the Center.
(2) The drive-thru order facility and service window shall only be on or adjacent to a wall not facing a street, unless otherwise approved.	The service window is located on the west elevation that faces the parking lot and the order facility is behind the building. Staff considers the drive to the north to be an internal drive to the shopping center and not a street.
(3) The drive-thru restaurant shall have pedestrian-oriented landscape adjacent to the building equivalent in area to fifty percent (50%) of the gross floor area of the entire restaurant use (area under roof).	The restaurant is 2,585 square feet of gross floor area. 50% is 1,292.5 square feet. The drawings indicate that 1,325 square feet is provided, which includes the front outdoor dining space.
(4) If the drive-thru restaurant is freestanding, an eight-foot-wide planted	An 8-foot wide landscaped area is provided along the east elevation and 14 feet along the north elevation,

<i>landscape strip shall be adjacent to at least two (2) other sides of the building, exclusive of the pedestrian area.</i>	between the stacking lane and the building.
<i>(5) If the drive-thru restaurant is freestanding, it shall have no less than two thousand five hundred (2,500) square feet of gross floor area (area under roof) and a minimum of fifty-five (55) indoor seats for customers.</i>	The proposal is 2,585 square feet of gross floor area, with 58 indoor seats and 16 outdoor seats.
<i>(6) Any service areas, including, but not limited to, trash receptacles, compactors, transformers, outdoor cooking or refrigeration equipment and utility connections, must be fully enclosed. Such enclosures shall appear as a part of the restaurant building to the maximum extent as found to be practicable by the City.</i>	The trash facility is located away from the building along the north parking area and the exit of the bypass lane. The materials are consistent with the building materials with solid metal gates.
<i>(7) The designated stacking lane shall be no less than one-hundred ninety (190) feet long [approximately ten (10) cars], excluding the space being served by the window, which shall be no less than nine (9) feet wide by nineteen (19) feet long. The lane shall, at a minimum, provide for vehicular escape prior to the point of the facility order board, which escape route can be shared with the general parking lot circulation.</i>	The stacking lane provides for the minimum number of cars just short of crossing in front of the building, and where the Applicant's traffic study indicates that the vehicular storage of the land provides for approx. 305 feet, before impacting the circulation of the parking lot. A by-pass lane has been provided just short of the order facility, behind the building. Whether or not this meets with the intent of the ordinance given the overall length of the lane and that vehicles must travel across the front and east sides of the building, before being able to jump out of line, should be reviewed by the Planning and Zoning Commission and City Council.
<i>(8) The entrance to the designated stacking lane shall be no less than fifty (50) feet from the nearest point on the property line across the nearest vehicular entrance.</i>	The entrance to the designated stacking lane is along the south property line at the front of the building.
<i>(9) The designated stacking lane shall not cross between the building and principal street frontage.</i>	The applicant has shown on the drawing that the designated stacking lane is the portion of the lane which meets the minimum distance required and ends just short of crossing in front of the building, per the image below. Further, the site features provide for sufficient buffering (see attached response narrative). Staff finds that as the remainder of the drive aisle serves no other purpose and will be signed for the drive-thru facilities, that the intent of the ordinance is subject to interpretation and further discussion. Staff requests that the Planning and Zoning Commission review this particular aspect and provide further direction to the applicant and staff.
<i>(10) A traffic study shall be submitted by the applicant that demonstrates, to the</i>	See the applicant's Traffic Impact Study attached, the City's Consulting Traffic Engineer evaluation report,

satisfaction of the City, that the required drive-thru facilities shall not interfere with site circulation or be hazardous to motorists or pedestrians entering, exiting or passing by the site.	and the letter of concurrence from MoDOT.
(11) The order facility shall utilize automatic volume control which adjusts outbound volume based on the outdoor ambient noise level.	The applicant will be utilizing an automatic volume control, and the draft ordinance can reinforce this by including a condition of approval for the use of such.
(12) An acoustical study shall be submitted demonstrating that the order facility and service windows will not increase ambient sound levels at the property lines above the average Monday to Friday midday level.	See the applicant's Sound Study Report from McClure Engineering dated October 11, 2016 that indicates that the use should have a negligible impact on the ambient sound in the area.

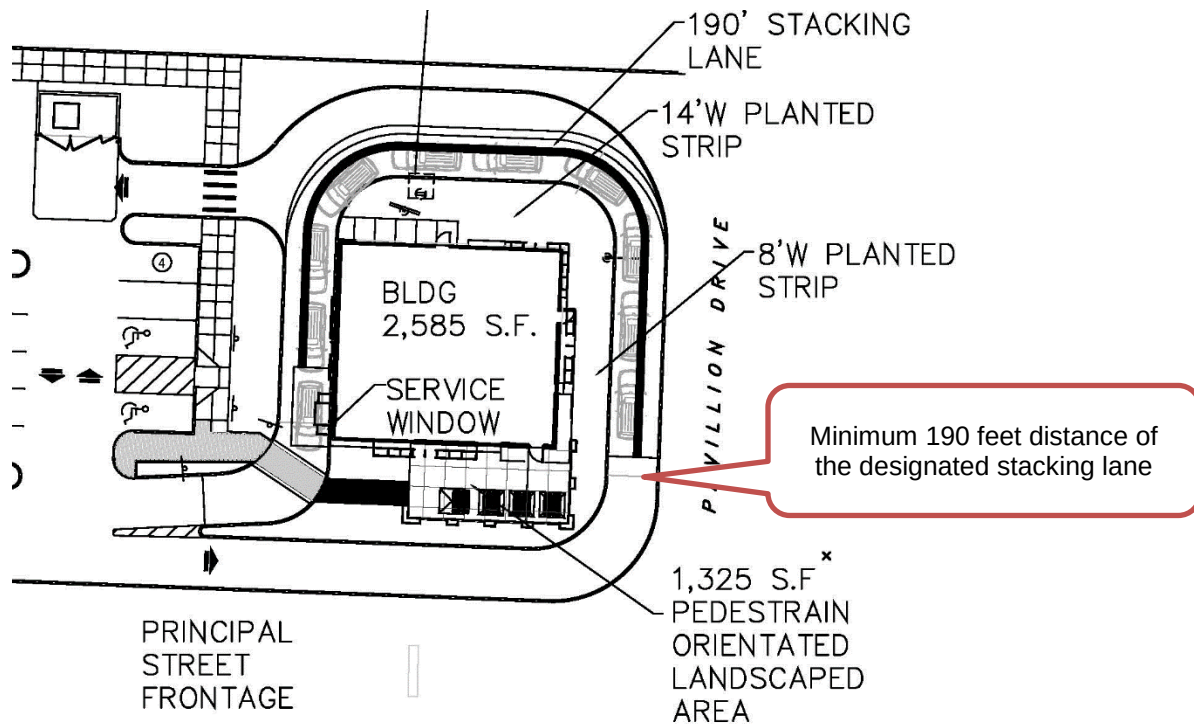


Figure 13: Detail of the Zoning Compliance Exhibit

Landscaping

Section 405.540 of the Landscaping regulations requires that all trees shall be a minimum of three (3) inch caliper size providing clear headroom of at least six (6) feet, and that all hedges shall not be less than two (2) feet in height and two (2) feet in spread at time of installation; however, no hedge or wall or berm shall exceed three (3) feet in height within ten (10) feet of any driveway opening. The individual plants used in the development of such a hedge shall be placed so as to be not more than thirty (30) inches on center. Additionally, Section 405.810 Screening and Landscaping for parking facilities requires vehicle headlight screening that is a minimum of eighteen (18) inches in height and an average of three (3) feet in height at the time of planting. As Creve Coeur Pavilion received approval for the landscaping along Olive Boulevard, and the proposal is on the upper portion of the existing retaining wall, the proposal meets with the requirements of the Ordinance.

Lighting

The Applicant's photometric plan from October 17, 2016 indicates that lighting will be less than one foot candle at the property line (ranging from 0.0 on the west to 0.1-0.5 along the north and south property lines), except at the southwest corner of the site, where the photometric indicate a 1.1 and 1.3, as shown below.

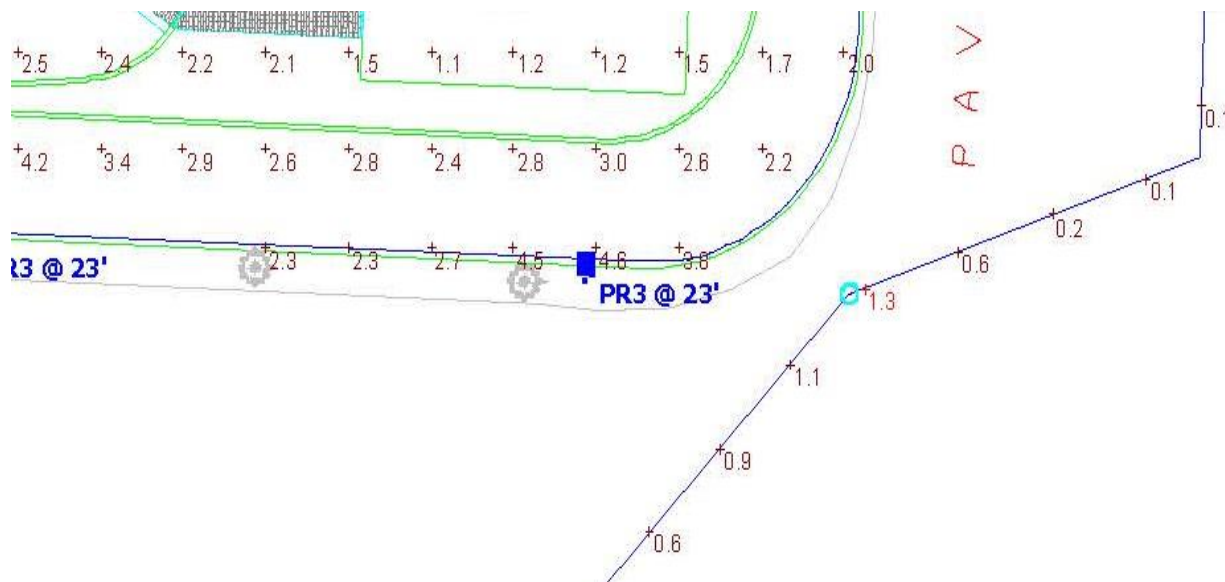


Figure 14: Close-up of the Applicant's Photometric plan from October 17, 2016 showing illumination at the southeast property line.

The light fixtures will be consistent with the overall Center, which meets with the illumination requirements below. Section 405.680 states lighting shall not be cast upon an adjacent property or right-of-way nor shall glare be emitted from an illuminant source. Given the elevation and site features of the retaining wall, and that it is along Olive Boulevard, the Planning and Zoning Commission should make such a determination that this illumination may be acceptable. Any new lighting for the drive-thru facilities, including that of the order board, should comply with Section 405.680 that all lighting shall be downcast and fully shielded. Staff recommends a condition of approval for this and existing lighting.

SECTION 405.810: DESIGN AND MAINTENANCE STANDARDS

4. *Lighting. Any off-street parking or loading area used between 6:00 P.M. and 6:00 A.M. shall contain a system of lighting to provide an adequate standard of at least one (1) foot-candle of illumination over the area of the parking area to be used. All lighting shall be arranged to deflect, shade and focus lights away from adjacent properties, shall be designed so as not to create more than one (1) foot-candle of illumination at any property boundary abutting a residential zoning district and shall comply with all provisions of Section 405.680. Any land use which utilizes an off-street parking or loading area between 6:00 P.M. and 6:00 A.M. an average of less than four (4) days per month may be exempted from this requirement by the Planning and Zoning Commission.*

Sidewalks

The proposal includes new eight foot wide pedestrian connections within the Shopping Center, and a separated six foot sidewalk from the outdoor dining space to the drive-thru exit lane, in compliance with the regulations below:

Section 405.730 Sidewalks

A. The following standards shall apply to all internal sidewalks in non-residential developments within the City of Creve Coeur:

1. Sidewalks shall be safe, clearly defined and direct:
 - a. Sidewalks shall be buffered from the street, vehicular traffic and parking areas by a minimum three (3) foot greenspace or landscape area.
 - b. All non-residential developments requiring site concept plan and/or site development plan approval must provide safe, clearly defined and direct access between buildings and from the principal building's entrance to the public sidewalk.
 - c. Sidewalks shall be designed to avoid conflicts between vehicular, bicycle and pedestrian traffic. Pedestrian circulation and the placement of sidewalks shall take precedence over vehicular circulation. In order to emphasize conflict points and improve pedestrian safety and visibility, the use of textured or tinted materials for pedestrian crossings shall be utilized where pedestrian circulation paths cross a vehicular route as determined by the Planning and Zoning Commission.
2. The minimum width of internal sidewalks in non-residential developments shall be at least six (6) feet or eight (8) feet if used as a curb stop.

However, staff recommends that the sidewalks remain a consistent width, particularly in front of the building in furtherance of the Comprehensive Plan and Design Guidelines discussed earlier. Additionally, a sidewalk has not been provided along Olive Boulevard and Pavilion Drive, due to the pre-existing, site constraints with the retaining wall, and the lack of walkability along this area of Olive Boulevard.

Parking

Parking regulations for restaurants are discussed under Section 405.820(F)(5) Required Off-Street Parking Spaces. The Applicant has indicated that a total of 1014 parking spaces are provided for the entire Creve Coeur Pavilion Center. Below is the table of uses and the required number of parking spaces that was completed in 2014 for a Kim Cheese Restaurant CUP that includes the updated information for this application:

Tenant	Use	Size (sq. ft.)	Parking Regulations	# of spaces
St. Louis Bread Co.*	Restaurant	4,563 (+ 156 maximum occupancy)	1/3 seats in C.U.P., + 1/250 sq. ft.	64
Big Frog T-shirts	Retail	1,059	4/1000 sq. ft.	5
Great Clips	Hair Salon	968	4/1000 sq. ft.	4
Sensory Solutions	Office	4,554	4/1000 sq. ft.	19
IFG Advisors	Office	2,375	4/1000 sq. ft.	10
Vacant	Office	2,018	4/1000 sq. ft.	8
AMC Theater	Theater	39,799 (2,130 seats)	1 space per 6 seats	355
Vacant (Former Sweet Tomatoes*)	Restaurant	7,433	1/3 seats in C.U.P., + 1/250 sq. ft.	143
Ideal Image	Office	2,543	4/1000 sq. ft.	11

Victor Ho Nails & Spa	Nail Salon	1,900	4/1000 sq. ft.	8
Moe's Southwest Grill	Restaurant	4,133 (+90 indoor seats)	1/3 seats in C.U.P., + 1/250 sq. ft.	47
Kim Cheese**	Restaurant	2,925 (+65 indoor seats)	1/3 seats in C.U.P. + 1/250 sq. ft.	34
Stir Crazy Cafe	Restaurant	5,930 (+235 for the restaurant, +32 outdoor seats)	1/3 seats in C.U.P., 1/8 outdoor seats, + 1/250 sq. ft.	108
California Pizza Kitchen*	Restaurant	5,169	1/3 seats in C.U.P., + 1/250 sq. ft.	80
Panda Express**	Restaurant	2,525 (+58 indoor seats, +16 outdoor seats)	1/3 seats in C.U.P., + 1/250 sq. ft.	33
Sub-total:				929
Minus 15% Reduction				139.35
Total # of Parking Spaces Required:				790
Total Available On-site:				1014

Note: * Original CUP issued prior to 2000 did not include seating count. The number provided here is based upon a prior analysis.
** Pending Application

Prior to mid-2000, restaurant parking was based square on footage of the space at 1 per 50 square feet, plus 1 space per 8 outdoor seats. For those restaurants indicated by an * above, seating information is based on the maximum occupancy load of the original CUP when provided. For example, St. Louis Bread Company, Ordinance # 2106 indicated a maximum occupancy of 156, where seating could be indoor or out, provided that the total number of seats did not exceed the maximum occupancy. For those where the City does not have a record of the existing number of seating, a prior analysis from a request in 2005 included a total number of parking spaces for each use. However, Staff cannot verify how this number was created. Additionally, since the closure of the Sweet Tomato's Restaurant, Ideal Image expanded into a portion of the former space. A rent roll providing the square footage of the current uses within the center has not been provided, however, the parking rate for minimal change would not have an impact on the parking calculations as both square footages is 4 spaces/1000 square feet of floor area. Based upon observation of the site, it has plenty of parking available and it is reasonable to assume that the numbers represents more than enough parking for each use. Therefore, as indicated in the above table, a total of 790 parking spaces are required, with 1014 spaces available on-site. Thus, a surplus of 224 spaces is available on site.

RECOMMENDATION AND ACTION

Staff and the applicant have conferred frequently on this application in preparation for review by the Commission. This request represents the first freestanding drive-thru restaurant application since the text amendment was adopted in 2014. Staff finds that there are several discussion items the Commission members should review and provide direction to the Applicant, and therefore a draft ordinance has not been prepared at this time.

These key items for review in relationship to the conditional use standards for drive-thru restaurants and the Design Guidelines include:

- The drive-thru elements and pedestrian connections and amenities.

- The architectural details and use of EIFS/Stucco on the building, particularly the north and east elevations.
- The drive-thru stacking lane configuration between the building and Olive Boulevard.

After discussion with the applicant, if the Planning and Zoning Commission finds that the Application is in conformance with the purposes and regulations of the Comprehensive Plan and Zoning Code, it may vote on a recommendation to the City Council with any changes discussed and made by separate actions. Staff will then prepare a draft ordinance for City Council based upon the Commission's decision.

MOTION

The following is an example of an appropriate motion for this application:

“I move to continue Application #16-030 for a Conditional Use Permit for an eating and drinking establishment, with drive-thru facilities for Panda Express located within Creve Coeur Pavilion Shopping Center until the December 5th meeting to allow for the Applicant to revise the drawings based upon the discussion and direction from the Commission” (conditions may be added, eliminated, or modified by preceding motion).

Should the Commission wish to move the project forward to City Council for review, the following is an example of an appropriate motion:

“I move to recommend approval of Application #16-030 for a Conditional Use Permit for an eating and drinking establishment, with drive-thru facilities for Panda Express at 10453 Olive Boulevard within the Creve Coeur Pavilion Shopping Center and direct Staff to prepare a draft ordinance based upon the discussion from the meeting of November 21st, including all conditions recommended in Staff's report and the usual conditions for restaurants” (specific conditions discussed and approved by preceding motion).

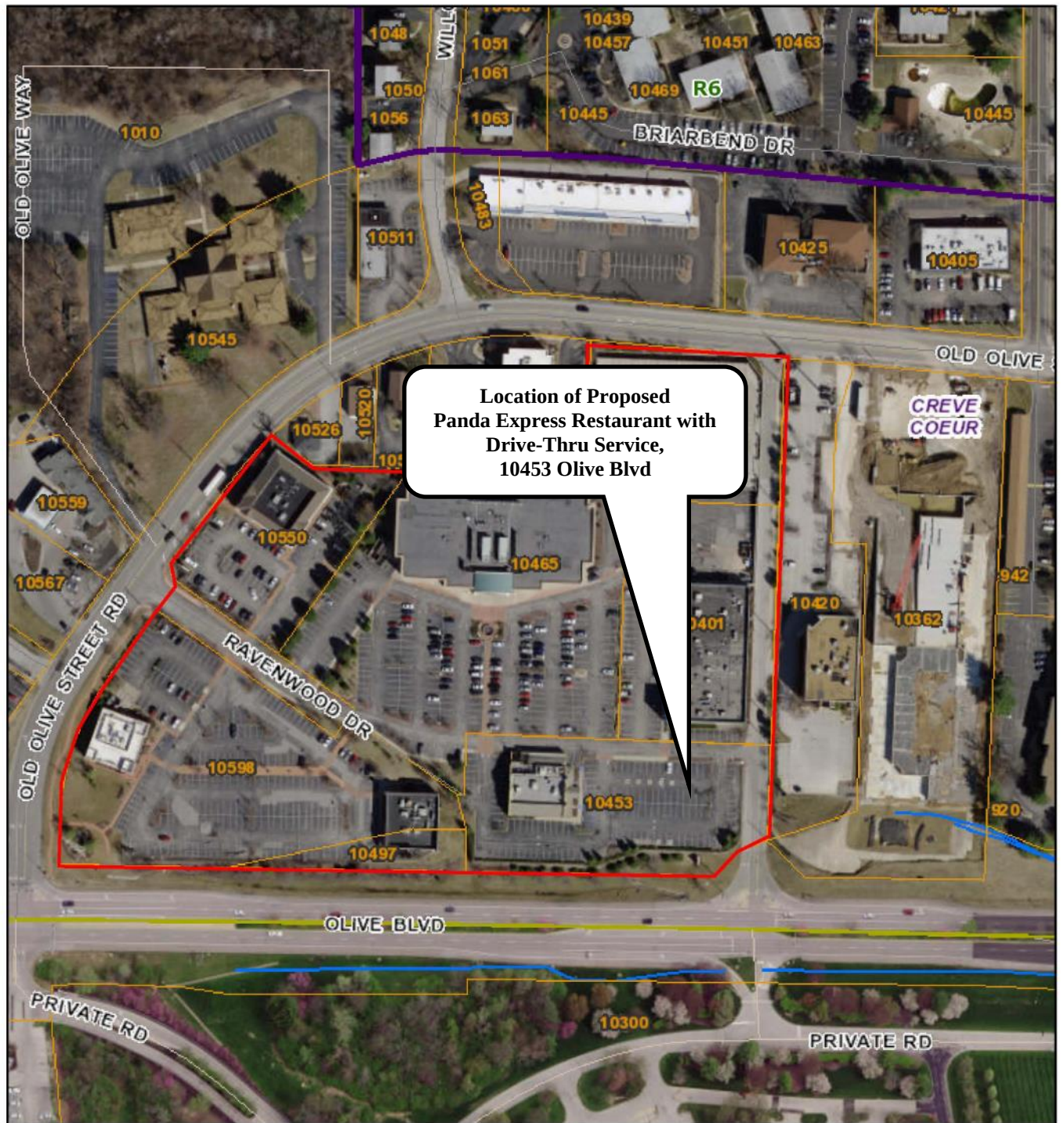
APPENDIX 1: COMPREHENSIVE PLAN, INCLUDING DESIGN GUIDELINES

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

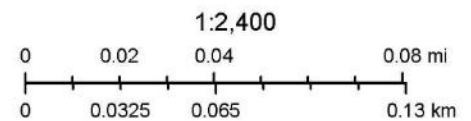
Included and attached by reference. See body of report for specific excerpts.

APPENDIX 3: AERIAL PHOTO



November 1, 2016

— User drawn lines



APPENDIX 4: SITE PHOTOGRAPHS

Photo Date:11-18-2016



Description: View from the southeast corner of the existing parking lot looking north west at the adjacent retail building and AMC theater.



Description: View looking west toward the Stir Crazy building.



Description: View looking northeast toward the adjacent Office building and residential development.



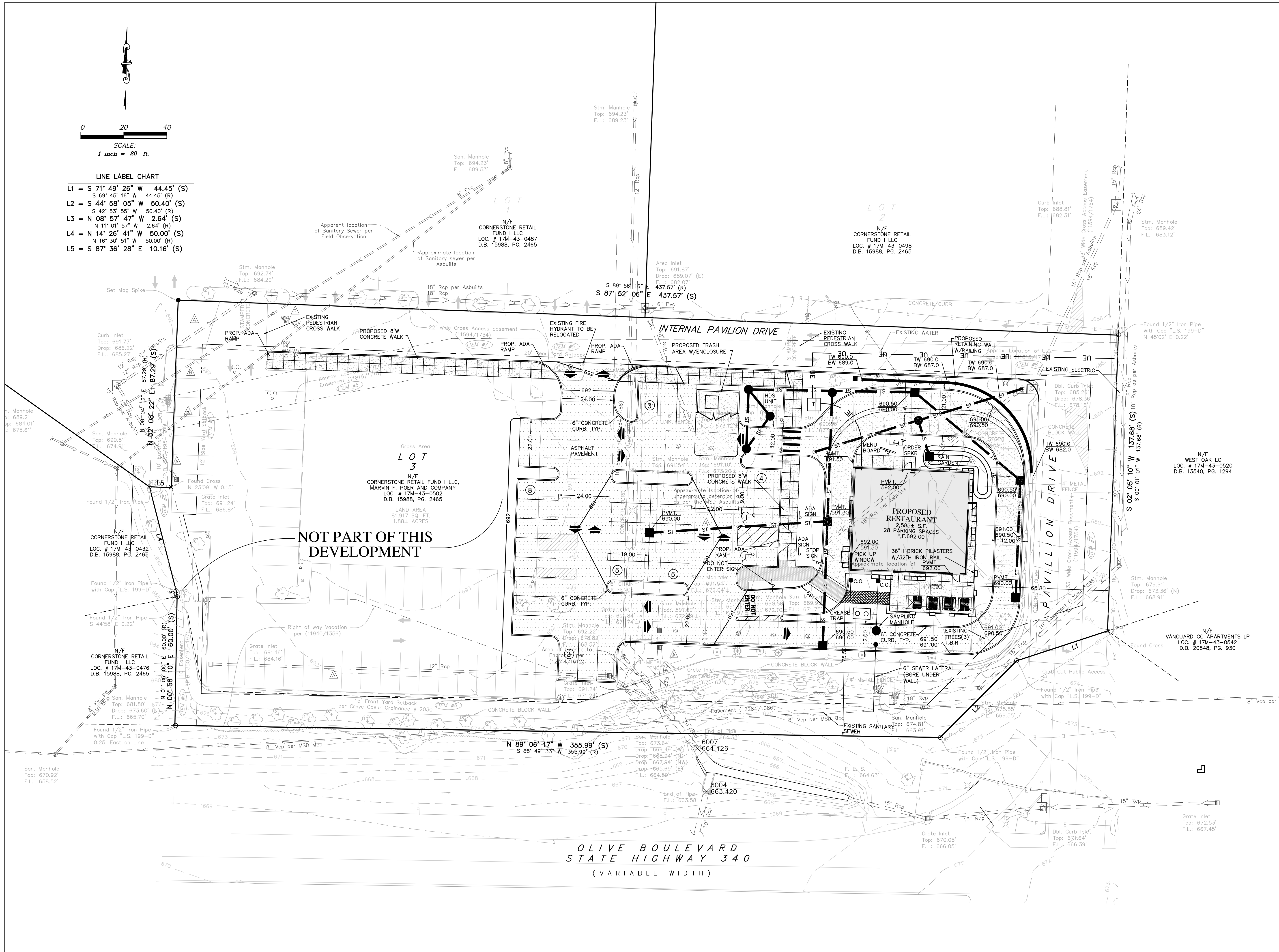
Description: View looking northwest from the Olive Boulevard and Pavilion Drive intersection at the existing retaining wall.



Description: View looking west along Olive Boulevard.



Description: View looking west along the south property line at Pavilion Drive.



PANDA RESTAURANT GROUP INC.
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Rosemead, California
91770
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REVISIONS:

ISSUE DATE:

CUP SUBMITTAL	10-14-16
CITY SUBMITTAL	11-10-16

DRAWN BY: PM

PANDA PROJECT # S8-17-D4999
CEDC # 1596



BRANDON A. HARP, P.E. E-28650
PROFESSIONAL ENGINEER
CEDC LICENSE NO.: 2003004674

CEDC
CIVIL ENGINEERING
DESIGN CONSULTANTS
11402 Gravois Road, Suite 100
Saint Louis, Missouri 63126
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PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT
WARM & WELCOME - Custom

SITE
DEVELOPMENT
PLAN
C02

STATE OF MISSOURI
BRANDON A. HARP
NUMBER
E-28650
REGISTERED PROFESSIONAL ENGINEER

BRANDON A. HARP, P.E. E-28650
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CEDC
CIVIL ENGINEERING
DESIGN CONSULTANTS

Site Coverage and Parking for
CREVE COEUR PAVILION
10453 OLIVE BOULEVARD
CREVE COEUR, MISSOURI, 63141

Proj. # 1596

No. Description Date

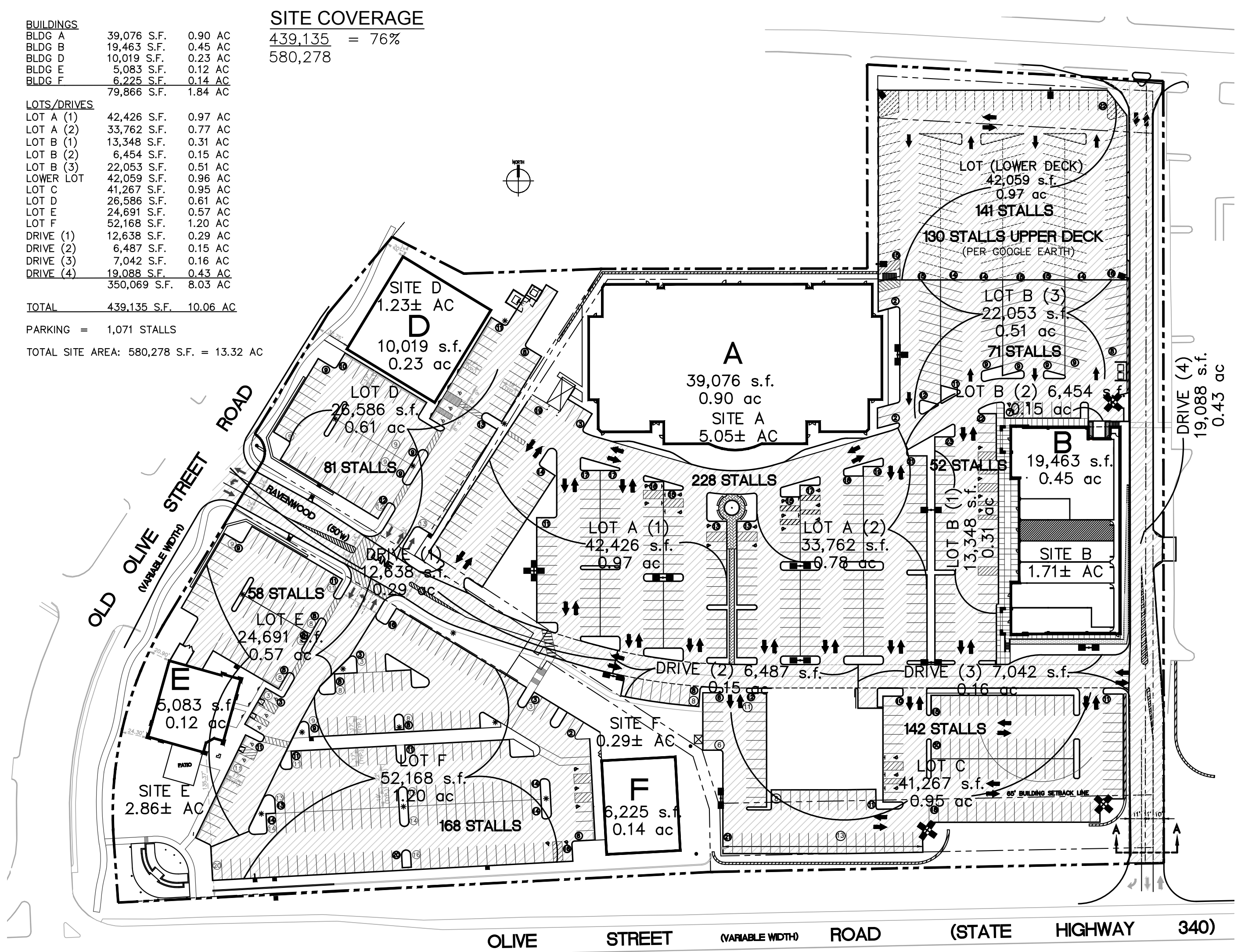
CITY SUBMITTAL 11-10-16

SITE COVERAGE
AND PARKING FOR
CREVE COEUR
PAVILION

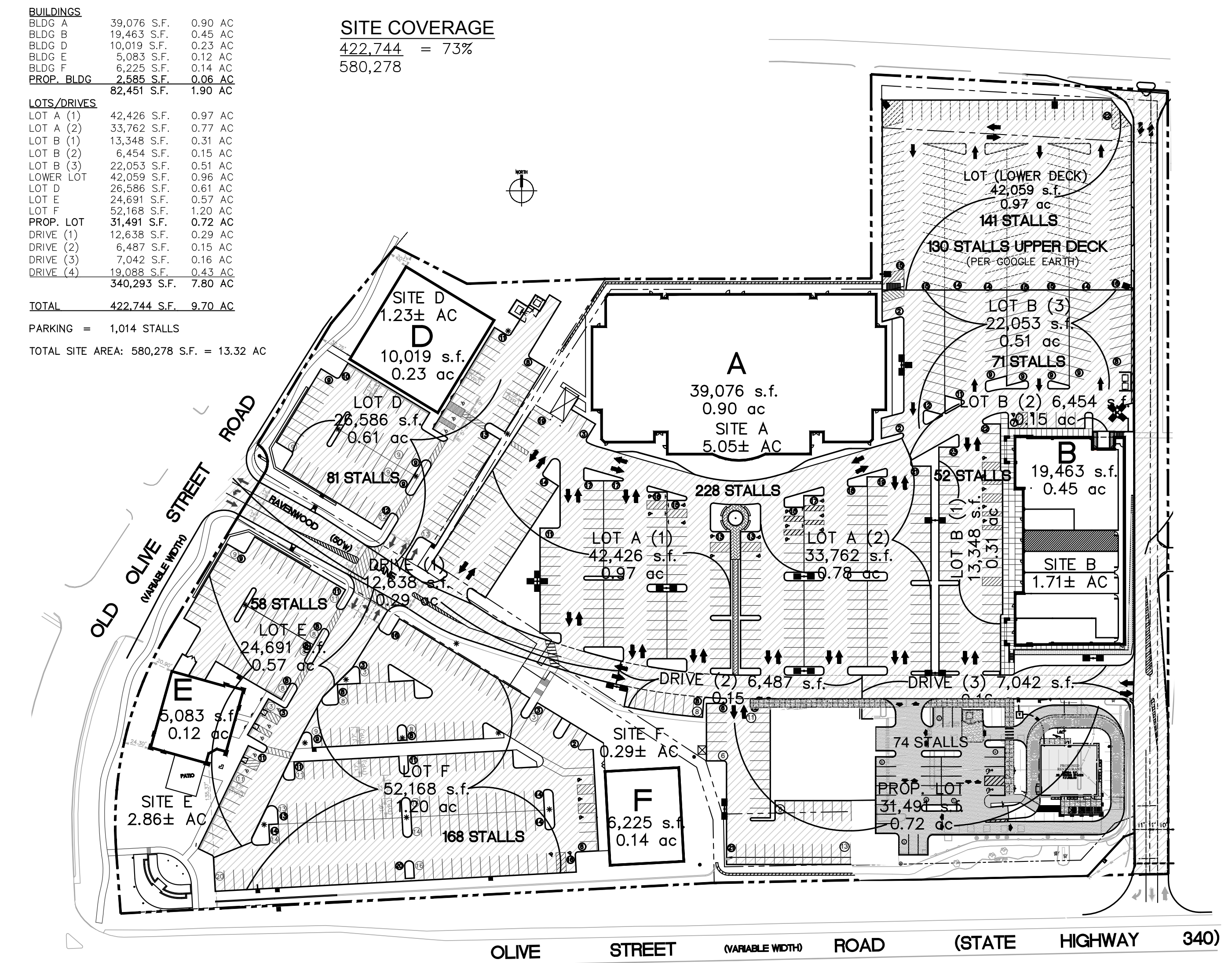
DRAWING NO.

C03

EXISTING CONDITIONS



PROPOSED CONDITIONS

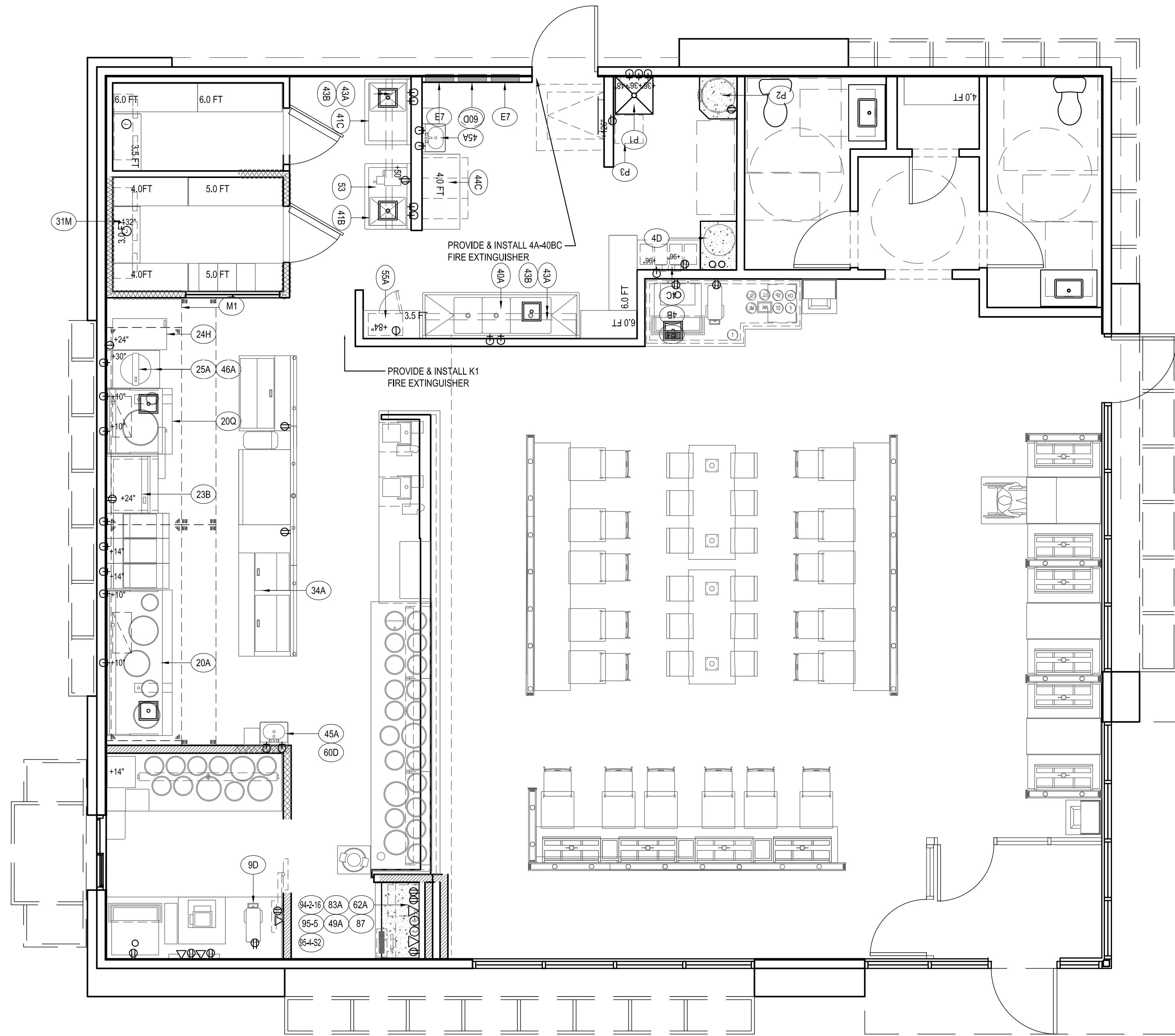


EQUIPMENT SCHEDULE

[illegible]

FURNITURE SCHEDULE

			L x W x H / (SEAT HEIGHT)	
T1e	LOW 2 TOP TABLE	PLASTIC LAMINATE	RICHWOOD	23 1/2" x 21" x 30"
T1h	LOW 4 TOP (ADA) TABLE	PLASTIC LAMINATE	RICHWOOD	23 1/2" x 47 1/4" x 30"
T2b	LOW 4 TOP (ADA) TABLE-BOOTH	TEAK BEIGE	RICHWOOD	48" x 23 1/2" x 30"
T2c	LOW 4 TOP (ADA) TABLE-BOOTH	TEAK BEIGE	RICHWOOD	48" x 23 1/2" x 30"
T3x	COMMUNAL TABLE (4)	TEAK WOOD	RICHWOOD	28 X 48" X 34" X 25" TH
C1n	YARDBIRD DINING CHAIR	BLACK MAT' W/ SANDING FINISH	EDMASS	
C2g	COUNTER CHAIR	SD0438: W/ BACK	EDMASS	
C7i	SETTEE		RICHWOOD	46" L x 18" H
C7j	SETTEE		RICHWOOD	58 1/2" L x 18" H
C7k	SETTEE		RICHWOOD	99 1/2" L x 18" H
C7m	SETTEE		RICHWOOD	CUSTOM
F6m	LOW WALL		RICHWOOD	CUSTOM
F7j	DIVIDER LOW WALL		RICHWOOD	47"
F3a	TRASH RECEPTACLE BIN	LEFT BROOM	RICHWOOD	
F3b	TRASH RECEPTACLE BIN	RIGHT BROOM	RICHWOOD	
F2CL	BEVERAGE COUNTER	LEFT TETON BEIGE	RICHWOOD	SEE PLAN
F2CR	BEVERAGE COUNTER	RIGHT TETON BEIGE	RICHWOOD	SEE PLAN
F14	SERVICE COUNTER	STRAIGHT 8" B	RICHWOOD	SEE PLAN
C3b	48" COMMUNITY BOARD	8F-PONDER CAST "0912S SILVER"	FAD	45" x 32"



KITCHEN PLAN

Scale= 1/4" = 1'-0"

1
A-101

KITCHEN PLAN

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT

WARM & WELCOME - Custom

PANDA RESTAURANT GROUP INC.

1683 Walnut Grove Ave.
Rosemead, California
91770

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REVISIONS:

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CUP SUBMITTAL	10-14-16
CUP SUBMITTAL	11-10-16

DRAWN BY: PM

PANDA PROJECT #: S8-17-D4999

ARCH PROJECT #: 16075-003

Heights Venture
ARCHITECTURE • DESIGN

HOUSTON	DALLAS
1111 North Loop West, Suite 800	5717 Legacy Drive, Suite 240
Houston, Texas 77008	Plano, Texas. 75024
713 869 1103 V	972 490 7292 V

PANDA EXPRESS

A-101

PROTOTYPE#WARM & WELCOME(2

CUP SUBMITTAL

EXTERIOR FINISH SCHEDULE

INSTALLED AND FURNISHED BY: G.C. UNLESS NOTED OTHERWISE

NO	MANUFACTURER	MFG#	COLOR	FINISH	NOTES
(W-1)	STO	3-PART STUCCO SYSTEM	SW 6148 WOOL SKEIN	FINE	BUILDING BODY
(W-3)	STO	3-PART STUCCO SYSTEM	SW 7069 IRON ORE	FINE	TOWER CORNICE
(B-1)	INTERSTATE	2-1/4" NORMAN FACE BRICK	MOUNTAIN RED	-	BUILDING TOWER, BUILDING BODY
(CD-1)	NICHIHA	VINTAGE WOOD	CEDAR	-	FIBER CEMENT RAINSCREEN SYSTEM
(P114)	SHERWIN-WILLIAMS	SW 7069	IRON ORE	A100 SATIN, LATEX	ALUM. AWNINGS/CANOPY (PRE-FINISHED)
(ST-1S)	ARRISCRAFT	-	LIMESTONE	-	STONE CAP
(ST-1)	ARRISCRAFT	8X24	LIMESTONE	-SPLIT MODULAR	WAINSCOT
(F-1)	SUNBRELLA	-	LOGO RED*	-	PATIO UMBRELLAS



SOUTHWEST CORNER 1

Scale= NTS A-200



SOUTHEAST CORNER 1

Scale= NTS A-200



WEST ELEVATION 2

Scale= 1/4" = 1'-0" A-200



SOUTH ELEVATION 1

Scale= 1/4" = 1'-0" A-200



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Heights Venture
ARCHITECTURE • DESIGN

HOUSTON 1111 North Loop West, Suite 800 Houston, Texas 77008 713 869 1163 V
DALLAS 5717 Legacy Drive, Suite 240 Plano, Texas 75024 972 490 7292 V

PANDA EXPRESS

10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT
WARM & WELCOME - Custom

A-200

EXTERIOR
ELEVATIONS

PROTOTYPE#WARM & WELCOME(2)

Packet Pg. 187

CUP SUBMITTAL

NO	MANUFACTURER	MFG#	COLOR	FINISH	NOTES
(W-1)	STO	3-PART STUCCO SYSTEM	SW 6148 WOOL SKEIN	FINE	BUILDING BODY
(W-3)	STO	3-PART STUCCO SYSTEM	SW 7069 IRON ORE	FINE	TOWER CORNICE
(B-1)	INTERSTATE	2-1/4" NORMAN FACE BRICK	MOUNTAIN RED	-	BUILDING TOWER, BUILDING BODY
(CD-1)	NICHIIHA	VINTAGE WOOD	CEDAR		FIBER CEMENT RAINSCREEN SYSTEM
(P114)	SHERWIN-WILLIAMS	SW 7069	IRON ORE	A100 SATIN, LATEX	ALUM. AWNINGS/CANOPY (PRE-FINISHED)
(ST-1S)	ARRISCRAFT	-	LIMESTONE	-	STONE CAP
(ST-1)	ARRISCRAFT	8X24	LIMESTONE	-SPLIT MODULAR	WAINSCOT
(F-1)	SUNBRELLA	-	LOGO RED*	-	PATIO UMBRELLAS



Scale= NTS

A-201



Scale: NTS

A-201



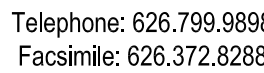
Scale= 1/4" = 1'-0"

A-201



Scale= 1/4" = 1'-0"

A-201



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REVISIONS:

[illegible]

ISSUE DATE

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	CUP SUBMITTAL	11-10-16

DRAWN BY: PM

PANDA PROJECT #: S8-17-D499

ARCH PROJECT #: 16075-003

Heights Venture
ARCHITECTURE ✶ DESIGN

HOUSTON	DALLAS
1111 North Loop West, Suite 800	5717 Legacy Drive, Suite 2400
Houston, Texas 77008	Plano, Texas 75024
713 869 1103 V	972 490 7292 V

PANDA EXPRESS

10453 Olive Blvd

Creve Coeur, MO. 63141

FREE STANDING D

WARM & WELCOME - Custom

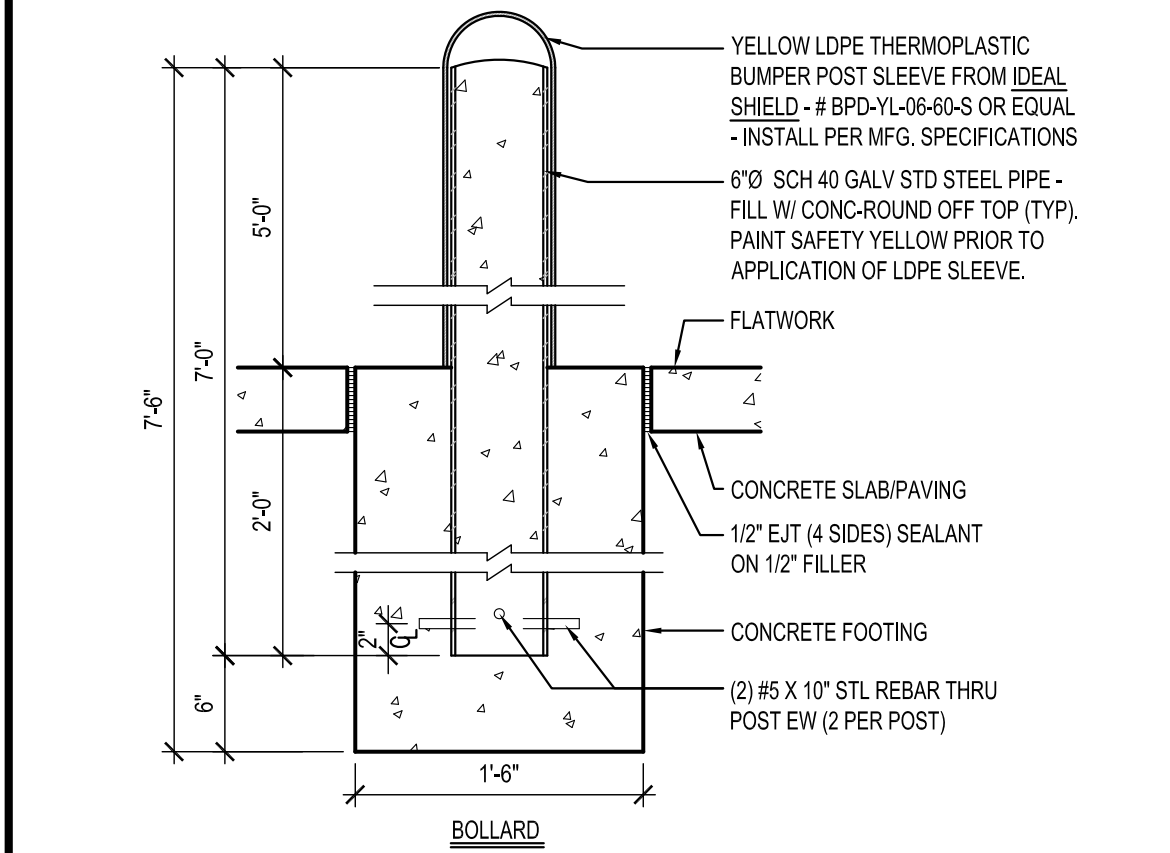
A-201

EXTERIOR ELEVATIONS

PROTOTYPE#WARM & WELCOME(2)

Scale= NTS | A-407

Scale= 1/4" = 1'-0" | A-407



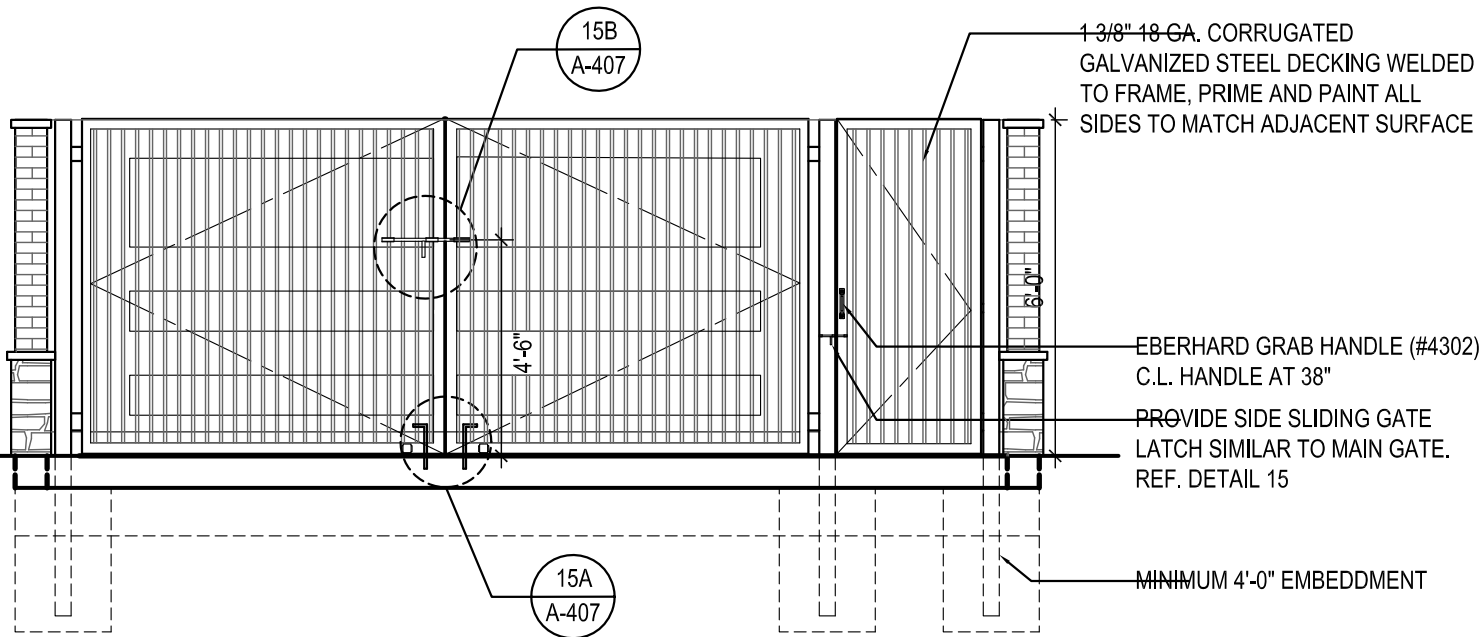
Scale= 1" = 1'-0" | A-407

NOTE:
THE TRASH ENCLOSURE WALLS ARE B-1
PER A-200 TO MATCH PRIMARY BUILDING
BRICK WITH LIMESTONE WAINSCOT

TRASH ENCLOSURE GATE PAINTED P-114
"IRON ORE" TO MATCH BUILDING METALS

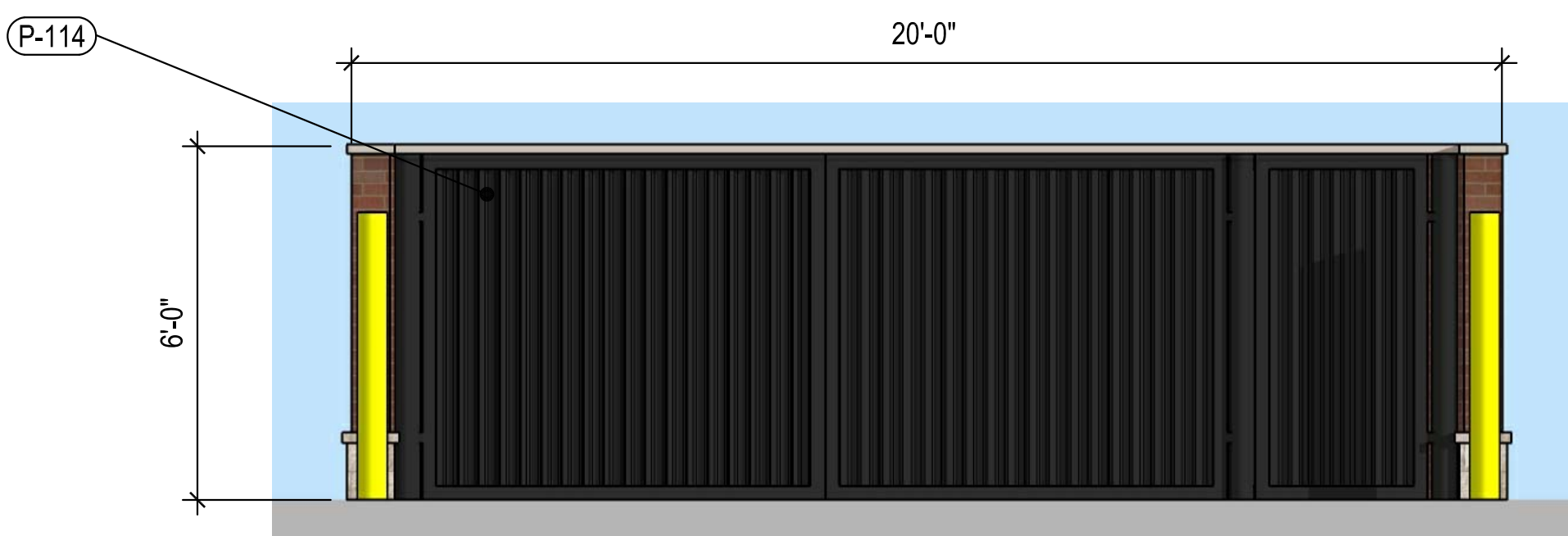
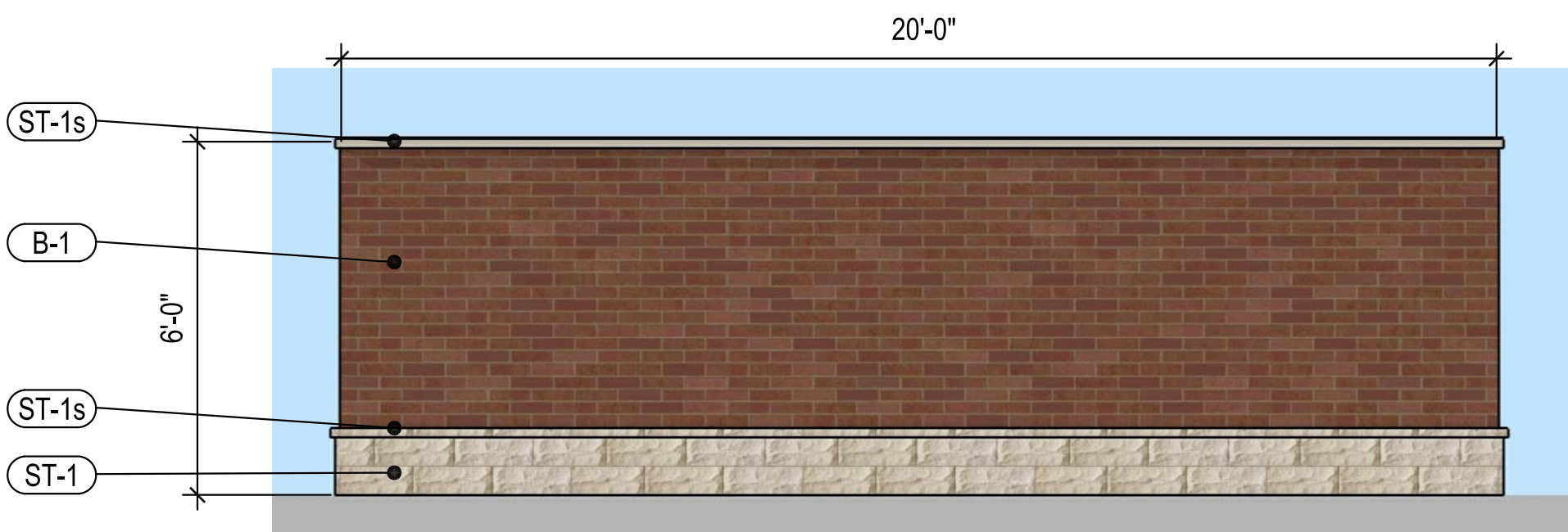
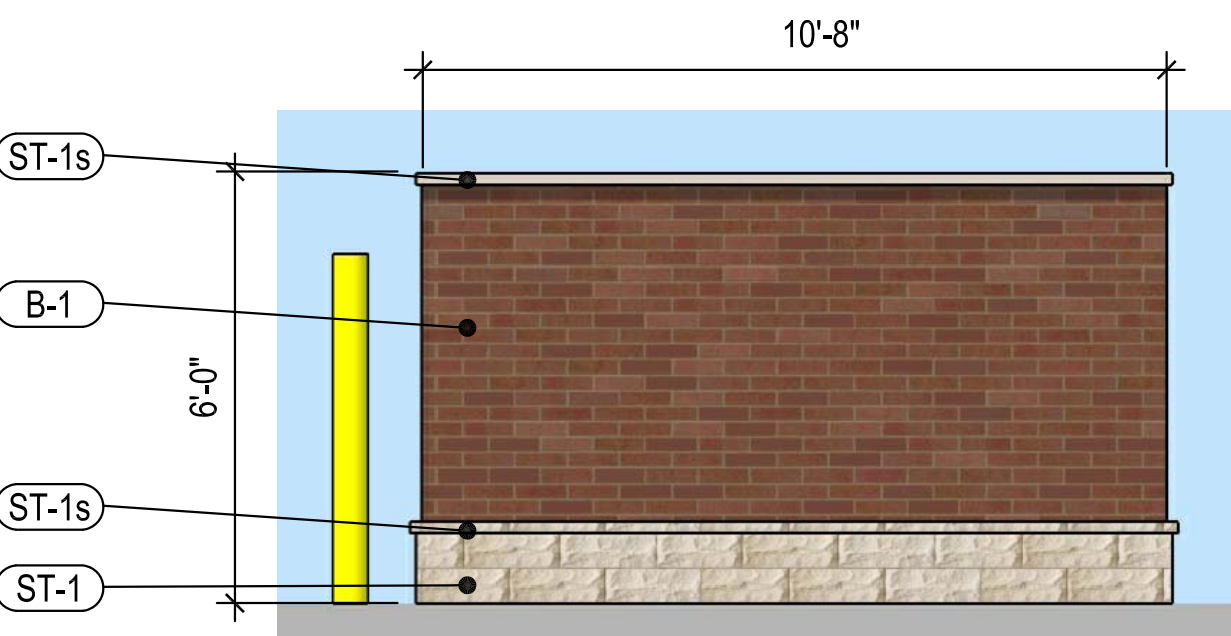
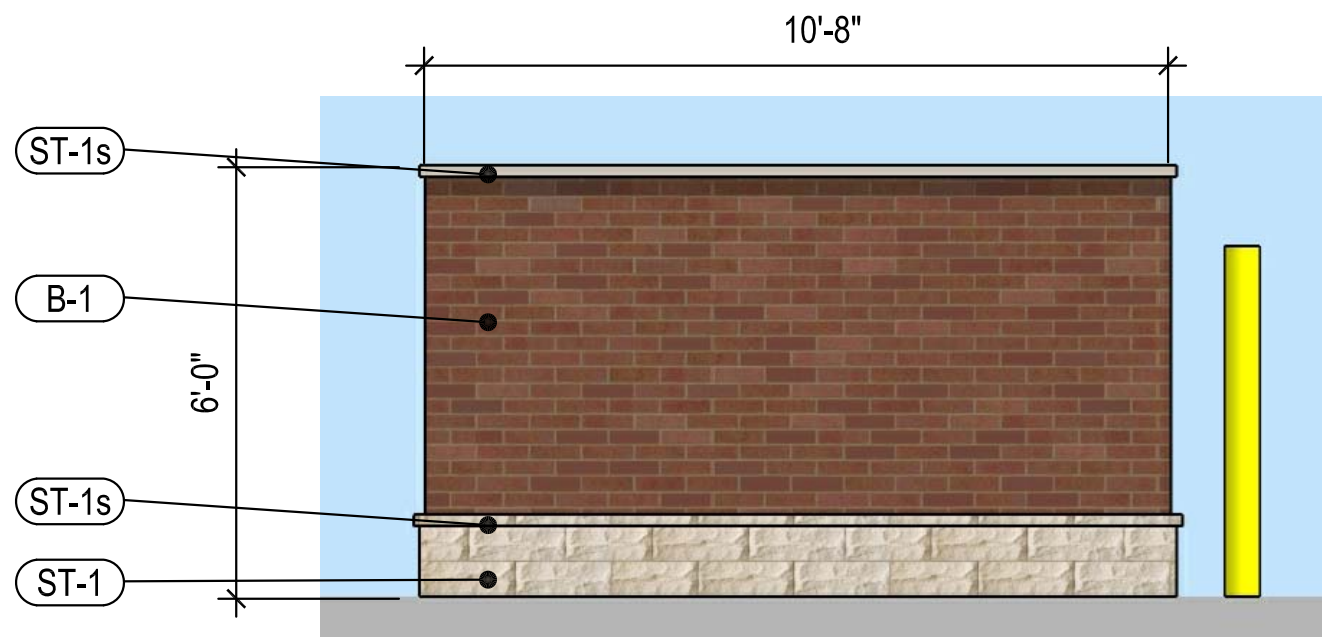
NOTE: CONTRACTOR TO SUPPLY & INSTALL
ALL HINGES, GATE LATCHES, CANE BOLTS,
ETC. AS INDICATED.

NOTE: ANY DIAGONAL SUPPORT FOR GATES SHALL BE INSTALLED ON THE INSIDE OF ENCLOSURE. THIS SHALL NOT BE VISIBLE ON THE OUTSIDE OF THE GATE.



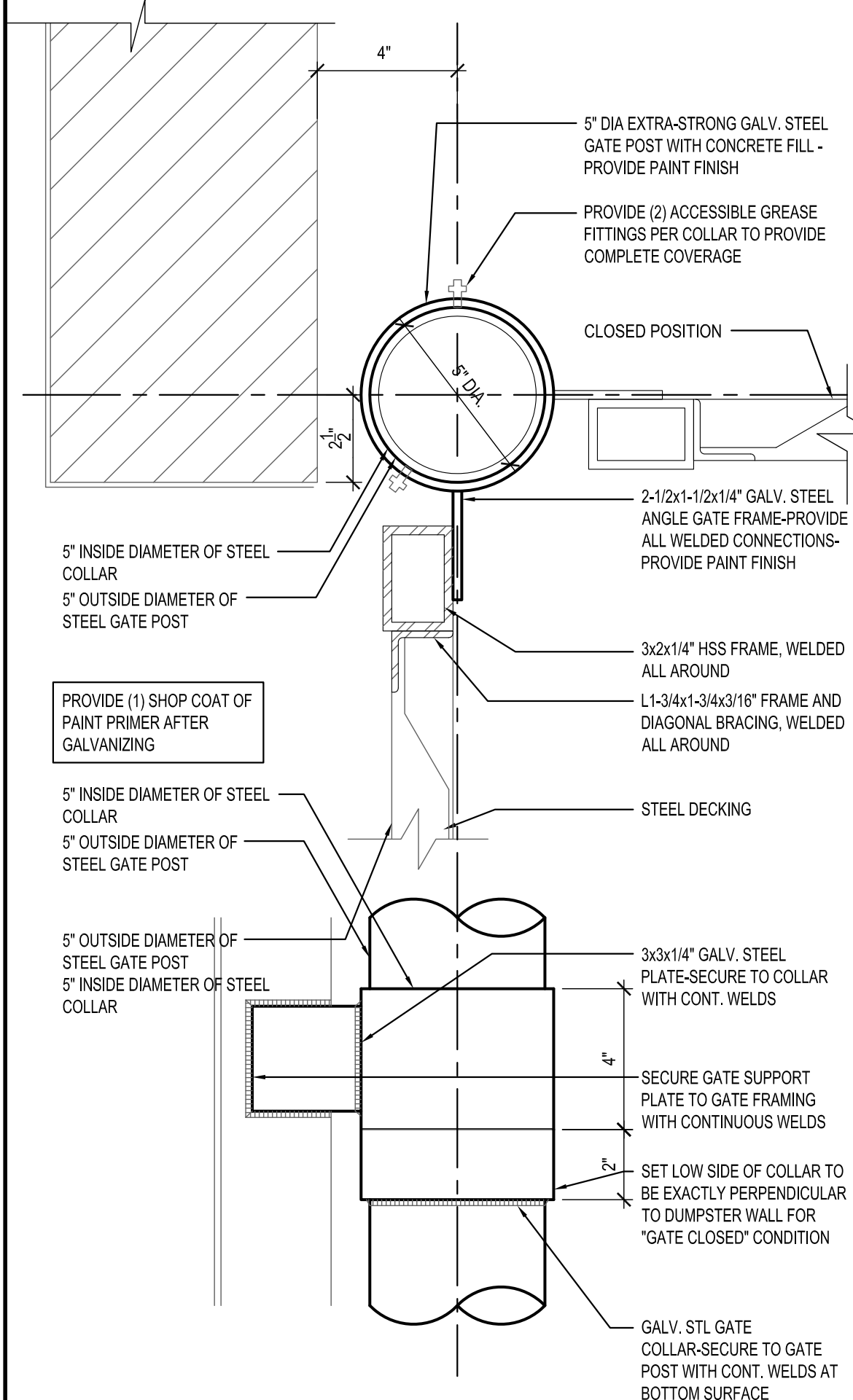
FRONT ELEVATION

Scale= 1/4" = 1'-0" | A-4



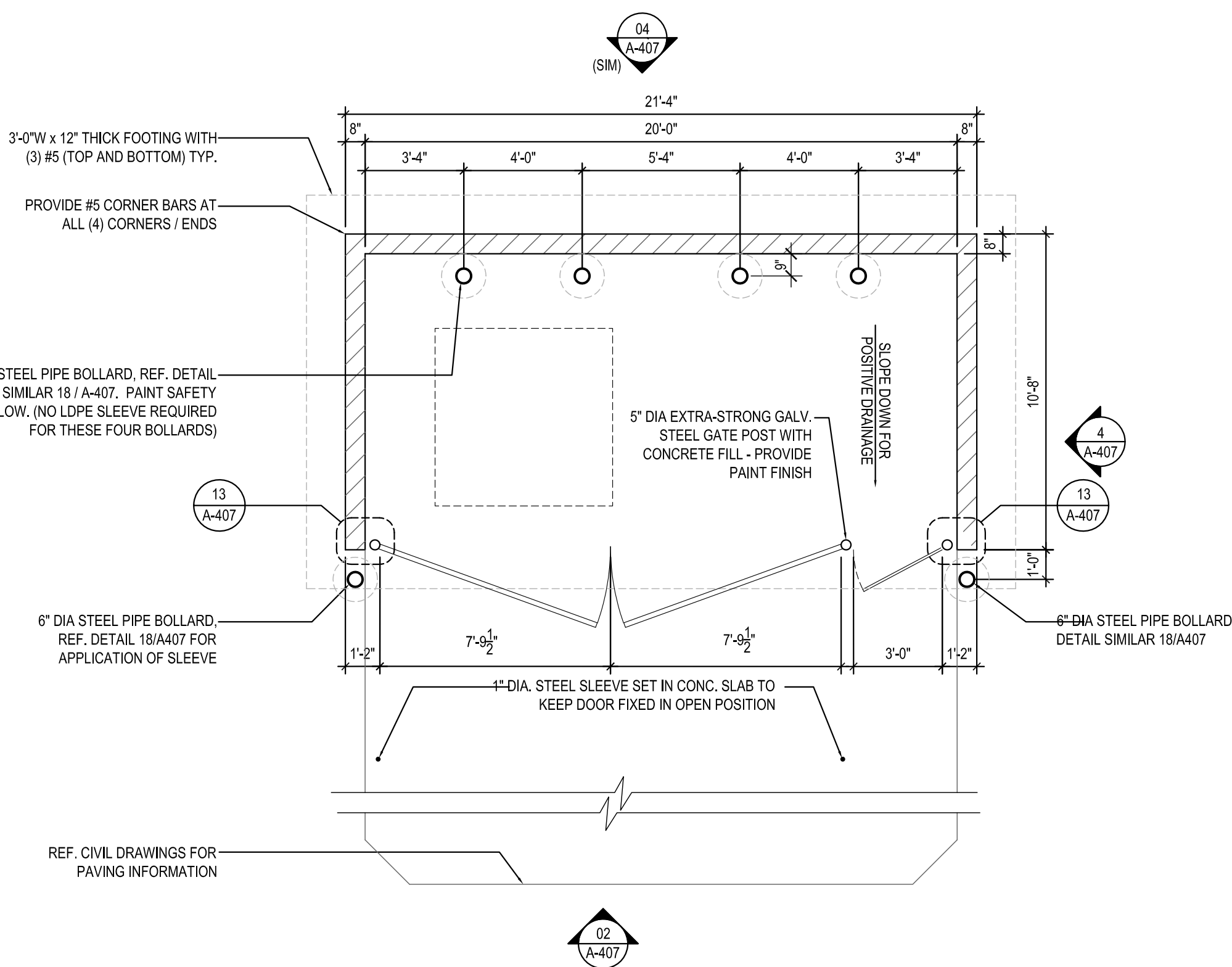
Scale= 3/8" = 1'-0" | A-407

Scale= 3" = 1'-0" | A-40



Scale= 3" = 1'-0" | A-40

NOTE:
FLOOR OF DUMPSTER AREA MUST BE
SMOOTH, CLEANABLE AND SEALED WITH
(AQUA MIX SEALER'S CHOICE GOLD)
CEMENT SEALER.



Scale= 1/4" = 1'-0" | A-4



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REVISIONS

[illegible]

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DRAWN BY: PM

PANDA PROJECT #: S8-17-D499

ARCH PROJECT #: 16075-003

Heights Venture
ARCHITECTURE • DESIGN

HOUSTON	DALLAS
1111 North Loop West, Suite 800	5717 Legacy Drive, Suite 2400
Houston, Texas 77008	Plano, Texas 75021
713 869 1103 V	972 490 7292 V

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10453 Olive Blvd
Creve Coeur, MO. 63141
FREE STANDING DT

WARM & WELCOME - Customer

A-407

TRASH ENCLOSURE DETAILS

PROTOTYPE#WARM & WELCOME(2)

ME(2)

11-09-16

Conditional Use Permit / Site Development Plan for Proposed Panda Express**Response Narrative**

10453 Olive Blvd, Creve Coeur, MO 63141

Site Plan Review

1. Overall Site Coverage percentage to include the entire Pavilion Shopping Center will be provided.
2. Pavilion Drive is a private road specifically to serve as access into Pavilion Shopping Center and is not under the jurisdiction of the City of Creve Coeur or MDOT as documented in ALTA survey dated 06-20-16 as well as the Traffic Study of the proposed development dated 10-12-16. As such, building setback requirements associated with Rights of Way on Public streets would not apply. Additionally, the setback requirements along Ravenwood Lane would also not apply as this is an interior, private development access road for cross access within the Shopping Center at the proposed Panda Express development.
3. North and Western setback dimensions shall be removed, refer to comment #2
4. Vehicles in the stacking lane of 190 feet shall be shown – for clarification, Section 405.470-14(d)(7) governs drive-thru facilities abutting non-residential uses in CB/GC zoning and applies to this proposed development.
5. The Designated Stacking Lane does not cross between the building and the principle street frontage.
 - a. The principle street frontage is Olive Blvd.
 - b. The designated stacking lane is defined in Section 405.470-14(d)(7) as being “no less than 190’ long...and shall provide for escape prior to the point of the facility order board.” Section 405.120 Definition of Terms does not offer any additional clarification or definition of “Designated Stacking Lane” or “Stacking Lane,” therefore, the description and prescription of the “Designated Stacking Lane” in Section 405.470-14(d)(7) is defined as being a minimum of 190’ long excluding the vehicle at the service window.
 - c. Our proposal is aligned with this definition, and assert that the “Designated Stacking Lane” is 190’ plus the 19’ vehicle space at the service window. The “Designated Stacking Lane” terminates at a point in line with the building façade facing Olive Blvd, and does not extend beyond the building façade facing Olive Blvd nor does the Designated Stacking Lane cross in front of the building along Olive Blvd.
 - d. The traffic study dated 10-16-16 states that “approx. 305 feet [of vehicular storage is provided] before potentially impacting the circulation in the Panda Express parking field.” The intent of the approximate additional 115’ of drive-lane from the parking field circulation leading to the Designated Stacking Lane is to prevent the potential negative impact of vehicles accessing the Designated Stacking Lane with the parking lot circulation. This is achieved by extending the Eastbound vehicular drive-lane to connect with the Designated Stacking Lane entrance, located 190’ from the 19’ vehicular length of the service window. The additional 115’ one-way drive-lane isolates the vehicular traffic driving towards the Designated Stacking Lane entrance from the parking lot circulation.
 - i. This configuration is conceptually equivalent to vehicles exiting the Designated Stacking Lane after the drive-thru service window – the Westbound traffic.



Additionally, this configuration is conceptually equivalent to the two-way drive aisle in the parking field, parallel to Olive Blvd.

- e. Regarding Intent of the Drive-Thru Ordinance: We interpret the intent of Section 405.470-14(d)(9) preventing the Designated Stacking Lane from crossing between the building and the principle street frontage is to shield from view the idling vehicles waiting in the Designated Stacking Lane from the view of the principle street.
 - i. As stated earlier, the Designated Sacking Lane terminates before crossing in front of the building at Olive Blvd and thereby achieves the requirement outright.
 - ii. The provision of 11 total vehicles in the Designated Stacking Lane allows ample capacity for Guests to access the Drive-thru without backing up and idling into the access drive-lane that extends from the parking lot circulation and leads to the entrance of the Designated Stacking Lane. The Operational Standard of free-standing drive-thru Panda Express Restaurants of similar size targets a Designated Stacking Lane of only 8 vehicles or 9 vehicles maximum before impacting drive-lanes or site circulation. The anticipation of vehicles idling in the Eastbound drive-lane prior to entering the Designated Stacking Lane is low.
 - iii. This site has several unique characteristics that reinforce and accomplish the intent of screening all vehicles from view of the principle street, Olive Blvd.
 1. The parking lot pavement of the site at the corner is approximately 20' higher than Olive Blvd. Due to the extreme elevation of the site, the drive-lanes and vehicles in the drive-lanes are inherently screened from view from Olive Blvd.
 2. The top of the retaining wall will be planted with shrubs, to match and accentuate the existing condition of shrubs, along Pavilion Drive and Olive Blvd, further screening any vehicles in the drive-lanes parallel to Olive Blvd.
 3. There is a decorative iron fence that will remain along the top of the retaining wall – the fence is approx. 48" high with vertical pickets at 4" o.c.
 4. The Location of the building at the Southeast corner of the Lot is largely dictated by an existing condition serving the Overall Shopping Center. There exists an underground rain water storage system consisting of reinforced concrete voids. The building construction cannot occur over this underground storage system as it will not support the building structure.
 5. To meet the Maximum front yard of a parcel fronting Olive Blvd, the building must be located within approximately 40' of the existing retaining wall, and cannot extend much further North. This retaining wall becomes a limiting factor, as the property South of the retaining wall, up to the ROW line of Olive Blvd, is essentially useless for development and use for the building and site circulation – the ground elevation is 15' or more below the parking lot elevation. Therefore, the addition of parking spaces along the Eastbound access drive is not possible and must remain a one-way drive aisle.



6. The exiting traffic of the drive-thru service window exits from a full stop position. We have incorporated several features to further enhance the pedestrian experience and alert the vehicular traffic, as well as pedestrian traffic, that vehicles exiting the drive-thru will cross a pedestrian path.
 - a. As noted, only exiting traffic from the Designated Stacking Lane crosses the pedestrian path. The Eastbound traffic traveling towards the entrance of the designated stacking lane is completely out of the pedestrian flow to the building entrance. This extension of the Eastbound drive-lane, south of the Patio and building entrance facilitates this full separation.
 - b. Stop signs prior to the pedestrian crossing are provided along the drive-thru lane.
 - c. A raised hump designating the pedestrian path reinforces a slow progression of vehicular traffic through the crossing.
 - d. Red, patterned pavement designating the pedestrian flow from the continued Shopping Center Path to the Panda Express Restaurant Patio and Entrance visually identifies a crossing of pedestrians and reinforces the path a pedestrian should take when walking from the Panda Express parking lot or from the Shopping Center from the North.
 - e. The Pedestrian path angles to the Southeast from the Parking Lot and Shopping Center Pedestrian path to increase the sightlines of vehicles as well as pedestrians prior to entering into the crossing. Westbound pedestrians are visible sooner, and can identify vehicles exiting the Designated Stacking Lane service window well before a potential conflict occurs.
 - f. Low plantings are provide on the sides of sidewalks and pedestrian paths to prevent pedestrians from deviating from the Designated Pedestrian path and walking in or inadvertently crossing the exiting drive-thru traffic.

Design Guideline Review:

7. The following design elements meet with Streetscape/Pedestrian Circulation
 - a. The pedestrian flow from the existing North Retail building is continued in direct line from the sidewalk of the existing Retail Building, across the existing colored and textured pedestrian crossing along Ravenwood Lane, to a new 8' sidewalk that runs East/West and parallel to Ravenwood Ln. Access to the Panda Express continues South from this connection and 8' sidewalk to a designated pedestrian crossing leading directly to the Outdoor Patio area, and main building entrance.
 - b. A raised hump designating the pedestrian path crossing at the exiting drive-thru traffic reinforces a slow progression of vehicular traffic through the crossing and identifies the crossing as a pedestrian crossing.
 - c. Red, patterned pavement designating the pedestrian flow from the continued Shopping Center Path to the Panda Express Restaurant Patio and Entrance visually identifies a crossing of pedestrians and reinforces the path a pedestrian should take when walking from the Panda Express parking lot or from the Shopping Center from the North.
 - d. Low plantings are provide on the sides of sidewalks and pedestrian paths within the Panda Express site area to prevent pedestrians from deviating from the Designated Pedestrian path and walking in or inadvertently crossing the exiting drive-thru traffic.
 - e. Additional detail of the materials and furniture of the Patio Area will be provided.



8. Exterior Material Selection:

- a. The use of Nichiha fiber cement panels is utilizing a high quality and durable material. The manufacturer offers a 50-year warranty on product manufacturing defects and a 15-year warranty on defects in the panel finish. The board is manufactured from pressed, stamped, and autoclaved mix of Portland Cement, fly ash, silica, recycled rejects, and wood fiber bundles: 80% of the ingredients are also found in brick, or architectural cast concrete products. The product is listed as having a surface burning characteristic of a flame spread value of 0 and smoke development value of 5 and is listed as Fire Resistant and Ignition Resistant. The use of the Nichiha rain-screen system is in concept the same system as a cavity brick wall: moisture vapor is anticipated to pass through the “screen”, drain behind the “screen” in an air gap, and either exit the “screen” to the exterior via evaporation or weeps at the bottom of the “screen”
 - b. Exterior Elevations have been re-designed to increase visual interest while maintaining both building and shopping center vocabulary.
9. Exterior Elevations have been re-designed to increase visual interest while maintaining both building and shopping center vocabulary.
10. Restaurant Design:
- a. The materials and colors of the building are consistent with the existing materials and colors of the existing shopping center. The addition of the Nichiha element is an incorporation of Panda Express’ current exterior design concept. The building could be repurposed to any other restaurant and still be a high quality designed building, and there is no design element that is trademarked or associated specifically with Chinese cuisine. An example of an unacceptable franchise architecture would be parapet crenulations on White Castle restaurants. The proposed Panda Express does not have an example of this type of corporate or franchise character.
 - b. Refer to items 5, 6, 7 above
 - c. Any fencing or railing will be compatible with existing design and proposed design
 - d. Trash enclosure will be red brick to match the center’s primary masonry material.
11. Cut sheet of the site lighting pole will be provided to match existing Center conditions.

Landscape Plan Review:

12. An overall Landscape plan will be provided separately from this CUP submittal and by others, with the understanding that we have already worked to match existing plant types with the existing Shopping Center.
13. Plantings in the proposed development will be consistent with the overall Center plantings. Additional details of the Patio area will be provided. We have eliminated the use of Mexican Pebbles despite this being a Client preference and Cultural Design Element. The use of bark mulch that matches existing shopping center mulch.
14. Trees and shrubs will comply
15. Acknowledged that signage is under separate permit and review process.



Alternative Compliance Narrative for Nichiha Fiber Cement boards in lieu of Masonry

We propose for your consideration the use of Nichiha brand “Vintage Wood” Fiber Cement Boards as an alternate exterior cladding material to masonry construction. The Nichiha exterior cladding system is a rain-screen system, meaning the visible exterior material, the Nichiha “Vintage Wood” material, has an air-space, or gap, between the back of the board and the weatherproofed building substrate. This gap allows any moisture that finds its way behind the “Vintage Wood” material, to drain to the bottom of the assembly, and migrate out of the wall and away from the building. Additionally, the air gap allows air movement behind the wall drying said moisture. This method of construction is the same concept used in face brick and masonry construction – the brick is held off of the building substrate to provide an air gap between the back of the brick and the building.

Panda Express uses the Nichiha “Vintage Wood” material as part of their overriding Chinese heritage and natural material design concepts. The use of wood is a warm, and welcoming, material, but it’s application as an exterior material, used as real wood planks, does not align with Panda Express’ high quality standards of guest experience, cuisine, and design, nor does it meet with the City’s “durable” and “high quality” standards. Therefore, the Nichiha “Vintage Wood” material facilitates the warm and welcoming wood design concept while providing for a durable, long lasting, and high quality finish, or look. Nichiha warranties the color of the wood finish for 15 years, and additionally warranties the board product for 50 years. The duration of these warranties are right in line with an expected masonry product longevity.

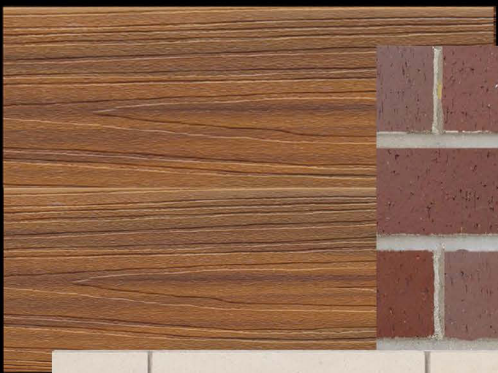
We feel that the intention of the Ordinance, to provide a durable, high-quality material that has clean lines, and an ordered assemblage similar to masonry construction is satisfied with the limited use of Nichiha “Vintage Wood” Fiber Cement boards.

End of Narrative.





Fiber Cement Board
Nichiha "Cedar"



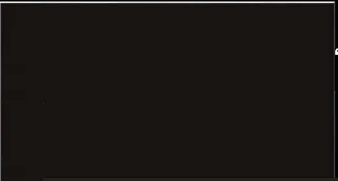
Stone
"Arriscraft 8x24 Limestone"



Face Brick
Interstate "Mountain Red"



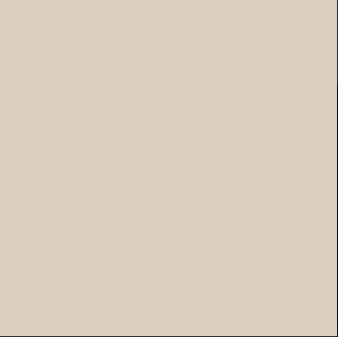
Storefront & Metal Coping
"Black"



Paint
"SW 7069 Iron Ore"



Stucco
"SW 6148 Wool Skein"



Landscap
TECHNOLOGIES
67 Jacobs Creek Drive
St. Charles, Missouri 63304
Tel: (636) 426-1563
Fax: (636) 426-1562
MO Landscape Architectural Corporation #2008008782

**PLANTING PLAN FOR THE PROPOSED
Panda Express
CREVE COEUR, MISSOURI**

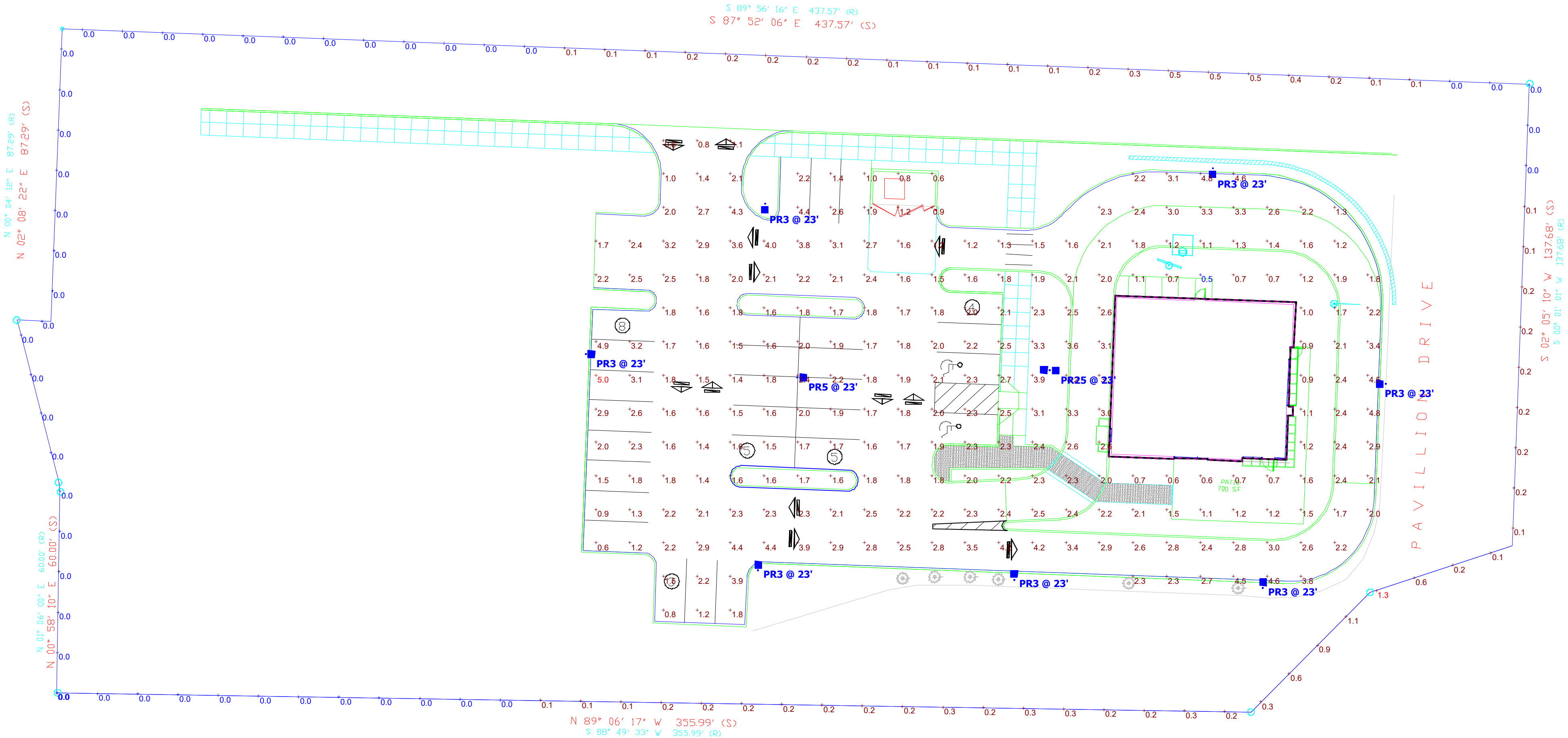
L-2
OF TWO SHEETS



- MSD BASE MAP
- P# P-
- ZIP CODE: 63141



- ALL NATIVE GRASS PLUGS ARE TO BE A MINIMUM 4.5" DEEP X 2" DIAMETER
- CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS TO BE APPROVED BY THE PROJECT ENGINEER AND MSD. CONTACT MSD AT 314/335-2012.
- DURING CONSTRUCTION, THE BIO-RETENTION AREAS MAY TRAP SEDIMENT. FINAL CONSTRUCTION AND PLANTING OF THE BIO-RETENTION AREAS SHALL BE COMPLETED AFTER SILT AND DEBRIS IS REMOVED.
- EQUIPMENT SHALL BE KEPT OFF OF THE SOIL MIX DURING CONSTRUCTION OPERATIONS TO AVOID COMPACTING. FOOT TRAFFIC AND PRE-SOAKING TO AID NATURAL COMPACTION IS ALLOWABLE.
- SOIL PH SHALL FALL IN THE RANGE OF 5.5 AND 7.
- SEE CIVIL DRAWINGS FOR CROSS-SECTIONAL DETAILS OF MULCH AND SOIL MAKEUP



Plan View
Scale - 1" = 23'

Statistics						
Description	Symbol	Avg	Max	Min	Max / Min	Avg / Min
Parking Lot Light Levels	+	2.2 fc	5.0 fc	0.5 fc	10.0:1	4.4:1
Property Line Light Levels	+	0.1 fc	1.3 fc	0.0 fc	N/A	N/A

Schedule										
Symbol	Label	Qty	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	LLF	Wattage
	PR3	7	LITHONIA LIGHTING	KVS3-400M-R3	Single Head Lithonia Ligting KVS3 Series 400w Metal Halide Area Unit w/Type R3 Distribution (Retrofit Lunera Lamp) 20ft. Pole Height w/3ft. Estimated Base	(Qty.1) SN-H-E39-400W/320W-4000-G2	1	12300	0.95	145
	PR5	1	LITHONIA LIGHTING	KVS3-400M-R5	Single Head Lithonia Ligting KVS3 Series 400w Metal Halide Area Unit w/Type R5 Distribution (Retrofit Lunera Lamp) 20ft. Pole Height w/3ft. Estimated Base	(Qty.1) SN-H-E39-400W/320W-4000-G2	1	12300	0.95	145
	PR25	1	LITHONIA LIGHTING	KVS3-400M-R5	Double Head Lithonia Ligting KVS3 Series 400w Metal Halide Area Unit w/Type R5 Distribution (Retrofit Lunera Lamp) 20ft. Pole Height w/3ft. Estimated Base	(Qty.2) SN-H-E39-400W/320W-4000-G2	1	12300	0.95	290

McCLURE ENGINEERING

October 11, 2016

Via email: eric.abeln@hva.cc

Mr. Eric Abeln
Heights Venture
1111 North Loop West, Suite 800
Houston, Texas 77008

Re: Panda Express
Proposed Drive Thru Sound Study
McClure Project: 104168.000

Dear Mr. Abeln:

McClure has reviewed the property line distance information and the typical sound pressure levels emitted from the proposed Panda Express order station. Appropriate acoustical models have been assembled using manufacture data to find the acoustical impact this speaker system will have on the surrounding area. Based on this information and measured sound levels at the east property line, the sound level from the speaker system will be below the Creve Coeur Zoning Ordinance No. 5400 sound control code for both day and night operation and will have negligible impact on the ambient sound in the area. The technology within the order station compensates for the ambient sound resulting in sound levels similar to two people having a conversation in the parking lot.

Calculations

The proposed site plan provided by Heights Venture September 29, 2016 indicates the approximate distance from the closest point on the west property line to the order station to be about 60'. The attached sound data provided by order station manufacturer, HME Electronics, includes maximum sound levels as well as sound levels with the AVC activated. The worst case is calculated to be 52 dBA at the property line and less than 49 dBA at the apartment complex located at Pavilion Drive. This is based on a maximum output of 86.5 dBA at 1' from the order station. The order station will employ AVC and typically operates at only 60 dBA at 1' from the order station when the ambient sound level is low. **Based on the manufacturer's data the sound level contribution from the order station with the AVC activated is calculated to be 22 dBA at the property line and 18 dBA at the apartment building. These levels are far below any typical ambient sound.** While the sound levels will typically be somewhere in between 60 and 84 dBA at 1' from the order station, the data and calculations show the order station remains as quiet as possible based on the ambient sound of the area. Sound maps are in Appendix A.

Mr. Eric Abeln
 October 11, 2016
 Page 2 of 7

The Creve Coeur sound code (Ordinance No. 5400) states that the sound level will not exceed 60 dBA at the property line. The sound emitted by the order station is at least 15 dB below this criterion at the property line at all times.

The test station for the manufacturer's data was 8' in front of a reflective building as is the same for this site condition. We have conducted our own tests to verify the operation of the AVC system. We have also included calculations for both the worst case sound levels as well as typical levels with the AVC system.

Background Sound Level Measurements

Noise Monitoring Data and Results

A Larson Davis Model 720 Sound Level Meters (SLM) was used for the sound measurements. The SLMs recorded and stored the following A-weighted quantities for each one-hour increment of the measurement period: (1) energy equivalent sound level [Leq], (2) the maximum sound level [Lmax], (3) the sound level exceeded 10% of the time [L10] and (4) the sound level exceeded 90% of the time [L90]. All measurements were A-weighted per ANSI S1.4 and were designated as decibels (dBA).

All the data has been plotted into 24-hour charts, one chart for each day, and can be found in Appendices B attached. Figure 1 is the site map showing monitor location. These charts also summarize the energy equivalent sound levels (Leq) for each day (7:00 AM to 10:00 PM) and night (10:00 PM to 7:00 AM). The entire set of monitoring data collected are charted in Figure 2.



Mr. Eric Abeln
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 Page 3 of 7

Table 1: L/D 720 - 24-Hour Ldn, Day and Night Leq for each day

Date	(Ldn₂₄) dBA	(Lday) dBA	(Lnite) dBA
Friday, September 23, 2016	n/a*	50.6	49.2
Saturday, September 24, 2016	61.0	57.6	53.7
Sunday, September 25, 2016	60.9	56.4	54.1
Monday, September 26, 2016	62.4	59.3	55.1
Tuesday, September 27, 2016	62.1	59.8	54.4
Wednesday, September 28, 2016	60.8	59.6	52.3
Thursday, September 29, 2016	n/a	56.7	52.2

*n/a – Not a complete 24 hours set of data

Sound level monitor was setup in the center of the proposed site for Panda Express parking lot on the east side of the site. The monitor was placed approximately 215 feet from the Vanguard Heights apartments to the monitor location for seven (7) days.

The monitors measured all sounds, including but not limited to sound from aircraft overflights, the nearby roadways, nature sounds (insects) and rooftop mechanical equipment. However, the majority of the sound is from road noise from Olive Boulevard. This is reflected in part of the noise patterns shown in the data. The sound levels were very consistent over the noise monitoring period.

All the sound in the area of our study is considered background noise. Background noise at the site was determined by monitoring A-weighted sound levels at the site for a period of seven (7) days. The average one-hour daytime Leq data was used to establish the current background sound levels for this site. The nominal Leq day-time and night-time background sound level in the area ranged from 60 dBA during the day-time hours and as low as 48 in the late night hours (12 and 5 am).

The data was very consistent which can be seen in the Table 1 and Figure 2. Each graph represents the environmental noise throughout the monitoring period. On several days during the monitoring period, the dBA levels were comparable between the days.

Mr. Eric Abeln
 October 11, 2016
 Page 4 of 7

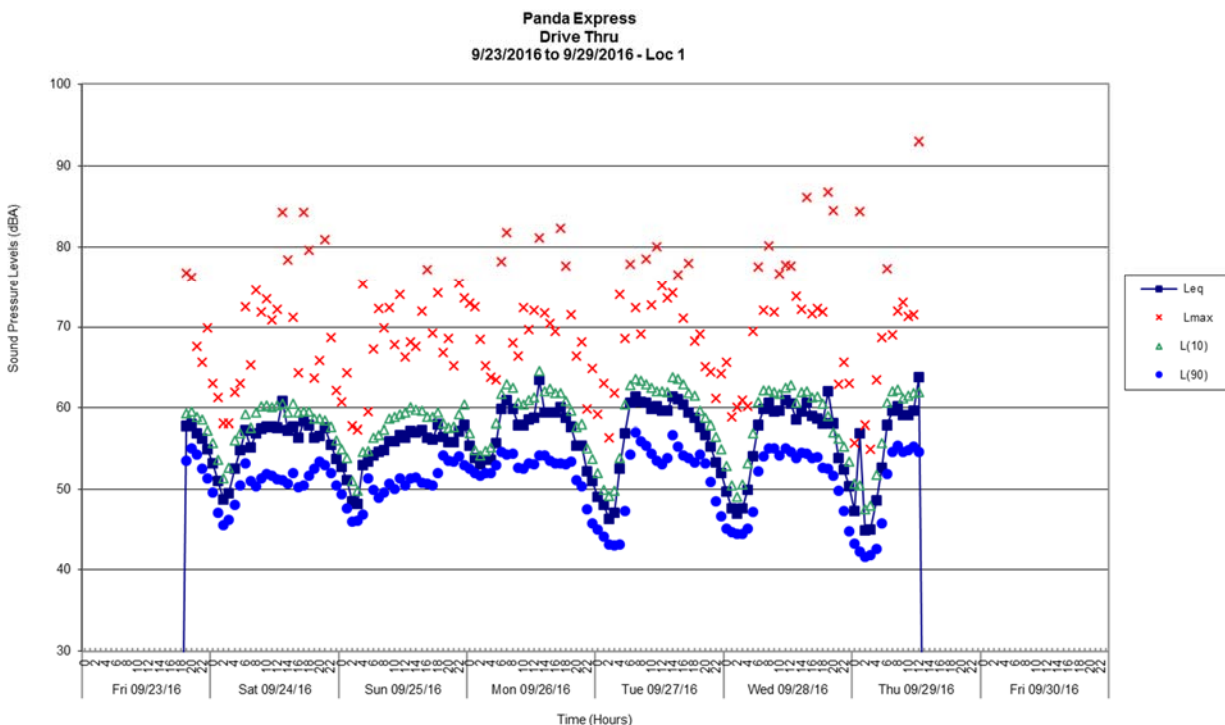


Figure 2 – On Site Sound Data

Conclusions

The background sound level is controlled by traffic sound based on site observations and measured data rather than the ordering station. From our measurements, data indicated the Automatic Volume Control (AVC) functions well since the ordering station level blends in with the traffic and other ambient sounds.

The calculated sound levels at the east property line will be far below the 60 dBA Creve Coeur sound code and will not have any insignificant impact on the ambient sound in the area. The technology within the order station compensates for the ambient sound resulting in sound levels similar to two people having a conversation in the parking lot. The property line and the apartments will experience sound levels from the order station to be less than 45 dBA, sound levels typical of a quiet office or urban environment. As a reference, conversational speech levels are typically 55 to 65 dBA.

Mr. Eric Abeln
October 11, 2016
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Recommendations

The sound from the ordering station and drive-thru is less than the Creve Coeur sound code requires and is below typical ambient traffic sound for this area. No further remediation is required.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Gary Brown". The signature is written in a cursive, flowing style.

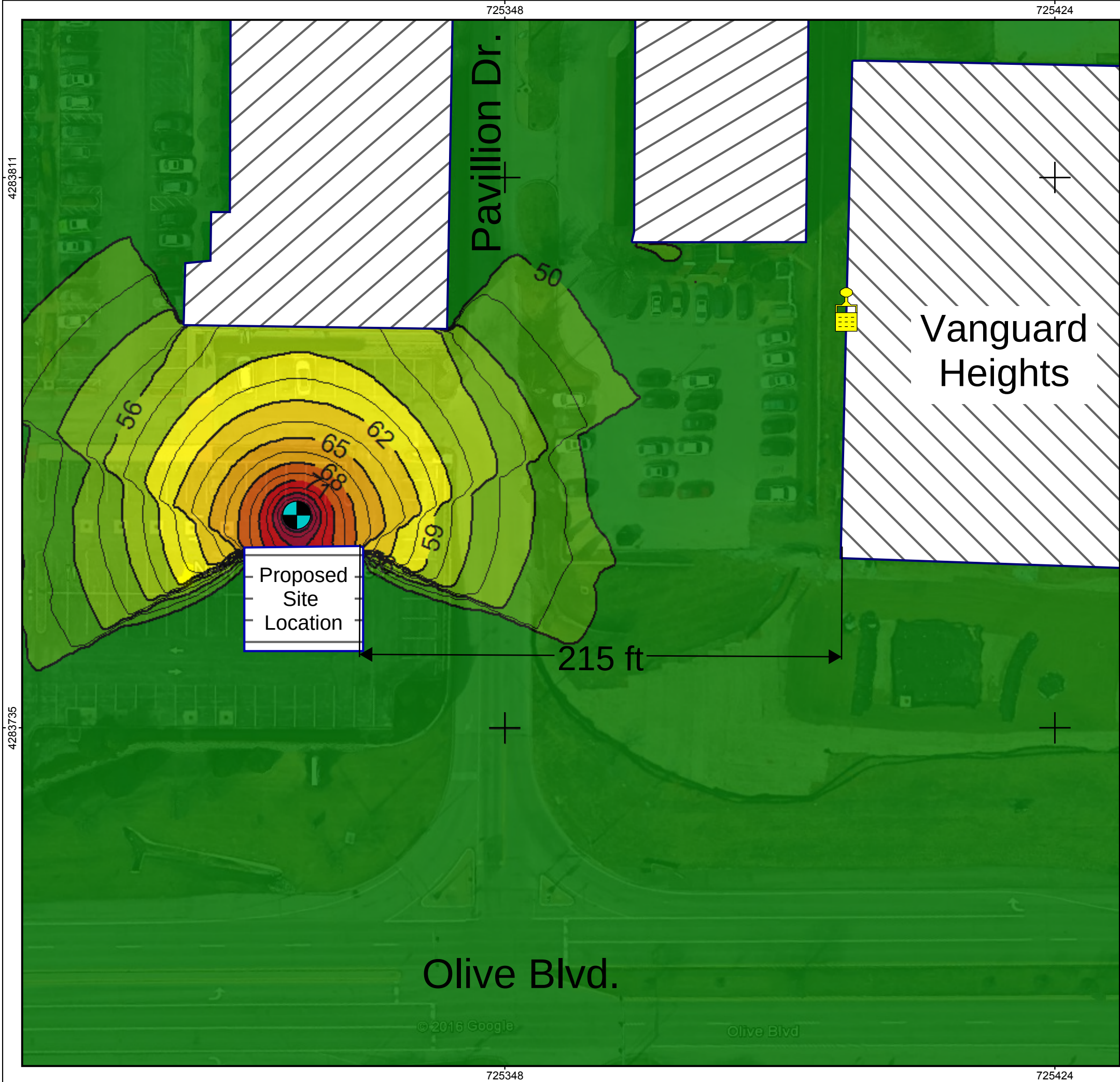
Gary Brown, ASA, INCE

GPB:tbm
cc: Brandon Harp bharp@cedc.net

Attachments

Mr. Eric Abeln
October 11, 2016
Page **6** of **7**

Appendix A Sound Maps



Customer:

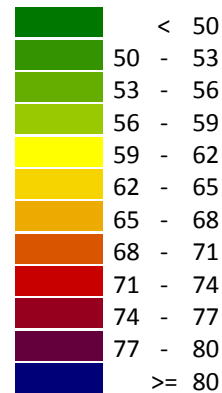
Project: Panda Express Creve Coeur
Project-No. 104168.000

Map
1

Non-Volume Controlled No Roads
Calculation in 1.5 m above ground

Project engineer: Sam Jamison
Created: 10/7/2016
Processed with SoundPLAN 7.4, Update 3/27/2015

Levels Ldn
in dB(A)

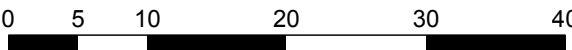


Signs and symbols

- Main building
- Auxiliary building
- Point receiver
- Source



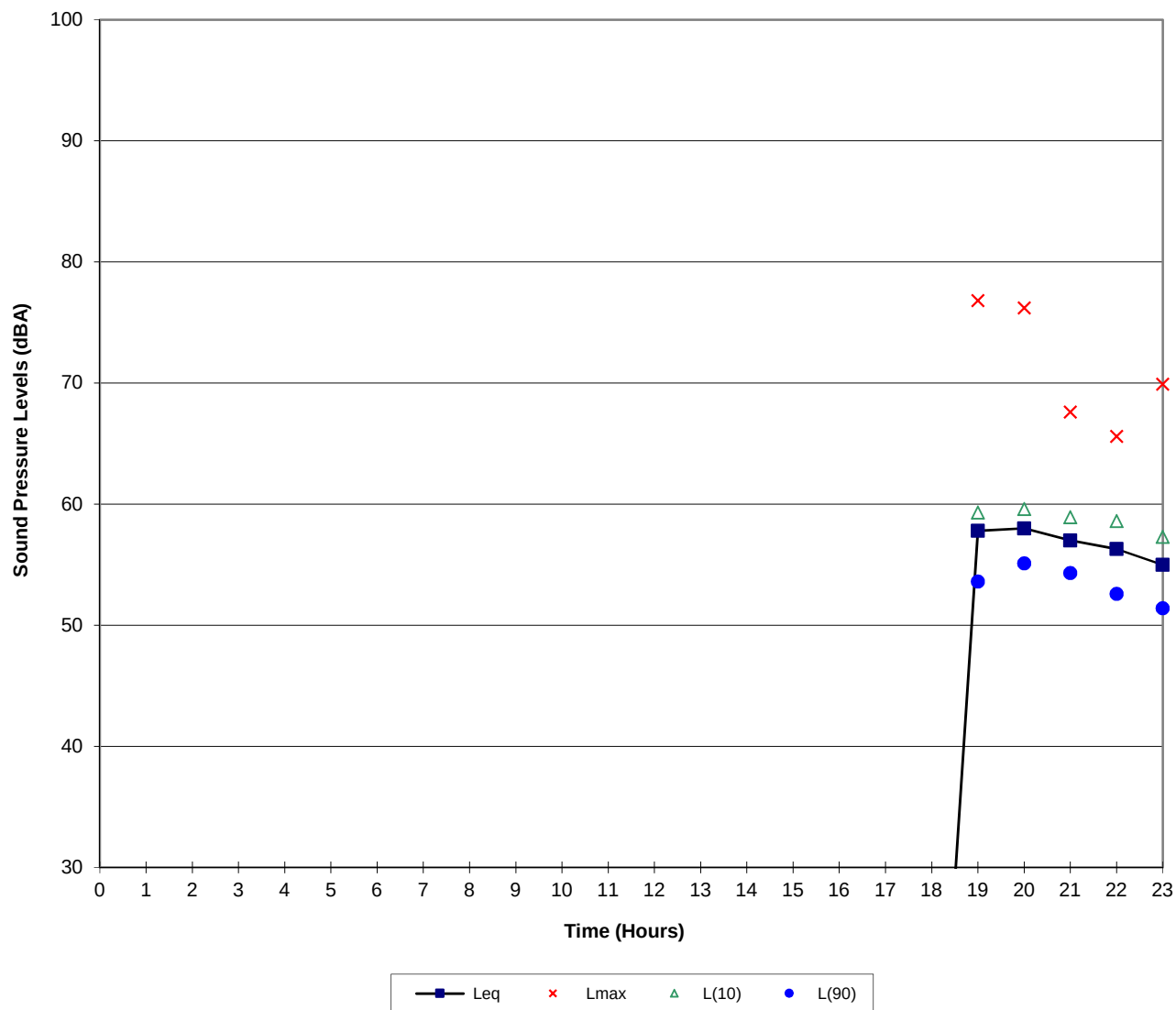
Length scale 1:543



McCLURE ENGINEERING

Mr. Eric Abeln
October 11, 2016
Page 7 of 7

Appendix B
24 Hour Data Plots



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

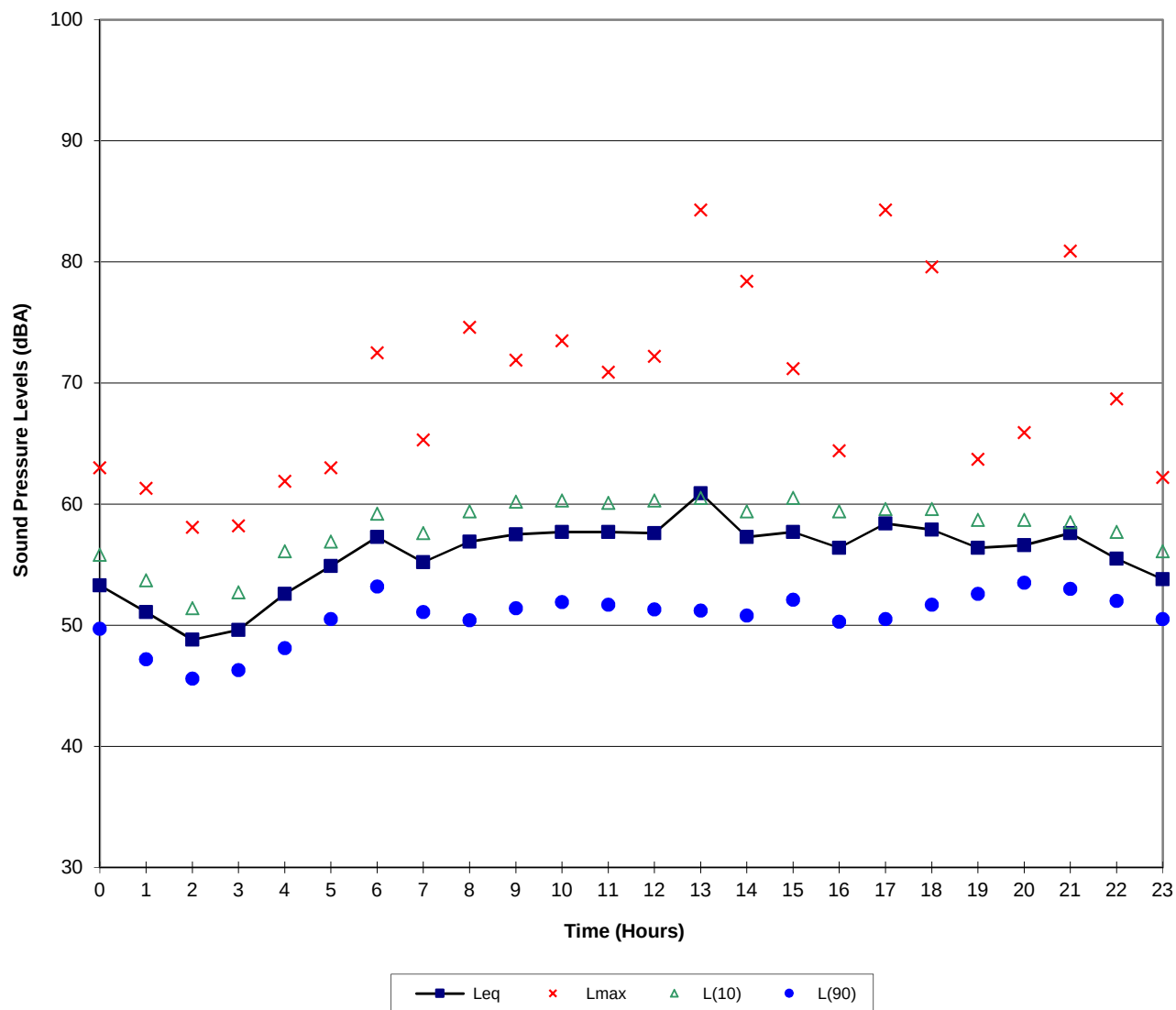
Loc 1

L/D 720 -

Friday September 23, 2016

Leq(n)	49.2 dBA
Leq(d)	50.6 dBA
Ldn(24)	55.8 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

Loc 1

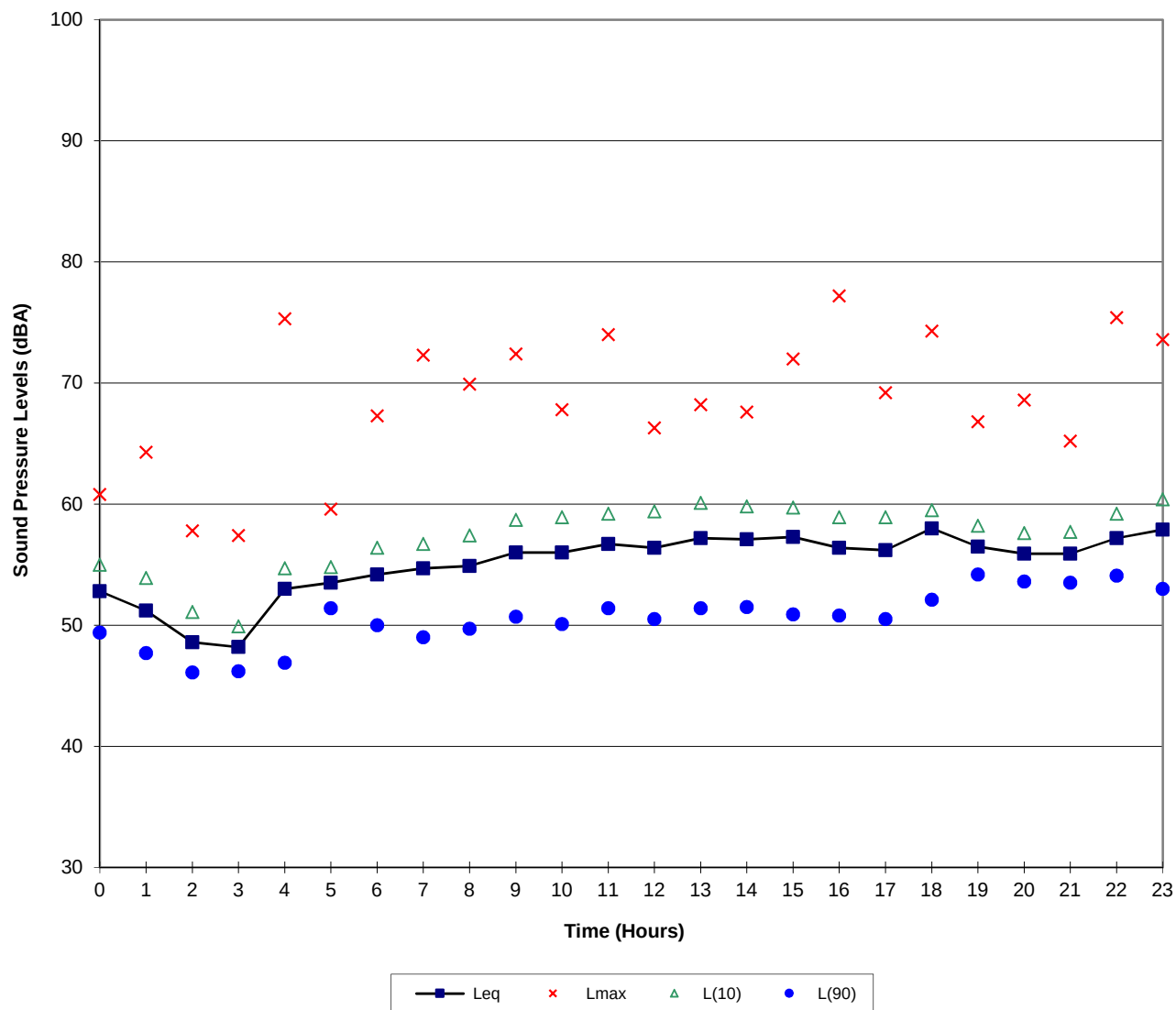
L/D 720 -

Saturday September 24, 2016

Leq(n) 53.7 dBA
Leq(d) 57.6 dBA
Ldn(24) 61.0 dBA

Rain and Thunderstorm

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

Loc 1

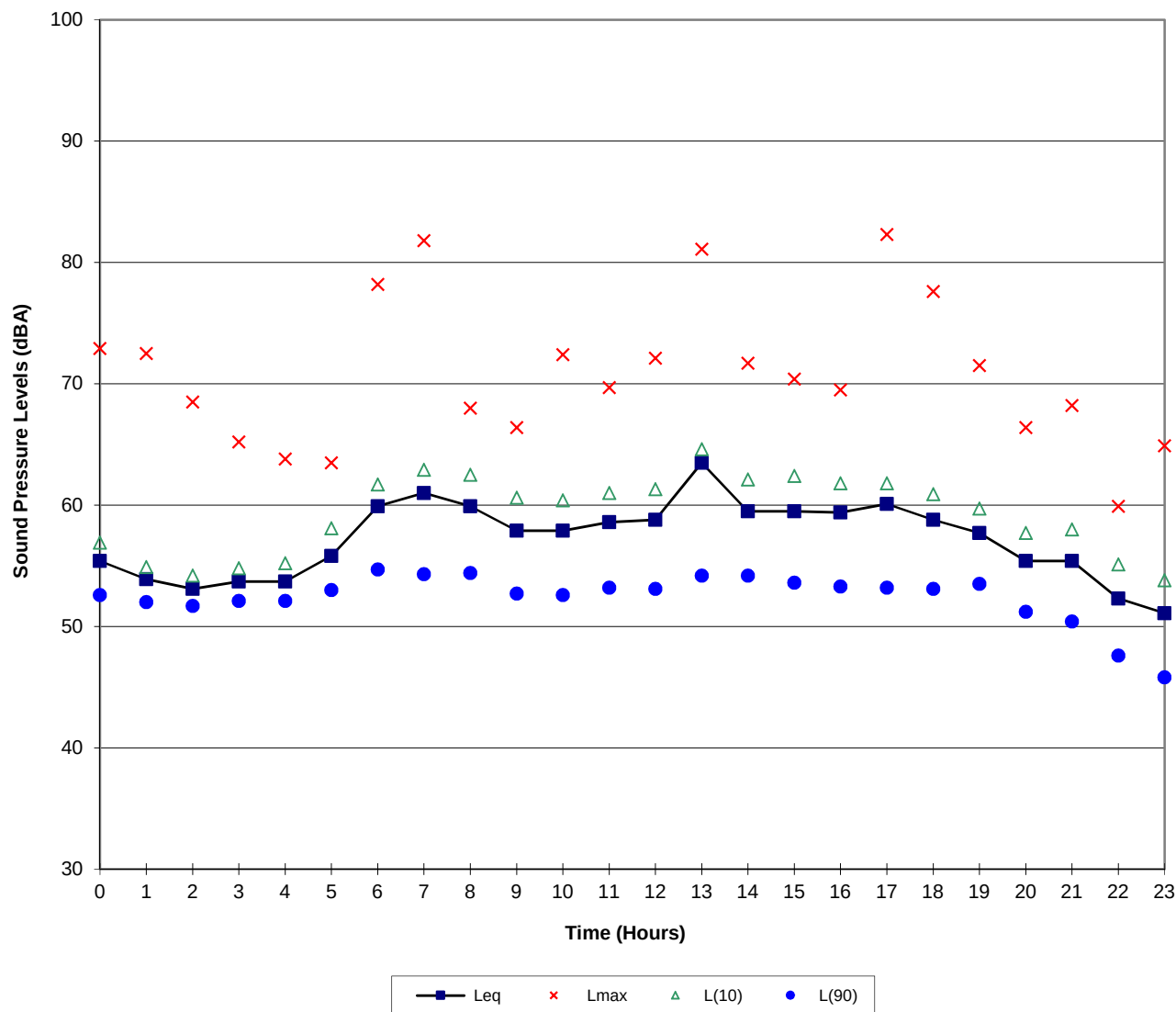
L/D 720 -

Sunday September 25, 2016

Leq(n) 54.1 dBA
Leq(d) 56.4 dBA
Ldn(24) 60.9 dBA

Rain and Thunderstorm

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

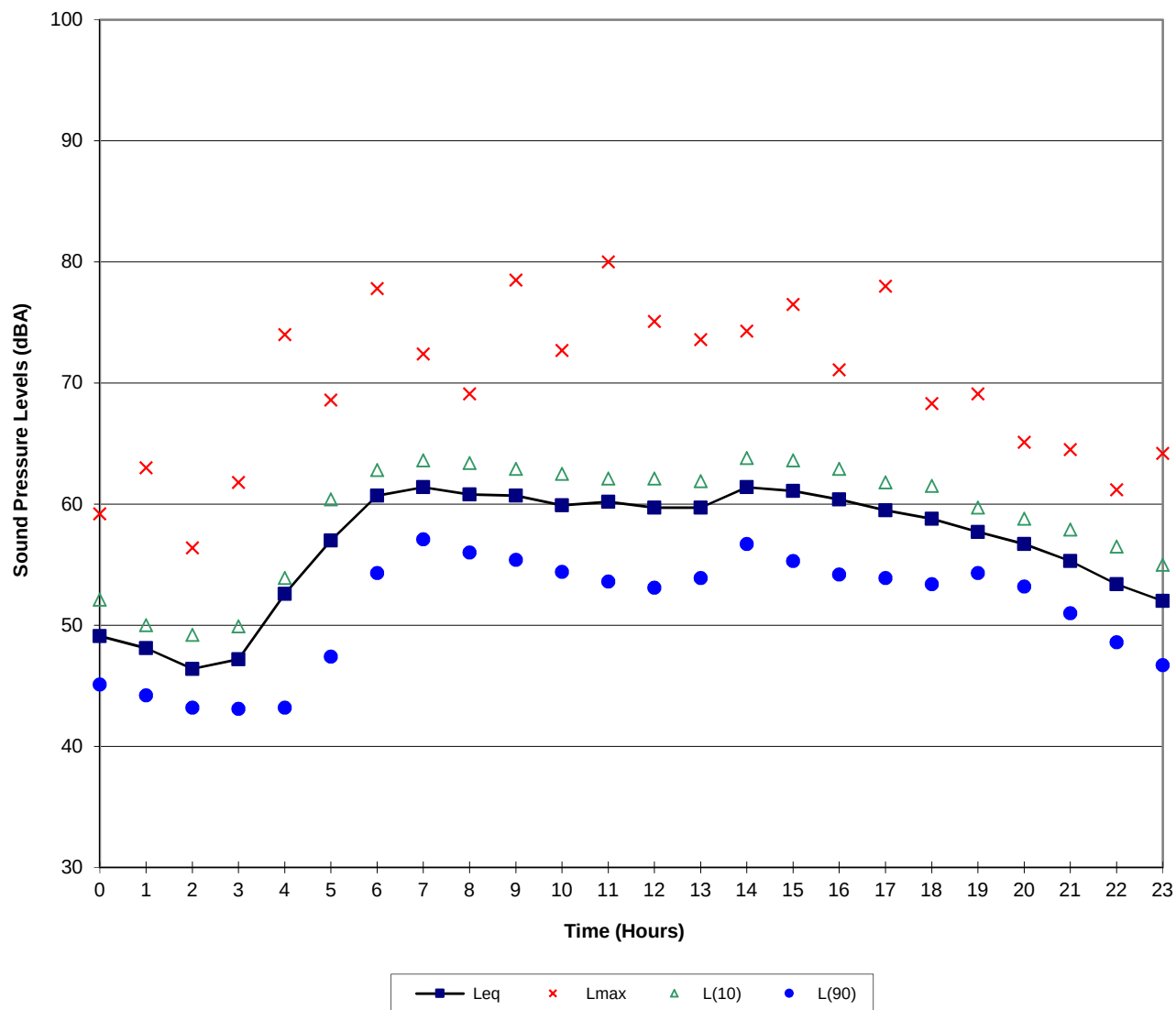
Loc 1

L/D 720 -

Monday September 26, 2016

Leq(n) 55.1 dBA
Leq(d) 59.3 dBA
Ldn(24) 62.4 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

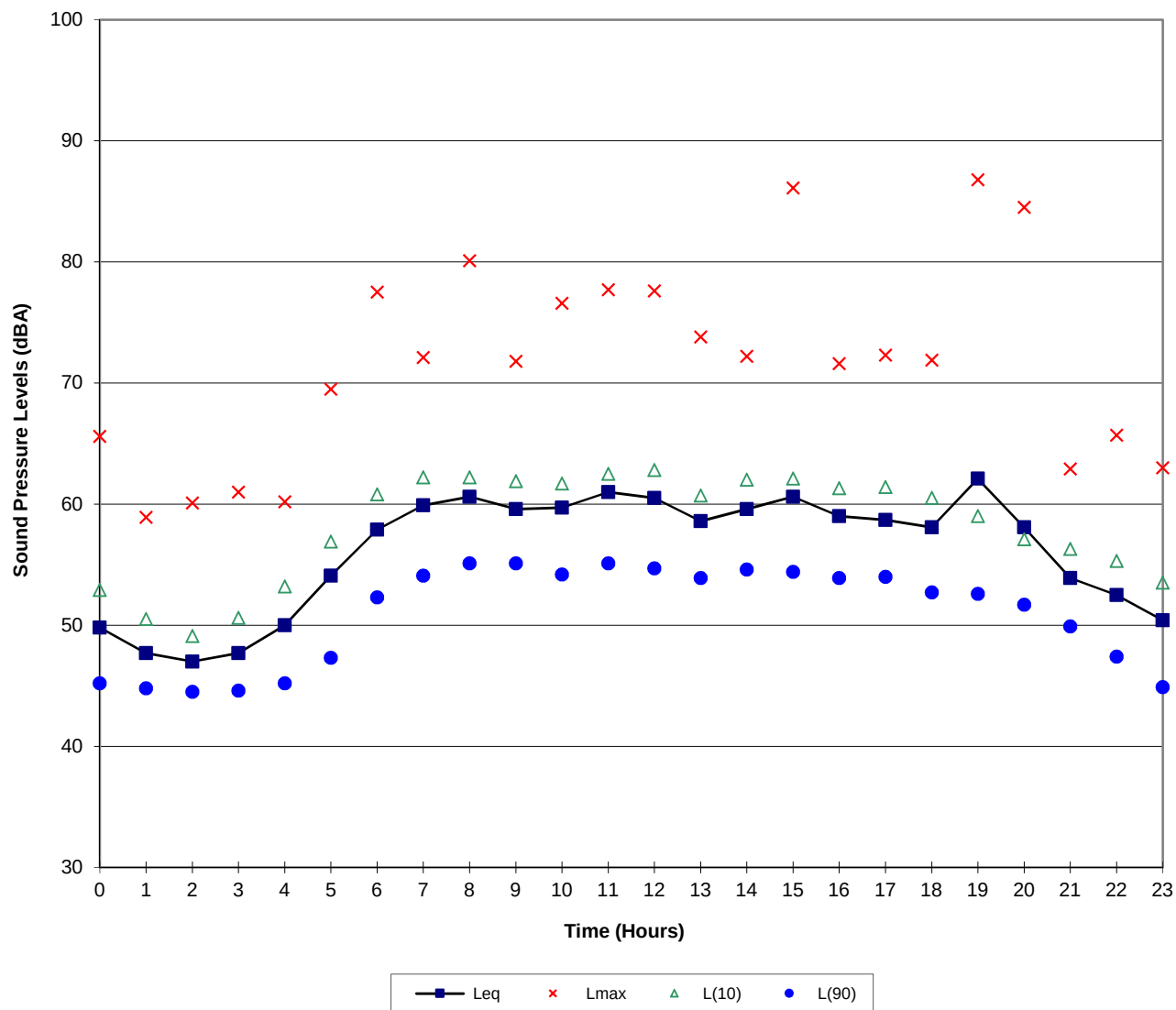
Loc 1

L/D 720 -

Tuesday September 27, 2016

Leq(n)	54.4 dBA
Leq(d)	59.8 dBA
Ldn(24)	62.1 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

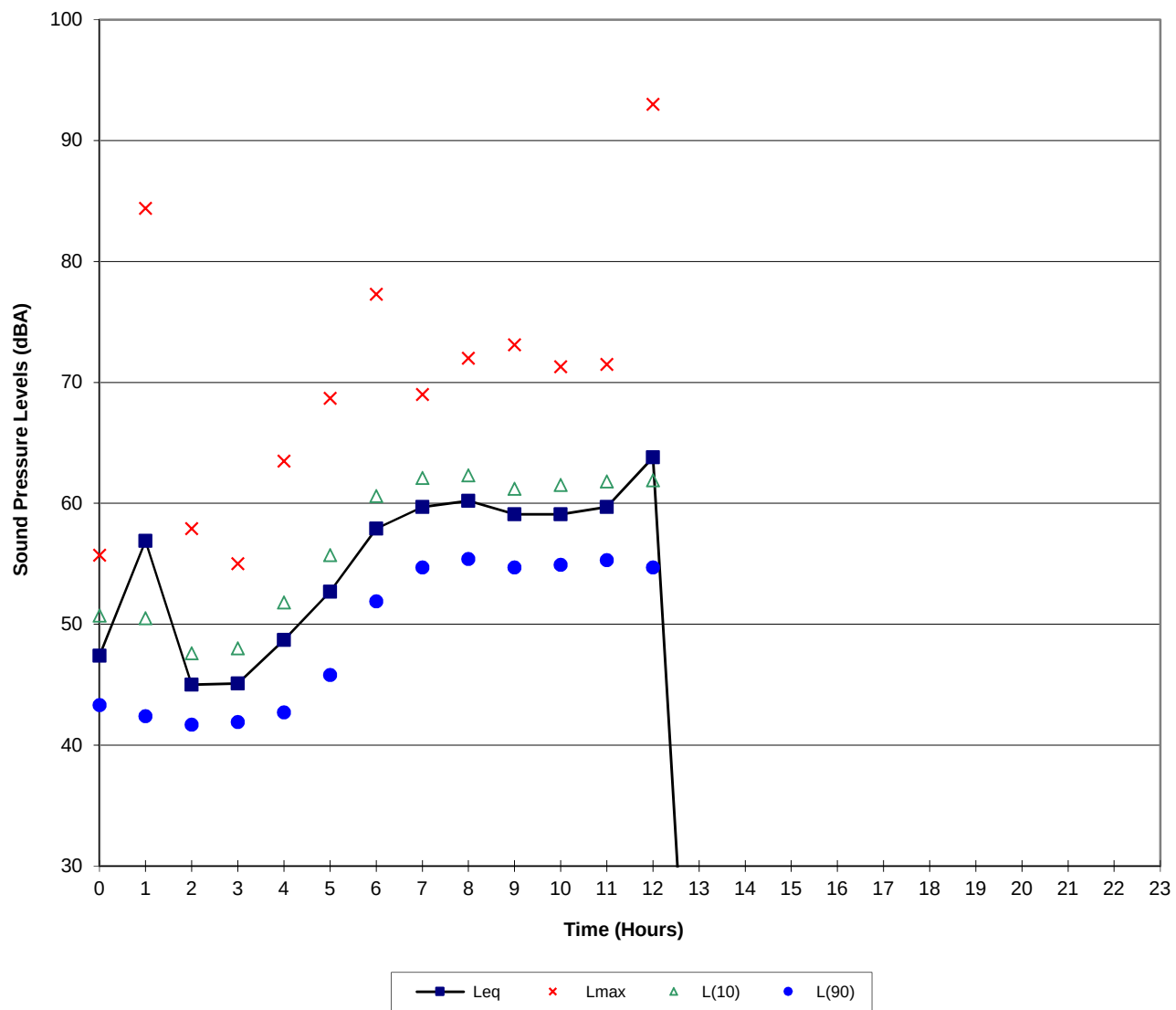
Loc 1

L/D 720 -

Wednesday September 28, 2016

Leq(n) 52.3 dBA
Leq(d) 59.6 dBA
Ldn(24) 60.8 dBA

McClure/EDI Acoustics
St. Louis, Missouri



**Panda Express
Drive Thru
9/23/2016 to 9/29/2016**

Loc 1

L/D 720 -

Thursday September 29, 2016

Leq(n) 52.2 dBA
Leq(d) 56.7 dBA
Ldn(24) 59.6 dBA

McClure/EDI Acoustics
St. Louis, Missouri

October 12, 2016

Revised November 16, 2016

Mr. Robert Holton
Heights Venture Architecture Design
5717 Legacy Drive, Suite 240
Plano, Texas 5024

RE: Traffic Impact Study
Proposed Panda Express – Creve Coeur Pavillion
Creve Coeur, Missouri
CBB Job Number 89-2016

Dear Mr. Holton:

As requested, CBB has prepared the following study to address the potential traffic impacts associated with a proposed Panda Express development located in the Creve Coeur Pavillion center generally located on the north side of Olive Boulevard between Pavillion Drive and Old Olive Street Road in Creve Coeur, Missouri. **Figure 1** illustrates the general location of the proposed site relative to the surrounding area.

It is our understanding that a 2,6000 square foot (SF) Panda Express with Drive-Thru is proposed on the east parking lot area of the previous Macaroni Grill. The west side of the lot, which included the old restaurant building is now vacant. Access to the Panda Express would be provided via one shared curb cut to Ravenwood Lane, approximately 220 feet west of Pavillion Drive. **Exhibit 1** illustrates the preliminary site plan provided by your civil engineer.

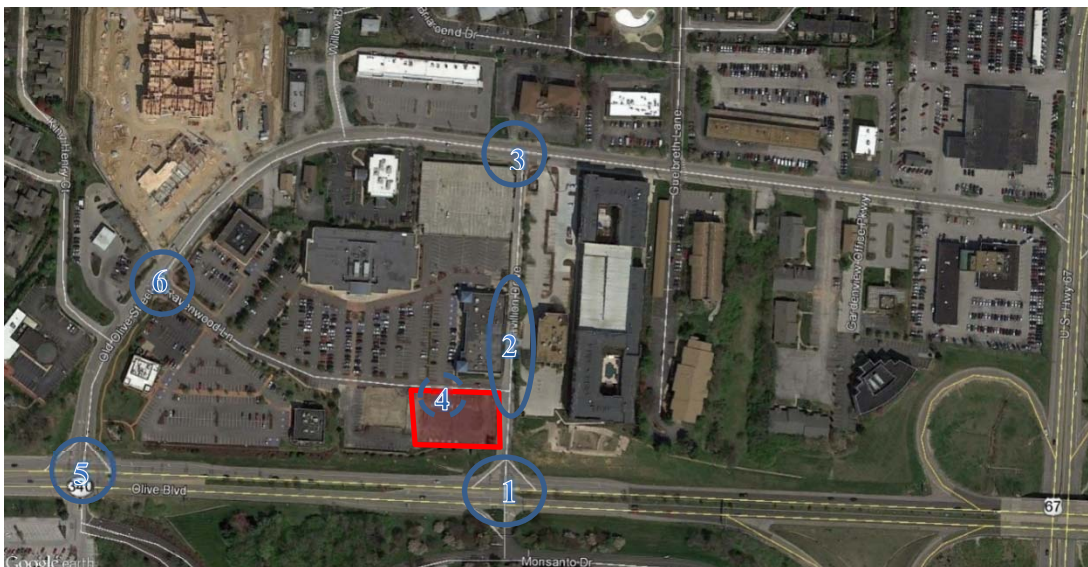


Figure 1 – Site Location Map





This study was prepared in accordance with parameters discussed with the City of Creve Coeur and the Missouri Department of Transportation (MoDOT). The purpose of this traffic impact study was to estimate the number of trips that would be generated by the proposed development; evaluate the impact of those trips on the proposed access and adjacent roadways; and determine the ability of motorists to safely enter and exit the site. As necessary, roadway improvements and/or traffic control modifications have been recommended to mitigate the impact of the proposed development. The focus of our analysis was the weekday midday peak hour and the PM peak hour of a typical weekday. It should be noted that the proposed Panda Express will not be open during the AM peak hour; therefore, no impact is expected in the morning.

Existing Conditions

In order to identify the traffic impacts associated with the proposed development, it was first necessary to quantify the existing roadway, traffic and operating conditions. To that end, an operational analysis of existing traffic volumes on the surrounding road system was performed.

Existing Roadways

Olive Boulevard (Missouri Route 340) is a primary, east-west arterial that provides a regional connection between St. Louis City and Western St. Louis County. Olive Boulevard generally consists of a five-lane section (two thru lanes in each direction plus left-turn lanes at the signalized intersections). A raised median divides eastbound and westbound traffic from west of Spode Road to east of Lindbergh Boulevard. The posted speed limit is 40 miles per hour (mph) east of Old Olive Street Road and 35 mph to the west. Separate westbound right-turn lanes are provided along Olive Boulevard at Old Olive Street Road and Pavillion Drive. Westbound left-turn access is not provided from Olive Boulevard into the Monsanto campus at the Pavillion Drive signal.

Pavillion Drive is a private two-lane north-south roadway connecting Old Olive Street Road with Olive Boulevard. Pavillion Drive has four commercial entrances serving parking lots and an office building. Pavillion Drive intersects Olive Boulevard at a signalized intersection opposite an access to the Monsanto World Headquarters Campus. Southbound Pavillion Drive is required to stop at Ravenwood Lane while northbound is free flow from Olive Boulevard to Old Olive Street Road. It should be noted that the southbound STOP sign at Pavillion Drive and Ravenwood Drive does not meet the Manual of Uniform Traffic Control Devices (MUTCD) standards. The sign is square in shape with a small octagon stop sign painted and therefore can only be recognized as similar to a true STOP sign by southbound traffic. It was noted during the data collection that this seemed to cause confusion to northbound drivers as to who has the right-of-way at the intersection.



It is recommended that a typical octagonal stop sign (MUTCD R1-1) be installed whose shape (silhouette) could be observed from the rear by northbound traffic and help better define the right-of-way through the intersection. Similarly, the eastbound approach of Ravenwood Lane at Pavillion Drive also has the square stop sign that should be replaced with a standard octagonal stop sign. Furthermore, we also recommend “Oncoming traffic does not stop” sign for the southbound approach and “Traffic from right does not stop” for the eastbound approach to clearly convey that northbound traffic does not stop.

Olive Boulevard at Pavillion Drive is a signalized intersection with Monsanto’s west campus access as the southern leg. The southbound through movement is restricted by an island on the commercial entrance. Eastbound Olive Boulevard has two through lanes, a separate left-turn lane and a separate right-turn lane. Westbound Olive Boulevard has two through lanes with a separate right turn lane. No westbound left-turn movement is allowed at this intersection. The traffic signals along Olive Boulevard are part of a coordinated system. The eastbound left-turns operate with protected-plus-permitted Flashing Yellow Arrow phasing, while the northbound and southbound approaches operate under split-phasing.

Old Olive Street Road is an urban collector that provides connections between Olive Boulevard and Lindbergh Boulevard as well as local access to adjacent commercial properties. Old Olive Street Road serves the southbound Lindbergh Boulevard to westbound Olive Boulevard movement in lieu of a direct ramp at the partial cloverleaf interchange. At Pavillion Drive, Old Olive Street Road is marked with three lanes (one lane in each direction plus a two-way left-turn lane). Pavillion Drive is required to STOP at the approach to Old Olive Street Road. Old Olive Street Road provides two southbound lanes (one through lane and a shared left-turn/through lane) and two northbound lanes (a through lane and a separate northbound right-turn lane) at the intersection with Ravenwood Lane. Old Olive Street Road has a posted speed is 30 mph. Old Olive Street Road is referenced as an east-west road at Pavilion Drive and a north-south Road at Olive Boulevard and Ravenwood Lane.

Olive Boulevard at Old Olive Street Road/Schnucks is a signalized intersection with a Schnucks store and an access Monsanto’s west campus on the southern leg. The southbound approach provides a left-turn lane, and a long channelized through/right-turn lane. Eastbound Olive Boulevard has a separate left-turn lane (back to back with the Spoede signal), two through lanes and a separate right-turn lane. Westbound Olive Boulevard has one westbound left-turn lane, two through lanes and a separate right turn lane. The northbound approach has a separate left-turn lane and a shared through/right-turn lane. The traffic signals is part of the coordinated system and the eastbound and westbound left-turns operate with protected-plus-permitted Flashing Yellow Arrow phasing, while the northbound and southbound approaches operate under permissive phasing.

Ravenwood Lane is a two-lane internal road to the Creve Coeur Pavillion site that serves as the backbone street for the development. Ravenwood Lane is required to STOP at the

approaches Pavillion Drive and Old Olive Street Road. The Ravenwood Lane approach widens to provide separate left and right-turn lanes at Old Olive Street Road on the west end.

Bicycle Issues

In 2010, Great Rivers Greenway (GRG) developed the St. Louis Bike Plan for the entire St. Louis region. This plan identified locations and appropriate types of bicycle facilities to connect the region. The St. Louis Bike Plan identified bicycle facilities on Olive Boulevard, but no bike facilities were recommended along Old Olive Street Road or Pavillion Drive, as shown in **Figure 2**. Olive Boulevard is recommended to have dedicated bike lanes (shown in dark blue) but there are currently no programmed funds or designs for that recommendation. For more details, see <http://greatriversgreenway.org/about-us/projects-in-partnership/gateway-bike-plan/>

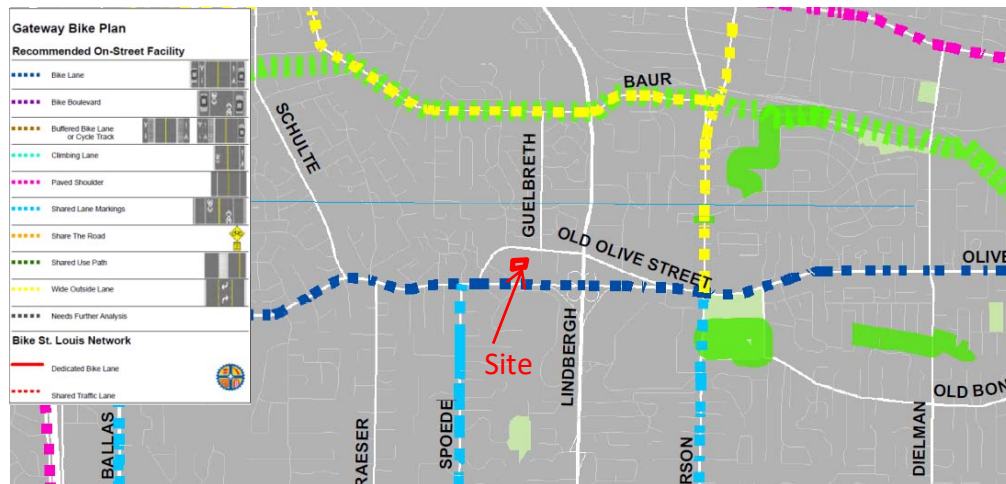


Figure 2 – STL Bike Plan

Transit Information

The site is in close proximity to two Metro bus routes (91 and 49), as seen in **Figure 3**. Three bus stops are located somewhat close to the site, with one stop located on Olive Boulevard, between the Pavillion Drive signal and the Old Olive Street Road signal, one on the northwest corner of Old Olive Street Road at Willow Brook Drive and the other stop located on Old Olive Street Road, east of Pavillion Drive. Pedestrian facilities (sidewalks) are present along the east side of Pavillion Drive, between the office building and Old Olive Street Road and along both sides of Ravenwood Lane from Old Olive Street Road to the first internal intersection, where the north side ends and turns north to the building that includes St. Louis Bread Company. Sidewalks continue along the south side of Ravenwood Lane from the first internal intersection to near the old Macaroni Grill site.

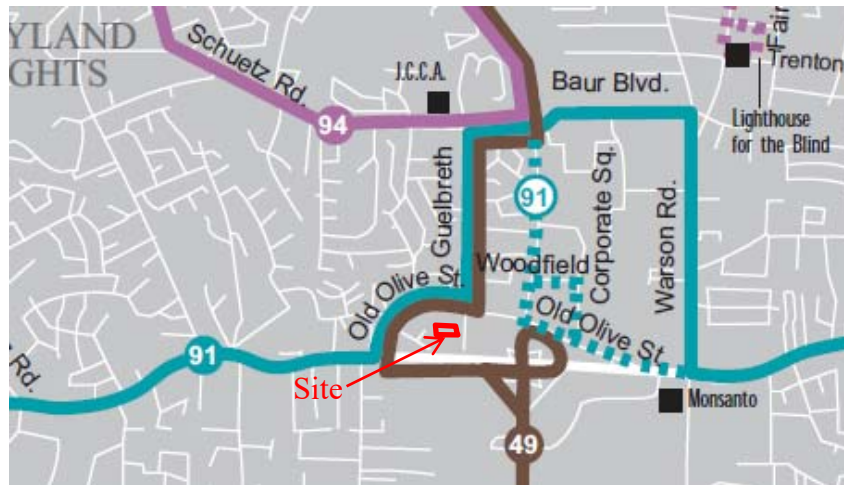


Figure 3 – Transit Routes in Study Area

Existing Traffic Volumes

Manual turning movement counts were completed in 2016 at the intersection of Olive Boulevard with Pavillion Drive and Old Olive Street Road at Ravenwood Lane during the weekday midday peak period (11:00 AM to 1:00 PM), and the weekday PM peak period (4:00 to 6:00 PM) while local schools were in session. Manual turning movement counts were also collected at the intersections of Pavillion Drive with Ravenwood Lane, the office building and Old Olive Street Road during the weekday midday peak period. Historical traffic counts performed along Pavillion Drive at Ravenwood Lane, office building and Old Olive Street Road were referenced from the previous traffic impact study for the recently constructed Vanguard Heights Apartments during the weekday PM peak hour and historical counts performed at Olive Boulevard and Old Olive Street Road during the midday and PM peak were utilized.

This current traffic data revealed the peak hours of 12:00 to 1:00 PM for the midday peak hour and 4:30 to 5:30 PM for the PM peak hour. The existing peak hour traffic volumes are summarized in **Exhibit 2**.

At the intersection of Olive Boulevard with Pavillion Drive, the eastbound left-turns are light at 45 to 55 vehicles per hour (vph) during the midday and PM peak hours, respectively. The southbound left-turns range from 65 to 85 vph during the peak hours, and the southbound right-turns range from 30 to 35 vph during the peak hours. The westbound right-turns are moderate with 180 to 205 vph, while the eastbound right-turns are light with 50 vph during the midday peak hour and less than 10 vph during the PM peak hour. The northbound approach is light during the midday peak hour with less than 45 vph for any movement, but exiting volumes increase during the PM peak hour with 70 left-turn, 20 throughs and 165 right-turns. The east-west throughs range from 1,000 vph to 1,655 vph each with the midday peak volumes weighted slightly eastbound and the PM peak volumes weighted slightly westbound.

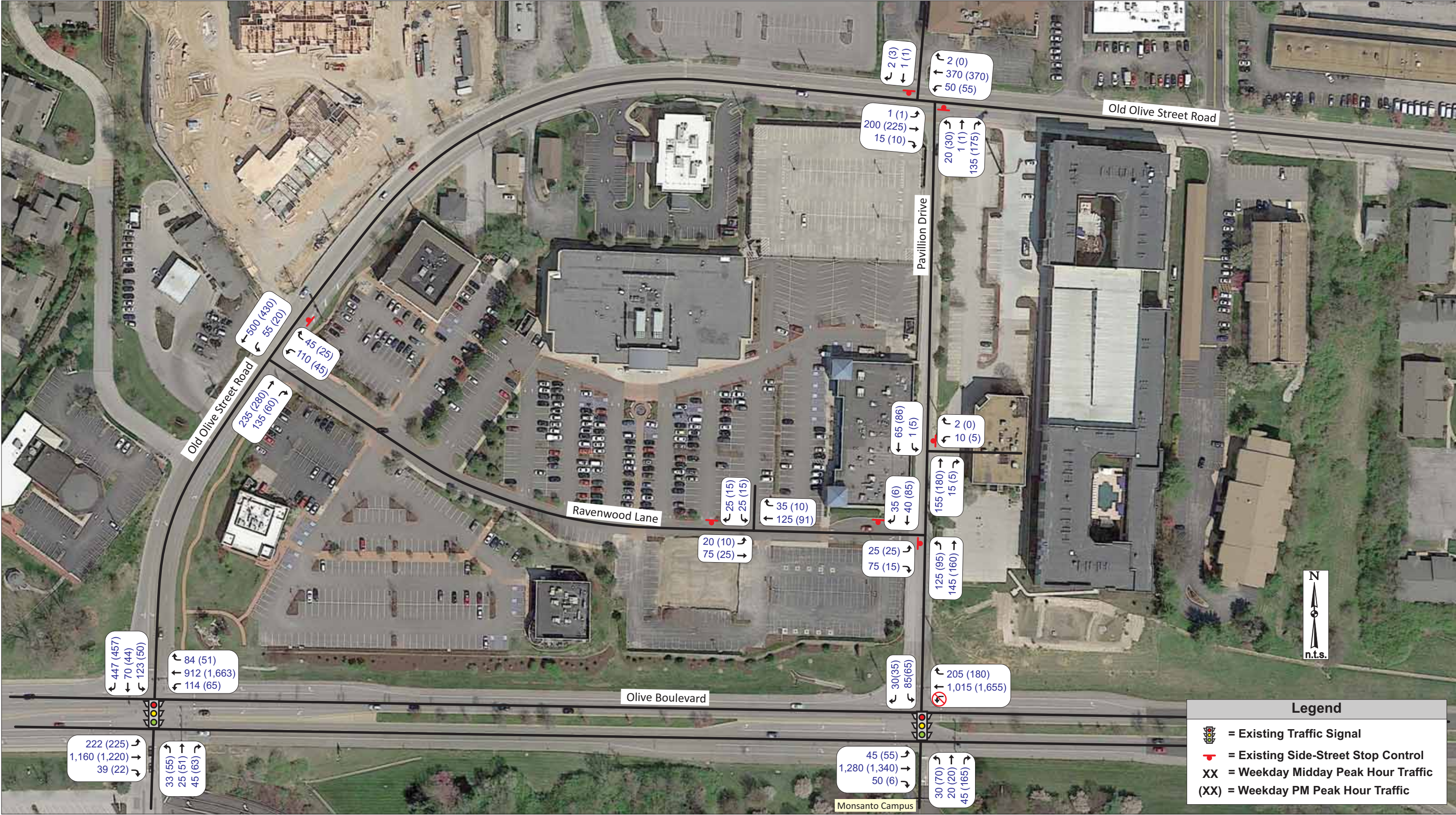


Exhibit 2: Existing Traffic Volumes



At the intersection of Olive Boulevard with Old Olive Street Road, the eastbound left-turns are moderate to heavy near 225 vph during both peak hours, while the eastbound right-turn is light with less than 40 vph during the peak hours. The southbound left-turns range from 50 to 125 vph, and the southbound throughs range from 45 to 70 vph and the southbound right-turns range from 445 to 460 vph during the peak hours. The westbound right-turns are light with 50 to 85 vph while the westbound left-turn is light to moderate with 115 vph during the midday peak hour and 65 vph during the PM peak hour. The northbound approach is light during both the midday and PM peak hour with less than 55 vph for any movement. The east-west throughs range from 915 vph to 1,665 vph each with the midday peak volumes weighted slightly eastbound and the PM peak volumes weighted westbound.

The current volumes at Pavillion Drive and Ravenwood Lane are light to moderate with 160 vph or less for any one movement. The traffic volumes at the intersection of Old Olive Street Road at Pavillion Drive are also light to moderate, with the east-west throughs ranging from 150 to 370 vph, and the turns to and from Pavilion Drive are light (less than 55 vph), except for the northbound right-turns during the PM peak hour, which reach 175 vph. The traffic volumes at the intersection of Old Olive Street Road at Ravenwood Lane are moderate with the Old Olive Street Road throughs ranging from 235 to 500 vph, and the turns to and from Ravenwood Lane are light (less than 60 vph), except for the northbound right-turns and westbound left-turn during the midday peak hour, which reach 135 vph.

Planned Developments in the Study Area

Vanguard Heights Apartments

It is our understanding that the approved Vanguard Heights Apartments project east of Pavilion Drive is built, but is not currently fully occupied. As a result, the site-generated trips from the Vanguard Apartments study, completed by CBB dated March 18, 2013, are included as **Exhibit 3** - Vanguard Site Generated Traffic. Since the midday peak hour traffic was not estimated for that previous traffic study, it was conservatively assumed that the midday traffic would be half of the PM peak hour traffic.

The Vue at Creve Coeur Apartments

We further understand that the approved The Vue Apartments at Creve Coeur project (aka old Hamilton Church site) on the north side of Old Olive Street Road, west of Willow Brook Drive is currently under construction, but is not yet completed or occupied. As a result, the site-generated trips from that traffic study, completed by CBB dated November 4, 2013, are included as **Exhibit 4** – The Vue Apartments Site-Generated Traffic. Since the midday peak hour traffic was not estimated for that previous traffic study, it was conservatively assumed that the midday traffic would be half of the PM peak hour traffic.



Exhibit 3: Site-Generated Traffic Volumes - The Vanguard Heights Apartments at Creve Coeur
(Built, but Not Fully Occupied)



Exhibit 4: Site-Generated Traffic Volumes - The Vue Apartments at Creve Coeur
(Approved, but Not Yet Completed or Occupied)



Baseline Traffic Volumes

The site-generated trips for the Vanguard Heights apartments (Exhibit 3) and the site-generated trips for The Vue at Creve Coeur apartments (Exhibit 4) were aggregated with the Existing Traffic Volumes (Exhibit 2), resulting in **Exhibit 5** Baseline Traffic Volumes (2016) used as the basis of this current study.

Baseline Operating Conditions

The baseline operating conditions for the study area intersections were evaluated using SYNCHRO 8, which is based on procedures outlined in the *Highway Capacity Manual* to determine estimates of capacity and operational performance of signalized and unsignalized intersections. Our traffic operations analysis includes measures of effectiveness generated by the SYNCHRO software. SYNCHRO 9 is a newer release of the SYNCHRO program, but it is our understanding that the St. Louis MoDOT District still uses Synchro 8. The changes between the versions are minimal and not expected to change the results.

The operating conditions were graded in accordance with six levels of traffic service (Level A "Free Flow" to Level F "Fully Saturated") established by the *Highway Capacity Manual*. Levels of service (LOS) are measures of traffic flow which consider such factors as speed, delay, traffic interruptions, safety, driver comfort, and convenience. Level C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is generally considered acceptable for peak period conditions in urban and suburban areas. **Table 1** summarizes the thresholds used in the analysis for signalized and unsignalized intersections.

Table 1: Level of Service Thresholds

<i>Level of Service (LOS)</i>	Control Delay per Vehicle (sec/veh)	
	<i>Signalized Intersections</i>	<i>Unsignalized Intersections</i>
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

It should be acknowledged that the perception of acceptable traffic service varies widely by area. Specifically, more delay is usually tolerated in urban regions compared to rural areas. Based on the character of this area, we believe that LOS D would be an appropriate target for overall peak period traffic operations. Each of the study intersections was evaluated using the methodologies described above. The results of the SYNCHRO evaluations are summarized in **Table 2**.



Exhibit 5: Baseline Traffic Volumes (Existing Traffic Plus Two Apartment Buildings' Traffic)



As can be seen, the signalized intersection of Olive Boulevard with Pavillion Drive operates at an overall LOS C or better, but the northbound Monsanto Approach and southbound Pavillion Drive approach to Olive Boulevard operate at less than desirable levels during the PM peak hour. The current system cycle length is 140 seconds for the weekday PM peak, thus, vehicles on Pavillion Drive and Monsanto approach that arrive during the first half of the red time phase for their approach would have to wait anywhere from 103 to 120 seconds for the next green indication.

As shown in Table 1, delays of 55 to 80 seconds result in LOS E, and delays in excess of 80 seconds result in LOS F. Thus, the poor levels of service on Pavilion Drive/Monsanto approach are not a function of the lack of capacity on the side street but rather the long green time allocated to Olive Boulevard for progression of heavy commuter through traffic on Olive Boulevard. The queues associated with these movements are generally moderate and cleared each cycle.

Table 2: Baseline Operating Conditions

<i>Traffic Movement</i>	<i>Weekday Midday Peak Hour</i>	<i>Weekday PM Peak Hour</i>
Olive Boulevard at Pavillion Drive (Signalized) *		
Eastbound – Approach	A (2.0) 85' TH	A (6.0) 150' LT
Westbound – Approach	B (15.2) 395' TH	C (26.0) 835' TH
Northbound – Approach	C (33.3) 85' LT/TH	E (58.3) 160' RT
Southbound – Approach	D (45.5) 140' LT	E (64.1) 200' LT
Overall	B (11.4)	C (22.0)
Olive Boulevard at Old Olive Street Road/Schnucks (Signalized) *		
Eastbound – Approach	A (8.8) 95' TH	B (16.7) 335' LT
Westbound – Approach	A (3.0) 60' LT	A (5.8) 100' TH
Northbound – Approach	C (28.6) 65' TH/RT	D (53.6) 145' TH/RT
Southbound – Approach	D (38.0) 255' RT	F (154.7) 600' RT
Overall	B (13.2)	C (33.2)
Pavillion Drive at Ravenwood Lane (unsignalized) *		
Eastbound – Approach	B (10.7) <25'	B (12.8) <25'
Southbound – Approach	A (8.1) <25'	B (10.9) <25'
Pavillion Drive at Office Building (unsignalized) *		
Westbound – Approach	B (10.4) <25'	B (11.5) <25'
Pavillion Drive at Old Olive Street Road (unsignalized) *		
Eastbound – Left-Turn	A (8.2) <25' LT	A (8.2) <25' LT
Westbound – Left-Turn	A (7.9) <25' LT	A (8.0) <25' LT
Northbound – Approach	B (14.6) 40'	C (21.2) 85'
Southbound – Approach	B (12.7) <25'	B (12.6) <25'
Ravenwood Lane at Old Olive Street Road (unsignalized) *		
Westbound – Approach	C (17.1) 35' LT	B (13.8) <25' LT
Southbound – Approach	A (1.0) <25'	A (0.4) <25'

X (xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

* 95th percentile queue reported in feet for the critical movement on each approach



The synchro analysis indicates that the southbound approach of Old Olive Street Road at Olive Boulevard operates with less than desirable (long) delays during the peak hours since the southbound right-turn volume is heavy and allotted a relatively small amount of green time in contrast with relatively long cycle lengths. The analysis software artificially increases the delays and degrades the LOS for the southbound approach and significantly overestimates the southbound queues. Currently, the channelized island allows right-turn vehicles to maneuver around approximately three or four vehicles (approximately 100 feet) in the field, which is not properly accounted for by the analysis software. As a result, a short separate southbound right-turn lane was assumed in the Synchro analysis files.

Even with this modification, the southbound queue lengths were still overestimated during the midday and PM peak hours as compared to observed queue lengths on the field. Generally, the southbound right-turn vehicles can avoid the southbound left-turn and through queues during the midday and PM peaks, but the heavy westbound throughs along Olive Boulevard limit the ability to make a southbound right-turn-on-red during the PM peak hour.

The weekday midday queues for the southbound right turn were observed to be lower than those estimated by Synchro. This is primarily due to the fact that adequate gaps are more abundant in westbound Olive Boulevard during the midday peak hour. As a result, the weekday midday time frame is not considered to be problematic.

The westbound left-turns on Olive Boulevard at Spoede Road and the eastbound left-turns on Olive Boulevard at Old Olive Street Road were observed queuing out of the existing left-turn bay and blocking the through lane frequently during the PM peak hour. This is due to the short back-to-back left-turn lane configuration between the Spoede Road and Old Olive Street Road signalized intersections.

The following long-term improvements should be considered (by others) based on the **existing deficiencies** identified from our analysis and observations related to base and current traffic conditions. Widen Olive Boulevard to replace the back-to-back left-turn lanes with side-by-side left-turn lanes between Spoede Road and Old Olive Street Road & Schnucks/Monsanto. The roadway improvement is expected to be very expensive and require utility relocations and/or right-of-way acquisition. The mechanism required to implement mitigation such as this may potentially require multiple agencies and/or major redevelopment.

In addition, the lengthening of the southbound right-turn lane (to provide additional storage in the southbound through lane) would provide some benefits such that right-turn vehicles could avoid the end of the through queue, but the limited gaps along Olive Boulevard would minimize the ability to reduce the right-turn queue lengths since the right-turns are generally able to avoid the through queues with the exception of a few cycles during the AM peak hour. Therefore, there may be limited benefits of that improvement, as it could go underutilized.



The unsignalized intersections along Pavillion Drive (at Ravenwood Lane, office driveway and Old Olive Street Road) as well as Old Olive Street Road at Ravenwood Lane operate at highly desirable levels (LOS C or better for all approaches).

Proposed Development

Once the base traffic volumes within the study area were established, it was then necessary to consider the traffic associated with the proposed Panda Express development. This section of the report presents the traffic generation forecasts for the area road system associated with the re-occupancy of the site.

It is our understanding that a 2,600 square foot Panda Express restaurant with drive-through window service is proposed. Access is proposed via one main driveway on Ravenwood Lane approximately 220 feet west of Pavillion Drive which will be shared in the future by the adjacent development pad to the west. A schematic of the site plan provided was shown previously in **Exhibit 1**.

Site Access Plan

The proposed site plan has one full access driveway proposed to Ravenwood Drive approximately 230 feet west of Pavillion Drive, which is as far away from Pavillion Drive as practicable. The internal layout and circulation is good from a traffic circulation perspective, and the drive-thru and drive-thru escape lane are designed to minimize interference with site circulation as well as hazards to motorists or pedestrians entering exiting, or passing the site.

The Panda Express will provide more than the minimum 190 feet of drive-thru storage (10 vehicles required by the City of Creve Coeur ordinances) and, in fact, will provide approximately 305 feet before potentially impacting the circulation in the Panda Express parking field. Therefore, the stacking provided is expected to be more than sufficient to accommodate the anticipated demands.

Trip Generation of Proposed Use

As a primary step in the analysis, traffic forecasts were prepared to estimate the amount of traffic that the proposed restaurant would generate during the peak hours. These forecasts were based upon information provided in Trip Generation Manual, Ninth Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the trip generating characteristics of various land uses.

The average trip rate was used for Land Use: 934 – Fast Food Restaurant w/ Drive-Thru. Since ITE does not provide specific trip generation estimates for the midday peak hour of a fast-food restaurant, the AM peak hour generator rate (the higher of the a.m. and p.m. peak hour



of generator rates) was applied. The peak hour of adjacent street traffic (one hour between 4 and 6 p.m.) was utilized for the PM peak hour.

Since the proposed fast food restaurant would share access to the Creve Coeur Pavillion center, it is reasonable to believe that there would be some common trips between the center and the restaurant. However, in an attempt to be conservative, no common trip reductions were applied to the proposed restaurant trips.

It should be noted that not all of these trips would represent *new* traffic on the adjacent roadways. Specifically, a significant portion of the traffic attracted to this site would already be traveling on Olive Boulevard and/or Old Olive Street Road as part of another trip; i.e., “pass-by” trips. Based upon statistical information provided in the “Trip Generation Handbook, A Recommended Practice”, also published by ITE, the pass-by trip percentage of 50% was applied to the fast-food restaurant. These pass-by trips would create turning movements at the signalized intersection and driveways serving the site, but they would not represent new traffic on the adjacent roadways (Olive Boulevard). As shown in **Table 3**, the Panda Express is expected to generate a total of approximately 70 and 45 “new” trips during the weekday midday and PM peak hours, respectively.

Table 3: Trip Generation Estimate for Proposed Panda Express

Land Use (ITE 934)	Size	Daily Trips	Midday Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Fast-Food Restaurant w/Drive-Through Window	2,600 SF	1,290	70	70	140	45	40	85
Pass-By Trips (50%)			35	35	70	20	20	40
New Trips			35	35	70	25	20	45

Trip Distribution

The traffic generated by the proposed Panda Express was assigned to the adjoining roadway system based on existing and projected traffic patterns, as well as the proximity of other similar uses and the proposed access points for the site. The anticipated directional distribution during the peak hours for the *new* trips accessing the site was assumed to be as follows:

- 35% to/from the West on Olive Boulevard via Pavilion Drive
- 10% to/from the West on Olive Boulevard via Ravenwood Lane and Old Olive Street Road;
- 40% to/from the East on Olive Boulevard via Pavillion Drive; and
- 15% to/from the East on Old Olive Street Road (east of Pavilion).

The pass-by trips would be assigned according to the existing traffic patterns on Olive Boulevard during each peak hour.



Exhibit 6 illustrates the site-generated traffic assignment for the Panda Express at the study intersections. As can be seen, the increase at Pavilion Drive at Ravenwood Lane is expected to be 60 to 65 vph oriented to Olive Boulevard during the midday peak hour and 30 to 35 vph oriented to Olive Boulevard during the PM peak hour. These trips equate to approximately one vehicle per minute on average during the midday peak hour or one vehicle every two minutes on average during the PM peak hour.

2016 Build Conditions

2016 Build Traffic Volumes

The traffic generated by the proposed Panda Express (Exhibit 6) was aggregated with the Baseline Traffic Volumes (Exhibit 5) to reflect the Forecasted Traffic Volumes. **Exhibit 7** reflects the 2016 Build Traffic Volumes.

2016 Build Operating Conditions

The 2016 Build Traffic Volumes were reanalyzed using the same methodology applied to the baseline conditions in an effort to identify any impacts of the proposed development. **Table 4** summarizes the levels of service and average delays at the study intersections during both peak hours with the 2016 Build Traffic Volumes.



Exhibit 6: Total Site-Generated Traffic Volumes - Proposed Panda Express



Exhibit 7: 2016 Build Traffic Volumes (with Proposed Panda Express)



Table 4: Build Operating Conditions

<i>Traffic Movement</i>	<i>Weekday Midday Peak Hour</i>	<i>Weekday PM Peak Hour</i>
Olive Boulevard at Pavillion Drive (Signalized) *		
Eastbound – Approach	A (2.2) 85' TH	A (7.2) 185' LT
Westbound – Approach	B (16.3) 390' TH	C (25.8) 825' TH
Northbound – Approach	C (33.3) 85' LT/TH	E (58.3) 160' RT
Southbound – Approach	D (46.5) 185' LT	E (70.8) 240' LT
Overall	B (12.2)	C (23.0)
Olive Boulevard at Old Olive Street Road/Schnucks (Signalized) *		
Eastbound – Approach	A (9.0) 95' TH	B (17.1) 340' LT
Westbound – Approach	A (2.8) 60' LT	A (6.1) 110' TH
Northbound – Approach	C (28.6) 65' TH/RT	D (53.6) 145' TH/RT
Southbound – Approach	D (39.4) 265' RT	F (159.9) 645' RT
Overall	B (13.5)	C (34.2)
Pavillion Drive at Ravenwood Lane (unsignalized) *		
Eastbound – Approach	B (11.6) <25'	B (12.8) <25'
Southbound – Approach	A (8.5) <25'	B (12.2) <25'
Pavillion Drive at Office Building (unsignalized) *		
Westbound – Approach	B (10.5) <25'	B (11.6) <25'
Pavillion Drive at Old Olive Street Road (unsignalized) *		
Eastbound – Left-Turn	A (8.2) <25' LT	A (8.2) <25' LT
Westbound – Left-Turn	A (7.9) <25' LT	A (8.0) <25' LT
Northbound – Approach	B (14.8) 40'	C (21.7) 90'
Southbound – Approach	B (12.8) <25'	B (12.7) <25'
Ravenwood Lane at Panda Express (unsignalized)		
Eastbound – Approach	A (1.6) <25'	A (1.9) <25'
Westbound – Approach	A (2.4) <25'	A (2.2) <25'
Northbound – Approach	A (9.3) <25'	A (8.9) 85'
Southbound – Approach	B (11.9) <25'	B (10.0) <25'
Ravenwood Lane at Old Olive Street Road (unsignalized) *		
Westbound – Approach	C (17.4) 40' LT	B (14.0) <25' LT
Southbound – Approach	A (1.0) <25'	A (0.4) <25'

X (xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

* 95th percentile queue reported in feet for the critical movement on each approach

As can be seen in Table 4, the overall intersection operations are expected to remain at similar levels during the weekday midday and PM peak hours. This analysis assumes no changes in the signal timing at Olive Boulevard and Pavillion Drive which gives preference to the east-west movements on Olive Boulevard. Based on the Synchro evaluations, the overall change in delay is one second or less during the midday or PM Peak hour, and the southbound approach is expected to have an increase one second delay during the midday



peak hour and less than seven seconds during the PM peak hour. The volume to capacity (v/c) ratio for these conditions are less than 0.9 which indicates that construction of additional lanes is not necessary to improve the LOS and delay at the intersection.

However, given the good levels of service on Olive Boulevard (i.e. LOS C, or better during the PM peak hour), slight adjustments in the signal timings could be made to improve the level of service on Pavillion Drive during the PM peak hour, if approved by MoDOT.

The signals could be adjusted to re-allocate a few seconds of time to Pavillion Drive to better accommodate southbound Pavillion Drive and achieve improved operating conditions. Specifically, if four seconds of east-west green time were reassigned to southbound Pavillion Drive, the southbound approach would improve to LOS D with nearly a 16.5 second reduction in delay for the southbound approach as compared to the baseline conditions with minimal impact to east-west operations. **Table 5** summarizes the operating condition of Olive Boulevard at Pavillion Drive/Monsanto approach with the potential timing modifications.

Table 5: Build Operating Conditions with Timing Adjustment

<i>Traffic Movement</i>	<i>Weekday PM Peak Hour</i>
Olive Boulevard at Pavillion Drive (Signalized with timing adjustment) *	
Eastbound – Approach	A (7.7) 185' LT
Westbound – Approach	C (28.9) 890' TH
Northbound – Approach	E (58.3) 160' RT
Southbound – Approach	D (54.3) 190' LT
Overall	C (23.9)

X (xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

* 95th percentile queue reported in feet for the critical movement on each approach

When comparing Tables 2 and Table 4, the impacts of the proposed fast food restaurant, will have very limited impacts at the intersection of Olive Boulevard at Old Olive Street Road. This level of impact would not warrant road improvements at this location.



20-Year Conditions

Forecasted 20-Year No-Build Conditions (2036)

In order to assess the long-term traffic impacts of the proposed development, 20-year traffic projections were also analyzed. Specifically, traffic growth was assumed at a rate of 0.5% annually for 20 years (or 10.5% overall) along each of the roadways within the study area. The 20-year background growth was applied to the baseline traffic volumes to compare future traffic conditions assuming that the site remains as it currently stands vacant. Forecasted 20-Year No-Build Volumes (only background growth rate added) are shown in **Exhibit 8**.

As can be seen, the 20-Year No-Build traffic forecast represents an increase over the 2016 traffic forecast due to the background traffic growth. East-west through traffic volumes along Olive Boulevard are expected to increase by as much as 175 vph during the peak periods due to background growth.

Forecasted 20-Year Build Conditions (2036)

The 20-year No-Build Traffic Volumes (Exhibit 5) were aggregated with the Panda Express site generated trips (Exhibit 6) to create the 20-year Build Traffic Volumes shown in **Exhibit 9**. It should be noted that traffic oriented to/from the proposed development was not increased since full build-out of the site was assumed to take place during the opening year. In other words, site-generated traffic volumes would reach their peak during the opening year and therefore would not experience any appreciable growth, which is consistent with industry practice.

The anticipated operating conditions at the study intersections for the 20-Year No-Build and 20-year Build Traffic conditions are summarized in **Table 6**. As shown in the LOS Table, all of the study intersections would slightly degrade more in the 2036 No-Build Condition due to the increase in background traffic. As can be seen, the northbound and southbound approaches of Pavillion Drive/Monsanto would continue to operate at LOS E during the PM peak hour.

The east-west through lanes reach a volume-to-capacity ratio of 0.95, which indicates the east-west would approach capacity, and ultimately, a third lane would be necessary along Olive Boulevard to obtain acceptable levels in the long-term conditions. It should be reiterated that the 20-year design scenarios are included to provide a general idea of future conditions as a planning tool and should not dictate physical improvements for construction under permit where background traffic growth is the critical element. Due to capacity constraints upstream or downstream, resulting congestion and the build-out of the surrounding area, the future traffic projections may not be realized unless major capacity improvements are built.



Exhibit 8: 20 Year No-Build Traffic Volumes



Exhibit 9: 20 Year Build Traffic Volumes (with Panda Express)



Table 6: 20-Year Operating Conditions

Traffic Movement	Weekday Midday Peak Hour		Weekday PM Peak Hour		
	20-Year No Build	20-Year Build	20-Year No Build	20-Year Build	20-Year Build ¹
Olive Boulevard at Pavillion Drive (Signalized) *					
Eastbound – Approach	A (2.1) 85' TH	A (2.5) 85' TH	A (6.1) 170' LT	A (7.4) 205' LT	A (7.4) 205' LT
Westbound – Approach	B (17.3) 455' TH	B (17.7) 450' TH	D (35.9) 1105' TH	D (35.3) 1,095' TH	D (35.3) 1,095' TH
Northbound – Approach	C (33.3) 85' LT/TH	C (33.3) 85' LT/TH	E (58.3) 160' RT	E (58.3) 160' RT	E (58.3) 160' RT
Southbound – Approach	D (46.9) 155' LT	D (48.8) 195' LT	E (68.8) 225' LT	E (79.9) 260' LT	E (79.9) 260' LT
Overall	B (11.8)	B (13.0)	C (27.0)	C (28.1)	C (28.1)
Olive Boulevard at Old Olive Street Road/Schnucks (Signalized) *					
Eastbound – Approach	B (10.7) 125' TH	B (11.0) 125' TH	B (15.6) 280' LT	B (15.9) 290' LT	
Westbound – Approach	A (3.5) 100' LT	A (3.8) 100' LT	B (10.6) 125' TH	B (11.7) 135' TH	
Northbound – Approach	C (28.7) 65' TH/RT	C (28.7) 65' TH/RT	D (53.3) 145' TH/RT	D (53.3) 145' TH/RT	
Southbound – Approach	D (40.6) 275' RT	D (41.9) 290' RT	F (165.6) 650' RT	F (171.2) 660' RT	
Overall	B (14.4)	B (14.8)	C (34.9)	D (36.2)	
Pavillion Drive at Ravenwood Lane (unsignalized) *					
Eastbound – Approach	B (11.4) <25'	B (12.5) <25'	B (14.0) <25'	B (14.0) <25'	
Southbound – Approach	B (11.5) <25'	B (14.2) <25'	B (11.8) <25'	B (13.4) <25'	
Pavillion Drive at Office Building (unsignalized) *					
Westbound – Approach	B (10.7) <25'	B (10.8) <25'	B (12.1) <25'	B (12.2) <25'	
Pavillion Drive at Old Olive Street Road (unsignalized) *					
Eastbound – Left-Turn	A (8.3) <25' LT	A (8.3) <25' LT	A (8.3) <25' LT	A (8.3) <25' LT	
Westbound – Left-Turn	A (8.0) <25' LT	A (8.0) <25' LT	A (8.1) <25' LT	A (8.1) <25' LT	
Northbound – Approach	C (16.8) 50'	C (17.0) 55'	D (27.5) 120'	D (28.5) 125'	
Southbound – Approach	B (13.4) <25'	B (13.5) <25'	B (13.3) <25'	B (13.4) <25'	
Ravenwood Lane at Panda Express (unsignalized)					
Eastbound – Approach	A (1.6) <25'	A (1.5) <25'	A (1.9) <25'	A (1.7) <25'	
Westbound – Approach		A (2.3) <25'		A (2.1) <25'	
Northbound – Approach		A (9.4) <25'		A (8.9) 85'	
Southbound – Approach	B (10.3) <25'	B (12.2) <25'	A (9.4) <25'	B (10.1) <25'	
Ravenwood Lane at Old Olive Street Road (unsignalized) *					
Westbound – Left-Turn	C (17.8) 40' LT	C (18.1) 45' LT	B (14.3) <25' LT	C (14.6) <25' LT	
Southbound – Approach	A (1.0) <25'	A (1.0) <25'	A (0.4) <25'	A (0.4) <25'	

X (xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

* 95th percentile queue reported for the critical movement on each approach

¹ Signal timing shift

Under the build condition, the overall intersection operations are expected to remain at similar overall levels with minimal changes in delay during the weekday midday and PM peak hours. Without signal timing adjustments, the overall delay is expected to increase less than 1.2 seconds during the midday or PM peak hour, and less than two seconds for the southbound approach during the midday peak hour and approximately 11 seconds during the PM peak hour.



If approved by MoDOT, four seconds of green time could be re-allocated from east-west to the southbound Pavillion Drive during the PM peak hour. The southbound approach delays would improve to borderline LOS D/E conditions with a 12 second reduction in delay for the southbound approach when compared to the 20-Year No Build conditions with minimal impact to east-west operations.

Build-Out of Adjacent Pad Site

There is a similarly sized vacant pad directly to the west of the proposed Panda Express that could also be developed. Based on the size of the adjacent site, it is estimated that a 6,000 SF retail building could be built. In order to understand the potential impact of the adjacent site, traffic was estimated and evaluated. Trip generation for a 6,000 SF specialty retail site was estimated based on the regression equation using the ITE data as summarized below in **Table 7**. It is reasonable to believe that there would be some common trips between the existing shopping center and the specialty retail pad as well as pass-by trips from Olive Boulevard. However, in an attempt to be conservative and keep our evaluations simple, no common or pass-by reductions were applied.

Table 7: Trip Generation Estimate for Adjacent Pad

<i>Land Use</i>	<i>Size</i>	<i>Daily Trips</i>	<i>Midday Peak Hour</i>			<i>PM Peak Hour</i>		
			<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Specialty Retail	6,000 SF	294	10	15	25	15	20	35

These trips were assigned to the adjacent roadway system in a similar fashion as the fast-food restaurant. **Exhibit 10** illustrates the site-generated trips for the adjacent site at the study intersections.

2036 Full-Build-Out Traffic Volumes

The traffic generated by the future adjacent retail pad (Exhibit 10) was aggregated with the 20-Year Build Traffic Volumes (Exhibit 9) to reflect the 20-Year Full Build-Out Forecasted Traffic Volumes, see **Exhibit 11**.

2036 Full Build-Out Operating Conditions

The 2036 Full Build-Out Traffic Volumes were reanalyzed using the same methodology applied to the baseline conditions in an effort to identify any impacts of the proposed development. **Table 8** summarizes the levels of service and average delays at the study intersections during both peak hours with the 2036 Full Build-Out Traffic Volumes.

As can be seen in Table 8, the overall intersection operations are expected to remain at similar levels during the weekday midday and PM peak hours, and the southbound approach would only increase delays slightly. Again, to improve the southbound approach additional green time would be needed, pending MoDOT approval.



Exhibit 10: Site-Generated Traffic Volumes - Future Adjacent Pad Site





Table 8: 20-Year Full Build-Out Operating Conditions

Traffic Movement	Weekday Midday Peak Hour	Weekday PM Peak Hour	
	20-Year Full Build-Out	20-Year Full Build-Out	20-Year Full Build-Out¹
Olive Boulevard at Pavillion Drive (Signalized) *			
Eastbound – Approach	A (2.6) 85' TH	A (7.9) 220' LT	A (6.6) 190' LT
Westbound – Approach	B (17.8) 450' TH	D (35.3) 1,095' TH	D (46.3) 1,170' TH
Northbound – Approach	C (33.3) 85' LT/TH	E (58.3) 160' RT	E (58.3) 160' RT
Southbound – Approach	D (48.9) 200' LT	F (85.0) 270' LT	E (57.8) 225' LT
Overall	B (13.2)	C (28.6)	C (32.2)
Olive Boulevard at Old Olive Street Road/Schnucks (Signalized) *			
Eastbound – Approach	B (11.2) 130' TH	B (15.9) 290' LT	
Westbound – Approach	A (3.9) 100' LT	B (11.7) 135' TH	
Northbound – Approach	C (28.7) 65' TH/RT	D (53.4) 145' TH/RT	
Southbound – Approach	D (42.5) 300' RT	F (175.7) 675' RT	
Overall	B (14.8)	D (37.0)	
Pavillion Drive at Ravenwood Lane (unsignalized) *			
Eastbound – Approach	B (12.7) <25'	B (14.5) <25'	
Southbound – Approach	B (14.8) <25'	B (14.1) <25'	
Pavillion Drive at Office Building (unsignalized) *			
Westbound – Approach	B (10.8) <25'	B (12.3) <25'	
Pavillion Drive at Old Olive Street Road (unsignalized) *			
Eastbound – Left-Turn	A (8.3) <25' LT	A (8.3) <25' LT	
Westbound – Left-Turn	A (8.0) <25' LT	A (8.1) <25' LT	
Northbound – Approach	C (17.0) 55'	D (29.5) 125'	
Southbound – Approach	B (13.5) <25'	B (13.5) <25'	
Ravenwood Lane at Panda Express (unsignalized)			
Eastbound – Approach	A (1.5) <25'	A (1.7) <25'	
Westbound – Approach	A (2.5) <25'	A (2.6) <25'	
Northbound – Approach	A (9.5) <25'	A (8.9) 85'	
Southbound – Approach	B (12.6) <25'	B (10.4) <25'	
Ravenwood Lane at Old Olive Street Road (unsignalized) *			
Westbound – Approach	C (18.5) 45' LT	B (14.6) <25' LT	
Southbound – Approach	A (1.0) <25'	A (0.4) <25'	

X (xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

* 95th percentile queue reported for the critical movement on each approach

¹ Signal timing shift

Observed Sight Distance

The existing building, retaining wall and vegetation in the northwest quadrant of Pavillion Drive and Ravenwood Drive may block the sight distance to the north for eastbound vehicles at this intersection. Therefore, the stop condition for both southbound and eastbound traffic is appropriate at this location, but these square signs should be replaced with conventional MUTCD R1-1 STOP signs. We also recommend “Oncoming traffic does not stop” sign for the southbound approach and “Traffic from right does not stop” for the eastbound approach to clearly convey that northbound traffic does not stop.



Trees and vegetation on the east and west side of Pavillion Drive, both between the existing office building entrance and Ravenwood Lane could block the ability to clearly see vehicles at the approach to Pavillion Drive. We recommend that the vegetation be trimmed back and maintained to provide a clear view between 3 and 10 feet above the adjacent pavement elevation. This “window” will allow good visibility for safe traffic flow.

Conclusions

Based upon the preceding discussion, the following may be concluded regarding the traffic impacts of the proposed Panda Express at the Pavillion in Creve Coeur, Missouri:

- The proposed development has little impact to Pavillion Drive and Ravenwood Drive, Pavillion Drive and the existing office entrance, Pavillion Drive and Old Olive Street Road, Old Olive Street Road at Ravenwood Lane and will result in acceptable delay and LOS at all of these intersections.
- The LOS and delay of the northbound and southbound approaches of Pavillion Drive and Old Olive Street Road at Olive Boulevard operate poorly in the baseline condition, Build, 2036 No-Build, 2036 Build conditions and 2036 Full Build-Out conditions. This is attributed to the existing signal timing giving preference to the east-west movements on Olive Boulevard.
 - The volume to capacity (v/c) ratio for Pavillion Drive are less than 0.9 which indicates that construction of additional lanes is not necessary to improve the LOS and delays. If approved by the Missouri Department of Transportation, the signals could re-allocate a few seconds of green time to southbound Pavillion Drive to better accommodate Pavillion Drive traffic.
 - The back-to-back left-turn lanes along Olive Boulevard between Spoede Road and Old Olive Street Road/Schnucks are problematic, and the left-turns frequently spill out of the turn bays in both directions during the p.m. peak hour. Side-by-side left-turn lanes or an alternative improvement are currently needed, but such an improvement is expected to be very costly and should not be the burden of any one development.
 - The southbound right-turn queue on Old Olive Street Road has lengthy queues from the Olive Boulevard signal during the PM peak hour.
 - The site trips are expected to extend the southbound Old Olive Street Road queue at Olive Boulevard by approximately 45 feet (one or two cars) in the peak hours.
- The sight distance obstructions noted above should be addressed to the most practical extent possible.



- The southbound and eastbound STOP sign at Pavillion Drive and Ravenwood Drive does not meet the Manual of Uniform Traffic Control Devices (MUTCD) standards. The STOP signs are square in shape with a small octagon stop sign painted. It was noted during the data collection that this seemed to cause confusion to the northbound traffic as to who has the right-of-way at the intersection. It is recommended that a typical octagonal STOP sign (R1-1) be installed whose shape could be observed from the rear to help better define the right-of-way through the intersection.
- We also recommend “Oncoming traffic does not stop” sign for the southbound approach and “Traffic from right does not stop” sign for the eastbound approach of the intersection of Pavillion Drive and Ravenwood Lane to more clearly define that northbound is free flow.

We trust that you will find this report useful in evaluating the traffic impacts associated with the proposed Panda Express development in Creve Coeur, Missouri. Please contact me in our St. Louis office should you have any questions or comments concerning this material.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lee Cannon'.

Lee Cannon, P.E., PTOE
Principal – Traffic Engineer



St. Louis District
Gregory J. Horn, District Engineer

Missouri Department of Transportation

1590 Woodlake Drive
Chesterfield, Missouri 63017-5712
314.275.1500
Fax: 573.522.6475
1.888.ASK MODOT (275.6636)

November 9th, 2016

Brian Rensing, PE, PTOE
Associate – Transportation Engineer
CBB
12400 Olive Boulevard, Suite 430
St. Louis, MO 63141

Dear Brian,

This letter is being sent to inform you that MoDOT concurs with the findings of the recent Traffic Impact Study for the Proposed Panda Express in Creve Coeur Pavillion. Please let us know if you need anything else.

Sincerely,

Phil Pierson
Intermediate Traffic Studies Specialist
Missouri Department of Transportation – St. Louis District



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MEMORANDUM

To: Jason W. Jaggi, AICP (City of Creve Coeur)
From: Amanda J. Anderson P.E., PTOE
David J. Mennenga, P.E., PTOE
Date: November 14, 2016
Subject: Proposed Panda Express – Traffic Impact Study Review

As requested, GBA staff has completed a review of the traffic impact study report and site plans submitted in association with the proposed development of a Panda Express fast food restaurant with a drive-through lane, located in the southwest quadrant of the intersection of Pavillion Drive and Ravenwood Lane in Creve Coeur, Missouri. The traffic impact study report prepared by CBB Transportation was determined to be a very thorough evaluation of the existing traffic conditions, as well as for the expected future traffic operations with the development of this proposed Panda Express restaurant pad site.

The study followed generally accepted engineering practices by estimating the anticipated weekday mid-day and evening peak hour traffic volumes for a fast food restaurant with a drive-through lane, as described in the Institute of Transportation Engineers' (ITE) "Trip Generation Manual." Other assumptions made by the consultant are appropriate and resulted in a conservative approach to this traffic evaluation process.

Based upon the data available from ITE for similar land use types and the assumed "average" pass-by trip reduction of 50 percent, the proposed Panda Express restaurant would only be expected to create 70 "new" trips (i.e., 35 inbound trips, 35 outbound trips) during the mid-day peak traffic hour, and 45 "new" trips (i.e., 25 inbound trips, 20 outbound trips) during the evening peak hour. Due to the lack of information available from ITE for the mid-day peak hour for this land use, it is common practice and appropriate to use the A.M. "generator peak" trip generation estimate and pass-by trip reduction information.

The trip distribution pattern assumed in the study appears to be appropriate for this proposed Panda Express location, with the majority of the site-generated

traffic expected to access the site via Pavillion Drive. The assumed annual background traffic growth rate of 0.5% per year for the future 20-year design horizon is also reasonable for this location, due to the limited potential for other new developments in the surrounding area.

Regarding the traffic impact study report itself, we do have the following comments regarding several erroneous statements or factual discrepancies contained therein:

- The report states that Version 8 of the Synchro analysis software was utilized for this traffic study. Although we would not expect significantly different analysis results, the consultant should consider using the most current version (Ver. 9) of Synchro for future studies submitted to the City.
- There is a minor discrepancy in the report regarding the approximate location of the Panda Express access driveway onto Ravenwood Lane, listed as 220 feet (Page 1) vs. 230 feet (Page 15) to the west of the Ravenwood Lane / Pavillion Drive intersection.
- All report exhibits are missing the existing STOP sign on southbound Pavillion Drive at the Ravenwood Lane intersection. However, this sign is described throughout the report as one that is in need of replacement with a standard MUTCD-compliant R1-1 STOP sign. The eastbound STOP sign is also recommended for replacement to improve driver recognition and compliance. We also agree with CBB's recommendation for supplemental plaques to be added at each of these existing STOP sign locations.
- On Page 16, the sentence summarizing the total new trip generation for the restaurant should read "Panda Express is expected to generate a total of approximately 70 and 45 "new" trips..."
- On Page 26, the sentence should read "...during both the peak hours with 2036 Full Build-Out Traffic Volumes."

We have also reviewed the site development plans for the proposed Panda Express restaurant with respect to the City's zoning ordinances for conditional land uses (Chapter 405, Section 470). The proposed restaurant size satisfies the specified 2,500 s.f. criterion for the minimum building size. While the restaurant's menu board and order speaker do face Ravenwood Lane, we believe the proposed layout meets the intent of the criterion to not allow the drive-through facilities to face the adjacent major streets like Olive Boulevard and Pavillion Drive. Finally, the provided vehicle storage length in the drive-through lane significantly exceeds the 190-foot ordinance vehicle storage requirement.

The on-site parking lot layout provides for a very straight-forward internal circulation pattern, including the one-way ingress point into the drive-through lane and the egress points from both the drive-through lane and the escape lane. Overall, we concur with the CBB Transportation report's conclusion that the on-site circulation, including the provision of an escape point in advance of the order board, is appropriately designed to minimize internal conflicts for both motorists and pedestrians.

One specific area of concern regarding vehicular conflicts with the on-site pedestrians is located at the southwestern corner of the restaurant building, where pedestrians will cross the exiting drive-through lane traffic from the parking lot to the front door of the building. The applicant's revised site development plan shows a STOP sign proposed on the right side of the drive-through lane for motorists exiting the pick-up window to mitigate this potential conflict. It would be appropriate for this crosswalk to be constructed with brick pavers or stamped and/or colored concrete to accentuate this potential pedestrian conflict area. In the absence of any enhanced construction materials, a typical 24" stop bar pavement marking should be provided to reinforce the vehicular stop position.

The submitted site plan includes a total of 28 parking spaces for the proposed Panda Express restaurant. Based upon a review of ITE's "Parking Generation" criterion for this type of fast food restaurant (with drive-through) land use, the average peak period parking demand rate of 9.98 vehicles per 1,000 s.f. of gross building area would indicate that about 26 parking spaces should be required. In order to fully cover the upper end of ITE's 95th-percentile confidence interval range (i.e., a rate of 11.27 vehicles per 1,000 s.f. of gross building area), a total of 29 parking spaces would instead need to be provided within the restaurant pad site. In this particular case, it is expected that the Panda Express restaurant would provide adequate parking levels through "shared parking" facilities with the adjacent land uses within the Creve Coeur Pavilion shopping center.

cc: MCE, file

BILL NUMBER 1940

ORDINANCE NUMBER 1882

AN ORDINANCE AUTHORIZING THE ISSUANCE OF A CONDITIONAL USE PERMIT FOR A RESTAURANT TO BE KNOWN AS ROMANO'S MACARONI GRILL TO BE LOCATED ON THE SOUTH SIDE OF OLD OLIVE STREET ROAD NORTH OF OLIVE BOULEVARD IN THE "CB" CORE BUSINESS DISTRICT, SUBJECT TO THE FOLLOWING CONDITIONS HEREIN SET FORTH.

WHEREAS, APPLICATION WAS MADE BY OLD OLIVE, LLC, MR. JOHN McLINDEN, REPRESENTATIVE, FOR A CONDITIONAL USE PERMIT TO OPERATE A RESTAURANT ON THE SOUTH SIDE OF OLD OLIVE STREET ROAD NORTH OF OLIVE BOULEVARD IN THE "CB" CORE BUSINESS DISTRICT OF THE CITY OF CREVE COEUR, AND

WHEREAS, THE PLANNING AND ZONING COMMISSION OF THE CITY OF CREVE COEUR RECOMMENDED APPROVAL OF SAID APPLICATION AS PER SECTION 26-113.4(b), AND

WHEREAS, A PUBLIC HEARING WAS HELD BY THE CREVE COEUR CITY COUNCIL ON MONDAY, AUGUST 11, 1997, BEGINNING AT 7:30 P.M., OR IMMEDIATELY FOLLOWING THE CLOSE OF THE PREVIOUS PUBLIC HEARING, ON SAID APPLICATION FOR THE CONDITIONAL USE PERMIT AS PROVIDED BY ARTICLE VIII, SECTION 26-114 OF ORDINANCE NUMBER 1044 OF THE CITY OF CREVE COEUR, AND

WHEREAS, NOTICE OF PUBLICATION FOR SAID PUBLIC HEARING HAD BEEN PREVIOUSLY PUBLISHED ON JULY 24, 1997 IN THE ST. LOUIS COUNTIAN AND ON AUGUST 4, 1997 IN THE WEST COUNTY JOURNAL, NEWSPAPERS OF GENERAL CIRCULATION IN THE CITY OF CREVE COEUR, AND

WHEREAS, ALL PARTIES DESIRING TO BE HEARD, EITHER FOR OR AGAINST SAID APPLICATION, WERE GIVEN AN OPPORTUNITY TO BE HEARD, AND A COPY OF THE PROPOSED ORDINANCE HAS BEEN MADE AVAILABLE FOR PUBLIC INSPECTION PRIOR TO ITS CONSIDERATION BY THE COUNCIL; AND THIS BILL HAVING BEEN READ BY TITLE IN OPEN MEETING THREE TIMES BEFORE FINAL PASSAGE BY THE CITY COUNCIL, AND

WHEREAS, THE CITY COUNCIL BEING FULLY INFORMED FINDS THAT THE GRANTING OF THE APPLICATION WOULD BE IN HARMONY WITH AND BEAR A SUBSTANTIAL RELATION TO THE THE PUBLIC WELFARE, HEALTH, SAFETY,

COMFORT AND CONVENIENCE OF THE CITIZENS OF THE CITY OF CREVE COEUR AND
IN THE PUBLIC INTEREST AND IN CONFORMANCE WITH GOOD ZONING PRACTICE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE
CITY OF CREVE COEUR, ST. LOUIS COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1: A CONDITIONAL USE PERMIT IS AUTHORIZED TO BE
ISSUED PURSUANT TO SECTION 3 HEREOF FOR THE CONSTRUCTION AND OPERATION
OF A RESTAURANT TO BE LOCATED ON THE SOUTH SIDE OF OLD OLIVE STREET
ROAD NORTH OF OLIVE BOULEVARD IN THE "CB" CORE BUSINESS DISTRICT,
SUBJECT TO THE HEREINAFTER STATED CONDITIONS ON THE FOLLOWING DE-
SCRIBED PROPERTY:

COMMENCING AT A POINT FOR THE INTERSECTION OF THE EAST LINE
OF OLD OLIVE STREET ROAD, 60 FEET WIDE AND THE NORTH LINE OF RAVENWOOD
LANE, 50.00 FEET WIDE, THENCE EASTERLY WITH THE NORTH LINE OF SAID
RAVENWOOD LANE, 50.00 FEET WIDE, NORTH 56 DEGREES 42 MINUTES 00
SECONDS WEST, A DISTANCE OF 200.00 FEET TO THE POINT OF BEGINNING,
SAID POINT ALSO BEING THE SOUTHWEST CORNER OF LOT 5 OF RAVENWOOD PLAT
ONE AS DESCRIBED IN A DEED TO GENE AND BETTY ELBRECHT RECORDED IN BOOK
6913, PAGE 1049 OF THE ST. LOUIS COUNTY, MISSOURI RECORDS, THENCE
NORTH 33 DEGREES 18 MINUTES 00 SECONDS EAST, A DISTANCE OF 300.31 FEET
TO A POINT, THENCE NORTH 89 DEGREES 59 MINUTES 50 SECONDS EAST, A
DISTANCE OF 251.70 FEET TO A POINT, THENCE NORTH 01 DEGREES 45 MINUTES
00 SECONDS EAST, A DISTANCE OF 193.57 FEET TO A POINT, THENCE SOUTH 86
DEGREES 06 MINUTES 27 SECONDS EAST, A DISTANCE OF 108.00 FEET TO A
POINT, THENCE SOUTH 89 DEGREES 20 MINUTES 27 SECONDS EAST, A DISTANCE
OF 167.40 FEET TO A POINT, THENCE SOUTH 00 DEGREES 39 MINUTES 33
SECONDS WEST, A DISTANCE OF 692.00 TO A POINT, THENCE SOUTH 00 DEGREES
04 MINUTES 51 SECONDS WEST, A DISTANCE OF 104.94 FEET TO A POINT,
THENCE SOUTH 88 DEGREES 49 MINUTES 12 SECONDS WEST, A DISTANCE OF
464.39 FEET TO A POINT, THENCE NORTH 06 DEGREES 11 MINUTES 34 SECONDS
EAST, A DISTANCE OF 112.06 FEET TO A POINT, THENCE NORTHWESTERLY WITH
THE ARC OF A CURVE TO THE RIGHT HAVING THE FOLLOWING ELEMENTS: A
RADIUS OF 50 FEET, A CENTRAL ANGLE OF 79 DEGREES 02 MINUTES 16 SEC-
ONDS, AN ARC DISTANCE OF 68.97 FEET AND A CHORD THAT BEARS NORTH 36
DEGREES 13 MINUTES 08 SECONDS WEST, A DISTANCE OF 63.63 FEET TO A

POINT, THENCE NORTH 56 DEGREES 42 MINUTES 00 SECONDS WEST, A DISTANCE OF 121.70 FEET TO A POINT, THENCE SOUTH 33 DEGREES 18 MINUTES 00 SECONDS WEST, A DISTANCE OF 10.00 FEET TO A POINT, THENCE NORTH 56 DEGREES 42 MINUTES 00 SECONDS WEST, A DISTANCE OF 160.00 FEET, THENCE NORTH 33 DEGREES 18 MINUTES 00 SECONDS EAST, A DISTANCE OF 50.00 FEET TO THE POINT OF BEGINNING CONTAINING IN ALL 372,322 SQUARE FEET OR 8.55 ACRES.

SECTION 2: THE CONDITIONAL USE PERMIT GRANTED SHALL BE SUBJECT TO ALL APPLICABLE STATUTES, ORDINANCES, RULES AND REGULATIONS, AND THE FOLLOWING CONDITIONS:

1. THIS CONDITIONAL USE PERMIT SHALL BE FOR THE OPERATION OF A 7,496 SQ. FT. RESTAURANT LOCATED ON THE SAME LOT WITH COMMON ACCESS AND PARKING.
2. THE HOURS OF OPERATION SHALL BE FROM 11:00 A.M. TO 11:00 P.M. SUNDAY THRU THURSDAY AND 11:00 A.M. TO 12:00 MIDNIGHT ON FRIDAY AND SATURDAY.
3. THE FLOOR PLAN FOR THE PROPOSED RESTAURANT SHALL BE FILED WITH THE CITY'S ZONING ADMINISTRATOR SHOWING THE TYPE AND LOCATION OF ALL EQUIPMENT, FURNITURE, SEATING CAPACITY, AND OTHER INFORMATION WHICH MAY BE REQUESTED BY THE BUILDING OFFICIAL.
4. SIGNS FOR THE RESTAURANT MUST BE IN CONFORMANCE WITH THE CITY'S SIGN REGULATIONS, AND PERMITS MUST BE OBTAINED FOR THE ERECTION OR MODIFICATION OF ANY SIGN ON THE PREMISES. BANNERS, PENNANTS, FRINGE, LIGHT PINWHEELS OR OTHER SIMILAR DEVICES FOR ATTRACTING ATTENTION MAY BE DISPLAYED ONLY IN CONFORMANCE WITH THE CITY'S CURRENT SIGN REGULATIONS. EXPOSED NEON SIGNS SHALL ONLY BE USED IN CONFORMANCE WITH THE CURRENT SIGN REGULATIONS OF THE CITY OF CREVE COEUR.
5. THE REFUSE CONTAINERS SHALL BE FOR THE EXCLUSIVE USE OF THE RESTAURANT AND SHALL BE LOCATED ADJACENT TO THE RESTAURANT. THE REFUSE CONTAINERS SHALL BE LOCATED WITHIN A SCREENED SIGHT-PROOF STORAGE AREA WITH THE INSTALLATION OF A HOSE BIBB TO SERVICE THE TRASH ENCLOSURE AREA. TRASH PICK-UP FOR THE FACILITIES SHALL ONLY OCCUR BETWEEN THE HOURS OF 8:00 A.M. AND 8:00 P.M.

6. THERE SHALL BE NO OUTDOOR STORAGE OR PLACEMENT OF ANY MATERIALS OR EQUIPMENT USED IN CONJUNCTION WITH THE RESTAURANT, INCLUDING STORAGE OF OUTDOOR TABLES, CHAIRS AND UMBRELLAS.

7. ANY MECHANICAL EQUIPMENT INSTALLED FOR THE RESTAURANT SHALL BE PROPERLY SCREENED WITH APPROVED MATERIALS.

8. DELIVERY AND COMPANY VEHICLES SHALL BE PARKED IN THE REAR PARKING AREA OF THE RESTAURANTS.

9. ANY FUTURE ENLARGEMENT, EXTENSION, EXPANSION OR ALTERATION IN THE USE OF THE STRUCTURES OR SITE MUST BE APPROVED BY THE CITY COUNCIL UPON RECEIPT OF THE RECOMMENDATION OF THE PLANNING AND ZONING COMMISSION AS AN AMENDMENT TO THE CONDITIONAL USE PERMIT BEFORE A BUILDING PERMIT FOR THE ENLARGEMENT OR ALTERATION MAY BE ISSUED.

10. THE SEATING AREA MUST HAVE SUFFICIENT PROPER SIGNS TO COMPLY WITH THE "NO SMOKING" ORDINANCE NUMBER 1392 AND AMENDING ORDINANCE NUMBER 1548.

11. A COPY OF ALL HEREIN ATTACHED CONDITIONS SHALL BE FURNISHED BY THE OWNER OR PETITIONER TO THE OPERATOR(S) OR MANAGER(S) INCLUDING SUCCESSIVE OPERATOR(S), OWNER(S) OR MANAGER(S) WHO SHALL FORWARD TO THE ZONING ENFORCEMENT OFFICER AN ACKNOWLEDGEMENT THAT HE OR SHE HAS READ AND UNDERSTOOD EACH OF THESE CONDITIONS AND AGREES TO COMPLY THEREWITH.

12. ALL CONDITIONS CONTAINED WITHIN THIS PERMIT SHALL BE POSTED UPON THE PROPERTIES IN SUCH A MANNER THAT IT IS VISIBLE TO THE PUBLIC AND THE OPERATOR OF SAID FACILITIES.

13. FAILURE TO COMPLY WITH ANY ONE OR ALL OF THE CONDITIONS OF THIS PERMIT SHALL BE ADEQUATE CAUSE FOR THE REVOCATION OF SAID PERMIT BY THE CITY COUNCIL, PROVIDED, HOWEVER, NO PERMIT SHALL BE REVOKED WITHOUT PRIOR NOTICE TO THE OWNER OF THE INTENTION OF THE CITY COUNCIL TO REVOKE THIS PERMIT AND REASONABLE TIME GRANTED TO THE OWNER TO CORRECT OR REMEDY ANY SUCH BREACH OF CONDITIONS, EXCEPT FOR REPEATED BREACHES OR VIOLATIONS.

14. NO CONDITIONAL USE PERMIT GRANTED BY THE CITY COUNCIL SHALL BE VALID FOR A PERIOD LONGER THAN ONE YEAR FROM THE DATE IT GRANTS THE CONDITIONAL USE PERMIT, UNLESS WITHIN SUCH PERIOD: (1) A BUILDING PERMIT IS OBTAINED AND CONSTRUCTION IS BEGUN; OR (2) IF A BUILDING PERMIT IS NOT REQUIRED, AN OCCUPANCY PERMIT IS OBTAINED AND THE USE OF THE BUILDING COMMENCED. THE CITY COUNCIL MAY GRANT EXTENSIONS NOT EXCEEDING ONE HUNDRED AND EIGHTY (180) DAYS EACH, UPON WRITTEN APPLICATION FILED AND GRANTED PRIOR TO THE EXPIRATION OF THE CONDITIONAL USE PERMIT PERIOD.

15. ANY TRANSFER OF OWNERSHIP OR LEASE OF THE PROPERTY SHALL INCLUDE IN THE TRANSFER OR LEASE AGREEMENT A PROVISION THAT THE PURCHASER OR LESSEE AGREES TO BE BOUND BY THE APPROVED SITE DEVELOPMENT PLAN FOR THE PROPERTY AND THE CONDITIONS HEREIN SET FORTH.

16. THE USE OF OUTDOOR SPEAKERS FOR THE AMPLIFICATION OF MUSIC OR SPOKEN WORD SHALL BE PROHIBITED.

17. AN UNDERGROUND IRRIGATION SYSTEM SHALL BE INSTALLED TO SERVE ALL GREEN AND/OR LANDSCAPED AREAS, INCLUDING INTERIOR PARKING LOT ISLANDS, IDENTIFIED ON THE SITE DEVELOPMENT PLAN.

18. THE SITE COVERAGE FOR THE ENTIRE 8.69 ACRE PARCEL SHALL NOT EXCEED 302,587 SQUARE FEET.

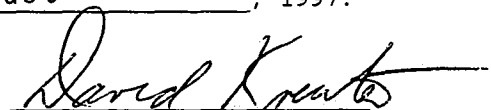
19. THE RESTAURANT SHALL BE DEVELOPED AND CONSTRUCTED IN ACCORDANCE WITH PLANS PREPARED BY JAMES B. BECKER CONSULTING ENGINEERS WITH AN ISSUE DATE OF AUGUST 19, 1997 OR AS FURTHER REVISED AS REQUIRED AND APPROVED BY THE CITY OF CREVE COEUR.

20. THE RESTAURANT OPERATOR AND/OR THE PROPERTY OWNER SHALL PROVIDE ADEQUATE PRIVATE ON-SITE SECURITY PERSONNEL TO ADDRESS CROWD CONTROL ISSUES AND FACILITATE TRAFFIC FLOW AND TRAFFIC CONTROL ISSUES. SUCH PERSONNEL SHALL BE REQUIRED ON FRIDAYS, SATURDAYS, SUNDAYS, AND HOLIDAYS.

SECTION 3: THE CITY ADMINISTRATOR OF THE CITY OF CREVE COEUR IS HEREBY AUTHORIZED AND DIRECTED TO ISSUE A CONDITIONAL USE PERMIT IN ACCORDANCE WITH THE PROVISIONS OF THIS ORDINANCE, SAID PERMIT TO EXPRESSLY PROVIDE FOR THE CONDITIONS AND STIPULATIONS HEREINABOVE SET OUT IN SECTION 2 OF THIS ORDINANCE.

SECTION 4: THIS ORDINANCE SHALL BECOME EFFECTIVE AT THE
EXPIRATION OF FIFTEEN (15) DAYS AFTER ADOPTION BY THE CITY COUNCIL AND
THE SIGNING THEREOF BY THE MAYOR.

PASSED THIS 25 DAY OF August, 1997.


DAVID KREUTER, PRESIDENT
CITY COUNCIL

APPROVED THIS 25 DAY OF August, 1997.


ANNETTE KOLIS MANDEL
MAYOR

ATTEST:


LAVERNE COLLINS, CITY CLERK

104/217

PLANNING AND ZONING COMMISSION MEETING

CITY OF CREVE COEUR, MISSOURI

300 NORTH NEW BALLAS ROAD

MONDAY, NOVEMBER 21, 2016

6:30 P.M.

PUBLIC HEARING APPLICATION NO. 16-030

THOSE IN ATTENDANCE:

Ms. Beth Kistner, Chair
Mr. Tim Carney
Ms. Muriel Hall
Mr. Dan Magruder
Mr. Gene Rovak
Ms. Heather Silverman
Mr. Matthew Schuh
Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, Director of Community Development
Ms. Whitney Kelly, City Planner
Ms. Jessica Stutte, Planning Assistant/Recording Secretary

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1 CHAIRMAN KISTNER: We're ready to go on to the
2 next public hearing.

3 It's Application No. 16-030: Conditional use
4 permit and site development plan for a Panda Express
5 Restaurant with drive-thru service at 10453 Olive
6 Boulevard within Creve Coeur Pavilion Shopping Center.

7 Anybody who wants to speak to this matter, if
8 you can come forward to be sworn in.

9 MR. SCHUH: And -- and before we begin this
10 hearing, my law firm actually represents Panda Express, so
11 I'm going to recuse myself from this particular hearing.

12 (The speakers were sworn in by the court
13 reporter.)

14 CHAIRMAN KISTNER: Okay. We ready to start?

15 Give us your name --

16 MR. ERIC ABELN: Just give us a second here. We
17 have a presentation. But we don't have any way to present
18 it. We thought a computer would be up here.

19 MS. KELLY: Hold on. We'll use mine.

20 MR. ERIC ABELN: Thank you.

21 My name is Eric Abeln with Heights Venture
22 Architects, 1111 North Loop West, Suite 800, Houston,
23 Texas 77008.

24 I'm representing the Panda Express Restaurant
25 Group. We're here to propose a conditional use permit for

freestanding restaurant with a drive-thru.

I want to first -- I want to first introduce you to Panda Restaurant Group.

It was created in 1973 by Andrew and Peggy Cherng. They immigrated from China to open up a restaurant. And they opened up a restaurant called Panda Inn in Pasadena, California, and it's still there today. And it acts as their incubator for all of their restaurant concepts; Hibachi, Hibachi-San and Panda Restaurant Group.

Some of the dishes that we -- that we provide at the Panda Restaurant -- Panda Express Restaurant, has been created from signature dishes from Panda Inn, the original restaurant.

In 1983 the first Panda Express Restaurant was opened. And some, you know, now they're up to some-2000 locations worldwide, including Guam, Canada, Puerto Rico.

And I want to stress that even since 1973, it started out as a family-owned company, and it still is a family-owned company.

Andrew and Peggy Cherng still hold controlling interests. They share that with their daughters and their grandchildren and it maintains a family restaurant. And they really stress the family atmosphere.

You'll find in all their restaurants open, large-scale community table as they call it. Some place

1 where families can enjoy and have an evening dinner as if
2 they were at their home.

3 Panda Restaurant Group is also involved --
4 heavily involved with their communities in both small and
5 large scales. So they have a philanthropic organization
6 called Panda Cares, which helps with disaster relief and
7 AIDS children in -- in disadvantaged areas.

8 And then on a local scale -- that's on a larger
9 scale. That's more of a corporate level, but on a local
10 scale, as an example, in Dallas a couple years ago, they
11 had what they called a Design Summit. And they bring all
12 of their architects and consultants in and we talk about
13 the concept of the brand and concepting of construction
14 and design.

15 And then as part of that conference, we went out
16 to a local shelter or a community organization, and we
17 distributed furniture to underprivileged neighborhoods.
18 Just carrying furniture and moving them upstairs, moving
19 them into apartments.

20 So they integrate that as part of team building,
21 but also as a way they give back to the communities that
22 they're in.

23 The Panda Express Restaurant proposal here is
24 going into the -- is proposed to go into the Pavilion
25 Shopping Center. So we have Olive to the south; Old Olive

1 wrapping around to the north; Pavilion Drive is a private
2 drive, which primarily serves access into the site,
3 shopping site, as well as Ravenwood, which is east/west
4 corridor into the site for internal circulation.

5 Being familiar with the site, you'll see a
6 retail multi -- multi-tenant retail just north of the
7 proposed site on the corner of Pavilion and Olive
8 Boulevard. Large AMC Theater in the center of the site
9 anchoring it. We have various restaurants along the
10 perimeters, along Old Olive to the west and also along
11 Olive Boulevard to the south.

12 Coming in a little bit closer to the site, our
13 orientation is strong to the corner of Pavilion and Olive.
14 Corners are always sweet spots for restaurants for
15 visibility, for access, typically, and in this case, we
16 get to utilize views from the dining rooms and --

17 And also in this -- in this development,
18 remembering the multi-retail to the north, there's already
19 strong pedestrian corridors that exist throughout the
20 site. Obviously, a large corridor coming from the
21 theater, meaning the east/west corridor along Ravenwood,
22 but there's a direct connection, an alignment with the
23 multi-retail to the north, and there's a direct pedestrian
24 corridor right there. And the building nestles and
25 maintains that volume along Pavilion Drive continuing from

1 that retail.

2 Looking at the site as a whole, so there's some
3 interesting site conditions at this. Along the corner of
4 Pavilion and Olive, there's a 15 to 20 foot retaining
5 wall. And it starts out at a zero condition at the
6 intersection of Ravenwood and Pavilion in the northeast
7 corner of this image, and it grows to about 15 feet at the
8 corner, and then continues along Olive Boulevard until it
9 reaches a zero condition all the way at Old Olive.

10 So this condition really isn't your normal
11 corner condition. If this was a flat site, our building
12 might be oriented a good 40 feet closer to Olive Boulevard
13 to really address the street.

14 But this existing retaining wall does present
15 other opportunities that we'll look at later on.

16 The large blue portion in the center of the site
17 is an underground storage container for rainwater, so this
18 serves the entire site, and it's connected to the city's
19 storm systems to the south.

20 But this is a underground detention area, and
21 consumes some of that void that's created by the 15 foot
22 raised retaining wall.

23 And because of that, we're a little bit limited
24 as to the orientation to the west.

25 So we get to keep that nice corner that I spoke

1 about with the massing of the retail to the Panda Express
2 building, but it's just -- it's just to point out that
3 there is a large obstruction in the center of the site
4 that we'll -- we'll be precluded from placing the building
5 upon.

6 Now, I spoke about views earlier. This is
7 showing an interior layout of the store. You'll see
8 the -- the interior red section is the dining room, and
9 that offers views to the east and to the south looking at
10 Monsanto's campus and their green space across Olive and
11 also looking southeast.

12 The strong orientation to the corner really
13 supports this type of orientation of the dining room, and
14 it puts the -- the service corridor wrapping around the
15 outside of it. You'll see the dark red square is the
16 entrance and the vestibule at the eastern side of the
17 patio.

18 This is a view looking west -- westbound traffic
19 along Olive. You'll see that it is a good opportunity at
20 this corner that we're raised up a little bit, 15 feet
21 high. We get good visibility of the building. We don't
22 get a lot of good visibility with signage being only
23 allowed one on the street face. The primary face being
24 Olive Boulevard.

25 So the building vocabulary and the building

1 presence really helps identify it and draw attention and
2 invite people into the restaurant.

3 So let's talk about the pedestrian experience.

4 As I said, the existing retail to the north has
5 8 foot -- 8 foot sidewalk to the north crossing Ravenwood,
6 and we propose that we're going to continue the 8 foot
7 sidewalk to the west to connect to the central corridor
8 that connects to the AMC Theater.

9 But continuing south from the retail center, you
10 continue across what we might call the red brick road, so
11 it's going to be a red -- red stained concrete to identify
12 different from other paved surfaces to denote it as a
13 pedestrian path.

14 Continue south along the accessible parking, and
15 then you make a turn to the east, cross a drive-thru lane,
16 and you enter into the patio and eventually to the -- to
17 the entrance.

18 This is sort of the diagrammatic path that a
19 pedestrian would take from the north retail. If you're
20 coming in from the parking lot, of course, you're just
21 going to cut straight east across, you'll be drawn right
22 into the red -- red brick road. The only -- the only real
23 path into the entrance.

24 So the -- the pathway of the pedestrian is
25 very -- is dedicated. It's separated from the parking lot

1 traffic. And we'll see in a second that it's contained by
2 landscaping.

3 So as a pedestrian moves from the south, they
4 cross through a little grove of cherry trees, and then
5 they cross along the convenient parking where the handicap
6 parking is.

7 And to the east of that is a large 10 foot
8 buffer of landscape. We have various grasses, hydrangeas,
9 and that buffers the drive-thru lane that ends up to the
10 drive-thru window.

11 As they head south, they can choose a left and
12 right direction, but the path is clearly dedicated to the
13 east.

14 We have a buffer, a landscape buffer, at the
15 termination of that access to prevent them from crossing
16 into additional drive lane, exits and entrances. They
17 proceed east across the drive-thru lane, across a raised
18 hump, which called a road hump, so it's almost like a slow
19 speed bump. Again, the paving is continuing to be red
20 stamped concrete and the same brick pavers as the rest of
21 the center to tie in the entire pathway.

22 They cross over the drive-thru lane, and they
23 have buffering to the north and south of them,
24 particularly to the south along the drive aisle, large
25 landscape buffer, and once they enter the patio, they have

1 additional buffer of a brick pilaster and iron fence
2 railing that surrounds the patio.

3 So if we were to experience this walking from
4 the parking lot to the -- to the entrance, we would see
5 cars waiting in the drive-thru window, but we would be
6 buffered on both the -- both sides of us to keep us on
7 that path and create a clear direction and destination to
8 the entrance.

9 You can see here also the raised hump, which is
10 going to slow vehicles crossing that, and it notifies,
11 both pedestrians and vehicular traffic, that there is a
12 crossing here, attention needs to be paid.

13 The drive-thru lanes -- the exiting vehicles
14 proceed through this intersection from a stopped position,
15 so they're already at a stopped position. There's no --
16 there's a low risk -- there's really no risk of them
17 traveling at high rates of speed through this
18 intersection. And the raised hump further enforces that a
19 slow progression through that intersection happens.

20 The raised hump also identifies that there's a
21 hierarchy here; that pedestrians have the right-of-way and
22 that their path is more important than vehicles.

23 So once you entered into the patio, this is a
24 view looking at the other direction from the entrances
25 behind me, and I'm looking towards the drive -- sort of

1 the path to the parking lot. You'll see the wall, the low
2 wall, 4 foot high pilasters with the iron fence. And
3 there's another 6 foot of vegetation on the other side of
4 that. Then there's a drive lane way. And you'll see even
5 beyond that is the retaining wall, and the retaining wall
6 has a 4 foot iron fence, as well as vegetation along the
7 entire perimeter.

8 Here I am seated at the -- in -- in the patio.
9 And I think this really represents the real feeling of
10 enclosure here. Not only are the umbrellas protecting you
11 from above, but you have side protection of vegetation and
12 massing, solid pilasters of brick, and you're in this
13 welcoming enclosed and comfortable space here.

14 And so I really hope this shows the -- the
15 protection of the patio and intimate nature that the space
16 is creating.

17 And we talked about pedestrian traffic. Let's
18 talk about vehicular traffic.

19 Majority of our -- majority of the traffic is
20 probably coming from Olive Boulevard through the Pavilion,
21 proceed north, turn to the east and then into the
22 development from Ravenwood Drive.

23 So we have a counterclockwise motion around the
24 parking lot, and you'll see two one-way lanes entering and
25 exiting the -- the drive-thru area.

1 As part of the ordinance, the drive-thru
2 stacking lane is defined as 190 feet plus the vehicle at
3 the -- at the window.

4 And I think it's a -- I think it's -- it's
5 important to note the -- what is the definition of a
6 drive-thru stacking lane.

7 And from the ordinance, 405.470-14(d)(7), states
8 it as being no less than 190 feet long, and shall provide
9 escape prior to the facility order board.

10 And you'll see here the "W" is representing the
11 window. The red band is representing the 190 feet. It
12 terminates prior to the face of the building.

13 The order board is to our north, I guess you
14 call it the northwest corner of that -- of that U-shape.
15 And so the gray hatched area is that escape lane prior to
16 the order board, so that in the event someone drove in --
17 into this one-way drive lane, they didn't care to go
18 through the drive-thru, they wanted to enjoy the dining
19 room, they have the opportunity to escape.

20 CHAIRMAN KISTNER: Can explain that a little
21 more.

22 The way it looks to me, once you've entered in
23 along that southern border, there is -- it looks like
24 there's no escape.

25 Can you explain, or do you have a -- your

1 pointer where you can show.

2 MR. ERIC ABELN: Well, do not have a pointer,
3 but your interpretation is accurate that the widening of
4 the lane occurs on the northern portion of Ravenwood, so
5 upon entering in the one-way drive lane along the southern
6 edge, along the patio, and you turn north, you -- there is
7 a potential to -- there's potential to be behind a stacked
8 vehicle. In the event there were eleven cars ahead of
9 you, you would have to wait for them to queue out,
10 roughly, four -- three -- three to four minutes per -- per
11 car.

12 But the order board is far to the northwest, so
13 typically a car five and so car six, seven, eight and nine
14 would have the opportunity to -- to escape.

15 I should mention that operationally our
16 standards with other -- other sites and other projects is
17 typically a queue lane of about eight cars, eight to nine
18 cars.

19 Typically this queue lane will terminate right
20 from the parking lot, so it does not have the luxury of a
21 one-way dedicated lane in or out of the site, and so their
22 designated stacking lane stops right at the parking lot.

23 We -- we don't anticipate, and we think it's a
24 low -- a low chance that additional stacking will be
25 beyond the minimum of 190 feet.

1 And so, therefore, we feel that the escape lane
2 prior to the order board meets the -- meets the language
3 of the ordinance and also provides the opportunity for
4 people to leave the -- leave the queue lane if -- if so
5 they choose.

6 So no other -- no other definition of stacking
7 lane is really offered through the ordinances or through
8 the code of ordinances, and so we are offering -- we are
9 offering the minimum of 190 feet stacking lane.

10 In both, our third party traffic study and the
11 city's consultant traffic study, this was more than enough
12 stacking space, the 190 feet, and the addition of the
13 one-way drive lanes also creates an advantageous
14 situation. Where in the event there was a slowdown or a
15 back-up of traffic, through some confusion, or if we are
16 lucky enough to have that much business, there's an
17 additional 100-and-something feet of drive lane that cars
18 can -- can -- can occupy without impacting the site
19 circulation of the parking lot.

20 This -- this also -- this one-way drive lane
21 also does not impact any of the pedestrian traffic at all.
22 So the higher traffic that are seeking to find the
23 entrance of the drive-thru stacking lane are completely
24 outside of the pedestrian flow.

25 I think this -- this creates a good separation

1 of vehicular and pedestrian traffic, as well as creating a
2 safer environment for the site circulation as a whole to
3 prevent any kind of over -- overstacking.

4 I'll reiterate, this slide here showing the
5 pedestrian paths and the landscape buffers between all
6 vehicular processes, so between Pavilion and Olive, we
7 have the retaining wall with the fence and a landscape
8 edge there, 3 foot high hedges. And then once you move to
9 the -- the inner layer, now you have the one-way dedicated
10 lane, and then eventually the drive-thru stacking lane, we
11 have another 6 to 8 foot buffer of landscape and then the
12 hard edge around the patio of the -- the pilasters and the
13 iron fences. All the pedestrian ways are blocked by
14 landscaping to the -- to the drive-thru and drive-thru
15 lane of vehicular traffic.

16 So this layering effect gives, not only a sense
17 of a visual layers from the outside, but it also creates a
18 sense of containment and a sense of, you know, safety from
19 the inside. You have these layers that are buffering you
20 from the vehicular traffic of Olive Boulevard, which is
21 very important, but also of anybody traveling to get to
22 the drive-thru lane.

23 This is the image of what you would look like
24 from the westbound dedicated turn lane. I want to draw
25 your attention to the -- to the red umbrellas up there.

1 Flip back to the plan real quick. Those are at the
2 forefront of the patio. And those are 8 foot clear under
3 and about 9 foot clear high, and with the railing and the
4 3 foot hedge around the retaining wall, even those are
5 barely visible at an -- at an angular view traveling along
6 Olive.

7 Now, I'm at a standing position. I'm not
8 traveling 40 miles an hour down Olive.

9 Want to reiterate, the -- the path and the
10 crossing of the drive-thru exit lane from a stopped
11 position, across a controlled dedicated and directed
12 pedestrian path with a raised hump or slow traffic and
13 to -- to identify the hierarchy of the pedestrian traffic.
14 Such traffic flow.

15 I want to briefly talk about the materiality of
16 the project.

17 The existing shopping center is of this red --
18 red brick and of limestone base. They also have that
19 lighter beige stucco color. And so we're going to
20 integrate these materials in the -- in the major massing,
21 the towers, the entry features, and, of course, the
22 wainscot around the entire base.

23 The other material that we'll be using is black
24 storefront, black anodized aluminum for the storefront
25 that also jives with the existing center.

1 But the material that we're introducing into the
2 center is this Nichiha material. It's a fiber cement --
3 fiber cement board. It's to -- it's to resemble wood.

4 Obviously, we -- we can't really put wood on
5 commercial development, it would deteriorate way too fast.
6 But it allows us to use wood on the exterior and tie it
7 into the interior. They use these warm wood finishes of
8 walnut and oak on the tables and all the -- the surfaces
9 pedestrians will be touching -- or guests will be
10 touching.

11 So this allows us to express that on the
12 outside. It's made of the same material. 80 percent of
13 this is the same material as what you find in a brick. So
14 it's cement, it's silicates, and it is fly ash. The other
15 20 percent are wood fibers.

16 And so this allows Nichiha to -- you can get
17 for -- submit for lead credits of renewable materials and
18 also recyclable materials. This isn't the lead project,
19 but we do use sustainable practices when possible, and
20 this is great material for that. It's durable. Has a 50
21 year manufacturer warranty. It's Class A fire rating, so
22 it does not promote burning. It is a cement product, but
23 it has the look of wood, but the durability of cement.

24 This is an install detail of it. So this
25 project is in Alaska, so it is used to extreme

1 temperatures. We also do projects in, you know, really
2 all over the county. We have a project right now in Texas
3 using this. So it's extreme heat. It's very durable
4 product cause it looks very clean -- very clean surface,
5 but it still has that warmth of wood.

6 This is an image of the retail just to our
7 north. You'll see the red brick is used, the light beige
8 color stucco, as well as the limestone base.

9 What we are choosing not to use are the green
10 awnings. We're using black storefront and black metal
11 canopies around the entry and around the sides as visual
12 interest.

13 CHAIRMAN KISTNER: Can you -- the bottom left
14 image.

15 MR. ERIC ABELN: Yes.

16 CHAIRMAN KISTNER: And I think that's maybe the
17 northwest corner.

18 Looks likes a solid concrete wall. Is that just
19 a function of the rendering or is that -- is that just
20 solid EIFS?

21 MR. ERIC ABELN: Let me -- let me fast-forward
22 here and answer that.

23 So you're looking at --

24 CHAIRMAN KISTNER: Right there and there.

25 MR. ERIC ABELN: Yeah.

1 CHAIRMAN KISTNER: Well --

2 MR. ERIC ABELN: These two corners really. So
3 you're looking at the northeast corner, and eventually
4 we'll talk about the northwest corner.

5 What we have here is, from the other slide,
6 talking about the views towards Olive and Pavilion looking
7 at Monsanto's campus.

8 We orient the dining room to that hard corner.
9 Orient the patio to that hard corner. You get these
10 connections of interior and outdoor seating. And so
11 these -- these are the areas of transparency. These are
12 the areas of view through the dining room and enhances the
13 dining room experience.

14 But as every -- every functioning building has,
15 there are service requirements. There's a kitchen, there
16 are restrooms. And so the perimeter that the serve
17 spaces -- I'm sorry -- the serving spaces wrap around the
18 outside of the -- of the dining room.

19 These views are -- these areas are hidden from
20 view from the guests, both interior and exterior.

21 And so the corner you were just speaking of is
22 Nichiha on -- on the top of the building, and then below
23 the canopy, we're continuing the rhythm of the -- of the
24 windows that we start along the dining room, but because
25 it lands in the middle of the men's restroom -- or the

entire wall of the men's restroom, I don't think windows are an appropriate location at that corner.

So we're able to use the rhythm of the windows and keep that vocabulary, but we just change up the materials for the function of the space.

We'll continue that as we turn the corner with the rest of the restrooms, the back service areas, the mop sinks, the prep sinks.

On the far northwest corner are the coolers. The far west wall is, along the drive-thru, is the engine, the cooking engine, and it terminates at -- at the drive-thru itself.

So, again, we use that rhythm, so it's probably better represented here. Well, let's just look at that straight on.

On the bottom image, the north elevation on the left-hand side, which is the left-hand side, yeah, and we break up that mass, try and break up that mass with some scoring. Recognizing that it is service areas, and that the use of windows here, while we could put windows in, they would have to be opaque glass or some sort of film cover, and that just doesn't -- that kind of vocabulary, while you could use a window to break up the mass, it doesn't -- it doesn't serve the purpose of what a window should be as like a dining room, that view in and drawing

1 people in. Frankly, we don't want to draw people in to
2 the back of house where the mop sink is. We want them to
3 have an enjoyable experience in the dining room area.

4 And with that said, I'll -- I'll thank you.
5 I'll leave you with a picture of our signature orange
6 chicken. I'm sure, cause you're probably hungry, I
7 probably should have had -- had some orange chicken
8 brought in for us, but -- and if there's any other
9 questions or --

10 CHAIRMAN KISTNER: Comments?

11 Well, maybe we'll wait for Jason -- or Whitney.

12 MS. KELLY: Yeah.

13 MR. JAGGI: Yeah, Ms. Kelly has some comments
14 and findings from staff's perspective this evening.

15 MS. KELLY: Whitney Kelly, City Planner, on
16 behalf of the City of Creve Coeur.

17 All drive-thru restaurants require a conditional
18 use permit, and, therefore, that's the reason for tonight.

19 The Pavilion Shopping Center is a pre-existing,
20 nonconforming site. And the location of this is going on
21 the former -- within the parking lot of the former
22 Macaroni Grill, which has been torn down, and is the
23 vacant space to the left.

24 For the most part, the proposed elevations meet
25 with all of the Design Guidelines except for a couple of

1 points.

2 And that is the use of the EIFS in exchange for
3 where windows should be. And then the inconsistent design
4 treatment along the north elevation. Staff believes that
5 that requires additional consideration and design.

6 We also feel that --

7 CHAIRMAN KISTNER: Can you be more specific
8 when you -- what you are calling the inconsistent design?

9 MS. KELLY: The Design Guidelines recommend that
10 all elevations be treated with the same material. They
11 don't have to be treated exactly the same in that we want
12 more design consideration along the front, create a sense
13 of entry.

14 Having the EIFS at this location is very
15 inconsistent with the other designs of -- of the building.

16 And it -- and the blocking of the windows for
17 EIFS is just weird. Sorry.

18 We also feel like the main entrance at the --
19 over where the Panda Express signs need greater
20 articulation and design consideration creating shadow
21 lines and things like that.

22 As the applicant has indicated, there is a
23 couple of points that we wish to discuss regarding the
24 zoning code.

25 Section 405.460 -- 470, has an extensive list --

1 list of requirements regarding any drive-thru restaurant.
2 And the intent of this was to meet with the Design
3 Guidelines of greater pedestrian activity, but while still
4 allowing, under extreme -- under certain circumstances,
5 this convenience of the drive-thru restaurant.

6 The -- the proposal does meet with a majority of
7 the requirements of this ordinance, however, the
8 interpretation before you tonight is -- it's the
9 designated stacking lane.

10 The applicants contend that by -- that the code
11 defines the designated stacking lane as only 190 feet.

12 What the code specifically states is that the
13 designated stacking lane shall be no less than 190 feet.

14 That did not create a definition, and it can be
15 more.

16 It is the applicant's traffic study and the
17 City's consent of the traffic engineer, that actually
18 305 feet of stacking lane is provided.

19 We feel that because this -- that lane that
20 crosses in front of the building will only serve a single
21 purpose, which is to get to the -- the menu board and to
22 order for the drive-thru service, and that it will be
23 signed for that direction; that that creates the
24 designated stacking lane. There's no other purpose for
25 it.

1 And that's when we get to No. 9 on -- Item 9 of
2 the ordinance on page 11, it says, "The designated
3 stacking lane shall not cross between the building and the
4 principal street frontage".

5 While this site does provide a unique criteria
6 that might be okay for this particular instance, we do
7 feel like this is an interpretation that the Planning and
8 Zoning Commission needs to make, as this would be carried
9 over to any future drive-thru restaurants, and may not be
10 as welcomed on any other sites.

11 CHAIRMAN KISTNER: Okay. And I think that's a
12 really good point. And I -- when that -- that -- when we
13 created that ordinance, we weren't thinking about a site
14 that was that high up.

15 But the language -- based on the language of it,
16 that stacking lane, and I agree, it's a stacking lane
17 at -- into the point, the 300 feet, it's crossing in front
18 of the main frontage street.

19 The question is if it works in this instance,
20 how do we -- how do we square that with the ordinance?

21 And to me, there either needs to be a text
22 amendment clarification of the ordinance that would create
23 a exception for, you know, an unusual site -- site
24 circumstance, or the applicant would have a very good
25 case, I think, for a variance that it wasn't unusual

1 circumstance. Unlikely to, you know, be repeated --

2 MS. KELLY: Well --

3 CHAIRMAN KISTNER: -- so would like to get your
4 thoughts on.

5 MS. KELLY: It was -- going through that
6 process, I do know that we extensively reviewed sites on
7 this.

8 The idea of the applicant getting a variance
9 would be very difficult in that they're creating the need
10 for the conformity. When if they could just redesign it a
11 bit, maybe shift it over somewhere within -- they'd have
12 to consider the entire Pavilion site and, therefore, they
13 might be able to meet the code as required.

14 It was the intent -- it's my understanding that
15 the intent of the designated stacking lane was to separate
16 the pedestrian space from the -- the tight flow of traffic
17 around the building to meet more with the Design
18 Guidelines for greater pedestrian amenities and
19 walkability.

20 CHAIRMAN KISTNER: I -- I think it was that, but
21 also esthetic to have a -- a drive lane --

22 MS. KELLY: Correct.

23 CHAIRMAN KISTNER: -- in front of the main
24 street.

25 MR. ROVAK: I would ask, I think at the very

1 least, and maybe redesign would be a better approach, but
2 at the very least, hardwire -- that we're -- the record of
3 our approval, if -- if it's given, would have to include
4 the rationalization of recognizing of a different
5 interpretation -- of this interpretation of stacking lane
6 and the fact that it is not of the normal and -- is not of
7 the normal interpretation or the usual intent.

8 That maybe that we find a reason or a rationale
9 that we could make that exception, but I think if we do,
10 we should be on record that this is -- recognizes quite
11 different than what normally would have been done.

12 MS. SILVERMAN: I think we have to
13 (inaudible) --

14 MR. LUMLEY: Well, the Commission doesn't
15 have the -- well, ultimately the City Council would make
16 the decision, but you don't have the authority to stray
17 from the ordinance.

18 MR. ROVAK: Okay.

19 MR. LUMLEY: So.

20 MR. ROVAK: That's good too. I was just
21 thinking if we had done -- had we done so, then --

22 MR. LUMLEY: Yeah, I would agree that a variance
23 would seem unlikely, I mean you never know, but a variance
24 isn't based on unique circumstances alone. You have to
25 show the hardship as well.

1 I mean, clearly, it's got some unique attributes
2 to it, but the hardship aspect is a different question.

3 The text amendments, certainly, is always an
4 alternative, but I -- the city or any applicant with an
5 interest can pursue.

6 I think this is our second drive-thru
7 application since we passed the ordinance.

8 MS. KELLY: And this is the first freestanding
9 one that would meet this section of that ordinance.

10 CHAIRMAN KISTNER: I mean would you agree that
11 if we were to permit this stacking lane along the -- well,
12 I don't even know if you can, the stacking lane along the
13 major frontage -- the principal street frontage.

14 MR. LUMLEY: Well, I -- Mr. King may have a
15 different view -- but what I see your choices are is
16 you're either interpreting it as allowing the property
17 owner to designate where they see the stacking lane being,
18 or you're looking at the reality of the layout.

19 MR. ERIC ABELN: May we respond and discuss as
20 well?

21 MR. LUMLEY: Is she finished?

22 CHAIRMAN KISTNER: Are you still -- let's let
23 Whitney finish.

24 MS. KELLY: We also identified another concern,
25 which is the -- the potential conflict between those

1 entering into the drive-thru, those exiting the
2 drive-thru, and the pedestrians crossing in front.

3 We felt that was concern. There needs to be
4 greater consideration. However, it's because of the way
5 the stacking lane is on that that drives that concern as
6 well.

7 Those were the three key points of our -- the
8 staff report. And, therefore, we're -- we're seeking your
9 direction at this time.

10 CHAIRMAN KISTNER: Mindful of the fact that it's
11 10:30 almost now and -- is there anybody in the audience
12 that wishes to speak to this matter?

13 And I'm not -- I'm not saying let's suspend this
14 for the night, but I just want to raise the question.
15 We've had the presentations. There's some obvious issues
16 of concerns raised.

17 Do we keep on going and try to work this all the
18 way through, or would we be better served with -- to allow
19 staff and applicant to continue some of these discussion
20 areas and continue the hearing at a later meeting?

21 Just want to get your thoughts.

22 MR. MAGRUDER: I have -- respond?

23 CHAIRMAN KISTNER: Yeah.

24 MR. MAGRUDER: I have one issue that won't go
25 away.

1 The pickup window and the crossover in front of
2 it is a huge hazard. If you're in a wheelchair, they
3 won't see you.

4 Two, people that are picking up their new order
5 aren't looking in front of them all that well. I see that
6 as -- as something that can't be fixed with this plan at
7 all, and I think it's a huge danger.

8 I could not vote for this plan, based on what
9 I'm saying now.

10 CHAIRMAN KISTNER: Why don't we hear -- allow
11 you guys to respond to the issues that have come up and
12 then --

13 MR. BRANDON HARP: Good -- excuse me. Good
14 evening. My name's Brandon Harp, principal at Civil
15 Engineering Design Consultants. I'm the civil engineer of
16 record for this project.

17 To address the issue of the designated stacking
18 lane. We did have numerous conversations with -- with
19 staff and the interpretation. So we do understand the --
20 the -- the question regarding interpretation of the
21 ordinance.

22 The way we looked at it, and which was somewhat
23 validated in the Crawford Bunte Brammeier Study and the
24 GBA review of their study, was that the designated
25 stacking lane is a minimum of 190 feet, which then cannot

1 cross in front of the principal building -- in front of
2 the building towards the principal street, which is Olive.

3 That 190 feet being a minimum is justified based
4 on the anticipated stacking, based on that restaurant's
5 operation, which was validated in the traffic study.

6 The additional length of that driveway is really
7 just an access drive to get to the required stacking,
8 which, basically, is, in talking to staff, it's the
9 concern that cars aren't going to be stacking out in front
10 of the principal -- in front of the building, they're
11 going to be stacked on the side of the building.

12 So that 190 feet is really where cars are
13 anticipated to stack, and then they're not stacked in
14 front of the building, based on that -- an individual
15 restaurant's use, which is anticipated to be less than
16 190 feet.

17 There's no -- there's no -- there's nothing in
18 the ordinance that says you can't have a parking lot or a
19 drive lane or anything in front of these business in the
20 Core Business District, so that drive lane in front could
21 be there if there was parking off of it, and you can
22 access the drive-thru lane through a parking lot. So that
23 is just a single driveway, an access drive, to get to the
24 required stacking that is anticipated to be on the east
25 and the north side of the site.

1 In other words, if that driveway in front of the
2 building was 22 feet wide and had 90-degree parking off of
3 it, that meets the ordinance and that's stacked in that
4 two-way access drive, that parking would -- if parking was
5 in front of that, it would be the same driveway as it is
6 now to get to that designated stacking.

7 But we don't have the room because the depth of
8 this lot to put parking in front of the building, so it's
9 just access drive to get to the designated 190 feet
10 stacking.

11 In other words, if this was, say, a McDonald's,
12 the traffic study may say that you need 400 feet of
13 stacking. Well, then that designated stacking would be in
14 front of the building. But based on what Panda has, based
15 on what their time is to serve their customers, and based
16 on the -- the outline in the traffic studies, they don't
17 have more than eight or nine cars ever in their drive-thru
18 lane, and so their designated required stacking is
19 100 feet or less.

20 The remaining part of that driveway is not a
21 required designated stacking lane.

22 CHAIRMAN KISTNER: And the definition of a
23 designated stacking lane? I thought one was mentioned
24 earlier.

25 MS. KELLY: It doesn't define it. It just

1 states a minimum with no maximum.

2 I would contend that the applicant is -- the
3 designated stacking lane is when you're entering into for
4 the drive, only serves that purpose, is to enter it for
5 the drive-thru services, which at this point enters at the
6 point -- is at the point where the exit is coming out and
7 in front of the building at the southwest corner and loops
8 around to the front.

9 CHAIRMAN KISTNER: And once entered, you cannot
10 exit.

11 MS. KELLY: Once entered, you cannot leave until
12 you've reached that menu board.

13 MR. BRANDON HARP: And that was something we had
14 discussed with staff on the interpretation of that part of
15 the ordinances, and this is -- this configuration is what
16 we had discussed that this was the correct interpretation
17 of the ordinance.

18 There wasn't a way to exit before the order
19 window. But, in other words, this is really a better
20 scenario than having a two-way parking lane in a parking
21 lot in front where cars are parked.

22 You've probably been to a lot of Starbucks with
23 drive-thrus, and you will have the stacking lane, in
24 reality, comes out into the parking lot and no one can
25 park in the parking spaces, and so people -- you can't

1 park there.

2 This has a situation where there's no internal
3 conflict with the drive-thru designated stacking lane or
4 the access drive to it. It actually gives you about
5 100-foot buffer before it even impacts the on-site
6 internal circulation.

7 But, again, the designated stacking is defined
8 as not -- is 190 feet minimum, but not extending in front
9 of the building in line with the principal roadway.

10 And the Panda doesn't have any more required
11 stacking than that 190 feet. So their required stacking
12 is 190 feet or less. The driveway to the south is just an
13 access lane. That could be a parking lot. Just like the
14 Bread Company, that has a parking lot that feeds into that
15 drive-thru lane. It's a double-stacked parking lot in the
16 back of the building, and that drive-thru lane actually
17 takes up one of the lanes of the parking lot.

18 CHAIRMAN KISTNER: And I think -- I think we
19 have the -- we understand.

20 MR. BRANDON HARP: Okay. Okay. Okay.

21 CHAIRMAN KISTNER: Jason.

22 MR. JAGGI: If I could just add a comment.

23 The challenge that we have with this ordinance,
24 and Mr. Harp is correct, we have conferred with -- with
25 him and the architect on numerous occasions with this

1 proposed layout.

2 And I think this -- this restaurant, through
3 various iterations, has turned a lot of different ways in
4 order to meet every letter of the intent of the -- of the
5 ordinance.

6 But the challenge with the -- that the applicant
7 has is that there are -- there is very specific criteria
8 in this ordinance for drive-thru restaurants. There is
9 not a lot of degree of flexibility built into this
10 ordinance. It's done that way and it's very clear. There
11 are very specific standards.

12 Whether that was done on purpose or not, I don't
13 know, I wasn't here. But the concern we have is, while
14 this configuration may be okay on this particular site due
15 to the topography, less visibility, doesn't directly
16 address Olive Boulevard as another site would, the concern
17 remains is the transferability between what any casual
18 observer or user of the site would consider to be the
19 drive-thru stacking lane when you enter into that area.

20 We have -- we had questions of -- about that.
21 We've had questions about that for a long time. And we
22 felt like we wanted the Commission to weigh in on that as
23 well.

24 And so I think for the purposes tonight, barring
25 any additional information, we want some direction. I

1 think the applicant and staff were looking for direction
2 whether that is, indeed, the case as the Commission sees
3 it. And if so, the options that I see are, you know, the
4 applicant can go back and try to remedy the situation and
5 look at alternatives to what's being presented tonight.

6 Although I will say that we've gone through a
7 lot of that already at the staff review level, but that's
8 certainly an option, or -- or look at other ways we
9 discussed, there's a variance, but there's difficulties
10 with -- with that procedure as well, so --

11 CHAIRMAN KISTNER: Or a text amendment.

12 MR. JAGGI: Or even a text amendment, but we'd
13 want to know what that text amendment should address
14 because that's a separate process too, is to make sure
15 that that's done correctly, so.

16 MS. SILVERMAN: I have a question.

17 So let's say it's built and Panda's there for
18 however many years, and they move out and another
19 restaurant moves in, would they need another conditional
20 use permit?

21 MR. JAGGI: No, they would not. They --
22 there -- they would be transferred and held to the same
23 conditions.

24 MS. SILVERMAN: So then it would be difficult to
25 define the stacking lane by the use of the current

1 restaurant.

2 MR. JAGGI: I would agree with that, yes.

3 CHAIRMAN KISTNER: Okay. That issue, I think
4 several people have mentioned sharing the concern with
5 the -- the amount of EIFS and the fact that the different
6 orientations are not consistent with each other, and the
7 safety -- pedestrian safety issue that Mr. Magruder
8 brought up. I don't know that we can get through all of
9 those to conclusion tonight.

10 Would recommend that we consider continuing this
11 hearing to a -- a next meeting. We'll take up the issues
12 that we haven't had a chance to discuss, perhaps, you,
13 during that time, you all and staff can continue to talk
14 about some of these issues that are -- are new concerns.

15 MS. KELLY: We -- I'm sorry.

16 CHAIRMAN KISTNER: Yeah.

17 MS. KELLY: I apologize. We would just prefer
18 to have some direction on where the Commission is
19 considering.

20 MS. SILVERMAN: In terms of the ordinance and
21 how we would interpret it?

22 MS. KELLY: In terms of the ordinance and
23 designated stacking lane.

24 CHAIRMAN KISTNER: For me, personally, for the
25 reasons brought up, I'm -- I think this is a stacking

1 lane, and I think it's how I would define it.

2 I think for the future uses in that space, I --
3 if our -- if our ordinance provided more leeway in
4 circumstances and in a -- in a setting like this, I would
5 be comfortable with the actual how it's laid out, but I --
6 I think it sort of eviscerates our -- our ordinance if we
7 accepted in this case. It changes substantially what was
8 put into the original ordinance.

9 That's my personal --

10 MS. SILVERMAN: I also agree that it is a
11 stacking lane, and I would be uncomfortable approving it
12 with the current ordinance and --

13 MR. MAGRUDER: I'm uncomfortable with the idea
14 of changing the ordinance a second time it comes into an
15 issue. It's just too soon.

16 CHAIRMAN KISTNER: I agree, but I will say
17 though, when we -- this is the very first time we've had
18 to test it.

19 And sometimes, you know, we -- you make all the
20 best -- you know, you think you've thought of everything,
21 and as you -- you go -- so I mean I had that same thought
22 also, but -- but --

23 MR. MAGRUDER: I see your point too. There you
24 are.

25 MS. SILVERMAN: I mean I -- I wouldn't know what

1 the text amendment would say. What would we talk about if
2 it was a certain height. I think --

3 CHAIRMAN KISTNER: I mean for me visibility for
4 the street was -- would be an important element, and then
5 also the fact that that's not -- that actually isn't a
6 pedestrian. There's parking in there too. So we're not
7 trying to get people through -- to cross it. I mean it's
8 safe on that portion of it.

9 MR. MAGRUDER: Yeah.

10 CHAIRMAN KISTNER: Seems relatively safe so.

11 MR. MAGRUDER: I guess the issue, we want to ask
12 them to go back and fix it so that makes us more
13 comfortable or not?

14 MR. ROVAK: Well, I think they should have the
15 opportunity to maybe somewhat reconfigure it and maybe get
16 out of this situation.

17 I don't know, you brought up the question about
18 where and how does the -- the escape lane, if you will,
19 come into being. And I -- I didn't really follow with --
20 exactly as that particular diagram was shown, actually
21 where the escape lane did begin, but I wonder if that
22 would be either just in reality or in practice or in our
23 interpretation of what -- where the stacking lane ends
24 might have -- there might be some bearing on that with
25 where the escape lane begins. I don't know. I'm just

1 throwing things out that might be of use, both in our
2 interpretation of it, and as well as in the applicant's
3 configuration of this.

4 So that's -- and then we haven't even gotten to
5 talk about the EIFS and the, yeah, the exterior of the
6 building --

7 MR. MAGRUDER: Exactly.

8 MR. ROVAK: -- which, you know, I don't think
9 we're ready to iron that out, unless we know what the
10 applicant would be willing to reconfigure or change on the
11 architectural side, which is entirely separate issue, so I
12 think there's a lot to chew on.

13 I would suggest, you know, some -- some
14 additional time, one additional meeting.

15 MR. MAGRUDER: Staff's asking for us to give
16 direction tonight though.

17 MS. SILVERMAN: Have we given you --

18 MR. JAGGI: That's a good question.

19 CHAIRMAN KISTNER: Tim.

20 MR. CARNEY: The only suggestion I can see if it
21 would make some sense is if that the escape -- if you
22 could move the whole building further to the west one lane
23 so that the escape lane actually starts at that --

24 CHAIRMAN KISTNER: Southeast corner?

25 MR. CARNEY: -- southeast corner. So then that

1 front lane isn't necessarily just an access, but stacking
2 lane.

3 But I don't know -- I don't know if everyone
4 else feels that way, but to me, that way that front is not
5 necessarily just for the drive-thru, you can get around
6 the building. Right now it is -- it is just for the
7 drive-thru. There is no other reason to take that lane at
8 this point, so, but it's almost a technicality. It really
9 doesn't solve all the problems.

10 MS. SILVERMAN: It's an important technicality
11 moving forward.

12 MR. CARNEY: Yeah.

13 MR. ROVAK: I mean we could either move to
14 continue, as you suggest, or we can take a vote on it, but
15 I don't think with the issues that it's going to be --
16 that we're going to give approval. I could be wrong.

17 But, so I guess that -- that part I would leave
18 up to the applicant as to whether we should entertain a
19 motion to continue rather than a motion to approve.

20 CHAIRMAN KISTNER: Do you all feel like you've
21 gotten the direction that you were --

22 MR. JAGGI: We do. And I will say that the
23 applicants, I know they've worked very hard on trying to
24 get a proposal that meets all of the City's requirements,
25 and I do want to acknowledge that.

1 But for we did have a -- we have a couple of
2 sticking points that we do have some longterm concern
3 about as we've gone through this review process.

4 But they have, you know, they have gone through
5 a lot of effort to try to come up with something that
6 would fit.

7 I do believe we have -- we have the direction we
8 need, unless the applicant feels like there's some
9 additional information.

10 It appears to me that, and that's why we didn't
11 offer resolution this evening, because we knew that there
12 would be a few things that the Commission would want to
13 discuss with the applicant, and, hopefully, we can get
14 some of that worked out by the time we -- we come back.

15 But we'll -- we'll need to take that time to go
16 back and look at it.

17 CHAIRMAN KISTNER: Do we need a motion to -- do
18 we have date for --

19 MR. JAGGI: December. Yeah, December 5th would
20 be our next meeting.

21 CHAIRMAN KISTNER: Have a motion?

22 MR. ROVAK: I move to --

23 CHAIRMAN KISTNER: No, just continue the public
24 hearing.

25 MR. ROVAK: I move to continue the public

1 hearing for the -- for Application 16-030, conditional use
2 permit for the Panda Express Restaurant and the drive-thru
3 service at 10453 Olive Boulevard within Creve Coeur
4 Pavilion Shopping Center, to the December 5th meeting.

5 CHAIRMAN KISTNER: We have a second?

6 MS. SILVERMAN: I second.

7 CHAIRMAN KISTNER: Second by Ms. Silverman.

8 Ready for a vote?

9 Muriel? Ms. Hall? Continue it?

10 MS. HALL: Yes.

11 CHAIRMAN KISTNER: Mr. Carney?

12 MR. CARNEY: Aye.

13 CHAIRMAN KISTNER: Mr. Rovak?

14 MR. ROVAK: Aye.

15 CHAIRMAN KISTNER: Ms. Silverman?

16 MS. SILVERMAN: Aye.

17 CHAIRMAN KISTNER: Mr. Magruder?

18 MR. MAGRUDER: Aye.

19 CHAIRMAN KISTNER: I can hardly think anymore
20 myself. I am wiped out.

21 (The public hearing was continued to the
22 December 5, 2016 Planning and Zoning meeting.)

23 (The hearing was ended at 10:36 p.m.:)
24
25

CERTIFICATE

STATE OF MISSOURI)

) SS

COUNTY OF ST. LOUIS)

I, Deborah K. McLaughlin, Registered Professional Reporter, Missouri Certified Court Reporter, Illinois Certified Shorthand Reporter and Kansas Certified Court Reporter, do hereby certify that I reported the Planning and Zoning public hearing stenographically and later reduced to typewriting; and that this is a true and accurate transcript of the public hearing.



_____, RPR, MO-CCR, IL-CSR, KS-CCR

Deborah K. McLaughlin, RPR, MO-CCR, IL-CSR, KS-CCR

CHAIRMAN
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HARP: [3] 29/12
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MR. ERIC ABELN:
[8] 2/15 2/19 13/1
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MR. JAGGI: [8]
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PLANNING AND ZONING COMMISSION PUBLIC HEARING

CITY OF CREVE COEUR, MISSOURI

300 NORTH NEW BALLAS ROAD

MONDAY, APRIL 17, 2017

7:30 P.M.

PUBLIC HEARING

APPLICATION NO. 16-030

THOSE IN ATTENDANCE:

Ms. Beth Kistner, Chair
Mr. Tim Carney
Ms. Muriel Hall
Mr. Gene Rovak
Ms. Heather Silverman
Mr. Matthew Schuh
Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, Director of Community Development
Ms. Whitney Kelly, City Planner
Ms. Jessica Stutte, Planning Assistant/Recording Secretary

McLaughlin Court Reporting Services, Inc.

Deborah K. McLaughlin, RPR, MO-CCR #314, IL-CSR, KS-CCR
4772 Gatesbury Drive
St. Louis, MO 63128
(314) 974-1199

1 CHAIRMAN KISTNER: It's now 7:30. Good evening,
2 everyone.

3 I'll bring to order the Monday, April 17th
4 meeting of the Planning and Zoning Commission.

5 We'll start with our roll call.

6 Mr. Carney?

7 MR. CARNEY: Present.

8 CHAIRMAN KISTNER: Ms. Hall?

9 MS. HALL: Present.

10 CHAIRMAN KISTNER: Mr. Magruder? Is absent.

11 Mr. Rovak?

12 MR. ROVAK: Present.

13 CHAIRMAN KISTNER: Ms. Silverman?

14 MS. SILVERMAN: Present.

15 CHAIRMAN KISTNER: Mr. Schuh?

16 MR. SCHUH: Present.

17 CHAIRMAN KISTNER: Our City Attorney, Carl
18 Lumley?

19 MR. LUMLEY: Present.

20 CHAIRMAN KISTNER: Director of Community
21 Development, Jason Jaggi?

22 MR. JAGGI: Present.

23 CHAIRMAN KISTNER: City Planner, Whitney Kelly?

24 MS. KELLY: Present.

25 CHAIRMAN KISTNER: And, Jessica Stutte, our

1 Planning Assistant/Recording Secretary?

2 MS. STUTTE: Present.

3 CHAIRMAN KISTNER: And the Chair is present.

4 Move on to Unfinished Business.

5 Our first and only matter is a public hearing.

6 This is continued Application No. 16-030 for conditional

7 use permit site development plan for a Panda Express

8 Restaurant with drive-thru service at 10453 Olive

9 Boulevard within Creve Coeur Pavilion Shopping Center.

10 MR. JAGGI: Since this is a public hearing, we
11 do need to be sworn in.

12 CHAIRMAN KISTNER: Yes.

13 Anybody who is going to speak. I know there are
14 six speaker cards here so.

15 MR. SCHUH: Madam Chair, I have to recuse myself
16 for this one again.

17 CHAIRMAN KISTNER: Okay.

18 (Mr. Schuh left the dais.)

19 (The speakers were sworn by the court reporter.)

20 CHAIRMAN KISTNER: Please start with your name
21 and address.

22 JANICE MORRIS: So I'm Janice Morris. I work
23 for Panda Restaurant Group, and I'm a design manager, so I
24 help facilitate opening new locations for Panda.

25 So I'm pleased to present to the Planning and

1 Zoning Commission Panda Express and how we impact our
2 communities.

3 In addition to that, we'll review a few key
4 points regarding our dining experience that'll help
5 explain how our restaurant will work.

6 The first few slides focus on Panda Express in
7 the community. These few slides will give you a little
8 glimpse of what we do in our communities.

9 Panda was established by Andrew and Peggy in
10 1973, and what a lot of people don't know, this is still a
11 family-owned business.

12 Andrew and Peggy have a deep-rooted -- or a
13 company culture and involvement in the community service.
14 This is one of our key values.

15 Panda volunteers over 10,000 hours in our
16 communities, and we raise money from within our stores,
17 and also we put on local events, and we've given to 123
18 different children's hospitals.

19 In the St. Louis community, Panda team
20 participates in local Children's Miracle Hospital
21 fundraising events for donations of 150,000 last year.

22 And you go to the next slide.

23 And this year we're expecting even more.

24 In addition to community giving, we have an
25 internal fund that we aid our associates. And so far

1 we've helped 628 associates in a time of need.

2 So it not only benefits the community, but the
3 community within our stores as well.

4 We also participate in a lot of school programs.
5 Leader In Me program assisting youth in local schools
6 where our stores are to help develop leaders in the
7 community.

8 This -- could you go -- so let's cycle through
9 these.

10 So this is just Andrew and Peggy. And, again, a
11 lot of people don't know, it's still a family-owned
12 business. We present our sites to Andrew. They're very
13 much involved.

14 For the most part, our dining and take out, we
15 have a few drive-thru windows, but we are less drive-thru
16 sales than a typical fast casual or like a McDonald's or
17 fast food.

18 We have maybe 30 percent of our sales compared
19 to some brands see 75 percent go through their drive-thru
20 window.

21 We also offer a lot of flexibility for the
22 community in the sense that we have in-restaurant dining,
23 take-away meals. We do catering, delivery, drive-thru and
24 online ordering.

25 And these are all also ways to offer our food to

1 people, not just through the drive-thru lane or in dining.

2 These are a few shots of our interiors, and how
3 we're establishing a restaurant. We have lots of
4 community tables, so we are very family-oriented.

5 Next slide.

6 And something about this drive -- or this is our
7 serving line inside. So we cook to order, made fresh, and
8 we present our food to the customer in serving line.

9 Most guests choose to come in, cause it is where
10 you see our food. It is fresh cooked. So if something's
11 not made, we'll make it for you. So a lot of people come
12 in and even get their to-go food that way.

13 Another thing is our -- because we have in
14 dining or our serving line and in dining, our ticket price
15 per customer is little bit higher. It's more of a
16 restaurant. And we find that people go through our
17 drive-thru, they don't eat it in their car. It's packed
18 in a certain way, you put it aside, and it's usually a
19 take-home-sit-down-dinner meal.

20 It's -- it's not compartmentalized to eat in
21 your car like a wrap or a box of food or a sandwich.

22 Let's see, what else.

23 Regarding the St. Louis area. So these are just
24 some community impact. You can read this if you like.

25 That's what the St. Louis -- our operators are

1 very active in the community of St. Louis and wherever
2 they go in, where the stores are.

3 If you want to go to the map, Eric.

4 So here the yellow dot is our proposed location.
5 This gives you an idea of where we are in the St. Louis
6 area. Primarily these -- you'll see existing. We are in
7 the mall, which is where Panda Express got their start,
8 and then we also go into universities. So those are
9 fairly contained into those environments. So we don't
10 really have many restaurants in the St. Louis area.

11 We have a new site going in at Lindbergh and
12 St. Charles Rock Road. And then there's the other -- the
13 only other one nearby is the Hanley and Hicks.

14 So this would be a great addition.

15 And that's all I have. Any questions?

16 CHAIRMAN KISTNER: No. Thank you.

17 JANICE MORRIS: Okay. And I will turn this
18 presentation over to Brandon and Greg.

19 Thank you.

20 BRANDON HARP: Madam Chairman, Members of the
21 Commission, Mr. Lumley, Mr. Jaggi, Ms. Kelly, my name is
22 Brandon Harp, principal of Civil Engineers Design
23 Consultants here tonight on behalf of Panda.

24 This is a continuation of a public hearing for
25 Application 16-030 for a conditional use permit and a site

1 development plan for the Panda Express Restaurant with a
2 drive-thru service at 10453 Olive Boulevard within the
3 Creve Coeur Pavilion Shopping Center.

4 If you recall at our previous Planning and
5 Zoning Commission meeting, there were several concerns
6 that came up during that presentation and discussion that
7 was also brought up by staff.

8 Most importantly, there was concern about the
9 orientation of the drive-thru lane, which circulated
10 clockwise around the -- the Panda building. And there was
11 also a concern with the pedestrian vehicular conflicts
12 with cars that were leaving the drive-thru lane and
13 pedestrians that were walking from the parking lot to the
14 front door.

15 We worked on those concerns and created a new
16 site plan that is in your packet, along with revised
17 landscape plan, lighting plan and also building
18 elevations.

19 We've worked very hard to try to come up with a
20 plan that met those concerns and addressed those concerns,
21 as well as met all requirements of the City's drive-thru
22 ordinance.

23 So with me here tonight is also Eric Abeln, who
24 is the architect for Panda, and Randy Mardis, who is the
25 landscape architect with Landscape Technologies.

1 So we're all here to present our portion of the
2 project, and then we can open it up for questions.

3 So what I'm going to do is I'm going to go
4 through the set of drawings that -- that you have in front
5 of you and describe what changes we made, how these -- how
6 the new site plan works, the additional landscaping that
7 was added and the change to the building elevations.

8 So, again, we're -- we're discussing the
9 property here. It's 1.88 acres at the northwest corner of
10 Olive Boulevard and Pavilion Drive, which is the southeast
11 corner of the Creve Coeur Pavilion Shopping Center.

12 The site is currently vacant. It had a Macaroni
13 Grill Restaurant on there at one time with a parking lot.
14 The building has since been removed, but the parking lot
15 still remains.

16 The -- the access into this development is by a
17 signalized intersection here at Pavilion and Olive, and
18 also over here at Old -- Old Olive Street Road and Olive
19 through -- internally through the internal private access
20 drives, and then along this internal access drive here.

21 This is the new site plan, which we will enlarge
22 and show in more detail.

23 So this is our site plan. This is that
24 1.88-acre site, which is outlined in this black line. And
25 what we have is a -- a new full access driveway, which is

1 lined up with a parking aisle right across this internal
2 driveway, which is the larger parking lot that serves the
3 theater and retail shops on the east side of the
4 development.

5 The -- the two-way drive comes into the site,
6 and as you -- as the vehicles enter the site, they make a
7 left, and they can stack in this drive-thru lane or they
8 can have a bypass lane, which circulates and navigates
9 around the entire parking lot with 60-degree angle parking
10 around the entire lot.

11 The building is situated on the east side of the
12 site, 2600 square feet, which I'll get into a little more
13 detail later.

14 We have a sidewalk, which connects the Pavilion,
15 Creve Coeur Pavilion main sidewalk and pedestrian way. It
16 runs north and south, and we're connecting to that at a
17 ADA at-grade crosswalk, which will go easterly across the
18 south side of the internal driveway, and it goes along
19 then along the east side of the building into the front
20 door.

21 There's also a secondary pedestrian way that
22 travels north and south on the west side of the Panda
23 development, and then along the south side, which then
24 goes into the front door of this location.

25 The parking along the southern part includes the

1 ADA spaces with an ADA accessible ramp.

2 The trash area is located over here at the
3 southwest corner of the property, which we'll get into a
4 little more detail.

5 There's also an internal sidewalk, a 6-foot wide
6 sidewalk, located here that will connect single parking on
7 these parking spaces, and take them over and across into
8 this patio area, which then goes up to the building.

9 And I'll get into each of those a little more
10 detail here in a minute.

11 As you know, the City has a drive-thru ordinance
12 that has specifics on the requirements of every aspect,
13 actually, of -- of this drive-thru restaurant is to
14 function regarding circulation, regarding where certain
15 amenities can be.

16 And so I'm going to go through each of these,
17 just to make sure we're clear on the ordinance
18 requirements and what we're proposing on this current site
19 plan.

20 So Ordinance 5400, Section 405.470 14,
21 Subsection D, has a handful of matters that are variance
22 requirements for drive-thru services in the CB, Core
23 Business District, that are not adjacent to residential
24 zoning districts, which we are.

25 So, No. 2, talks about the order window, and it

1 talks about the drive-thru order facility and service
2 window, shall only be on or adjacent to a wall not facing
3 a street, unless otherwise approved.

4 The drive-thru window is going to be located on
5 the west side of the building, which is right here where
6 the red dot is, and this arrow leads to.

7 So the principal street frontage is here, and
8 you have a private street here, and so the drive-thru and
9 order window is not facing the principal street.

10 Again, 14D, No. 3 talks about a
11 pedestrian-orientated landscaped area that is to exceed
12 half the size of the building.

13 The building is here in yellow. It's 2600
14 square feet, and the required pedestrian-orientated
15 landscaped area would need to be 1300. We're almost
16 1700 square feet, which is outlined here in red, which is
17 inclusive of a patio, a rain garden, a planted rain
18 garden, and some outdoor dining, along with some perimeter
19 landscaping. And we'll show detail of that here in a
20 little bit.

21 The next one talks about the other two sides.
22 So you have the drive-thru window, a pick-up window side,
23 you have the pedestrian-orientated side, and then it talks
24 about the other two sides of the building. You have a
25 minimum of a 8-foot wide landscaped planted strip.

1 And so No. 4, 14D 4, the 18-foot wide planting
2 strip on the north side is delineated in here in this red
3 box. And over here on the right side of the east side of
4 the building, we have a 16-foot wide landscaped planted
5 area adjacent to a 8-foot wide walkway.

6 The next one, No. 5 under 14D, talks about the
7 minimum number of seats is 55, and we have 80 seats.

8 It talks about the trash enclosure and any
9 outdoor mechanical area, under No. 6, that they're to be
10 placed so that they're not facing a principal streets;
11 that they're enclosed with an approved enclosed area with
12 either masonry walls, landscaping, things of that nature.

13 So the landscape -- or the trash enclosure area
14 is located here in the southwest corner of the development
15 shown here in red. The doors face to the north. And so
16 there's nothing facing the principal street frontage, as
17 well as there's a heavy landscaping and a lot of green
18 space between the roadway and the principal street
19 frontage, as well as this is sitting on top of about a
20 15-foot high retaining wall, sits this far back off the
21 site. And it's enclosed in a masonry enclosure.

22 Under 14D, No. 7, it talks about in addition to
23 the car that's parked at the drive-up window, it requires
24 a minimum of 190 feet of stacking lane for a drive-thru
25 stacking. And it has to have a escape lane that it says

1 can be shared with the adjacent parking lot.

2 So under this site configuration, we have 200 --
3 almost 230 feet of stacking, and we have the bypass lane,
4 which is a internal parking lot driveway, which is allowed
5 per the zoning code.

6 CHAIRMAN KISTNER: So can I ask a quick
7 question?

8 BRANDON HARP: Yes.

9 CHAIRMAN KISTNER: Is the only thing, is it just
10 a striping that designates --

11 BRANDON HARP: Yes.

12 CHAIRMAN KISTNER: -- the drive-thru? So it's
13 really escapable at any point?

14 BRANDON HARP: Yes.

15 CHAIRMAN KISTNER: Thanks.

16 BRANDON HARP: 14D, No. 8, basically says that
17 the required stacking lane, that is located on the
18 previous slide that's located here, it talks about the
19 drive entrance at the property line that where you enter
20 the site can't be any closer than 50 feet to that maximum
21 stacking. And we're over 100 feet from the entrance into
22 the property to where the stacking is, so we exceed the
23 requirement by a factor of about two.

24 Again, the ordinance was written to encourage
25 and actually require drive-thru stacking not to be along

1 the principal street frontage.

2 Based on this orientation of this new plan, all
3 the drive-thru stacking is on the north side of the site,
4 which is on the opposite side of the site from the
5 principal street, and so the stacking lane does not cross
6 in front of the building between the principal street, nor
7 is it along the principal street.

8 The last three items that are required is a
9 traffic study, which you have in your -- your PDF
10 submittal, as well as a sound study, and then the
11 automatic volume control on the speakers.

12 So back to an enlarged site plan. As you can
13 see, Olive -- and north is to the top of this plan, Olive
14 to the bottom and Pavilion to the right. These are the
15 pedestrian ways that go around the site. As I showed you
16 on the other plans, so you have pedestrian way on the left
17 side going north or south.

18 So, really, the permitted site is pedestrian
19 friendly, pedestrian circulation ADA accessibility. The
20 ADA spaces, which are located here, have direct access
21 onto the safe sidewalk up to the front door.

22 If you remember, on the -- on the previous plan,
23 we had a pedestrian crossing right here at the corner of
24 the building. We've moved this back about 35 feet away
25 from the corner of the building to a plaza. Right here on

1 this part, on this radius, is a masonry wall and railing.

2 And then this heavily landscaped here is a very
3 nice decorative rain garden with a lot of plant material,
4 which Randy Mardis will -- will talk through.

5 So what this does is it encourages -- it
6 actually requires customers that are parked in this
7 parking lot to walk over to a delineated stamped sidewalk
8 to this large patio. There's no opportunity for walking
9 here in front of the building because of the masonry wall
10 and the rain garden landscaping.

11 So they come to this plaza and they walk through
12 this kind of this nice little garden area up to the
13 outdoor seating, which is here on the southern part of the
14 building, and then into the main door entry here.

15 Again, there's also an 8-foot wide sidewalk over
16 on the east side of the building, and this -- this masonry
17 wall with the black railing that exists here also exists
18 on the south side of this patio, and then all the way up
19 this eastern side of the building.

20 Ms. Kelly had recommended or encouraged that at
21 some point in the future maybe some additional two-top
22 tables could be placed on the east side of this building,
23 which that's something that Panda would like to do in the
24 future as well.

25 The way the site sits, as you would know, it

1 sits high up on -- on the plateau above Olive with a
2 retaining wall here around the southern part of the
3 property, the eastern part, and then a new wall would be
4 proposed at this northeast corner.

5 These three trees that are located here in this
6 wide landscaped strip that is a transition slope, a three
7 to one slope, from the top of the wall, it goes up about
8 6 feet to this building finished floor elevation, which is
9 then level with the parking field.

10 Again, the trash enclosure is here on the
11 southwest corner, you can see we've created some landscape
12 islands, to -- to help with the visibility to the masonry
13 enclosure.

14 It's also a nice hedgerow along the entire width
15 of the parking lot, which in addition to the topography
16 change and the site lines looking up over that retaining
17 wall and this hedge, the cars that are parked here will
18 not be visible from the street or barely visible from the
19 street.

20 We also created a -- a green landscape strip
21 between the drive-thru stacking lane and the pedestrian
22 ways on the west side and the north side. And you can see
23 with this green space along here, we did a -- a hedgerow
24 and some different landscaping opportunities with
25 deciduous tree here at the corner, some shade trees here

1 in the parking islands. Again, lined the pedestrian ways
2 even here with some low-lying landscaping, and then did
3 some enhancements around the menu board and order windows
4 here as it approached the building.

5 And, again, this is a rain garden, and some more
6 landscaping here as the pedestrians come into this
7 location here, which is about 35 feet away from the
8 building.

9 And, again, additional landscaping here around
10 the perimeter.

11 I'm going to go through a couple of the slides
12 so you can see how the building sits on the property. We
13 presented some of these at the last one, but just to
14 re-orient ourself with how the site sits in relationship
15 -- in relation to the adjacent areas.

16 So this is Olive Boulevard. We're traveling
17 westbound, so we're looking to west, northwest, and you
18 can see the existing retaining wall located here, and you
19 can see the building is situated up here to the right.

20 These are some of the 3D images and
21 architectural renderings of what you'd see as the site's
22 developed.

23 MR. ABELN: Good evening. Eric Abeln of Heights
24 Venture Architects and project architect, and one of Panda
25 Express' architects.

1 So here you're looking at the pedestrian way
2 coming from the parking lot, and you'll see the -- the
3 stamped concrete pathway inside of the pavement. It
4 creates a pretty standard crossing of pedestrians crossing
5 the parking lot. It's 90-degree angle, so it's a straight
6 shot across, leads you into the patio -- open patio area
7 and right off the rain garden.

8 You'll see the brick pilasters that will match
9 the shopping center brick, as well as the building brick.
10 And the railing will create a -- a barrier to keep, both,
11 cars and pedestrians from cutting across into a rain
12 garden. Even once they got there, they'll see vegetated.
13 You're not going to be able to cross that -- cross that
14 barrier.

15 Once you turn the corner, you get this -- and
16 now coming from the accessible parking spaces, you'll see
17 vegetative areas on each side of that pathway. Again, the
18 red path leads you towards the entrance and the patio area
19 across landscaped areas and across landscaped area
20 off-site or off-image, and keeps you away from the
21 vehicular circulation, so it shows clear distinction
22 between the pedestrian travel, both coming from the
23 parking lot and coming along the perimeter of the site
24 along the south.

25 This is a view inside of the patio area looking

1 back towards the parking lot and the drive-thru area.
2 You'll see the rain garden in the foreground, as well as
3 the barrier along the drive-thru lane.

4 So what this -- what this communicates is that
5 the clear path of travel for pedestrians is isolated and
6 separated from all vehicular circulation in the drive-thru
7 or standard site circulation.

8 And the patio location off -- off to the side
9 and in front of the building really creates a nice
10 secluded area away from the parking lot congestion, noise,
11 views of the vehicles and views of a parking lot, so it
12 really creates a nice space to enjoy outdoor dining
13 experience. You have Monsanto to the south. And because
14 you're high up, you get these great views across a pretty
15 busy street of Olive. So it creates a really nice space
16 of -- of relative serenity on a really busy corner.

17 I think the landscaping and the orientation of
18 the elements around the patio to contain it and make it a
19 safe space really -- really encourage that feeling and
20 experience.

21 Move into the exterior of the building. The
22 existing shopping center here has red bricks and limestone
23 pilasters and limestone base. They use a cream-colored
24 EFIS or stucco on the outside, and so we really emulated
25 the -- and use as a primary building material that same

1 red brick and limestone base.

2 The order window and the entry both use the
3 limestone in more dramatic fashion to contrast the brick,
4 and it highlights those two areas as points of interaction
5 with the building.

6 You'll see our railing uses the same brick, but
7 it takes it all the way to the ground, and it has a black
8 iron fence in between the pilasters. The same black iron
9 fence that you'll see on site already around the existing
10 development and around the top of the retaining wall.

11 Again, here's our material palette. Metals are
12 dark browns. We're using the primary red brick as the
13 primary material with a trim and accent pieces of
14 limestone. We're using, actually not a Pantheon tile, a
15 Nichiha wood fiber cement product to mimic the look of
16 wood.

17 And this element of wood is important in this --
18 this concept design in that this was generated from what
19 Panda's developing is called a warm welcome. You saw
20 earlier with the interior of warm woods, warm wood tables,
21 we want to bring that to the outside. Of course, using
22 wood on the structure is not always advisable. So this is
23 a great product that mimics the look of wood, but has the
24 durability that we need. And it also, primarily, cement
25 is 80 percent of the same material as just concrete, but

1 it uses wood fibers inside of the materials to make it
2 lighter and to make it -- but it still maintains its fire
3 resistant properties of 25-flame spread and 450-smoke
4 spread thresholds that you need for a commercial
5 structure.

6 The forefront above the entry, so we have
7 full -- full windows wrapping around the dining room and
8 the small canopy up over the top, and then we have the
9 gray material, which is also Nichiha product to
10 counterbalance the warmth to give it a little bit of
11 contrast.

12 While you have good materials of stone and good
13 red brick, you have the warmth of the wood, but we have a
14 good opportunity here to contrast that in the modern sense
15 with this gray -- with this gray textured material.

16 As you go around the building, so this is the
17 rear elevation, which will face north. This is the
18 drive-thru elevation. You had a window to the prep area
19 to give a little bit of view in and out and provide a
20 little natural light for our associates.

21 As was mentioned, the -- the back corner here is
22 shown as stucco. That material really belongs to be
23 this -- this gray -- this gray stone material to maintain
24 the vocabulary of this wood wrapper around the building,
25 and the inset material would be of this -- this gray

1 nature.

2 So we see that all the elevations are consistent
3 in -- in design and vocabulary. Windows occur at the --
4 at the dining experience and are closed off, you know,
5 where we have back of house and not so public areas.

6 That concludes our portion of the presentation.
7 All of our team is open to questions or if presentation by
8 Planning, we can field questions after that.

9 Thank you.

10 CHAIRMAN KISTNER: Jason or Whitney?

11 MS. KELLY: Whitney Kelly on behalf of the City
12 of Creve Coeur.

13 I won't go into too much detail of the staff
14 report, but there are a couple of things that we need your
15 direction and discussion points that need to be addressed.

16 As the applicant indicated, the gray industrial
17 blocks and the wood are new elements for this building as
18 opposed to the rest of the center.

19 We need your discussion on whether you think
20 they are appropriate as continuity with the rest of the
21 shopping center.

22 Again, the condition of the ordinance does
23 include that this site is 1.88 acres and there's a minimum
24 of a 2-acre site, as well as within the larger
25 development, we have included condition that the site

1 remain under a common ownership with the overall Pavilion
2 Shopping Center.

3 The trash enclosure, actually the ordinance
4 states that the trash enclosure shall appear as part of
5 the restaurant building to the maximum extent if possible
6 or practical due to site conditions and layout.

7 And, therefore, we need you to discuss your
8 approval of the location separate from the building.

9 And -- and we still have, while they've really
10 worked very hard in applying some of our recommendations
11 as part of the initial review and addressing the concerns
12 from the prior discussion, we still have a -- a concern
13 regarding the amount of pedestrian conflict with the
14 pedestrians, the driveway and the bypass lane and the
15 parking of the vehicles.

16 They have separated that area by design, and
17 traffic impact study has provided some number of signage
18 requirements, and those are a condition of the approval,
19 but we would like your feedback on the strict conflict at
20 that point.

21 And we have also included a -- a landscaped
22 hedge to be consistent with the rest of this site along
23 the east side of the pedestrian walkway of the building,
24 just to provide also a continuity for the rest of the
25 site, which is lacking in that area.

1 CHAIRMAN KISTNER: Whitney, could you state a
2 little bit more about the concerns about the ability of
3 trucks to access the trash enclosure that --

4 MS. KELLY: Oh, okay.

5 So the traffic impact study and -- and
6 discussions with the Public Works Director, there was
7 concern about the turning radius of the servicing of the
8 trash enclosure.

9 So if you're in general agreement with the
10 location, we have included a condition of approval that
11 they provide turning radiuses for the vehicles, the parked
12 cars, as well as any trash trucks and trash servicing, and
13 allow for Jason, as Director of Community Development,
14 Zoning Administrator, to adjust the location either
15 further west or a little bit, you know, within an angling
16 or whatever is necessary as part of that.

17 The parking requirement also said that we're
18 60-degree angle parking, which is currently showed. This
19 parking stall shall be 9 by, I believe, 21 feet. They're
20 currently showing 9 by 19. So any -- but, however, P&Z
21 can approve different angles as long as the use of the
22 space is 9 by 19.

23 So, therefore, we've also included that in as a
24 condition for Jason's approval. It's a little bit of
25 adjustment in that area.

1 MR. KLING: Madam Chair, I got cut off. I had a
2 couple comments.

3 CHAIRMAN KISTNER: Okay.

4 MR. KLING: Or do you want to hear them now
5 before your deliberations?

6 CHAIRMAN KISTNER: Sure. Go ahead.

7 MR. KLING: For the record, my name is Stephen
8 L. Kling, Jr. I'm an attorney with Jenkins & Kling, PC,
9 with offices 150 North Meramec, Clayton Missouri 63105.

10 And I'm here speaking on behalf of Cornerstone
11 Retail Fund, LLC, which is the owner of this site.

12 And there's one concern. We saw the proposed
13 ordinance today, and there's one concern, and Ms. Kelly
14 already touched on it, and that is the requirement that's
15 No. 4 under Section 3, the site remain under common
16 ownership of Creve Coeur Pavilion Center to comply with
17 405.470(14).

18 Let me walk you through why this is -- I mean we
19 understand the requirement, but we think the language here
20 is overly restrictive, and we'd like some relief on that.

21 The current site consists of 13.34 acres. It's
22 already subdivided into five separate legal lots.

23 This site itself is 1.88. We understand that
24 there is a need for common ownership to meet the 2-acre
25 requirement, but the language of the ordinance effectively

1 prohibits us from transferring any of the property.

2 So what we would propose instead is some sort of
3 requirement that would say that this side aggregated with
4 contiguous property under common ownership would be no
5 less than 2 acres, 2.5 acres, something to satisfy, but
6 not restrict the entire site of 13.34 acres because that
7 would -- we may have a user down the road that wants to
8 buy or the owner, as opposed to tenant, that it would be
9 restrictive for a site this size.

10 The intent of the ordinance, as you remember
11 from the Panera experience, which I was involved with, was
12 to have a certain size. And we understand that and are
13 willing to comply with that to keep the 2 acres, but this
14 effectively restricts the whole 13.34.

15 MR. LUMLEY: Can I ask a question?

16 MR. KLING: Yes.

17 MR. LUMLEY: What -- do we have a legal
18 description on the subdivided lot that this is part of and
19 how big is that lot?

20 CHAIRMAN KISTNER: Remember that we're --

21 MR. KLING: This is 1.88 acres.

22 MR. LUMLEY: It doesn't need to -- I'm saying --
23 you said that the -- divided into five.

24 MR. KLING: Yes.

25 MR. LUMLEY: So the lot that this is included

1 in, how big is that one?

2 MR. KLING: I'm told that piece itself has a --
3 is a separate legal 1.88.

4 MR. LUMLEY: And then is it surrounded by
5 another lot or by more than one lot in terms of
6 contiguous?

7 MR. KLING: I would presume more than one --

8 CHAIRMAN KISTNER: Excuse me, Mr. Kling, I want
9 to make sure that, because we're in a public hearing, that
10 anybody who is speaking that --

11 MR. KLING: I'm going to ask her to come up with
12 a laser pointer, so she can --

13 CHAIRMAN KISTNER: And start, please, with your
14 name.

15 MS. KELLY: Are --

16 MR. KLING: She also signed a speaker card.

17 MS. KELLY: Were you sworn in?

18 MR. KLING: Yes --

19 MS. KELLY: Okay.

20 MR. KLING: -- I made sure she is.

21 MS. KELLY: State -- please state your name and
22 address for the record.

23 MS. DIEHL: Kelly Diehl with Altus Properties.

24 So the acre that we're referencing here for
25 Panda is actually area that is outlined here in white, and

1 this is all approximate.

2 From that, we also have -- there is another
3 separate parcel here. There's actually two parcels here
4 that comprise of the Stir Crazy, CPK lot facility there.
5 One of the contiguous parcels that we have is the AMC
6 Theater lot, which is comprised of this area here.

7 And then the final one is an inline retail, just
8 to the north of the proposed Panda site, which is this
9 rectangular -- rectangular area here that I'm
10 highlighting.

11 So you actually have three parcels, legal
12 parcels, that are contiguous to this site.

13 MR. LUMLEY: Thanks.

14 MR. KLING: Any other questions on what we're
15 asking for?

16 CHAIRMAN KISTNER: No, but I'll want to get some
17 comment from staff, and perhaps Mr. Lumley, about those
18 proposed responses to the conditions.

19 Does anybody on the Commission have a question
20 for Mr. Kling?

21 Are you in a position to comment on --

22 MR. LUMLEY: Well, I think on that particular
23 point, I, you know, I think everybody understands the
24 point of raising is probably something best that we work
25 out between this meeting and the City Council what the

1 specific language is, but I would think we could get to an
2 agreeable position on it.

3 CHAIRMAN KISTNER: It seems like that should be
4 possible.

5 First of all, are there other people speaking on
6 behalf of Panda?

7 MR. KLING: I don't -- anyone else?

8 I don't believe so.

9 MS. SILVERMAN: Would -- would it be possible to
10 see the samples of the materials?

11 CHAIRMAN KISTNER: Yeah, the material samples.

12 As those are coming up, is there anyone in the
13 audience who wants to speak to this issue?

14 On the -- on the subject of the material
15 continuity, it's a good question to raise.

16 I -- I do think that the, that, in my opinion,
17 the use of the -- the EFIS granite and brick, substantial
18 use of it, ties it to the rest of the Pavilion without
19 looking terribly out of place with the addition of the
20 granite look.

21 MS. KELLY: Oh, I'm sorry, just a point of
22 clarification.

23 The EFIS is not on this building. It's all --
24 where they had the white, it was all -- it was supposed to
25 be the gray.

1 CHAIRMAN KISTNER: Okay. So it's granite,
2 brick, wood and gray?

3 MS. KELLY: Correct.

4 CHAIRMAN KISTNER: All right.

5 MR. JAGGI: And the reason why we wanted the
6 Commission to look at that is just because it is a fairly
7 large area, and it's -- and it's a color that's not -- not
8 used with the rest of the center, but acknowledging that a
9 lot of the materials are -- from the center are carried
10 over into this -- to this project, which I think is the
11 bigger goal that the City's looking for when we talk about
12 coordinated architecture between buildings and a
13 coordinated development.

14 But it's a large area. It's gray. It's not a
15 color you would see in the other part of the shopping
16 center. We just wanted to make sure.

17 CHAIRMAN KISTNER: No, it's a worthy point to
18 bring up, and I was happy to maybe think about it further,
19 but I think the overall look, in my opinion, works.

20 MS. SILVERMAN: I concur.

21 CHAIRMAN KISTNER: And the remaining pedestrian
22 conflicts, I thought about it, looked at the site a lot,
23 recognize that a lot's being done to steer people toward
24 the path, but knowing that people will not always take
25 that path. Drive-thrus certainly inherently create those

1 issues, so I think this is a significant improvement over
2 the last plan in so many ways.

3 What is the -- the place that actually struck me
4 as, obviously, the most potential danger is when
5 somebody's coming away from that drive-thru window that's,
6 you know, if they finish with their transaction and are
7 taking off, that's right at that moment when somebody is
8 likely to cut right across the path.

9 Is there any, you know, thought about, you know,
10 either an additional stopping point at that crosswalk, or
11 what are the -- what's the thought about what's going to
12 trigger the driver being aware that there is pedestrian
13 crossway right in front of there as they leave the site or
14 the -- the drive-up window?

15 MR. JAGGI: I can -- I can attempt to answer
16 that question.

17 I'd also ask the civil engineer to maybe respond
18 with some of their thoughts.

19 The -- as you may have noted, the -- the traffic
20 engineer hired by the applicant has recommended several
21 different mechanisms, if you will, to, you know, help and
22 aid in the safety of pedestrians and the vehicle conflict.

23 As Whitney pointed out, there still is a lot
24 going on in this corner, but we do agree that this is a
25 much better proposal, and we think it's much more safer --

1 it's much safer than the previous proposal.

2 But they do recommend that a stop bar as you
3 come out of the drive-thru, and then there's also a
4 recommendation that the -- that the vehicles that are
5 circling the site, that are parking on site, also stop and
6 yield to pedestrians.

7 And I don't know if you have any other -- if
8 there's any pedestrian crossing signs that are being
9 looked at for that main pathway.

10 CHAIRMAN KISTNER: And also can you say, what do
11 you mean by a stop bar?

12 BRANDON HARP: Well, what we did was this flat
13 line here like you see, the intersectional stop signs, you
14 have a stop bar and a sign -- stop sign. It'd be more of
15 an architecturally decorative kind of stop sign.

16 MS. KELLY: I'm sorry, if you look on page 6
17 that is highlighted within the staff report of the area
18 that we're discussing with the applicant.

19 It's a stop bar that is painted like a white
20 strip on the ground for stop and a stop sign located.

21 CHAIRMAN KISTNER: Okay. So it's --

22 MS. SILVERMAN: It shows you where it is.

23 MS. KELLY: Yeah.

24 BRANDON HARP: So we have, as the traffic study
25 indicated, we have a stop bar, stop sign for the

1 drive-thru. We also have a stop bar and a stop sign for
2 the internal circulation that's not going through the
3 drive-thru.

4 In addition, we have the stamped colored
5 concrete pedestrian walkway that crosses that location as
6 well.

7 Again, we've moved it about 35-plus feet away
8 from that corner. I think this area over here where you
9 have the cars potentially stacked and the passing lane,
10 because there's no parking up here, the pedestrians will
11 hit the sidewalk right to the corner here, so I don't see
12 any pedestrian activity in this area. It's just to create
13 a safe crossing here.

14 So as mentioned in the traffic study, we do have
15 stop lights and stop signs in each of these locations with
16 the safe delineated ADA accessible crosswalk at this
17 location here, which would be different material. Would
18 be a colored concrete stamp.

19 CHAIRMAN KISTNER: Questions? Comments?

20 MS. HALL: I had a quick question.

21 CHAIRMAN KISTNER: Start down at this end.

22 MS. HALL: So I just had one question.

23 The building itself, like from Pavilion Drive,
24 what would we see, is there windows along the frontage of
25 Pavilion Drive?

1 BRANDON HARP: On the east elevation? This --
2 well, yeah, right here is the east elevation. So Pavilion
3 Drive would get going on this side, you would go from left
4 to right going up Pavilion Drive, and so you'd see this
5 brick pilaster and black railing that matches the rest of
6 the development, you'd see the glass from the dining room
7 area, the brick that matches the shopping center and the
8 different materials that Eric described up above.

9 MS. HALL: And so what would we see --

10 CHAIRMAN KISTNER: West?

11 MS. HALL: That would be north.

12 MR. CARNEY: Yeah, north facing the theater and
13 so forth.

14 MS. HALL: Right. What would we see there?
15 Like where's the back of the building? Where or is
16 there --

17 BRANDON HARP: This on top right is the north
18 side of the building. So this would be the service door,
19 and this would be, again, the brick and the stone accents.

20 MS. HALL: You said that's north or --

21 BRANDON HARP: This is the north elevation.

22 MS. HALL: Okay. Okay. So from the movie
23 theater, that's what we would see?

24 BRANDON HARP: Due north, yeah. The theater's
25 kind of northwest, so you would see from the movie theater

1 itself, you'd probably see the west and the north side.

2 MS. HALL: Yeah. Yeah, it is such a small area.

3 BRANDON HARP: Right.

4 MS. HALL: Okay. Thank you.

5 CHAIRMAN KISTNER: Mr. Carney?

6 MR. CARNEY: I think you did a good job with the
7 difficult site, especially, I think the handicap
8 accessibility is much better the way pedestrians don't
9 have to work around from most spots into the building. I
10 think that's a good change.

11 Do you think there'll be a problem getting
12 trucks in and out of that trash area or have you looked at
13 that yet?

14 BRANDON HARP: We did. And I can provide that
15 to Mr. Jaggi and Ms. Kelly.

16 We did a -- trash will come in this location
17 here, and whether it's a front loader or a rear loader,
18 they can turn up here, back in and do like a three-point
19 turn.

20 So that's why we actually positioned here
21 because you have this pavement, excess pavement here, so
22 you really have four ways, so they would more than likely
23 come from this direction, come up, back in, go out.

24 Pretty typical for a parking lot dumpster that
25 you have a three-point turn or in a parking lot aisle or

1 back of a building that you'd have to do that.

2 But, no, the -- the templates work.

3 MR. CARNEY: Okay. No, I think it's a big
4 improvement.

5 MS. SILVERMAN: In terms of -- go ahead.

6 MR. ROVAK: I got one. I really do really like
7 the way this has come -- come about. I think really good
8 use of the site and the landscaping is impressive.

9 I had one thing, which is maybe my own
10 misinterpretation or not being able to find something.

11 Looking at one figure, we'll just call it --
12 it's actually in the packet portion, but it's called
13 Figure 10, close-up of the landscape plan, and I know
14 that's something staff put together, but it's taken from
15 the landscape plan. It's at -- and -- and that gives a
16 really good view of the -- of the rain garden, which is
17 just on the -- the south edge, south corner, and I like
18 that a lot.

19 When I go to L1, the actual landscape plan, back
20 to that, and maybe it's just the markings that obliterate
21 it, looks to me almost like -- I'm not sure if I'm seeing
22 sidewalk that's going directly through that pond.

23 In -- in other words, look at the corner of the
24 building, the same place where I saw that before, but if I
25 look at L1, I'm not seeing -- I don't see that -- that

1 retention pond, that bio-retention pond. I -- it looks --
2 just the appearance of -- well, these are two different --

3 CHAIRMAN KISTNER: They are --

4 MR. ROVAK: That's my point.

5 CHAIRMAN KISTNER: -- right.

6 MR. ROVAK: And I'm trying to reconcile them.

7 So if you have L1 from the actual landscape
8 plans available, or maybe you could look at we are looking
9 -- what I am looking at and maybe you can --

10 Yeah. Drag over -- drag that over. I think
11 we're talking about the same plan now, the same sheet.

12 Can you -- yeah, can you scroll down and to your
13 right with that or do you have the ability --

14 BRANDON HARP: He's trying to do that, yeah.

15 MR. ROVAK: Okay. There you go.

16 Okay. I -- no, I see it there. I'm looking
17 at some -- here. Maybe it would be best just to show you
18 what I'm looking at, and then you can tell me my
19 misinterpretation of it or what it is.

20 BRANDON HARP: On sheet L2.

21 MR. ROVAK: Is this the old -- is -- Okay.

22 Well, you mentioned, am I looking at a previous one?

23 Cause I didn't think so, site plan looks the same.

24 BRANDON HARP: If I -- if I could?

25 MR. ROVAK: Sure.

1 BRANDON HARP: There's a second landscape plan.

2 MR. ROVAK: Okay.

3 BRANDON HARP: There's L1, L2. L2 has a blow-up
4 version of the rain garden. It has a detail planting plan
5 of the rain garden because the -- the L1 was too busy.

6 MR. ROVAK: Okay. So what am I looking at
7 though? On L1, I'm seeing a gray, like a stone surface or
8 something that looks like a sidewalk going east and west
9 through that. That's -- that's what's troubling me. It's
10 not that I don't see the rain garden or the rain
11 designation.

12 MS. KELLY: Right. I believe he's referring to
13 the Mexican pebbles. Those are a design element that's
14 specific to the Panda Express.

15 MR. ROVAK: And they continue through the --
16 through the bio-retention? That's -- that was my
17 question.

18 MR. MARDIS: Maybe I can help. My name is Randy
19 Mardis. I'm landscape architect for Landscape
20 Technologies.

21 Other than visually, there's no pedestrian
22 access through or into the bio-retention rain garden.

23 MR. ROVAK: Yeah, I wouldn't have thought so.

24 MR. MARDIS: What you're seeing in the center
25 is -- is the trademark rock, gravel, that Panda Express

1 uses throughout the countries.

2 MR. ROVAK: But is -- Okay. And, again,
3 easier --

4 MR. MARDIS: It's -- it's hard --

5 MR. ROVAK: I mean I'm seeing a very bold --

6 MR. MARDIS: -- at this scale.

7 MR. ROVAK: A very bold --

8 MR. LUMLEY: Just show him in the picture you're
9 looking at.

10 MR. KLING: Can he approach and maybe take a
11 look?

12 MR. ROVAK: Sure. That's what I was asking.
13 That's what I've been asking you to, and then you can
14 probably put this to bed in a hurry.

15 MR. MARDIS: If we had L2 it would be more --

16 MR. ROVAK: Well, I think -- I'm just asking
17 what am I looking at?

18 MR. MARDIS: That's the old plan. Yeah.

19 MR. ROVAK: That's -- okay.

20 MR. MARDIS: That's why you're not seeing it.

21 MR. ROVAK: All right. Well, that -- okay.

22 VOICE: That's when we presented the last plan.

23 MR. ROVAK: Okay. Cause everything else --

24 MR. JAGGI: We had included the old plans for
25 reference.

1 CHAIRMAN KISTNER: One person at a time, please.

2 MR. ROVAK: Okay.

3 MS. KELLY: The new drawings are on page 47 --
4 I'm sorry, 48 and 49 of the packet.

5 MR. ROVAK: There we go. Okay. Perfect. Okay.

6 I'm impressed with everything. This new layout
7 totally. I like everything about it. I was just trying
8 to reconcile that. The old plan.

9 CHAIRMAN KISTNER: Heather.

10 MS. SILVERMAN: With the last one, we need to
11 discuss the trash placement.

12 CHAIRMAN KISTNER: Well, right, and I think --
13 so that question was just asked that they've got some
14 additional information, I think you said, that you would
15 show Jason that showed the -- the angles and the turning
16 radius.

17 BRANDON HARP: Well, I think there was two
18 things. One was the truck turning radius, which I
19 described. I'll provide those.

20 I think what Ms. Silverman is referring to is
21 Ms. Kelly brought up how it talks about it needs to be
22 visually part of the building, and we, based on the
23 geometry of the site and how traffic flows, et cetera, we
24 all kind of worked together with staff on this could be a
25 good location for it.

1 Cause, again, you're up on this retaining wall,
2 you're sitting way back. We're landscaped around the
3 perimeter. It is phase three, and it does match the
4 building, and the doors face north, and so we feel like
5 it's a pretty good location, given the constraints of the
6 site that we have.

7 MR. ROVAK: And with all the -- with all the
8 concern about pedestrian interactions, I think getting
9 this thing out and away is probably the best -- the best
10 way to handle the whole situation.

11 MS. SILVERMAN: Yeah, I would concur. I just
12 wanted to be thorough with the actual --

13 BRANDON HARP: That's a great question.

14 MR. CARNEY: The only other thing was on the
15 parking slots. Is that a condition that Jason's --

16 CHAIRMAN KISTNER: It allows for --

17 MR. CARNEY: 19 feet.

18 CHAIRMAN KISTNER: -- administrative review.

19 MR. JAGGI: Yeah, and the ordinance does allow
20 for some flexibility for Planning Zoning Commission to
21 follow those dimensions a little bit, so we just wanted to
22 make that as a condition that we refined. Would be at the
23 staff level, but in general, we're pretty comfortable with
24 it.

25 CHAIRMAN KISTNER: So question about, see,

1 which -- which number is the one about the -- the 2-acre
2 sites?

3 MR. LUMLEY: No. 4.

4 CHAIRMAN KISTNER: No. 4.

5 We -- seems like everybody agrees that, you
6 know, language can be worked out between this meeting and
7 the next one.

8 Do we need to change this condition here, or is
9 everyone comfortable if we adopt conditions here that will
10 nevertheless go ahead and make those changes or --

11 MR. LUMLEY: I think we're all on the same page
12 in terms of what the actual intent of the Commission is,
13 and we'll just work together.

14 CHAIRMAN KISTNER: Okay. We have any other
15 questions or comments for the public hearing?

16 Actually, Mr. Lumley made some additions to the
17 record and helps us out.

18 MR. LUMLEY: Offer the following exhibits into
19 the record of this public hearing: Documentation in
20 possession of the City Clerk reflecting public notice,
21 staff's report for this meeting, the PowerPoint
22 presentation from the applicant, the City's Code of
23 Ordinances and Charter, City's brand new Comprehensive
24 Plan and the public file regarding this application.

25 CHAIRMAN KISTNER: Okay. Hearing is closed.

(The public hearing was closed at 8:26 p.m.)

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

I, Deborah K. McLaughlin, Registered Professional
Reporter, Missouri Certified Court Reporter, Illinois
Certified Shorthand Reporter and Kansas Certified Court
Reporter, do hereby certify that I reported the Planning
and Zoning public hearing stenographically and later
reduced to typewriting; and that this is a true and
accurate transcript of the public hearing.

Deborah K. McLaughlin

_____, RPR, MO-CCR, IL-CSR, KS-CCR

Deborah K. McLaughlin, RPR, MO-CCR, IL-CSR, KS-CCR

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(1) BRANDON HARP: - amount

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(2) Andrew - Clerk

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(3) clockwise - drive-up

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City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Planning Division
Category: Ordinance
Prepared By: Whitney Kelly
Department Head: Jason Jaggi

SCHEDULED

ORDINANCE

Presentation of a Conditional Use Permit, Site Development Plan and Boundary Adjustment for a Mobil-On-The-Run Convenience Store with Gas Pumps and Briteworx Car Wash Facility Located at 11109-11141 Olive Boulevard & 11100-11114 Oak Lake Court, Currently Zoned GC General Commercial and C Single Family Residential

Kevin Kamp, of Civil & Environmental Consultants, Inc. has submitted a revised application on behalf of Wallis Companies (Arch Energy, LLC), for the rezoning of 11127, 11135 & 11141 Olive Boulevard, from C-Single Family Residential District to GC-General Commercial District and a Conditional Use Permit and Site Development Plan application for a new Mobil on the Run convenience store with gas pumps and BriteWorx Car Wash facility encompassing 11109-11141 Olive Boulevard and 11100-11114 Oak Lake Court. The Planning and Zoning Commission conducted a public hearing on this request on December 5, 2016 and recommended against the request. The Applicants have requested that the revised proposal proceed to City Council for review. An ordinance to approve this request has not been provided at this time pending further direction from the City Council.

Ordinance

Meeting of April 24, 2017



city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
 (314) 432-6000 • Fax (314) 872-2539 • Relay MO 1-800-735-2966
www.creve-coeur.org

MEMO TO CITY ADMINISTRATOR AND CITY COUNCIL

Meeting Date: April 24, 2017

Subject: Rezoning, Conditional Use Permit, and Site Development Plan applications for a Mobil on the Run Convenience Store with Gas Pumps and BriteWorx Car Wash (App. #16-031)

Memo Prepared by: Jason W. Jaggi, AICP, Director of Community Development
 4-19-17

Attachments: Revised Site Development Plan prepared for City Council Meeting and supporting narratives; Applicants' materials, staff report and public hearing transcripts from 12-5-16 Planning and Zoning Commission meeting.

This staff memorandum will provide a brief background of the request, a summary of the changes made to the overall site development plan after review by the Planning and Zoning Commission (P&Z) and a recommendation from staff should the City Council determine further review of these applications is appropriate.

Background

This development proposal consists of a new Mobil on the Run convenience store with gas pumps and a separate car wash facility, under the brand name BriteWorx, with exterior vacuum stations. The specific applications filed in support of this development consisted of a rezoning application to rezone three (3) properties fronting Olive Boulevard from single family residential to GC-General Commercial; a Conditional Use Permit and Site Development Plan to allow a gasoline station with convenience store and car wash facility as a conditional use within the GC District; and, a Boundary Adjustment to consolidate the existing multiple lots into a single lot. The total site area is 3.9 acres with approximately 2.8 acres located within the City of Creve Coeur and 1.1 acres located in unincorporated St. Louis County.

These applications were considered by the Planning and Zoning Commission at a public hearing on December 5, 2016. At the conclusion of its deliberations, P&Z voted unanimously to recommend denial of the applications (rezoning, conditional use and boundary adjustment, site development plan). The Planning and Zoning Commission based its recommendation upon its view that the project, as presented, was inconsistent with the 2002 Comprehensive Plan and the comprehensive plan update, Creve Coeur 2030 which was in draft form and under review by P&Z at the time. The primary issue leading to the negative vote by P&Z was the scale of the proposed development not being in keeping with the recommendations of the comprehensive plan for the East Olive corridor. Please refer to the December 5, 2016 meeting minutes and public hearing transcripts for additional information regarding the Commission's deliberations for this item.

After receiving a negative vote from P&Z, the applicants' attorney, John P. King, submitted notice on December 7, 2016, to staff withdrawing all applications with the goal of returning to the City with a new proposal. The notice to withdraw terminated further review and consideration of the applications by the City, including a review by City Council. Shortly thereafter, Mr. King died and the applicants have stated they were not aware of the provision of Section 405.1070(C) of the Zoning Ordinance which prohibits re-submitting a denied application for the same conditional use for a period of twelve (12) months.

On March 14, 2017, the applicants submitted to the Director of Community Development a request to rescind the previous notice to withdraw and proceed with a presentation to the City Council. As a courtesy to surrounding property owners, city staff sent a notice of this request during the week of April 10th and posted the property with a public notice sign and updated the Current Planning page of the City's website.

Summary of Revised Site Development Plan

Upon receiving a negative recommendation from P&Z on December 5, 2016, the applicants have revised the site plan in an effort to address the concerns raised by staff and P&Z.

The revised site plan drawing submitted to the City on April 5, 2017, generally reduces the size of several elements of the development, more fully described below:

- Gas Pump Islands: Reduced from 10 pump islands to 8
- Exterior Vacuums: Reduced from 17 to 10
- Car Wash Building: Reduced in size from 5,128.5 square feet to 4,360 square feet
- Car Wash Que Lanes, Vehicle Stations, Number of Lanes: Reduced from 3 que lanes with 3 pay stations to 2 que lanes with 2 pay stations.
- Greenspace: with the reduction of the above items, the plan affords for additional greenspace.

It should be noted that revisions to the building elevations and landscaping have not been provided at this time.

Action by the City Council

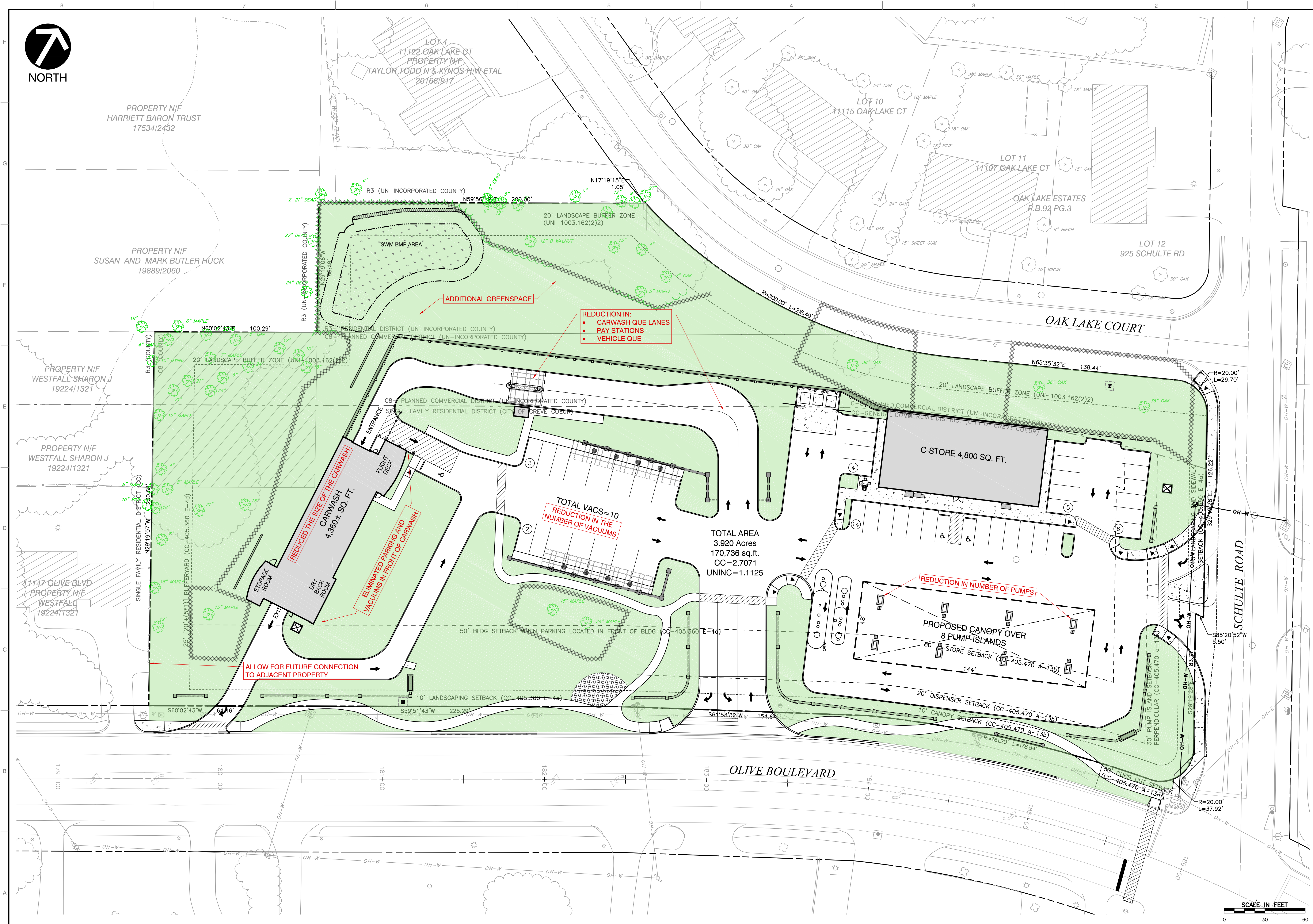
The applicants have requested the opportunity to present the revised site development plan to the City Council which has been made to address the concerns over the prior plan. In addition to the revised site plan, the applicants have submitted a detailed narrative explaining the changes made to the plan after review by the P&Z. These supporting documents along with the revised site development plan, staff report, public hearing transcript, meeting minutes and other supplemental information from the December 5, 2016, P&Z meeting have been included in the packet for City Council review.

Staff recommends that after the presentation by the applicant, the City Council should provide feedback to the applicant regarding its view of the revised proposal. The City Council should take into account the recommendations of the comprehensive plan for the East Olive corridor, the extent of the revisions made to the layout and size of various elements of the development proposal since P&Z review.

At the conclusion of the discussion for this item, should the City Council conclude that the plan has been revised sufficiently to warrant further consideration, staff recommends the City Council remand the applications back to the Planning and Zoning Commission. This action will allow the applicant to

present the revised plan to P&Z for further review along with other elements of the development proposal including revised building and landscaping designs, traffic mitigation, noise attenuation, etc.

Should the City Council determine that the revised proposal does not meet with the Comprehensive Plan or other land use requirements of the City, the City Council should similarly provide this information to the applicant. If the applications are not remanded back to P&Z, the Council will need to vote on the item or the applicant may choose to withdraw the applications. Should a vote by Council deny the applications, the Zoning Ordinance will not allow the applicants to return with the same conditional use application for a period of twelve (12) months.



SITE DEVELOPMENT PLAN MOBIL ON THE RUN & BRITE WORX		WALLIS COMPANIES 106 EAST WASHINGTON CUBA, MO 65453 (636) 549-1600		 Civil & Environmental Consultants, Inc. CERTIFICATION/LICENSE NO. 2002013942 4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042 314-656-4566 • 866-250-3679 www.cedcinc.com		REVISION RECORD <table><thead><tr><th>NO</th><th>DATE</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr></tbody></table>		NO	DATE	DESCRIPTION									
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SITE DEVELOPMENT PLAN MOBIL ON THE RUN & BRITE WORX		CONCEPT SITE PLAN <table><tr><td>DATE:</td><td>AUG. 2016</td><td>DRAWN BY:</td><td>CAC</td></tr><tr><td>DWG SCALE:</td><td>AS NOTED</td><td>CHECKED BY:</td><td>KTK</td></tr><tr><td>PROJECT NO:</td><td>110-241</td><td>APPROVED BY:</td><td>KTK*</td></tr></table>		DATE:	AUG. 2016	DRAWN BY:	CAC	DWG SCALE:	AS NOTED	CHECKED BY:	KTK	PROJECT NO:	110-241	APPROVED BY:	KTK*				
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Concept Revision Narrative

Mobil On the Run Convenience Store and BriteWorx Car Wash

Northwest Corner of Olive and Schulte, Creve Coeur, MO 63141

This concept design narrative was prepared to provide a detailed description of the individual changes made to the Site Plan in response to the feedback received at the December 5th, 2016 Planning and Zoning Commission meeting and the follow up meetings with City Planning Staff.

A. Limit retail uses size and scale

- 1) A new smaller version of the BriteWorx tunnel carwash (from 5,128.5 to 4,360 sq. ft.) has been proposed for this site to reduce the size, scale, and intensity.
- 2) The gas canopy was reduced from the 50' x 184' / 10-pump island design to a 48' x 144' / 8-pump-island configuration.
- 3) Greenspace was enlarged from 54% to 59% site greenspace coverage.

B. Protection of the existing healthy vegetation setting

- 1) With the assistance of a Landscape Architect, the protection zone areas for the existing larger trees being saved was expanded and additional measures are to be taken during demolition and construction.
- 2) The greenspace in the rear of the site was expanded to provide less impact on the vegetation and moves the limits of developed area further from the residential uses.

C. Volume

- 1) The number of vacuum stations was significantly reduced from the earlier proposed 17 stalls to 10 stalls (59% of original proposal presented to P&Z).
- 2) Carwash que lanes and pay stations for the carwash have been reduced by over 30%.
- 3) The number of pumps were reduced to 80% from 10 stations to 8 stations.

D. Mitigate Impact on residential area

- 1) An expanded greenspace buffer to the north will assist in any impact to the surrounding residential neighborhoods.
- 2) The reduced footprints and elimination of the vacuums increases the amount of greenspace and enhances the aesthetics of the development.

E. Setbacks and Connectivity

- 1) The removal of the vacuum stations in front of the carwash and reduction of the number of stations adjacent to the pocket park provide for greater landscape treatments in front of the carwash building.

- 2) The reduction of the size of the gas canopy allows for more open space in front of the C-Store retail business and provides greater ease of maneuvering as one circulates the site.

F. Reduce the large gaps and interruptions along the streetscape

- 1) By reducing the non-pedestrian elements (vacuums, entrance lanes to carwash, pump islands, etc.) and allotting for greater greenspace between the BriteWorx and Mobil on the Run, the gaps become a greenspace element of connectivity as opposed to interruptions along the streetscape.

The Mobil on the Run and BriteWorx CarWashery is a benefit to this neighborhood of Creve Coeur, providing a needed updated service in a particularly unconventional way. The residents will be gifted with park-like commercial frontage that they can enjoy not only for the services provided but also for amenities such as resting areas, meandering walkways, and buffer from the bustling highway of Olive Blvd.

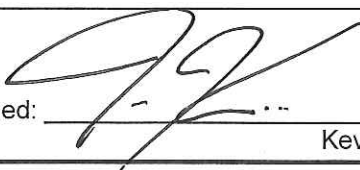
 Civil & Environmental Consultants, Inc. 4848 Park 370 Blvd. Suite F Hazelwood, MO 63042 Phone: (314) 656-4566 · Toll Free: (866) 250-3679 Fax: (314) 656-4595		Letter of Transmittal	
		Date: 4/5/2017	Job No.: 110-241
		Attention: Jason Jaggi	
To: City of Creve Coeur 300 N. New Ballas Road Creve Coeur, MO 63141		RE: Mobil on the Run & BriteWorx: Redevelopment at NW Corner of Olive and Schulte	

We are sending you attached via the following items:

- ☐ Shop drawings ☐ Prints ☒ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☒ Cut Sheets

Copies	Date	No.	Description
4	Aug 2016	A	Concept Plan
4	11/04/2016	C000-C301 (5)	Site Development Plan for Mobil On the Run and Brite Worx
4	11/04/2016	A1.1-A5.2 (4)	Architectural Floor Plan and Elevations
4	11/04/2016	PLAT (1)	Preliminary Plat for Mobil On the Run and Brite Worx
4	11/04/2016	L01-L02 (2)	Landscape Plan and Tree Preservation Plan
4	11/04/2016	Lighting Plan (1)	Photometric Plan
1	11/04/2016	Light Specs (6)	Lighting Cut Sheets
1	11/04/2016	Figure 1 (1)	Zoning Map
1	11/04/2016	Disk	CD of Submittal Documents
1	03/29/2017	Check	Escrow check for \$2000

- ☐ For approval ☐ Approved as submitted ☐ Resubmit _ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _ prints
☐ For review and comment ☒ For City Council Meeting
☐ For bids due ☐ Prints returned after loan to us

Remarks:	
Copy to: -	Signed:  Kevin T. Kamp P.E.

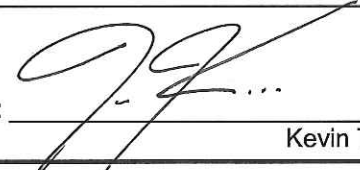
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Copies	Date	No.	Description
1	11/04/2016	Report	Traffic Study by CBB
1	11/04/2016		Narrative
1	11/10/2016	Report	Environmental Noise Study

- ☐ For approval ☐ Approved as submitted ☐ Resubmit _ copies for approval
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Copy to: -	Signed:  Kevin T. Kamp P.E.

Design Narrative

Mobil On the Run Convenience Store and BriteWorx Car Wash

Northwest Corner of Olive and Schulte, Creve Coeur, MO 63141

This design narrative was prepared to provide a description of how the individual components presented in the “City of Creve Coeur Design Guidelines” were addressed and considered in preparation of the proposed development. These are numbered to follow along with those guidelines.

Chapter 1- Site Layout

A. Physical Features and Site Relationships

1. The existing topography and foliage is being maintained as much as possible to minimize the site topography changes. Grade changes will be as natural as possible, however, the use of retaining walls and masonry fencing will be used to provide additional screening and enhancements to the buffer yards.
2. Existing site features are being maintained to as much as possible with new natural site features added to enhance the site. These new site features add interest to the site and provide nodes along the way for the pedestrians to enjoy, such as a small “pocket park.”
3. Building orientation has been designed to create spaces of interest and focal points within the site which adds visual interest. These features soften the scale of the project by providing intermittent screening from all approaches to the site.
4. Site design addresses these issues by utilizing existing natural barriers and augmenting them with new manufactured barriers to compliment those natural barriers, lessening the impact to the adjacent properties. By combining existing natural barriers with new landscaped areas on the entirety of the site, the impact of this development is minimized. This development proposes approximately 50% green space to lessen the impact on surrounding property owners.
5. Utility project elements are designed to be as far back on the site as possible and screened. Materials for screening and physical locations were evaluated to lessen the visual impact to the public
6. Though this project is not phased, care has been taken to maintain continuity and completeness.

B. Streetscape/Pedestrian Orientation

1. Streetscaping design mixes hard elements and soft elements in order to visually and textually create interest in the pathway around the site. The hard element is a low, pedestrian scale, wall with pilasters and street lights that helps guide the pedestrian along the site and then into the site. Once on the site, more wandering paths allow pedestrian circulation within the site. This directly correlates to the City's Pedestrian Plan.
2. Where gaps occur in the streetscaping, pedestrian circulation is encouraged to enter into the site to discover greenspace and other outdoor elements.
3. The open space in the streetscape provides a path to help direct pedestrians from the street through the site to either building, as well as, between both buildings. The "pocket park" area of interest also helps mitigate stormwater runoff.
4. The design incorporates public spaces within the site for pedestrians and community members to view landscaping and to gather. These features directly correlate to the City's Pedestrian Plan.
5. Site design and building design are integrated to provide various scales, materials and 3 dimensional elements to enhance the visual interest of pedestrians and the community. This correlates directly to the City's Pedestrian Plan.
6. Public entrance to the buildings from the street is through a series of paths, landscaped with street trees, low masonry walls and street lights. Signage will be visible and identifiable from the street and the windows will be lightly tinted to encourage facility users to enter. These paths correlate directly to the City's Pedestrian Plan.
7. Street trees are designed in to enhance the site appearance and compliment the overall experience. By using a multiple species approach, the landscaping provides visual and textural variation and guards against diseases affecting single species.
8. Sidewalk and lighting are consistent and coordinated with the overall site design. These elements are integral to the further development of the East Olive Corridor Plan to enhance the pedestrian experience and provide visual interest along the street and through the site.
9. Sidewalk and vehicle intersections are designed to emphasize the pedestrian path through color and texture changes. These elements clearly define the pedestrian experience, clearly separates pedestrian and vehicular movements and correlates to the City's Pedestrian Plan.
10. The rear of the buildings are designed to be consistent in color and material to the front of the buildings and vegetation, both new and preserved, was considered to also add to the buffer and transition.
11. Vehicle access to the site has been designed to provide one main access point per street frontage and the access along Olive is shared between the two site uses.

12. The walk in front of the entry to the business is 10' wide with more than 4' of pedestrian clearance. The ease of pedestrian movement correlates to the City's Pedestrian Plan.
13. The sidewalks comply with the City Pedestrian Plan.

C. Streetscape/Pedestrian Orientation

1. Circulation patterns on the perimeter and interior to the site are clearly defined and safe.
2. Pedestrian routes within the site are buffered and landscaped and also provide points of interest and other amenities.
3. Access by vehicle and by pedestrian are separated and safe while adding to the arrival experience to the site and buildings.
4. Pedestrian, bicycle and vehicle circulation have been separated to the extent possible. When these paths cross, color and texture designations occur.
5. Pedestrian linkage between structures and within the site are provided and emphasized.
6. Bicycle parking is highly visible and lockable.

Note: All of these site and pedestrian points of interest and circulation routes have been created by the building placement and designed elements to reduce the commercial feel of the proposed development to a more residential/neighborhood feel.

Chapter 2- Buildings

A. General Architectural Guidelines

1. The building designs are articulated to create interest and be distinct while using high quality materials.
2. Outdoor spaces of interest have been incorporated into the overall design with structures of similar building elements linking the site together. The small scale of these connector elements and outdoor spaces reduce the scale of the overall development, while still linking the development together as a whole.
3. The building facades have been articulated to increase visual interest and create shadow lines using various elements. These elements help breakdown the building scale to create a more human scale and clearly define the building entry points and termination points.
4. The nature of this particular type of building use is single story. The building height has been increased to add mass and create more visual interest and to screen various necessary functional equipment. The building has been situated on the site further back from the street due to site function and also to reduce the scale of the building to a more

human scale. This setback also affords more opportunity to screen the building and reduce elements to a more human scale at the street view.

B. Scale

1. The site layout and building height have been carefully considered. Lower use adjacent areas receive the lower height of the building elevations and the more public and visible views receive the higher building elevations while still maintaining a human scale through the use of material and massing. Additionally, staff has indicated a potential use for the property immediately adjacent (West) of the site and the scale of this potential development has been taken into consideration. This development provides additional space between the potential development to the West through building orientation. This orientation affords additional opportunities for maximum screening.
2. The buildings achieve human scale through multiple massing changes, material accents various insets and building element features.
3. Both buildings employ similar massing and detail elements to maintain consistency within the site. The linking element between the buildings employs similar material and massing elements, further connecting the buildings and maintaining design consistency.

C. Design

1. The building design incorporates several high quality materials and design elements throughout the site. The scale of these elements are residential scale to add to the human scale of the building. The colors selected are warm and inviting, adding to the residential scale and feel of the building.
2. Façade design for all structures incorporates several massing changes to decrease repetitiveness and provide visual interest.
3. The entry pieces are articulated vertically and horizontally to clearly define the entrance.
4. Overall site and building design use elements consistent with high quality and visual interest. As the pedestrian approaches and then enters the site, these elements will increase slightly in scale and change texture and color providing an interesting journey. The low wall elements and overhead canopies use materials consistent with the proposed building while also screening functional elements of the vacuum areas from vehicular and pedestrian view.
5. Separation distance between the buildings is the minimum for required vehicle circulation. In order to visually link the buildings, a connector element is designed with similar design materials and elements to maintain visual consistency.
6. Each building is a unique design, consistent with the City Comprehensive Plan while maintaining enough similarity to other previous projects by this Developer. While the

buildings are similar in style to other previously designed buildings for this client, they are not “prototype” buildings. Different locations and sites have different design parameters which provides the opportunity to create a unique building while maintaining familiarity with a brand.

7. Mixed use of this site is provided through separate building experiences.
8. All elevations receive the same design and material treatment.
9. Both buildings utilize parapets to screen roof top items. Those parapet elements are integral to the design concept.
10. Both buildings utilize energy efficient design elements and systems.

D. Relationship to Neighboring Development

1. The site and building development is consistent with surrounding existing and newer developments along the East Olive Corridor in the use of material, streetscape and color. This design utilizing a complete package of site and building design, in a unique location, will help set a standard for future development along this corridor. The use of the site is not changing. The proposed development will enhance the design of the corner and provide a fresh, new, updated design showing the City’s progress.
2. Both main buildings are linked visually with a connecting element using consistent materials and massing.
3. The majority of the building materials and colors are earth tone and neutral. An accent color is used to tie both buildings together and create visual interest. This same accent color is seen all along the East Olive Corridor from Graeser Road to Interstate 270.
4. Pedestrian paths and pedestrian elements are incorporated into the site plan design and the building layout to create outdoor public spaces of interest.

E. Materials/Colors

1. The building materials selected are of high quality and high durability and most are natural, traditional materials.
2. Color for the materials is integral, adding to their durability. The most durable materials are placed near the ground to achieve maximum durability.
3. The EIFS element is used in a location that is not accessible to the user in order to maintain the building material durability. The “plasticity” of the EIFS allows for the various insets and offsets and detail accents to visually enhance the building design while allowing the predominate material to be masonry used at the lower level.
4. Both buildings utilize the same Architectural elements and color to provide design consistency throughout the site. All elevations use similar elements and colors to maintain design consistency within the building façades.

5. Any material color changes will occur at inside corners to emphasize mass and alleviate the appearance of “thinness.” Material continuity is maintained within each elevation.
6. Soffits will receive similar finish treatment as the main fascia material.
7. The sidewalks and drive areas are differentiated through color and texture.

F. Building Services

1. Services and trash receptacles are located deep within the site and shielded by solid fences and partially by the buildings so as not to be as visible to the vehicle traffic or pedestrian traffic.
2. Loading areas are also located deep within the site to shield them from vehicle or pedestrian traffic.
3. The utility meters will be located such that they are screened from public view.

Chapter 3- “Use” Specific Guidelines

A. Not Applicable

B. Auto Service Stations

1. The site layout provides one entrance per street on this corner lot. Customer safety is provided by a low masonry wall incorporated into the streetscape design.
2. The paved area is as minimal as possible to provide safe vehicular and pedestrian movement throughout the site. Material, texture and color changes are used to distinguish and separate pathways. This safer pedestrian movement directly correlates to the City’s Pedestrian Plan.
3. The buildings have been designed specifically for this site to provide an increased, upgraded, level of detail beyond the previous buildings of this type within the region. This increased level of detail enhances the users experience of the facility and the City. The Developer has incorporated several adjacent lots in order to reduce the commercial impact and density of the development.
4. Through material and color consistency, the freestanding elements associated with this site are compatible and consistent to the major building elements.
5. Tank vent are incorporated into the fuel canopy design to reduce visibility.
6. The Car Wash Architectural elements, materials and colors are consistent with the Convenience Store Architectural elements, materials and colors. The orientation of the Car Wash building is to specifically reduce the intrusion of the exit opening to vehicular and pedestrian traffic. The exit end also incorporates a storefront element, similar to a

retail establishment, to further deemphasize the door opening element. The orientation also reduces the impact on the surrounding residential areas and the potential development area to the West.

7. All lighting fixtures will be flush with the underside of the canopy.

C. Not Applicable

D. Not Applicable

E. Accessory Buildings and Facilities

1. The accessory facilities such as trash enclosures are designed to directly relate in material, character and detail to the other site components.

Chapter 4 – Landscape Design

1. The landscape design for this proposed redevelopment is of high quality and seeks to maintain and use existing mature vegetation, accommodate and accent pedestrian facilities, provide ample green space and areas of visual interest, and soften larger rigid elements.
2. There is a consistent yet still diverse species and theme throughout the development.
3. The design of the landscape helps identify pedestrian circulation paths from street frontage to the commercial business.
4. Significant design effort and attention has been placed into maintaining existing vegetation in buffer areas and new landscape has been proposed to enhance those buffers.
5. Clear pedestrian pathways and landscape materials have been provided to lessen potential damage by pedestrian or motor traffic.
6. The parking areas are landscaped with trees, shrubbery, and other landscaping materials as well as a pedestrian scale wall.
7. The landscape plan has incorporated a patio area and other such features to create points of visual interest.
8. The green space provided exceeds the requirements and these areas are landscaped with grouped plantings and other elements throughout the site.
9. The pedestrian scale landscape wall, signage, trash receptacles, fencing and other site elements are incorporated into the design of the landscaping.
10. The scale of the landscape materials is diverse by making use of mature existing vegetation and providing low-level shrubbery and landscaping materials. Together

these elements compliment and soften larger scale architectural elements.

11. As mentioned above, the existing mature vegetation has been incorporated into the overall design scheme.
12. Irrigation systems are proposed for the site.
13. The landscape design is intended to accent and enhance architectural and site design features.
14. Any groundcover is proposed to be live plant material.
15. While no berms are proposed, the existing topography helps add to visual screening from adjacent residents.
16. Changes in existing vegetation and topography have been minimized to the extent feasible.

Chapter 5- Miscellaneous

A. Signage

1. The signage will comply with municipal requirements and are integrated into the building design to blend while being an accent.
2. Not applicable
3. Sign areas are minimal and strategically place in logical locations.
4. Individual letter signs will be used where practical.
5. Signage will be internally lighted with little or no glare.

Note: The signage be more consistent with the “Green Line Park” approach mentioned in the Comprehensive Plan.

B. Lighting

1. Illumination levels across the site will vary depending on use and safety. The lighting has been designed to reduce any light directed off site. Full cut off fixtures will be used as required to reduce light directed off site and glare.
2. Exterior lighting will be shielded as required and parallel to the ground.
3. The building lighting is integrated into the building and will be complimentary to the building color and style.
4. Fixture mounting height will vary across the site depending on clearance requirements.
5. Bollard lights may be used at strategic locations to enhance the pedestrian experience.
6. Raised lights poles along the streetscape will be pedestrian scale Architectural style.
7. No neon lighting is proposed.
8. A photometric plan will be provided.

Note: Every effort has been made to discuss the impact with the adjacent residents. Those concerns have been addressed. To minimize the impact, central vacuum systems and lowered, shielded lighting is proposed.

C. Utilities

1. Utilities will be underground and the transformer will be screened.

D. Stormwater Drainage

1. Rooftop drainage has been considered and is conveyed and contained so that it does not impact landscaped areas or sidewalks.
2. The stormwater management facility has been designed to be natural in configuration and appearance and contributes to the enhancement of the buffer.
3. The site exceeds minimum standards for open space requirements and the stormwater management facility is situated such that it does not detract from visual interest.

E. Energy Conservation

1. The building orientation, materials and systems are designed with good energy conservation principles.

F. Screening

1. The proposed masonry fencing is designed with a natural stone façade and visual monotony is minimized by site landscaping and architectural elements.
2. The proposed masonry wall (sound wall) is designed to minimize the visual and audible impacts and it's textures and color coordinate with the balance of the site architecture.
3. The fencing is an integral part of the site.
4. Chain link fencing is not proposed.
5. The proposed fencing is a highly decorative masonry fence.
6. The trash enclosure will be constructed of the same material.

G. Parking

1. The parking lot has limited vast open areas and is broken-up by landscaped areas and pedestrian pathways.

2. On street parking is not feasible at this location, and parking has been located furthest away from residential areas and provided in a manner consistent with the needs of the proposed operation.
3. Underground parking is not proposed.
4. There are no vast open areas of parking proposed that would cause significant glare reflection or visual impact.
5. The parking layout and design is enhanced with pedestrian circulation and does not obstruct direct access from street pedestrian facilities to the public commercial business.
6. Extensive landscaped areas are proposed on the site.
7. Landscaped islands and open spaces have been incorporated into the facilities.
8. No parking or vehicular circulation is proposed in required buffer yard or side yard setback area.
9. No parking structure is proposed.
10. No parking structure is proposed.

H. Retaining Wall

1. The topography of the site has been designed where feasible to minimize the height and length of the retaining walls. The vegetation, both preserved existing trees and proposed landscaping, has been incorporated to enhance visual appearance.
2. The proposed retaining wall has not been terraced in an effort to preserve and maintain existing mature vegetation.
3. The materials utilized for the retaining wall coordinate with the building materials and architecture.

Land Description
Project No. 110-241

St. Louis County Tract
Oak Lake Crossing
August 9, 2016

A tract of land being Part of Lots 1, 2, 3 and 4 of "Oak Lake Estates", recorded in Plat Book 92, Page 3 of St. Louis County Records, and Part of Lots 3, 4 and 5 of the Subdivision of the Farm of S. S. Matson, being Part of U.S. Survey 1962, Township 45 North, Range 5 East of the Fifth Principal Meridian, St. Louis County, Missouri, more particularly described as follows:

Commencing at the intersection of the East line of a tract of land conveyed to Halliburton and Kohring, by deed recorded in Book 7558, Page 658 of said records with the North line of Olive Boulevard as widened by document recorded in Book 5112, Page 66 of said records, said point being 45.00 feet perpendicular distance North of Missouri State Highway 340 (variable width), also known as Olive Boulevard centerline station 179+55.77; thence along the said East line and along the East line of a tract of land conveyed to Pfortmiller by deed recorded in Book 11682, Page 2248 of said records, North 29 degrees 19 minutes 07 seconds West, 185.70 feet to the POINT OF BEGINNING of the tract herein described, said point being on the corporate limit line of the City of Creve Coeur; thence North 29 degrees 19 minutes 07 seconds West, 44.98 feet; thence North 60 degrees 02 minutes 43 seconds East, 100.29 feet; thence North 29 degrees 19 minutes 06 seconds West, 80.18 feet; thence North 59 degrees 56 minutes 12 seconds East, 200.00 feet; thence North 17 degrees 19 minutes 15 seconds East, 1.05 feet to the South line of Oak Lake Court, 50 feet wide; thence along said South line of Oak Lake Court, 50 feet wide, the following courses and distances; thence along a curve to the left, the chord of which bears South 86 degrees 07 minutes 37 seconds East, 139.54 feet and the radius point of which bears North 17 degrees 19 minutes 15 seconds East, 300.00 feet from the last mentioned point, an arc distance of 140.83 feet; thence along a curve to the left, the chord of which bears North 79 degrees 23 minutes 29 seconds East, 10.83 feet and the radius point of which bears North 09 degrees 34 minutes 30 seconds East, 300.00 feet from the last mentioned point, an arc distance of 10.83 feet; thence along a curve to the left, the chord of which bears North 71 degrees 58 minutes 29 seconds East, 66.70 feet and the radius point of which bears North 11 degrees 38 minutes 33 seconds West, 300.00 feet from the last mentioned point, an arc distance of 66.84 feet; thence North 65 degrees 35 minutes 32 seconds East, 138.44 feet; thence along a curve to the right, the chord of which bears South 71 degrees 51 minutes 58 seconds East, 27.05 feet and the radius of which bears South 24 degrees 24 minutes 28 seconds East, 20.00 feet from the last mentioned point, an arc distance of 29.70 feet to the West line of Schulte Road (variable width); thence along said West line Schulte Road, as described in Book 7631, Page 1576 of said records, the following courses and distances; thence South 29 degrees 19 minutes 28 seconds East, 34.48 feet to the aforementioned corporate limit line of the City of Creve Coeur; thence along said line the following courses and distances; thence along a curve to the left, the chord of which bears South 68 degrees 42 minutes 21 seconds West, 247.12 feet and the radius point of which bears South 12 degrees 27 minutes 02 seconds East, 803.69 feet from the last mentioned point, an arc distance of 248.11 feet; thence South 59 degrees 51 minutes 43 seconds West, 104.63 feet; thence South 60 degrees 01 minutes 53 seconds West, 300.38 feet to the POINT OF BEGINNING, containing 1.112 acre, more or less.

Land Description
Project No. 110-241

City of Creve Coeur Tract
Oak Lake Crossing
August 9, 2016

A tract of land being Part of Lots 1, 2, 3 and 4 of "Oak Lake Estates", recorded in Plat Book 92, Page 3 of St. Louis County Records, and Part of Lots 3, 4 and 5 of the subdivision of the Farm of S. S. Matson, being part of U.S. Survey 1962, Township 45 North, Range 5 East of the Fifth Principal Meridian, St. Louis County, Missouri, more particularly described as follows:

BEGINNING at the intersection of the East line of a tract of land conveyed to Halliburton and Kohring, by deed recorded in Book 7558, Page 658 of said records with the North line of Olive Boulevard as widened by document recorded in Book 5112, Page 66 of said records, said point being 45.00 feet perpendicular distance North of Missouri State Highway 340 (variable width), also known as Olive Boulevard centerline station 179+55.77; thence along the said East line and along the East line of a tract of land conveyed to Pfortmiller by deed recorded in Book 11682, Page 2248 of said records, North 29 degrees 19 minutes 07 seconds West, 185.70 feet to the corporate limit line of the City of Creve Coeur; thence along said line the following courses and distances; thence North 60 degrees 01 minutes 53 seconds East, 300.38 feet; thence North 59 degrees 51 minutes 43 seconds East, 104.63 feet; thence along a curve to the right, the chord of which bears North 68 degrees 42 minutes 21 seconds East, 247.12 feet and the radius point of which bears South 30 degrees 08 minutes 17 seconds East, 803.69 feet from the last mentioned point, an arc distance of 248.11 feet to the West line of Schulte Road (variable width); thence along said West line Schulte Road, as described in Book 7631, Page 1576 of said records, the following courses and distances; thence South 29 degrees 19 minutes 28 seconds East, 91.74 feet; thence South 85 degrees 20 minutes 52 seconds West, 5.50 feet; thence South 29 degrees 19 minutes 28 seconds East, 83.77 feet; thence along a curve to the right, the chord of which bears South 24 degrees 59 minutes 17 seconds West, 32.49 feet and the radius point of which bears South 60 degrees 40 minutes 32 seconds West, 20.00 feet from the last mentioned point, an arc distance of 37.92 feet to a point being 45.00 feet perpendicular distance North of Olive Boulevard centerline station 185+63.34; thence along the aforesaid North right-of-way line of Olive Boulevard, being 45.00 feet perpendicularly distant north of and parallel to the centerline of said Olive Boulevard, the following courses and distances; thence along a curve to the left, the chord of which bears South 77 degrees 33 minutes 35 seconds West, 46.25 feet and the radius point of which bears South 10 degrees 41 minutes 58 seconds East, 761.20 feet from the last mentioned point, an arc distance of 46.26 feet to a point; thence along a curve to the left, the chord of which bears South 70 degrees 50 minutes 25 seconds West, 132.11 feet and the radius point of which bears South 14 degrees 10 minutes 53 seconds East, 761.20 feet from the last mentioned point, an arc distance of 132.28 feet to a point; thence South 61 degrees 53 minutes 32 seconds West, 143.54 feet; thence South 61 degrees 53 minutes 32 seconds West, 11.10 feet; thence South 59 degrees 51 minutes 43 seconds West, 189.15 feet; thence South 59 degrees 51 minutes 43 seconds West, 36.14 feet; thence South 60 degrees 02 minutes 43 seconds West, 64.16 feet to the POINT OF BEGINNING, containing 2.807 acres, more or less.



SHEET 01 OF 0

WALLIS COMPANIES
1106 EAST WASHINGTON
CUBA, MO 65453
(636) 549-1600

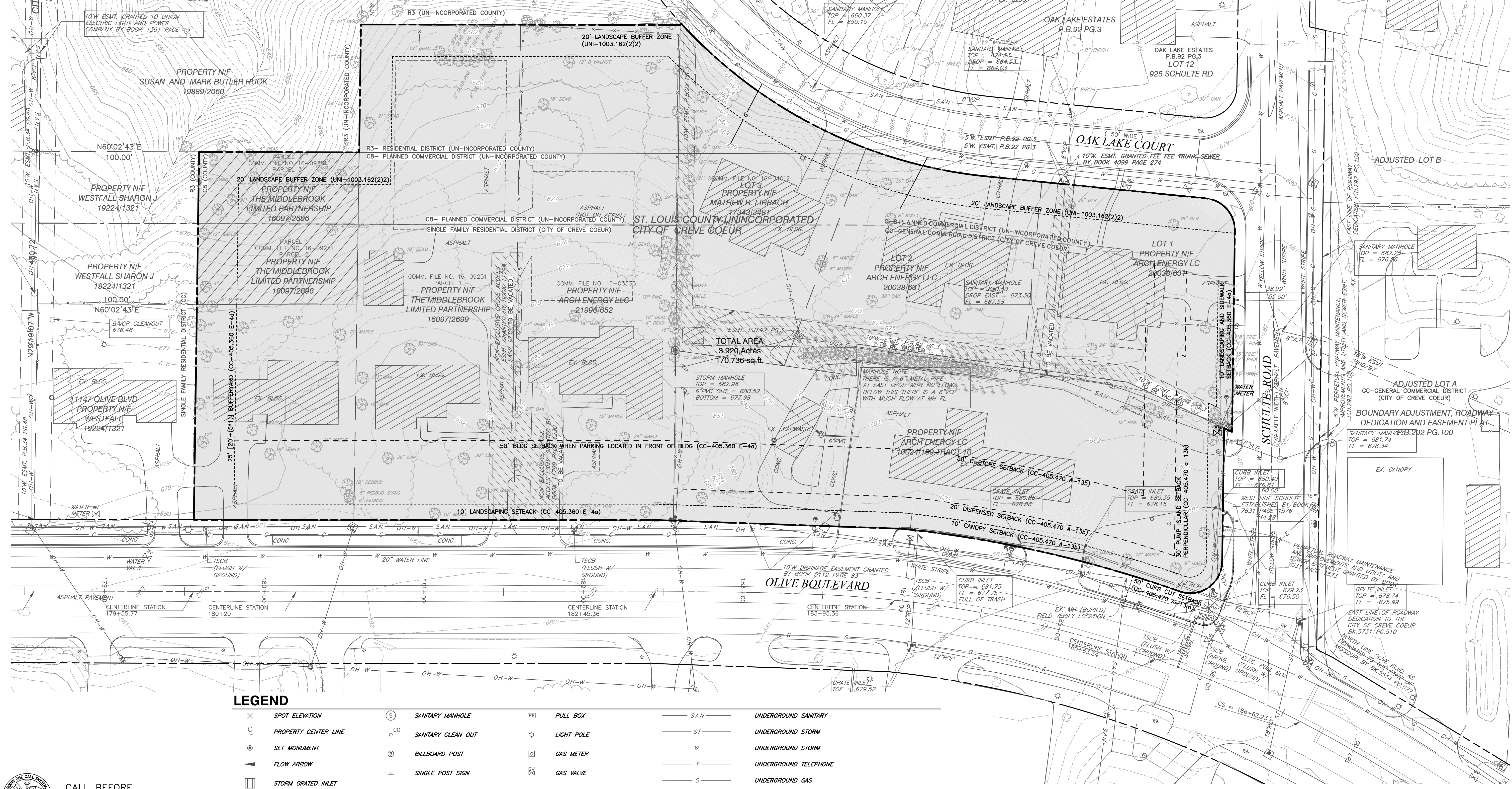
SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORX

DRAWING NO.:

SHEET 01 OF 0



CITY OF CREVE COEUR
ST. LOUIS COUNTY
UNINCORPORATED



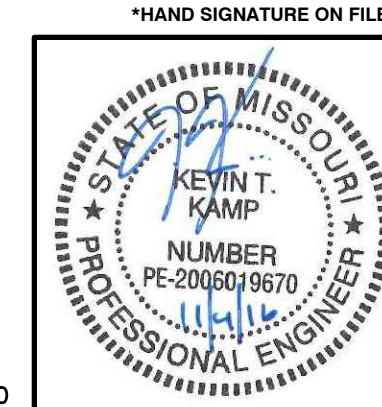
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REFERENCE
1. TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.

LEGEND

×	SPOT ELEVATION	○	SANITARY MANHOLE	□	PULL BOX	— SAN —	UNDERGROUND SANITARY
—	PROPERTY CENTER LINE	○	SANITARY CLEAN OUT	☆	LIGHT POLE	— ST —	UNDERGROUND STORM
▲	SET MONUMENT	⊙	BILLBOARD POST	⊠	GAS METER	— W —	UNDERGROUND TELEPHONE
→	FLOW ARROW	⊕	SINGLE POST SIGN	⊗	GAS VALVE	— T —	UNDERGROUND GAS
▢	STORM GRATED INLET	⊖	DOUBLE POST SIGN	⊙	WATER MANHOLE	— G —	OVERHEAD UTILITIES
▢	STORM GRATED INLET	⊕	FENCE POST	⊖	WATER METER	— OH-E —	MAJOR CONTOUR LINE
□	STORM INLET	⊖	ELECTRIC BOX	⊖	WATER VALVE	— 680 —	MINOR CONTOUR LINE
□	STORM DOUBLE INLET	⊖	ELECTRIC MANHOLE	⊖	FIRE HYDRANT	— 681 —	
□	STORM DOUBLE INLET	⊖	ELECTRIC METER	⊖	GUY WIRE		
⊖	STORM MANHOLE	⊖	ELECTRIC TRANSFORMER	⊖	UTILITY POLE		

SCALE IN FEET
0 30 60



ZIP- 63146

MSD MAP# 17-N

P-

REVISION RECORD

NO.	DATE	DESCRIPTION
1	11/14/2016	SUBMITTAL TO CITY OF CREVE COEUR REGARDING CONDITIONAL USE & SITE DEVELOPMENT PLAN (P&T)
2		
3		
4		
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7		
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Civil & Environmental Consultants, Inc.

CERTIFICATION/LICENSE NO. 2002013942

4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042

314-656-4566 · 866-250-3679

www.cecinc.com

WALLIS COMPANIES

106 EAST WASHINGTON

CUBA, MO 65453

(636) 549-1600

SITE DEVELOPMENT PLAN

MOBIL ON THE RUN & BRITE WORK

EXISTING CONDITIONS PLAN

DRAWING NO. C100

SHEET 02 OF 05

DATE: AUG. 2016

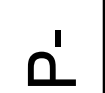
DRAWN BY: CAC

DWG SCALE: AS NOTED

CHECKED BY: KTK

PROJECT NO: 110-241

APPROVED BY: KTK

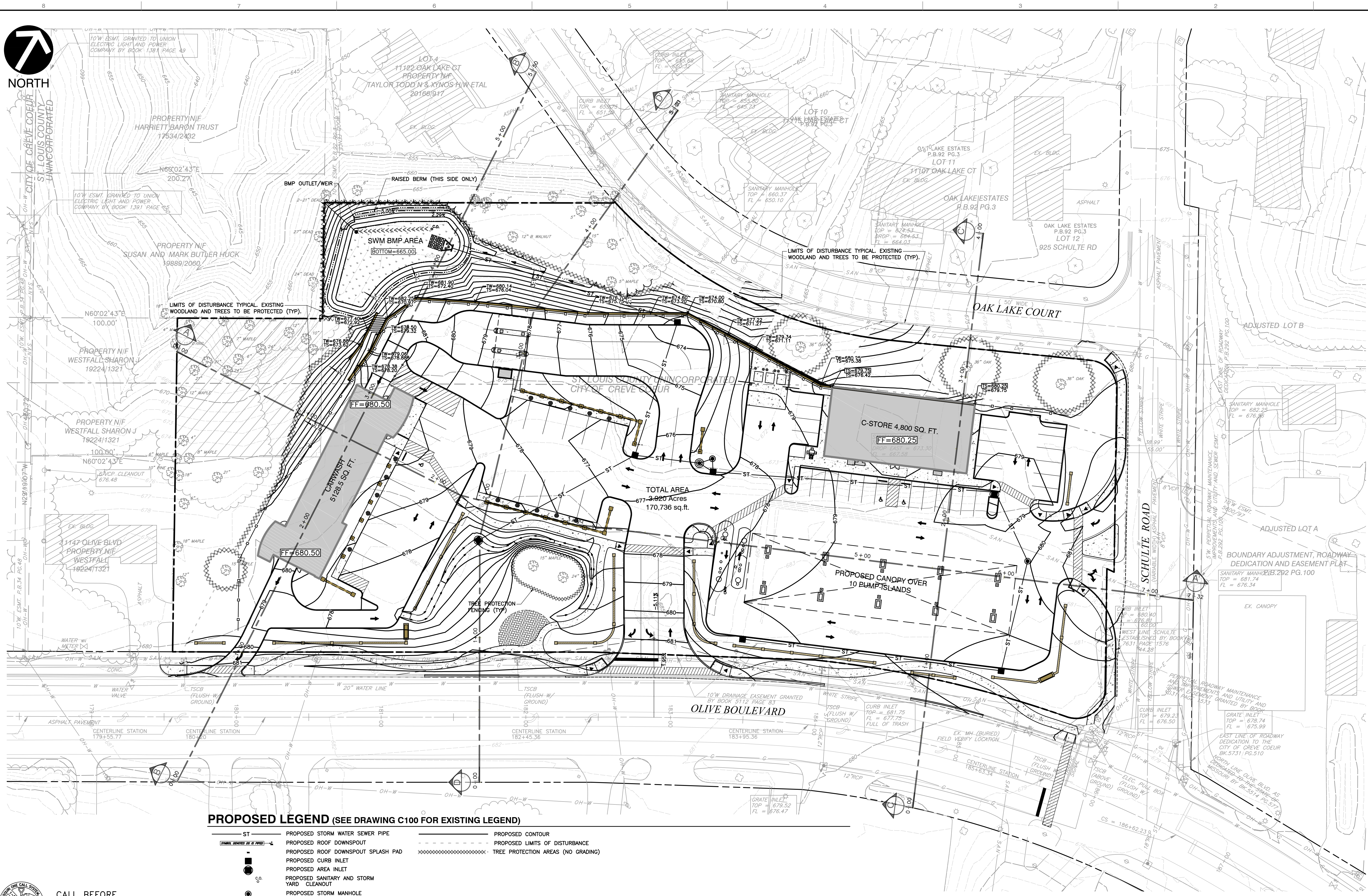


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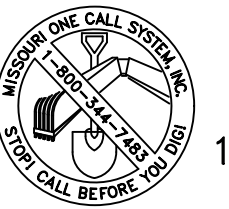


CITY OF CREVE COEUR
ST. LOUIS COUNTY
UNINCORPORATED



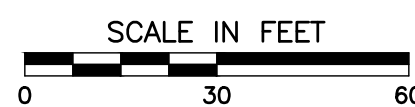
PROPOSED LEGEND (SEE DRAWING C100 FOR EXISTING LEGEND)

- | | | |
|---|--|------------------------------------|
| ST | PROPOSED STORM WATER SEWER PIPE | PROPOSED CONTOUR |
| PROPOSED ROOF DOWNSPOUT | PROPOSED ROOF DOWNSPOUT SPLASH PAD | PROPOSED LIMITS OF DISTURBANCE |
| PROPOSED CURB INLET | PROPOSED AREA INLET | TREE PROTECTION AREAS (NO GRADING) |
| PROPOSED SANITARY AND STORM YARD CLEANOUT | PROPOSED STORM MANHOLE | |
| GRASSY DRAINAGE FLAT BOTTOM SWALE | PROPOSED 6" TALL ARTISAN PRECAST MASONRY FENCE (OR APPROVED EQUAL) | |
| PROPOSED 4" TALL SCREEN WALL WITH COLUMNS | PROPOSED 2'-3" KNEE-WALL WITH 4" PILASTER | |
| PROPOSED FLUSH PAVEMENT WITH WALK | PROPOSED VARIABLE HEIGHT CURB (REVEAL FROM 6" TO 0") | |
| PROPOSED ADA ACCESSIBLE RAMP (5% < SLOPE < 8.33%) | | |



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- REFERENCE
- TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.



ZIP- 63146

MSD MAP# 17-N

P-

SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORX

GRADING PLAN

DRAWING NO. **C300**
SHEET 04 OF 05

DATE: AUG. 2016
DWN SCALE: AS NOTED
PROJECT NO: 110-241
APPROVED BY: KTK

CAC
KTK
110-241
KTK

WALLIS COMPANIES
106 EAST WASHINGTON
CUBA, MO 65453
(636) 549-1600

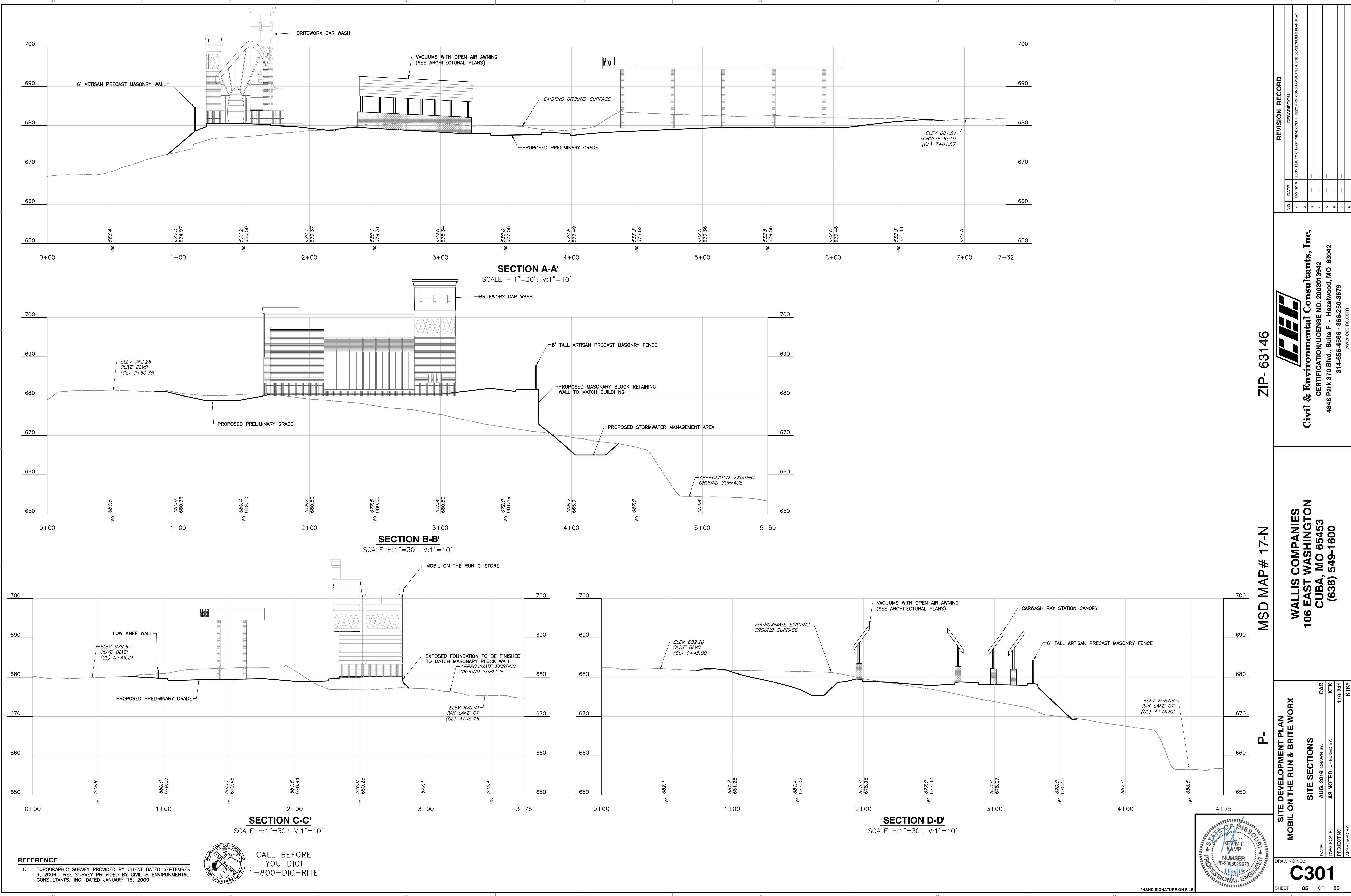


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4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042
314-656-4566 · 866-250-3679
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REVISION RECORD

NO.	DATE	DESCRIPTION
1	11/04/2016	SUBMITTAL TO CITY OF CREVE COEUR REGARDING CONDITIONAL USE & SITE DEVELOPMENT PLAN PLAT
2		
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\\SPR-STL01\GIS\Projects\2011\10-2411-C301\Drawings\CD\BriteWork_C-Stone\110241-C301.dwg - C-Stone - 11/4/2016 1:11 PM - LRP: 11/4/2016 1:11 PM

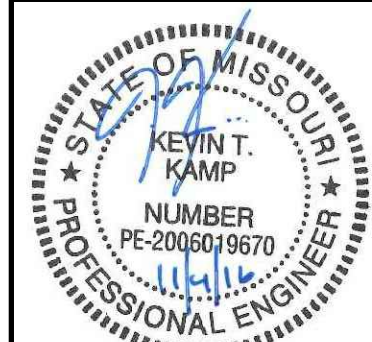


REFERENCE

1. TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2009. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.



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REVISION RECORD

NO.	DATE	DESCRIPTION
1	11/04/2016	SUBMITTAL TO CITY OF CREVE COEUR REGIONAL, CONDITIONAL USE & SITE DEVELOPMENT PLAN, PLAT
2		
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4		
5		
6		
7		
8		

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WALLIS COMPANIES
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CUBA, MO 65453
(636) 549-1600

SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORK

SITE SECTIONS

DATE:	AUG. 2016	DRAWN BY:	CAC
DWG SCALE: <td>AS NOTED<td>CHECKED BY:<th>KTK</th></td></td>	AS NOTED <td>CHECKED BY:<th>KTK</th></td>	CHECKED BY: <th>KTK</th>	KTK
PROJECT NO: <td>110-241<td>APPROVED BY:<th>KTK</th></td></td>	110-241 <td>APPROVED BY:<th>KTK</th></td>	APPROVED BY: <th>KTK</th>	KTK

DRAWING NO: **C301**

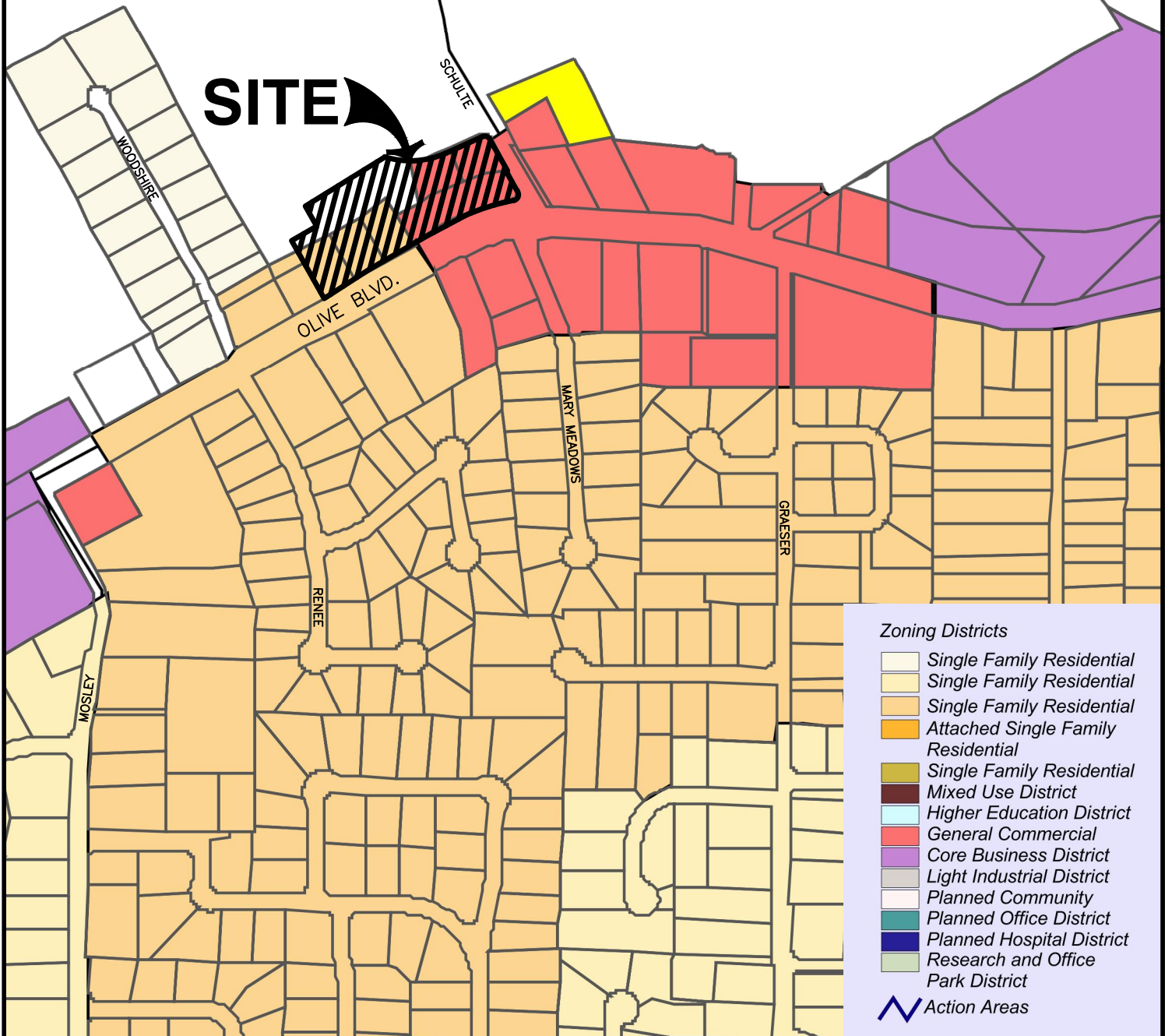
SHEET 05 OF 05

MSD MAP# 17-N

ZIP- 63146



SITE



REFERENCE

1. IMAGE DEPICTED COURTESY OF CREVE COEUR DEPARTMENT OF COMMUNITY DEVELOPMENT, GOVERNMENT CENTER, 300 N. NEW BALLAS ROAD, CREVE COEUR, MO 63141.

*HAND SIGNATURE ON FILE



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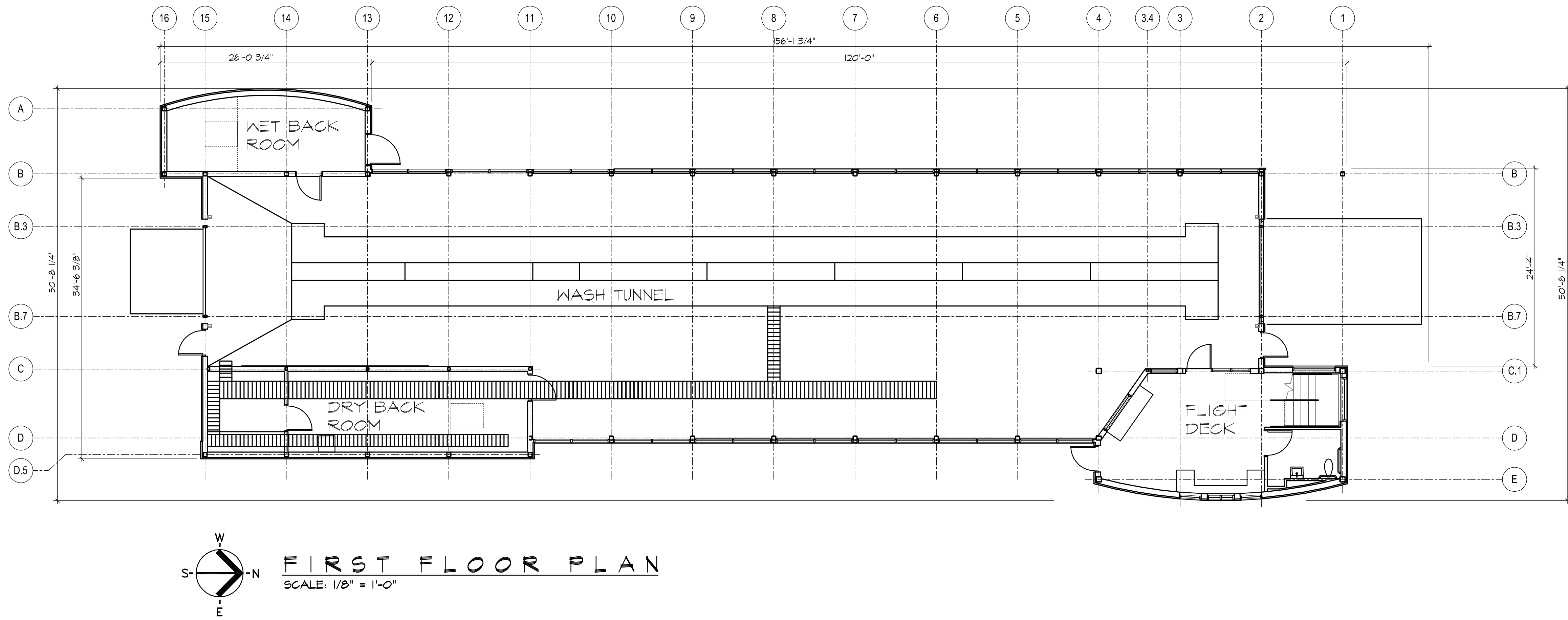
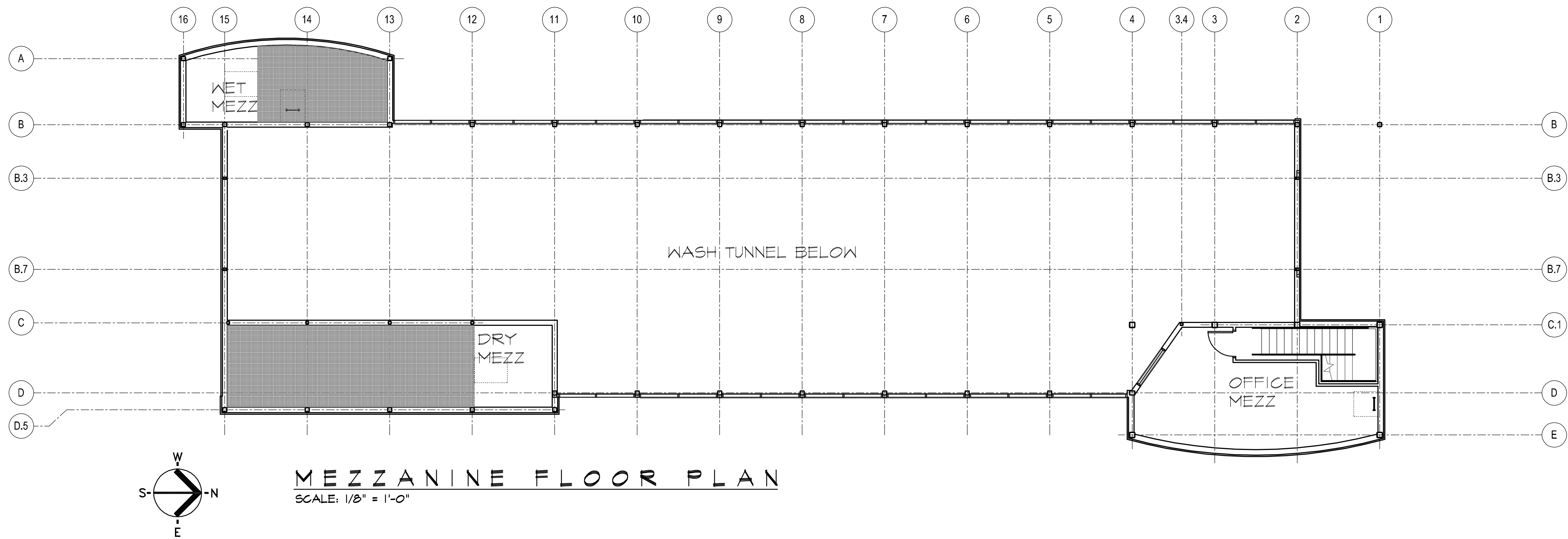
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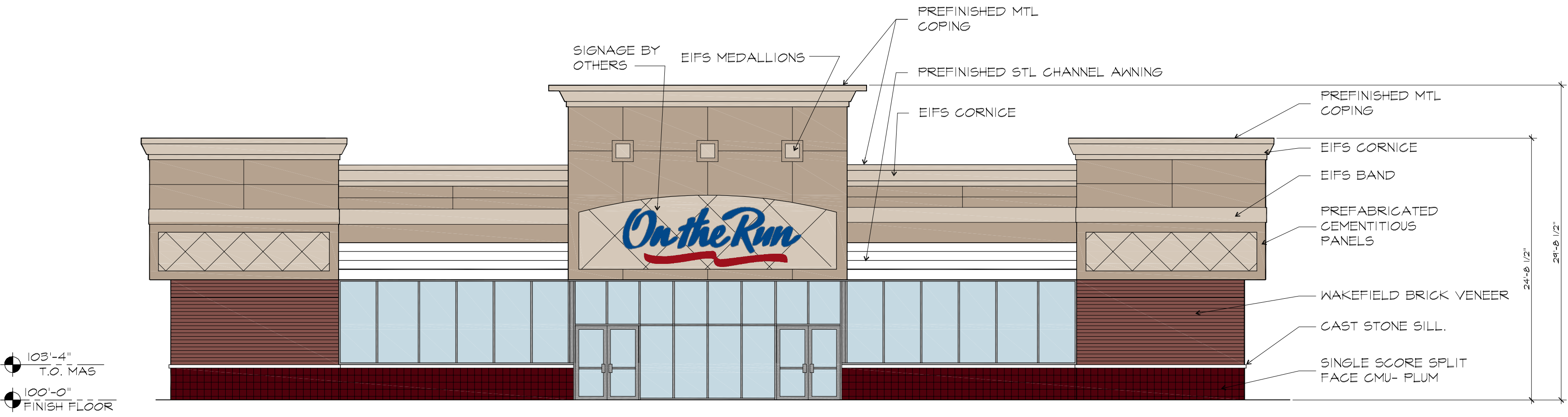
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**BRITE WORX/MOBIL ON THE RUN
ZONING MAP**

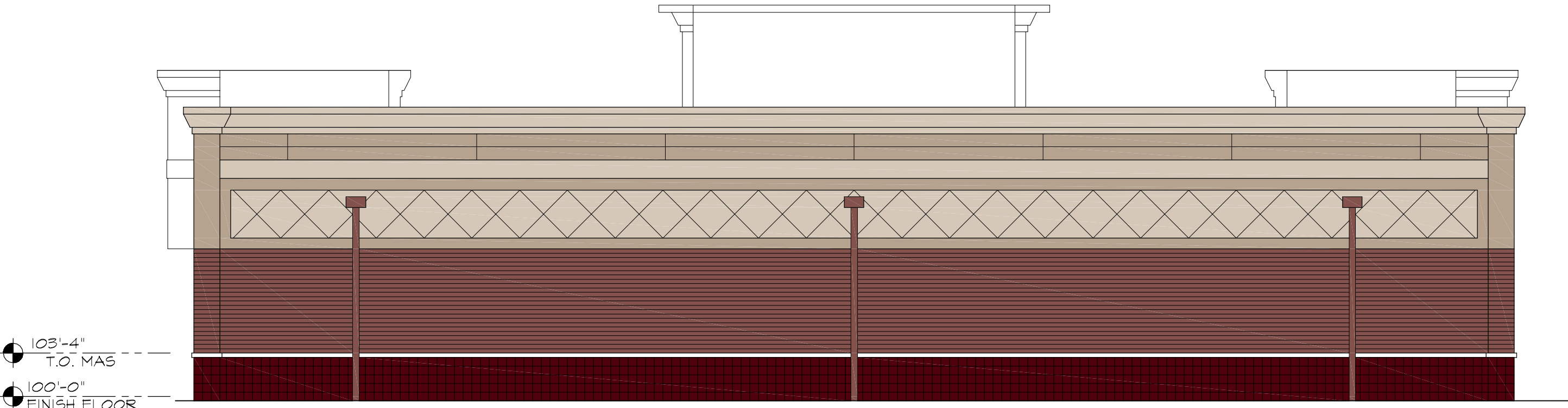
DRAWN BY:	MAK	CHECKED BY:	KTK	APPROVED BY:	KTK*	FIGURE NO.:
DATE:	NOV. 2016	DWG SCALE:	(NONE)	PROJECT NO:	110-241	1



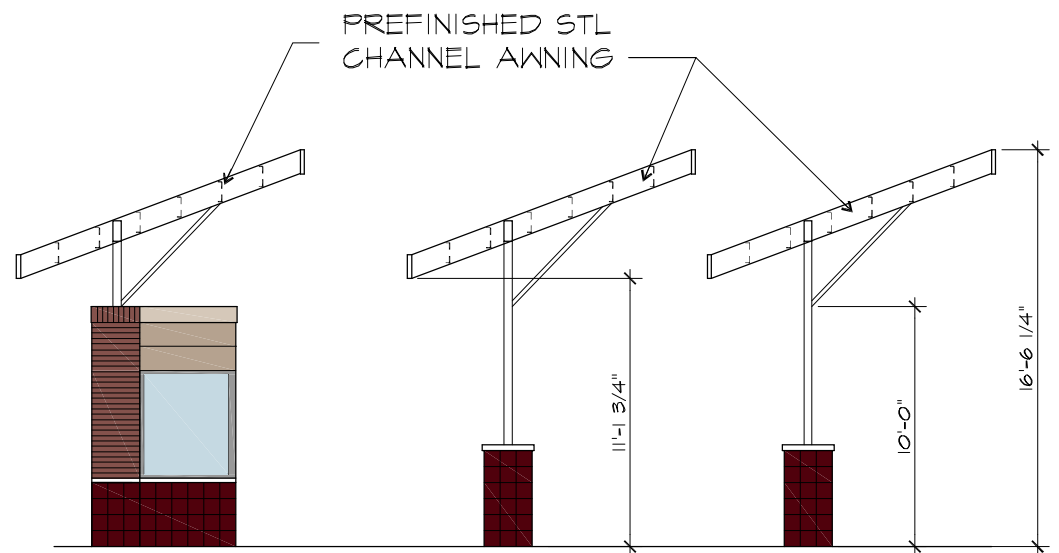
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DATE	11-4-16
DRAWN BY	JVF
CHECKED BY	SNM
REVISION	



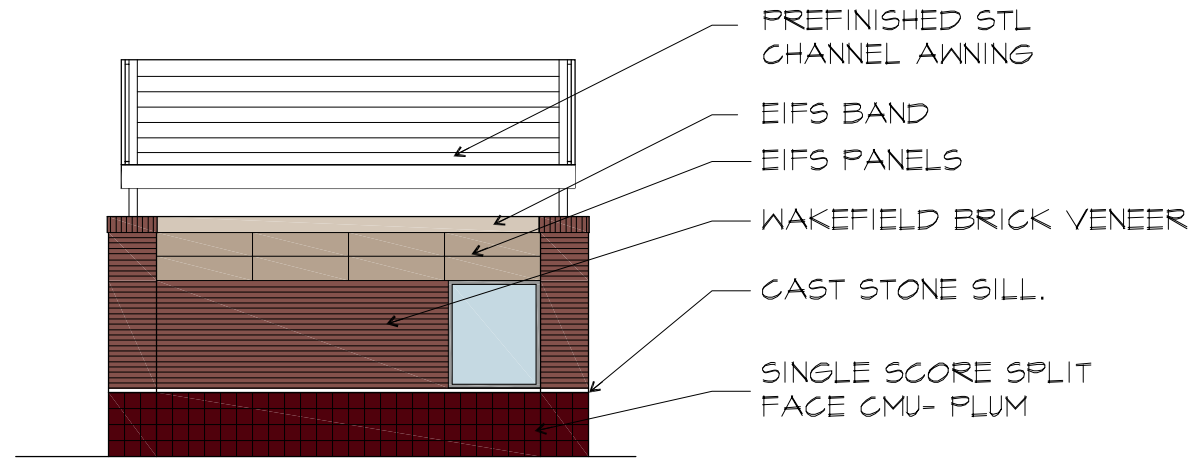
SOUTH ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



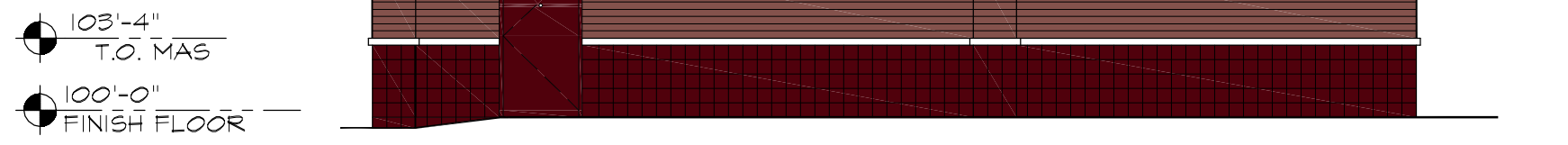
NORTH ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



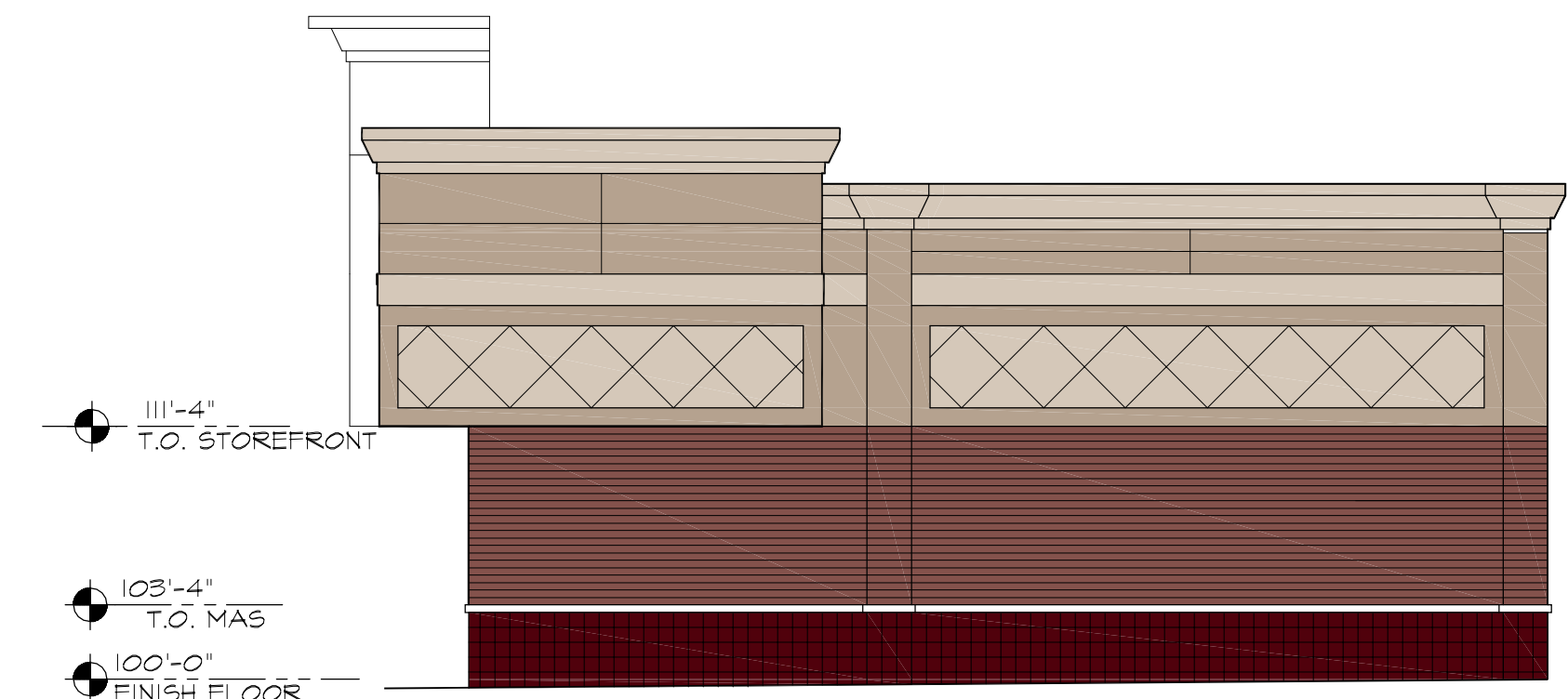
EAST ELEVATION- CW CANOPY
SCALE: 1/8" = 1'-0"



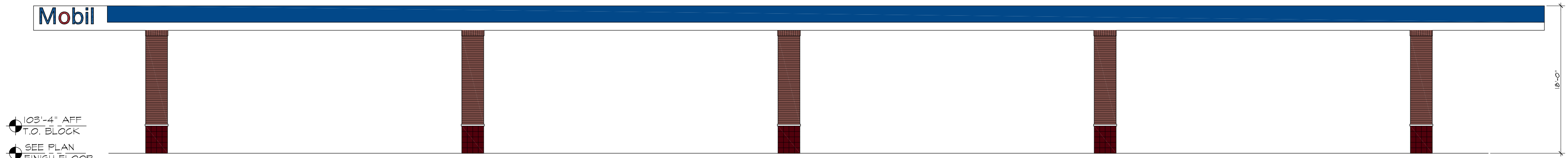
SOUTH ELEVATION- CW CANOPY
SCALE: 1/8" = 1'-0"



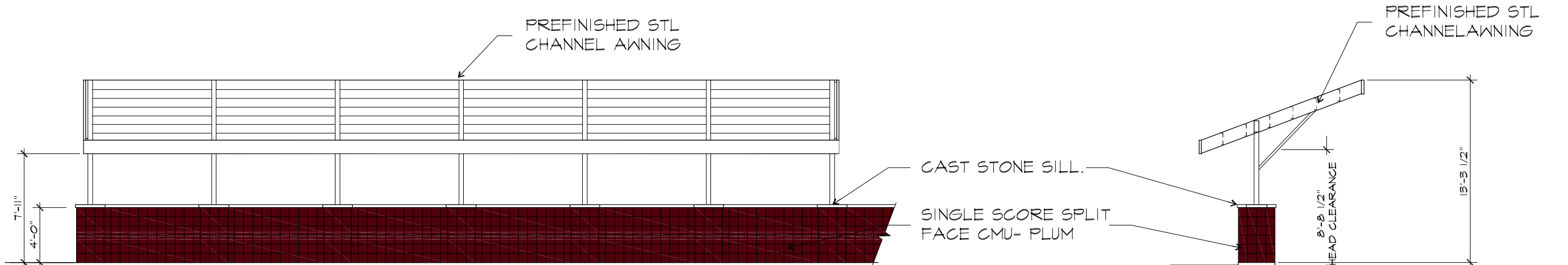
WEST ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



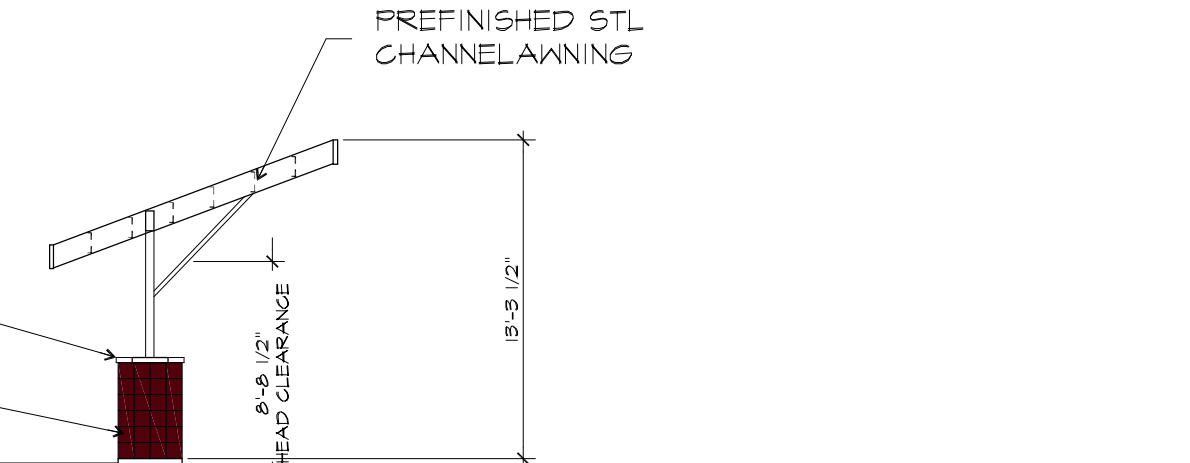
EAST ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



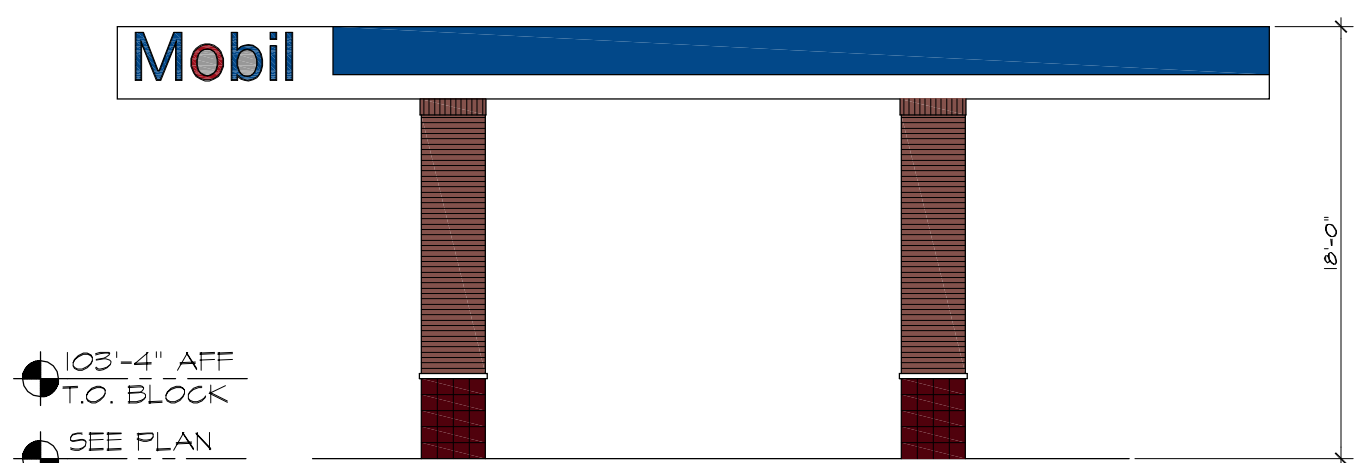
SOUTH ELEVATION FUEL CANOPY
SCALE: 1/8" = 1'-0"



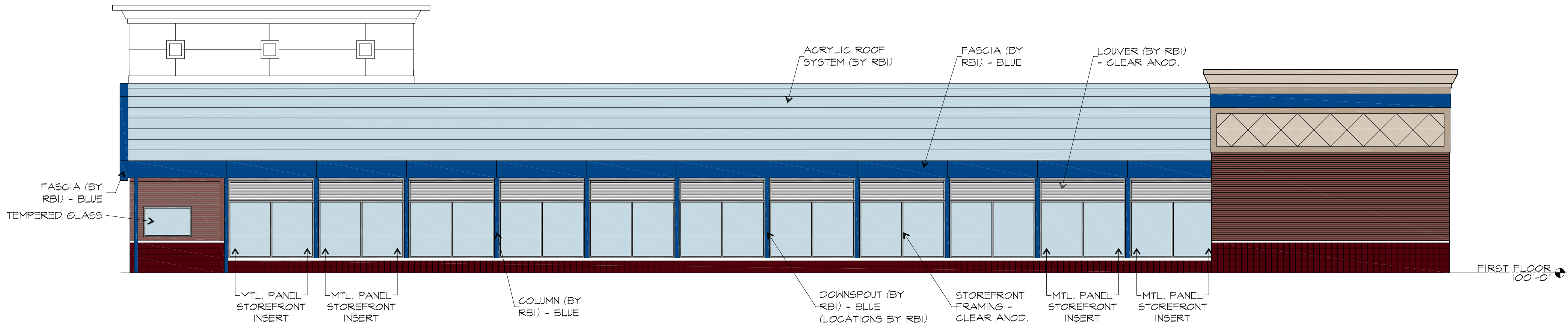
SOUTH ELEVATION- VACUUM SCREEN- CONNECTOR
SCALE: 1/8" = 1'-0"



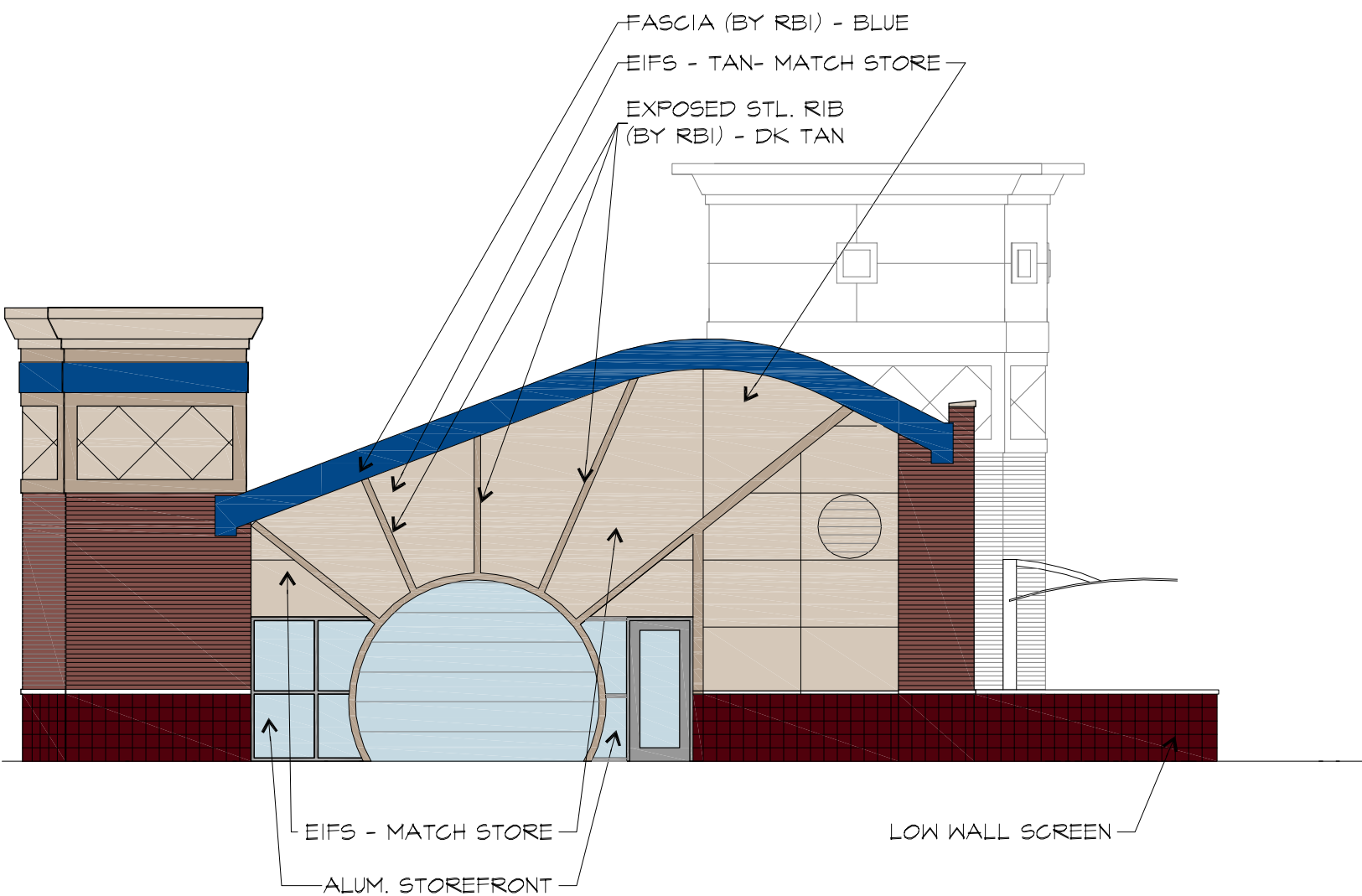
EAST ELEVATION VACUUM SCREEN
SCALE: 1/8" = 1'-0"



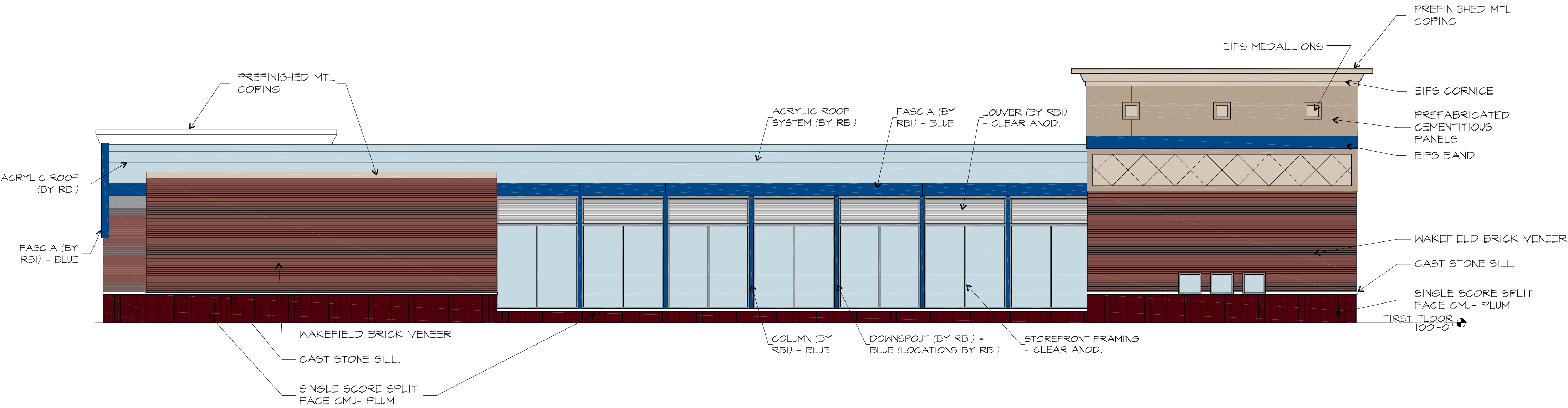
EAST ELEVATION FUEL CANOPY
SCALE: 1/8" = 1'-0"



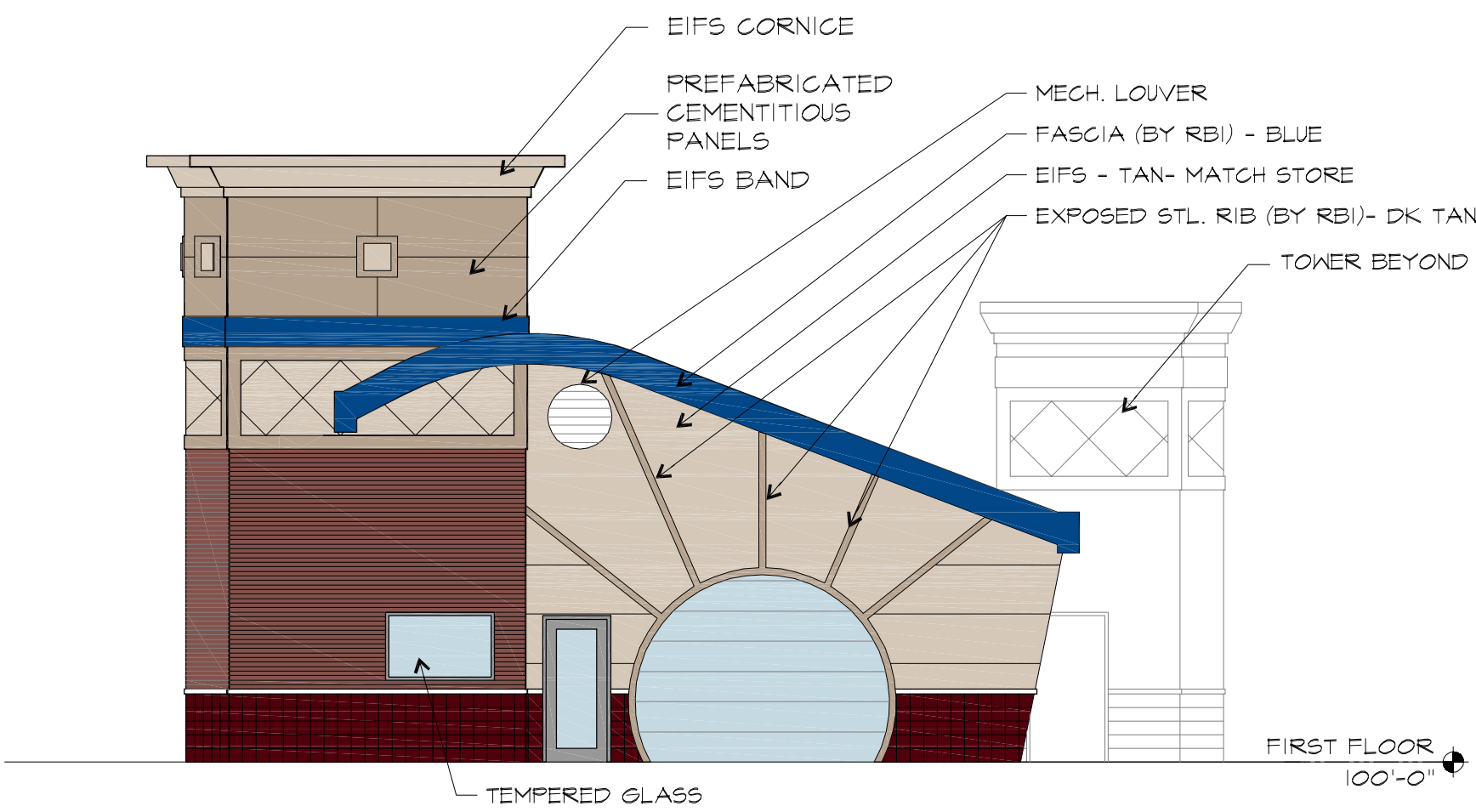
WEST ELEVATION
SCALE: 1/8" = 1'-0"



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



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



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

EXISTING TREES

74 TREES EXIST ON THE SITE
24 TREES 8" CAL AND LARGER WILL BE PRESERVED (32% OF EXISTING TREES) TO MEET THE 25% REQUIREMENTS OF THE TREE CONSERVATION ORDINANCE.
2 ADDITIONAL LARGE TREES (A 15" AND 24" MAPLE IN THE FRONT OF THE PROJECT) WILL HAVE PROTECTION ATTEMPTED (DEMO AROUND THESE TREES WILL BE PARTICULARLY DIFFICULT...IF THEY ARE REMOVED, THEY WILL BE REPLACED WITH 3" CAL SHADE TREES)
8 ADDITIONAL TREES (< 8" CAL SO NOT COUNTED IN THE TREE CONSERVATION ORDINANCE, BUT DO COUNT TOWARDS LANDSCAPING CREDITS) OF QUALITY NATIVE SPECIES (DOGWOOD, OAK, MAPLE, ETC) WILL ALSO BE PRESERVED
.34 ACRES OF UNDISTURBED WOODLAND UNDERSTORY WILL BE PRESERVED IN THE ROOT PROTECTION ZONES TO PRESERVE THE EXISTING DENSE VEGETATIVE SCREENING FOR THE ADJACENT RESIDENTIAL LOTS.

TOTAL TREES PROTECTED ON SITE = 34

EXISTING TREES TO BE PRESERVED WILL HAVE AN APPROXIMATE TREE ROOT PROTECTION AREA AS SHOWN.

FIELD ADJUSTMENT MAY BE NECESSARY FOR DEMO OF EXISTING STRUCTURES.

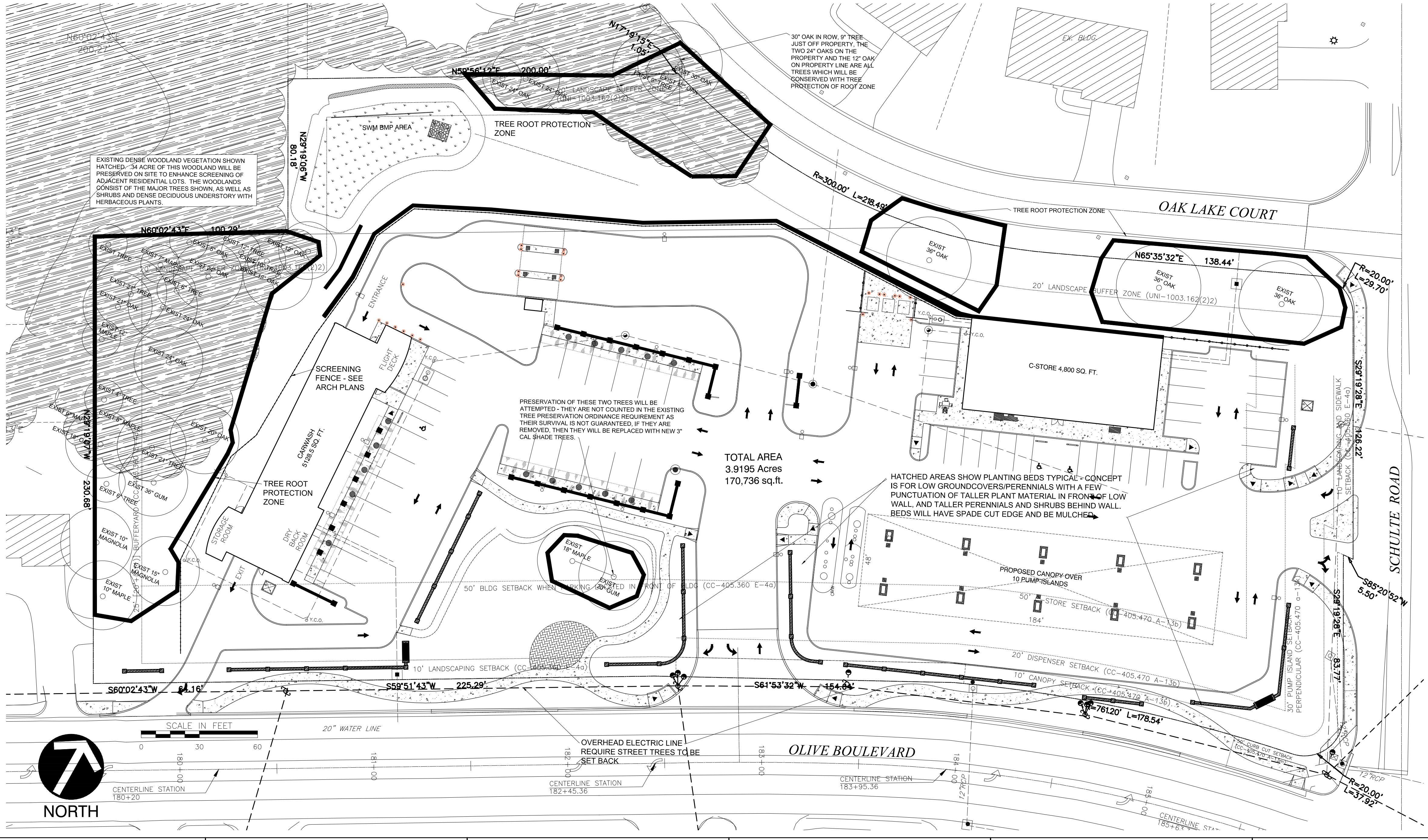
DEVELOPMENT NOTES

- TOTAL PARCEL AREA: 170,736 SQ.FT. (3.920 ACRES)
AREA WITHIN CITY LIMITS: 122,277 SQ.FT. (2.807 ACRES)
AREA WITHIN UNINCORPORATED: 48,459 SQ. FT. (1.113 ACRES)
- CURRENT ZONING (CC)– SINGLE FAMILY RESIDENTIAL & GENERAL COMMERCIAL
PROPOSED ZONING (CC)– GENERAL COMMERCIAL
CURRENT ZONING (UNI)– R3 (RESIDENCE) & C8 (PLANNED COMMERCIAL DISTRICT)
PROPOSED ZONING (UNI)– C8 (PLANNED COMMERCIAL DISTRICT)
- SETBACKS–
FRONT YARD/ROW (CC) 10 FEET OLIVE BLVD. (CC)
SIDE YARD (CC) 0 FEET SCHULTE ROAD (IN LIEU OF ROW GIVEN TO COUNTY)
SIDE YARD (UNI) 12 FEET
REAR YARD (UNI) 10 FEET
BUFFER YARD 15 FEET (NORTH PROPERTY LINE)
"BUFFER YARD @ 20FT + (5 X 1) = 25 FEET
BUILDING HEIGHT 25 FEET [SEC 405.360 E-4d]* WITH FENCE FOR DRIVE THRU SCREENING
NOTE: ALL PROPOSED BUILDINGS TO BE 1 STORY IN HEIGHT
- SPECIAL CONSIDERATIONS–
4.1. TRASH ENCLOSURES SHALL BE INTERIOR TO THE SITE AND NOT ALONG THE NORTH PROPERTY LINE
4.2. SIDEWALKS ALONG OLIVE BLVD. SHALL BE FIVE-FOOT IN WIDTH UNLESS ABUTTING CURB, IN WHICH CASE SHALL BE INCREASED TO SIX-FOOT WIDE.
4.3. PLAN SHALL BE SO DEVELOPED TO INCLUDE AN INTEGRATED PEDESTRIAN CIRCULATION SYSTEM.
- FIRE DISTRICT: CREVE COEUR
- FLOOD NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE CITY OF CREVE COEUR, MISSOURI (COMMUNITY PANEL NUMBER 290344 0166 H, EFFECTIVE DATE AUGUST 2, 1995), AND THE FLOOD INSURANCE RATE MAP OF ST. LOUIS COUNTY, MISSOURI (UNINCORPORATED AREAS) (COMMUNITY PANEL NUMBER 290327 0166 H, EFFECTIVE DATE AUGUST 2, 1995) THIS PROPERTY LIES WITHIN ZONE X. ZONE X IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD.
- ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND,
- TRASH ENCLOSURES SHALL BE SIX FOOT (6') IN HEIGHT AND SHALL BE CONSTRUCTED W/ A SIGHT-PROOF GATE; MATERIALS SHALL BE COMPATIBLE WITH THE ARCHITECTURE OF MAIN BUILDINGS AND OF SIMILAR MATERIALS.
- STACKING: GENERAL STANDARDS
9.1. DRIVE-THROUGH STACKING LANES SHALL HAVE A MINIMUM WIDTH OF TWELVE FEET.
9.2. STACKING LANES SHALL BE SET BACK 20 FEET FROM RESIDENTIALLY ZONED PROPERTY LINES.
9.3. AUDIBLE ELECTRONIC DEVICES SUCH AS LOUDSPEAKERS, AUTOMOBILE SERVICE ORDER DEVICES, AND SIMILAR INSTRUMENTS SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY RESIDENTIAL PROPERTY LINE.
9.4. ALL DRIVE-THROUGH AREAS, INCLUDING BUT NOT LIMITED TO MENU BOARDS, STACKING LANES, TRASH RECEPTACLES, LOUDSPEAKERS, DRIVE UP WINDOWS, AND OTHER OBJECTS ASSOCIATED WITH THE DRIVE-THROUGH AREA SHALL BE LOCATED IN THE SIDE OR REAR YARD OF A PROPERTY, AND SHALL NOT CROSS, INTERFERE WITH, OR IMPEDE ANY PUBLIC RIGHT-OF-WAY.
- CROSS-ACCESS TO BE ESTABLISHED BY PLAT.

PARKING CALCULATIONS:
CREVE COEUR
REQUIRED = GENERAL RETAIL @ 4 PER 1,000 SQ.FT. = 19.2
UNINCORPORATED-
REQUIRED = CARWASH @ 1/BAY + 5 STACKING PER BAY = 20
= FOOD MARKET @ 3-1/3 PER 1,000 SQ.FT. = 15.9
PROVIDED = 27 STACKING
= 30 SPACES INCLUSIVE OF 2 ACCESSIBLE SPACES

SITE CALCULATIONS 170,736 SQ.FT.:	
AREA CREVE COEUR	= 122,277 SQ.FT.
GREENSPACE (CC)	= 45,466.5
IMPERVIOUS (CC)	= 76,810.5 (62.8%)
AREA UNINCORPORATED = 48,459 SQ. FT. (1.109 ACRES)	
GREENSPACE (UNI)	= 38,826
IMPERVIOUS (CC)	= 9,633 (19.9%)
TOTAL GREENSPACE = 84,292.5 (49.4%)	
TOTAL IMPERVIOUS = 86,433.5 (50.6%)	
RATIO OF FLOOR TO SITE IN SQ.FT. (FAR)	
1:17.2 (1 SQ.FT. OF FLOOR SPACE TO 17.2 SQ.FT. OF PARCEL AREA)	

TREE SURVEY AND PRESERVATION PLAN preliminary



Civil & Environmental Consultants, Inc.
CERTIFICATION/LICENSE NO. 2002013942
4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042
314-656-4566 • 866-250-3679
www.ccecinc.com



PLANNED COMMERCIAL DEVELOPMENT		MFD	
BRITE WORX CARWASHERY		DRAFT	
MOBIL ON THE RUN		110-241	
WALLIS COMPANIES		DRAFT	
DATE:	NOV 2016	DRAWN BY:	
DWG SCALE:	1"=30'	CHECKED BY:	
PROJECT NO:		APPROVED BY:	
DRAWING NO.:	LA 01		
SHEET	1	OF	2

TREES

EXISTING TREES - 72 TREES EXIST ON THE SITE -18 WILL BE PRESERVED

STREET TREES ALONG OLIVE - OVERHEAD UTILITIES OBSTRUCT THE PLACEMENT OF STREET TREES ALONG THIS ENTIRE FRONTAGE
2 OF THE EXISTING LARGE SHADE TREES, 1 NEW LARGE SHADE TREES, 2 NEW FLOWERING TREES AND 13 COLUMNAR DECIDUOUS TREES WILL BE PROVIDED ALONG THIS STREET IN LOCATIONS THAT CAN BE SET BACK FROM THE UTILITY INTERFERENCE.

STREET TREES ALONG SCHULTE - OVERHEAD UTILITIES OBSTRUCT THE PLACEMENT OF STREET TREES ALONG THIS FRONTAGE
EXCEPT AT THE VERY NORTH END WHICH CAN ACCOMMODATE 2 STREET TREES. AN ADDITIONAL 2 LARGE SHADE TREES WILL BE PROVIDED ALONG THIS STREET IN LOCATIONS THAT CAN BE SET BACK FROM THE UTILITY INTERFERENCE AND NOT OBSTRUCT THE SIGHT TRIANGLE OF THE INTERSECTION.

PARKING LOT TREES - 12 PARKING LOT TREES ARE REQUIRED FOR THE PROPOSED LINEAL FEET OF PARKING AND VACUUM SPACES
10 LARGE DECIDUOUS TREES 2 FLOWERING TREES ARE PROVIDED TO MEET THIS REQUIREMENT

14 ADDITIONAL TREES (A MIX OF SHADE TREES, FLOWERING TREES AND EVERGREEN TREES) WILL BE PROVIDED IN THE GREEN SPACE TO THE NORTH AND WEST OF THE PROPERTY FOR RESIDENTIAL BUFFER.

TOTAL PROPOSED TREES = 46 NEW TREES AND 34 EXISTING TREES = 80

- NOTES:
- 1. ALL LANDSCAPE AREAS WITHIN GRADING LIMITS TO BE IRRIGATED.
 - 2. ALL GREENSPACE AREAS OUTSIDE OF MULCHED LANDSCAPE BEDS TO BE SODDED TURF.

PLANTING CONCEPT

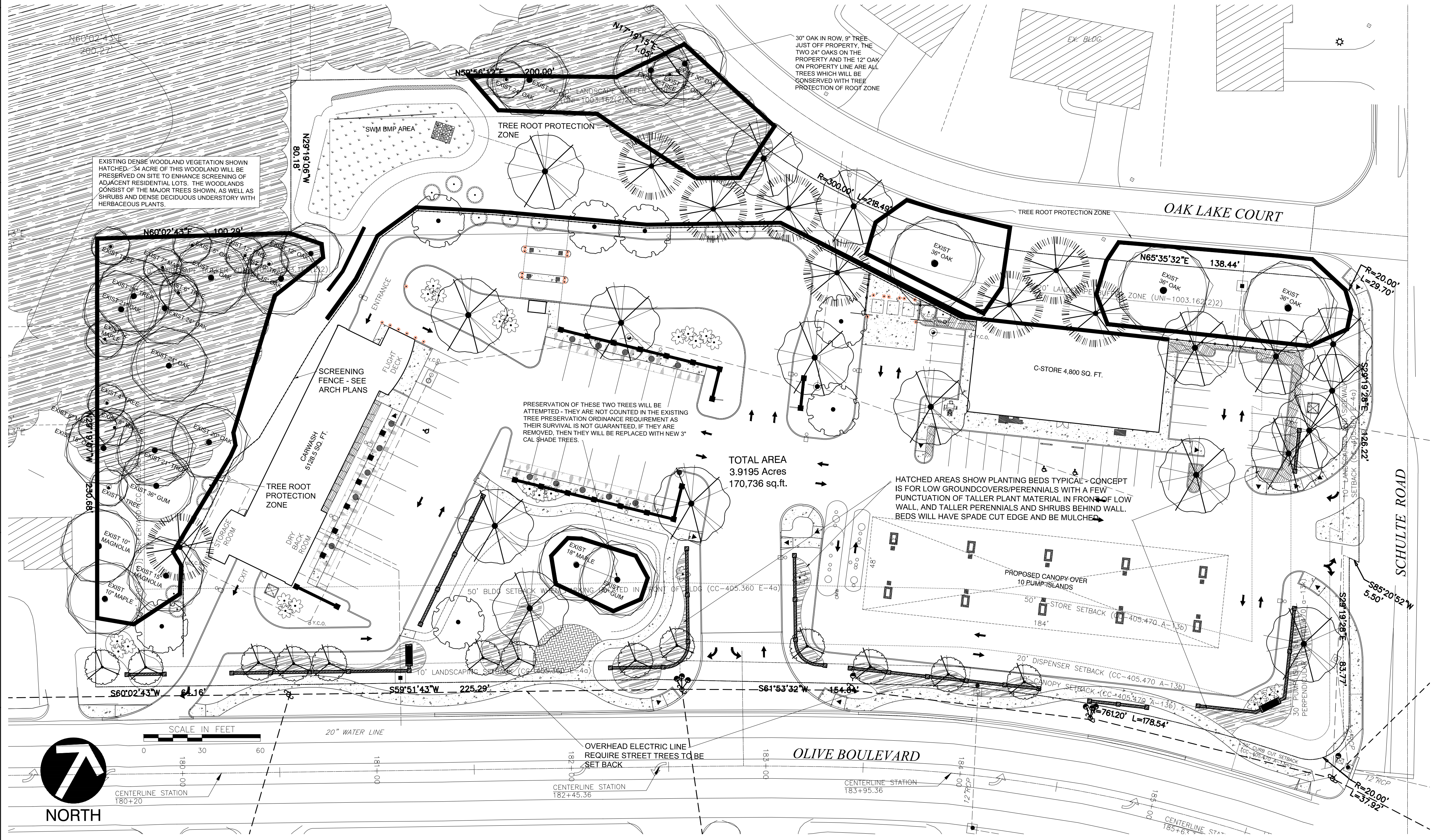
OLIVE AND SCHULTE SIDES: THE MAIN LANDSCAPE TREATMENT IS THE ORNAMENTAL KNEE WALL. THIS WALL IS ACCENTED WITH VERY LOW GROUNDCOVER BEDS IN FRONT AND PUNCTUATED WITH TALLER FLOWERING SHRUBS ON THE BACKSIDE WHICH WILL BE TALLER THAN THE WALL CREATING A MODULATING LAYERED LOOK WHICH ENHANCES THE WALL WITHOUT OBSCURING IT. IN THE FRONT PLAZA AREA, THE EXISTING TREES GIVE INSTANT VEGETATIVE MASS AND ARE SUPPLEMENTED WITH A GARDEN STYLE LANDSCAPE OF FLOWERING TREES, SHRUBS AND PERENNIAL FLOWERS. ON THE NORTH AND WEST MANY LARGE EXISTING TREES ARE PRESERVED AS AN IMMEDIATE BUFFER TO THE RESIDENTIAL AREA, AND MANY ADDITIONAL EVERGREENS AND SOME DECIDUOUS TREES ARE PROPOSED FOR FURTHER SCREENING.

ALL OTHER INFORMATION BESIDES THE PROPOSED PLANTINGS ARE SHOWN FOR REFERENCE ONLY. CONSULT THE SITE DEVELOPMENT PLAN, CIVIL, AND ARCHITECTURAL PLANS FOR CONFIRMATION OF ALL HARDSCAPE ELEMENTS.

DEVELOPMENT NOTES

1. TOTAL PARCEL AREA: 170,736 SQ.FT. (3.920 ACRES)
AREA WITHIN CITY LIMITS: 122,277 SQ.FT. (2.807 ACRES)
AREA WITHIN UNINCORPORATED: 48,459 SQ. FT. (1.113 ACRES)
 2. CURRENT ZONING (CC)– SINGLE FAMILY RESIDENTIAL & GENERAL COMMERCIAL
PROPOSED ZONING (CC)– GENERAL COMMERCIAL
CURRENT ZONING (UNI)– R3 (RESIDENCE) & C8 (PLANNED COMMERCIAL DISTRICT)
PROPOSED ZONING (UNI)– C8 (PLANNED COMMERCIAL DISTRICT)
 3. SETBACKS–
FRONT YARD/ROW (CC) 10 FEET OLIVE BLVD. (CC)
SIDE YARD (CC) 0 FEET SCHULTE ROAD (IN LIEU OF ROW GIVEN TO COUNTY)
SIDE YARD (UNI) 12 FEET
REAR YARD (UNI) 10 FEET
BUFFER YARD 15 FEET (NORTH PROPERTY LINE)
"BUFFER YARD @ 20FT + (5 X 1) = 25 FEET
BUILDING HEIGHT 25 FEET [SEC 405.360 E-48]* WITH FENCE FOR DRIVE THRU SCREENING
NOTE: ALL PROPOSED BUILDINGS TO BE 1 STORY IN HEIGHT
 4. SPECIAL CONSIDERATIONS–
4.1. TRASH ENCLOSURES SHALL BE INTERIOR TO THE SITE AND NOT ALONG THE NORTH PROPERTY LINE
4.2. SIDEWALKS ALONG OLIVE BLVD. SHALL BE FIVE-FOOT IN WIDTH UNLESS ABUTTING CURB, IN WHICH CASE SHALL BE INCREASED TO SIX-FOOT WIDE.
4.3. PLAN SHALL BE SO DEVELOPED TO INCLUDE AN INTEGRATED PEDESTRIAN CIRCULATION SYSTEM.
 5. FIRE DISTRICT: CREVE COEUR
 6. FLOOD NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE CITY OF CREVE COEUR, MISSOURI (COMMUNITY PANEL NUMBER 290344 0166 H, EFFECTIVE DATE AUGUST 2, 1995), AND THE FLOOD INSURANCE RATE MAP OF ST. LOUIS COUNTY, MISSOURI (UNINCORPORATED AREAS) (COMMUNITY PANEL NUMBER 290327 0166 H, EFFECTIVE DATE AUGUST 2, 1995) THIS PROPERTY LIES WITHIN ZONE X. ZONE X IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD.
 7. ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND,
 8. TRASH ENCLOSURES SHALL BE SIX FOOT (6') IN HEIGHT AND SHALL BE CONSTRUCTED W/ A SIGHT-PROOF GATE; MATERIALS SHALL BE COMPATIBLE WITH THE ARCHITECTURE OF MAIN BUILDINGS AND OF SIMILAR MATERIALS.
 9. STACKING: GENERAL STANDARDS
9.1. DRIVE-THROUGH STACKING LANES SHALL HAVE A MINIMUM WIDTH OF TWELVE FEET.
9.2. STACKING LANES SHALL BE SET BACK 20 FEET FROM RESIDENTIALLY ZONED PROPERTY LINES.
9.3. AUDIBLE ELECTRONIC DEVICES SUCH AS LOUDSPEAKERS, AUTOMOBILE SERVICE ORDER DEVICES, AND SIMILAR INSTRUMENTS SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY RESIDENTIAL PROPERTY LINE.
9.4. ALL DRIVE-THROUGH AREAS, INCLUDING BUT NOT LIMITED TO MENU BOARDS, STACKING LANES, TRASH RECEPTACLES, LOUDSPEAKERS, DRIVE UP WINDOWS, AND OTHER OBJECTS ASSOCIATED WITH THE DRIVE-THROUGH AREA SHALL BE LOCATED IN THE SIDE OR REAR YARD OF A PROPERTY, AND SHALL NOT CROSS, INTERFERE WITH, OR IMPEDE ANY PUBLIC RIGHT-OF-WAY.
 10. CROSS-ACCESS TO BE ESTABLISHED BY PLAT.
- PARKING CALCULATIONS:
CREVE COEUR
REQUIRED = GENERAL RETAIL @ 4 PER 1,000 SQ.FT. = 19.2
UNINCORPORATED-
REQUIRED = CARWASH @ 1/BAY + 5 STACKING PER BAY = 20
= FOOD MARKET @ 3-1/3 PER 1,000 SQ.FT. = 15.9
PROVIDED = 27 STACKING
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RATIO OF FLOOR TO SITE IN SQ.FT. (FAR) 1:17.2 (1 SQ.FT. OF FLOOR SPACE TO 17.2 SQ.FT. OF PARCEL AREA)

CONCEPT LANDSCAPE PLAN preliminary



CONCEPT_PLANT_SCHEDULE

- 16 LARGE DECIDUOUS TREE
TYPICAL LARGE SHADE TREE SUCH AS MAPLE, HONEYLOCUST, GINKGO, YELLOWWOOD, ETC. INSTALLED AT 2.5-3" CAL INITIAL SIZE.
- 7 SMALL FLOWERING DECIDUOUS TREE
ORNAMENTAL SMALL TREE SUCH AS MULTISTEM REDBUD, FRINGE TREE OR DOGWOOD INSTALLED AT 6' TALL INITIAL SIZE.
- 6 EVERGREEN TREE
LARGE EVERGREEN TREES SUCH AS WHITE PINE, NORWAY SPRUCE AND SERBIAN SPRUCE, INSTALLED AT 6-7' TALL INITIAL SIZE
- 13 COLUMNAR DECIDUOUS TREE
COLUMNAR FORM OF DECIDUOUS SHADE TREES SUCH AS MAPLE, GINKGO OR OAK, THESE STAY NARROW LIKE A COLUMN. INSTALLED AT A 2.5-3" CALIPER INITIAL SIZE
- 34 EXISTING TREE TO REMAIN
THE EXISTING TREES TO BE PRESERVED INCLUDE VARIOUS DECIDUOUS SPECIES AND SOME EVERGREEN SPECIES AS SHOWN ON THE PLAN. THEY RANGE IN SIZE FROM 8" CAL. TO 36" CAL. IN SIZE.
- 15 LARGE EVERGREEN SHRUBS
MATURE AT 20-25' TALL, SLOWER GROWING AND DENSER THAN LARGER EVERGREEN TREES AT MATURITY. 4-5' TALL INITIAL PLANTING SIZE (LARGER INITIAL PLANTING SIZE NOT AVAIL. DUE TO SLOW GROWING NATURE OF THIS TYPE OF EVERGREEN) EXAMPLES INCLUDE KETELEER UPRIGHT JUNIPER AND OAKLEAF HOLLY.
- 27 LARGE FLOWERING SHRUBS
LARGE ORNAMENTAL FLOWERING SHRUBS SUCH AS VIBURNUM, CREPE MYRTLE AND THE LARGE HYDRANGEA (LIMELIGHT)
- 3,175 sf ORNAMENTAL LANDSCAPE
PERENNIAL FLOWERS, LOW SHRUBS, ORNAMENTAL GRASSES AND GROUNDCOVER MIX FOR ORNAMENTATION.

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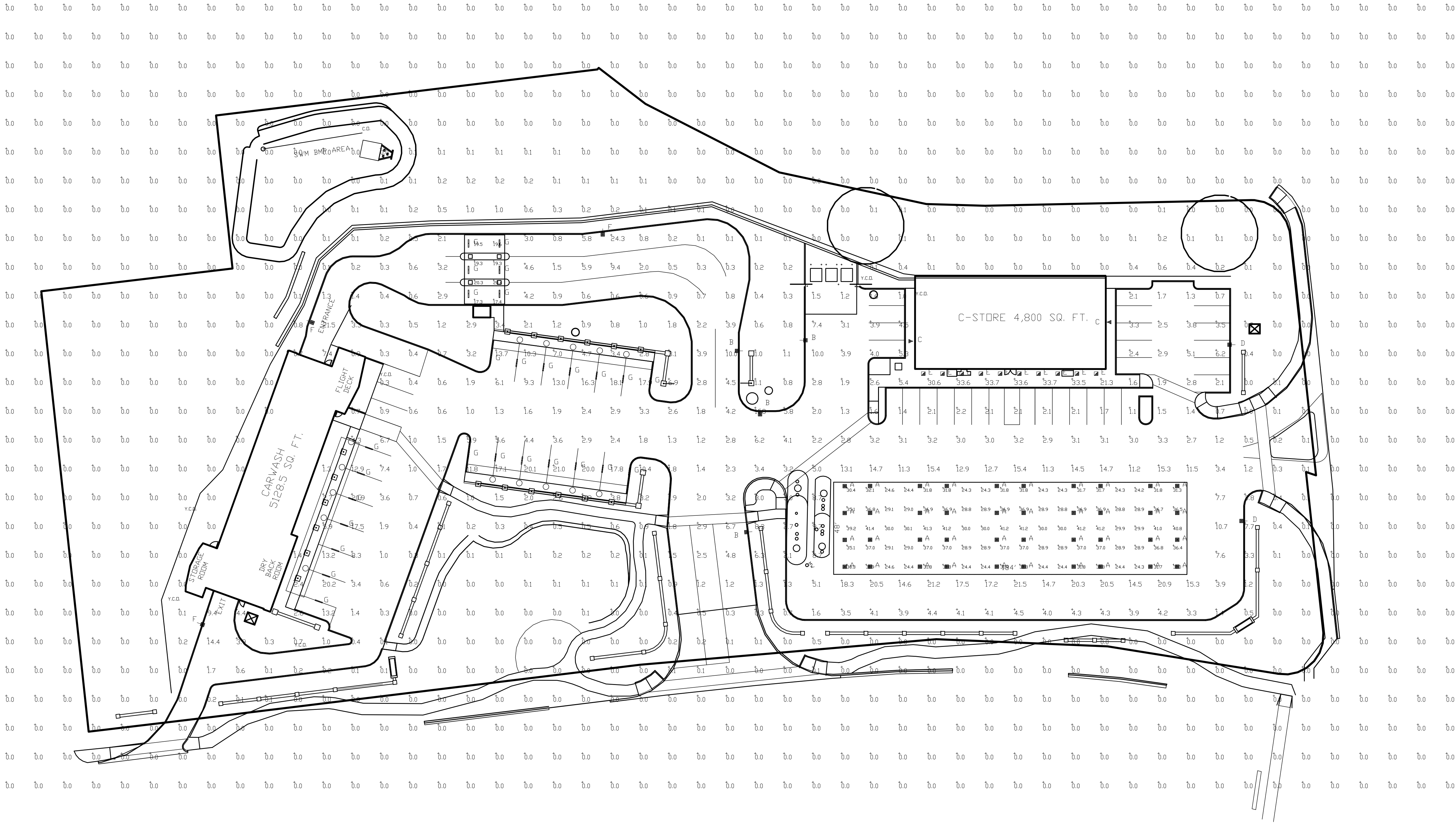
PLANNED COMMERCIAL DEVELOPMENT
BRITE WORX CARWASHERY
MOBIL ON THE RUN
WALLIS COMPANIES

DRAWING NO.: **LA 02**

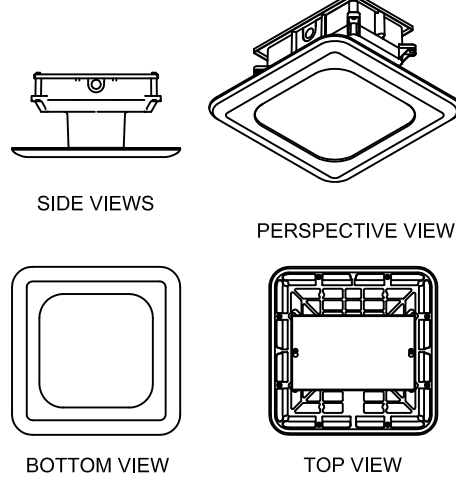
SHEET 1 OF 2

DATE: NOV 2016
DWG SCALE: 1"=30'
PROJECT NO.:
APPROVED BY:

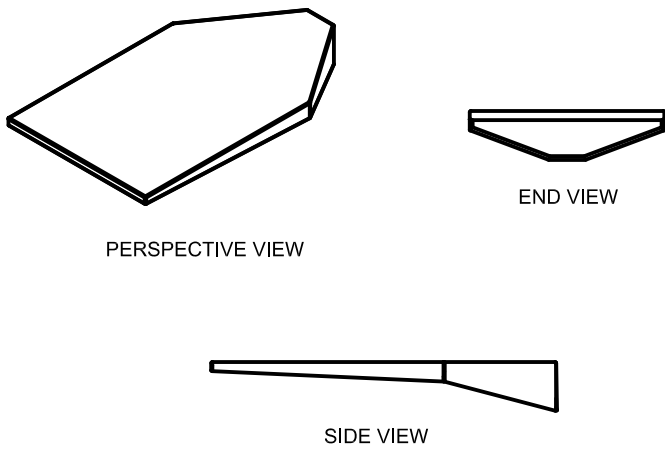
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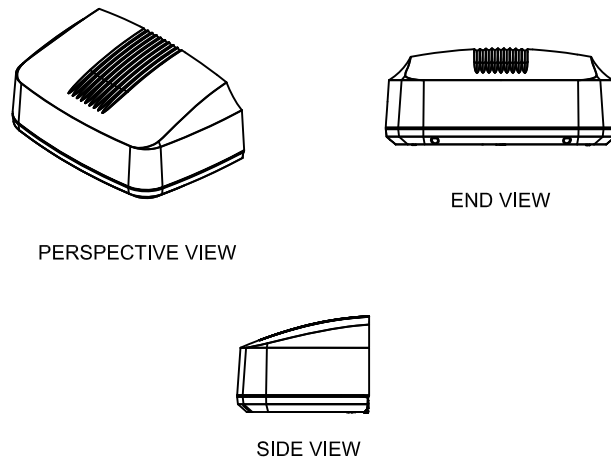
CRUS-SC-LED
LED CANOPY LIGHT - LEGACY



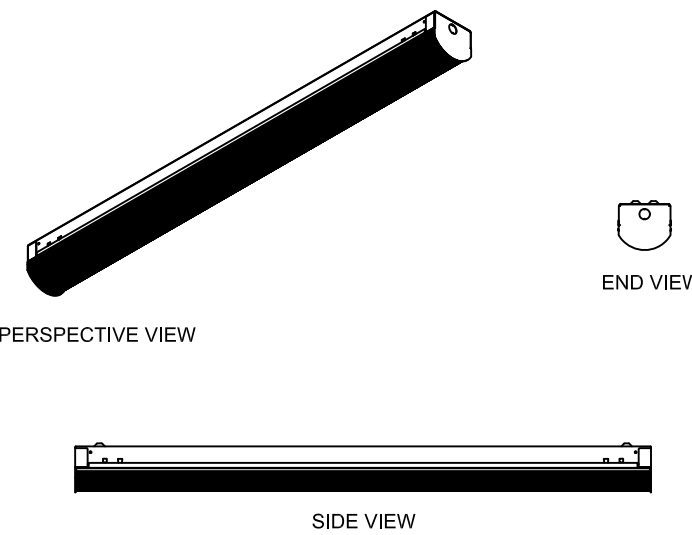
XLCS
LED Area Light



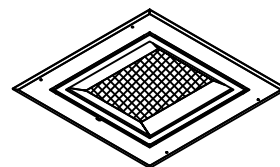
XPWS3
LED Wall Mount Light



SDL LED
LED Strip
Direct



XSL2-S-50
LED Soffit



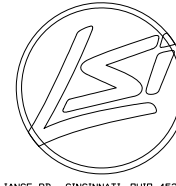
Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Description	LLF	Lumens/Lamp	Arr. Lum. Lumens	Arr. Watts
	40	A	SINGLE	CRUS-SC-LED-LW-CW-UE MTD @ 15' GAS, 10' PAY CANOPY	1.000	N.A.	10871	87.9
	4	B	SINGLE	XLCS-FT-LED-SS-CW-SINGLE-16'POLE+2'BASE	1.000	N.A.	11383	96.2
	2	C	SINGLE	XPWS3-FT-LED-48-350-CW-UE MTD @ 12'	1.000	N.A.	5094	55
	2	D	SINGLE	XLCS-FT-LED-SS-CW-HSS-SINGLE-16'POLE+2'BASE	1.000	N.A.	9099	95.8
	10	E	SINGLE	XSL2-S-LED-50-SS-CW MTD @ 10'	1.000	N.A.	6193	59.9
	3	F	SINGLE	XLCS-FT-LED-SS-CW-HSS-SINGLE-8' MT HGT	1.000	N.A.	9099	95.8
	27	G	SINGLE	SDL-4-LED-HD-CW	1.000	N.A.	5876	44

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	
ALL CALC POINTS	Illuminance	Fc	1.32	33.7	0.0	N.A.	N.A.	
GAS CANOPY	Illuminance	Fc	31.87	41.4	24.2	1.32	1.71	
PAY CANOPY	Illuminance	Fc	19.14	20.4	17.3	1.11	1.18	
INSIDE CURB	Illuminance	Fc	5.11	24.3	0.0	N.A.	N.A.	

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted.

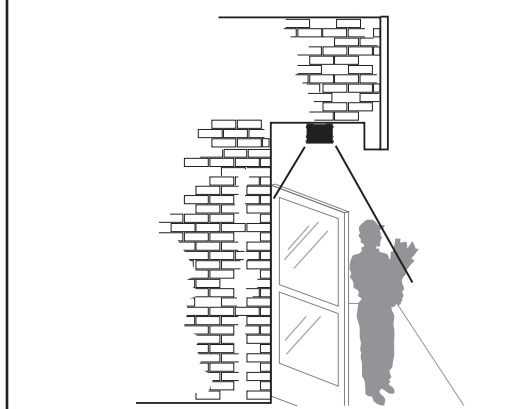
Total Project Watts
Total Watts = 6276.797



LED SOFFIT STRIP - LSS



TYPICAL APPLICATION



U.S. and international patents pending

APPLICATION - A complete continuous row building series of high performance, energy efficient LED illumination in an easy to install format. Designed for applications for storefront walkways and sidewalks.

LEDS - Select High-brightness LEDs. Available in 4100K (NW) and 5000K (CW). 70 CRI (nominal).

OPTICS - High efficiency, die formed, one piece reflectors provide a smooth and brilliant Symmetrical distribution.

LIGHT OUTPUT - Input power is 2.64 watts per foot. Cool White (CW) lumens per foot are 215. Neutral White (NW) lumens per foot are 180.

HOUSING - Die formed, non-corrosive aluminum, painted with several powder coat finish options.

POWER SUPPLY - 60w, 120-277V 50/60Hz. IP67 rated for use in wet, damp and dry locations.

OPERATING TEMPERATURE - -35°C to + 60°C (-31°F to +140°F)

INSTALLATION - Installs in continuous row or staggered applications designed to span entire soffit lengths.

EXPECTED LIFE - Projected life of 50,000 hours minimum.

WARRANTY - Limited 5-year warranty.

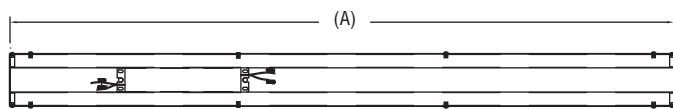
LISTING - ETL compliant to U.S. and Canadian safety standards. Suitable for wet locations.

PHOTOMETRICS - Application layouts are available upon request. Contact LSI Applications Group at lighting.apps@lsi-industries.com



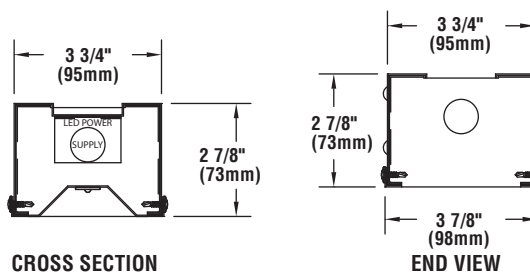
wet location

DIMENSIONS



Description	Dim "A"
4 ft. Soffit Housing	48" / 1220 mm
6 ft. Soffit Housing	72" / 1829 mm
8 Ft. Soffit Housing	96" / 2439 mm

Dimensions above are for determining overall length of individual sections. Specify total linear run length per individual straight run to insure proper power supply requirements. Standard maximum length of a single unit is 8 feet. All other specified lengths are combinations of 8 feet and below.



LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **LSS 4 LED CW UE**

Prefix	Total Linear Length Required (ft.) ¹	Light Source	LED Color	Input Voltage
LSS	4 - 4ft 6 - 6ft 8 - 8ft	LED - Light Emitting Diode	CW - Cool White NW - Neutral White	UE - Universal Input Voltage (120-277V)

NOTE:

1- Standard maximum length of a single unit is 8 feet. All other specified lengths are combinations of 8 feet and below.



Project Name _____ Fixture Type _____
Catalog # _____

03/30/15
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LSI INDUSTRIES INC.

LED CANOPY LIGHT - LEGACY™ (CRUS)



US & Int'l. patents pending.

HOUSING - Low profile, durable die-cast, aluminum construction, providing a reliable weather-tight seal.

LEDS - Features an array of select, mid-power, high brightness, high efficiency LED chips; 5300°K color temperature, 70 CRI (nominal).

DRIVE CURRENT - Choice of Low Wattage (LW) or Super Saver (SS).

OPTICS / DISTRIBUTION - Symmetrical, which directs light through a clear tempered glass lens, to provide a uniform distribution of light to vertical and horizontal surfaces.

OPTICAL UNIT - Features an ultra-slim 7/8" profile die cast housing, with a flat glass lens. Unit is water-resistant, sealed to an IP67 rating. Integral designed heat sink does not trap dirt and grime, ensuring cool running performance over the life of the fixture.

PRESSURE STABILIZING VENT - Luminaire assembly incorporates a pressure stabilizing vent breather to prevent seal fatigue and failure.

HAZARDOUS LOCATION - Designed for lighter than air fuel applications. Product is suitable for Class 1 Division 2 only when properly installed per LSI installation instructions (consult factory).

DRIVER - State-of-the-art driver technology superior energy-efficiency and optimum light output. Driver components are fully encased in potting for moisture resistance. Complies with IEC and FCC standards.

DRIVER HOUSING - Die cast aluminum, wet location rated driver/electrical enclosure is elevated above canopy deck to prevent water entry, provide easy "knock-out" connection of primary wiring and contributes to attaining the lowest operating temperatures available. Seals to optical housing via one-piece molded silicone gasket.

OPERATING TEMPERATURE - -40°C to 50°C (-40°F to +122°F)

ELECTRICAL - Universal voltage power supply, 120-277 VAC, 50/60 HZ input. Drivers feature two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Scenario 1, Location Category C.

FINISH - Standard color is white and is finished with LSI's DuraGrip polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.

INSTALLATION - One person installation. No additional sealant required. Installs in a 12" or 16" deck pan. Deck penetration consists of a 4" hole, simplifying installation and water sealing. Unit is designed to quickly retrofit into existing Scottsdale (4") hole as well as openings for Encore and Encore Top Access and to reconnect wiring for the SC/ECTA without having to relocate the conduit. Retro panels are available for existing Encores (see back page) as well as kits for recessed and 2x2 installations (see separate spec sheets). Support brackets are provided standard, to prevent sagging of deck.

SHIPPING WEIGHT - 27 pounds (single pack), 48 pounds (double pack).

EXPECTED LIFE - Minimum 60,000 to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

WARRANTY - Limited 5-year warranty.

LISTING - UL and ETL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations.

PHOTOMETRICS - Applications layouts are available upon request. Contact LSI Petroleum Lighting or petroleum.apps@lsi-industries.com

Consult Factory

Class 1, Division 2 – Standard on SS & LW.

T5 Temperature Classification – The surface temperature of this product will not rise above 100°C., within a 40°C ambient.

Gas Groups A,B,C, and D – Group A: Acetylene / Group B: Hydrogen / Group C: Propane and Ethylene / Group D: Benzene, Butane, Methane & Propane.

This product, or selected versions of this product, meet the standards listed below.
Please consult factory for your specific requirements.



LED CANOPY LIGHT - LEGACY™ (CRUS)

LUMINAIRE ORDERING INFORMATION

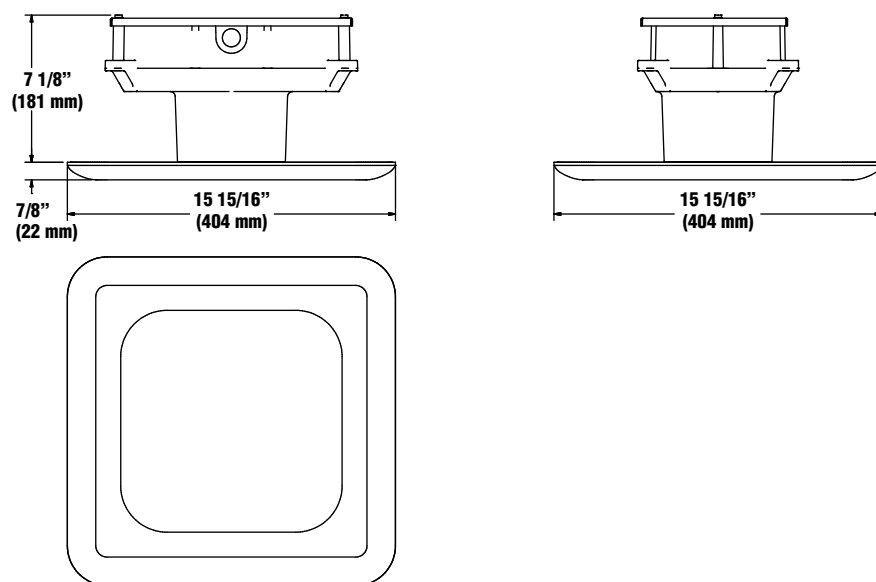
TYPICAL ORDER EXAMPLE: **CRUS SC LED SS CW UE WHT**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Options
CRUS	SC - Standard Symmetric	LED	LW - Low Watt SS - Super Saver	CW - Cool White	UE - Universal Voltage (120-277V) 347 - 347V	WHT - White BRZ - Bronze BLK - Black	None

ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number	Description	Order Number
Retrofit Panels - EC / ECTA / SCF to CRU, for 16" Deck Panel	525946	Kit - Hole Plugs and Silicone (enough for 25 retrofits) ¹	1320540
Retrofit Panels - ECTA / SCF to CRU, for 12" Deck Panel	530281	1- Consists of (25) 7/8" hole plugs and (1) 10.3 oz tube of RTV	
Retrofit 2x2 Cover Panel Blank (no holes)	357282	2- Flange Kit used to mount CRU in double deck applications	
Retrofit RIC Cover Panel Blank (no holes)	354702		

DIMENSIONS



LIGHT OUTPUT - CRUS

		Lumens	Watts	LPW
Cool White	LW - Low Watt	10,871	88	124
	SS - Super Saver	13,554	114	119

LED LENSED STRIP - SDL

PRODUCT HIGHLIGHTS

- Accepts optional plug-in wiring feature for continuous row installation
- Alignment couplers furnished for continuous row installation
- Suitable for surface, pendant, or stem mounting

EXPECTED LIFE - Projected life of at least 60,000 hours. Contact factory for TM-21 detail.

LEDS - Use of closely-spaced medium-power, high-brightness chips minimizes pixelation and provides uniform lens luminance. Available in Cool White (5000K), Neutral White (4000K) and Warm White (3500K) color temperatures. CRI $\geq$ 80 (CW > 70). LM-80 reports available.

CONSTRUCTION - Fixture housing, end sections, and channel cover constructed of code-gauge, die-formed steel.

LENS - Specially designed frosted extruded lens with micro prisms for maximum source diffusion and soft, even illumination.

FINISH - All metal parts are painted after fabrication following treatment with phosphate rust inhibitor. Finish coating of housing reflecting surfaces is with high-reflectance (minimum 92%) polyester powder.

ELECTRICAL - Universal voltage (120-277 Vac) input, 50/60Hz, 347 VAC. Power factor > 0.9, THD < 20%, in-rush current < 15 Amps.

DRIVER - High-performance isolated driver features over-voltage, over-current and short-circuit (with auto-recovery) protection. Driver module is sealed to IP66 protection levels, with a Class A sound rating. 0-10 volt dimming standard.

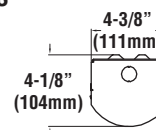
WARRANTY - Limited 5-year warranty.

PHOTOMETRICS - Please visit our website at www.lsi-industries.com for detailed photometric data.

LISTING - Listed to UL 1598 and UL 8750. Suitable for damp locations. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.



DIMENSIONS



LIGHT OUTPUT - SDL LENSED STRIP				
	Lumens (Nominal)			Watts
	WW	NW	CW	
SDL 2 LW - 2FT	1490	1475	1705	14
SDL 2 SS - 2FT	2430	3115	2960	28
SDL 4 LW - 4FT	3000	3105	3700	29
SDL 4 SS - 4FT	3475	3635	4380	34
SDL 4 HO - 4FT	4770	4990	5875	44
SDL 4 VHO - 4FT	5685	5965	7225	57
SDL 8 LW - 8FT	5995	6210	7400	58
SDL 8 SS - 8FT	6945	7268	8760	68
SDL 8 HO - 8FT	9555	9795	11752	88
SDL 8 VHO - 8FT	11370	11930	14450	114

LED Chips are frequently updated therefore values may increase.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **SDL 4 LED HO CW UE**

Prefix	Length	Light Source	Lumen Output	Color Temperature	Line Voltage	Options
SDL - Strip With Diffused Lens	2 - 2 foot 4 - 4 foot 8 - 8 foot	LED	LW - Low Watt SS - Super saver HO - High Output ³ VHO - Very High Output ³	CW - Soft White (5000K) NW - Neutral White (4000K) WW - Warm White (3500K)	UE - Universal Electronic (120-277V) 347-347V	EM - Emergency Battery Pack ¹ SD50 - Step Dimming to 50% PM - Pre-wired Plug-in Assembly (specify circuitry See Options/Accessories Section)

ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
Grid Hanger	GH
Chain Hanger Set (36" length)	CHS3
Chain Hanger Set (60" length)	CHS5
Wire Guard - 4 foot	WG240 ²
T-bar Kits (includes junction box, wire collar, & grid hangers)	TBKT

1- Emergency Battery Pack not available on 2ft fixture.

2- 8ft fixture requires (2) wire guards.

3- HO and VHO for 4 ft. & 8ft. fixtures only.



Project Name _____ Fixture Type _____

Catalog # _____

05/25/16

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Packet Pg. 402

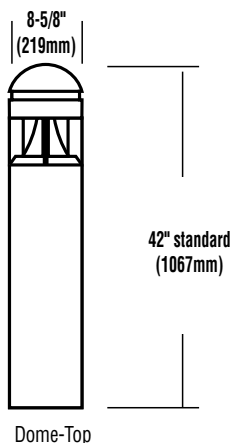
LED BOLLARD LIGHT (XBVRD)



DOE LIGHTING FACTS

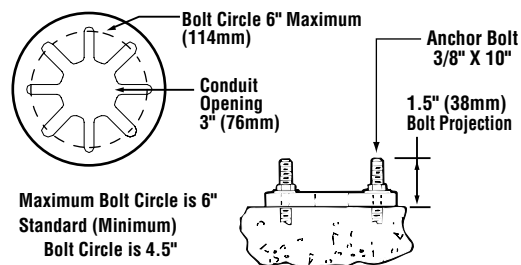
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

DIMENSIONS



BASE DETAIL

Note: Base plate dimensions may change without notice. Do not use for setting anchor bolts. Consult factory for base plate templates.



Also available in traditional light sources

U.S. and international patents pending

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - An array of 24 select high-brightness LEDs in Cool White (5000K), Warm White (3500K) or Neutral White (4000K) color temperature, 69 CRI

REFLECTOR/DISTRIBUTION - Indirect. Photometric data is tested in accordance to IESNA Procedures.

HOUSING - Crown: Virtually tamper-proof concealed stainless steel fasteners in the cast aluminum crown assembly.

Lower Housing: One-piece, .322 inch seamless, extruded aluminum. Various heights are available in 6" increments starting at a minimum of 30" (maximum height is 60"). Lower housing attaches to cast aluminum base plate with four stainless steel roll pins.

OPTIONAL ROUGHNECK REINFORCEMENT - .375" thick zinc plated, steel base plate with welded U shaped reinforcement. 3/8" diameter 302 stainless steel roll pins with 10,000 lb. shear load.

LENS/GASKET - One-piece, clear acrylic lens enclosure fully gasketed at top and bottom edge.

ANCHOR BOLTS - Requires four heavy-duty 3/8" x 10" galvanized steel anchor bolts.

ELECTRICAL - Universal voltage power supply (120-277 VAC, 50/60 Hz). 347-480V also available - 400mA is standard. Surge protector meets IEEE C62.41.2-2002, Scenario 1 Location Category C.

DRIVER - State-of-the-art driver technology designed specifically LSI LED light sources provides unsurpassed system efficiency. Driver complies with IEC and FCC standards.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

DECAL STRIPING - Color-coordinated decal is available in 9 standard decal colors or by custom order from a selection of hundreds. Decal is guaranteed for five years against peeling, cracking, or fading.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

LISTING - Listed to U.S. and Canadian safety standards. Suitable for wet locations. DLC - not all possible distributions are DLC approved. Please refer to LSI or DLC web site for specific listings. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



LIGHT OUTPUT - XBVR

Description	# of LEDs	Output	
		Lumens	Watts
Cool White XBVR ID	24	1338	38
Neutral White XBVR ID	24	1224	38
Warm White XBVR ID	24	856	38

LED Chips are frequently updated therefore values may increase.



Project Name _____ Fixture Type _____

Catalog # _____

07/28/16

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Packet Pg. 403

LED BOLLARD LIGHT (XBVRD)

PRODUCT ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XBVRF ID LED 24 400 CW UE BRZ 45**

Prefix	Distribution	Light Source	# of LEDS	Drive Current	Color Temp	Line Voltage	Finish	Options
XBVRF Flat-Top XBVRD Round-Top	ID - Indirect	LED - Light Emitting Diode	24	400	CW - Cool White (5000K) NW - Neutral White (4000K) WW - Warm White (3000K)	UE - Universal Electronic (120-277V 50/60Hz) 347 - 347 volt 480 - 480 volt	BRZ - Bronze BLK - Black PLP - Platinum Plus BUF - Buff WHT - White GPT - Graphite SVG - Satin Verde Green MSV - Metallic Silver	H - XX (Specify Height) ¹ PCI120 - Button-type Photocell PCI208, 240,277 - Button-type Photocell PCI347 - Button-type Photocell GFR - GFI Duplex Receptacle LAB - Less Anchor Bolts RN - Roughneck Heavy Duty Mounting Plate

1 - Taller or shorter heights available in 6" increments. Minimum height is 30". Maximum height is 60".

ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
ABKIT - Anchor Bolt Kit (BVR) 3/8" x 10" - Galvanized	285560
HSS - Round House Side Shield	122510

Color Decals

45 - Light Gold
20 - Charcoal Metallic
55 - Black
94 - Blue Black
59 - Dark Green
51 - Dark Red
21 - Tomato Red
50 - White
700 - Aztec Silver Metallic

BUG CHARTS

XBVR- TYPE ID

Drive Current	Color Temp. *	Lumens	Watts	LER	BUG Rating
400	CW	1338	38	35	B1-U2-G1
	NW	1224	38	32	B1-U2-G1
	WW	856	38	23	B1-U1-G1

* Color Temperature: WW-3000K, NW-4000K, CW-5000K



Project Name _____ Fixture Type _____
Catalog # _____

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LSI INDUSTRIES INC.

LED AREA LIGHTS - LSI SLICE SMALL (XLCS)



US & Int'l. patents pending

SMARTTEC™ - LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Select high-brightness LEDs in Cool White (5000°K nominal), or Neutral White (4000°K nominal) color temperature, 70 CRI (nominal).

DISTRIBUTION/PERFORMANCE - Types FT and 5. Exceptional uniformity creates bright environment at lower light levels.

HOUSING - One-piece, die-formed aluminum housing contains factory prewired driver. Wiring access door (with safety lanyard) located underneath.

OPTICAL UNIT - Clear tempered flat glass lens permanently sealed to weather-tight aluminum optic frame (includes pressure-stabilizing breather). Optic frame recessed into housing cavity and sealed to the housing with one-piece EPDM gasket.

MOUNTING - Tapered rear design allows fixtures to be mounted in 90° and 120° configurations without the need for extension arms. Use with 3" reduced drilling pattern. A round pole plate is required for mounting to round poles. Wall mount available by ordering wall mounting bracket (BKS-XBO-WM-* -CLR). See Accessory Ordering Information chart for all brackets.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets Location Category C Low. Available with universal voltage power supply 120-277 VAC (50/60Hz input), and 347-480 VAC. Optional button-type photocells (PCI) are available in 120, 208, 240, 277 or 347 volt (supply voltage must be specified).

DRIVER - Available in SS (Super Saver) and HO (High Output) drive currents. Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

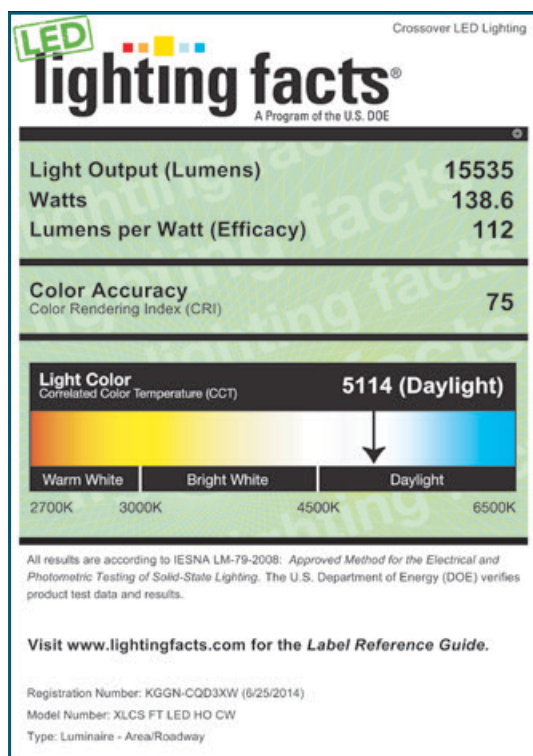
FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Available in black, bronze and white. Other standard LSI finishes available. Consult factory.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - One fixture: 17.5 lbs. (7.9 kg). Packed two per carton: 30 lbs. (13.6 kg).

LISTING - UL listed to U.S. and international safety standards. Suitable for wet locations.



This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



Fixtures comply with ANSI C136.31-2010 American National Standard for Roadway Lighting Equipment - Luminaire Vibration 1.5G requirements.

LIGHT OUTPUT - XLCS				
		Lumens (Nominal)		Watts (Nominal)
		Type FT	Type 5	
Cool White	SS	11400	11400	97
	HO	15500	15700	140
Neutral White	SS	9200	9300	97
	HO	12100	12200	140

LED AREA LIGHTS - LSI SLICE SMALL (XLCS)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XLCS 5 LED SS CW UE BLK PCI120**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Options
XLCS	5 - Type V FT - Forward Throw	LED	SS - Super Saver HO - High Output	CW - Cool White NW - Neutral White	UE - Universal Voltage (120-277V) 347-480 Universal Voltage (347-480V)	BLK - Black BRZ - Bronze WHT - White	Button Type Photocells PCI120 - 120V PCI208-277V - 208-277V PCI347 - 347V

LUMINAIRE EPA CHART - XLCS

	Single	0.4
	D180°	0.8
	D90°	0.6
	T90°	1.4
	TN120°	1.4
	Q90°	1.6

Note: House Side Shield adds to fixture EPA. Consult Factory.

ACCESSORY ORDERING INFORMATION

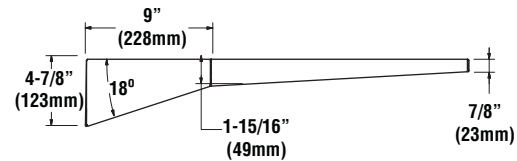
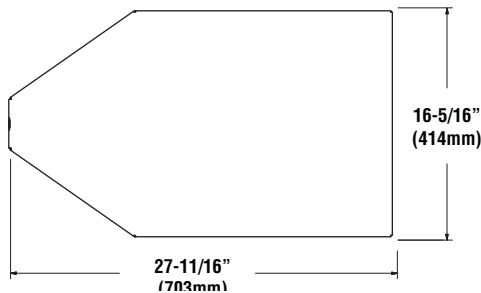
(Accessories are field installed)

Description	Order Number	Description	Order Number
BKS-XBO-WM-* -CLR Wall Mount Bracket	382132CLR	DFK208, 240 Double Fusing (208V, 240V)	DFK208, 240 ²
XLCS-FT-HSS House Side Shield (Black only)	C/F ¹	DFK480 Double Fusing (480V)	DFK480 ²
X4RPP Round Pole Plate for 4" Poles	379967CLR	FK347 Single Fusing (347V)	FK347 ²
X5RPP Round Pole Plate for 5" Poles	379968CLR		
FK120 Single Fusing (120V)	FK120 ²		
FK277 Single Fusing (277V)	FK277 ²		

FOOTNOTES:

- 1 - House Side Shields add to fixture EPA. Consult factory.
2 - Fusing must be located in the hand hole of pole.

DIMENSIONS



LED PATRIOT® WALL SCNCE (XPWS3)



DOE LIGHTING FACTS

Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

LIGHT OUTPUT - XPWS3						
		Distribution/Lumens (Nominal)				
Milliamps	# of LEDs	Type FT	Type WT	Type WW	Watts	
Cool White	350 mA	28	3100	3000	3200	34
		48	5100	5100	5200	55
	450 mA	28	3700	3600	3800	44
		48	6200	6100	6300	72
Neutral White	350 mA	28	2900	2900	3100	34
		48	4900	4800	4900	55
	450 mA	28	3500	3500	3700	44
		48	5800	5700	5800	72

LED Chips are frequently updated therefore values may increase.

Also available in traditional light sources

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



IP65



Intertek
wet location
(downlight only)

US patent 7828456, 8002428 and CAN 2736757 & 2736757 and MX patent 29631 and ISRL 49679 and AUS 2008312668 and US & Int'l. patents pending

SMARTTEC™ -LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature

ENERGY SAVING CONTROL OPTIONS - DIM- 0-10 volt dimming enabled with controls by others.

OPTIONAL INTEGRAL MOTION SENSOR - Passive infrared motion sensor activates switching of luminaire light levels. High level light is activated when passersby enter target zone and increased to full bright in 1-2 seconds. Low light level (30% of maximum drive current) is activated when target zone is absent of motion activity for 5 minutes and is gradually ramped down (10 seconds) to low level. Sensor detection range 110° horizontal x 93° vertical x 10 meters maximum distance.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Available with 28 or 48 select high-brightness LEDs in Cool White (5000K nominal) or Neutral White (4000K nominal) color temperature, 70 CRI (nominal).

OPTICS/DISTRIBUTIONS - Ultra-high efficiency reflectors provide three distributions. Choose from Wide Throw (WT), Forward Throw (FT) or Wall Wash (WW).

HOUSING - One-piece die-cast aluminum housing is smoothly contoured rectangular shape. Mounting hardware is stainless steel or electro-zinc plated steel. Housing and optical unit are sealed with extruded silicone gasket; supply conductors with molded EPDM bushing.

OPTICAL UNIT - Clear tempered optical-grade flat glass lens sealed to the aluminum optic housing creates an IP65 rated unit. Pressure stabilizing breather allows super-tight protection while preventing cycling from building up internal pressures and vacuums that can stress optical unit seals.

WALL MOUNTING - Galvanized-steel universal wall mounting plate easily mounts directly to 4" octagonal or square junction box. EPDM gasket is supplied to be installed between mounting plate and junction box, sealing junction box from entrance of water. Universal plate permits fixture to be mounted in uplighting (indoor only) or downlighting position.

POLE MOUNTING - XPMa (for square) or XPMAR (for round) allows mounting to poles in single and D180 configurations. Use with 3" reduced drilling pattern.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (50/60Hz input) or 347-480VAC.

DRIVER - Available in 350mA and 450mA drive currents (Drive currents are factory programmed). Components are fully encased in potting material for IP65 moisture resistance. Driver complies with IEC and FCC standards. Driver can be easily accessed.

EMERGENCY OPTIONS - Optional integral emergency battery-back-up options are available. BB option operates in 0°C to 60°C ambient temperature and CWBB operates in -20°C to 60°C ambient temperature. When primary AC power failure occurs, both options operate 10 LEDs for minimum of 90 minutes.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - 30 lbs./13.6Kg

LISTING - ETL listed to ANSI/UL1598, UL8750 and other U.S. and international safety standards. Suitable for wet locations in downlight position. Optional Class 1 Division 2 (groups A, B, C & D) hazardous location rating is available (Select HL option). For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

LED PATRIOT® WALL SCNCE (XPWS3)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XPWS3 FT LED 48 450 CW UE WHT BB**

Prefix	Distribution	Light Source	# of LEDs	Drive Current	Color Temperature	Input Voltage	Finish	Options
XPWS3 - LED Patriot Wall Sconce	WT - Wide Throw FT - Forward Throw WW - Wall Wash	LED	28 48	350 - 350mA 450 - 450mA	CW - Cool White NW - Neutral White	UE - Universal Voltage (120-277) 347-480	BLK - Black BRZ - Bronze GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White	BB - Battery Back-up ¹ CWBB - Cold Weather Battery Back-up ¹ DIM - 0 - 10V dimming (from external signal) ² IMS - Integral Motion Sensor ² EMR2 - Two Emergency 12V Circuit Provisions with (2) 35 Watt Halogen Lamps ³ PCI 120 - Button Type Photocell PCI 208 - Button Type Photocell PCI 240 - Button Type Photocell PCI 277 - Button Type Photocell PCI 347 - Button Type Photocell HL - Class1, Division2, Hazardous Location Rating. ETL listed to UL844 ⁴ XPMA - Pole Mounting Adaptor w/fixture backplate for use with square poles ⁵ XPMAR4 - Pole Mounting Adaptor w/fixture backplate for use with 4" O.D. round poles ⁵ XPMAR5 - Pole Mounting Adaptor w/fixture backplate for use with 5" O.D. round poles ⁵

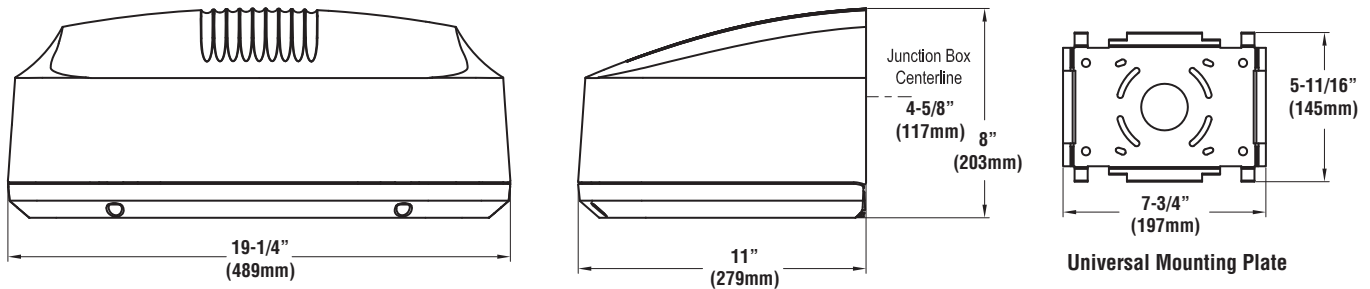
ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number	Description	Order Number
XPWS3 Polycarbonate Shield	244657	DFK208, 240 - Double Fusing	DFK208,240 ⁶
XPWS3 SW BLK - Surface Wiring Box (Available in black only)	356915BLK	DFK480 - Double Fusing	DFK480 ⁶
FK120 - Single Fusing	FK120 ⁶	FK347 - Single Fusing	FK347 ⁶
FK277 - Single Fusing	FK277 ⁶		

FOOTNOTES:

- Available with UE voltage only. Not available with EMR2 or HL options.
- DIM and IMS cannot be ordered together.
- Utilizes GZ4 sockets. 12 volt separate circuits required. Not available with battery back-up, photocell option, HL, XPMA or XPMAR options.
- Not available with battery backup, photocell or EMR2 option.
- Not available with EMR2 option. Designed with 3" reduced drilling pattern. For S or D180 mounting configuration only.
- Fusing to be installed in a compatible junction box supplied by contractor.

DIMENSIONS



LED SOFFIT LIGHT (XSL2)



US patents D574994 & D595896 & 7828456 and US & Int'l. patents pending

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Select high-brightness LEDs. Cool White 5000K color temperature, 69 CRI (nominal).

DRIVER CURRENT - Super saver (SS) - most economical and highest lumens per watt or High Output (HO) - highest output per initial dollar.

DISTRIBUTION/PERFORMANCE - Type S (Symmetric) or 5A (Type 5). Excellent uniformity with Bug rating of BU-UO-G1. Optional diffused lens available to reduce visibility of diodes

HOUSING/OPTICAL UNIT - Housing is die-formed aluminum with a gasketed clear tempered glass lens providing a water-resistant seal. Weather-tight aluminum enclosure contains factory prewired driver to ensure no water entry. Sealed optical unit containing LEDs rated IP67.

MOUNTING - Direct mounts with screws through the trim frame (standard). Optional channel bar kit available to suspend assembly from ceiling joists. 12" clearance required for ease of installation.

ELECTRICAL - Universal frequency power supply (50/60 Hz). Supply voltage must be specified for pre-wired thermal protectors.

DRIVER - State-of-the-art driver technology designed specifically for LSI LED light sources provides unsurpassed system efficiency. Driver will operate with input of 120/208/240/277V (50/60 Hz). Components are fully encased in potting material for moisture resistance. Driver complies with IEC and FCC standards.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Each fixture is finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling, and is guaranteed for five full years. Standard color is white.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Application layouts are available upon request. Contact LSI Applications Group at lighting.apps@lsi-industries.com

LISTING - Listed to U.S. and Canadian safety standards. Suitable for damp locations.

Crossover® LED Lighting

lighting facts^{CM}

A Program of the U.S. DOE

Light Output (Lumens)	4957
Watts	62.2
Lumens per Watt (Efficacy)	79

Color Accuracy Color Rendering Index (CRI)	69
--	-----------

Light Color
Correlated Color Temperature (CCT)

5100 (Daylight)

Warm White Bright White Daylight

2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results. Products qualified under the DOE ENERGY STAR® program have the ENERGY STAR mark on this label.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: KGGN-EDE2GE
 Model Number: XSL2-S-LED-50-CW-UE
 Type: Surface and pendant-mounted downlights

This "Lighting Facts Label" represents LSI's commitment, through participation in the Department of Energy's SSL Quality Advocates program, to accurately report performance criteria of our LED fixtures. **This label represents a single test of a single fixture. Input power below represents rated values for the family.** Color temperature and lumen output for each variation of this Crossover® fixture can be found in the ordering information below as well as at www.lightingfacts.com.

LIGHT OUTPUT - XSL2				
	Clear Lens	Lumens	Watts	LPW
Type S	SS - Super Saver	6,193	60	103
	HO - High Output	8,348	86	97
Type 5A	SS - Super Saver	5,158	60	86
	HO - High Output	6,959	86	81
	Diffused Lens			
Type S	SS - Super Saver	5,752	60	96
	HO - High Output	6,751	87	78
Type 5A	SS - Super Saver	4,393	60	73
	HO - High Output	5,842	87	67

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



IP67



Suitable for damp locations



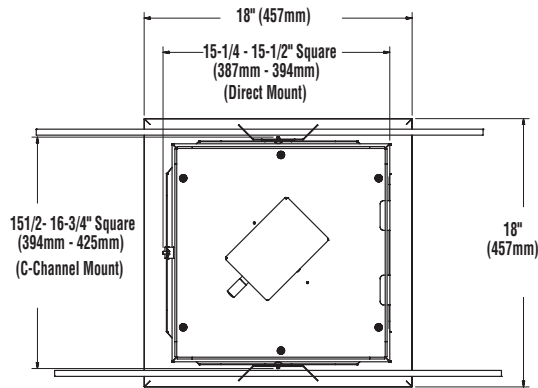
LED SOFFIT LIGHT (XSL2)

PRODUCT ORDERING INFORMATION

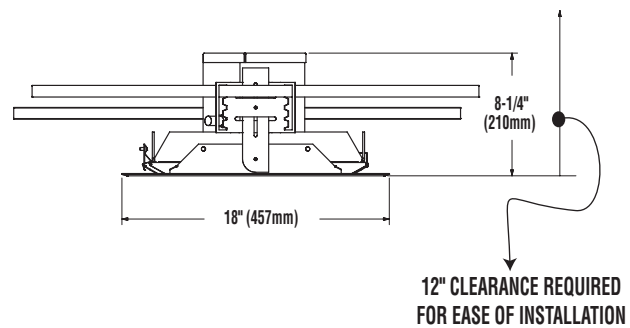
 TYPICAL ORDER EXAMPLE: **XSL2 S LED 50 SS CW 120 WHT CMT**

Prefix	Distribution	Light Source	# of LEDs	Drive Current	Color Temperature	Input Voltage	Finish	Options
XSL2 - Soffit Light	S - Symmetric 5A - Type 5	LED	50	HO - High Output SS - Super Saver	CW - Cool White (5000° K nom.)	120 208 240 277 347	WHT - White	CMT - Channel Bar Mounting Kit DM - Direct Mount DFL - Diffused Lens

DIMENSIONS

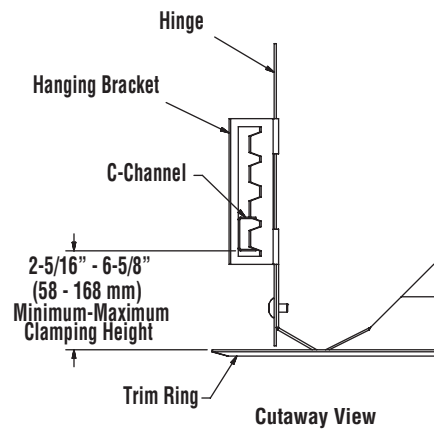


TOP VIEW



SIDE VIEW
(Channel Mount Shown)

SHIPPING WEIGHT - 14 lbs. (6.4kg)



Cutaway View

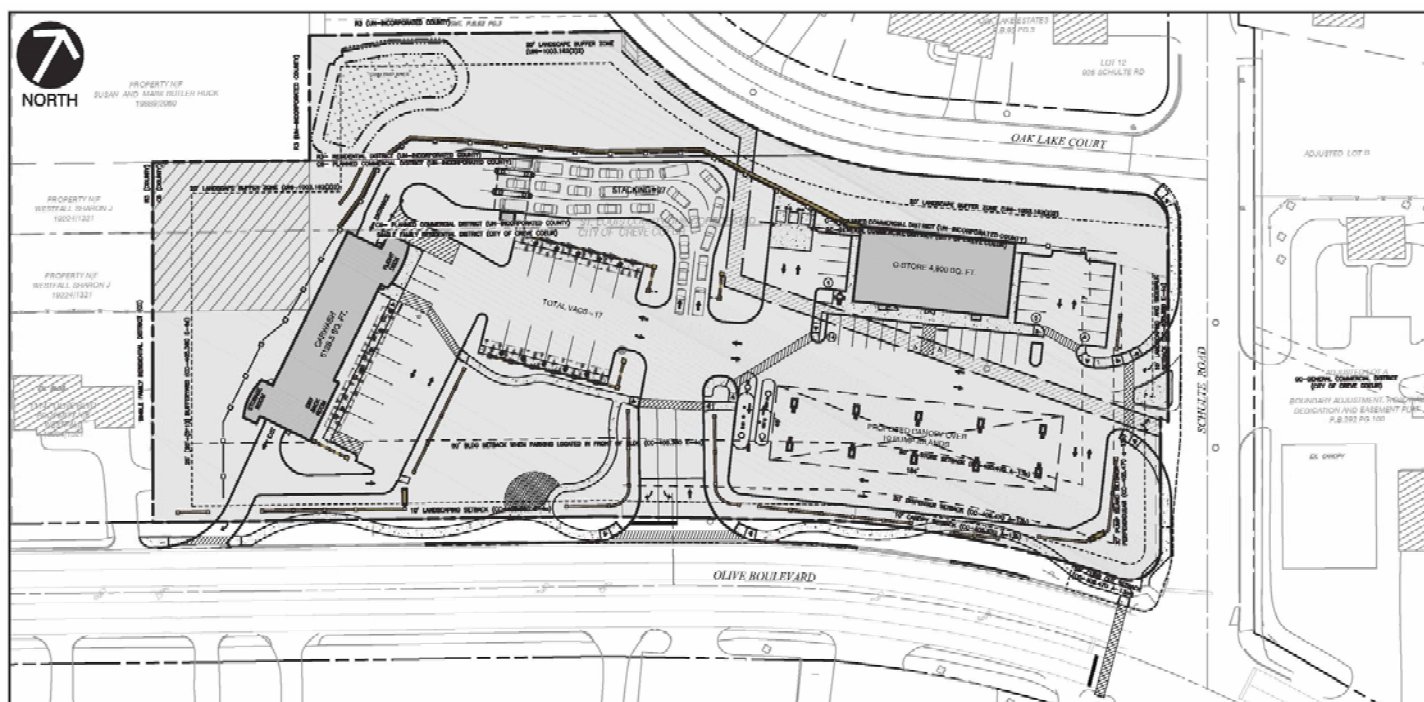
Traffic Impact Study

for

Proposed Mobil Rebuild with Car Wash

Creve Coeur, Missouri

11.04.2016



OVERALL SITE MAP

SCALE: 1" = 50'

prepared by:



prepared for:

Civil & Environmental Consultants, Inc.
4848 Park 370 Boulevard, Suite F
Hazelwood, Missouri 63042

Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

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Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

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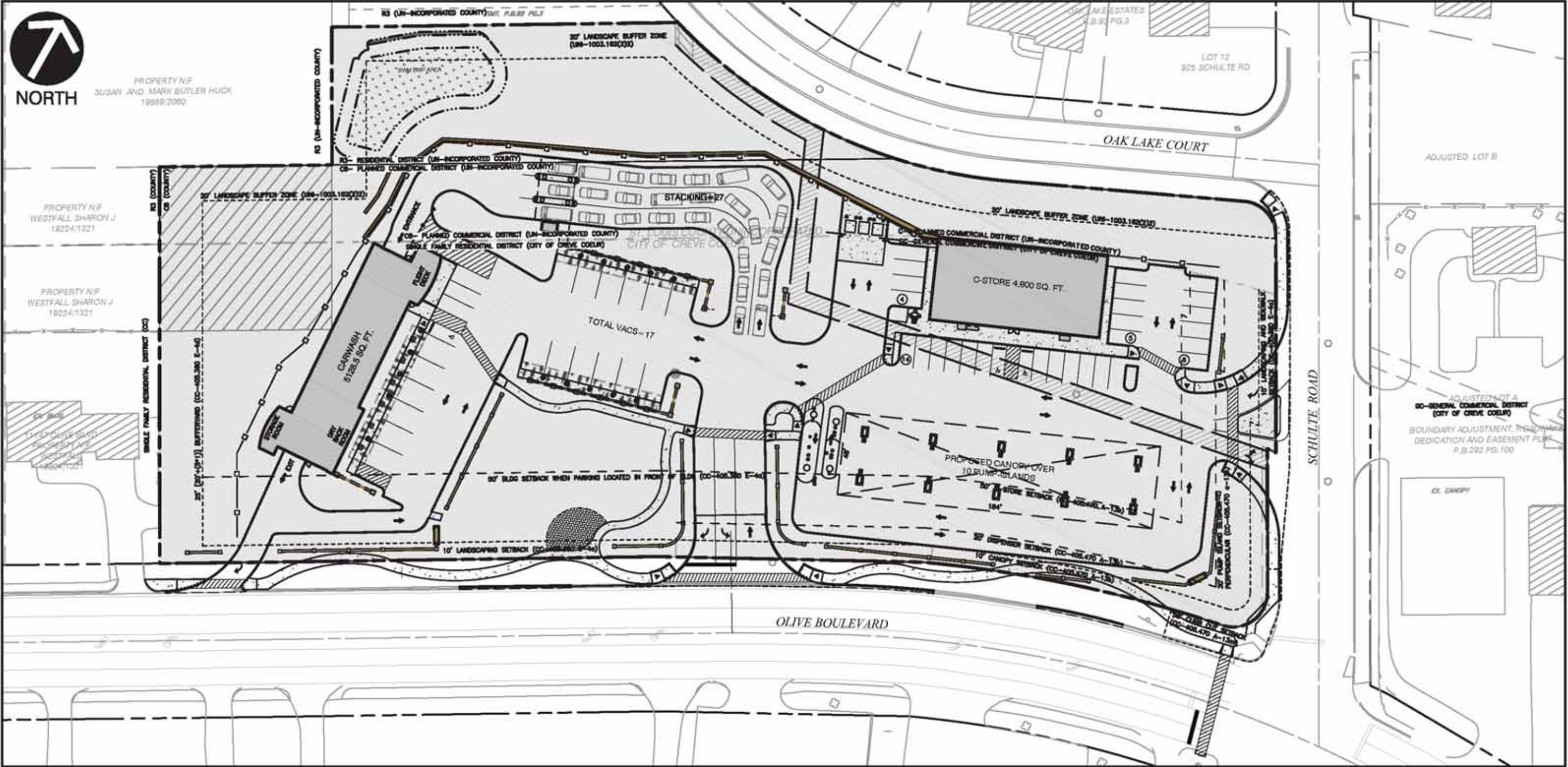
Introduction

CBB has completed a traffic impact study for the Mobil Gas and Convenience Store with Car Wash redevelopment in Creve Coeur, Missouri. The redevelopment site is located on the northwest quadrant of Olive Boulevard at Schulte Road. The site location and the adjacent roadways are depicted in **Figure 1**.



Figure 1: Site Location Map

The existing Mobil gas station with eight vehicle fueling positions, small convenience kiosk, and car wash as well as three single-family homes along Olive Boulevard (currently used as commercial businesses) and three single-family homes along Oak Lake Court occupy the site today. It is our understanding that the existing Mobil gas station would be re-built with twenty vehicle fueling positions and an expanded convenience store, as well as an improved car wash. Access to the site would be provided via one right-out only driveway along Olive Boulevard near the west property line and one full access driveway on Olive Boulevard. Additionally, one three-quarter access driveway (no left-turn in) is proposed on Schulte Road. No access is proposed to Oak Lake Court. **Exhibit 1** illustrates the preliminary site plan provided by your civil engineer.



OVERALL SITE MAP
SCALE: 1" = 50'

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It should be noted that five curb cuts along Olive Boulevard (two to the existing Mobil site and three that serve residential structures operating as business) would be consolidated into the two access points noted above. The existing access to Schulte Road would be moved further to the north (away from the signal) to align with the existing Shell gas station on the east side of the road and would be limited to three-quarter access.

A scoping meeting was held with representatives from the Missouri Department of Transportation (MoDOT), the City of Creve Coeur and the development team. St. Louis County Department of Transportation (SLCDOT) was not able to attend the initial meeting but provided their comments and input separately. The purpose of this traffic study was to determine the number of trips that would be generated by the proposed re-development; evaluate the impact of those trips on operating conditions along the adjacent roadways; determine the ability of motorists to safely enter and exit the site and recommend appropriate access locations and configurations. Where necessary, roadway improvements and/or traffic control modifications have been recommended to mitigate the impact of the re-development. The focus of our analysis was the a.m., midday, and p.m. peak hours of a typical weekday. This scope does not include an analysis of internal circulation on the site itself or parking sufficiency.

The following report presents CBB's analysis comparing traffic conditions with and without the proposed redevelopment. The methodology employed to complete this study, along with the findings and conclusions, are discussed in greater detail in the subsequent sections. CBB followed current industry standard methods and processes in the completion of our work.

Base Traffic Conditions

In order to identify the traffic impacts associated with the proposed development, it is essential to understand the pre-development traffic conditions in the area. To that end, it was necessary to perform an operational analysis of the base traffic volumes on the surrounding road system. Therefore, any deficiencies in the current road system will be identified before the traffic generated by the proposed redevelopment is added to the system.

Existing Road System

Olive Boulevard (Missouri Route 340) is owned and maintained by MoDOT. Olive Boulevard is a major east-west arterial with a five-lane cross-section: two through lanes in each direction and a center left-turn lane. However, the left-turn lanes at Schulte Road/Mary Meadows Lane are substandard in width – 9 feet on the east and west leg. There is also a sweeping horizontal curve at this intersection that restricts sight distance along the roadway, particularly visibility on the south side. The approaches of Schulte Road and Mary Meadows Lane are offset (Mary Meadows Lane intersects Olive Boulevard further to the west) and skewed relative to the Olive Boulevard centerline, which is undesirable from an operational and safety perspective.

Schulte Road is a two-lane urban collector owned and maintained by SLCDOT. Schulte Road serves a large residential area to the north. A dedicated southbound left-turn lane and a shared through/right-lane are provided at the signalized intersection with Olive Boulevard. A separate northbound left-turn lane, albeit very short, is marked on Schulte Road at Oak Lake Court.

Oak Lake Court is a cul-de-sac residential street that currently serves 10 single-family homes. Oak Lake Court has access to Schulte Road a few hundred feet north of Olive Boulevard. Oak Lake Court is owned and maintained by SLCDOT.

Mary Meadows Lane is a private 24-foot wide, residential street that serves eighteen homes with one commercial driveway connection for the building in the southeast quadrant of Olive Boulevard and Mary Meadows. A channelized lane for eastbound-to-southbound right-turns is provided (this lane is separated by a raised median). The alignment and configuration of this lane is awkward and appears to be a remnant of a previous alignment modification. It was also noted that the vertical profile and horizontal alignment of Mary Meadows Lane restricts the sight distance across Olive Boulevard between northbound and southbound motorists approaching the intersection.

This study intersection is part of a coordinated system along Olive Boulevard with cycle lengths that are set at 140 seconds during the AM and PM peak hours and 120 seconds during the weekday and Saturday midday peak hours. At the signalized intersection of Olive Boulevard with Schulte Road/Mary Meadows Lane, the northbound and southbound approaches operate on a common phase while the eastbound and westbound left-turns operate with protected-plus-permitted Flashing Yellow Arrow (FYA) phasing.

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Dautel Lane is a local roadway that serves a residential area north of Olive Boulevard with two commercial driveways that serve a pharmacy and jewelry store/thrift shop. A dedicated southbound left-turn lane and a shared through/right-lane are provided at the signalized intersection with Olive Boulevard.

Graeser Road is a two-lane urban collector owned and maintained by SLCDOT. Graeser Road serves a large residential area to the south with driveway access to commercial uses that front Olive Boulevard. A dedicated northbound left-turn lane and a shared through/right-lane are provided at the signalized intersection with Olive Boulevard.

At the signalized intersection of Olive Boulevard with Dautel Lane/Graeser Road, the northbound and southbound approaches operate on a common phase with Flashing Yellow Arrow phasing while the eastbound and westbound left-turns operate with protected-plus-permitted Flashing Yellow Arrow phasing.

Woodshire Lane is a cul-de-sac local residential street that serves eighteen single-family homes to the north of Olive Boulevard. Woodshire Lane is located nearly opposite Renee Lane, offset slightly to the east.

Renee Lane is a local residential street that provides access to two cul-de-sac residential streets and serves approximately forty single-family homes to the south of Olive Boulevard.

Mosley Road is a local urban collector road that serves a large residential area to the south with access driveways to commercial/office uses that front Olive Boulevard. Separate northbound left-turn and right-turn lanes are provided at the signalized intersection with Olive Boulevard.

The signalized intersection of Olive Boulevard with Mosley Road is a “T” intersection with the westbound left-turns operating with protected-plus-permitted Flashing Yellow Arrow phasing.

Base Traffic Volumes

The following intersections were included in the traffic impact study analyses:

- Olive Boulevard at Mosley Road (Signalized);
- Olive Boulevard at Schulte Road/Mary Meadows Lane (Signalized);
- Olive Boulevard at Dautel Lane/Graeser Road (Signalized);
- Olive Boulevard at Woodshire Lane/Renee Lane (Side-Street Stop); and
- Oak Lake Court at Schulte Road (Side-Street Stop).

Turning movement traffic counts were collected by CBB in 2013 as part of the Olive Boulevard (Route 340) signal retiming project. The traffic counts collected at the signalized intersections of Olive Boulevard with Mosley Road, Schulte Road/Mary Meadows Lane, and Dautel Lane/Graeser Road were used for this traffic study. Based on this count data, the peak hours of the intersection identified for analysis were the morning (7:45 to 8:45 a.m.), midday (12:00 p.m. to 1:00 p.m.), and afternoon (4:30 to 5:30 p.m.) peak hours of a typical weekday.

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These counts were supplemented with new traffic counts and delay observations conducted by CBB during the weekday morning (7:00 - 9:00 a.m.), midday (11:00 a.m. to 1:00 p.m.) and weekday afternoon (4:00 - 6:00 p.m.) peak periods at the intersection of Olive Boulevard with Woodshire Lane/Renee Lane. Spot counts were also performed at the existing Mobil driveways to determine peak hour trips. Queue observations were also made for westbound Olive Boulevard at Schulte Road and southbound Schulte Road at Olive Boulevard. Trip estimates were utilized to address traffic for the 10 homes on Oak Lake Court. The Base Traffic Volumes are summarized in **Exhibit 2**.

As can be seen, the traffic volumes are relatively consistent during the three peak hours. The east-west volumes on Olive Boulevard are heavy during each peak hour. Traffic volumes to and from Mary Meadows Lane are relatively light since the street only serves eighteen homes. Traffic to and from Schulte Road is moderate with the heaviest volumes occurring in the p.m. peak hour.

Base Operating Conditions

The base operating conditions for the study area intersections were evaluated using SYNCHRO 8, which is based on procedures outlined in the *Highway Capacity Manual* to determine estimates of capacity and operational performance of signalized and unsignalized intersections. Our traffic operations analysis includes measures of effectiveness generated by the SYNCHRO software.

The operating conditions were graded in accordance with six levels of traffic service (Level A "Free Flow" to Level F "Fully Saturated") established by the *Highway Capacity Manual*. Levels of service (LOS) are measures of traffic flow which consider such factors as speed, delay, traffic interruptions, safety, driver comfort, and convenience. Level C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is generally considered acceptable for peak period conditions.

It must also be acknowledged that the perception of acceptable traffic service varies widely by area. Specifically, more delay is usually tolerated in urban areas compared to rural areas. Based on the character of this area, we believe that LOS D would be a desirable target for overall peak period traffic operations but may not be achievable for the unsignalized movements due to the heavy peak hour volumes along Olive Boulevard.

The thresholds that define levels of service at an intersection are based upon the type of control used (i.e., whether it is signalized or unsignalized) and the calculated delay. For signalized and all-way stop intersections, the average control delay per vehicle is estimated for each movement and aggregated for each approach and the intersection as a whole. At intersections with partial (side-street) stop control, delay is calculated for the minor movements only since motorists on the main road are not required to stop. Furthermore, criteria differ for the two, since control types create different driver expectations. **Table 1** summarizes the level of service thresholds used in this analysis.

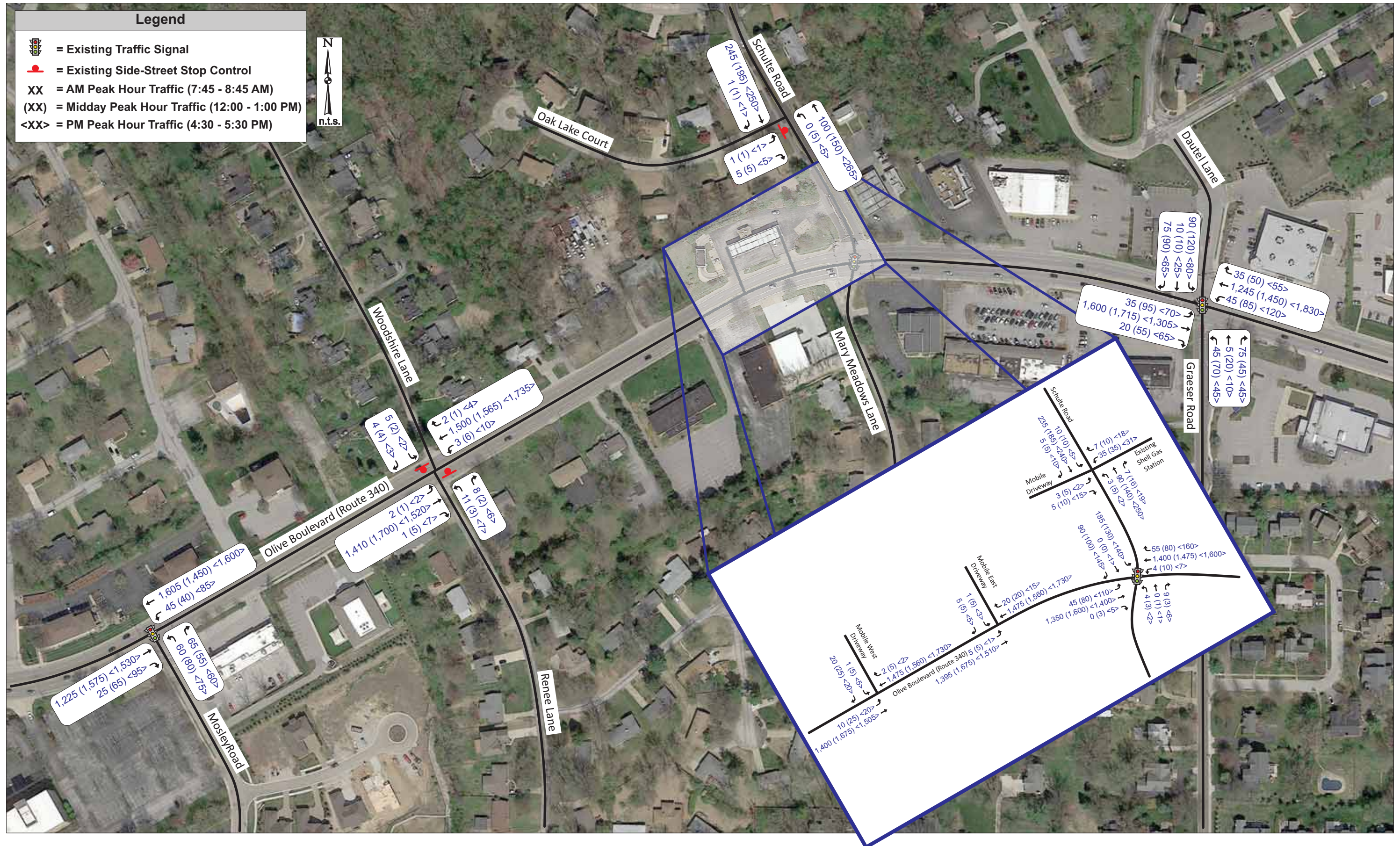


Exhibit 2: Base Traffic Volumes (2013 Counts)

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Table 1: Level of Service Thresholds

Level of Service (LOS)	Control Delay per Vehicle (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

It should be noted that the unsignalized intersections within the study area were evaluated using the HCM 2010 module in the Synchro software. Each of the study intersections was evaluated using the methodologies described above. The results of the SYNCHRO evaluations are summarized in **Table 2**. Levels of service and average delay for each intersection approach are reported for the weekday AM, Midday, and PM peak hours.

Operating conditions at the study intersections are generally favorable (LOS C or better overall and LOS D or better by approach) with the exception of northbound Renee Lane during the midday and PM peak hours, the southbound approach of Woodshire Lane during the PM peak hour, the southbound approach of Schulte Road at Olive Boulevard during the AM peak hour, the southbound approach of the Mobil West Driveway during the midday and PM peak hours, and the southbound approach of the Mobil East Driveway during the AM, midday and PM peak hours.

The lengthy delays for southbound Schulte Road are primarily due to a relatively long cycle (140 second AM/PM and 120 second midday) with a relatively small amount of green time allocated to Schulte Road/Mary Meadows Lane. It should be noted that the calculated volume to capacity ratios (v/c) do not exceed 1.0 during the peak hours but did reach 0.92 during the AM peak hour, 0.78 during the Midday peak hour and 0.82 during the PM peak hour. In this case, the cycle length dictates the poor level of service during the AM peak hour and drives the longer delays in the Midday and PM peak hours. The northbound and southbound approaches have minimal green times to maximize progression bands for the heavy eastbound and westbound through movements.

The southbound approaches exiting the current Mobil East and West Driveways operate poorly due to the heavy traffic volumes along Olive Boulevard and the close spacing of the Mobil Driveways from the Schulte Road signal, which typically does not allow for two-stage left-turns; therefore, no two-stage left-turns were assumed in the analyses for the Mobil driveways. If two-stage left-turns were completed by motorists, then the calculated southbound delays may improve.

The analyses software results indicate that the existing movements from Renee Lane and Woodshire Lane operate at less than desirable levels during the PM peak and southbound

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approach during the midday peak, primarily due to the heavy east-west traffic along Olive Boulevard. It should be noted that current delay observations were made at Renee Lane/Woodshire Lane, which is discussed further below.

Table 2: Traffic Operating Conditions – Base Traffic Volumes

Intersection/Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
<i>Olive Boulevard and Mosley Road – Signalized</i>			
Eastbound Olive Boulevard	A (2.4)	A (5.3)	A (5.9)
Westbound Olive Boulevard	B (12.1)	A (9.6)	B (10.9)
Northbound Mosley Road	D (43.9)	D (43.3)	D (48.5)
Overall Intersection	A (9.4)	A (8.9)	B (10.0)
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.2)	B (14.8)	C (16.6)
Westbound Left-Turn Olive Boulevard	B (13.4)	C (16.4)	B (14.6)
Northbound Renee Lane	D (32.6)	E (43.5)	E (35.5)
Southbound Woodshire Lane	D (33.3)	D (28.2)	E (36.7)
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>			
Eastbound Olive Boulevard	B (17.0) 20' LT	B (10.4) 30' LT	B (16.8) 105' LT
Westbound Olive Boulevard	B (11.0)	A (4.8)	A (8.3)
Northbound Mary Meadows Lane	D (51.2)	D (44.3)	D (51.3)
Southbound Schulte Road	E (71.8) 335' LT	D (46.3) 190' LT	D (53.8) 225' LT
Overall Intersection	B (19.2)	B (10.3)	B (15.6)
<i>Olive Boulevard and Dautel Lane/Graeser Road – Signalized</i>			
Eastbound Olive Boulevard	A (6.2)	B (15.3)	B (11.4)
Westbound Olive Boulevard	B (15.0)	B (15.9)	C (29.1)
Northbound Dautel Lane	C (32.3)	D (36.6)	D (41.6)
Southbound Graeser Road	D (49.9)	D (42.6)	D (50.4)
Overall Intersection	B (13.1)	B (17.9)	C (23.6)
<i>Oak Lake Court and Schulte Road – Side-Street Stop</i>			
Eastbound Oak Lake Court	A (9.9)	A (9.6)	B (10.2)
Northbound Left-Turn Schulte Road	A (7.7)	A (7.7)	A (7.8)
<i>Schulte Road at Mobil/Shell Driveway – Side-Street Stop</i>			
Eastbound Mobil Driveway	B (10.4)	B (10.2)	B (10.3)
Westbound Shell Driveway	B (11.5)	B (11.6)	B (13.0)
Northbound Schulte Road	A (7.7)	A (7.7)	A (7.8)
Southbound Schulte Road	A (7.4)	A (7.6)	A (7.8)
<i>Olive Boulevard at Mobil West Driveway – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.2)	B (13.3)	C (17.3)
Southbound Mobil Driveway	C (23.9)	F (77.7)	F (104.8)
<i>Olive Boulevard at Mobil East Driveway – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.2)	C (15.5)	C (16.7)
Southbound Mobil Driveway	E (36.7)	F (78.0)	F (115.0)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

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Queue Observations

The eastbound queues along Olive Boulevard from the traffic signal at Schulte Road and southbound queues along Schulte Road from the Olive Boulevard signal were observed during the AM, Midday and PM peak hours. Queue observations were made to verify the Synchro estimated queues and determine potential blockages of the proposed access points.

The location of the existing Mobil East driveway allows approximately two vehicles to stack on Olive Boulevard eastbound (approximately 65 feet) before it is blocked, while the Mobile West Driveway allows approximately 5 or 6 vehicles to stack (approximately 185 feet) before it is blocked. The proposed full access further to the west on Olive Boulevard will allow 10 or 11 vehicles to stack (approximately 265 feet) before it will be blocked.

Based on the field observations during the AM, Midday and PM peak hours, there is a heavy, steady flow of traffic on Olive Boulevard during the AM and PM peak hours, with moderate to heavy traffic during the Midday peak hour. The eastbound queues on Olive Boulevard at Schulte Road/Mary Meadows Lane are routinely long during the AM, Midday and PM peak hours.

AM peak observations indicate that the eastbound left-turn queue along Olive Boulevard from Schulte Road had a maximum length of 3, 6, and 5 vehicles during the AM, Midday, and PM peak hours, respectively. Observations indicate that the eastbound left-turn queues all cleared each time the cycle changed to green during the AM, Midday and PM peak hours. Observations also indicated that the eastbound left-turn queues blocked the existing driveways several times during the peak hours. However, since the proposed relocated access will allow for more storage in the eastbound left-turn lane, the proposed driveway location should not be blocked during any of the peak hours.

The existing Mobil gas station driveway on Schulte Road allows approximately 3 vehicles to stack (approximately 75 feet) before it is blocked. The proposed three-quarter access (no left-turn in) on Schulte Road would allow approximately 4 vehicles to stack (approximately 100 feet) before will be blocked.

Observations indicate that the southbound left-turn queue along Schulte Road from Olive Boulevard had a maximum queue of 11, 7 and 10 vehicles during the AM, Midday, and PM peak hours, respectively, while average queues were 8, 6 and 7 vehicles, respectively. Observations further indicate that the southbound left-turn queues cleared a vast majority of the time each cycle during the AM, Midday and PM peak hours. Peak hour observations indicate that the southbound left-turn queues blocked the existing Mobil and Shell driveways several times during the peak hours and local drivers tend to spill back into the northbound left-turn lane marked for Oak Lake Court in order to leave the right-turn lane clear.

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Delay Observations at Olive Boulevard and Woodshire Lane/Renee Lane

CBB also recorded the actual delays experienced by vehicles attempting to turn from Woodshire Lane and Renee Lane onto Olive Boulevard during the AM, Midday and PM peak hours to verify the accuracy of the average delays reported in the analyses. Based on the total volume on the side streets and the total measured delay for each vehicle, the average delays observed for the southbound approach of Woodshire Lane and northbound Renee Lane are summarized in **Table 3**. These average delays included both left and right-turning vehicles which share each exit lane.

Table 3: Observed Delays – Existing Conditions

Intersection/Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>			
Northbound Renee Lane	21.6 sec	25.2 sec	36.2 sec
Southbound Woodshire Lane	28.3 sec	40.7 sec	24.6 sec

Average Vehicular delay in seconds per vehicle

It should be noted that some vehicles experienced more delay than the average listed in Table 3, and some vehicles experienced less. The maximum delays for southbound Woodshire Lane were observed to be 80 seconds, 110 seconds and 65 seconds during the AM, Midday and PM peak hour, respectively, while the minimum delays observed were approximately 5 seconds during each peak hour. The maximum delays for northbound Renee Lane were observed to be 67 seconds, 67 seconds and 174 seconds during the AM, Midday and PM peak hour, respectively, while the minimum delays observed were approximately 4 seconds during the AM and PM peak hours, and 2 seconds during the Midday peak hour.

Overall, the delays estimated by the computer analysis software were reasonably accurate (some lower and some higher) when compared to actual delays observed in the field. It should also be noted that the southbound volume on Woodshire Lane was very low (less than 10 vph), and the northbound volume on Renee Lane was also low (5 vph to 19 vph) which is a small sample size and may create quite a lot of volatility on those delays experienced by each approach from day to day.

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Proposed Redevelopment

The proposed redevelopment would rebuild the existing Mobil gas station to provide twenty vehicle fueling positions, an expanded convenience store, and a new car wash. It is our understanding that three-single family home structures along Olive Boulevard and three single-family residences along Oak Lake Court would be razed to make way for the new gas station.

Proposed Access

Access to the site is proposed via one full access curb cut on Olive Boulevard approximately 345 feet west of Schulte Road and one right-out-only curb cut approximately 290 feet to the west of the proposed full access driveway. This access arrangement remains similar to the previous redevelopment proposed on the site. It is our understanding that MoDOT traffic and permits staff was agreeable to these access locations for the previous project. It is acknowledged that the proposed full access driveway is slightly closer to Schulte than MoDOT's desired corner clearance distance per their Access Management Guidelines, but the proposed development significantly improves access management along Olive by reducing the five existing full-access curb cuts to two curb cuts: one full access and one right-out-only.

Access is also proposed on Schulte Road in the form of a three-quarter access driveway (no left-turn in) that would be located opposite the existing Shell gas station driveway. It is our understanding that the SLCDOT has insisted on the no left-turn-in restriction due to the southbound queues from the signal at Olive Boulevard even though a similar, yet worse access management is currently in place for the existing Mobil Station.

Driveway Sight Distance

Adequate sight distance is necessary at intersections to allow drivers to perceive potentially conflicting vehicles or other road users and allow those motorists sufficient time to adjust their speed to avoid a collision or make a choice of when to cross or enter the mainline traffic flow. All drivers approaching or stopped at an intersection should have an unobstructed view of the entire intersection so that potential collisions can be avoided.

MoDOT's Engineering Policy Guide (EPG) Section 233.2.1 Intersection sight distance, was referenced to determine the minimum sight distance needs at the site driveway. The MoDOT method incorporates the method from A Policy on Geometric Design of Highways and Streets published by the American Association of State Highway and Transportation Officials (AASHTO), commonly referred to as the "Green Book", which uses the design speed of the major road and the required gap time from a minor road to enter or cross the major road to define the minimum safe distance for entrance visibility. The minimum intersection sight distance according to the MoDOT EPG on a 35 mph roadway is **390 feet**. The minimum stopping sight distance along a 35 mph roadway is **200 feet**.

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The sight distance available at the proposed full access driveway was not measured, but field observations verified ample visibility in excess of the minimums. The site engineer should verify the sight distance all proposed driveways on the site plan with respect to all site improvements. Careful consideration should always be given to sight distance obstructions when planning any aesthetics enhancements, such as berms, fencing, signs and landscaping, to ensure that these improvements do not obstruct the view of entering and exiting traffic at the site intersections with the public roads. It is generally recommended that all improvements higher than 3.0 feet above the elevation of the nearest pavement edge be held back at least 20 feet from the traveled roadway.

Trip Generation

In order to estimate the trip generation of the improved gas station, convenience store and car wash, several methods were considered. The first method compared several gas station land use codes as identified by ITE. The second comparison considered the local data from the existing location at Schulte and transactional data from another facility within the area, which is similar to the proposed.

Trip Generation – ITE Data

Traffic forecasts were estimated by using information provided in the “Trip Generation Manual”, Ninth Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the traffic characteristics of various land uses.

Based on the preliminary site plan provided, the proposed development consists of twenty vehicle fueling positions, a convenience store, and a car wash. Trip generation was reviewed for land uses similar to those shown on the site plan to provide an average number of trips during each peak hour.

Based upon the recommended procedure for estimating trip generation outlined in the “Trip Generation Handbook, A Recommended Practice”, published by ITE (March 2001), the average trip rate was utilized for:

- Land Use 944 – Gasoline/Service Station
- Land Use 945 – Gasoline/Service Station with Convenience Market
- Land Use 946 – Gasoline/Service Station with Convenience Market and Car Wash

As shown in **Table 4**, the forecasted average number of trips for a 20 vehicle fueling position gas station is expected to be 230 total trips during the AM peak hour, 310 total trips during the Midday peak hour, and 280 total trips during the PM peak hour.

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Table 4: ITE Trip Generation Estimate – Mobil Gas Station Rebuild

<i>Land Use</i>	<i>Vehicle Fueling Positions</i>	<i>AM Peak Hour</i>			<i>Midday Peak Hour</i>			<i>PM Peak Hour</i>		
		<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Gasoline/Service Station (Land Use 944)	20	125	120	245	185	185	370	140	140	280
Gasoline/Service Station with Convenience Market (Land Use 945)	20	105	105	210	135	135	270	135	135	270
Gasoline/Service Station with Convenience Market and Car Wash (Land Use 946)	20	120	120	240	145	145	290	140	140	280
Average Number of Trips		115	115	230	155	155	310	140	140	280

Trip Generation – Local Data

Based on CBB's driveway counts, the current gas station generates 80 total trips during the AM peak hour, 120 total trips during the Midday peak hour and 100 trips during the PM peak hour with 8 vehicle fueling positions. As noted above, the proposed Mobil gas station will provide twenty vehicle fueling positions. In order to estimate the forecasted trips for the new store, the trips to the current store were increased based on the percentage increase in the number of vehicle fueling positions. **Table 5** summarizes the trips counted at the existing Mobil and the projected trips based on the increase in the number of pumps.

Table 5: Local Trip Generation Estimate – Based on Current Trips and Fueling Positions

<i>Land Use</i>	<i>No. of Vehicle Fueling Positions</i>	<i>AM Peak Hour</i>			<i>Midday Peak Hour</i>			<i>PM Peak Hour</i>		
		<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Existing Mobil Station	8	45	35	80	65	55	120	50	50	100
Proposed Mobil Station Estimate	20	115	85	200	165	135	300	125	125	250

CBB was provided customer transaction counts (gross receipts) for a similar Mobil gas station further east on Olive Boulevard in Olivette, Missouri. This location was also recently rebuilt to provide the improved convenience store, car wash and sixteen vehicle fueling positions. Based on the transaction counts, a trip generation estimate was made based on the higher number of vehicle fueling positions at the proposed Schulte Store. **Table 6** summarizes the trip estimated based on the similar facility records.

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Table 6: Estimated Trips for Proposed Mobil Gas Station Rebuild based on Transaction Data

Land Use	No. of Vehicle Fueling Positions	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Similar Mobil Station (Transaction Data)	16	80	80	160	125	125	250	95	95	190
Proposed Mobil Station Estimate	20	100	100	200	155	155	310	120	120	240

When comparing all the different methods above, trips are expected to be in the same order of magnitude. However, the trip estimate for the Mobil gas station based on transaction data is expected to be the most accurate trip forecast since it is based on local data for this exact use. Therefore, the trips estimated by the transactional data (Table 6) were used in this study.

It should be reiterated that the existing Mobil station already generates trips on the roadway system. Therefore, the existing trips were negated from the trip estimate resulting in a net increase in trips, as shown in **Table 7**.

Furthermore, not all of the added site trips would represent *new* traffic on the adjacent roadways. A significant portion of the traffic attracted to this site would already be traveling on Olive Boulevard or Shulte Road as part of another trip (i.e., “pass-by” trips). These trips would represent patrons attracted to the gas station on their way to or from home, work, or another destination as a “convenience stop”. Based upon statistical information provided in the *Trip Generation Handbook, A Recommended Practice* it was assumed that 62% of the development’s traffic would be pass-by in nature during the AM peak hour, and 56% of the development’s traffic would be pass-by during the PM peak hour. ITE does not provide a pass-by percentage for the Midday peak hour so the pass-by percentage from the PM peak hour was also used during the Midday peak hour. As seen in Table 7, the proposed gas station would generate 50 *new* trips during the AM peak hour, 80 *new* trips during the Midday peak hour, 60 *new* trips during the PM peak hour.

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Table 7: Increase in Trips for Proposed Mobil Gas Station Rebuild

	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Estimated Trips to Improved Mobil Site	100	100	200	155	155	310	120	120	240
Trips to Existing Mobil Site	(45)	(35)	(80)	(65)	(55)	(120)	(50)	(50)	(100)
Net Increase in Trips	55	65	120	90	100	190	70	70	140
Pass-By Trips	35	35	70	55	55	110	40	40	80
New Trips	20	30	50	35	45	80	30	30	60

Trip Distribution

The traffic generated by the redevelopment was assigned to the adjoining roadway system based on existing traffic patterns. The directional distribution of the existing trips was assumed to remain constant for the increase in trips during the AM, Midday and PM peak hours. The pass-by trips were assigned to Olive Boulevard based on the existing traffic patterns.

Exhibit 3 illustrates the net increase of trips for the proposed Mobil station rebuild at the study intersections. As would be expected, the biggest impact of the development is at the proposed driveways. Added turns at the main Olive Boulevard driveway are expected range from 96 to 160 trips. These trips equate to approximately one and a half vehicle per minute to about 3 trips per minute on average during the peak hours.

The impacts of the proposed Mobil redevelopment are expected to be diminished outside of the direct vicinity of the site due to the high number of pass-by trips associated with the use. As seen in Exhibit 3, the added trips outside of the vicinity of the Mobil driveways are expected to be less than 30 vph during the AM and PM peak hours and 40 vph or less during the Midday peak hour.

The added trips at the intersection of Olive Boulevard and Schulte Road is expected to be 18 vph, 33 vph, and 26 vph during the AM, Midday, and PM peak hours, respectively. These trips equate to approximately one vehicle per two minutes on average during the Midday and PM peak hours or one vehicle every three minutes on average during the AM peak hour.

As can be seen, the increase in the southbound left-turn from Schulte Road to Olive Boulevard is expected to be less than 10 vph during the AM, Midday and PM peak hours. The site trips represent less than one additional vehicle each six minutes on average.

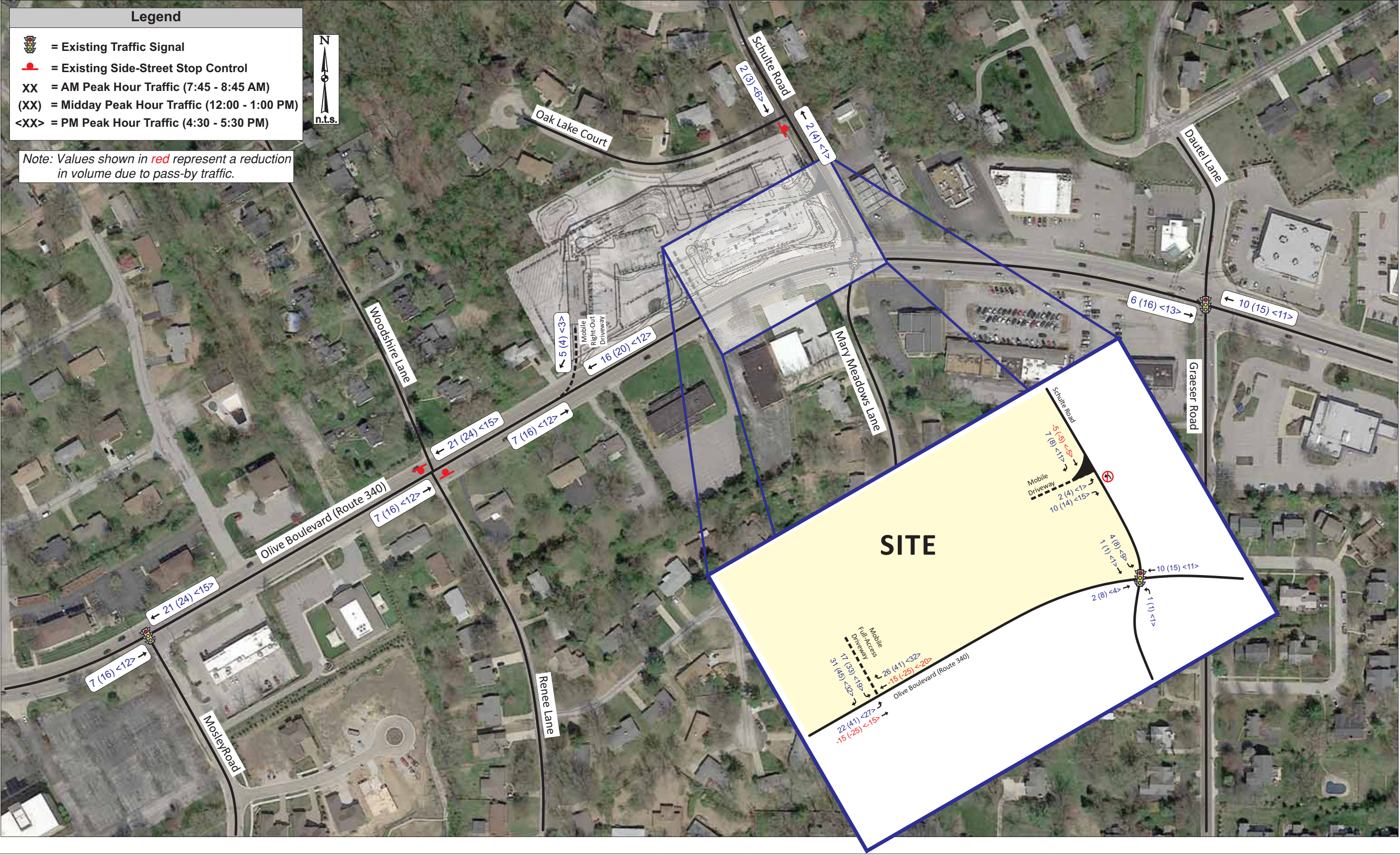


Exhibit 3: Net Increase of Site-Generated Traffic Volumes

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2016 Build Conditions

2016 Build Traffic Volumes

The traffic generated by the proposed Mobil gas station rebuild (Exhibit 3) was aggregated with the Base Traffic Volumes (Exhibit 2) to reflect the Forecasted Traffic Volumes. **Exhibit 4** reflects the 2016 Build Traffic Volumes.

Right-Turn Lane Warrants

The MoDOT figure, *Right Turn Lane Warrant for a Four-Lane Roadway*, was utilized to address traffic volumes at the intersection of Olive Boulevard with the proposed full access driveway for the proposed Mobil redevelopment. **Figure 2** illustrates the 2016 Build Traffic Volumes plotted on the MoDOT figure for evaluation of a westbound right-turn lane. Based on the minimal number of right-turns needed to satisfy the criteria in conjunction with the heavy traffic volumes along Olive Boulevard, a separate westbound right-turn lane is warranted. Based on the posted speed limit of 35 mph, a 90-foot storage length with taper is required to meet MoDOT's deceleration minimum.

However, it should be noted that the addition of a separate westbound right-turn lane on Olive Boulevard at the proposed main access would have minimal impacts to operating conditions. It should also be noted that a Metro Bus stop is located near Schulte Road and overhead utilities are located in this area. Furthermore, the Olive Boulevard corridor does not have separate right-turn lanes at unsignalized intersections that do not feed into additional through lanes to right-turn lanes at signals; Therefore, a separate westbound right-turn lane is not recommended at this location.

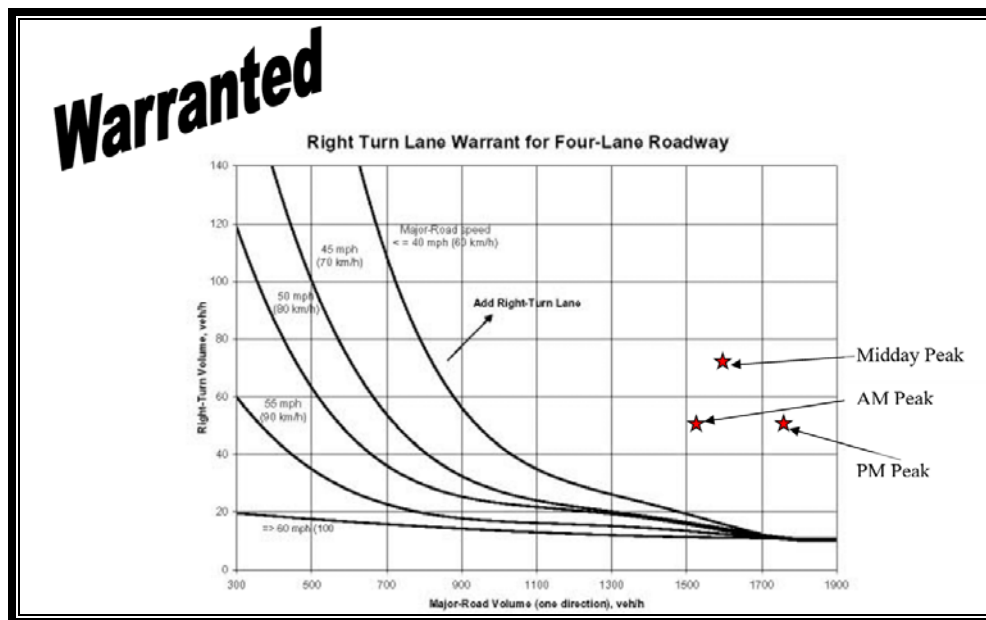


Figure 2: Right-Turn Lane Warrants (MoDOT)

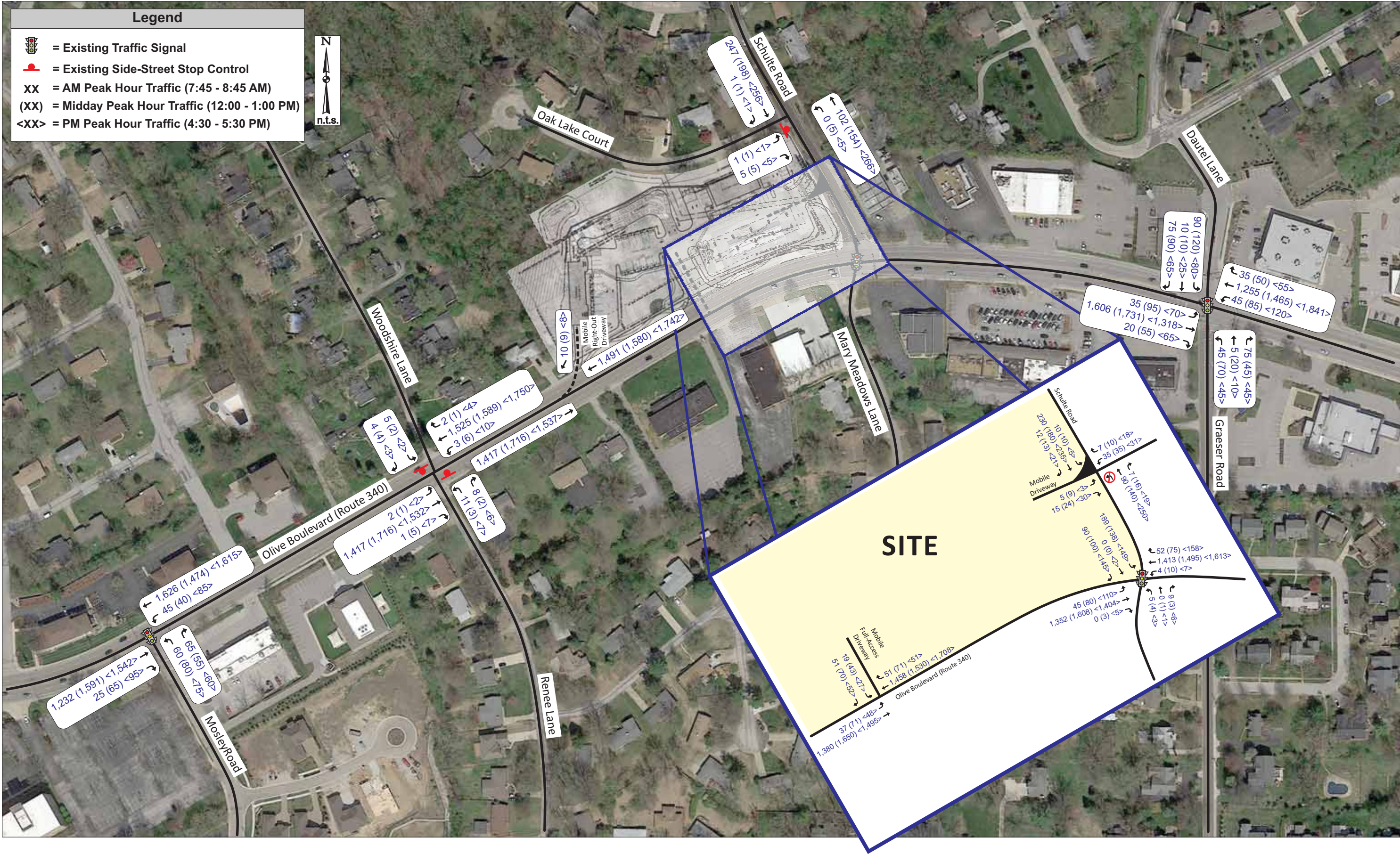


Exhibit 4: 2016 Build Traffic Volumes

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2016 Build Operating Conditions

The 2016 Build Traffic Volumes were reanalyzed using the same methodology applied to the baseline conditions in an effort to identify any impacts of the proposed development. **Table 8** summarizes the levels of service and average delays at the study intersections during both peak hours with the 2016 Build Traffic Volumes.

As can be seen in **Table 8**, the overall intersection operations are expected to remain at similar levels as the base conditions during the weekday AM, Midday and PM peak hours. This analysis assumes no changes in the signal timing at Olive Boulevard and Schulte Road which gives preference to the east-west movements on Olive Boulevard. In fact, the overall change in delay is less than one second during all three peak hours at the Schulte signal. The southbound approach is expected to have minimal increases with 5.2 seconds during the AM peak hour, 4.9 seconds during the Midday peak hour and 1.9 seconds during the PM peak hour. The southbound levels of service would remain poor, again primarily due to the long cycle lengths.

The forecasted build v/c ratios for the southbound approach of Schulte Road remain less than 1.0 during the peak hours. The southbound v/c ratio is forecasted to be 0.95 during the AM peak hour, 0.80 during the Midday peak hour and 0.84 during the PM peak hour. In this case, the cycle length dictates the poor level of service during the AM peak hour and drives the poor movement levels in the PM peak hour. The northbound and southbound approaches have minimal green times to maximize green available to the heavy eastbound and westbound through movements on Olive Boulevard.

As previously noted, the increase in the southbound left-turns from Schulte Road to Olive Boulevard is expected to be less than 10 vph during all peaks, which represents less than one additional vehicle every six minutes on average.

The right-out-only Mobil driveway on Olive Boulevard and the three-quarter access drive on Schulte Road are expected to operate at acceptable levels of service during all three peak hours. It should be noted that the evaluations cannot effectively address the impact of the southbound queue along Schulte Road that would block the three-quarter access drive at times during the peak hours. Any queueing created by blockages would occur on the site. It was noted that the southbound left-turn delays at the unsignalized intersection are generally less than those forecasted for the southbound left-turn from Schulte Road at Olive Boulevard.

The main full access driveway on Olive Boulevard is expected to operate at acceptable levels, except for the southbound left-turn exiting movement during the peak hours. It is acknowledged that the through volumes on Olive Boulevard are heavy during the peak hours, which limits the availability of gaps at the proposed Olive Boulevard access drive during the peak hours. However, the presence of a center-left-turn lane along Olive Boulevard does allow for a motorist to complete their turn in two stages as opposed to waiting for a simultaneous gap in both directions of traffic flow, which is a common practice along the Olive Boulevard

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Corridor and throughout the greater St. Louis Metropolitan area and therefore was assumed in these analyses.

Table 8: Traffic Operating Conditions – Build Traffic Volumes

Intersection/Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
<i>Olive Boulevard and Mosley Road – Signalized</i>			
Eastbound Olive Boulevard	A (2.4)	A (5.3)	A (5.9)
Westbound Olive Boulevard	B (11.7)	A (9.5)	B (10.8)
Northbound Mosley Road	D (43.9)	D (43.3)	D (48.5)
Overall Intersection	A (9.2)	A (8.8)	A (10.0)
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.4)	C (15.0)	C (16.8)
Westbound Left-Turn Olive Boulevard	B (13.5)	C (16.6)	B (14.8)
Northbound Renee Lane	D (33.0)	E (43.9)	E (36.3)
Southbound Woodshire Lane	D (34.2)	D (28.9)	D (37.3)
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>			
Eastbound Olive Boulevard	B (17.0) 20' LT	B (10.8) 30' LT	B (17.2) 110' LT
Westbound Olive Boulevard	B (11.2)	A (5.1)	A (8.8)
Northbound Mary Meadows Lane	D (51.3)	D (44.3)	D (51.2)
Southbound Schulte Road	E (77.0) 345' LT	D (51.2) 210' LT	E (55.7) 250' LT
Overall Intersection	B (19.7)	B (11.1)	B (16.3)
<i>Olive Boulevard and Dautel Lane/Graeser Road – Signalized</i>			
Eastbound Olive Boulevard	A (6.4)	B (15.7)	B (11.4)
Westbound Olive Boulevard	B (15.1)	B (16.0)	C (29.4)
Northbound Dautel Lane	C (32.3)	D (36.6)	D (41.6)
Southbound Graeser Road	D (49.9)	D (42.6)	D (50.4)
Overall Intersection	B (13.2)	B (18.1)	C (23.7)
<i>Oak Lake Court and Schulte Road – Side-Street Stop</i>			
Eastbound Oak Lake Court	A (9.9)	A (9.7)	B (10.3)
Northbound Left-Turn Schulte Road	A (7.7)	A (7.7)	A (7.8)
<i>Schulte Road at Mobil/Shell Driveway – Side-Street Stop</i>			
Eastbound Mobil Driveway	B (10.2)	B (10.1)	B (10.3)
Westbound Shell Driveway	B (11.5)	B (11.6)	B (13.2)
Southbound Schulte Road	A (7.4)	A (7.6)	A (7.8)
<i>Olive Boulevard at Mobil Right-Out Only Driveway – Side-Street Stop</i>			
Southbound Mobil Driveway	C (16.5)	C (17.4)	C (19.2)
<i>Olive Boulevard at Mobil Full Access Driveway – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	C (15.3)	C (17.8)	C (19.2)
Southbound Mobil Left-Turn	E (48.0)	F (93.8)	F (81.0)
Southbound Mobil Right-Turn	C (18.7)	C (21.4)	C (22.8)
Southbound Mobil Driveway Approach	D (26.7)	E (49.0)	E (42.7)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

The impacts of the new Mobil are also diminished outside of the direct access points to Olive Boulevard. As can be seen, minimal increases are expected at the signalized intersections with Olive Boulevard with Schulte Road, Mosely Road and Greaser/Dautel Lane. The analysis software estimates an increase of less than one second of delay for the northbound approach

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of Renee Lane and less than one second of delay increase for the southbound approach of Woodshire Lane during each of the peak hours.

Alternatives Analysis

Several alternatives were evaluated to identify the impacts of each potential improvement. **Tables 9-11** summarize the build conditions with various alternative modifications.

Signal Timing Adjustments

The green time was increased for Schulte Road/Mary Meadows Lane to obtain similar levels of service as the existing conditions. An additional two seconds of green time during the AM peak, four seconds during the Midday peak and 2 seconds during the PM peak could be reallocated from the mainline to the north-south approaches to reach comparable levels to the existing conditions. As can be seen, the minimal change in signal timing would not result in major impacts to the mainline Olive Boulevard traffic conditions. **Table 12** illustrates the impacts to progression along the Olive Boulevard corridor. As can be seen in Table 12, the impacts to east-west progression are also minimal.

Add Flashing Yellow Arrow

During the traffic scoping meeting, Flashing Yellow Arrows (FYA) for the northbound and southbound approaches were discussed to improve safety at the intersection. Therefore, an analysis scenario was generated to show the operational impacts of switching to northbound and southbound FYA.

Based on the analysis, the FYA would provide negligible changes in operating conditions for the southbound approach, but the safety at the intersection may be improved substantially. The www.CMFClearinghouse.org was consulted in order to attempt to quantify the safety implications of installing a FYA. Based on countermeasure “Changing from permissive only to FYA- Permissive only (CMF ID: 7698)” in the CFM Clearinghouse, various Crash Reduction Factors (CRF) could be applied to various crash types as summarized below.

- CRF of 10.8% (decrease) to all crash types and all severities;
- CRF of 31.1% (decrease) to all crash types; Fatal, serious injury and minor injuries;
- CRF of 50.2% (decrease) to Left-turn crash types; all severities; and
- CRF of 65.1% (decrease) to Left-turn crash types and Fatal, serious injury and minor injury severities.

Although a crash analysis was not identified as a specific part of this study scope, the CMF’s listed above would appear to have the potential to significantly improve safety (decrease the number of crashes) for the southbound left-turns.

Provide a Southbound Right-Turn Lane

During the traffic scoping meeting, it was specifically requested that one analysis scenario consider a separate southbound left-turn lane, through lane and right-turn lane. Therefore, an analysis scenario was generated to show the operational impacts of providing a separated southbound right-turn lane.

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Based on the analysis, the addition of a southbound right-turn lane on Schulte Road would provide no improvement in operations when compared to the current condition. The minimal southbound through volumes (3 to 5 vph) have a low potential to block the southbound right-turns; therefore, the through/right-turn lane acts as a *defacto* right-turn lane in the existing condition. In addition, the westbound through volumes along Olive Boulevard are very heavy during the peak hours making it more difficult to find an adequate gap in westbound traffic to complete the right turn movement versus reaching the southbound stop bar due to other conflicting southbound through vehicles. Since there appears to be no benefit to provide a separate right-turn lane, it is not recommended.

Provide Dual Southbound Left-Turn Lanes and Split-Phase North-South

Previous studies of this intersection recommended split phasing and/or a horizontal and vertical realignment of Schulte Road and/or Mary Meadow Lane to decrease the offset and skew of the north-south approaches as well as the northbound sight distance obstruction created by the cresting of the profile grades. In order to realign the intersection, multiple property owners would be impacted. Previous plans, by others, to redevelopment the southwest quadrant of the intersection did not materialize. Consequently, the subject development has reserved ground in the northeast quadrant of the intersection so that realignment can occur in the future.

CBB also considered an alternative analysis where the intersection is re-aligned with dual southbound left-turn lanes (one southbound left-turn and one southbound shared left-turn/though lane) and a separate southbound right-turn lane. This would also require split-phasing the north-south approaches.

In order to maximize the amount of green time provided to the mainline, the northbound approach (Mary Meadows Lane) was given the minimum amount of split time (13.1 seconds), while the southbound approach was only provided enough split time to obtain similar levels of service as the existing conditions. The southbound green time was assumed to 17.9, 16.9, 17.9 seconds during the AM, Midday and PM peak hours, for a total north-south green time of 31, 30, and 31 seconds. The overall north-south green time would be slightly more with the split-phase when comparable to the 2016 Build conditions with modified signal timings.

Table 12 illustrates the impacts to progression along the Olive Boulevard corridor. As can be seen, the split-phase condition would have a negative impact on progression when compared to the existing conditions, except for the eastbound link between Mosley Road and Schulte Road during the Midday as well as the westbound link between Schulte Road and Mosley Road during the Midday peak hour. However, the link changes would have no effect on the corridor green bands, shown in Table 12.

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The biggest benefit of the dual left-turn alternative is the reduction in length of the southbound queues by approximately 40% during the AM peak hour, approximately 36% during the Midday peak hour and approximately 38% during the PM peak hour when compared to the single left-turn lane with modified signal timing. Even with the dual southbound left-turn scenario, the 95th percentile queues would still block the proposed relocated access to Schulte Road during all three peak hours.

It should also be noted that the while a split-phase scenario for the northbound and southbound approaches improves the southbound queueing, the 13.1 to 17.9 seconds assumed for those approaches would not provide adequate pedestrian accommodations (during every signal cycle) across Olive Boulevard. As a result, when the push button is activated it would give ample crossing time to accommodate pedestrians but the signal would become out-of-step for several cycles.

Pedestrian Issues

MoDOT requested that pedestrian accommodations (pedestrian push buttons and indications with marked crosswalks) be installed across Olive Boulevard. CBB recommends that the pedestrian accommodations be located on the west side of the intersection only. CBB believes that it is better and safer to have the pedestrians crossing the west leg, since it is closer to the MetroBus stop and the pedestrian phase would run with the heavier traffic flow so it would cause less disruptions. If the crosswalks were provided on the east side of the intersection the pedestrians would be crossing paths with the heavy southbound left-turn vehicles and would potential be less safe than crossing on the west side because there is lower northbound left-turn volume verses the southbound left-turn.

Table 9: Build Operating Conditions with Alternative Improvement Scenarios – AM Peak Hour

Intersection/Approach	<i>Original Timing [28 sec n-s]</i>	<i>with Timing Adjustments [30 Sec n-s]</i>	<i>Add Flashing Yellow Arrow NB & SB [28 Sec n-s]</i>	<i>Separate SB Right-Turn Lane [28 Sec n-s]</i>	<i>With Dual Left and Split- Phase ¹ [31 Sec n-s]</i>
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>					
Eastbound Olive Boulevard	B (17.0) 20' LT	B (18.0) 20' LT	B (17.0) 20' LT	B (17.0) 20' LT	B (13.7) 20' LT
Westbound Olive Boulevard	B (11.2)	B (11.1)	B (11.2)	B (11.2)	A (7.4)
Northbound Mary Meadows Ln.	D (51.3)	D (49.5)	D (51.2)	D (51.2)	E (69.0)
Southbound Schulte Road	E (77.0) 345' LT	E (69.4) 325' LT	E (77.3) 345' LT	E (77.0) 345' LT	E (69.0) 190' LT
Overall Intersection	B (19.7)	B (19.5)	B (19.8)	B (19.7)	B (15.9)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +17.9 sec)

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Table 10: Build Operating Conditions with Alternative Improvement Scenarios – Midday Peak Hour

Intersection/Approach	Original Timing [24 sec n-s]	Timing Adjustments [26 Sec n-s]	Add Flashing Yellow Arrow NB & SB [24 Sec n-s]	Separate SB Right-Turn Lane [24 Sec n-s]	With Dual Left and Split-Phase ¹ [30 Sec n-s]
Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized					
Eastbound Olive Boulevard	B (10.8) 30' LT	B (10.1) 40' LT	B (10.8) 30' LT	B (10.8) 30' LT	A (7.7) 40' LT
Westbound Olive Boulevard	A (5.1)	A (6.6)	A (5.1)	A (5.1)	A (6.6)
Northbound Mary Meadows Ln.	D (44.3)	D (41.9)	D (44.3)	D (44.3)	E (55.4)
Southbound Schulte Road	D (51.2) 210' LT	D (46.3) 180' LT	D (51.2) 210' LT	D (51.2) 210' LT	D (44.9) 115' LT
Overall Intersection	B (11.1)	B (11.0)	B (11.1)	B (11.1)	A (9.8)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +16.9 sec)

Table 11: Build Operating Conditions with Alternative Improvement Scenarios – PM Peak Hour

Intersection/Approach	Original Timing [28 sec n-s]	Timing Adjustments [30 Sec n-s]	Add Flashing Yellow Arrow NB & SB [28 Sec n-s]	Separate SB Right-Turn Lane [28 Sec n-s]	With Dual Left and Split-Phase ¹ [31 Sec n-s]
Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized					
Eastbound Olive Boulevard	B (17.2) 110' LT	B (16.3) 110' LT	B (17.3) 110' LT	B (17.2) 110' LT	B (13.4) 110' LT
Westbound Olive Boulevard	A (8.8)	B (10.5)	A (8.8)	A (8.8)	A (9.5)
Northbound Mary Meadows Ln.	D (51.2)	D (49.8)	D (51.2)	D (51.1)	E (67.3)
Southbound Schulte Road	E (55.7) 250' LT	D (53.3) 225' LT	E (55.7) 250' LT	E (55.7) 250' LT	D (53.2) 140' LT
Overall Intersection	B (16.3)	B (16.6)	B (16.4)	B (16.3)	B (14.9)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +17.9 sec)

Table 12: Progression Analysis – 70th Percentile Link Bands

<i>70th Percentile Link Green Bands</i>	<i>Weekday AM Peak Hour</i>			<i>Weekday Midday Peak Hour</i>			<i>Weekday PM Peak Hour</i>		
	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split-Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split-Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split-Phase</i>
Eastbound									
Mosley Road to Schulte Road link	81 sec	79 sec	78 sec	77 sec	78 sec	89 sec	83 sec	83 sec	83 sec
Schulte to Dautel Lane Link	97 sec	97 sec	97 sec	78 sec	78 sec	78 sec	101 sec	99 sec	98 sec
Eastbound Arterial Green Band (Craig Road to Spoede Road)	70 sec	70 sec	70 sec	47 sec	47 sec	47 sec	71 sec	71 sec	71 sec
Westbound									
Dautel Lane to Schulte Road Link	98 sec	97 sec	96 sec	73 sec	70 sec	68 sec	88 sec	86 sec	85 sec
Schulte Road to Mosley Road Link	82 sec	80 sec	79 sec	63 sec	59 sec	68 sec	73 sec	71 sec	70 sec
Westbound Arterial Green Band (Spoede Road to Craig Road)	60 sec	60 sec	60 sec	50 sec	50 sec	50 sec	55 sec	55 sec	55 sec

20-Year Conditions

Forecasted 20-Year No-Build Conditions (2036)

In order to assess the long-term traffic impacts, 20-year traffic projections were also analyzed. Specifically, traffic growth was assumed at a rate of 0.5% annually for 20 years (or 10.5% overall) along each of the roadways within the study area. The 20-year background growth was applied to the base traffic volumes to compare future traffic conditions assuming that the site remains as it currently stands. Forecasted 20-Year No-Build Volumes (only background growth added) are shown in **Exhibit 5**.

As can be seen, the 20-Year No-Build traffic forecast represents an increase over the base traffic forecast due to the background growth. East-west through traffic volumes along Olive Boulevard are expected to increase by as much as 180 vph during the peak periods due to incremental background growth.

Forecasted 20-Year Build Conditions (2036)

The 20-year No-Build Traffic Volumes (Exhibit 5) were aggregated with the site-generated trips for the new Mobil redevelopment trips (Exhibit 3) to create the 20-Year Build Traffic Volumes shown in **Exhibit 6**. It should be noted that traffic oriented to/from the proposed development was not increased since full build-out of the site was assumed to take place during the opening year. In other words, site-generated traffic volumes would reach their peak during the opening year and therefore would not experience any appreciable growth, which is consistent with standard industry practice. The anticipated operating conditions at the study intersections for the 20-Year No-Build and 20-year Build Traffic conditions are summarized in **Table 13**.

As shown in the LOS Table, all of the study intersections would degrade more in the 2036 No-Build Condition due to the increase in background traffic. As can be seen, the southbound approach of Schulte Road would operate at LOS F during the AM peak hour and LOS E during the PM peak hour. The v/c ratio for the southbound approach will reach 1.02 during the AM peak hour but remain less than 0.85 during the Midday and PM peak hours.

The east-west through lanes reach a volume-to-capacity ratio of 1.00 during the PM peak hour which indicates the east-west lanes would be approaching their capacity, and ultimately, a third lane would be necessary along Olive Boulevard to obtain acceptable levels for the long-term growth conditions. It should be reiterated that the 20-Year design scenarios are included to provide a general idea of future conditions as a planning tool and should not be used to dictate physical improvements required for construction under permit where background traffic growth is the critical element. Due to capacity constraints upstream or downstream, resulting congestion and the build-out of the surrounding area, the future traffic projections may not be realized/feasible unless major capacity improvements are built.

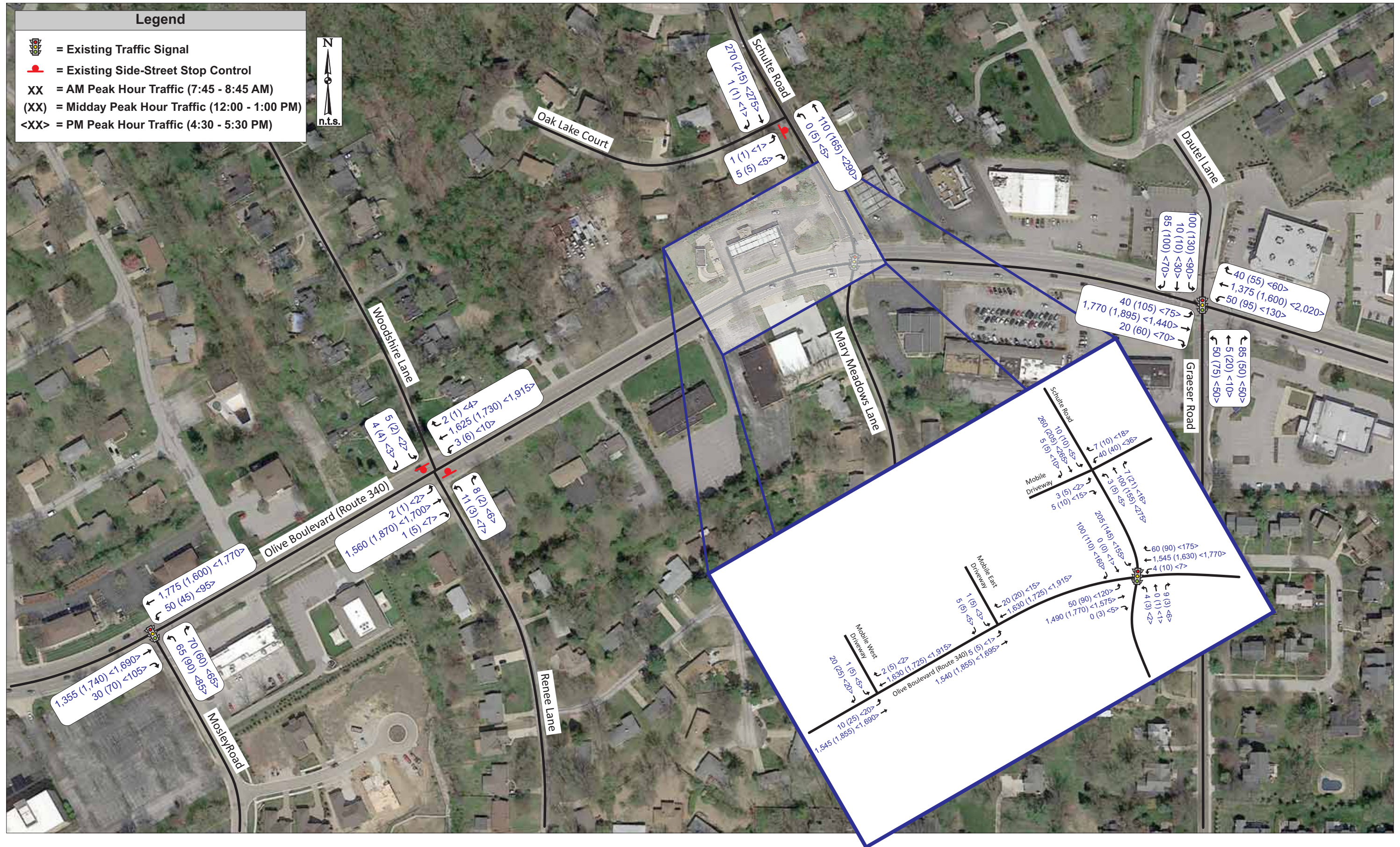


Exhibit 5: 20-Year No-Build Traffic Volumes

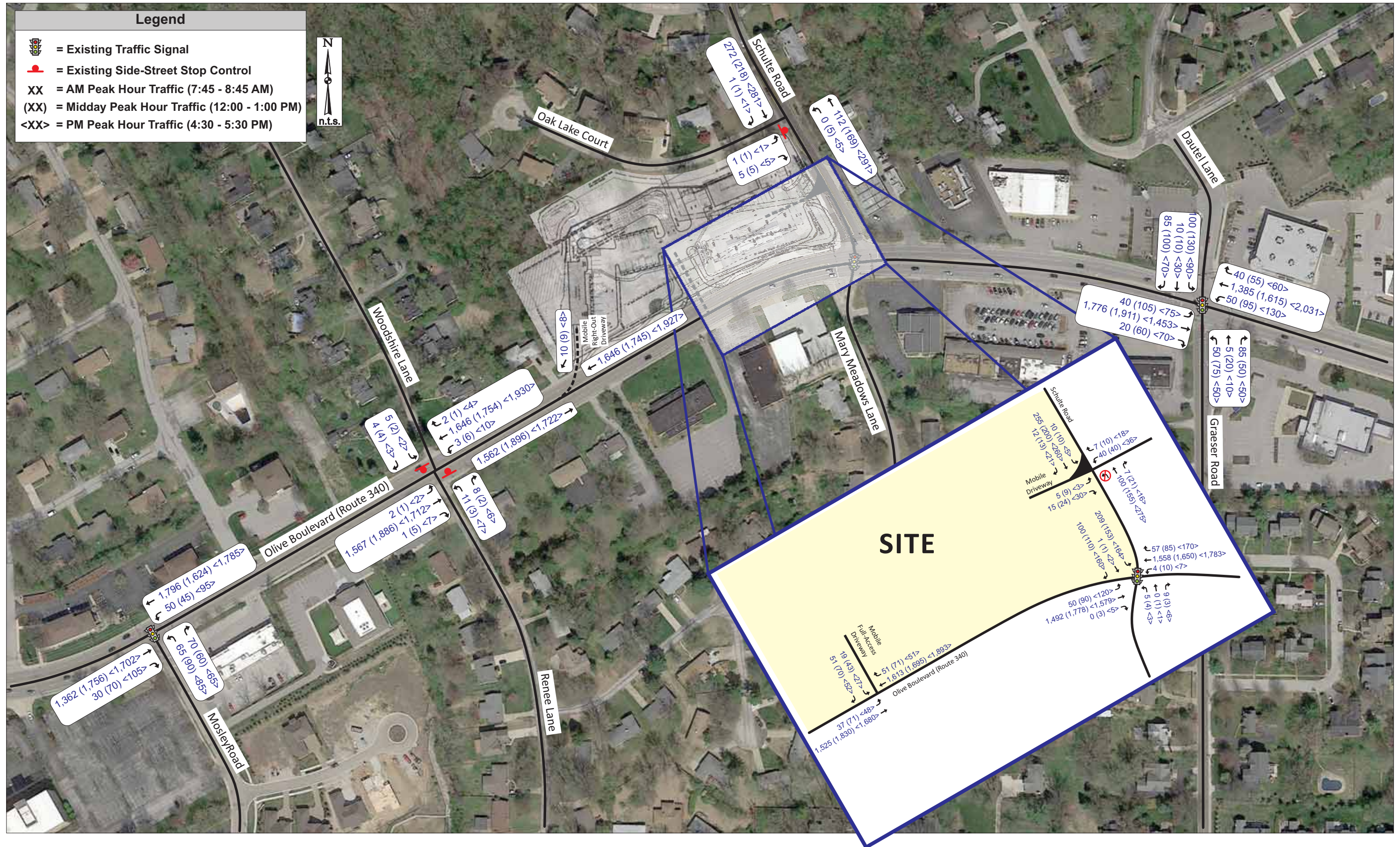


Exhibit 6: 20-Year Build Traffic Volumes

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Table 13: 20-Year Operating Conditions

Intersection/Approach	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
	20-Year No Build	20-Year Build <i>Original Timing</i> (28 sec n-s)	20-Year No Build	20-Year Build <i>Original Timing</i> (24 sec n-s)	20-Year No Build	20-Year Build <i>Original Timing</i> (28 sec n-s)
<i>Olive Boulevard and Mosley Road – Signalized</i>						
Eastbound Olive Boulevard	A (2.5)	A (2.5)	A (6.6)	A (6.6)	A (7.2)	A (7.4)
Westbound Olive Boulevard	B (13.1)	B (12.8)	B (10.7)	B (10.8)	B (13.3)	B (13.6)
Northbound Mosley Road	D (44.1)	D (44.1)	D (44.4)	D (44.4)	D (49.2)	D (49.2)
Overall Intersection	A (10.0)	A (9.8)	B (10.0)	B (10.1)	B (11.9)	B (12.0)
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>						
Eastbound Left-Turn Olive Blvd	C (15.4)	C (15.6)	C (16.5)	C (16.8)	C (18.9)	C (19.0)
Westbound Left-Turn Olive Blvd	B (14.8)	B (14.8)	C (18.5)	C (18.7)	C (16.6)	C (16.7)
Northbound Renee Lane	E (40.8)	E (40.8)	F (55.3)	F (55.3)	E (45.4)	E (46.4)
Southbound Woodshire Lane	E (39.2)	E (39.9)	D (33.9)	D (35.1)	E (46.6)	E (48.1)
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (18.0) 20' LT	B (17.9) 20' LT	B (13.9) 50' LT	B (14.6) 50' LT	B (17.9) 105' LT	B (18.2) 105' LT
Westbound Olive Boulevard	B (12.5)	B (12.6)	A (8.4)	A (9.0)	C (21.6)	C (24.2)
Northbound Mary Meadows Lane	D (51.2)	D (51.2)	D (44.2)	D (44.3)	D (51.0)	D (51.1)
Southbound Schulte Road	F (83.9) 385' LT	F (90.2) 395' LT	D (50.6) 225' LT	D (54.6) 240' LT	E (58.4) 260' LT	E (61.0) 285' LT
Overall Intersection	C (21.4)	C (22.0)	B (13.9)	B (14.9)	C (23.0)	C (24.7)
<i>Olive Boulevard and Dautel Lane/Graeser Road – Signalized</i>						
Eastbound Olive Boulevard	A (8.1)	A (8.3)	C (25.8)	C (27.4)	B (13.5)	B (13.7)
Westbound Olive Boulevard	B (17.0)	B (17.1)	B (18.7)	B (19.0)	D (40.0)	D (42.1)
Northbound Dautel Lane	C (31.8)	C (31.8)	D (36.2)	D (36.2)	D (41.3)	D (41.3)
Southbound Graeser Road	D (51.6)	D (51.6)	D (42.0)	D (42.0)	D (52.9)	D (52.9)
Overall Intersection	B (15.0)	B (15.1)	C (24.1)	C (25.0)	C (30.4)	C (31.6)
<i>Oak Lake Court and Schulte Road – Side-Street Stop</i>						
Eastbound Oak Lake Court	B (10.1)	B (10.1)	A (9.8)	A (9.8)	B (10.4)	B (10.5)
Northbound Left-Turn Schulte Rd	A (7.7)	A (7.7)	A (7.7)	A (7.7)	A (7.9)	A (7.9)
<i>Schulte Road at Mobil/Shell Driveway – Side-Street Stop</i>						
Eastbound Mobil Driveway	B (10.6)	B (10.4)	B (10.4)	B (10.4)	B (10.5)	B (10.5)
Westbound Shell Driveway	B (12.0)	B (12.1)	B (12.2)	B (12.2)	B (14.1)	B (14.2)
Northbound Schulte Road	A (7.8)	--	A (7.7)	--	A (7.9)	--
Southbound Schulte Road	A (7.5)	A (7.5)	A (7.6)	A (7.6)	A (7.9)	A (7.9)
<i>Olive Boulevard at Mobil West Driveway – Side-Street Stop</i>						
Eastbound Left-Turn Olive Blvd	C (15.7)	--	C (17.7)	--	C (19.9)	--
Southbound Mobil Driveway	C (29.8)	C (18.2)	F (150.1)	C (19.3)	F (>200)	C (21.6)
<i>Olive Boulevard at Mobil East Driveway – Side-Street Stop</i>						
Eastbound Left-Turn Olive Blvd	C (15.7)	C (17.2)	C (16.8)	C (20.8)	C (18.9)	C (22.7)
Southbound Mobil Left-Turn	--	F (61.3)	--	F (141.2)	--	F (118.7)
Southbound Mobil Right-Turn	--	C (21.0)	--	C (24.8)	--	D (26.8)
Southbound Mobil Driveway	F (50.8)	D (31.9)	F (>200)	F (69.1)	F (>200)	F (58.2)

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
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Under the 2036 Build condition, the overall intersection operations are expected to remain at similar overall levels as the 2036 No-Build with minimal changes in delay during the weekday AM, Midday and PM peak hours. Without signal timing adjustments, the overall delay is expected to increase less than 2 seconds during the AM, Midday or PM peak hour at Schulte Road and Olive Boulevard. The southbound approach is expected to have minimal increases with 6.3 seconds during the AM peak hour, 4 seconds during the Midday peak hour and 2.6 seconds during the PM peak hour. Without signal timing adjustments, the 2036 forecasted build v/c ratios for the southbound approach would remain more than 1.0 during the AM peak hour. The southbound v/c ratio is forecasted to be 0.88 or better during the Midday or PM peak hour. Again, the cycle length dictates and high v/c ratios drive the poor level of service during the AM and PM peak hours. The northbound and southbound approaches have minimal green times to maximize green times to the heavy eastbound and westbound through movements on Olive Boulevard.

As previously noted, the increase in the southbound left-turns from Schulte Road to Olive Boulevard is expected to be less than 10 vph during all peaks. The increase in site trips represent less than one additional vehicle every six minutes on average.

Again, the three Mobil driveways (main access to Olive Boulevard, right-out only to Olive Boulevard and the three-quarter access driveway on Schulte Road) are expected to operate at acceptable levels of service during the peak hours with the exception of the southbound left-turn out of the site during the peak hours. It should also be noted that the southbound left-turn delay exiting the Mobil Driveway was generally less than the southbound left-turn delay on Schulte Road at Olive Boulevard since Schulte vehicles turns must wait for green.

Again, the impacts of the new Mobil are diminished outside of the direct access points to Olive Boulevard. As can be seen, minimal increases are expected at the signalized intersections including Olive Boulevard at Schulte Road. The impacts of the new Mobil are also expected to be minimal at the signalized intersections adjacent to Schulte (Mosely Road and Greaser/Dautel Lane). Furthermore, the analysis software estimates an increase in delay of one second or less for the northbound approach of Renee Lane and less than two seconds of delay for the southbound approach of Woodshire Lane during each of the peak hours as compared to the 2036 No-Build.

Similar to the 2016 build conditions, various alternatives were re-evaluated to summarize the impacts of the potential improvements. Again, the modified signal timing would improve the southbound approach and have minimal impacts to the mainline; the separate right-turn lane would have no worthwhile impacts; the Flashing Yellow Arrow provided minimal operation changes but potentially a safety improvement; and the dual left-turn would provide improved operations but would have the most negative impact to adjacent link progression.

Table 14: 20-Year Operating Conditions with Alternative Improvement Scenarios – AM Peak Hour

Intersection/Approach	20-Year No Build	20-Year Build Original Timing [28 sec n-s]	20-Year Build Timing Adjustments [29 Sec n-s]	20-Year Build Add Flashing Yellow Arrow NB& SB [28 Sec n-s]	20-Year Build Separate SB Right-Turn Lane [28 Sec n-s]	20-Year Build with Dual Left and Split-Phase ¹ [30 Sec n-s]
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (18.0) 20' LT	B (17.9) 20' LT	B (18.7) 20' LT	B (17.9) 20' LT	B (17.9) 20' LT	B (13.8) 20' LT
Westbound Olive Boulevard	B (12.5)	B (12.6)	B (12.8)	B (12.6)	B (12.6)	A (8.5)
Northbound Mary Meadows Lane	D (51.2)	D (51.2)	D (50.3)	D (51.2)	D (51.2)	E (69.0)
Southbound Schulte Road	F (83.9) 385' LT	F (90.2) 395' LT	F (82.1) 385' LT	F (91.1) 395' LT	F (90.3) 395' LT	F (82.7) 230' LT
Overall Intersection	C (21.4)	C (22.0)	C (21.7)	C (22.1)	C (22.0)	B (17.7)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +16.9 sec)

Table 15: 20-Year Operating Conditions with Alternative Improvement Scenarios – Midday Peak Hour

Intersection/Approach	20-Year No Build	20-Year Build Original Timing [24 sec n-s]	20-Year Build Timing Adjustments [27 Sec n-s]	20-Year Build Add Flashing Yellow Arrow NB& SB [24 Sec n-s]	20-Year Build Separate SB Right-Turn Lane [24 Sec n-s]	20-Year Build with Dual Left and Split-Phase ¹ [30 Sec n-s]
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (13.9) 50' LT	B (14.6) 50' LT	B (15.4) 50' LT	B (14.6) 50' LT	B (14.6) 50' LT	B (10.4) 55' LT
Westbound Olive Boulevard	A (8.4)	A (9.0)	B (10.2)	A (9.0)	A (9.0)	A (8.4)
Northbound Mary Meadows Lane	D (44.2)	D (44.3)	D (41.9)	D (44.3)	D (44.1)	E (55.4)
Southbound Schulte Road	D (50.6) 225' LT	D (54.6) 240' LT	D (48.7) 210' LT	D (54.6) 240' LT	D (54.6) 240' LT	D (50.6) 135' LT
Overall Intersection	B (13.9)	B (14.9)	B (15.4)	B (14.9)	B (14.9)	B (12.3)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

Dual Southbound Lefts and Split Phase (13.1 sec +15.9 sec)

Table 16: 20-Year Operating Conditions with Alternative Improvement Scenarios – PM Peak Hour

Intersection/Approach	20-Year No Build	20-Year Build Original Timing [28 sec n-s]	20-Year Build Timing Adjustments [30 Sec n-s]	20-Year Build Add Flashing Yellow Arrow NB& SB [28 Sec n-s]	20-Year Build Separate SB Right-Turn Lane [28 Sec n-s]	20-Year Build with Dual Left and Split-Phase ¹ [30 Sec n-s]
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (17.9) 105' LT	B (18.2) 105' LT	B (17.5) 105' LT	B (18.3) 105' LT	B (18.2) 105' LT	B (13.9) 105' LT
Westbound Olive Boulevard	C (21.6)	C (24.2)	C (28.2)	C (24.5)	C (24.2)	B (15.6)
Northbound Mary Meadows Lane	D (51.0)	D (51.1)	D (49.5)	D (51.0)	D (51.0)	E (67.3)
Southbound Schulte Road	E (58.4) 260' LT	E (61.0) 285' LT	E (57.2) 265' LT	E (61.1) 285' LT	E (61.0) 285' LT	E (57.8) 175' LT
Overall Intersection	C (23.0)	C (24.7)	C (26.0)	C (24.9)	C (24.7)	B (18.4)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

Dual Southbound Lefts and Split Phase (13.1 sec + 16.9 sec)

Table 17: 20-Year Progression Analysis – 70th Percentile Link Bands

<i>70th Percentile Link Green Bands</i>	<i>Weekday AM Peak Hour</i>			<i>Weekday Midday Peak Hour</i>			<i>Weekday PM Peak Hour</i>		
	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split- Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split- Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split- Phase</i>
Eastbound									
Mosley Road to Schulte Road Link	80 sec	79 sec	78 sec	77 sec	77 sec	88 sec	83 sec	83 sec	83 sec
Schulte to Dautel Lane Link	97 sec	97 sec	97 sec	76 sec	76 sec	76 sec	96 sec	94 sec	94 sec
Eastbound Arterial Green Band (Craig Road to Spoeede Road)	70 sec	70 sec	70 sec	46 sec	46 sec	46 sec	67 sec	67 sec	67 sec
Westbound									
Dautel Lane to Schulte Road Link	98 sec	98 sec	97 sec	72 sec	70 sec	68 sec	86 sec	84 sec	84 sec
Schulte Road to Mosley Road Link	82 sec	81 sec	80 sec	63 sec	60 sec	68 sec	72 sec	70 sec	70 sec
Westbound Arterial Green Band (Spoeede Road to Craig Road)	60 sec	60 sec	60 sec	50 sec	50 sec	50 sec	52 sec	52 sec	52 sec

Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

Conclusions

CBB completed a traffic impact study for the proposed Creve Coeur Mobil with Car Wash redevelopment in Creve Coeur, Missouri. The site located on the northwest quadrant of Olive Boulevard at Schulte Road. The site is currently occupied by a Mobil gas station with a small convenience store and a car wash as well as a several homes.

- Access to the redeveloped site is proposed via one full access driveway on Olive Boulevard, one right-turn exit-only driveway on Olive Boulevard at the west end of the property, and one three-quarter driveway (no left-turn in) on Schulte Road generally opposite the existing Shell station driveway.
- Base traffic conditions were observed and evaluated to reveal constraints that currently exist at the signalized intersection of Olive Boulevard with Schulte Road/Mary Meadows Lane. The north-south approaches currently operate at less than desirable levels of service during the AM and PM peak hours primarily as a result of long signal cycle lengths dictated by other critical intersections on the Olive Boulevard corridor. The horizontal and vertical physical configuration of the existing intersection is also less than desirable.
- The new Mobil gas station would be expected to generate approximately 120, 190, and 140 additional trips during the AM, Midday and PM peak hours of a typical weekday, respectively.
- Based on MoDOT's Access Management Guidelines, a separate westbound right-turn lane would be warranted on Olive Boulevard at the proposed full-access driveway. However, that lane would have minimal impact on operating conditions, have impacts to utilities and separate right-turn lanes are not currently provided at unsignalized intersections along the Olive Boulevard corridor, CBB does not recommend the installation of the right-turn lane on Olive Boulevard at the proposed full access driveway.
- The proposed access drives would operate at acceptable levels of service, except for the southbound left-turns out of the main entrance, which is primarily due to the heavy east-west volumes on Olive Boulevard. The left-turning motorists should be able to make two-stage turns onto eastbound Olive Boulevard via the center left-turn lane or go to the signal via Schulte Road.
 - A two-lane exit is recommended and proposed on the conceptual site plan to separate exiting left and right-turns. It should also be noted that this driveway has the ability to storage approximately 4 or 5 vehicles that would be queued in the southbound direction before impacting internal circulation.

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri***

- The impacts of the proposed Mobil can be mitigated at the intersection of Olive Boulevard with Schulte Road by providing two seconds of additional north-south green time during the AM and PM peak hour and four seconds of additional north-south green time in the Midday peak hour. On-site observations found that the southbound approach currently clears during a vast majority of the cycles, even during the peak hours, so timing adjustments may not be necessary to allow acceptable operations in the field.
- Minimal operational impacts would be gained by providing a separate southbound right-turn lane since the southbound through volumes are so low, the lane currently operates as a defacto right-turn lane. CBB does not recommend this improvement.
- Minimal operational impacts are expected with the installation of Flashing yellow arrows for the northbound and southbound approaches, but could provide significant improvements in safety, especially related to left-turn crashes. CBB recommends this change.
- If dual southbound left-turns (one left-turn and one share left-turn/through lane) are constructed, a slightly larger north-south split is needed to accommodate the forecasted traffic since split phasing should be required which would negatively impact progression along Olive Boulevard. The primary benefits of the dual left-turn lanes would be accommodation of a safer north-south phasing (split phased) and cutting the southbound queue length nearly in half.
 - It should be noted that the proposed rebuilding of the Mobil gas station has very little impact at the signalized intersection and the existing safety concerns with the horizontal and vertical alignment of the north and south legs are present with or without the proposed development.
 - This improvement would help to address the long-term needs of the intersection. It is not feasible to construct the full intersection improvements without the coordination and concurrence with the private ownership of Mary Meadows on the south side of the road.
 - As a result, the subject development has reserved ground in the northeast quadrant of the intersection so that a better horizontal alignment can occur in the future when all parties can come to an agreement.
- A marked pedestrian crossing is recommended across the west side of the intersection to accommodate pedestrians crossing Olive Boulevard.
- Since traffic to and from the development is not expected to create a noticeable change in traffic along Olive Boulevard to the west (limited to less than 25 vph in either direction), there will be limited impact to ingress/egress for the adjacent neighboring streets (Renee Lane and Woodshire Lane). The delay increases are estimated to be less than one additional second for the northbound approach and one additional second for the southbound approach.

*Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri*

- The results for the Year 2036 No-Build Scenario and 2036 Build Scenario are very similar, where only slight increases in north-south green times are needed to effectively accommodate the traffic from the proposed new Mobil gas station.

We trust that you will find that the information in this report useful in evaluating the traffic impacts of the subject site. Please contact Brian Rensing in our St. Louis office (314) 449-9569 or via email at Brensing@cbbtraffic.com should there be any questions or need for additional information.

CBB Job No. 2016-91

prepared by:



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**ENVIRONMENTAL
NOISE STUDY OF PROPOSED
NEW COMMERCIAL DEVELOPMENT
ON THE NORTH WEST CORNER OF OLIVE AND SCHULTE,
LOCATED IN CREVE COUER MISSOURI**

PREPARED FOR:

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PROJECT #
11824

DATE
NOVEMBER 10th, 2016

Environmental Noise Study
November 10th, 2016

Environmental Noise Study Report

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Environmental Noise Study November 10th, 2016

INTRODUCTION

Designed Acoustics was retained by Wallis Companies to perform an Environmental Noise Study and to provide an evaluation of existing and potential noise levels that could be generated by a proposed new commercial development. The property is at northwest corner of Olive & Schulte located in Creve Coeur Missouri. This report summarizes Designed Acoustics' noise investigation and the potential audible effects at the property lines of the proposed site. Environmental noise studies, being investigative by nature, are often forced to make assumptions concerning the properties of the noise source(s) under such study. Designed Acoustics recognizes the proposed uses and have elected to base the study upon a conservative "worst case situation" in order to ensure the validity of calculated results.

The following report explains the methodology used to gather data as well as Designed Acoustics' findings and compliance with the City of Creve Coeur criteria which is:

An acoustical study shall be submitted demonstrating that the order facility and service windows will not produce sounds exceeding sixty (60) dB as measured at any property line abutting a residential use, up to a height of eight (8) feet above ground at the property line and demonstrating that the order facility and service windows will not increase ambient sound levels at other property lines above the average Monday to Friday midday level.

For the development proposed at this location, no service order window is proposed however, some of the mechanical components of the car wash have higher decibel levels and will be evaluated. It should also be noted that the hours of operation proposed for the carwash portion of the facility are from approximately 7 am until 8 pm.

NOISE MEASUREMENTS

Long-term 24-hour noise measurements were completed at the subject site. While on-site short term measurements were also taken at the same time that the long term monitoring was beginning, approximately 4pm on Thursday, November 3rd, 2016. Additionally, short term background noise measurements were again taken at the time that the long term monitors were retrieved, approximately 10am on Wednesday, November 9th, 2016.

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INSTRUMENTATION

A Larson-Davis Laboratories Model Sound Expert LxT precision sound level meter was used for all octave band measurements reported here. This meter conforms to the ANSI Standard Specifications for Sound Level Meters S1.4-1983, Type 1 (Precision), and the IEC Standard 651-1979, Sound-Level Meters, Type 1 Peak. The instrument was calibrated and is traceable to The National Institute of Standards. Evidence of traceability is on file at the Larson Davis Corporate Headquarters. The meter calibration was field verified before and after the measurement session.

Larson-Davis Laboratories Model Sound Expert LxT sound meters were used for A-weighted long-term sound level measurements. This meter conforms to ANSI Standard Specifications for Sound Level Meters S1.4-1983, Type 2, and the IEC 651-1979, Sound Level Meters Type 2. The instruments were calibrated and are traceable to the National Institute of Standards. Evidence of traceability is on file at the Larson Davis Corporate Headquarters. The meters were field verified before and after the measurement session.

MEASUREMENTS

Long Term monitor results

Date	Ldn (dBA)	Lday (dBA)	Lnight (dBA)
Friday, November 4 th , 2016	65.8	64.9	57.0
Saturday, November 5 th , 2016	65.7	66.4	54.3
Sunday, November 6 th , 2016	65.1	63.2	57.1
Monday, November 7 th , 2016	65.3	65.2	55.4
Tuesday, November 8 th , 2016	65.8	64.7	57.1
Wednesday, November 9 th , 2016	64.9*	64.9*	54.3*

*Not a complete 24 hour cycle of data.

Environmental Noise Study
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FINDINGS

The estimated impact of speaker noise at the nearest property line was calculated using provided manufactures data. The total attenuation at the nearest property line (and beyond) was calculated based on land topography supplied to Designed Acoustics by the site civil engineer, barrier height and location(s) (insertion loss¹), and distance from source. The calculations show no increase of noise impact at the property line. It is important to note that as a conservative approach Designed Acoustics did NOT take into consideration the large amounts of trees and shrubs at the property lines and beyond. Due to seasonal changes in the geometry, shape, and consistency of such barriers, sound attenuation is difficult to predict when these are figured into the calculations. Designed Acoustics acknowledges that trees and foliage, in bloom, will add a slight degree of extra attenuation beyond those factors accounted for in this study. Therefore, the addition of trees and / or foliage near the property lines will have a positive impact on the noise environment beyond the property line.

The estimated SPLs assume a 6' barrier (that Designed Acoustics supports installing) placed between the given property lines and proposed carwash. Additionally, estimated SPLs at the northwest property line took into consideration the elevation difference between the carwash and the nearby property. This topography increases the barrier effectiveness at the northwest property line. Designed Acoustics estimated these SPLs at an 8' height per the aforementioned city code.

The site plan, provided by CEC and included in the appendix, indicates the approximate distance from the closest point on the North West property line to the entrance to the car wash. Designed Acoustics estimates a sound level of 70dBA at this area. Distance attenuation along with barrier attenuation was used to calculate the estimated property line dBA at 8'. The worst case is calculated to be 49 dBA at the property line. It's important to note that these estimated SPLs are lower than the onsite background measurements that have been taken. We recognize that the driers exiting the car wash are in fact the loudest noise generator on site, approximately 95dBA to 100dBA during its cycle, the direction of those driers will face the highway. It's our conclusion that the highway noise and the distance would dampen those levels significantly. While we did check all property line dBA levels during our study, Designed Acoustics has chosen the car wash entrance area to focus on because we are confident it would be the worst case scenario for noise on the proposed new development and any residential property line.

It is Designed Acoustics professional opinion that the operation of the proposed new development will have no negative environmental noise impact on adjacent properties and that the proposed noise levels that will be present upon development as proposed will meet the regulations presented.

Environmental Noise Study
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CONCLUDING REMARKS

As stated earlier environmental noise impact studies, being investigative by nature, are often forced to make assumptions concerning the properties of the noise source under such study. Designed Acoustics recognizes the usage of this proposed development. We have elected to base our study upon this worst case situation in order to ensure the validity of calculated results.

As a first step, Designed Acoustics placed a long term noise monitor at the proposed location in order to quantify the day, night, Leq background noise levels as a base starting point for our acoustical analysis

Designed Acoustics was supplied with manufacturer's noise measurements of the proposed equipment for our review and to establish if the equipment proposed would have the potential for negative effects on the surrounding areas.

As an additional step we were given access to an existing location with similar equipment. (475 N. Lindberg, Florissant. Missouri)

Designed Acoustics visited that location on November 9th, 2016 at approximately 11:30am. While on site sound level readings of the car wash were taken. It's important to note that the sound level readings taken matched the manufacturer's data that was given to us for review. While still on site, sound levels were taken at the wall (barrier) located behind the carwash that separates the carwash from a residential neighborhood. (53dBA to 56dBA) Additional sound level readings were taken behind the wall. The sound level readings behind the wall were significantly lower. (42dBA – 45dBA)

Based on our acoustical analysis and the factors mentioned in this report the new development shall meet the aforementioned city code requirements.

ACOUSTIC NOMENCLATURE AND TERMINOLOGY

ANSI: American National Standards Institute

A-Weighing: Prescribed frequency response defined by ANSI Standard S-1971. Used to obtain a single number representing the sound pressure level of a noise in a manner approximating the response of the ear, by de-emphasizing the effects of the low and high frequencies.

Background Sound: Sound that remains when sound of interest is removed is background sound relative to the sound of interest.

Daytime: The hours 0700 (7:00 am) to 2200 (10:00 pm).

Day-night average sound level (L_{dn}): A measure of the noise environment over a 24-hour A-weighted sound level with a 10 dB weighing applied to the nighttime levels. When equivalent level (L_{eq}) information is available, the L_{dn} is calculated as follows:

Where $L_{eq}(d) = L_{eq}$ for the hours 0700-2200.

$L_{eq}(n) = L_{eq}$ for the hours 2200-0700.

Annualized L_{dn} is effective L_{dn} determined over a full year accounting for daily and seasonal variations.

dBA: Overall A-weighted sound pressure level expressed in decibels referenced to 20 micro-pascals.

Decibel (dB): Ten times the logarithm of the ratio of a quantity (X) to a reference quantity (X_r).

Equivalent Sound Level (L_{eq}): The level of a constant sound which, in a given situation and time period, has the same sound energy as a time varying sound level.

f_i = percent of time period in which a particular L_i occurs.

L_i = sound level in dB.

Exceedance Level - L_n: The sound pressure level exceeded n percent of the time. Example: L₁₀ is the sound pressure level exceeded 10% of the time during a measurement period. L₅₀ corresponds to the median level.

Frequency: Number of complete oscillation cycles per unit of time. The frequency is the reciprocal of the period. The unit of frequency often used is the Hertz.

Hertz (Hz): Unit of frequency equal to one cycle per second.

L_{dn}: See day-night average sound level.

L_{eq}(n): Equivalent sound level for a period n in length.

L_{max}: The maximum sound level detected during the period of measurement.

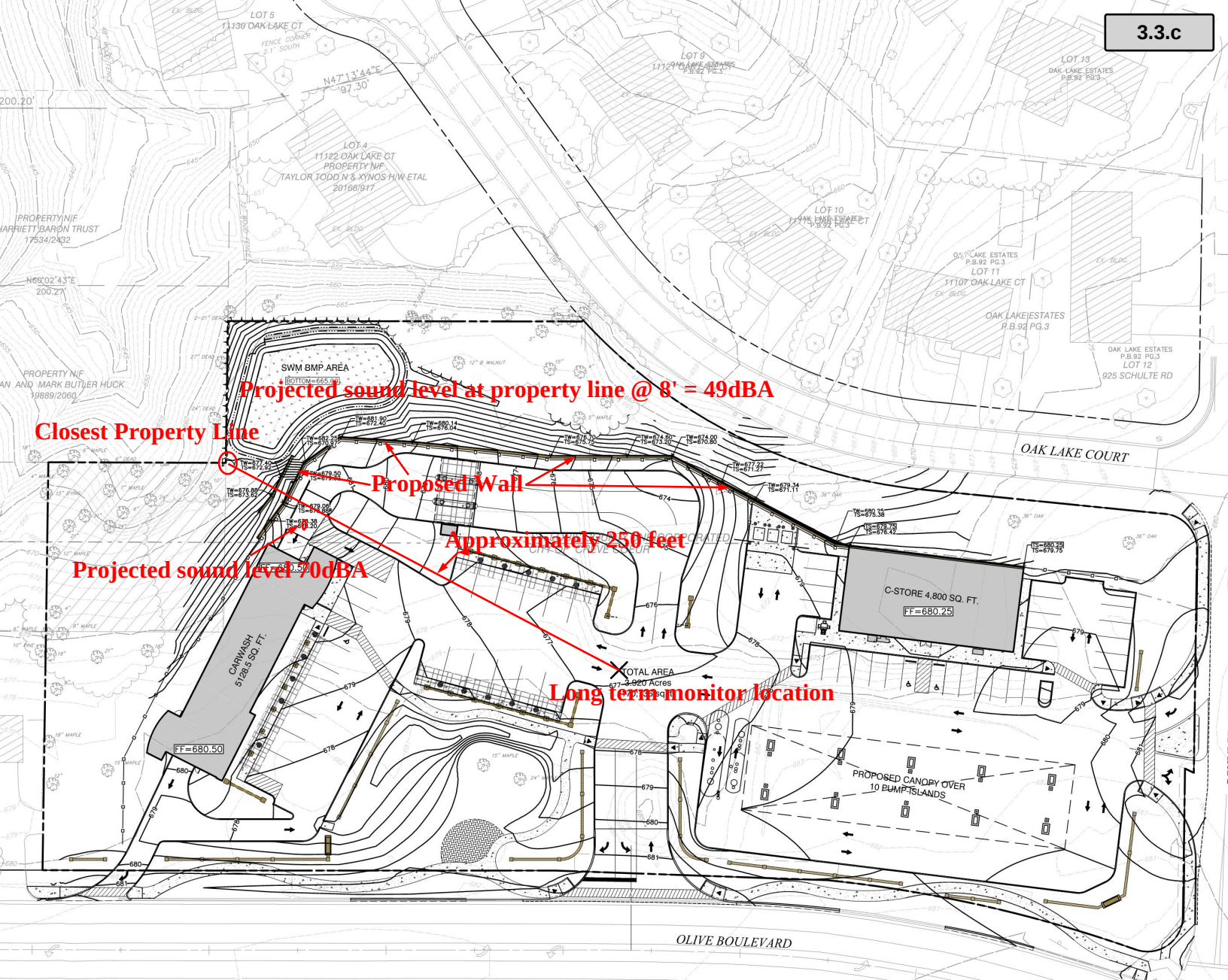
L_{min}: The minimum sound level detected during the period of measurement.

L_n: See Exceedance Level, the sound level exceeded n percent of the time.

Nighttime: The hours 2200 (10:00 pm) to 0700 (7:00 am).

Sound Pressure Level (SPL): In decibels, 20 times the logarithm to the base 10 of the ratio of a sound pressure to the reference sound pressure of 20 micro-pascals. Where p = sound pressure to be quantified p_{ref} = 20 micro-Pascals (metric). 2.9×10^{-9} psi (English)

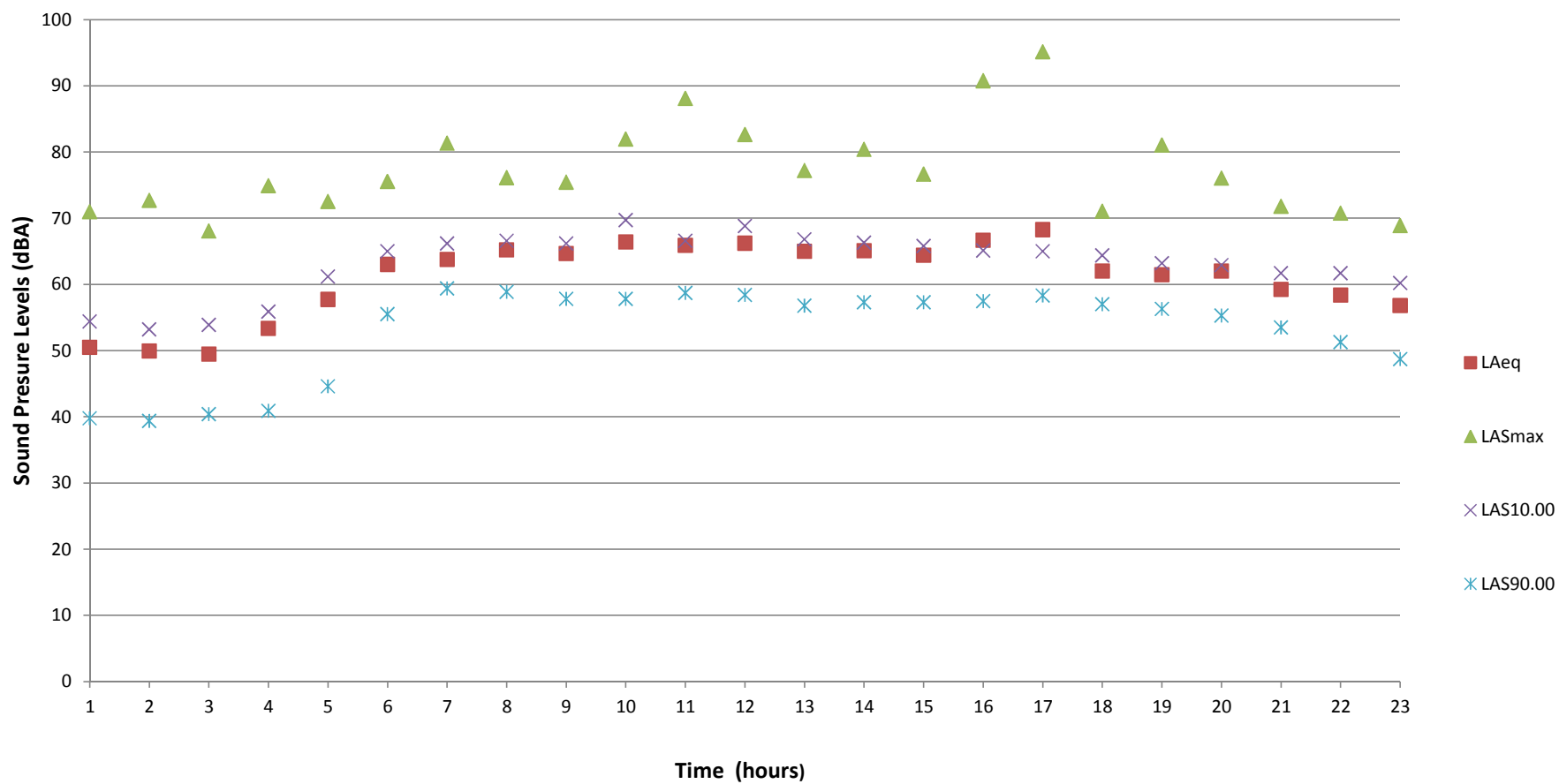
Figures 1 & Graphs 1 – 6





Olive & Schulte
 Enviromental Noise Study
 November 4th, 2016

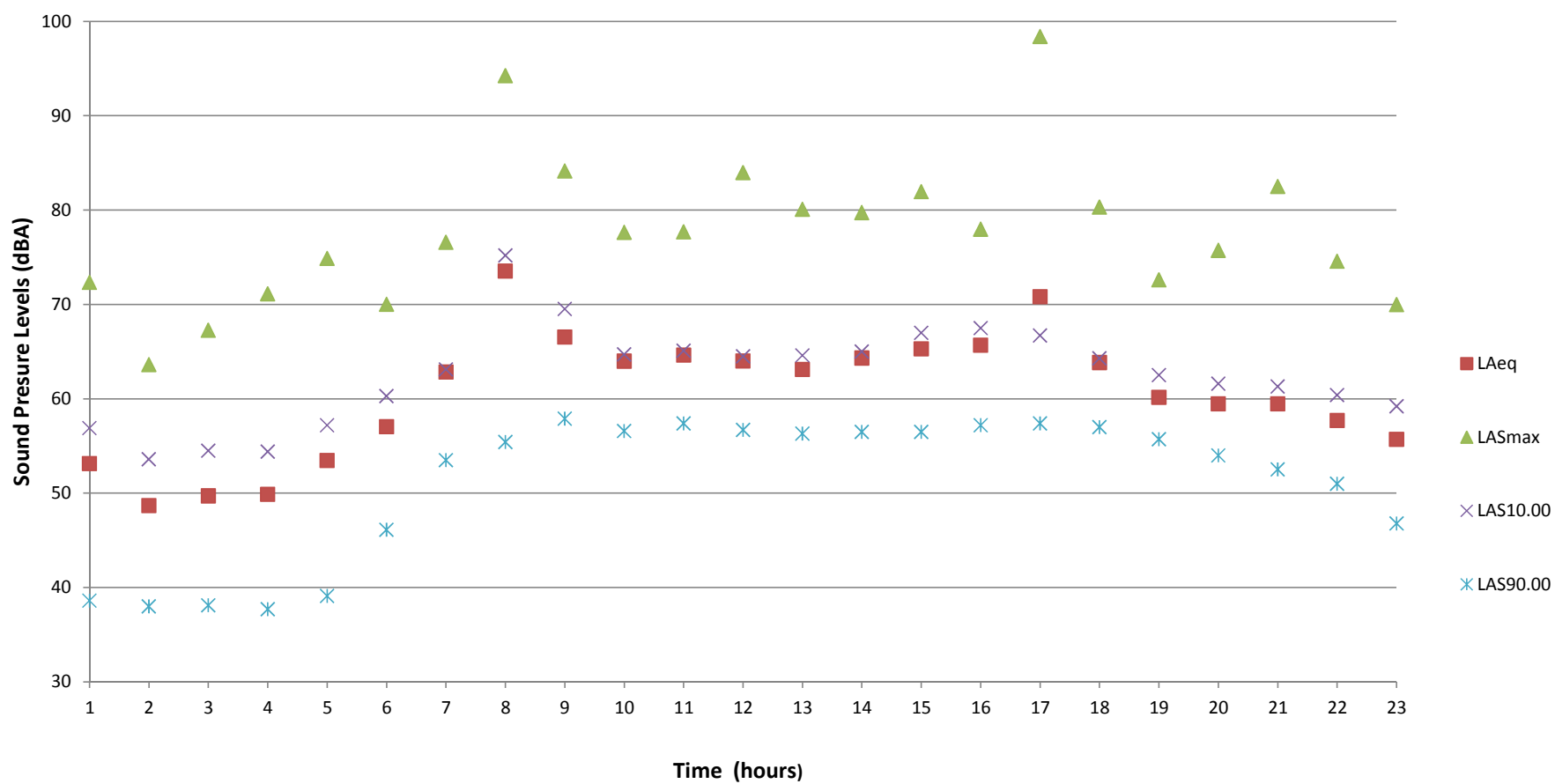
Ldn 24 = 65.8
 Leq (Day) = 64.9
 Leq (Night) = 57.0





Olive & Schulte
 Enviromental Noise Study
 November 5th, 2016

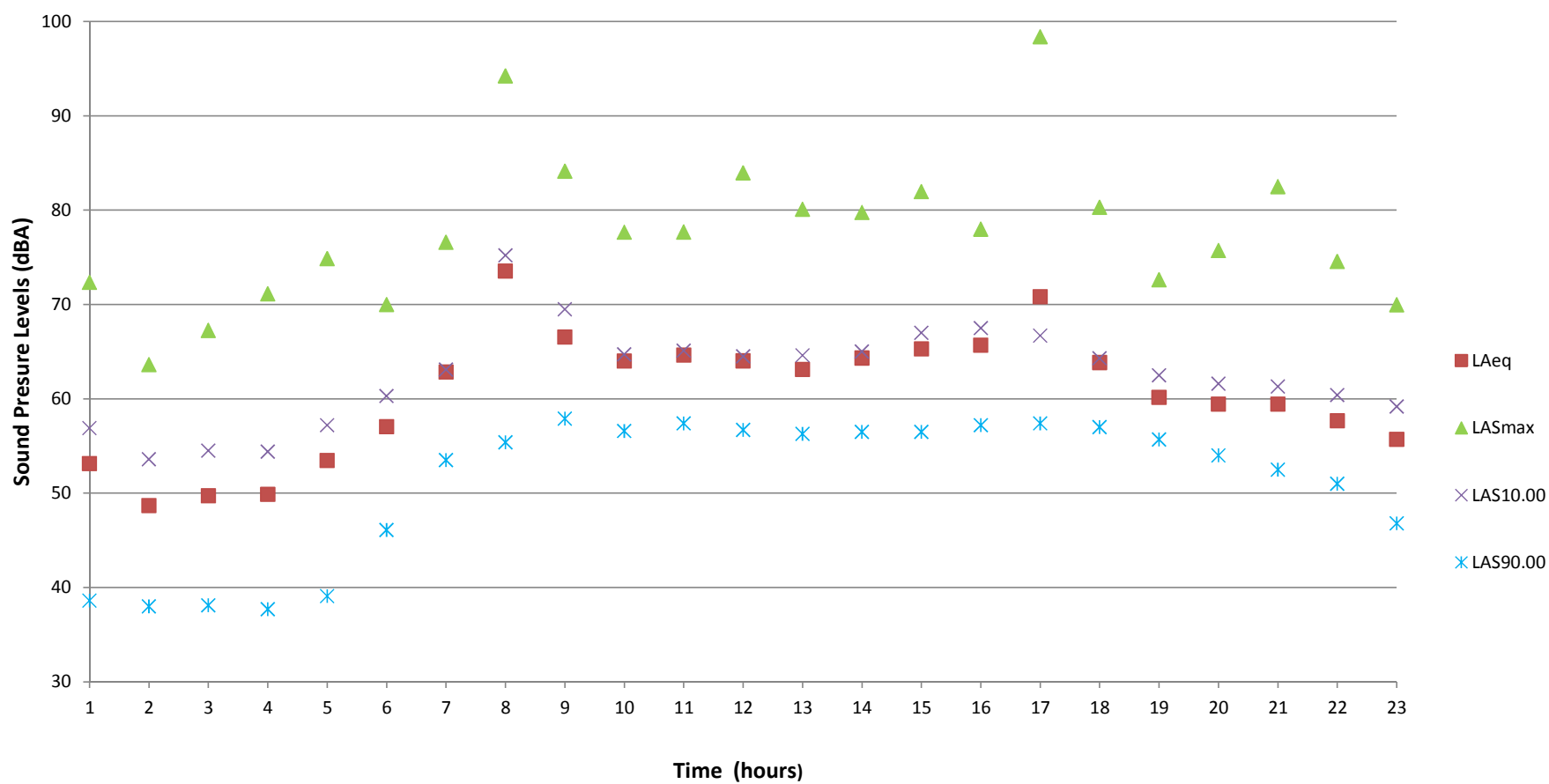
Ldn 24 = 65.7
 Leq (Day) = 66.4
 Leq (Night) = 54.3





Olive & Schulte
 Enviromental Noise Study
 November 6th, 2016

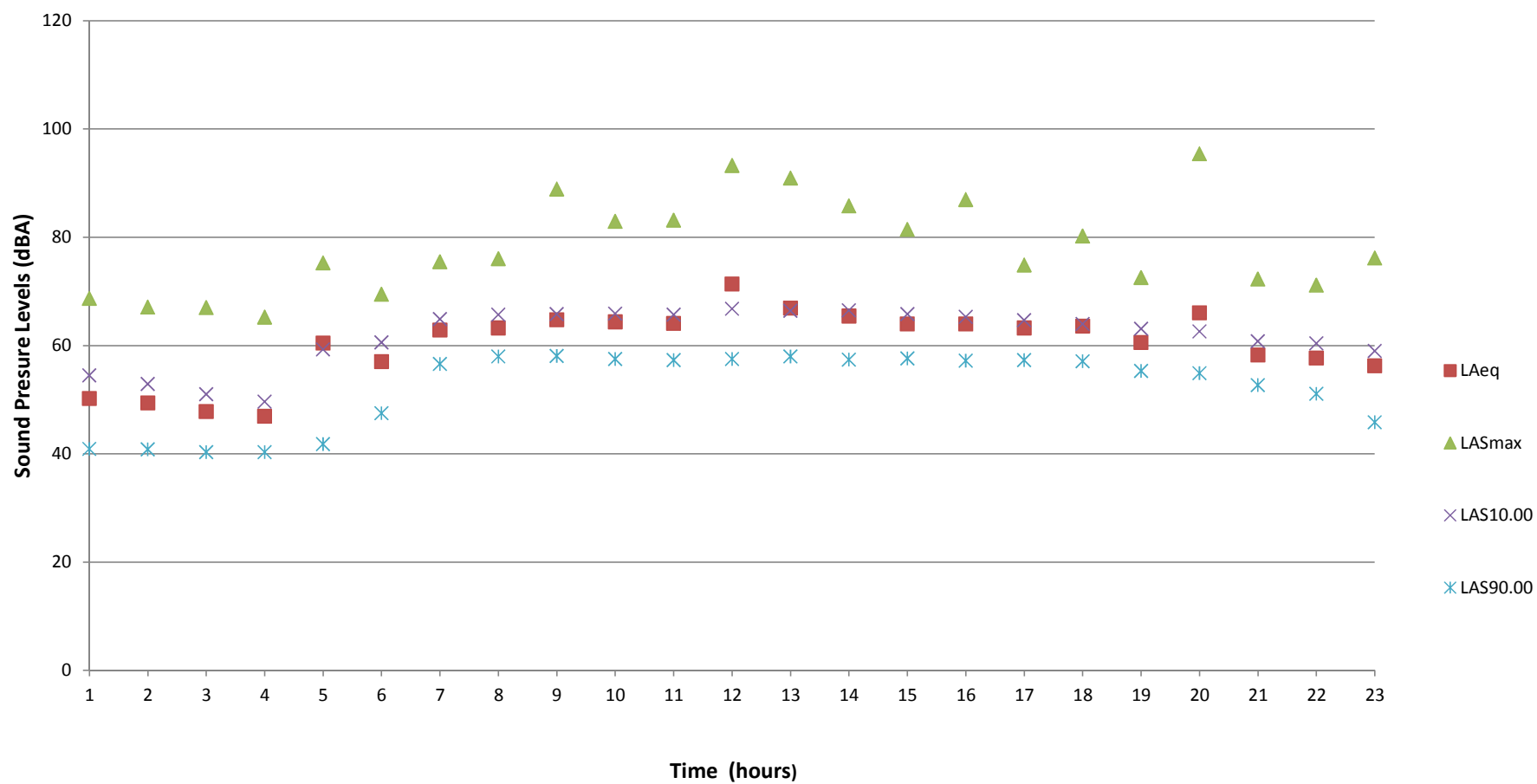
Ldn 24 = 65.1
 Leq (Day) = 63.2
 Leq (Night) = 57.1





Olive & Schulte
 Enviromental Noise Study
 November 7th, 2016

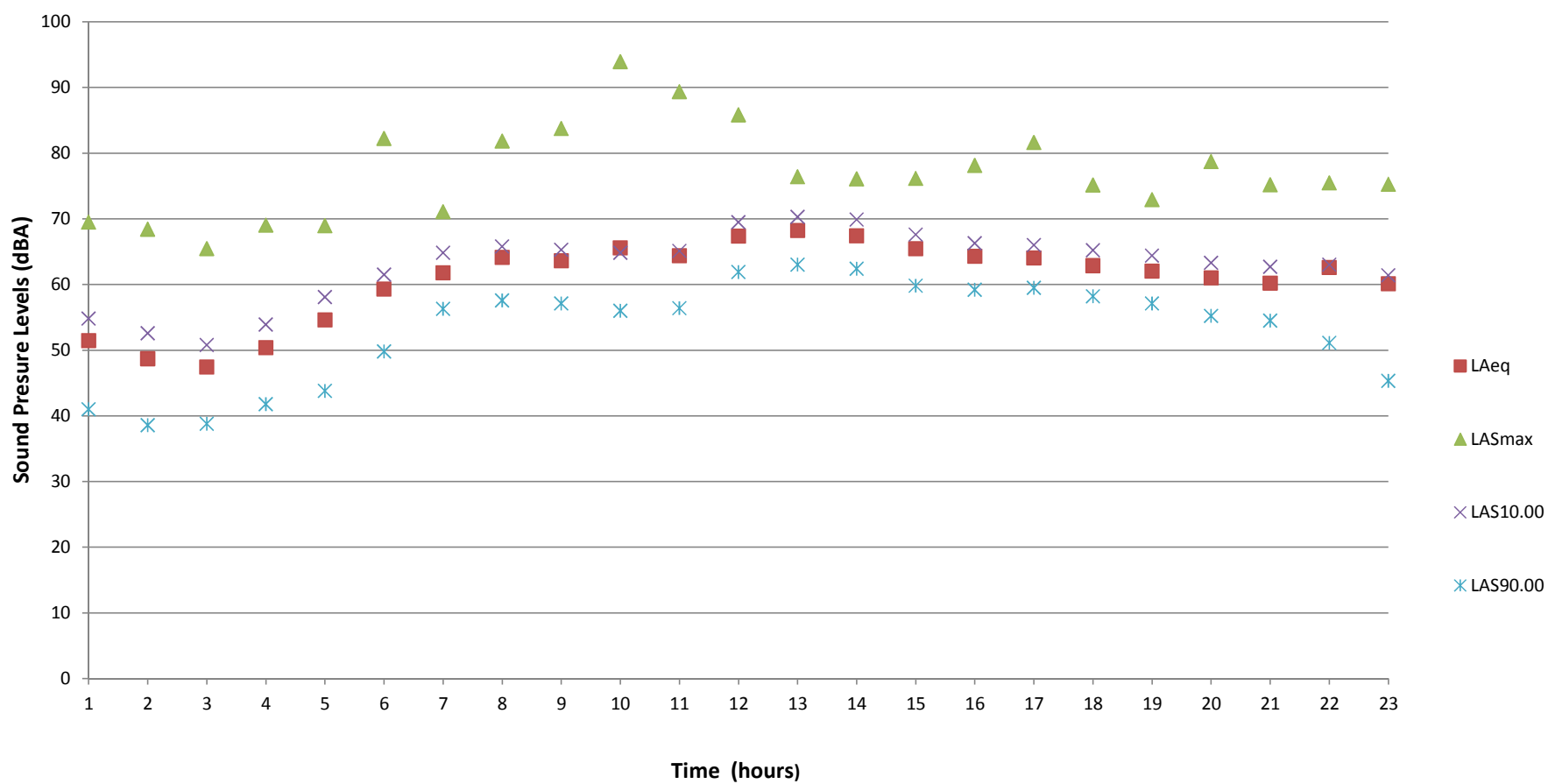
Ldn 24 = 65.3
 Leq (Day) = 65.2
 Leq (Night) = 55.4





Olive & Schulte
 Enviromental Noise Study
 November 8th, 2016

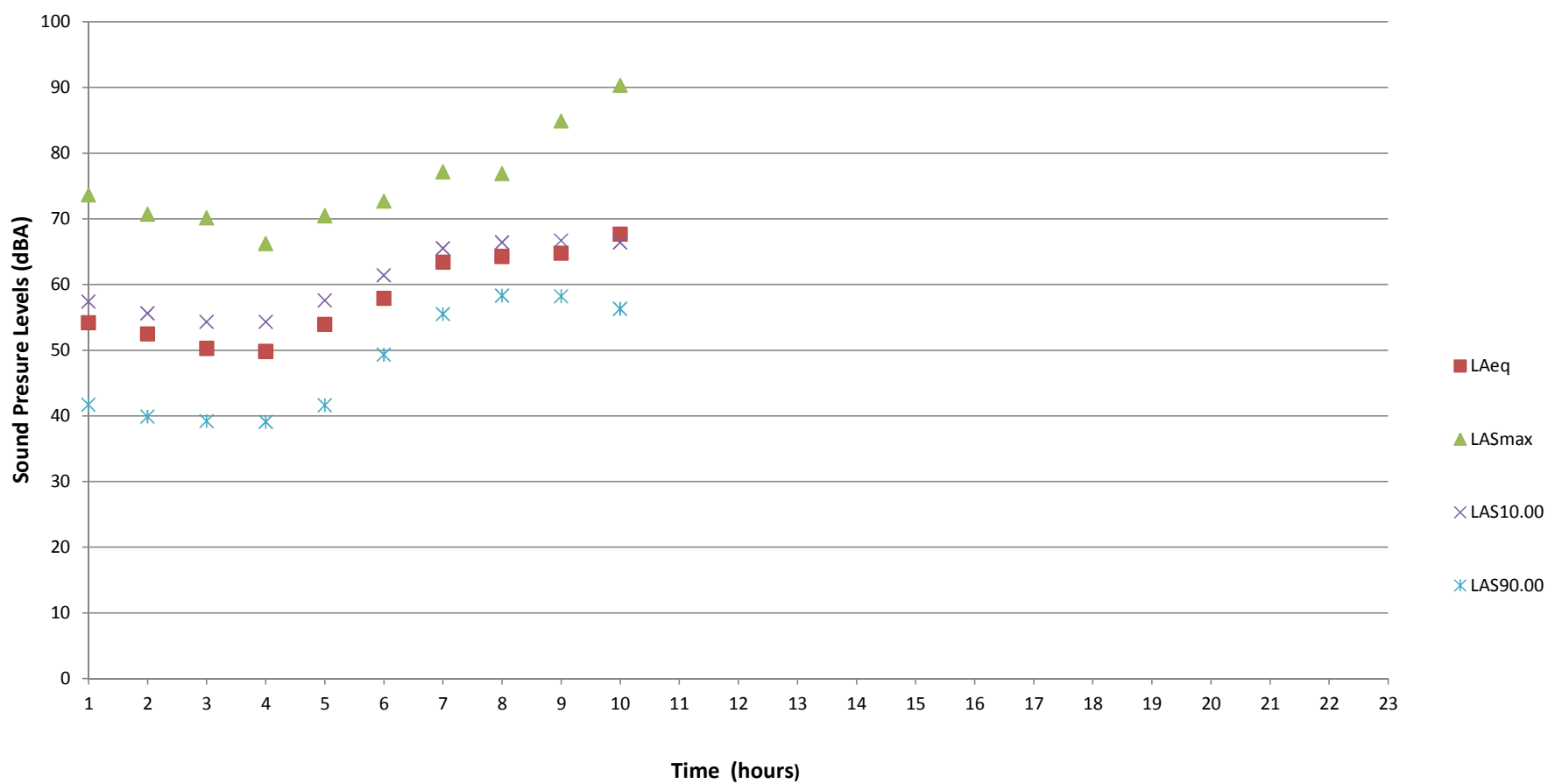
Ldn 24 = 65.8
 Leq (Day) = 64.7
 Leq (Night) = 57.1





Olive & Schulte
 Enviromental Noise Study
 November 9th, 2016
 (Only partial day of recordings)

Ldn 24 = 64.9
 Leq (Day) = 64.9
 Leq (Night) = 54.3





Whitney Kelly <wkelly@crevecoeurmo.gov>

Application #16-031 Rezoning for Mobil on the Run

Bill Halliburton <billhfs@sbcglobal.net>

Wed, Apr 19, 2017 at 1:56 PM

To: Jason Jaggi <jjaggi@crevecoeurmo.gov>, Whitney Kelly <wkelly@crevecoeurmo.gov>, bglantz@ci.creve-coeur.mo.us, jfaron@crevecoeurmo.gov, atravers@crevecoeurmo.gov

Dear Concerned Creve Coeur Administrators:

I own the single family residence at 11147 Olive Blvd. I have owned this home since 1972.

11127-11135-11141 Olive are residences too, and office several commercial enterprises, and have so for many years, as I am sure you are aware.

11141 is used as dormitory housing for employees that are here for the landscaping season each year and are employed by Quiet Village Landscaping Co., which offices at 11135 Olive Blvd., along with other commercial enterprises. This has existed for years, though I am aware that Quiet Village has acquired property to move to North of Creve Coeur. 11127 Olive contains commercial enterprises also.

Were the rezoning to take place, I would be the only residence left in this block of homes. I would be between the Mobil complex, and the houses on Woodshire Lane. This would not be desirable at all, nor a desirable situation to be in.

I ask that you not approve this rezoning as my residence would not integrate with the existing surrounding uses.

I would certainly be "lonely" on Olive, and essentially have a depreciated property.

Please pass this on to the Planning and Zoning Commission Members;

Beth Kistner, Chair

Gene Rovak

Tim Carney

Heather Silverman

Matthew Schuh

Muriel Hall

Donald Magruder

Thank you for your help,

Sincerely,

Bill Halliburton

11147 Olive Blvd.

(314)567-4163

fax- (314)567-3729

e-mail- billhfs@sbcglobal.net



city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
(314) 432-6000 • Fax (314) 872-2539 • Relay MO 1-800-735-2966
www.creve-coeur.org

**APPLICATION TO PLANNING AND ZONING COMMISSION
#16-031 FOR THE REZONING, CONDITIONAL USE PERMIT, AND SITE
DEVELOPMENT PLAN AND BOUNDARY ADJUSTMENT APPROVAL OF A
MOBIL ON THE RUN CONVENIENCE STORE WITH GAS PUMPS AND
BRITEX CAR WASH FACILITY LOCATED AT 11109-11141 OLIVE
BOULEVARD & 11100-11114 OAK LAKE COURT, CURRENTLY ZONED GC
GENERAL COMMERCIAL AND C SINGLE FAMILY RESIDENTIAL**

FOR THE MEETING OF: Monday, December 5, 2016

LOCATION: 11109 – 11141 Olive Boulevard, and 11100, 11108, and 11114 Oak Lake Court, including portions of unincorporated St. Louis County, at the northwest corner of Schulte Road, and Olive Boulevard.

REQUEST: Kevin Kamp, of Civil & Environmental Consultants, Inc. has submitted an application on behalf of Wallis Companies (Arch Energy, LLC), for the rezoning of 11127, 11135 & 11141 Olive Boulevard, from C-Single Family Residential District to GC-General Commercial District, and for a Conditional Use Permit, Site Development Plan and Boundary Adjustment for a new Mobil on the Run convenience store with gas pumps and BriteWorx Car Wash facility encompassing 11109-11141 Olive Boulevard and 11100-11114 Oak Lake Court.

ADDITIONAL INFORMATION: The Applicant will also be submitting to St. Louis County for review and approval of the proposed uses for the portions of these properties located within Unincorporated St. Louis County. Section 405.360 GC-General Commercial District generally requires a minimum area of five acres, but not if expanding an existing GC District, and the existing Mobil Station at 11109 Olive Boulevard is already zoned GC-General Commercial. The proposal is 3.92 acres and is adjacent to an existing property zoned GC District. Gasoline Stations with Convenience Stores (NAICS #447110) and Car Wash Facilities (NAICS #811192) are conditional uses in the GC District. The existing Mobil was originally developed in 1984.

Key Issues:

- Does the request integrate with the existing surrounding uses?
- Does the request further the goals and/or implement the Comprehensive Plan?
- Does the request meet with the minimum standards of the proposed GC-General Commercial?
- Is the request consistent with the required findings for a conditional use permit?

Comp. Plan References

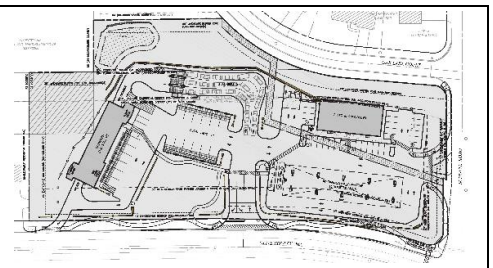
- East Olive Corridor Action Area

Zoning Code References

- Section 405.210: Regulation of Uses, Table A
- Section 405.360 GC-General Core Business District
- Section 405.470 Conditional Uses
- Section 405.1060 Zoning Changes and Text Amendments

APPLICANT: Kevin Kamp
Civil & Environmental Consultants, Inc.
4848 Park 370 Boulevard, Suite F
Hazelwood, MO 63042

PROPERTY Wallis Companies (Arch Energy, LLC)
OWNER: 106 East Washington
Cuba, MO 65453



REPORT PREPARED BY: Jason Jaggi, AICP, Director of Community Development; Whitney Kelly, AICP, City Planner
DATE: 12/1/2016
ATTACHMENTS: Applicant's Materials received November 4, 2016
Traffic Impact Study from CBB
City's Consulting Traffic Engineer Memo
Sound Study submitted November 4, 2016
Public Comment

SCOPE OF REVIEW AND STAFF ANALYSIS

The focus of this staff report is to provide an analysis and findings on the most significant aspects of these applications for the proposed development as they relate to the request for rezoning, compatibility with the Comprehensive Plan, Design Guidelines and Zoning Ordinance. Staff is of the opinion that it would be most useful for the Commission and the public to review the broader aspects of this proposal with the Applicant so that further direction can be provided.

SUMMARY OF PROPOSAL

Kevin Kemp, of Civil & Environmental Consultants, Inc., on behalf of Wallis Companies, has submitted a request for the following:

- Rezone the 11127, 11135 & 11141 Olive Boulevard properties in the City of Creve Coeur from C-Single Family Residential District to GC-General Commercial District.
- Conditional Use and Site Development Plan approval for a 4,800 square foot new 24-hour Mobil on the Run Convenience Store located on the former Oak Lake Court parcels, with 20 pump Gas Station on the existing 11109 Olive Boulevard gas station site and a 5,128 square foot BriteWorx Car Wash with 17 outdoor vacuum stations on the 11127, 11135 & 11141 Olive Boulevard properties that has proposed hours of operation of 7 AM to 9 PM.
- Boundary adjustment approval to consolidate 11109 – 11141 Olive Boulevard, and 11100, 11108, and 11114 Oak Lake Court into one 3.92 acre parcel.

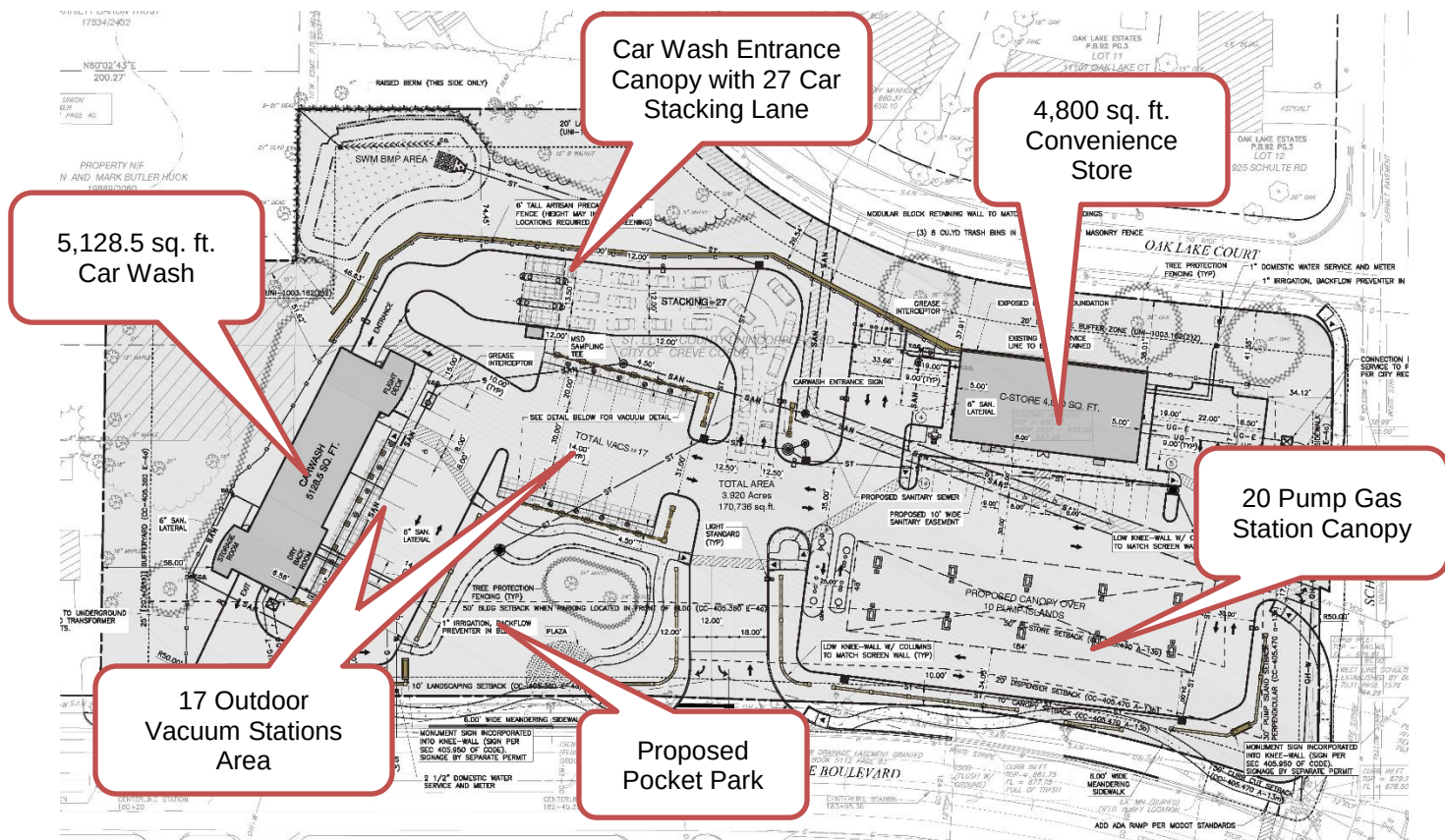


Figure 1: Close-up of the Applicant's Site Development Plan



Figure 2: South Elevation of the Convenience Store

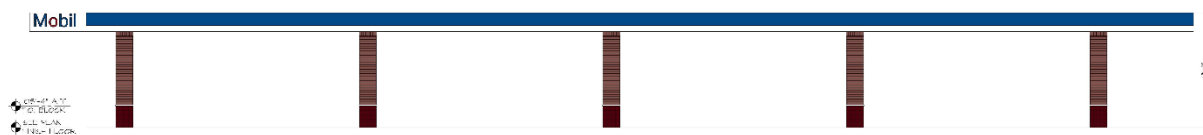


Figure 3: South Elevation of the Gas Pumps Canopy

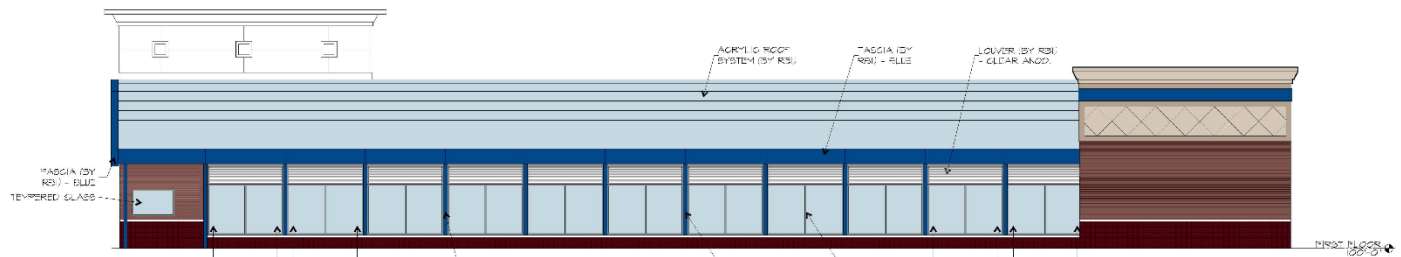


Figure 4: West Elevation of the Car Wash Facility

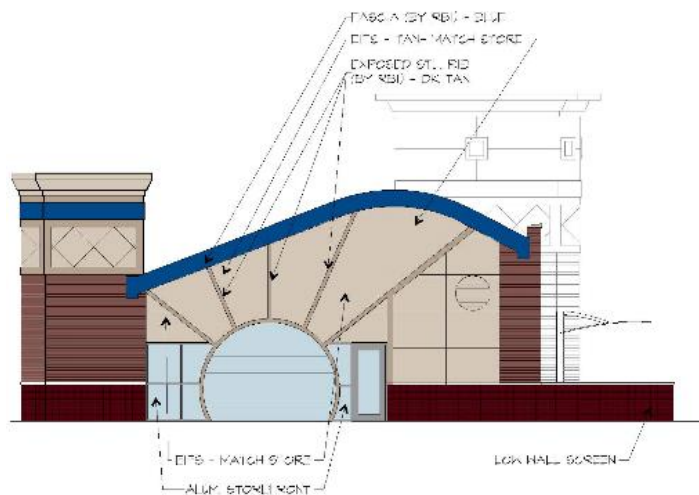


Figure 5: South Elevation of the Car Wash Facility

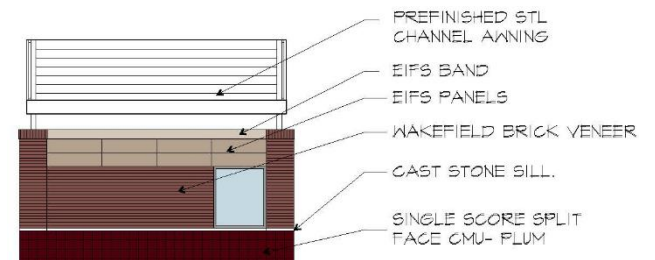


Figure 6: South Elevation of the Vacuum Stations

LAND USE AND ZONING OF SURROUNDING PROPERTIES

The adjacent zoning and land uses are as follows:

DIRECTION	USE	ZONED	SEPARATED BY
North	Residential	Unincorporated St. Louis County C8 Planned Commercial; R3 Residential	Partial Oak Lake Court
South	Complete Music, Masonic Lodge; Residential Structures used for offices	Partial GC General Commercial; C Single Family Residential	Olive Boulevard
East	Gas Station with Car Wash	GC General Commercial	Schulte Road
West	Residential	Partial C Single Family Residential; A Single Family Residential	NA

COMPREHENSIVE PLAN REVIEW

The subject property is located in the East Olive Corridor of the Comprehensive Plan that envisions an area of small businesses with a residential neighborhood character, with substantial green spaces and with landscaping for a “green line” park that gives the impression of driving or walking through a park along Olive Boulevard (page 51). The Residential Preservation and Economic Development Section discusses that the land uses envisioned for this corridor include small-scale retail, office, single-family, multi-family, and parks and recreation uses with the following policies, which are most applicable to the nature of this request (Pages 52-53):

- 1. Preserve and protect single-family residential areas from intrusions of non-residential uses. Limit commercial and non-single family uses to Olive Boulevard. Limit retail uses to a size and scale designed to provide goods and services to the Creve Coeur market rather than to a regional market.*
- 3. Maintain this area with a residential character, even when homes are converted or replaced by business uses. New development or redevelopment should be compatible with the low-density residential character of the corridor, as discussed below.*
- 4. Protect existing healthy, larger trees during the development or redevelopment process.*
- 5. All elevations of new construction or redevelopment should maintain the overall character of the existing residential structure or area. Emphasis should be given to compatible door, window and other opening location, size and scale.*
- 7. All new development or redevelopment of non-residential uses should comply with the Creve Coeur Design Guidelines. The City's Design Guidelines should be strengthened for this area to ensure that building scale, height, shape, and volume will be compatible with residential structures. Illustrations should be added to depict acceptable building design features.*
- 8. Mechanical equipment should be located so as not to be visible from any public ways or adjacent residential areas. Where such limitation is not possible, the facilities should be screened from public view with materials compatible with the building. The backs or sides of buildings adjacent to residential areas should be designed so as to cover utility boxes and meters, have architectural treatment of facades similar to the front façade, incorporate landscaping, strips or other buffers (low walls, ornamental fencing and incorporate opaque screening of dumpsters and mechanical equipment.*
- 9. Mitigate the impact of non-residential uses on residential area through heavy landscaping and other buffers.*
- 10. New buildings should have setbacks consistent with surrounding established residential patterns and provide a sidewalk and landscape treatment in the front of buildings. New development should be designed to provide connections to the “green line” park linear greenway.*

15. Operational compatibility standards should be adopted and enforced to control noise, lighting, the placement of outdoor vending machines, and hours of operation, particularly for commercial uses near residential areas.

Further, the Comprehensive Plan provides recommendations of key properties along the East Olive Corridor. The subject properties lie largely in East Olive Corridor Key Property Area 2, with a small portion in Key Area 1 as shown below:

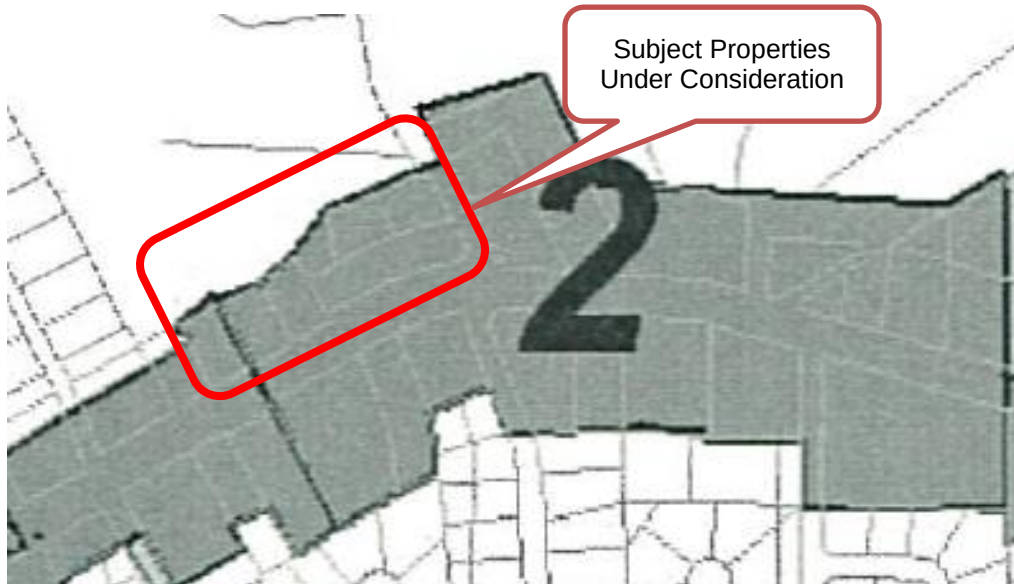


Figure 7: Close-up of the East Olive Corridor Key Properties Map of the Comprehensive Plan found on Page 55, with the subject properties boxed in red.

East Olive Corridor Key Property Area 2 recommends that as redevelopment and new investment occurs, the area will be encouraged to remain commercial, with uses limited to neighborhood-oriented commercial. Redevelopment should be designed to protect and be compatible with adjacent residential areas, as provided for in the *Residential Preservation and Economic Development* recommendations for the East Olive Corridor. (Page 57).

The current draft of the Comprehensive Plan Update, *Creve Coeur 2030*, currently under review would further the existing Comprehensive Plan recommendations with the East Olive Corridor vision to create a walkable corridor of destination retail boutiques, neighborhood service business, small-scale restaurants, and attached townhomes and low-density multi-family homes that encourage pedestrian access from adjacent neighborhoods and prioritize walkability between neighboring lots while accommodating car access and easy parking (p. 88). Frontage recommendations encourage uniform setbacks on neighboring lots to establish a consistent location and orientation of building façade frontages to Olive Boulevard.

Compatibility with the Comprehensive Plan

The proposed development of a gas station with a convenience store and a separate, detached car wash facility with exterior vacuum stations appears to be consistent with a few of the policies of the Comprehensive Plan; however, Staff finds the proposal to be in conflict with several significant policies of the Plan.

The development includes pedestrian amenities and landscaping treatments given the proposed auto-oriented uses. For example, the Applicant has included a pocket park with pedestrian amenities and sufficient landscaped buffer along the rear and west side of the development and low-height landscape wall feature which furthers the project toward the goals of the Comprehensive Plan. In addition, the Applicant is proposing to save several large, mature trees on the site and has incorporated them into the site planning for the project.

The proposal's primary challenges with the policies of the Comprehensive Plan involve the scale of the proposed development, the intensity of the uses at the scale which is proposed, and the compatibility of the development with the residential character of this section of Olive Boulevard. The Comprehensive Plan clearly speaks to this area of Olive Boulevard as having a vision for smaller scale retail and service businesses that cater to the surrounding residential neighborhoods. To further the goal of compatibility, the Comprehensive Plan suggests that the commercial uses themselves incorporate design elements that maintain this strong residential character. As currently proposed, Staff finds that this project is inconsistent with these elements of the Comprehensive Plan. Redevelopment of the existing facility within the existing GC District would be more in keeping with the character of the area, and the Comprehensive Plan, and standards for the GC District discussed further below.

A rezoning contrary to the Comprehensive Plan should be founded on two concepts: one, that the current goals, and those proposed with the *Creve Coeur 2030* plan, are sufficiently debatable that their intended outcomes can be questioned; and two, that the proposal more adequately fulfills the goals of the Comprehensive Plan and, by extension, represents a greater benefit to the public interest. Staff is not convinced that the proposal offers a greater benefit to the public interest, or more adequately fulfills the goals of the Comprehensive Plan. While current plan recommendations for the area may be questionable with regard to the conversion of existing homes to commercial uses, and that the GC District may be an appropriate zoning discussed further below, the overall scale of the proposed development would represent a significant departure for the area that has maintained a residential feel connecting the larger commercial centers of the Central Business District and the Commerce Center. Regardless of the specific merits of the proposal, it remains unclear how it represents a tangibly greater benefit to the public. Staff finds that the scale and intensity of the proposed development would be more appropriate in a larger heavy commercial or industrial area.

DESIGN GUIDELINES REVIEW

As noted earlier in this report, Staff will only provide discussions on the larger design issues. Once direction has been provided on the overall appropriateness of the project, as proposed, a more detailed review will be provided at the appropriate time.

The Design Guidelines recommend that the size, design, and orientation of buildings should be sensitive to existing terrain, existing buildings, and the surrounding area, the use of natural materials and architectural consistency between all building elevations, and an overall sense of architectural continuity on all elevations. The use of false or decorative façade treatments is discouraged. Further, multiple buildings on the same site are to create a cohesive visual relationship between the buildings. Material and/or color changes at the outside corners of structures that give the impression of thinness and artificiality of the material are discouraged.

The following is a list of Staff's key items that should be discussed and/or revised based on further discussion at the meeting:

- The large gaps and interruptions along the "streetscape" caused by the non-pedestrian elements, such as the vacuum area, and service entrance into the car wash facility.
- The degree of usability of the 'pocket park' pedestrian amenities in the proposed location and the extensive use of low walls to provide visual interest which appears to heighten the large scale of the development.
- Strong use of corporate architecture and overuse of EIFS that is strongly discouraged, and the overall design which is inconsistent with the Comprehensive Plan which calls for incorporating residential design elements to maintain the residential character of commercial buildings in this section of Olive Boulevard.
- Building elements, such as parapet wall, penthouses or screen walls should be treated as an integral part of the architecture, where the Convenience Store relies on EIFS to create an artificial height to the building that is not in keeping with the residential character surrounding the area.

- The lack of a separated pedestrian connection from the gas pump to the main entrance of the convenience store that does not interfere with the Accessible parking area, where the Design Guidelines recommend breaking up the row of parking.
- The Design Guidelines provide specific direction regarding Auto Service Stations where separate structures, such as a canopy, carwash or cashier's booth should be avoided; however, if approved, should have a consistent design theme and a car wash that is incorporated into the project shall be well integrated into the design.

ZONING REVIEW

Section 405.1060(B) of Zoning Changes and Text Amendments requires that the action of the Planning and Zoning Commission approving, disapproving, or conditionally approving the site concept or site development plan shall accompany its recommendation to the City Council regarding the rezoning. Therefore, while a recommendation on the proposed conditional use permit and site development plan with any rezoning is required, the rezoning of properties is not contingent on the implementation of the development and, if approved, would remain.

The stated purpose and intent of the GC District is to accommodate by site development plan approval convenience retail shopping and services and offices which are free standing or part of small scale planned commercial developments and which are compatible in scale and intensity of use with adjacent residential uses. While a Gas Station with Convenience Store, and a Car Wash are conditional uses in the GC District, it is the overall scale and intensity of use of the proposal that are inconsistent with the stated purpose of the GC District.

As Staff is seeking direction regarding the key discussions of the appropriateness of the development with the Comprehensive Plan and the purposes and intent of the GC-General Commercial District, a full analysis with the remaining sections of the Zoning Code, including signage and landscaping will be completed at a later time.

TRAFFIC IMPACT STUDY

The Applicant has included a Traffic Impact Study (TIS) conducted by CBB that has been reviewed by the City's Consulting Traffic Engineer, GBA. Comments from St. Louis County Department of Transportation have been provided; however, MoDOT has not provided formal comments at this time. The City's Consulting Traffic Engineer did raise a few items, namely, requesting additional queue length information for other turning movements within the study area, the difficulty of enforcing the no left turn access from northbound Schulte into the site, the spacing of the full access point from the Olive/Schulte intersection, and the proximity and orientation of the adjacent driveway to the residence to the west with the exit from the car wash facility that is within 50 feet from one another.

Since both adjacent public roadways are controlled by entities other than the City (MoDOT and St. Louis County), the Applicant will be required to obtain final approval from each agency. The TIS prepared by CBB on behalf of the Applicant, the GBA TIS review memo, and the review letter by St. Louis County are attached to this report for review by the Commission.

SOUND STUDY

A sound study was completed by Designed Acoustics based upon the nature of the proposed use. To gain an understanding of the possible noise impacts associated with the car wash facility in particular, Staff would recommend that Commission members visit the Mobil on the Run location at 9371 Olive Boulevard in Olivette. Depending upon the direction of the other elements of this proposal staff would look to review the noise study in greater detail at the appropriate time.

BOUNDARY ADJUSTMENT PLAT

As part of this request, the Applicant has submitted a plat that would consolidate all of the individual lots into one new lot consisting of 3.920 acres. The consolidated lot would straddle both jurisdictions of the City of Creve Coeur and Unincorporated St. Louis County. As a boundary adjustment plat is largely a ministerial act by the Commission, it would be appropriate to defer action.

REVIEW BY ST. LOUIS COUNTY

The total development site includes 2.807 acres located within the City of Creve Coeur and 1.113 acres located within Unincorporated St. Louis County. Based upon conversations with the St. Louis County Planning Department, the Applicant will be required to submit the plans for the County's approval in conjunction with the review by the City. Any approval by the City of this proposal should incorporate a condition that the Applicant receive approval of the plan by St. Louis County.

RECOMMENDATION AND ACTION

At this time, Staff is seeking direction regarding the compatibility of the proposal with the Comprehensive Plan, the rezoning of portions of the site to the GC District, and the larger aspects of the Design Guidelines before completing a full review of the Conditional Use and Site Development Plans.

As discussed throughout this report, the GC District may be an appropriate zoning designation; however it is Staff's opinion that the proposal does not meet with significant elements of the Comprehensive Plan and does not create a compelling argument for action inconsistent with the Comprehensive Plan, nor are there public benefits unique to this project that substantially justify the approval of the proposal as presented. Further, the scale of the proposal is inconsistent with the stated purposes of the GC District that calls for small scale neighborhood commercial developments that is compatible in scale with the adjacent residences and would leave a remnant parcel which would effectively prohibit any future redevelopment potential of the property that fronts directly onto Olive Boulevard located just west of the development at 11147 Olive Boulevard.

The Commission should hear from the Applicant and provide direction regarding the Comprehensive Plan and the appropriateness of the proposal within the General Commercial District. If they find that additional design consideration or other modifications are necessary which may include reducing the scale of the project, they should make a motion to continue the proposal to the December 19th or later meeting and provide such direction to the Applicant. If they find that the proposal is inconsistent with the Comprehensive Plan and with the purpose and intent of the General Commercial District, they should make motions to approve the applications and then individually vote to recommend denial of the Applications.

MOTION

The following are examples of appropriate motions for these applications, **but without any stated conditions at this point:**

"I move to approve Application #16-031 for the rezoning of properties at 11127, 11135 & 11141 Olive Boulevard, currently zoned C Single Family Residential, to GC General Commercial."

"I move to approve Application #16-031 for a boundary adjustment and conditional use permit for a Mobil on the Run convenience store with 20 gas pumps and Briteworx car wash facility with 17 outdoor vacuum stations located at 11109-11141 Olive Boulevard & 11100-11114 Oak Lake Court."

"I move to approve Application #16-031 for site development plan for a Mobil on the Run convenience store with 20 gas pumps and Briteworx car wash facility with 17 outdoor vacuum stations located at 11109-11141 Olive Boulevard & 11100-11114 Oak Lake Court."

Or,

“I move to continue Application #16-031 for the rezoning, conditional use permit, and site development plan and boundary adjustment approval of a Mobil on the Run convenience store with 20 gas pumps and Briteworx car wash facility located at 11109-11141 Olive Boulevard & 11100-11114 Oak Lake Court, currently zoned GC General Commercial and C Single Family Residential to allow for the Applicant to revise the drawings based upon the discussion and direction from the Commission” (conditions may be added, eliminated, or modified by preceding motion).

APPENDIX 1: COMPREHENSIVE PLAN, INCLUDING DESIGN GUIDELINES

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 4: SITE PHOTOGRAPHS

Photo Date: 12/01/2016



Description: View looking northwest at the Existing Mobil Station at 11109 Olive Boulevard from the Olive Boulevard and Schulte Road intersection.



Description: View looking north at the home used as a commercial office at 11127 Olive Boulevard that that will be removed for the proposed development.



Description: View looking north at the home used as a commercial office at 11135 Olive Boulevard that will be removed for the proposed development.



Description: View looking northwest at the home used as a commercial office at 11141 Olive Boulevard that will be removed for the proposed development. The home at 1147 Olive Boulevard in the background will be remaining.



Description: View looking south from the subject property at the homes south of Olive Boulevard.

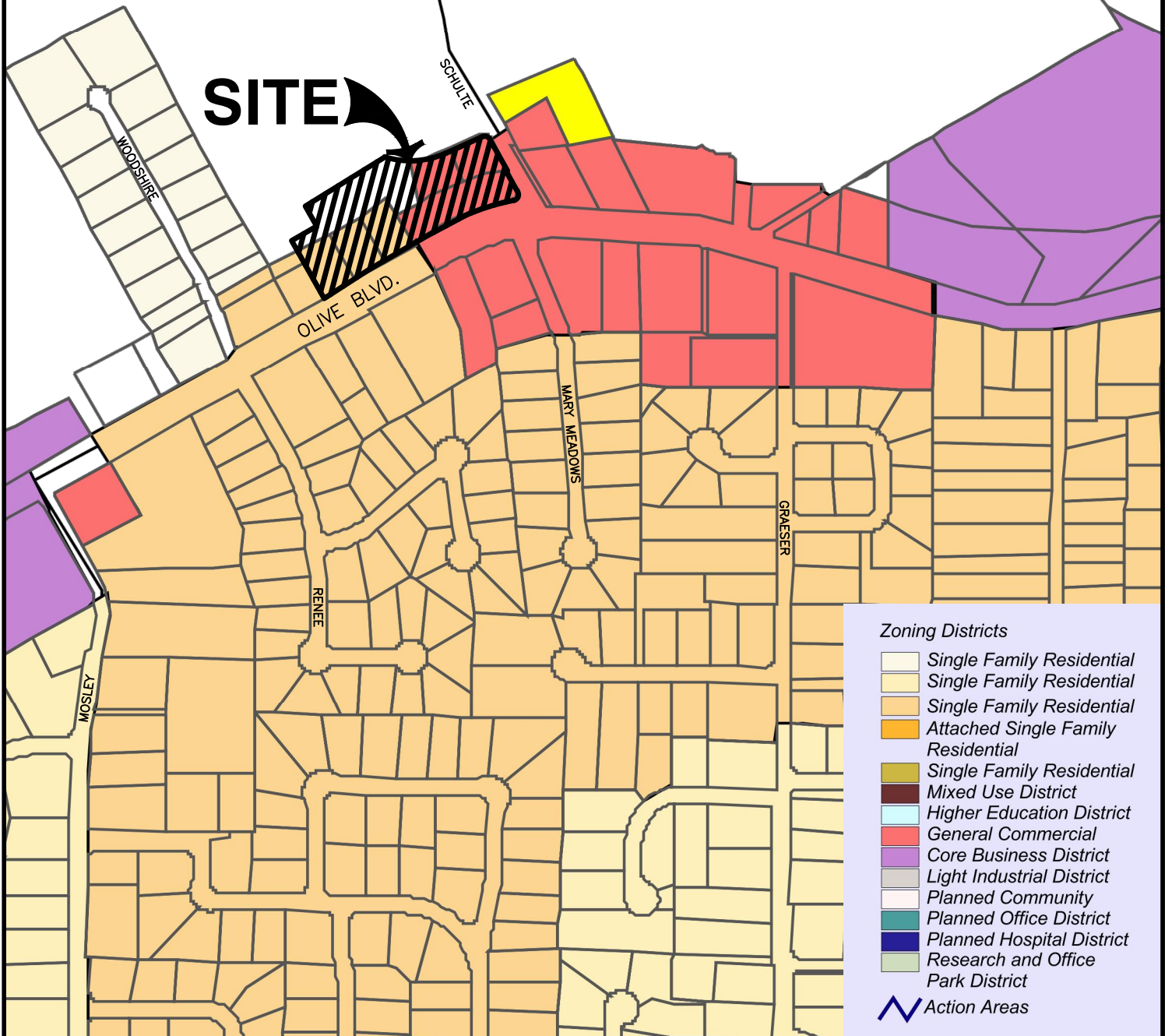


Description: View looking southeast at the commercial buildings at the corner of Olive Boulevard and Mary Meadows Drive on the southside of Olive Boulevard.

	Description: View looking east from western property line of the subject properties.
	Description: View looking southwest of the home at 11100 Oak Lake Court that will be removed for the proposed development.
	Description: View looking east from the cul-de-sac of Oak Lake Court at 11108 and 11114 Oak Lake Court that will be removed for the proposed development.



SITE



REFERENCE

1. IMAGE DEPICTED COURTESY OF CREVE COEUR DEPARTMENT OF COMMUNITY DEVELOPMENT, GOVERNMENT CENTER, 300 N. NEW BALLAS ROAD, CREVE COEUR, MO 63141.

*HAND SIGNATURE ON FILE



Civil & Environmental Consultants, Inc.

4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042

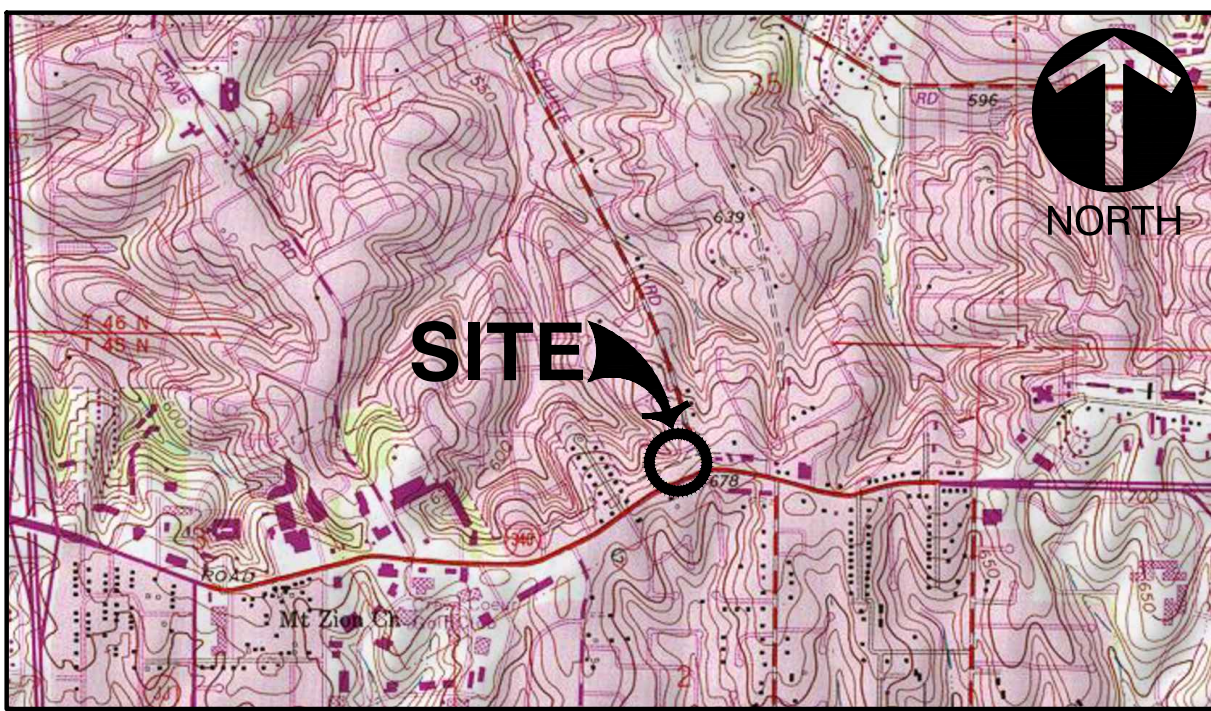
314-656-4566 · 866-250-3679

www.cecinc.com

WALLIS COMPANIES
106 EAST WASHINGTON
CUBA, MO 65453
(636) 549-1600

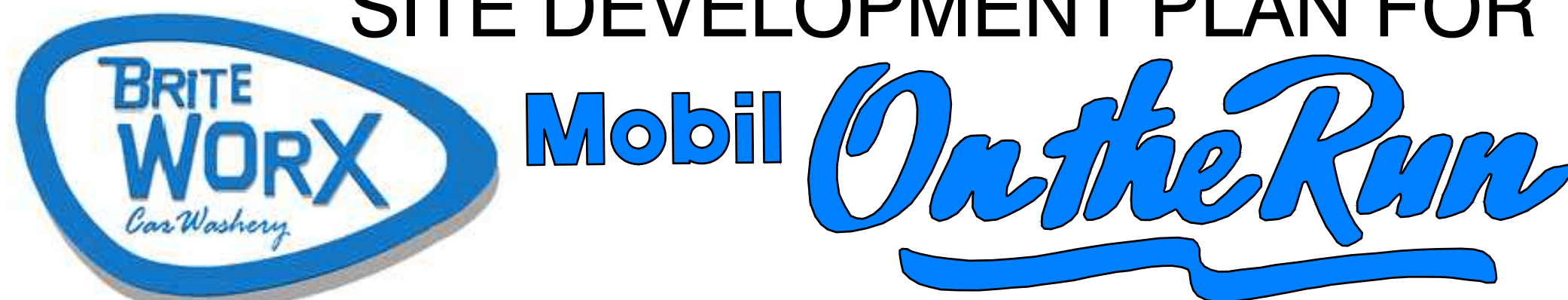
**BRITE WORX/MOBIL ON THE RUN
ZONING MAP**

DRAWN BY:	MAK	CHECKED BY:	KTK	APPROVED BY:	KTK*	FIGURE NO.:
DATE:	NOV. 2016	DWG SCALE:	(NONE)	PROJECT NO:	110-241	1



USGS MAP

U.S.G.S. 7.5' TOPOGRAPHIC MAP CREVE COEUR QUADRANGLE MISSOURI
DATED 1990, PHOTOREVISED 1993
SCALE 1" = 2,000'



A TRACT OF LAND BEING ALL OF LOTS 1, 2, 3 AND 4 OF "OAK LAKE ESTATES", P.B.92 PG.3
AND PART OF LOTS 3, 4, AND 5 OF THE SUBDIVISION OF THE FARM OF S.S. MATSON IN U.S. SURVEY 1962,
TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE FIFTH PRINCIPAL MERIDIAN ST. LOUIS COUNTY, MISSOURI

SITE CALCULATIONS:	*GREENSPACE DEFINED AS AREAS OF LANDSCAPE AND WALKWAYS/PLAZAS		
	CITY OF CREVE COEUR	ST. LOUIS COUNTY (UNINCORPORATED)	TOTAL
TOTAL SITE AREA	122,276.9	48,459.0	170,735.9
BUILDING	9,928.5	0.0	9,928.5
PAVEMENT	59,543.1	8,353.8	67,896.9
SIDEWALK/PLAZA	6,499.6	59.4	6,559.0
LANDSCAPE	46,305.7	40,045.8	86,351.5
PERCENTAGE GREENSPACE*	43.2%	82.8%	54.4%
PERCENTAGE SITE COVERAGE	56.8%	17.2%	45.6%

PRE/POST IMPERVIOUS AREAS [AREAS IN SQ. FT.]

[BASED ON ABOVE]
TOTAL AREA OF SITE = 170,736
PRE-DEVELOPMENT IMPERVIOUS AREAS = 65,586 ~ 38.4%
POST-DEVELOPMENT IMPERVIOUS AREAS = 77,833 ~ 45.6%

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT

LACLEDE GAS COMPANY
COMMERCIAL & INDUSTRIAL MARKETING
720 OLIVE STREET
ST. LOUIS, MO 63101
CONTACT: JIM TRAVIS
PHONE: 314-342-0687
EMAIL: jtravis@lacledegas.com

AT&T TELEPHONE
402 N 3RD
ST. CHARLES, MO 63301
CONTACT: JIM LILLY
PHONE: (636) 949-4228

MCI FIBER
2400 NORTH GLENVILLE
RICHARDSON, TX 75082
CONTACT:
PHONE: (972) 729-6016 EXT. 1

MISSOURI AMERICAN WATER
727 CRAIG RD.
CREVE COEUR, MO 63141
CONTACT: DAWN SPINK
PHONE: (314) 996-2379
EMAIL: dawn.spink@amwater.com

CREVE COEUR FIRE PROTECTION DISTRICT
11221 OLIVE BLVD.
CREVE COEUR, MO 63141
CONTACT: MR. KENNETH BLACK
PHONE:

ST. LOUIS METROPOLITAN SEWER DISTRICT
2350 MARKET ST.
ST. LOUIS, MO 63103
PHONE: (314) 766-6200

AMEREN
DORSETT DISTRICT
1212 DORSETT ROAD
MARYLAND HEIGHTS, MO 63043
CONTACT: RYAN ALEXANDER
PHONE: (314) 344-9560
EMAIL: RAlexander2@ameren.com

CHARTER COMMUNICATIONS
815 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
CONTACT: RICHARD STURK
PHONE: (636) 387-6650
EMAIL: mopping-design@chartercom.com

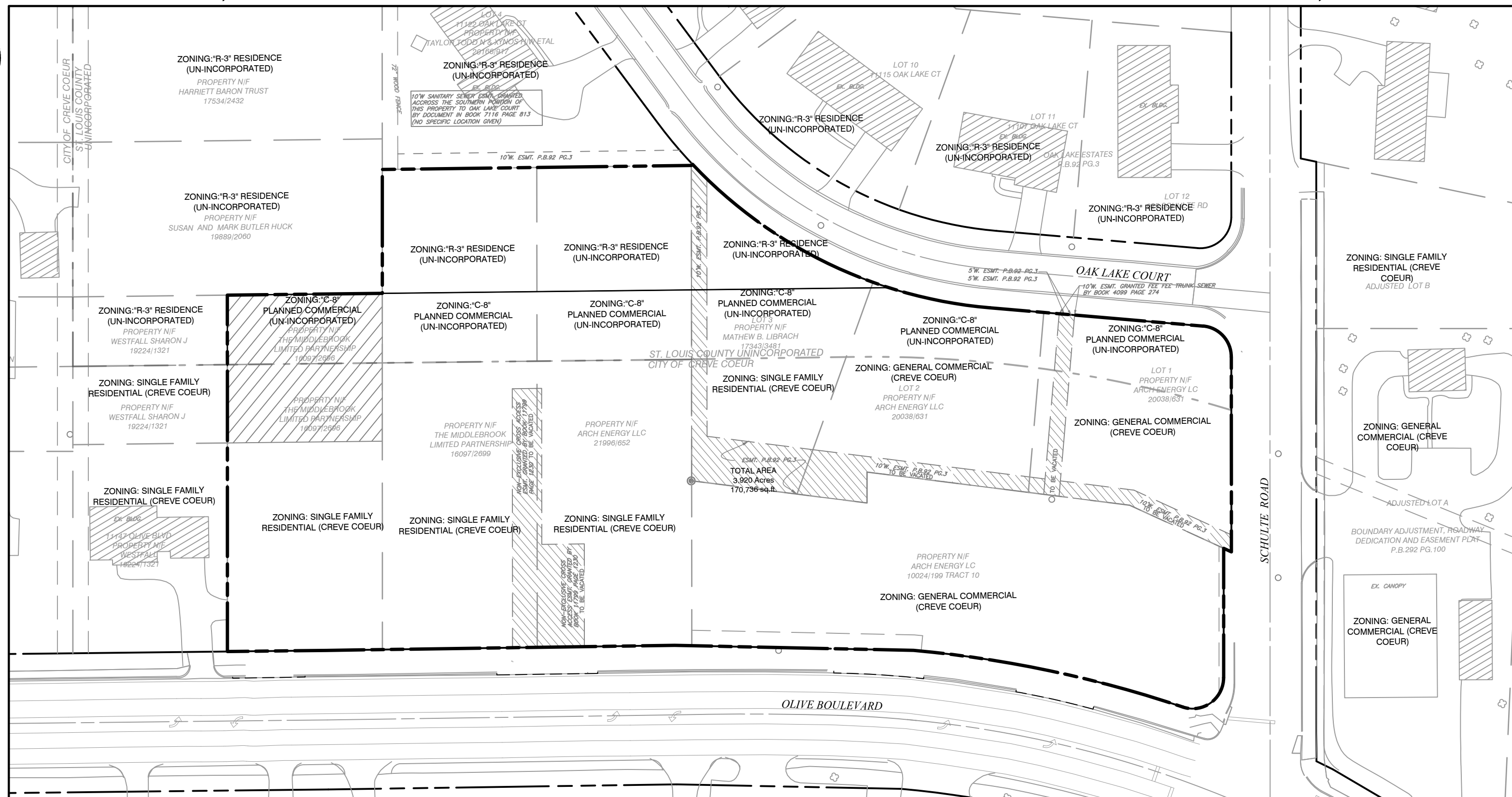
MODOT
WEST AREA PERMITS
1590 WOODLAKE DRIVE
CHESTERFIELD, MO 63017-5712
CONTACT: JIM BODART
PHONE: (314) 340-4318
EMAIL: James.Bodart@modot.mo.gov

ARCHITECT
OSM, INC.
15510 OLIVE BLVD., SUITE 207
ST. LOUIS, MISSOURI 63017
PH: (636) 536-7004
FX: (636) 536-7014
CONTACT: STEWART MACGREGOR
EMAIL: SM@ATT.NET

LANDSCAPE
ACORN LANDSCAPES
HTTP://WWW.ACORNLANDSCAPES.COM
PH: (636) 394-0255
CONTACT: MARY FRANCOIS DEWEESE
EMAIL: DEWEESE@ACORNLANDSCAPES.COM

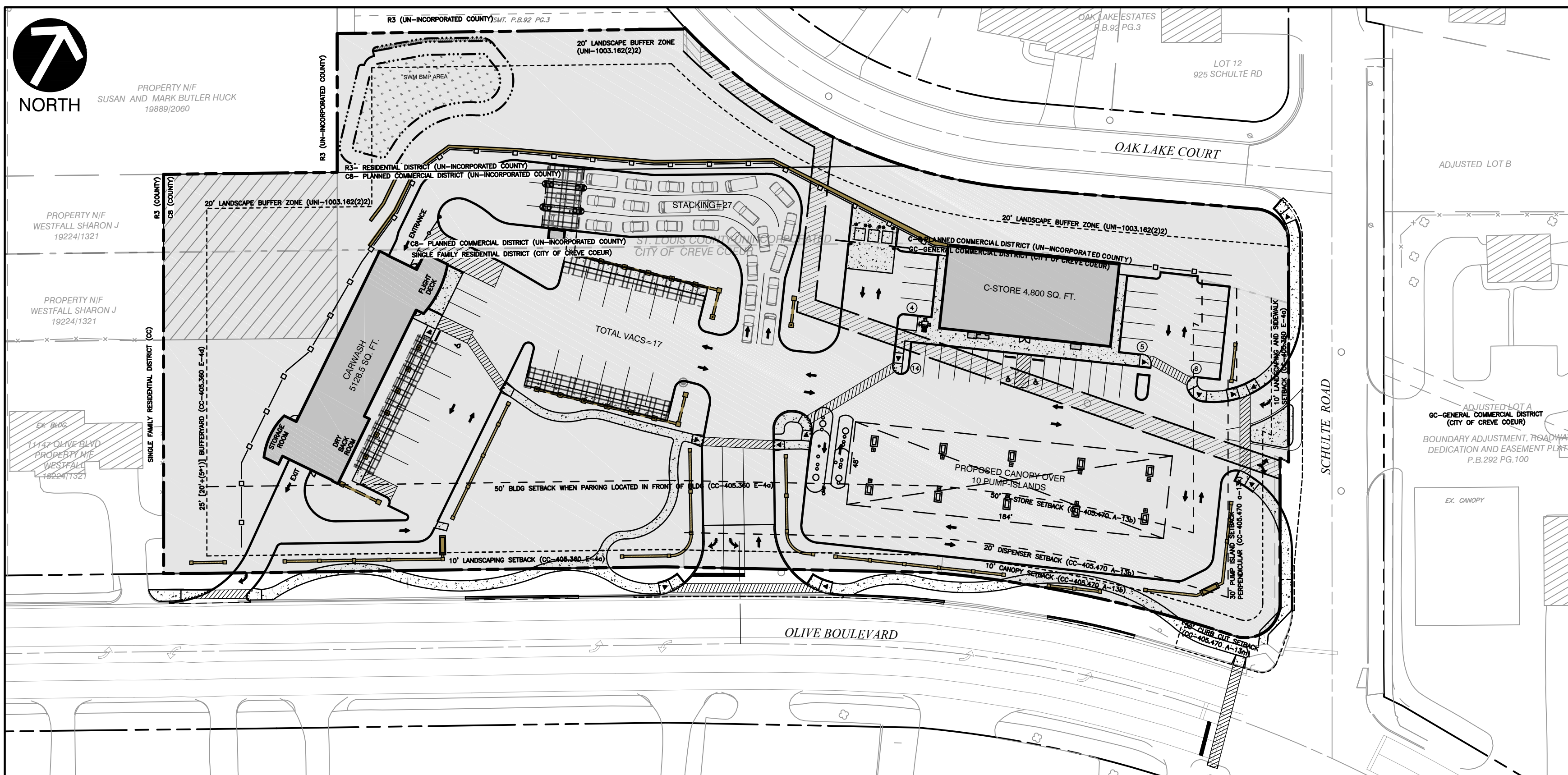
CIVIL ENGINEER
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
4848 PARK 370 BLVD., SUITE F
HAZELWOOD, MISSOURI 63042
PH: (314) 656-4566
FX: (314) 656-4595
CONTACT: KEVIN KAMP, PE

LIGHTING
PEIKER PIATCHEK ASSOCIATES
ST. LOUIS, MISSOURI 63129
PH: (314) 892-4646
FX: (314) 397-1160
CONTACT: RICHARD HAYDEN
EMAIL: RHAYDEBP@AOL.COM



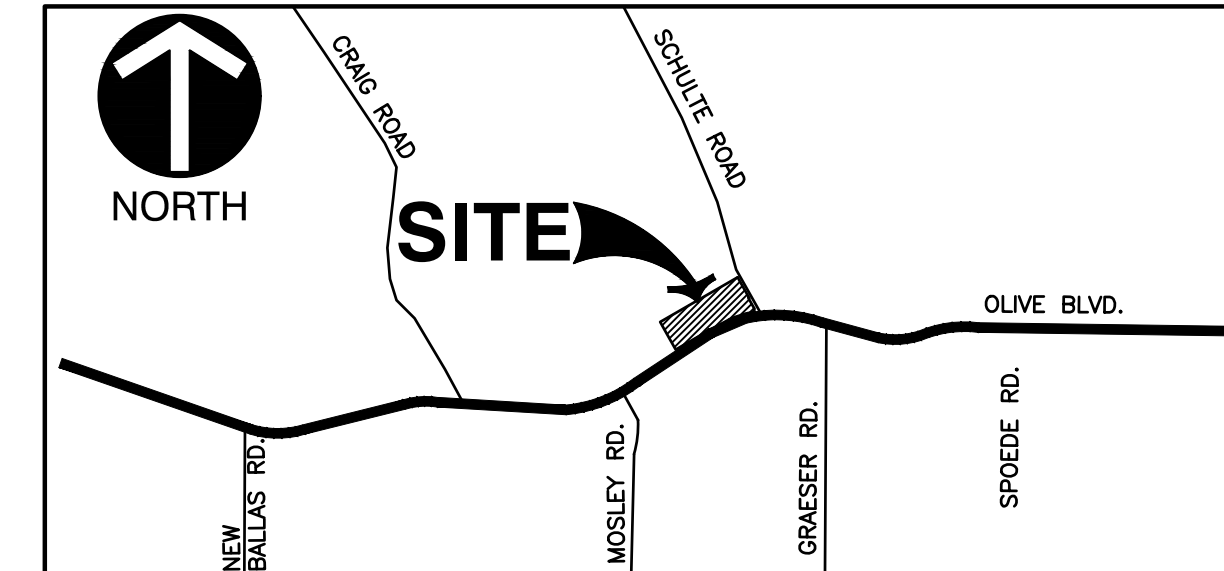
ZONING MAP

SCALE: 1" = 60'



OVERALL SITE MAP

SCALE: 1" = 50'



DEVELOPMENT NOTES

- TOTAL PARCEL AREA: 170,736 SQ. FT. (3.920 ACRES)
AREA WITHIN CITY LIMITS: 122,277 SQ. FT. (2.807 ACRES)
AREA WITHIN UNINCORPORATED: 48,459 SQ. FT. (1.113 ACRES)
- CURRENT ZONING (CC)-
PROPOSED ZONING (CC)-
CURRENT ZONING (UN)-
PROPOSED ZONING (UN)-
SINGLE FAMILY RESIDENTIAL & GENERAL COMMERCIAL
GENERAL COMMERCIAL
R3 (RESIDENCE) & C8 (PLANNED COMMERCIAL DISTRICT)
C8 (PLANNED COMMERCIAL DISTRICT)
- SETBACKS-
FRONT YARD/ROW (CC) 10 FEET OLIVE BLVD. (CC)
SIDE YARD (CC) 0 FEET SCHULTE ROAD (IN LIEU OF ROW GIVEN TO COUNTY)
SIDE YARD (UN) 12 FEET
REAR YARD (UN) 10 FEET
BUFFER YARD 15 FEET (NORTH PROPERTY LINE)
25 FEET (SEC 405.360 E-4J) WITH FENCE FOR DRIVE THRU SCREENING
*BUFFER YARD @ 20FT + (5 X 1) = 25 FEET
BUILDING HEIGHT NOTE: ALL PROPOSED BUILDINGS TO BE 1 STORY IN HEIGHT
- SPECIAL CONSIDERATIONS-
4.1. TRASH ENCLOSURES SHALL BE INTERIOR TO THE SITE AND NOT ALONG THE NORTH PROPERTY LINE
4.2. SIDEWALKS ALONG OLIVE BLVD. SHALL BE FIVE-FOOT IN WIDTH UNLESS ABUTTING CURB, IN WHICH CASE SHALL BE INCREASED TO SIX-FOOT WIDE.
4.3. PLAN SHALL BE SO DEVELOPED TO INCLUDE AN INTEGRATED PEDESTRIAN CIRCULATION SYSTEM.
- FIRE DISTRICT: CREVE COEUR
- FLOOD NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE CITY OF CREVE COEUR, MISSOURI (COMMUNITY PANEL NUMBER 290344 0166 H, EFFECTIVE DATE AUGUST 2, 1995), AND THE FLOOD INSURANCE RATE MAP OF ST. LOUIS COUNTY, MISSOURI (UNINCORPORATED AREAS) (COMMUNITY PANEL NUMBER 290327 0166 H, EFFECTIVE DATE AUGUST 2, 1995) THIS PROPERTY LIES WITHIN ZONE X. ZONE X IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD.
- ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND.
- TRASH ENCLOSURES SHALL BE SIX FOOT (6') IN HEIGHT AND SHALL BE CONSTRUCTED W/ A SIGHT-PROOF GATE. MATERIALS SHALL BE COMPATIBLE WITH THE ARCHITECTURE OF MAIN BUILDINGS AND OF SIMILAR MATERIALS.
- STACKING: GENERAL STANDARDS
9.1. DRIVE-THROUGH STACKING LANES SHALL HAVE A MINIMUM WIDTH OF TWELVE FEET.
9.2. STACKING LANES SHALL BE SET BACK 20 FEET FROM RESIDENTIALLY ZONED PROPERTY LINES.
9.3. AUDIBLE ELECTRONIC DEVICES SUCH AS LOUDSPEAKERS, AUTOMOBILE SERVICE ORDER DEVICES, AND SIMILAR INSTRUMENTS SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY RESIDENTIAL PROPERTY LINE.
9.4. ALL DRIVE-THROUGH AREAS, INCLUDING BUT NOT LIMITED TO MENU BOARDS, STACKING LANES, TRASH RECEPTACLES, LOUDSPEAKERS, DRIVE UP WINDOWS, AND OTHER OBJECTS ASSOCIATED WITH THE DRIVE-THROUGH AREA SHALL BE LOCATED IN THE SIDE OR REAR YARD OF A PROPERTY, AND SHALL NOT CROSS, INTERFERE WITH, OR IMPEDE ANY PUBLIC RIGHT-OF-WAY.

SITE CALCULATIONS 170,736 SQ. FT.:

AREA CREVE COEUR	=	122,277 SQ. FT. (2.807 ACRES)
GREENSPACE (CC)	=	52,808
IMPERVIOUS (CC)	=	69,472 (56.8%)
AREA UNINCORPORATED	=	48,459 SQ. FT. (1.113 ACRES)
GREENSPACE (UN)	=	40,098
IMPERVIOUS (CC)	=	8,361 (17.3%)
TOTAL GREENSPACE	=	91,548 (54.4%)
TOTAL IMPERVIOUS	=	77,833 (45.6%)

RATIO OF FLOOR TO SITE IN SQ. FT. (FAR)
1:17.2 (1 SQ. FT. OF FLOOR SPACE TO 17.2 SQ. FT. OF PARCEL AREA)

PARKING CALCULATIONS:

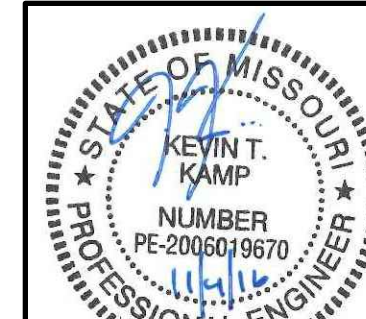
REQUIRED = GENERAL RETAIL @ 4 PER 1,000 SQ. FT. = 19.2
UNINCORPORATED
REQUIRED = CARWASH @ 1/BAY + 5 STACKING PER BAY = 20
FOOD MARKET @ 3-1/3 PER 1,000 SQ. FT. = 15.9
PROVIDED = 27 STACKING
= 30 SPACES INCLUSIVE OF 2 ACCESSIBLE SPACES

PRELIMINARY DRAINAGE NOTES

- PROJECT AREA: 170,736 (3.92 ACRES)
- WATERSHED: FEE FEE
- 15YR/20MIN DIFFERENTIAL RUNOFF (Q=A*PI, PER MSD):
PRE: Q=(3.92AC)*(0.38)*(3.54)+(3.92AC)*(0.62)*(1.70)=9.43 CFS
POST: Q=(3.92AC)*(0.10)*(4.20)+(3.92AC)*(0.41)*(3.54)+
(3.92AC)*(0.49)*(4.60)=9.84 CFS
DIFFERENTIAL RUNOFF: Q=(+)-1.17 CFS
- PER MSD SECTION 4.080.01(2B), THIS PROJECT DOES NOT REQUIRE DETENTION, HOWEVER THE SITE MUST PROVIDE WATER QUALITY.
- PER THE NATIONAL RESOURCE CONSERVATION SERVICE (NRCS) THIS PROJECT IS WITHIN HYDROLOGIC SOIL GROUP "D" HAVING A LOW INFILTRATION RATE AND HIGH RUNOFF POTENTIAL.
- WATER QUALITY VOLUME FOR THE ENTIRE SITE (3.92 ACRES AT 51% IMPERVIOUS) PER MARYLAND STORMWATER DESIGN MANUAL APPENDIX D-10:
Wqv=3.02 CFS OR Wqv=5,300 CF
WATER QUALITY BMPs:
• HYDRODYNAMIC SEPARATOR AND SNOOT FOR HOTSPOT AREA AT GAS PUMPS
• BIORETENTION (WILL ALSO PROVIDE VOLUME REDUCTION)

DRAWING LIST

SHEET NO.	DRAWING NO.	TITLE
01	C000	COVER
02	C100	EXISTING CONDITIONS PLAN
03	C200	SITE & UTILITY PLAN
04	C300	GRADING PLAN
05	C301	SITE SECTIONS



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REFERENCE

- TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.

REVISION RECORD		NO.	DATE	DESCRIPTION
1	1/15/2010	1	1/15/2010	SUBMITTAL TO CITY OF CREVE COEUR, REGIONAL, CONDITIONAL USE & SITE DEVELOPMENT PLAN, P&T
2	1/15/2010	2	1/15/2010	
3	1/15/2010	3	1/15/2010	
4	1/15/2010	4	1/15/2010	
5	1/15/2010	5	1/15/2010	
6	1/15/2010	6	1/15/2010	
7	1/15/2010	7	1/15/2010	
8	1/15/2010	8	1/15/2010	

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4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042
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www.ccecinc.com

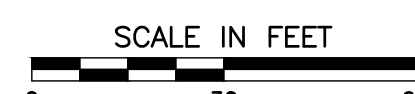
WALLIS COMPANIES
106 EAST WASHINGTON
CUBA, MO 65453
(636) 549-1600

SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORX
COVER
DATE: AUG. 2019 DRAWN BY: CAC
DWG SCALE: AS NOTED CHECKED BY: KTK
PROJECT NO: 110-241
APPROVED BY: KTK

DRAWING NO.: **C000**
SHEET 01 OF 05



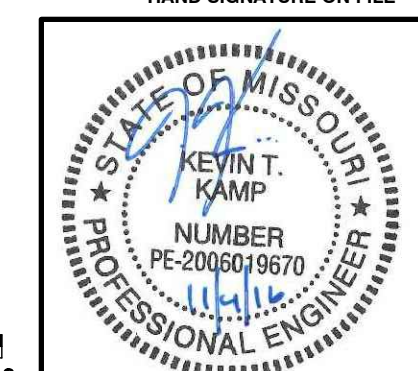
ST. LOUIS COUNTY
MISSOURI



	SPOT ELEVATION		SANITARY MANHOLE		PULL BOX		SAN	UNDERGROUND SANITARY
	PROPERTY CENTER LINE		SANITARY CLEAN OUT		LIGHT POLE		ST	UNDERGROUND STORM
	SET MONUMENT		BILLBOARD POST		GAS METER		W	UNDERGROUND STORM
	FLOW ARROW		SINGLE POST SIGN		GAS VALVE		T	UNDERGROUND TELEPHONE
	STORM GRATED INLET		DOUBLE POST SIGN		WATER MANHOLE		G	UNDERGROUND GAS
	STORM GRATED INLET		FENCE POST		WATER METER		OH-E	OVERHEAD UTILITIES
	STORM INLET		ELECTRIC BOX		WATER VALVE		680	MAJOR CONTOUR LINE
	STORM DOUBLE INLET		ELECTRIC MANHOLE		FIRE HYDRANT		681	MINOR CONTOUR LINE
	STORM DOUBLE INLET		ELECTRIC METER		GUY WIRE			
	STORM MANHOLE		ELECTRIC METER					

1. TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.

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WALLIS COMPANIES 106 EAST WASHINGTON CUBA, MO 65453 (636) 549-1600	SITE DEVELOPMENT PLAN MOBIL ON THE RUN & BRITE WORX EXISTING CONDITIONS PLAN				DRAWING NO.: C100																												
	DATE:		AUG. 2018		DRAWN BY:																												
	DWG SCALE:		AS NOTED		CHECKED BY:																												
	PROJECT NO:		110-241																														
	APPROVED BY:																																
	KTK*																																
	Civil & Environmental Consultants, Inc. CERTIFICATION/LICENSE NO. 2002013942 4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042 314-656-4566 • 866-250-3679 www.gecinc.com																																
	REVISION RECORD <table><thead><tr><th>NO.</th><th>DATE</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>1</td><td>11/03/08</td><td>SUBMITTAL TO CITY OF CRAVE CREEK HAZARDOUS, CONDITIONAL USE & SITE DEVELOPMENT PLAN P-147</td></tr><tr><td>2</td><td>—</td><td>—</td></tr><tr><td>3</td><td>—</td><td>—</td></tr><tr><td>4</td><td>—</td><td>—</td></tr><tr><td>5</td><td>—</td><td>—</td></tr><tr><td>6</td><td>—</td><td>—</td></tr><tr><td>7</td><td>—</td><td>—</td></tr><tr><td>8</td><td>—</td><td>—</td></tr></tbody></table>						NO.	DATE	DESCRIPTION	1	11/03/08	SUBMITTAL TO CITY OF CRAVE CREEK HAZARDOUS, CONDITIONAL USE & SITE DEVELOPMENT PLAN P-147	2	—	—	3	—	—	4	—	—	5	—	—	6	—	—	7	—	—	8	—	—
	NO.	DATE	DESCRIPTION																														
	1	11/03/08	SUBMITTAL TO CITY OF CRAVE CREEK HAZARDOUS, CONDITIONAL USE & SITE DEVELOPMENT PLAN P-147																														
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SHEET 02 OF 05																																	

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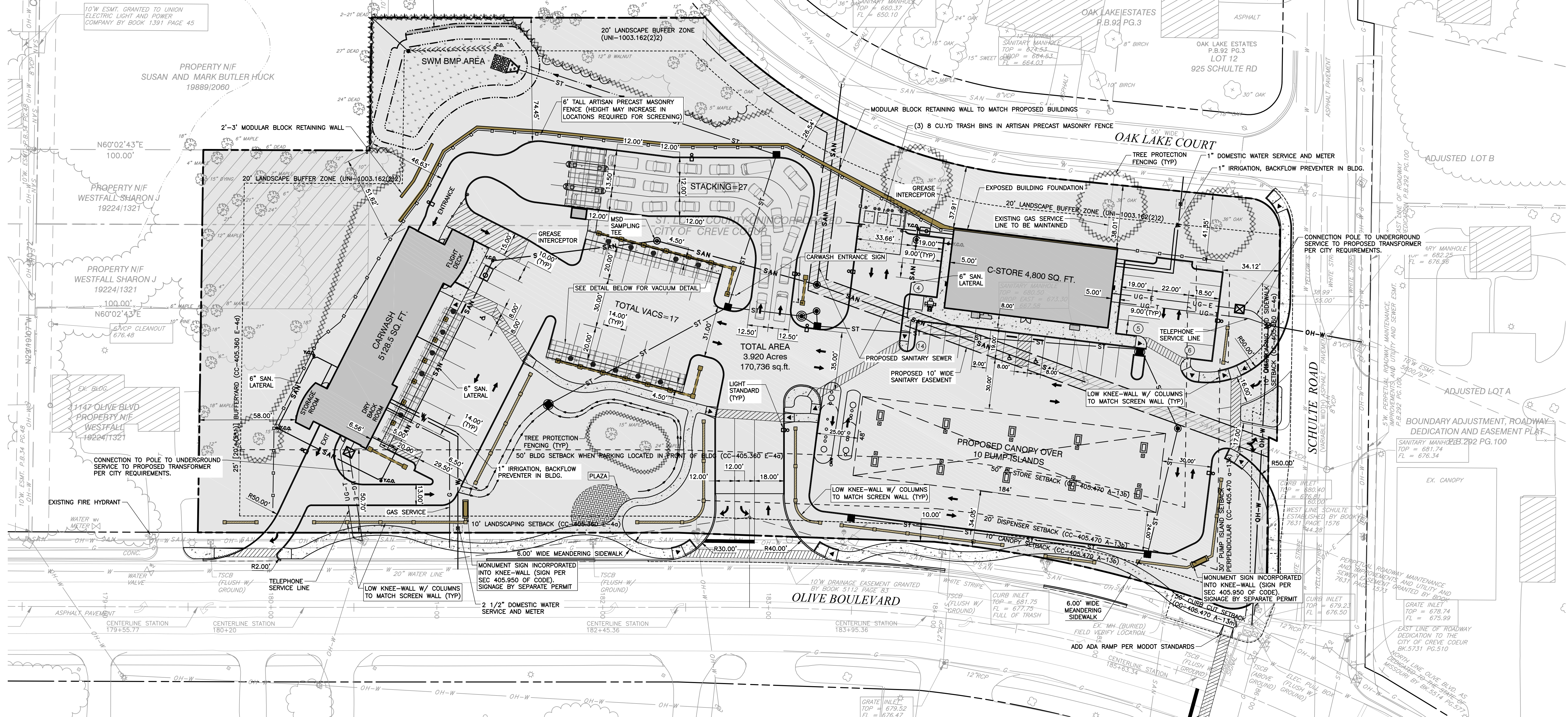
WALLIS COMPANIES
106 EAST WASHINGTON
CUBA, MO 65453
(636) 549-1600

SITE DEVELOPMENT PLAN MOBIL ON THE RUN & BRITE WORX		110
EXISTING CONDITIONS PLAN	AUG. 2016 DRAWN BY:	
SALE:	AS NOTED	CHECKED BY:
PT NO.		
DED BY:		

DRAWING NO.:
C100
SHEET **02** OF **05**



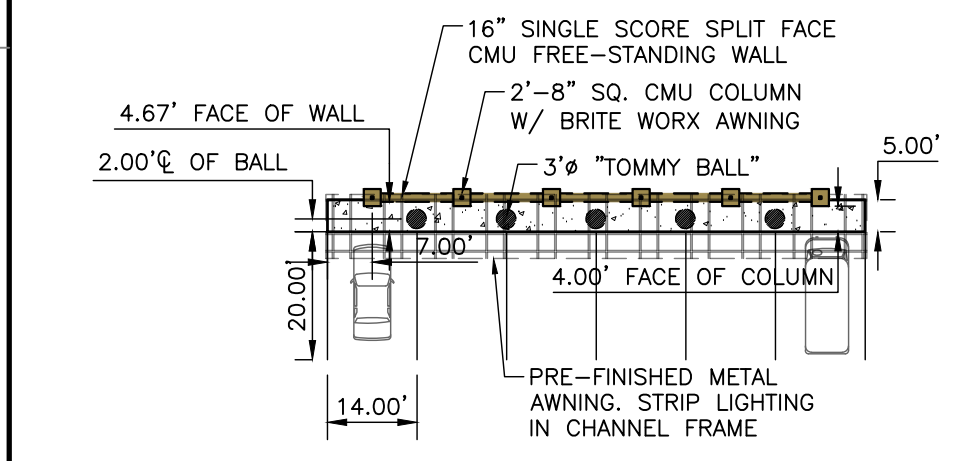
ST. LOUIS COUNTY
UNINCORPORATED



PROPOSED LEGEND (SEE DRAWING C100 FOR EXISTING LEGEND)

W	SETBACK LINES PER ESTABLISHED CODE	PROPOSED ROOF DOWNSPOUT
W	SETBACK LINES PER PROPOSED VARIANCE	PROPOSED ROOF DOWNSPOUT SPLASH PAD
UG-E	PROPOSED WATER SERVICE (SEE PLAN FOR SIZES)	PROPOSED CURB INLET
OH-W	PROPOSED WATER VALVE	PROPOSED AREA INLET
UG-T	PROPOSED FIRE HYDRANT	PROPOSED SANITARY AND STORM YARD CLEANOUT
OH-W	PROPOSED DOMESTIC METER	PROPOSED STORM MANHOLE
UG-T	PROPOSED OVERHEAD ELECTRIC LINE	GRASSY DRAINAGE FLAT BOTTOM SWALE
OH-W	PROPOSED UTILITY POLE	PROPOSED WHEELSTOP
UG-T	PROPOSED ELECTRIC TRANSFORMER	PROPOSED BOLLARD
G	PROPOSED LIGHTING FIXTURES (SEE LIGHTING PLAN)	PROPOSED DIRECTIONAL SIGNAGE
SAN	PROPOSED UNDERGROUND TELECOMMUNICATIONS SERVICE LINE	PROPOSED VACUUM CANOPY
ST	PROPOSED UNDERGROUND GAS SERVICE LINE	PROPOSED 6" TALL ARTISAN PRECAST MASONRY FENCE (OR APPROVED EQUAL)
ST	PROPOSED SANITARY LATERAL	PROPOSED 4" TALL SCREEN WALL WITH COLUMNS
ST	PROPOSED STORM WATER SEWER PIPE	PROPOSED 2'-3" KNEE-WALL WITH 4" PILASTER
		PROPOSED FLUSH PAVEMENT WITH WALK

DETAIL DRAWING FOR VACUUM STATIONS



PROPOSED VARIABLE HEIGHT CURB (REVEAL FROM 6" TO 0")
PROPOSED ADA ACCESSIBLE RAMP (5% < SLOPE < 8.33%)
PROPOSED CROSSWALK (CROSS HATCHING SHOWN FOR REFERENCE ONLY)
PROPOSED CONCRETE WALKWAY
PROPOSED HEAVY DUTY CONCRETE
PROPOSED MONUMENT SIGN & POLE SIGN
PROPOSED EASEMENT
TREE PROTECTION AREAS (NO GRADING)

STRIPE FOR CROSSWALK AND REVISED STOP BAR LOCATION. SAWCUT EXISTING ISLAND FOR ADA CONNECTION



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REFERENCE

1. TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.



ZIP- 63146

MSD MAP# 17-N

P-

SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORX

SITE & UTILITY PLAN

DATE:	AUG. 2016	DRAWN BY:	CAC
DWG SCALE:	AS NOTED	CHECKED BY:	KTK
PROJECT NO:	110-241	APPROVED BY:	KTK

DRAWING NO:
C200

SHEET 03 OF 05

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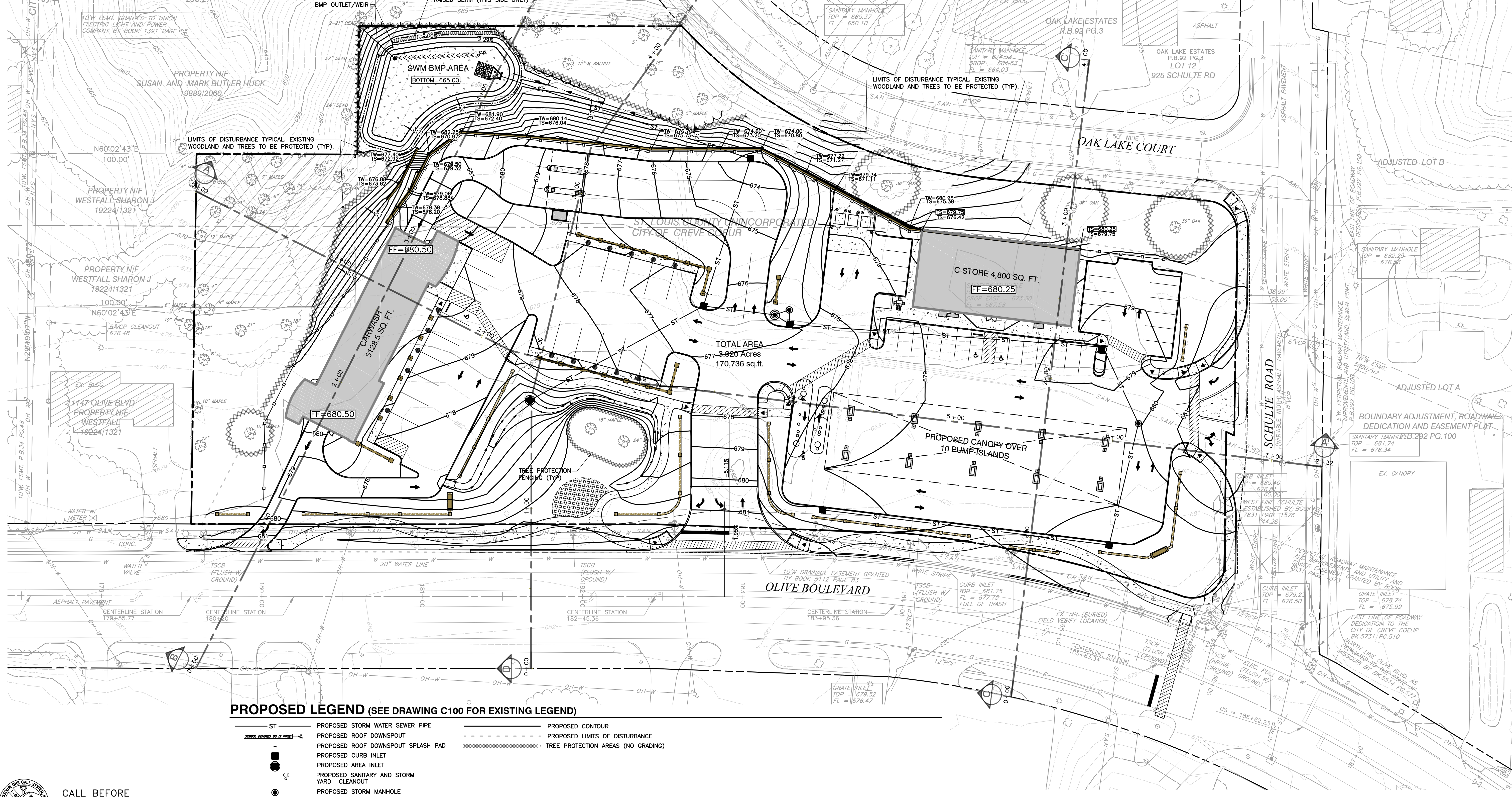
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(636) 549-1600

NO.	DATE	REVISION	RECORD
1	11/14/2016	SUBMITTAL TO CITY OF CREVE COEUR REGIONAL CONDITIONAL USE & SITE DEVELOPMENT PLAN PLAT	
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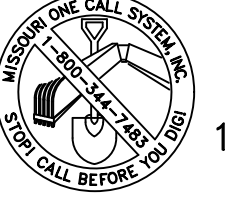
NORTH

CITY OF CREVE COEUR
ST. LOUIS COUNTY
UNINCORPORATED



PROPOSED LEGEND (SEE DRAWING C100 FOR EXISTING LEGEND)

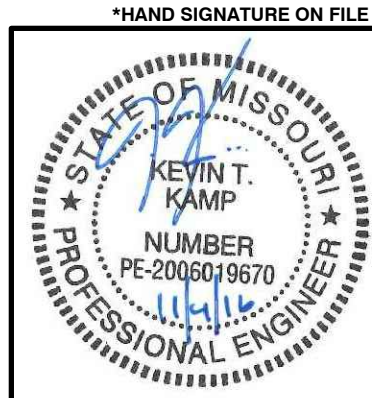
- ST PROPOSED STORM WATER SEWER PIPE
- PROPOSED ROOF DOWNSPOUT
- PROPOSED ROOF DOWNSPOUT SPLASH PAD
- PROPOSED CURB INLET
- PROPOSED AREA INLET
- PROPOSED SANITARY AND STORM YARD CLEANOUT
- PROPOSED STORM MANHOLE
- GRASSY DRAINAGE FLAT BOTTOM SWALE
- PROPOSED 6' TALL ARTISAN PRECAST MASONRY FENCE (OR APPROVED EQUAL)
- PROPOSED 4' TALL SCREEN WALL WITH COLUMNS
- PROPOSED 2'-3' KNEE-WALL WITH 4' PILASTER
- PROPOSED FLUSH PAVEMENT WITH WALK
- PROPOSED VARIABLE HEIGHT CURB (REVEAL FROM 6" TO 0")
- PROPOSED ADA ACCESSIBLE RAMP (5% < SLOPE < 8.33%)
- PROPOSED CONTOUR
- PROPOSED LIMITS OF DISTURBANCE
- TREE PROTECTION AREAS (NO GRADING)



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REFERENCE
1. TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.

SCALE IN FEET
0 30 60



ZIP- 63146

MSD MAP# 17-N

P-

SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORX

GRADING PLAN

DRAWING NO. C300
SHEET 04 OF 05

DATE: AUG. 2016
DWN BY: CAC
AS NOTED
CHECKED BY: KTK
PROJECT NO: 110-241
APPROVED BY: KTK

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CUBA, MO 65453
(636) 549-1600

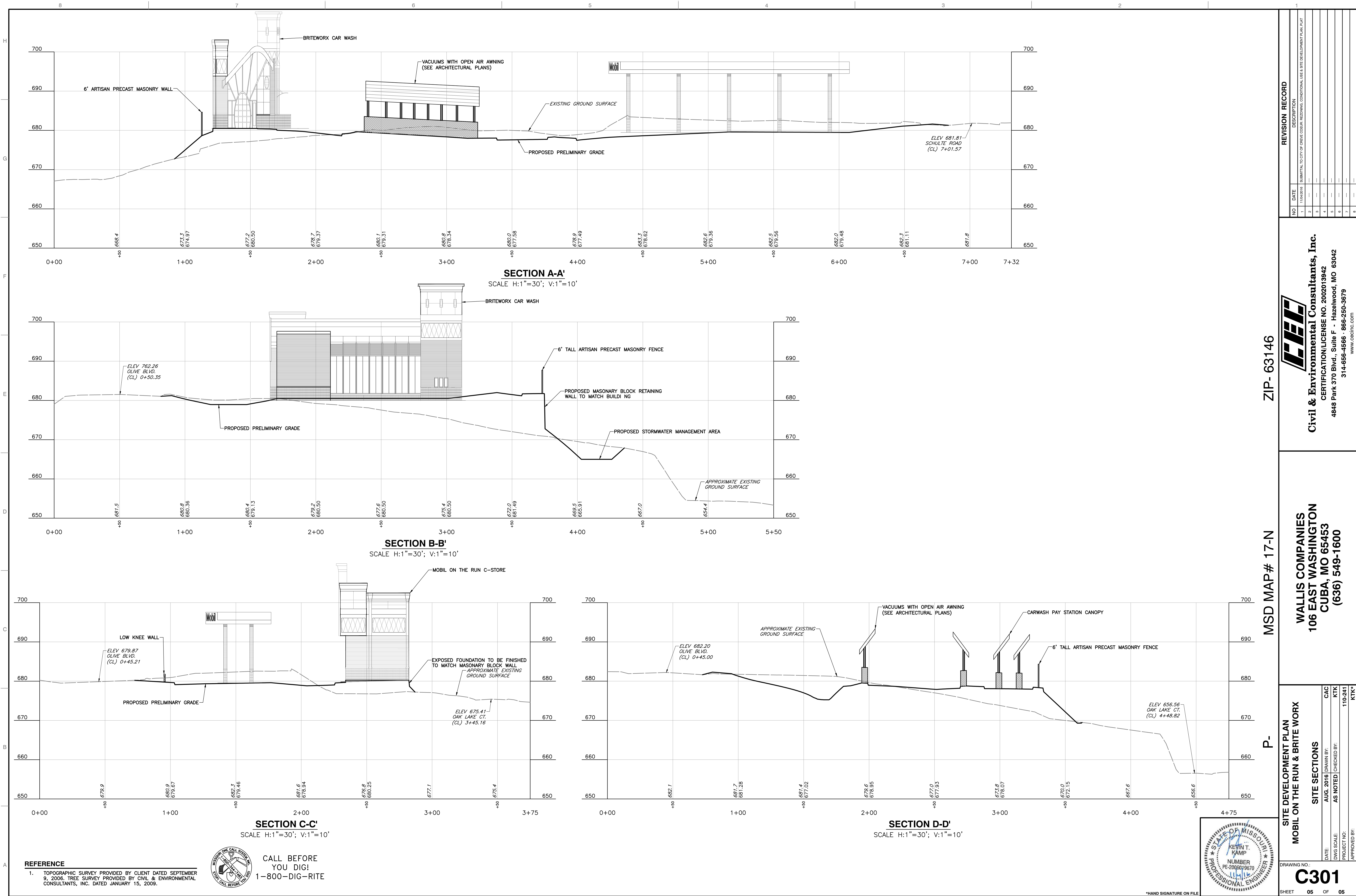


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REVISION RECORD

NO.	DATE	DESCRIPTION
1	11/14/2016	SUBMITTAL TO CITY OF CREVE COEUR REGARDING CONDITIONAL USE & SITE DEVELOPMENT PLAN PLAT
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- REFERENCE**
1. TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2009. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.



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*HAND SIGNATURE ON FILE

ZIP- 63146

MSD MAP# 17-N

P-

REVISION RECORD	
NO	DATE
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DESCRIPTION	
1	SUBMITTAL TO CITY OF CREVE COEUR REGIONAL CONDITIONAL USE & SITE DEVELOPMENT PLAN, PART
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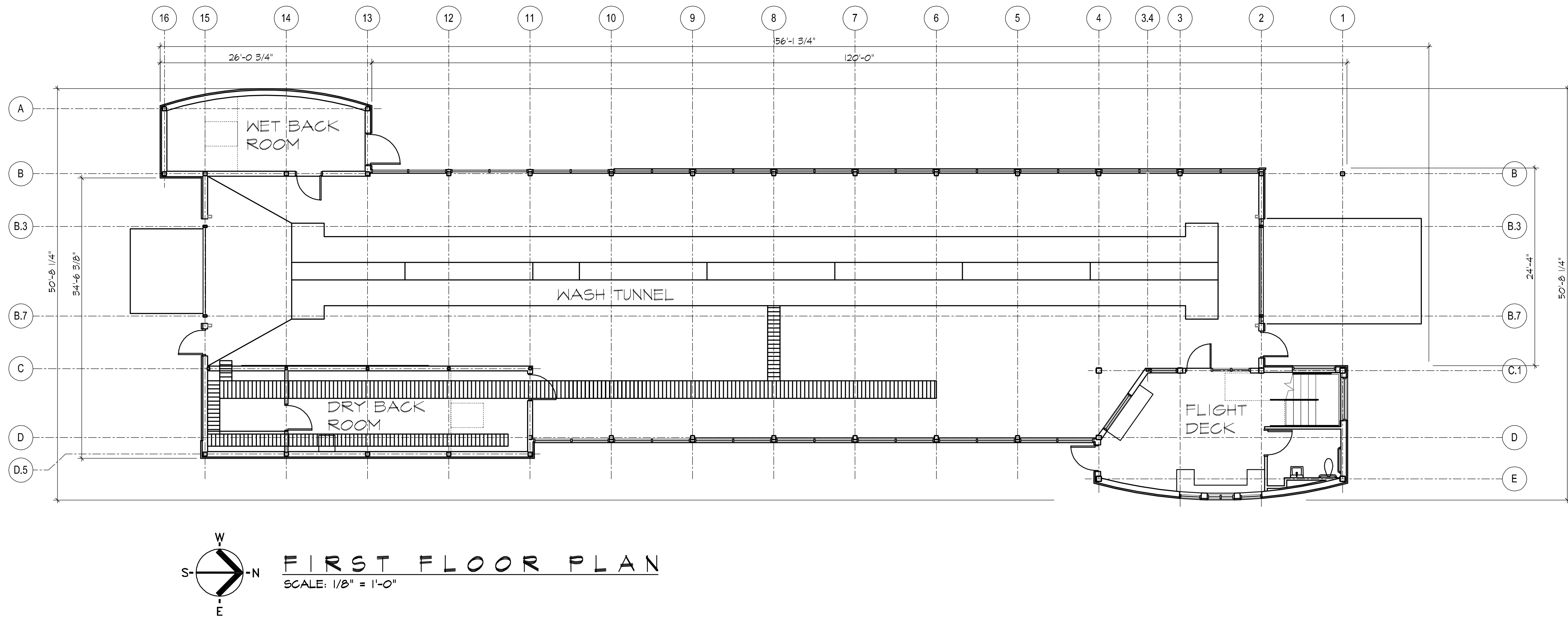
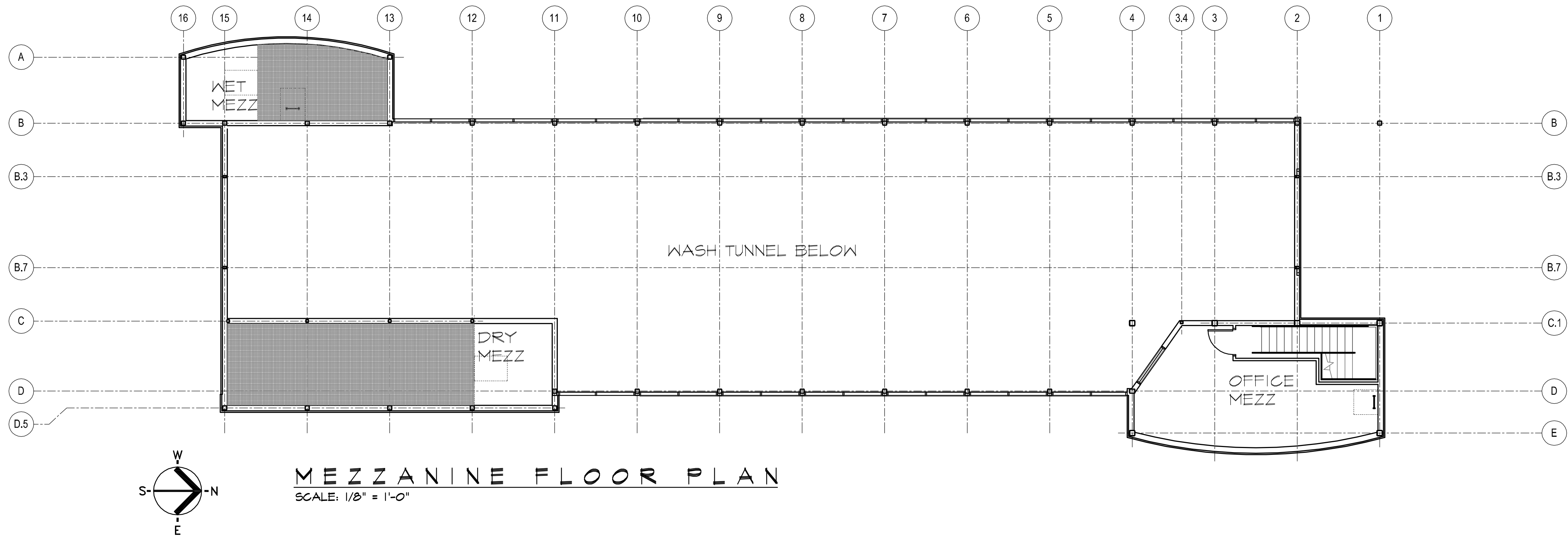
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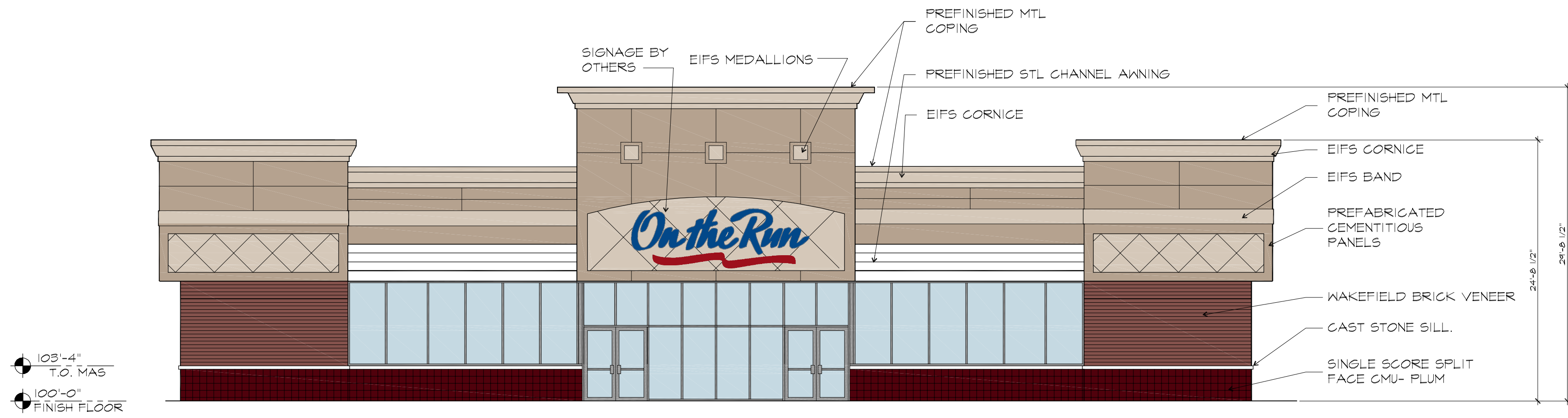
WALLIS COMPANIES
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CUBA, MO 65453
(636) 549-1600

SITE DEVELOPMENT PLAN MOBIL ON THE RUN & BRITE WORK	
SITE SECTIONS	
DATE:	AUG. 2016
DWG SCALE:	AS NOTED
PROJECT NO:	110-241
APPROVED BY:	KTK

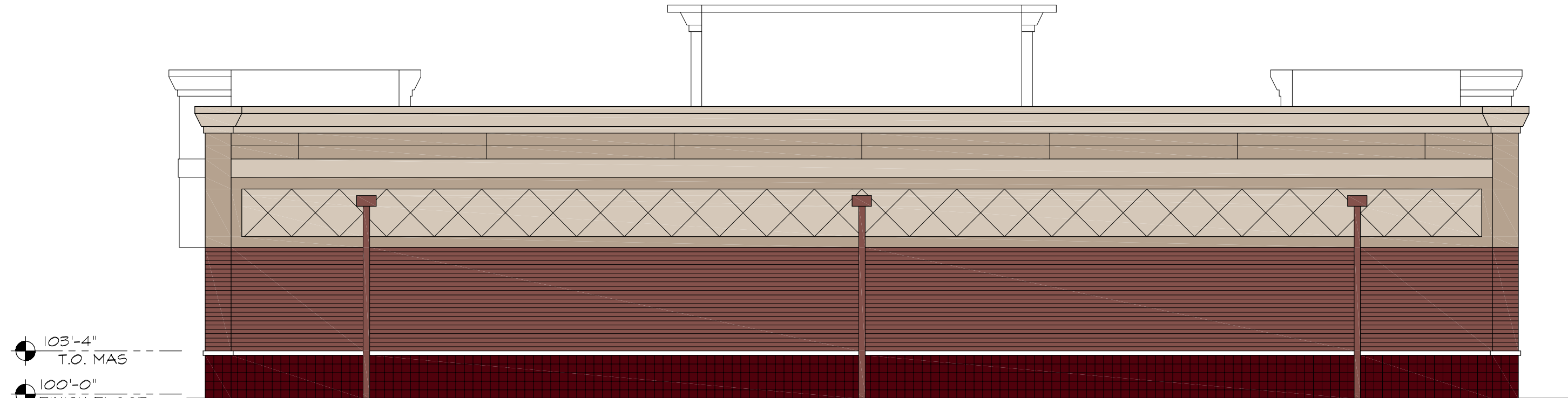
DRAWING NO: **C301**

SHEET 05 OF 05

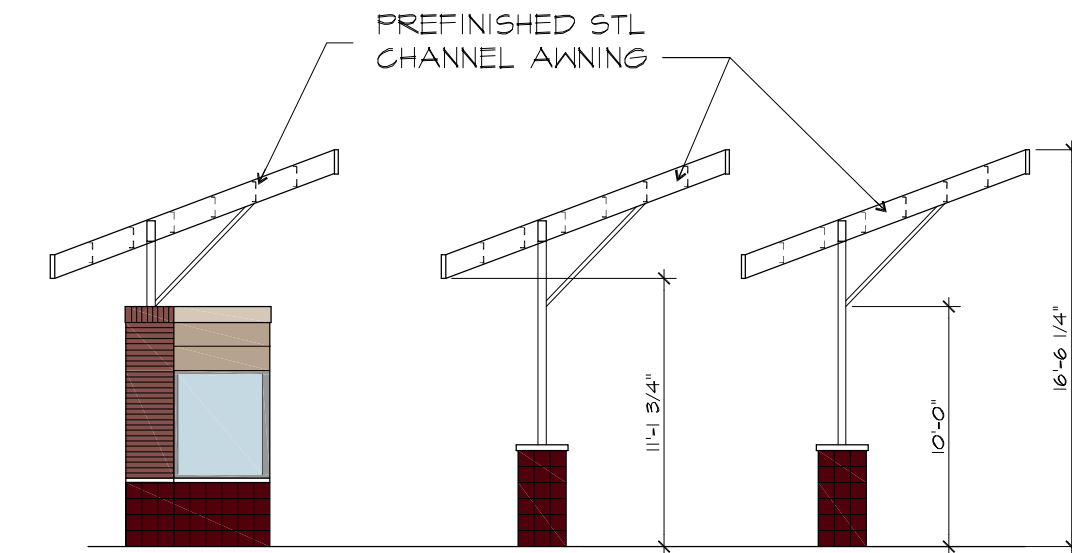




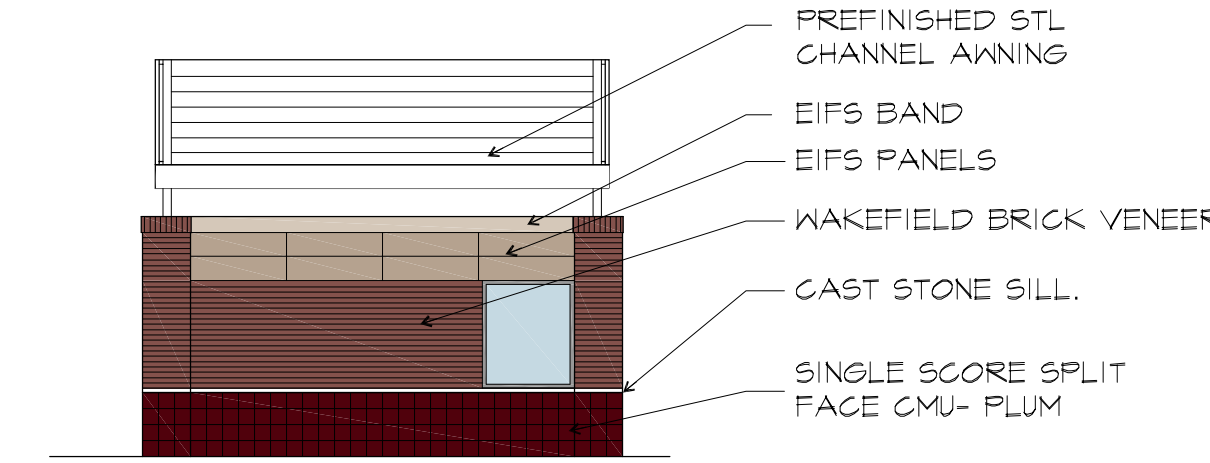
SOUTH ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



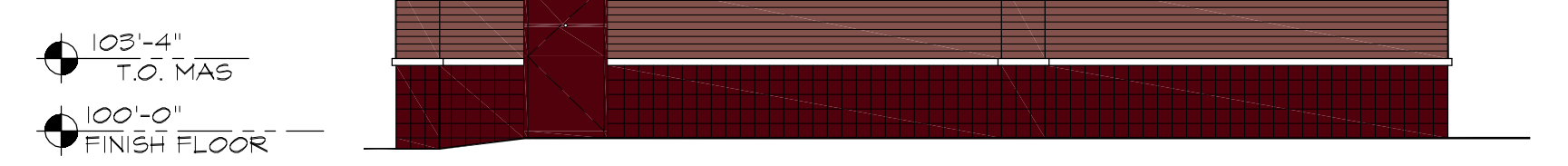
NORTH ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



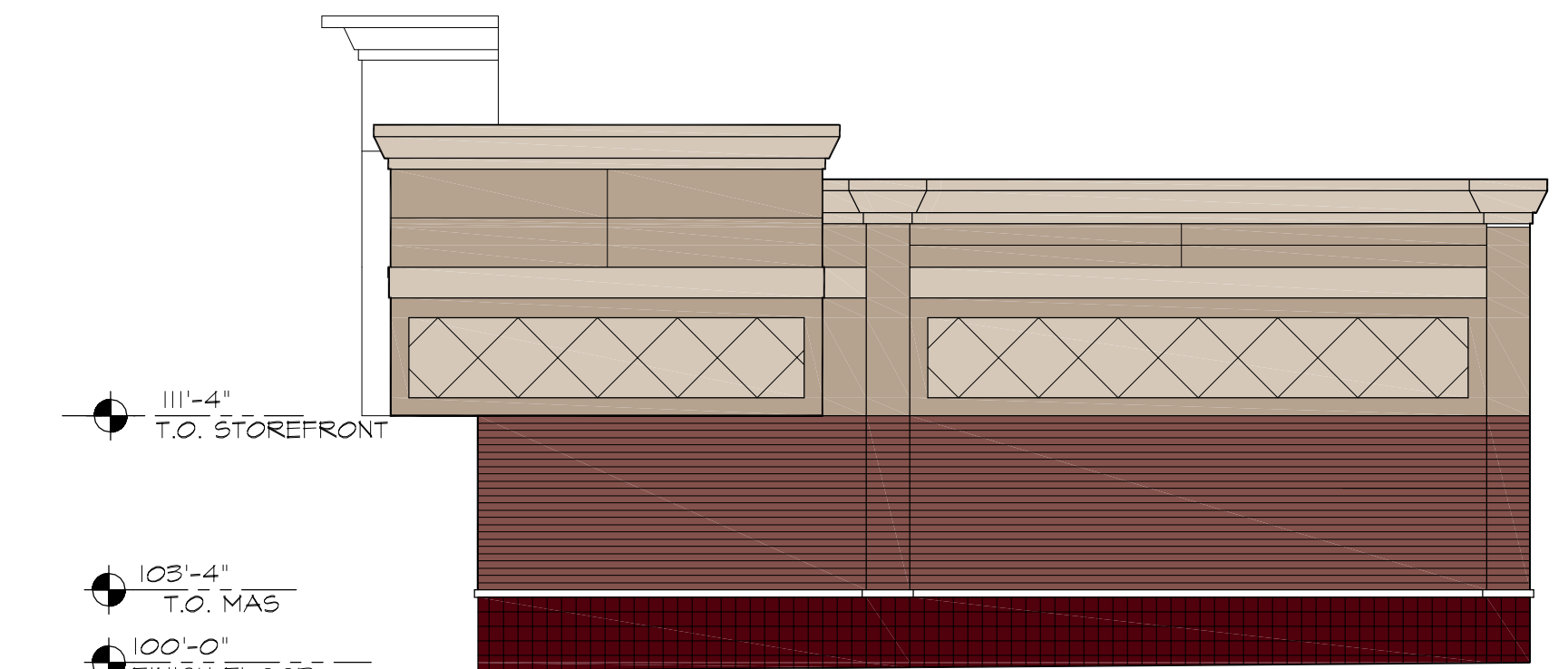
EAST ELEVATION- CW CANOPY
SCALE: 1/8" = 1'-0"



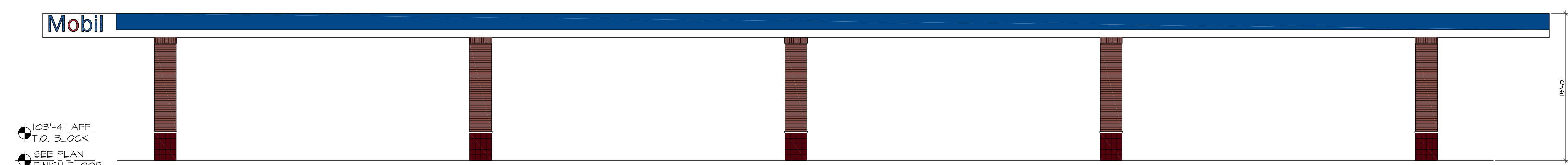
SOUTH ELEVATION- CW CANOPY
SCALE: 1/8" = 1'-0"



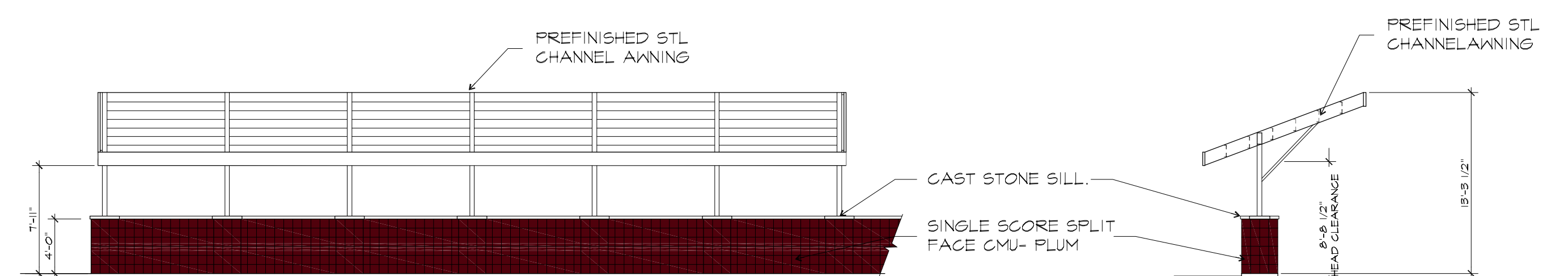
WEST ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



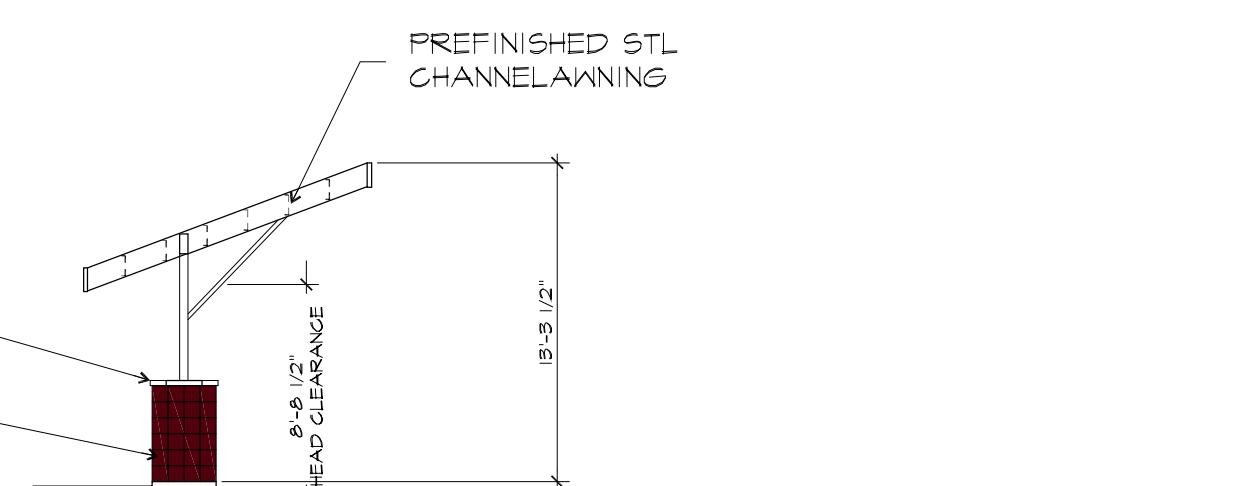
EAST ELEVATION- C-STORE
SCALE: 1/8" = 1'-0"



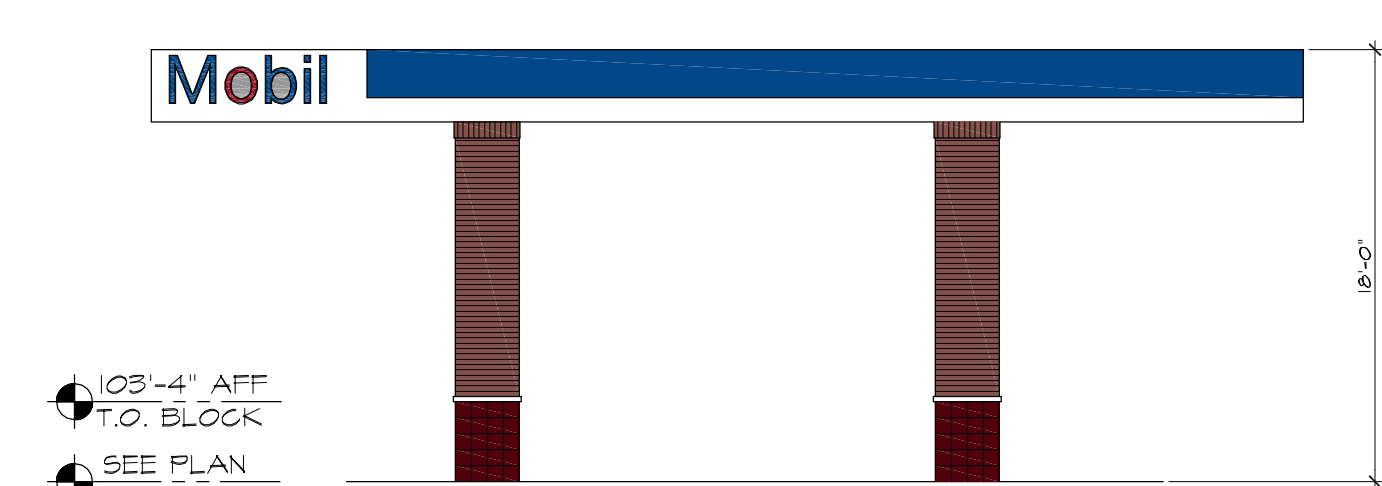
SOUTH ELEVATION FUEL CANOPY
SCALE: 1/8" = 1'-0"



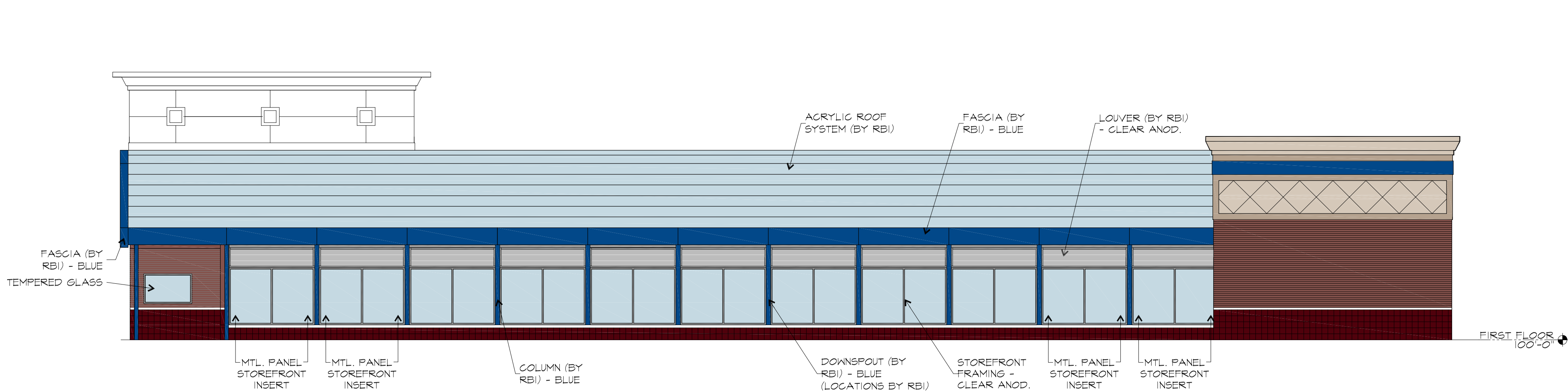
SOUTH ELEVATION- VACUUM SCREEN- CONNECTOR
SCALE: 1/8" = 1'-0"



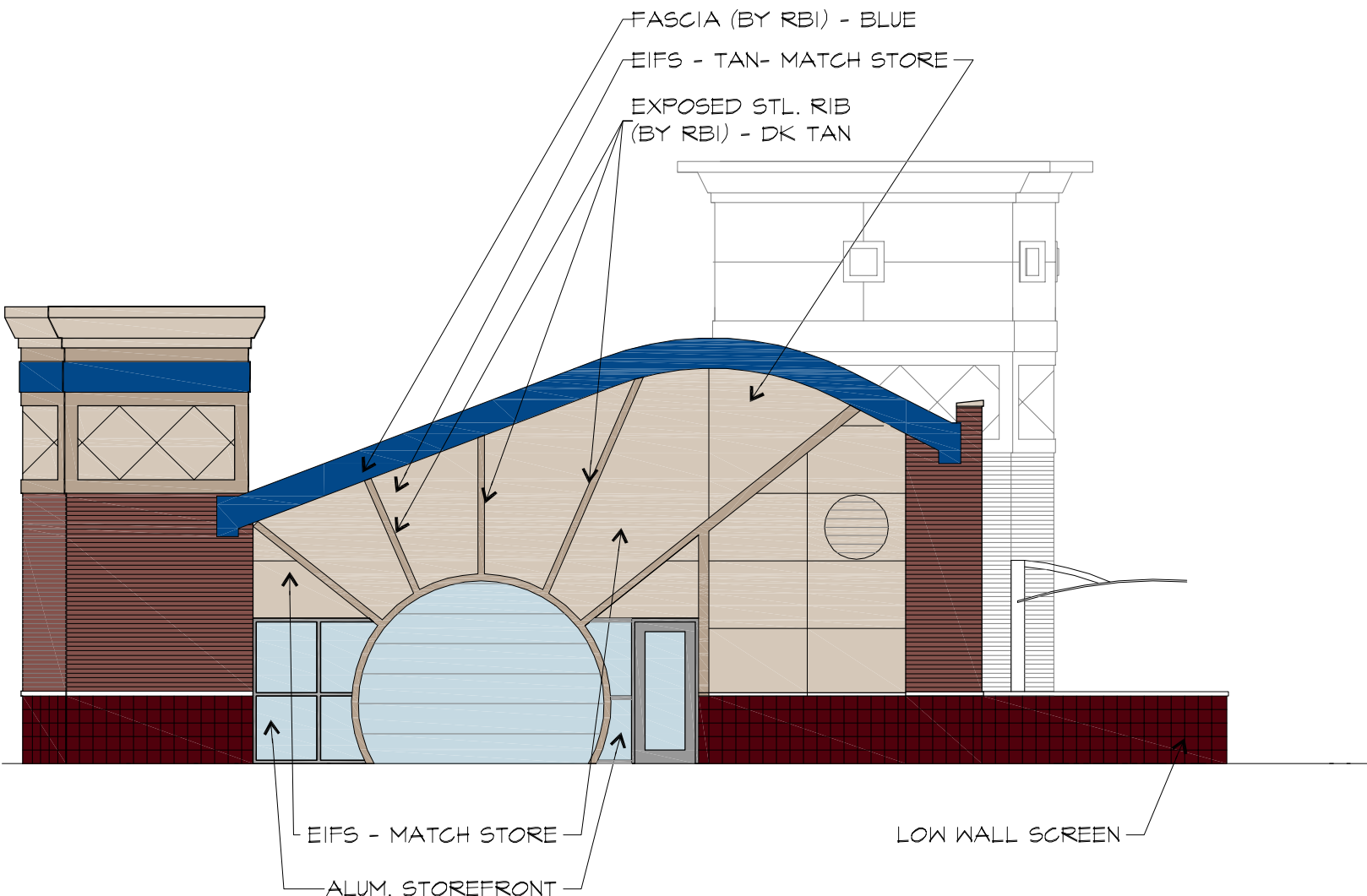
EAST ELEVATION VACUUM SCREEN
SCALE: 1/8" = 1'-0"



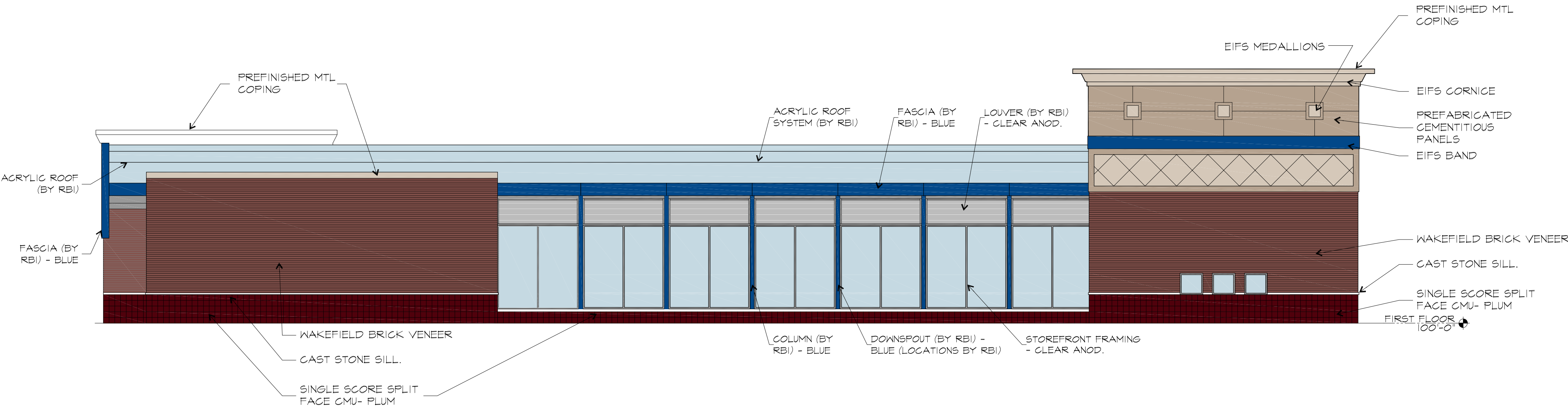
EAST ELEVATION FUEL CANOPY
SCALE: 1/8" = 1'-0"



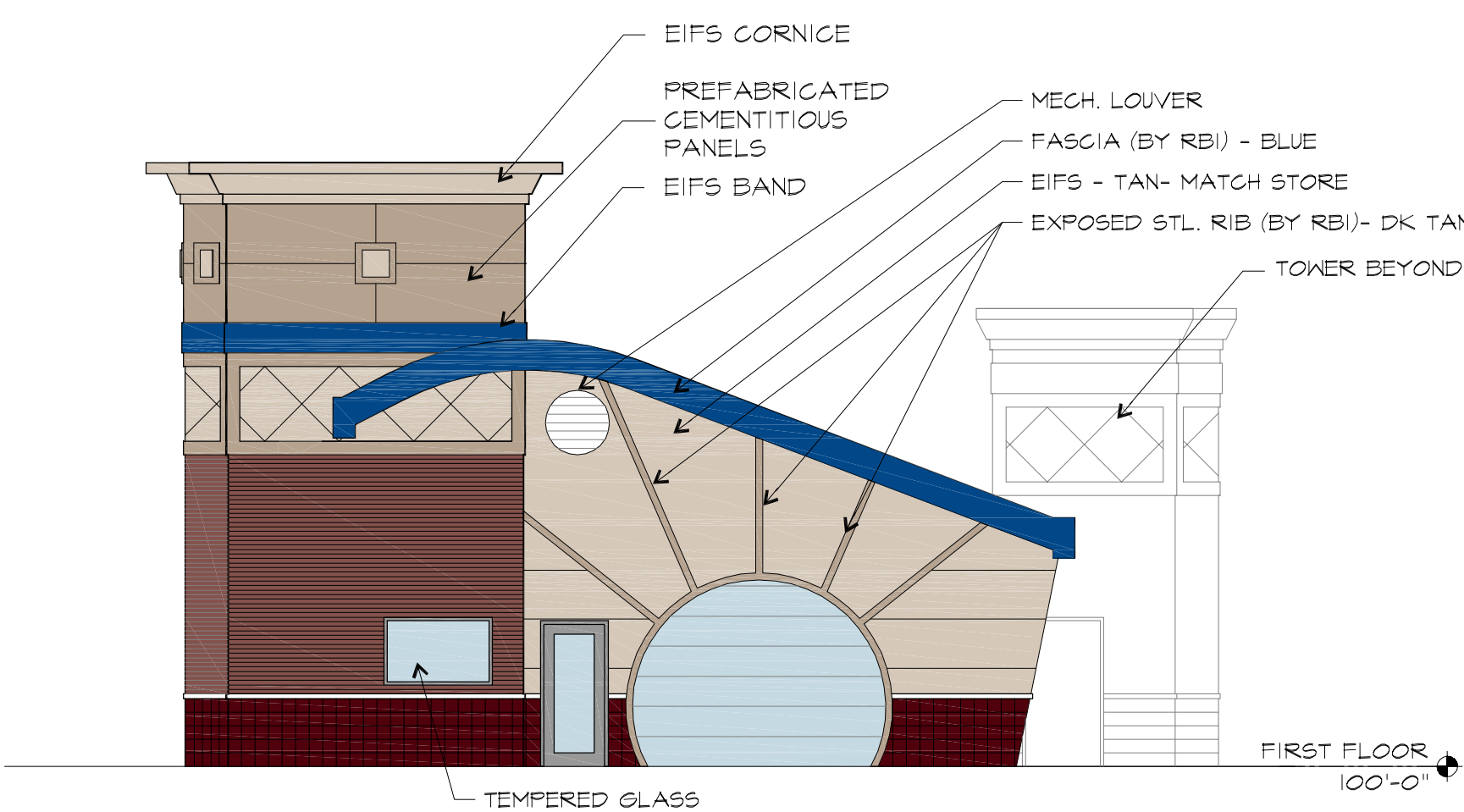
WEST ELEVATION
SCALE: 1/8" = 1'-0"



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



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



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

EXISTING TREES

74 TREES EXIST ON THE SITE
24 TREES 8" CAL AND LARGER WILL BE PRESERVED (32% OF EXISTING TREES) TO MEET THE 25% REQUIREMENTS OF THE TREE CONSERVATION ORDINANCE.
2 ADDITIONAL LARGE TREES (A 15" AND 24" MAPLE IN THE FRONT OF THE PROJECT) WILL HAVE PROTECTION ATTEMPTED (DEMO AROUND THESE TREES WILL BE PARTICULARLY DIFFICULT...IF THEY ARE REMOVED, THEY WILL BE REPLACED WITH 3" CAL SHADE TREES)
8 ADDITIONAL TREES (< 8" CAL SO NOT COUNTED IN THE TREE CONSERVATION ORDINANCE, BUT DO COUNT TOWARDS LANDSCAPING CREDITS) OF QUALITY NATIVE SPECIES (DOGWOOD, OAK, MAPLE, ETC) WILL ALSO BE PRESERVED
.34 ACRES OF UNDISTURBED WOODLAND UNDERSTORY WILL BE PRESERVED IN THE ROOT PROTECTION ZONES TO PRESERVE THE EXISTING DENSE VEGETATIVE SCREENING FOR THE ADJACENT RESIDENTIAL LOTS.

TOTAL TREES PROTECTED ON SITE = 34

EXISTING TREES TO BE PRESERVED WILL HAVE AN APPROXIMATE TREE ROOT PROTECTION AREA AS SHOWN.

FIELD ADJUSTMENT MAY BE NECESSARY FOR DEMO OF EXISTING STRUCTURES.

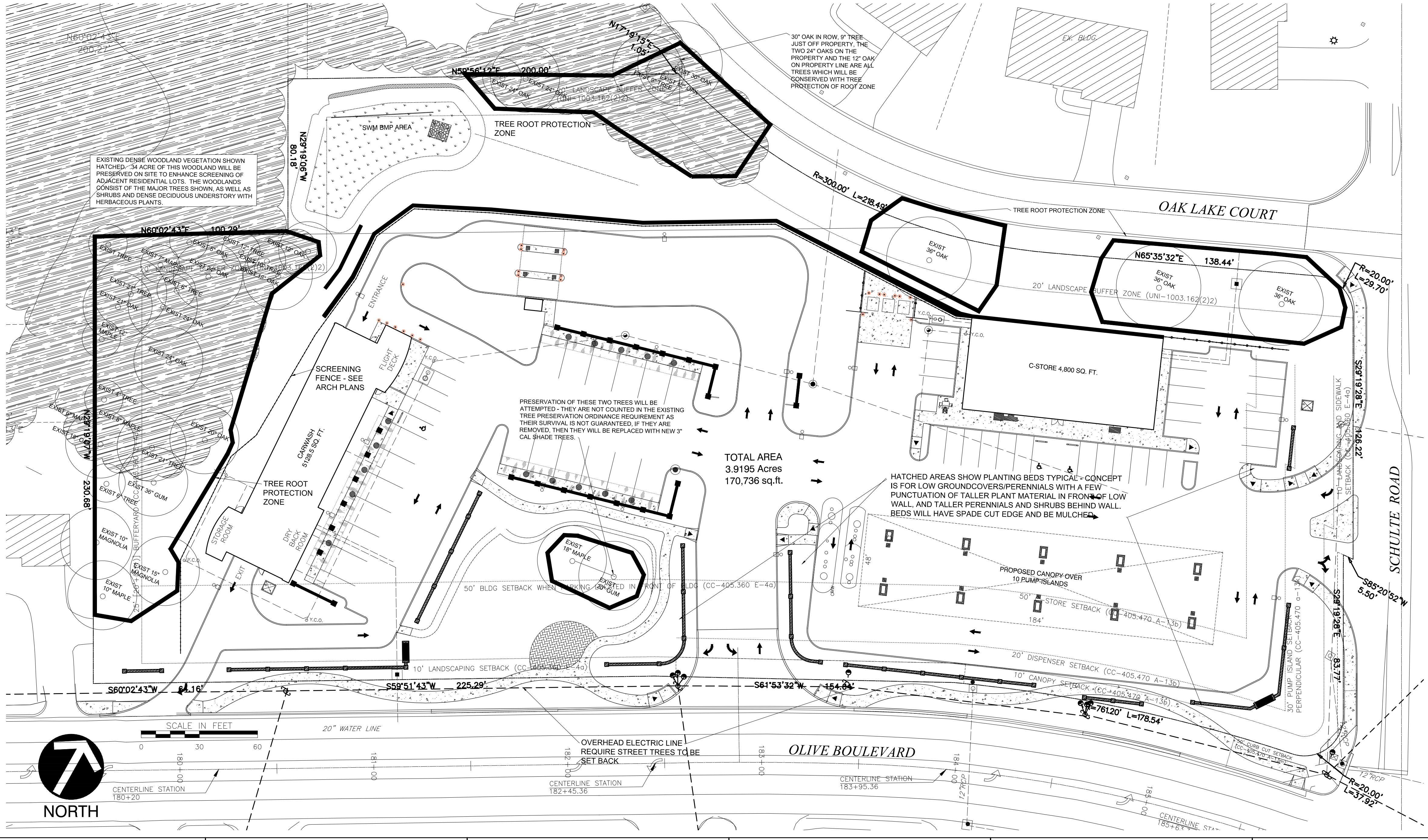
DEVELOPMENT NOTES

- TOTAL PARCEL AREA: 170,736 SQ.FT. (3.920 ACRES)
AREA WITHIN CITY LIMITS: 122,277 SQ.FT. (2.807 ACRES)
AREA WITHIN UNINCORPORATED: 48,459 SQ. FT. (1.113 ACRES)
- CURRENT ZONING (CC)– SINGLE FAMILY RESIDENTIAL & GENERAL COMMERCIAL
PROPOSED ZONING (CC)– GENERAL COMMERCIAL
CURRENT ZONING (UNI)– R3 (RESIDENCE) & C8 (PLANNED COMMERCIAL DISTRICT)
PROPOSED ZONING (UNI)– C8 (PLANNED COMMERCIAL DISTRICT)
- SETBACKS–
FRONT YARD/ROW (CC) 10 FEET OLIVE BLVD. (CC)
SIDE YARD (CC) 0 FEET SCHULTE ROAD (IN LIEU OF ROW GIVEN TO COUNTY)
SIDE YARD (UNI) 12 FEET
REAR YARD (UNI) 10 FEET
BUFFER YARD 15 FEET (NORTH PROPERTY LINE)
"BUFFER YARD @ 20FT + (5 X 1) = 25 FEET
BUILDING HEIGHT 25 FEET [SEC 405.360 E-40]* WITH FENCE FOR DRIVE THRU SCREENING
NOTE: ALL PROPOSED BUILDINGS TO BE 1 STORY IN HEIGHT
- SPECIAL CONSIDERATIONS–
4.1. TRASH ENCLOSURES SHALL BE INTERIOR TO THE SITE AND NOT ALONG THE NORTH PROPERTY LINE
4.2. SIDEWALKS ALONG OLIVE BLVD. SHALL BE FIVE-FOOT IN WIDTH UNLESS ABUTTING CURB, IN WHICH CASE SHALL BE INCREASED TO SIX-FOOT WIDE.
4.3. PLAN SHALL BE SO DEVELOPED TO INCLUDE AN INTEGRATED PEDESTRIAN CIRCULATION SYSTEM.
- FIRE DISTRICT: CREVE COEUR
- FLOOD NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE CITY OF CREVE COEUR, MISSOURI (COMMUNITY PANEL NUMBER 290344 0166 H, EFFECTIVE DATE AUGUST 2, 1995), AND THE FLOOD INSURANCE RATE MAP OF ST. LOUIS COUNTY, MISSOURI (UNINCORPORATED AREAS) (COMMUNITY PANEL NUMBER 290327 0166 H, EFFECTIVE DATE AUGUST 2, 1995) THIS PROPERTY LIES WITHIN ZONE X. ZONE X IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD.
- ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND.
- TRASH ENCLOSURES SHALL BE SIX FOOT (6') IN HEIGHT AND SHALL BE CONSTRUCTED W/ A SIGHT-PROOF GATE; MATERIALS SHALL BE COMPATIBLE WITH THE ARCHITECTURE OF MAIN BUILDINGS AND OF SIMILAR MATERIALS.
- STACKING: GENERAL STANDARDS
9.1. DRIVE-THROUGH STACKING LANES SHALL HAVE A MINIMUM WIDTH OF TWELVE FEET.
9.2. STACKING LANES SHALL BE SET BACK 20 FEET FROM RESIDENTIALLY ZONED PROPERTY LINES.
9.3. AUDIBLE ELECTRONIC DEVICES SUCH AS LOUDSPEAKERS, AUTOMOBILE SERVICE ORDER DEVICES, AND SIMILAR INSTRUMENTS SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY RESIDENTIAL PROPERTY LINE.
9.4. ALL DRIVE-THROUGH AREAS, INCLUDING BUT NOT LIMITED TO MENU BOARDS, STACKING LANES, TRASH RECEPTACLES, LOUDSPEAKERS, DRIVE UP WINDOWS, AND OTHER OBJECTS ASSOCIATED WITH THE DRIVE-THROUGH AREA SHALL BE LOCATED IN THE SIDE OR REAR YARD OF A PROPERTY, AND SHALL NOT CROSS, INTERFERE WITH, OR IMPEDE ANY PUBLIC RIGHT-OF-WAY.
- CROSS-ACCESS TO BE ESTABLISHED BY PLAT.

PARKING CALCULATIONS:
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REQUIRED = GENERAL RETAIL @ 4 PER 1,000 SQ.FT. = 19.2
UNINCORPORATED-
REQUIRED = CARWASH @ 1/BAY + 5 STACKING PER BAY = 20
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PROVIDED = 27 STACKING
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GREENSPACE (UNI)	= 38,826
IMPERVIOUS (CC)	= 9,633 (19.9%)
TOTAL GREENSPACE = 84,292.5 (49.4%)	
TOTAL IMPERVIOUS = 86,433.5 (50.6%)	
RATIO OF FLOOR TO SITE IN SQ.FT. (FAR)	
1:17.2 (1 SQ.FT. OF FLOOR SPACE TO 17.2 SQ.FT. OF PARCEL AREA)	

TREE SURVEY AND PRESERVATION PLAN preliminary



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PLANNED COMMERCIAL DEVELOPMENT		MFD	
BRITE WORX CARWASHERY		DRAFT	
MOBIL ON THE RUN		110-241	
WALLIS COMPANIES		DRAFT	
DATE: NOV 2016		DRAWN BY:	
DWG SCALE: 1"=30'		CHECKED BY:	
PROJECT NO:		APPROVED BY:	
DRAWING NO.:		LA 01	
SHEET 1 OF 2			

TREES

EXISTING TREES - 72 TREES EXIST ON THE SITE -18 WILL BE PRESERVED

STREET TREES ALONG OLIVE - OVERHEAD UTILITIES OBSTRUCT THE PLACEMENT OF STREET TREES ALONG THIS ENTIRE FRONTAGE
2 OF THE EXISTING LARGE SHADE TREES, 1 NEW LARGE SHADE TREES, 2 NEW FLOWERING TREES AND 13 COLUMNAR DECIDUOUS TREES WILL BE PROVIDED ALONG THIS STREET IN LOCATIONS THAT CAN BE SET BACK FROM THE UTILITY INTERFERENCE.

STREET TREES ALONG SCHULTE - OVERHEAD UTILITIES OBSTRUCT THE PLACEMENT OF STREET TREES ALONG THIS FRONTAGE
EXCEPT AT THE VERY NORTH END WHICH CAN ACCOMMODATE 2 STREET TREES. AN ADDITIONAL 2 LARGE SHADE TREES WILL BE PROVIDED ALONG THIS STREET IN LOCATIONS THAT CAN BE SET BACK FROM THE UTILITY INTERFERENCE AND NOT OBSTRUCT THE SIGHT TRIANGLE OF THE INTERSECTION.

PARKING LOT TREES - 12 PARKING LOT TREES ARE REQUIRED FOR THE PROPOSED LINEAL FEET OF PARKING AND VACUUM SPACES
10 LARGE DECIDUOUS TREES 2 FLOWERING TREES ARE PROVIDED TO MEET THIS REQUIREMENT

14 ADDITIONAL TREES (A MIX OF SHADE TREES, FLOWERING TREES AND EVERGREEN TREES) WILL BE PROVIDED IN THE GREEN SPACE TO THE NORTH AND WEST OF THE PROPERTY FOR RESIDENTIAL BUFFER.

TOTAL PROPOSED TREES = 46 NEW TREES AND 34 EXISTING TREES = 80

- NOTES:
- 1. ALL LANDSCAPE AREAS WITHIN GRADING LIMITS TO BE IRRIGATED.
 - 2. ALL GREENSPACE AREAS OUTSIDE OF MULCHED LANDSCAPE BEDS TO BE SODDED TURF.

PLANTING CONCEPT

OLIVE AND SCHULTE SIDES: THE MAIN LANDSCAPE TREATMENT IS THE ORNAMENTAL KNEE WALL. THIS WALL IS ACCENTED WITH VERY LOW GROUND COVER BEDS IN FRONT AND PUNCTUATED WITH TALLER FLOWERING SHRUBS ON THE BACKSIDE WHICH WILL BE TALLER THAN THE WALL CREATING A MODULATING LAYERED LOOK WHICH ENHANCES THE WALL WITHOUT OBSCURING IT. IN THE FRONT PLAZA AREA, THE EXISTING TREES GIVE INSTANT VEGETATIVE MASS AND ARE SUPPLEMENTED WITH A GARDEN STYLE LANDSCAPE OF FLOWERING TREES, SHRUBS AND PERENNIAL FLOWERS. ON THE NORTH AND WEST MANY LARGE EXISTING TREES ARE PRESERVED AS AN IMMEDIATE BUFFER TO THE RESIDENTIAL AREA, AND MANY ADDITIONAL EVERGREENS AND SOME DECIDUOUS TREES ARE PROPOSED FOR FURTHER SCREENING.

ALL OTHER INFORMATION BESIDES THE PROPOSED PLANTINGS ARE SHOWN FOR REFERENCE ONLY. CONSULT THE SITE DEVELOPMENT PLAN, CIVIL, AND ARCHITECTURAL PLANS FOR CONFIRMATION OF ALL HARDSCAPE ELEMENTS.

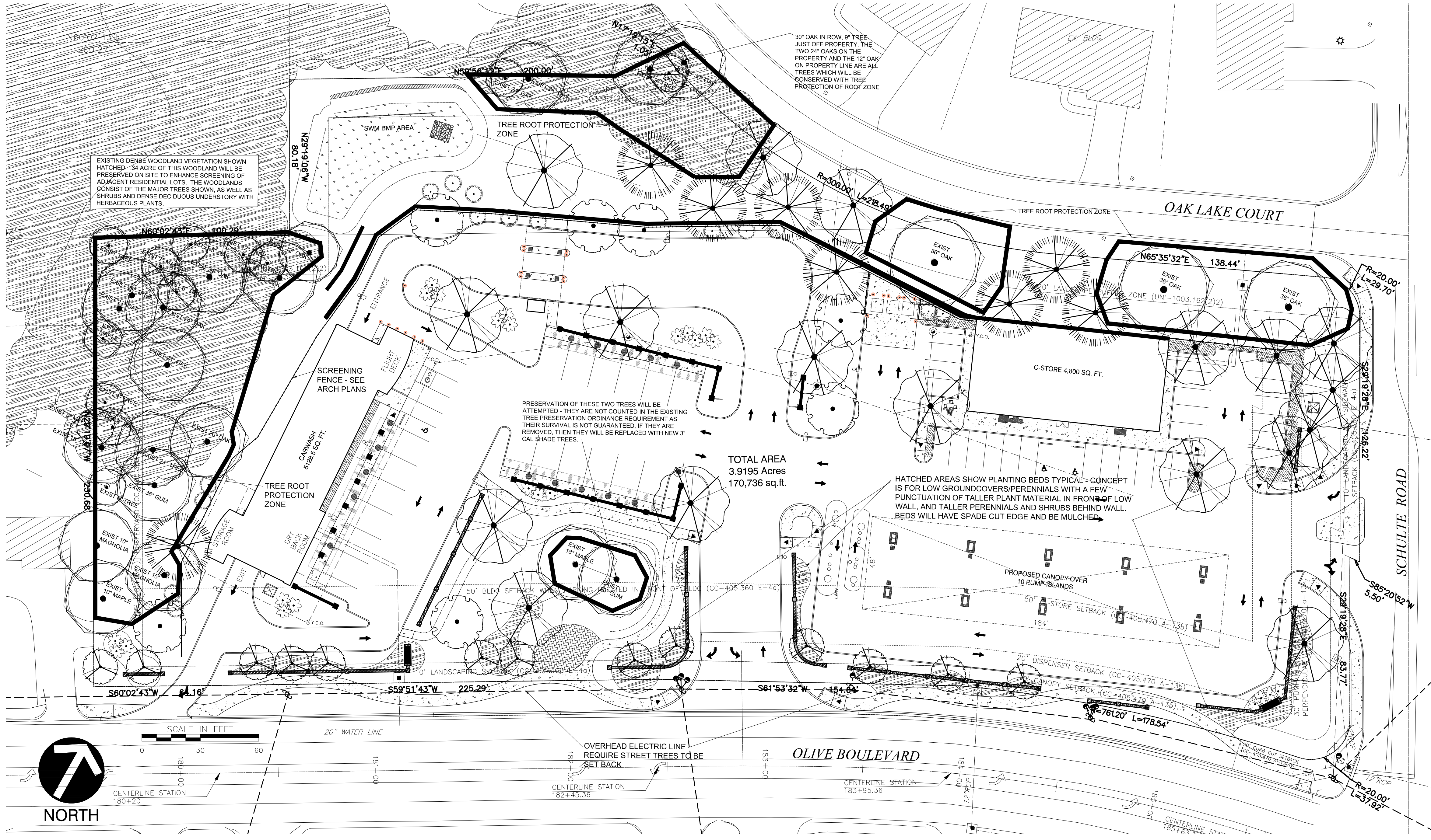
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CONCEPT LANDSCAPE PLAN preliminary



CONCEPT_PLANT_SCHEDULE

- 18 LARGE DECIDUOUS TREE
TYPICAL LARGE SHADE TREE SUCH AS MAPLE, HONEYLOCUST, GINKGO, YELLOWWOOD, ETC. INSTALLED AT 2.5-3" CAL INITIAL SIZE.
- 7 SMALL FLOWERING DECIDUOUS TREE
ORNAMENTAL SMALL TREE SUCH AS MULTISTEM REDBUD, FRINGE TREE OR DOGWOOD INSTALLED AT 6' TALL INITIAL SIZE.
- 8 EVERGREEN TREE
LARGE EVERGREEN TREES SUCH AS WHITE PINE, NORWAY SPRUCE AND SERBIAN SPRUCE, INSTALLED AT 6-7' TALL INITIAL SIZE
- 13 COLUMNAR DECIDUOUS TREE
COLUMNAR FORM OF DECIDUOUS SHADE TREES SUCH AS MAPLE, GINKGO OR OAK, THESE STAY NARROW LIKE A COLUMN. INSTALLED AT A 2.5-3" CALIPER INITIAL SIZE
- 34 EXISTING TREE TO REMAIN
THE EXISTING TREES TO BE PRESERVED INCLUDE VARIOUS DECIDUOUS SPECIES AND SOME EVERGREEN SPECIES AS SHOWN ON THE PLAN. THEY RANGE IN SIZE FROM 8" CAL. TO 36" CAL. IN SIZE.
- 15 LARGE EVERGREEN SHRUBS
MATURE AT 20-25' TALL, SLOWER GROWING AND DENSER THAN LARGER EVERGREEN TREES AT MATURITY. 4-5' TALL INITIAL PLANTING SIZE (LARGER INITIAL PLANTING SIZE NOT AVAIL. DUE TO SLOW GROWING NATURE OF THIS TYPE OF EVERGREEN) EXAMPLES INCLUDE KETELEER UPRIGHT JUNIPER AND OAKLEAF HOLLY.
- 27 LARGE FLOWERING SHRUBS
LARGE ORNAMENTAL FLOWERING SHRUBS SUCH AS VIBURNUM, CREPE MYRTLE AND THE LARGE HYDRANGEA (LIMELIGHT)
- 3,175 sf ORNAMENTAL LANDSCAPE
PERENNIAL FLOWERS, LOW SHRUBS, ORNAMENTAL GRASSES AND GROUND COVER MIX FOR ORNAMENTATION.

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PLANNED COMMERCIAL DEVELOPMENT		MFD	
BRITE WORX CARWASHERY		DRAFT	
MOBIL ON THE RUN		110-241	
WALLIS COMPANIES		DRAFT	
DATE:	NOV 2016	DRAWN BY:	
DWG SCALE:	1"=30'	CHECKED BY:	
PROJECT NO:		APPROVED BY:	
DRAWING NO.: LA 02		SHEET 1 OF 2	

Design Narrative

Mobil On the Run Convenience Store and BriteWorx Car Wash

Northwest Corner of Olive and Schulte, Creve Coeur, MO 63141

This design narrative was prepared to provide a description of how the individual components presented in the “City of Creve Coeur Design Guidelines” were addressed and considered in preparation of the proposed development. These are numbered to follow along with those guidelines.

Chapter 1- Site Layout

A. Physical Features and Site Relationships

1. The existing topography and foliage is being maintained as much as possible to minimize the site topography changes. Grade changes will be as natural as possible, however, the use of retaining walls and masonry fencing will be used to provide additional screening and enhancements to the buffer yards.
2. Existing site features are being maintained to as much as possible with new natural site features added to enhance the site. These new site features add interest to the site and provide nodes along the way for the pedestrians to enjoy, such as a small “pocket park.”
3. Building orientation has been designed to create spaces of interest and focal points within the site which adds visual interest. These features soften the scale of the project by providing intermittent screening from all approaches to the site.
4. Site design addresses these issues by utilizing existing natural barriers and augmenting them with new manufactured barriers to compliment those natural barriers, lessening the impact to the adjacent properties. By combining existing natural barriers with new landscaped areas on the entirety of the site, the impact of this development is minimized. This development proposes approximately 50% green space to lessen the impact on surrounding property owners.
5. Utility project elements are designed to be as far back on the site as possible and screened. Materials for screening and physical locations were evaluated to lessen the visual impact to the public
6. Though this project is not phased, care has been taken to maintain continuity and completeness.

B. Streetscape/Pedestrian Orientation

1. Streetscaping design mixes hard elements and soft elements in order to visually and textually create interest in the pathway around the site. The hard element is a low, pedestrian scale, wall with pilasters and street lights that helps guide the pedestrian along the site and then into the site. Once on the site, more wandering paths allow pedestrian circulation within the site. This directly correlates to the City's Pedestrian Plan.
2. Where gaps occur in the streetscaping, pedestrian circulation is encouraged to enter into the site to discover greenspace and other outdoor elements.
3. The open space in the streetscape provides a path to help direct pedestrians from the street through the site to either building, as well as, between both buildings. The "pocket park" area of interest also helps mitigate stormwater runoff.
4. The design incorporates public spaces within the site for pedestrians and community members to view landscaping and to gather. These features directly correlate to the City's Pedestrian Plan.
5. Site design and building design are integrated to provide various scales, materials and 3 dimensional elements to enhance the visual interest of pedestrians and the community. This correlates directly to the City's Pedestrian Plan.
6. Public entrance to the buildings from the street is through a series of paths, landscaped with street trees, low masonry walls and street lights. Signage will be visible and identifiable from the street and the windows will be lightly tinted to encourage facility users to enter. These paths correlate directly to the City's Pedestrian Plan.
7. Street trees are designed in to enhance the site appearance and compliment the overall experience. By using a multiple species approach, the landscaping provides visual and textural variation and guards against diseases affecting single species.
8. Sidewalk and lighting are consistent and coordinated with the overall site design. These elements are integral to the further development of the East Olive Corridor Plan to enhance the pedestrian experience and provide visual interest along the street and through the site.
9. Sidewalk and vehicle intersections are designed to emphasize the pedestrian path through color and texture changes. These elements clearly define the pedestrian experience, clearly separates pedestrian and vehicular movements and correlates to the City's Pedestrian Plan.
10. The rear of the buildings are designed to be consistent in color and material to the front of the buildings and vegetation, both new and preserved, was considered to also add to the buffer and transition.
11. Vehicle access to the site has been designed to provide one main access point per street frontage and the access along Olive is shared between the two site uses.

12. The walk in front of the entry to the business is 10' wide with more than 4' of pedestrian clearance. The ease of pedestrian movement correlates to the City's Pedestrian Plan.
13. The sidewalks comply with the City Pedestrian Plan.

C. Streetscape/Pedestrian Orientation

1. Circulation patterns on the perimeter and interior to the site are clearly defined and safe.
2. Pedestrian routes within the site are buffered and landscaped and also provide points of interest and other amenities.
3. Access by vehicle and by pedestrian are separated and safe while adding to the arrival experience to the site and buildings.
4. Pedestrian, bicycle and vehicle circulation have been separated to the extent possible. When these paths cross, color and texture designations occur.
5. Pedestrian linkage between structures and within the site are provided and emphasized.
6. Bicycle parking is highly visible and lockable.

Note: All of these site and pedestrian points of interest and circulation routes have been created by the building placement and designed elements to reduce the commercial feel of the proposed development to a more residential/neighborhood feel.

Chapter 2- Buildings

A. General Architectural Guidelines

1. The building designs are articulated to create interest and be distinct while using high quality materials.
2. Outdoor spaces of interest have been incorporated into the overall design with structures of similar building elements linking the site together. The small scale of these connector elements and outdoor spaces reduce the scale of the overall development, while still linking the development together as a whole.
3. The building facades have been articulated to increase visual interest and create shadow lines using various elements. These elements help breakdown the building scale to create a more human scale and clearly define the building entry points and termination points.
4. The nature of this particular type of building use is single story. The building height has been increased to add mass and create more visual interest and to screen various necessary functional equipment. The building has been situated on the site further back from the street due to site function and also to reduce the scale of the building to a more

human scale. This setback also affords more opportunity to screen the building and reduce elements to a more human scale at the street view.

B. Scale

1. The site layout and building height have been carefully considered. Lower use adjacent areas receive the lower height of the building elevations and the more public and visible views receive the higher building elevations while still maintaining a human scale through the use of material and massing. Additionally, staff has indicated a potential use for the property immediately adjacent (West) of the site and the scale of this potential development has been taken into consideration. This development provides additional space between the potential development to the West through building orientation. This orientation affords additional opportunities for maximum screening.
2. The buildings achieve human scale through multiple massing changes, material accents various insets and building element features.
3. Both buildings employ similar massing and detail elements to maintain consistency within the site. The linking element between the buildings employs similar material and massing elements, further connecting the buildings and maintaining design consistency.

C. Design

1. The building design incorporates several high quality materials and design elements throughout the site. The scale of these elements are residential scale to add to the human scale of the building. The colors selected are warm and inviting, adding to the residential scale and feel of the building.
2. Façade design for all structures incorporates several massing changes to decrease repetitiveness and provide visual interest.
3. The entry pieces are articulated vertically and horizontally to clearly define the entrance.
4. Overall site and building design use elements consistent with high quality and visual interest. As the pedestrian approaches and then enters the site, these elements will increase slightly in scale and change texture and color providing an interesting journey. The low wall elements and overhead canopies use materials consistent with the proposed building while also screening functional elements of the vacuum areas from vehicular and pedestrian view.
5. Separation distance between the buildings is the minimum for required vehicle circulation. In order to visually link the buildings, a connector element is designed with similar design materials and elements to maintain visual consistency.
6. Each building is a unique design, consistent with the City Comprehensive Plan while maintaining enough similarity to other previous projects by this Developer. While the

buildings are similar in style to other previously designed buildings for this client, they are not “prototype” buildings. Different locations and sites have different design parameters which provides the opportunity to create a unique building while maintaining familiarity with a brand.

7. Mixed use of this site is provided through separate building experiences.
8. All elevations receive the same design and material treatment.
9. Both buildings utilize parapets to screen roof top items. Those parapet elements are integral to the design concept.
10. Both buildings utilize energy efficient design elements and systems.

D. Relationship to Neighboring Development

1. The site and building development is consistent with surrounding existing and newer developments along the East Olive Corridor in the use of material, streetscape and color. This design utilizing a complete package of site and building design, in a unique location, will help set a standard for future development along this corridor. The use of the site is not changing. The proposed development will enhance the design of the corner and provide a fresh, new, updated design showing the City’s progress.
2. Both main buildings are linked visually with a connecting element using consistent materials and massing.
3. The majority of the building materials and colors are earth tone and neutral. An accent color is used to tie both buildings together and create visual interest. This same accent color is seen all along the East Olive Corridor from Graeser Road to Interstate 270.
4. Pedestrian paths and pedestrian elements are incorporated into the site plan design and the building layout to create outdoor public spaces of interest.

E. Materials/Colors

1. The building materials selected are of high quality and high durability and most are natural, traditional materials.
2. Color for the materials is integral, adding to their durability. The most durable materials are placed near the ground to achieve maximum durability.
3. The EIFS element is used in a location that is not accessible to the user in order to maintain the building material durability. The “plasticity” of the EIFS allows for the various insets and offsets and detail accents to visually enhance the building design while allowing the predominate material to be masonry used at the lower level.
4. Both buildings utilize the same Architectural elements and color to provide design consistency throughout the site. All elevations use similar elements and colors to maintain design consistency within the building façades.

5. Any material color changes will occur at inside corners to emphasize mass and alleviate the appearance of “thinness.” Material continuity is maintained within each elevation.
6. Soffits will receive similar finish treatment as the main fascia material.
7. The sidewalks and drive areas are differentiated through color and texture.

F. Building Services

1. Services and trash receptacles are located deep within the site and shielded by solid fences and partially by the buildings so as not to be as visible to the vehicle traffic or pedestrian traffic.
2. Loading areas are also located deep within the site to shield them from vehicle or pedestrian traffic.
3. The utility meters will be located such that they are screened from public view.

Chapter 3- “Use” Specific Guidelines

A. Not Applicable

B. Auto Service Stations

1. The site layout provides one entrance per street on this corner lot. Customer safety is provided by a low masonry wall incorporated into the streetscape design.
2. The paved area is as minimal as possible to provide safe vehicular and pedestrian movement throughout the site. Material, texture and color changes are used to distinguish and separate pathways. This safer pedestrian movement directly correlates to the City’s Pedestrian Plan.
3. The buildings have been designed specifically for this site to provide an increased, upgraded, level of detail beyond the previous buildings of this type within the region. This increased level of detail enhances the users experience of the facility and the City. The Developer has incorporated several adjacent lots in order to reduce the commercial impact and density of the development.
4. Through material and color consistency, the freestanding elements associated with this site are compatible and consistent to the major building elements.
5. Tank vent are incorporated into the fuel canopy design to reduce visibility.
6. The Car Wash Architectural elements, materials and colors are consistent with the Convenience Store Architectural elements, materials and colors. The orientation of the Car Wash building is to specifically reduce the intrusion of the exit opening to vehicular and pedestrian traffic. The exit end also incorporates a storefront element, similar to a

retail establishment, to further deemphasize the door opening element. The orientation also reduces the impact on the surrounding residential areas and the potential development area to the West.

7. All lighting fixtures will be flush with the underside of the canopy.

C. Not Applicable

D. Not Applicable

E. Accessory Buildings and Facilities

1. The accessory facilities such as trash enclosures are designed to directly relate in material, character and detail to the other site components.

Chapter 4 – Landscape Design

1. The landscape design for this proposed redevelopment is of high quality and seeks to maintain and use existing mature vegetation, accommodate and accent pedestrian facilities, provide ample green space and areas of visual interest, and soften larger rigid elements.
2. There is a consistent yet still diverse species and theme throughout the development.
3. The design of the landscape helps identify pedestrian circulation paths from street frontage to the commercial business.
4. Significant design effort and attention has been placed into maintaining existing vegetation in buffer areas and new landscape has been proposed to enhance those buffers.
5. Clear pedestrian pathways and landscape materials have been provided to lessen potential damage by pedestrian or motor traffic.
6. The parking areas are landscaped with trees, shrubbery, and other landscaping materials as well as a pedestrian scale wall.
7. The landscape plan has incorporated a patio area and other such features to create points of visual interest.
8. The green space provided exceeds the requirements and these areas are landscaped with grouped plantings and other elements throughout the site.
9. The pedestrian scale landscape wall, signage, trash receptacles, fencing and other site elements are incorporated into the design of the landscaping.
10. The scale of the landscape materials is diverse by making use of mature existing vegetation and providing low-level shrubbery and landscaping materials. Together

these elements compliment and soften larger scale architectural elements.

11. As mentioned above, the existing mature vegetation has been incorporated into the overall design scheme.
12. Irrigation systems are proposed for the site.
13. The landscape design is intended to accent and enhance architectural and site design features.
14. Any groundcover is proposed to be live plant material.
15. While no berms are proposed, the existing topography helps add to visual screening from adjacent residents.
16. Changes in existing vegetation and topography have been minimized to the extent feasible.

Chapter 5- Miscellaneous

A. Signage

1. The signage will comply with municipal requirements and are integrated into the building design to blend while being an accent.
2. Not applicable
3. Sign areas are minimal and strategically place in logical locations.
4. Individual letter signs will be used where practical.
5. Signage will be internally lighted with little or no glare.

Note: The signage be more consistent with the “Green Line Park” approach mentioned in the Comprehensive Plan.

B. Lighting

1. Illumination levels across the site will vary depending on use and safety. The lighting has been designed to reduce any light directed off site. Full cut off fixtures will be used as required to reduce light directed off site and glare.
2. Exterior lighting will be shielded as required and parallel to the ground.
3. The building lighting is integrated into the building and will be complimentary to the building color and style.
4. Fixture mounting height will vary across the site depending on clearance requirements.
5. Bollard lights may be used at strategic locations to enhance the pedestrian experience.
6. Raised lights poles along the streetscape will be pedestrian scale Architectural style.
7. No neon lighting is proposed.
8. A photometric plan will be provided.

Note: Every effort has been made to discuss the impact with the adjacent residents. Those concerns have been addressed. To minimize the impact, central vacuum systems and lowered, shielded lighting is proposed.

C. Utilities

1. Utilities will be underground and the transformer will be screened.

D. Stormwater Drainage

1. Rooftop drainage has been considered and is conveyed and contained so that it does not impact landscaped areas or sidewalks.
2. The stormwater management facility has been designed to be natural in configuration and appearance and contributes to the enhancement of the buffer.
3. The site exceeds minimum standards for open space requirements and the stormwater management facility is situated such that it does not detract from visual interest.

E. Energy Conservation

1. The building orientation, materials and systems are designed with good energy conservation principles.

F. Screening

1. The proposed masonry fencing is designed with a natural stone façade and visual monotony is minimized by site landscaping and architectural elements.
2. The proposed masonry wall (sound wall) is designed to minimize the visual and audible impacts and it's textures and color coordinate with the balance of the site architecture.
3. The fencing is an integral part of the site.
4. Chain link fencing is not proposed.
5. The proposed fencing is a highly decorative masonry fence.
6. The trash enclosure will be constructed of the same material.

G. Parking

1. The parking lot has limited vast open areas and is broken-up by landscaped areas and pedestrian pathways.

2. On street parking is not feasible at this location, and parking has been located furthest away from residential areas and provided in a manner consistent with the needs of the proposed operation.
3. Underground parking is not proposed.
4. There are no vast open areas of parking proposed that would cause significant glare reflection or visual impact.
5. The parking layout and design is enhanced with pedestrian circulation and does not obstruct direct access from street pedestrian facilities to the public commercial business.
6. Extensive landscaped areas are proposed on the site.
7. Landscaped islands and open spaces have been incorporated into the facilities.
8. No parking or vehicular circulation is proposed in required buffer yard or side yard setback area.
9. No parking structure is proposed.
10. No parking structure is proposed.

H. Retaining Wall

1. The topography of the site has been designed where feasible to minimize the height and length of the retaining walls. The vegetation, both preserved existing trees and proposed landscaping, has been incorporated to enhance visual appearance.
2. The proposed retaining wall has not been terraced in an effort to preserve and maintain existing mature vegetation.
3. The materials utilized for the retaining wall coordinate with the building materials and architecture.

DEVELOPMENT NOTES

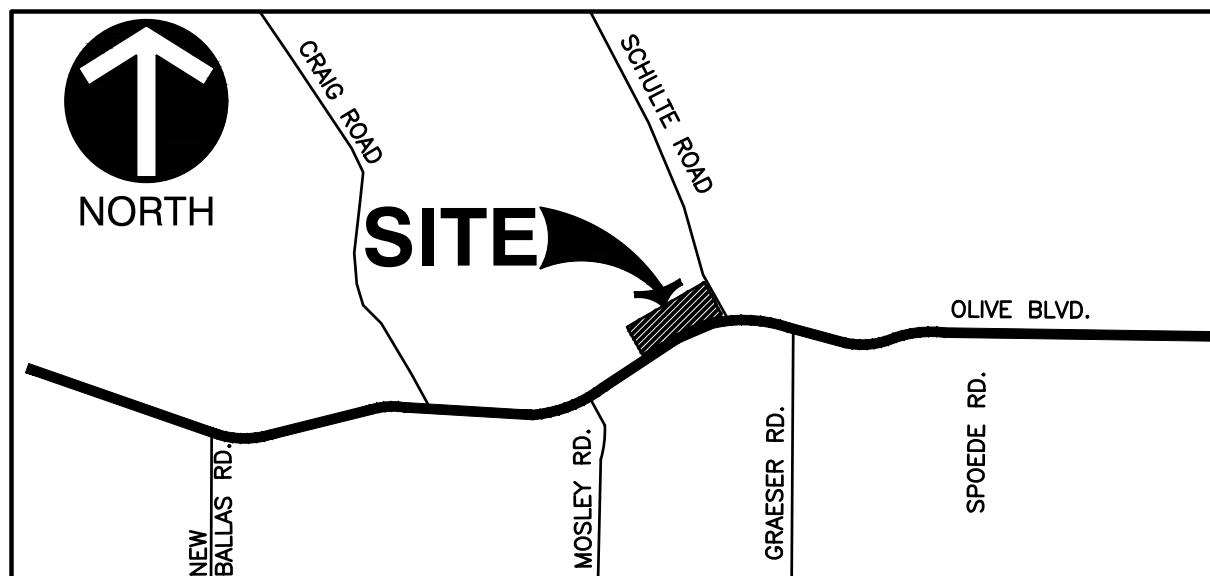
- TOTAL PARCEL AREA: 170,736 SQ.FT. (3.920 ACRES)
AREA WITHIN CITY LIMITS: 122,277 SQ.FT. (2.807 ACRES)
AREA WITHIN UNINCORPORATED: 48,459 SQ. FT. (1.113 ACRES)
- CURRENT ZONING (CC)- SINGLE FAMILY RESIDENTIAL & GENERAL COMMERCIAL
PROPOSED ZONING (CC)- GENERAL COMMERCIAL
CURRENT ZONING (UN)- R3 (RESIDENCE) & C8 (PLANNED COMMERCIAL DISTRICT)
PROPOSED ZONING (UN)- C8 (PLANNED COMMERCIAL DISTRICT)
- SETBACKS-
FRONT YARD/ROW (CC) 10 FEET OLIVE BLVD. (CC)
SIDE YARD (CC) 0 FEET SCHULTE ROAD (IN LIEU OF ROW GIVEN TO COUNTY)
SIDE YARD (UN) 12 FEET
REAR YARD (UN) 10 FEET
BUFFER YARD (UN) 15 FEET (NORTH PROPERTY LINE)
SCREENING: 25 FEET [SEC 405.360 E-44] W/ FENCE FOR DRIVE THRU
*BUFFER YARD @ 20FT + (5 X 1) = 25 FEET
BUILDING HEIGHT NOTE: ALL PROPOSED BUILDINGS TO BE 1 STORY IN HEIGHT
- SPECIAL CONSIDERATIONS-
4.1. TRASH ENCLOSURES SHALL BE INTERIOR TO THE SITE AND NOT ALONG THE NORTH PROPERTY LINE
4.2. SIDEWALKS ALONG OLIVE BLVD. SHALL BE FIVE-FOOT IN WIDTH UNLESS ABUTTING CURB, IN WHICH CASE SHALL BE INCREASED TO SIX-FOOT WIDE.
4.3. PLAN SHALL BE SO DEVELOPED TO INCLUDE AN INTEGRATED PEDESTRIAN CIRCULATION SYSTEM.
- FIRE DISTRICT: CREVE COEUR
- FLOOD NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF THE CITY OF CREVE COEUR, MISSOURI (COMMUNITY PANEL NUMBER 290344 0166 H, EFFECTIVE DATE AUGUST 2, 1995), AND THE FLOOD INSURANCE RATE MAP OF ST. LOUIS COUNTY, MISSOURI (UNINCORPORATED AREAS) (COMMUNITY PANEL NUMBER 290327 0166 H, EFFECTIVE DATE AUGUST 2, 1995) THIS PROPERTY LIES WITHIN ZONE X. ZONE X IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD.
- ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND.
- TRASH ENCLOSURES SHALL BE SIX FOOT (6') IN HEIGHT AND SHALL BE CONSTRUCTED W/ A SIGHT-PROOF GATE; MATERIALS SHALL BE COMPATIBLE WITH THE ARCHITECTURE OF MAIN BUILDINGS AND OF SIMILAR MATERIALS.
- STACKING: GENERAL STANDARDS
9.1. DRIVE-THROUGH STACKING LANES SHALL HAVE A MINIMUM WIDTH OF TWELVE FEET.
9.2. STACKING LANES SHALL BE SET BACK 20 FEET FROM RESIDENTIALLY ZONED PROPERTY LINES.
9.3. AUDIBLE ELECTRONIC DEVICES SUCH AS LOUSPEAKERS, AUTOMOBILE SERVICE ORDER DEVICES, AND SIMILAR INSTRUMENTS SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY RESIDENTIAL PROPERTY LINE.
9.4. ALL DRIVE-THROUGH AREAS, INCLUDING BUT NOT LIMITED TO MENU BOARDS, STACKING LANES, TRASH RECEPTACLES, LOUSPEAKERS, DRIVE UP WINDOWS, AND OTHER OBJECTS ASSOCIATED WITH THE DRIVE-THROUGH AREA SHALL BE LOCATED IN THE SIDE OR REAR YARD OF A PROPERTY, AND SHALL NOT CROSS, INTERFERE WITH, OR IMPEDE ANY PUBLIC RIGHT-OF-WAY.

SITE CALCULATIONS 170,736 SQ.FT.:
AREA CREVE COEUR = 122,277 SQ.FT. (2.807 ACRES)
GREENSPACE (CC) = 52,805
IMPERVIOUS (CC) = 69,472 (56.8%)
AREA UNINCORPORATED = 48,459 SQ.FT. (1.113 ACRES)
GREENSPACE (UN) = 40,098
IMPERVIOUS (CC) = 8,361 (17.3%)
TOTAL GREENSPACE = 91,548 (54.4%)
TOTAL IMPERVIOUS = 77,833 (45.6%)
RATIO OF FLOOR TO SITE IN SQ.FT. (FAR)
1:17.2 (1 SQ.FT. OF FLOOR SPACE TO 17.2 SQ.FT. OF PARCEL AREA)

PARKING CALCULATIONS:
CREVE COEUR
REQUIRED = GENERAL RETAIL @ 4 PER 1,000 SQ.FT. = 19.2
UNINCORPORATED
REQUIRED = CARWASH @ 1/BAY + 5 STACKING PER BAY = 20
= FOOD MARKET @ 3-1/3 PER 1,000 SQ.FT. = 15.9
PROVIDED = 27 STACKING
= 30 SPACES INCLUSIVE OF 2 ACCESSIBLE SPACES



A TRACT OF LAND BEING ALL OF LOTS 1, 2, 3 AND 4 OF "OAK LAKE ESTATES", P.B.92 PG.3 AND PART OF LOTS 3, 4, AND 5 OF THE SUBDIVISION OF THE FARM OF S.S. MATSON IN U.S. SURVEY 1962, TOWNSHIP 45 NORTH, RANGE 5 EAST OF THE FIFTH PRINCIPAL MERIDIAN ST. LOUIS COUNTY, MISSOURI



PRELIMINARY DRAINAGE NOTES

- PROJECT AREA: 170,736 (3.92 ACRES)
- WATERSHED: FEE FEE
- 15YR/20MIN DIFFERENTIAL RUNOFF (Q=A*PI, PER MSD):
PRE: Q=(3.92AC)*(0.38)*(3.54)+(3.92AC)*(0.62)*(1.70)=9.43 CFS
POST: Q=(3.92AC)*(0.10)*(4.20)+(3.92AC)*(0.41)*(3.54)+
(3.92AC)*(0.49)*(4.60)=9.84 CFS
DIFFERENTIAL RUNOFF: Q=(+)-1.17 CFS
- PER MSD SECTION 4.080.01(2B), THIS PROJECT DOES NOT REQUIRE DETENTION, HOWEVER THE SITE MUST PROVIDE WATER QUALITY.
- PER THE NATIONAL RESOURCE CONSERVATION SERVICE (NRCS) THIS PROJECT IS WITHIN HYDROLOGIC SOIL GROUP 'D' HAVING A LOW INFILTRATION RATE AND HIGH RUNOFF POTENTIAL.
- WATER QUALITY VOLUME FOR THE ENTIRE SITE (3.92 ACRES AT 51% IMPERVIOUS) PER MARYLAND STORMWATER DESIGN MANUAL APPENDIX D-10:
WQp=3.02 CFS OR WQv=8,300 CF
WATER QUALITY BMPs:
• HYDRODYNAMIC SEPARATOR AND SNOUT FOR HOTSPOT AREA AT GAS PUMPS
• BIORETENTION (WILL ALSO PROVIDE VOLUME REDUCTION)

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT

LACLEDE GAS COMPANY
COMMERCIAL & INDUSTRIAL MARKETING
720 OLIVE STREET
ST. LOUIS, MO 63101
CONTACT: DAWN SPINK
PHONE: 314-342-0687
EMAIL: JTravis@lacledegas.com

MISSOURI AMERICAN WATER
727 CRAIG RD.
CREVE COEUR, MO 63141
CONTACT: DAWN SPINK
PHONE: (314) 996-2379
EMAIL: dawn.spink@amwater.com

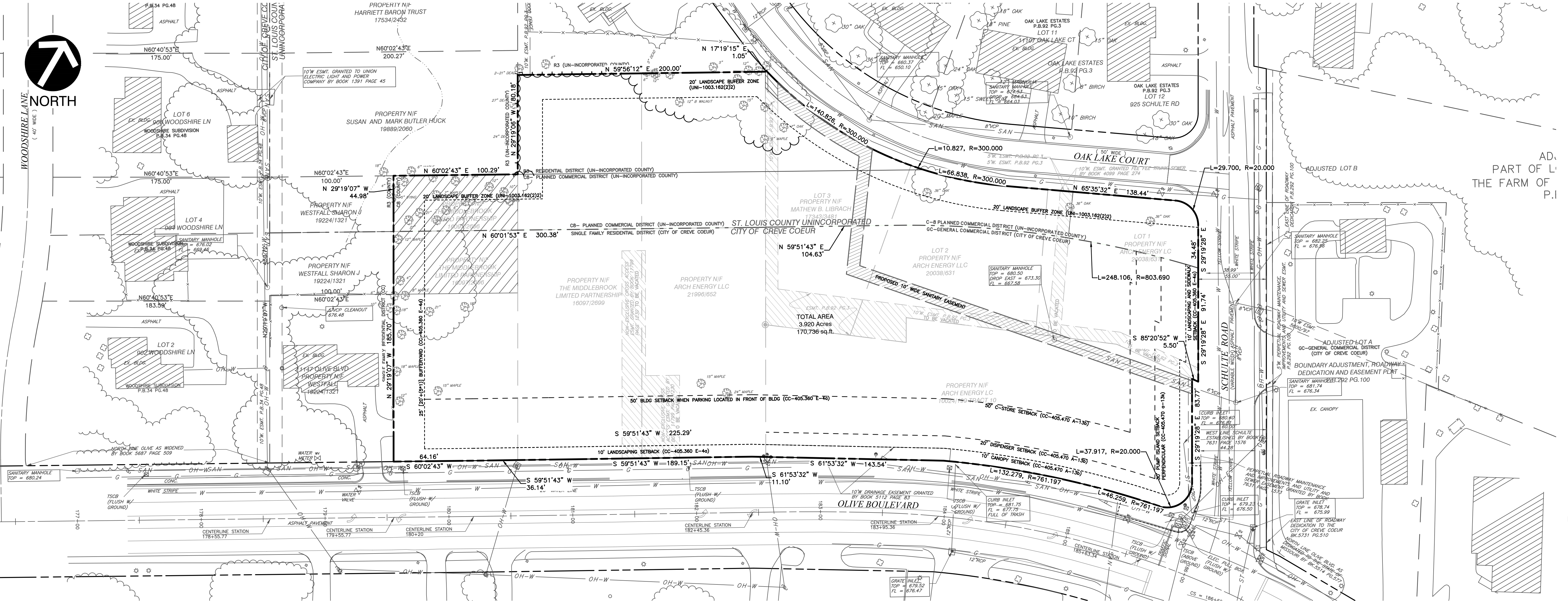
CREVE COEUR FIRE PROTECTION DISTRICT
11221 OLIVE BLVD.
CREVE COEUR, MO 63141
CONTACT: MR. KENNETH BLACK
PHONE: (636) 949-4228

ST. LOUIS METROPOLITAN SEWER DISTRICT
2350 MARKET ST.
ST. LOUIS, MO 63103
PHONE: (314) 768-6200

AMEREN
DORSETT DISTRICT
1212 DORSETT ROAD
MARYLAND HEIGHTS, MO 63043
CONTACT: RYAN ALEXANDER
PHONE: (314) 344-9560
EMAIL: RAlexander2@ameren.com

CHARTER COMMUNICATIONS
815 CHARTER COMMONS
TOWN & COUNTRY, MO 63017
CONTACT: RICHARD STURK
PHONE: (636) 387-6650
EMAIL: mapping-design@chartercom.com

MODOT
WEST AREA PERMITS
1590 WOODLAKE DRIVE
CHESTERFIELD, MO 63017-5712
CONTACT: JIM BODART
PHONE: (314) 434-4318
EMAIL: James.Bodart@modot.mo.gov



- REFERENCE
- TOPOGRAPHIC SURVEY PROVIDED BY CLIENT DATED SEPTEMBER 9, 2006. TREE SURVEY PROVIDED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DATED JANUARY 15, 2009.

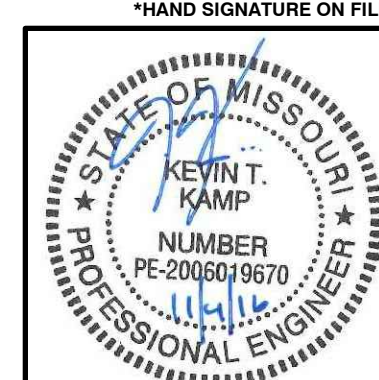


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LEGEND

- PARCEL LINE
- SETBACK LINE
- PROPOSED EASEMENT
- EASEMENT VACATE

SCALE IN FEET
0 30 60



SITE DEVELOPMENT PLAN
MOBIL ON THE RUN & BRITE WORX
PRELIMINARY PLAT

DATE: AUG. 2016
DRAWN BY: KTK
DWG SCALE: AS NOTED
PROJECT NO: 110-241
CHECKED BY: KTK
APPROVED BY: KTK

MSD MAP# 17-N

ZIP- 63146

WALLIS COMPANIES
106 EAST WASHINGTON
CUBA, MO 65453
(636) 549-1600

Civil & Environmental Consultants, Inc.
CERTIFICATION/LICENSE NO. 2002013942
4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042
314-656-4566 - 866-250-3679
www.cecinc.com

REVISION RECORD

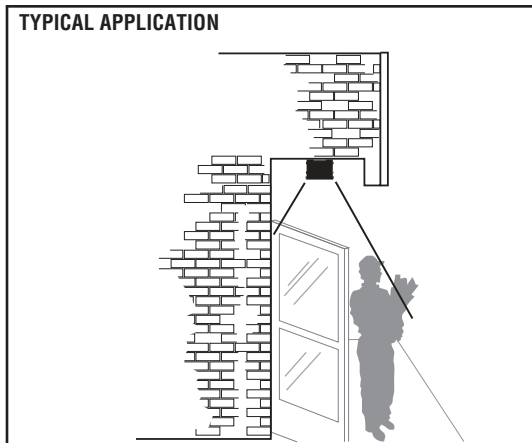
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DRAWING NO.:
PLAT
SHEET 1 OF 1

LED SOFFIT STRIP - LSS



TYPICAL APPLICATION



U.S. and international patents pending

APPLICATION - A complete continuous row building series of high performance, energy efficient LED illumination in an easy to install format. Designed for applications for storefront walkways and sidewalks.

LEDS - Select High-brightness LEDs. Available in 4100K (NW) and 5000K (CW). 70 CRI (nominal).

OPTICS - High efficiency, die formed, one piece reflectors provide a smooth and brilliant Symmetrical distribution.

LIGHT OUTPUT - Input power is 2.64 watts per foot. Cool White (CW) lumens per foot are 215. Neutral White (NW) lumens per foot are 180.

HOUSING - Die formed, non-corrosive aluminum, painted with several powder coat finish options.

POWER SUPPLY - 60w, 120-277V 50/60Hz. IP67 rated for use in wet, damp and dry locations.

OPERATING TEMPERATURE - -35°C to + 60°C (-31°F to +140°F)

INSTALLATION - Installs in continuous row or staggered applications designed to span entire soffit lengths.

EXPECTED LIFE - Projected life of 50,000 hours minimum.

WARRANTY - Limited 5-year warranty.

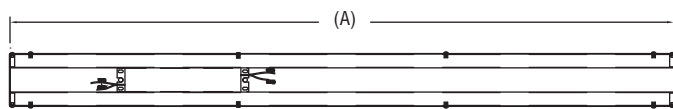
LISTING - ETL compliant to U.S. and Canadian safety standards. Suitable for wet locations.

PHOTOMETRICS - Application layouts are available upon request. Contact LSI Applications Group at lighting.apps@lsi-industries.com



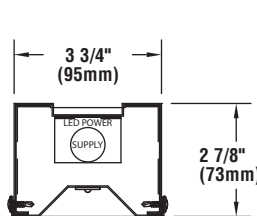
wet location

DIMENSIONS

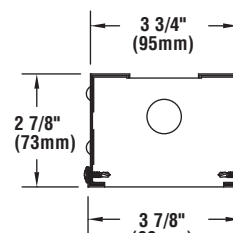


Description	Dim "A"
4 ft. Soffit Housing	48" / 1220 mm
6 ft. Soffit Housing	72" / 1829 mm
8 Ft. Soffit Housing	96" / 2439 mm

Dimensions above are for determining overall length of individual sections. Specify total linear run length per individual straight run to insure proper power supply requirements. Standard maximum length of a single unit is 8 feet. All other specified lengths are combinations of 8 feet and below.



CROSS SECTION



END VIEW

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **LSS 4 LED CW UE**

Prefix	Total Linear Length Required (ft.) ¹	Light Source	LED Color	Input Voltage
LSS	4 - 4ft 6 - 6ft 8 - 8ft	LED - Light Emitting Diode	CW - Cool White NW - Neutral White	UE - Universal Input Voltage (120-277V)

NOTE:

1- Standard maximum length of a single unit is 8 feet. All other specified lengths are combinations of 8 feet and below.



Project Name _____ Fixture Type _____
Catalog # _____

03/30/15
© 2015
LSI INDUSTRIES INC.

LED CANOPY LIGHT - LEGACY™ (CRUS)



US & Int'l. patents pending.

HOUSING - Low profile, durable die-cast, aluminum construction, providing a reliable weather-tight seal.

LEDS - Features an array of select, mid-power, high brightness, high efficiency LED chips; 5300°K color temperature, 70 CRI (nominal).

DRIVE CURRENT - Choice of Low Wattage (LW) or Super Saver (SS).

OPTICS / DISTRIBUTION - Symmetrical, which directs light through a clear tempered glass lens, to provide a uniform distribution of light to vertical and horizontal surfaces.

OPTICAL UNIT - Features an ultra-slim 7/8" profile die cast housing, with a flat glass lens. Unit is water-resistant, sealed to an IP67 rating. Integral designed heat sink does not trap dirt and grime, ensuring cool running performance over the life of the fixture.

PRESSURE STABILIZING VENT - Luminaire assembly incorporates a pressure stabilizing vent breather to prevent seal fatigue and failure.

HAZARDOUS LOCATION - Designed for lighter than air fuel applications. Product is suitable for Class 1 Division 2 only when properly installed per LSI installation instructions (consult factory).

DRIVER - State-of-the-art driver technology superior energy-efficiency and optimum light output. Driver components are fully encased in potting for moisture resistance. Complies with IEC and FCC standards.

DRIVER HOUSING - Die cast aluminum, wet location rated driver/electrical enclosure is elevated above canopy deck to prevent water entry, provide easy "knock-out" connection of primary wiring and contributes to attaining the lowest operating temperatures available. Seals to optical housing via one-piece molded silicone gasket.

OPERATING TEMPERATURE - -40°C to 50°C (-40°F to +122°F)

ELECTRICAL - Universal voltage power supply, 120-277 VAC, 50/60 HZ input. Drivers feature two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Scenario 1, Location Category C.

FINISH - Standard color is white and is finished with LSI's DuraGrip polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.

INSTALLATION - One person installation. No additional sealant required. Installs in a 12" or 16" deck pan. Deck penetration consists of a 4" hole, simplifying installation and water sealing. Unit is designed to quickly retrofit into existing Scottsdale (4") hole as well as openings for Encore and Encore Top Access and to reconnect wiring for the SC/ECTA without having to relocate the conduit. Retro panels are available for existing Encores (see back page) as well as kits for recessed and 2x2 installations (see separate spec sheets). Support brackets are provided standard, to prevent sagging of deck.

SHIPPING WEIGHT - 27 pounds (single pack), 48 pounds (double pack).

EXPECTED LIFE - Minimum 60,000 to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

WARRANTY - Limited 5-year warranty.

LISTING - UL and ETL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations.

PHOTOMETRICS - Applications layouts are available upon request. Contact LSI Petroleum Lighting or petroleum.apps@lsi-industries.com

Consult Factory

Class 1, Division 2 – Standard on SS & LW.

T5 Temperature Classification – The surface temperature of this product will not rise above 100°C., within a 40°C ambient.

Gas Groups A,B,C, and D – Group A: Acetylene / Group B: Hydrogen / Group C: Propane and Ethylene / Group D: Benzene, Butane, Methane & Propane.

This product, or selected versions of this product, meet the standards listed below.
Please consult factory for your specific requirements.



IP67



LED CANOPY LIGHT - LEGACY™ (CRUS)

LUMINAIRE ORDERING INFORMATION

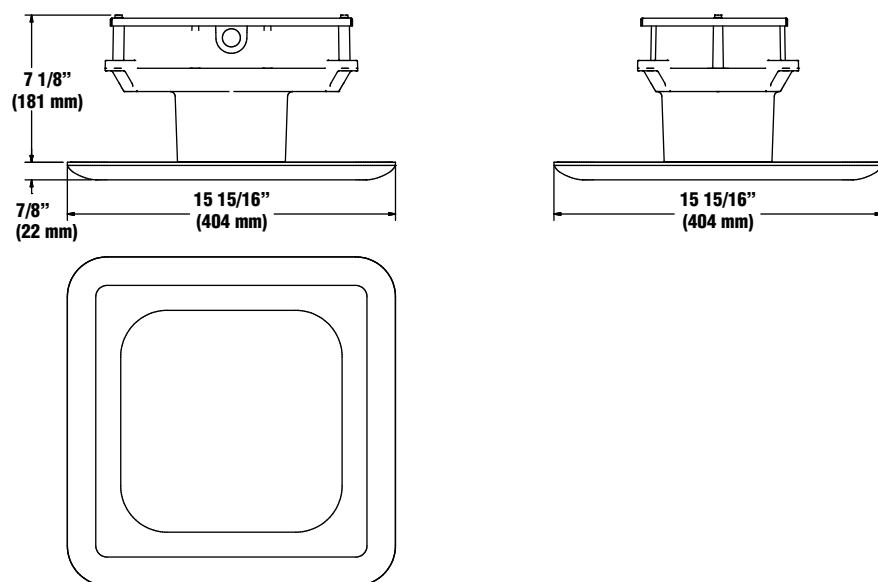
 TYPICAL ORDER EXAMPLE: **CRUS SC LED SS CW UE WHT**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Options
CRUS	SC - Standard Symmetric	LED	LW - Low Watt SS - Super Saver	CW - Cool White	UE - Universal Voltage (120-277V) 347 - 347V	WHT - White BRZ - Bronze BLK - Black	None

ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number	Description	Order Number
Retrofit Panels - EC / ECTA / SCF to CRU, for 16" Deck Panel	525946	Kit - Hole Plugs and Silicone (enough for 25 retrofits) ¹	1320540
Retrofit Panels - ECTA / SCF to CRU, for 12" Deck Panel	530281	1- Consists of (25) 7/8" hole plugs and (1) 10.3 oz tube of RTV	
Retrofit 2x2 Cover Panel Blank (no holes)	357282	2- Flange Kit used to mount CRU in double deck applications	
Retrofit RIC Cover Panel Blank (no holes)	354702		

DIMENSIONS



LIGHT OUTPUT - CRUS

		Lumens	Watts	LPW
Cool White	LW - Low Watt	10,871	88	124
	SS - Super Saver	13,554	114	119

LED LENSED STRIP - SDL

PRODUCT HIGHLIGHTS

- Accepts optional plug-in wiring feature for continuous row installation
- Alignment couplers furnished for continuous row installation
- Suitable for surface, pendant, or stem mounting

EXPECTED LIFE - Projected life of at least 60,000 hours. Contact factory for TM-21 detail.

LEDS - Use of closely-spaced medium-power, high-brightness chips minimizes pixelation and provides uniform lens luminance. Available in Cool White (5000K), Neutral White (4000K) and Warm White (3500K) color temperatures. CRI $\geq$ 80 (CW > 70). LM-80 reports available.

CONSTRUCTION - Fixture housing, end sections, and channel cover constructed of code-gauge, die-formed steel.

LENS - Specially designed frosted extruded lens with micro prisms for maximum source diffusion and soft, even illumination.

FINISH - All metal parts are painted after fabrication following treatment with phosphate rust inhibitor. Finish coating of housing reflecting surfaces is with high-reflectance (minimum 92%) polyester powder.

ELECTRICAL - Universal voltage (120-277 Vac) input, 50/60Hz, 347 VAC. Power factor > 0.9, THD < 20%, in-rush current < 15 Amps.

DRIVER - High-performance isolated driver features over-voltage, over-current and short-circuit (with auto-recovery) protection. Driver module is sealed to IP66 protection levels, with a Class A sound rating. 0-10 volt dimming standard.

WARRANTY - Limited 5-year warranty.

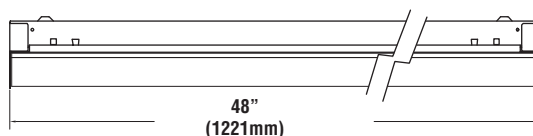
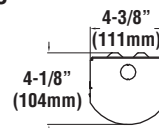
PHOTOMETRICS - Please visit our website at www.lsi-industries.com for detailed photometric data.

LISTING - Listed to UL 1598 and UL 8750. Suitable for damp locations. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



DIMENSIONS



LIGHT OUTPUT - SDL LENSED STRIP

	Lumens (Nominal)			Watts
	WW	NW	CW	
SDL 2 LW - 2FT	1490	1475	1705	14
SDL 2 SS - 2FT	2430	3115	2960	28
SDL 4 LW - 4FT	3000	3105	3700	29
SDL 4 SS - 4FT	3475	3635	4380	34
SDL 4 HO - 4FT	4770	4990	5875	44
SDL 4 VHO - 4FT	5685	5965	7225	57
SDL 8 LW - 8FT	5995	6210	7400	58
SDL 8 SS - 8FT	6945	7268	8760	68
SDL 8 HO - 8FT	9555	9795	11752	88
SDL 8 VHO - 8FT	11370	11930	14450	114

LED Chips are frequently updated therefore values may increase.

ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **SDL 4 LED HO CW UE**

Prefix	Length	Light Source	Lumen Output	Color Temperature	Line Voltage	Options
SDL - Strip With Diffused Lens	2 - 2 foot 4 - 4 foot 8 - 8 foot	LED	LW - Low Watt SS - Super saver HO - High Output ³ VHO - Very High Output ³	CW - Soft White (5000K) NW - Neutral White (4000K) WW - Warm White (3500K)	UE - Universal Electronic (120-277V) 347-347V	EM - Emergency Battery Pack ¹ SD50 - Step Dimming to 50% PM - Pre-wired Plug-in Assembly (specify circuitry See Options/Accessories Section)

ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number
Grid Hanger	GH
Chain Hanger Set (36" length)	CHS3
Chain Hanger Set (60" length)	CHS5
Wire Guard - 4 foot	WG240 ²
T-bar Kits (includes junction box, wire collar, & grid hangers)	TBKT

1- Emergency Battery Pack not available on 2ft fixture.

2- 8ft fixture requires (2) wire guards.

3- HO and VHO for 4 ft. & 8ft. fixtures only.



Project Name _____ Fixture Type _____

Catalog # _____

05/25/16

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Packet Pg. 506

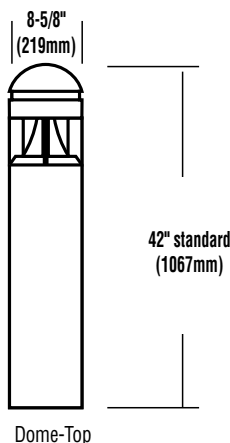
LED BOLLARD LIGHT (XBVRD)



DOE LIGHTING FACTS

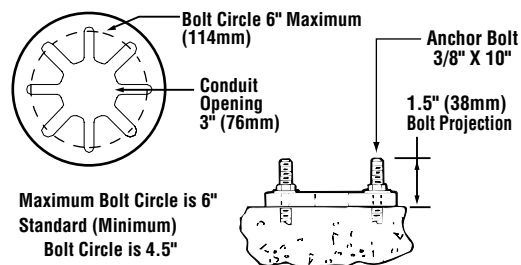
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

DIMENSIONS



BASE DETAIL

Note: Base plate dimensions may change without notice. Do not use for setting anchor bolts. Consult factory for base plate templates.



Also available in traditional light sources

U.S. and international patents pending

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - An array of 24 select high-brightness LEDs in Cool White (5000K), Warm White (3500K) or Neutral White (4000K) color temperature, 69 CRI

REFLECTOR/DISTRIBUTION - Indirect. Photometric data is tested in accordance to IESNA Procedures.

HOUSING - Crown: Virtually tamper-proof concealed stainless steel fasteners in the cast aluminum crown assembly.

Lower Housing: One-piece, .322 inch seamless, extruded aluminum. Various heights are available in 6" increments starting at a minimum of 30" (maximum height is 60"). Lower housing attaches to cast aluminum base plate with four stainless steel roll pins.

OPTIONAL ROUGHNECK REINFORCEMENT - .375" thick zinc plated, steel base plate with welded U shaped reinforcement. 3/8" diameter 302 stainless steel roll pins with 10,000 lb. shear load.

LENS/GASKET - One-piece, clear acrylic lens enclosure fully gasketed at top and bottom edge.

ANCHOR BOLTS - Requires four heavy-duty 3/8" x 10" galvanized steel anchor bolts.

ELECTRICAL - Universal voltage power supply (120-277 VAC, 50/60 Hz). 347-480V also available - 400mA is standard. Surge protector meets IEEE C62.41.2-2002, Scenario 1 Location Category C.

DRIVER - State-of-the-art driver technology designed specifically LSI LED light sources provides unsurpassed system efficiency. Driver complies with IEC and FCC standards.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

DECAL STRIPING - Color-coordinated decal is available in 9 standard decal colors or by custom order from a selection of hundreds. Decal is guaranteed for five years against peeling, cracking, or fading.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

LISTING - Listed to U.S. and Canadian safety standards. Suitable for wet locations. DLC - not all possible distributions are DLC approved. Please refer to LSI or DLC web site for specific listings. For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



LIGHT OUTPUT - XBVR

Description	# of LEDs	Output	
		Lumens	Watts
Cool White XBVR ID	24	1338	38
Neutral White XBVR ID	24	1224	38
Warm White XBVR ID	24	856	38

LED Chips are frequently updated therefore values may increase.



Project Name _____ Fixture Type _____

Catalog # _____

07/28/16

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Packet Pg. 507

LED BOLLARD LIGHT (XBVRD)

PRODUCT ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XBVRF ID LED 24 400 CW UE BRZ 45**

Prefix	Distribution	Light Source	# of LEDS	Drive Current	Color Temp	Line Voltage	Finish	Options
XBVRF Flat-Top XBVRD Round-Top	ID - Indirect	LED - Light Emitting Diode	24	400	CW - Cool White (5000K) NW - Neutral White (4000K) WW - Warm White (3000K)	UE - Universal Electronic (120-277V 50/60Hz) 347 - 347 volt 480 - 480 volt	BRZ - Bronze BLK - Black PLP - Platinum Plus BUF - Buff WHT - White GPT - Graphite SVG - Satin Verde Green MSV - Metallic Silver	H - XX (Specify Height) ¹ PCI120 - Button-type Photocell PCI208, 240,277 - Button-type Photocell PCI347 - Button-type Photocell GFR - GFI Duplex Receptacle LAB - Less Anchor Bolts RN - Roughneck Heavy Duty Mounting Plate

1 - Taller or shorter heights available in 6" increments. Minimum height is 30". Maximum height is 60".

ACCESSORY ORDERING INFORMATION (Accessories are field installed)	
Description	Order Number
ABKIT - Anchor Bolt Kit (BVR) 3/8" x 10" - Galvanized	285560
HSS - Round House Side Shield	122510

Color Decals

45 - Light Gold
20 - Charcoal Metallic
55 - Black
94 - Blue Black
59 - Dark Green
51 - Dark Red
21 - Tomato Red
50 - White
700 - Aztec Silver Metallic

BUG CHARTS

XBVR- TYPE ID

Drive Current	Color Temp. *	Lumens	Watts	LER	BUG Rating
400	CW	1338	38	35	B1-U2-G1
	NW	1224	38	32	B1-U2-G1
	WW	856	38	23	B1-U1-G1

* Color Temperature: WW-3000K, NW-4000K, CW-5000K



Project Name _____ Fixture Type _____
Catalog # _____

07/28/16

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LSI INDUSTRIES, INC.

Packet Pg. 508

LED AREA LIGHTS - LSI SLICE SMALL (XLCS)



US & Int'l. patents pending

SMARTTEC™ - LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Select high-brightness LEDs in Cool White (5000°K nominal), or Neutral White (4000°K nominal) color temperature, 70 CRI (nominal).

DISTRIBUTION/PERFORMANCE - Types FT and 5. Exceptional uniformity creates bright environment at lower light levels.

HOUSING - One-piece, die-formed aluminum housing contains factory prewired driver. Wiring access door (with safety lanyard) located underneath.

OPTICAL UNIT - Clear tempered flat glass lens permanently sealed to weather-tight aluminum optic frame (includes pressure-stabilizing breather). Optic frame recessed into housing cavity and sealed to the housing with one-piece EPDM gasket.

MOUNTING - Tapered rear design allows fixtures to be mounted in 90° and 120° configurations without the need for extension arms. Use with 3" reduced drilling pattern. A round pole plate is required for mounting to round poles. Wall mount available by ordering wall mounting bracket (BKS-XBO-WM-* -CLR). See Accessory Ordering Information chart for all brackets.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets Location Category C Low. Available with universal voltage power supply 120-277 VAC (50/60Hz input), and 347-480 VAC. Optional button-type photocells (PCI) are available in 120, 208, 240, 277 or 347 volt (supply voltage must be specified).

DRIVER - Available in SS (Super Saver) and HO (High Output) drive currents. Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

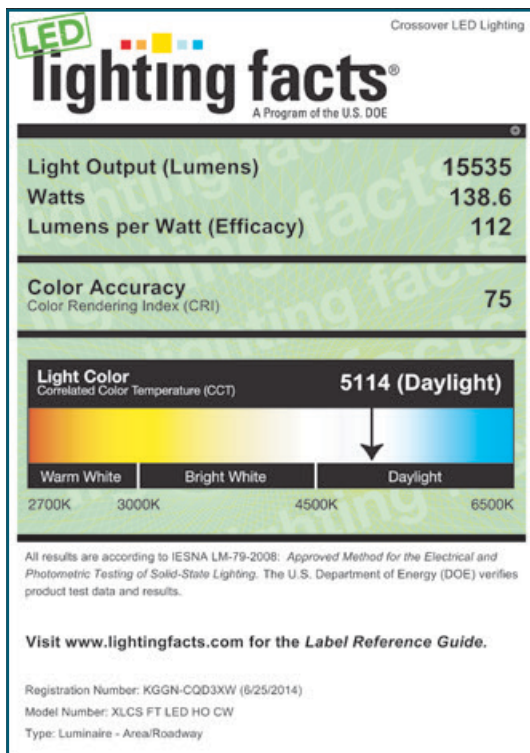
FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Available in black, bronze and white. Other standard LSI finishes available. Consult factory.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - One fixture: 17.5 lbs. (7.9 kg). Packed two per carton: 30 lbs. (13.6 kg).

LISTING - UL listed to U.S. and international safety standards. Suitable for wet locations.



This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



Fixtures comply with ANSI C136.31-2010 American National Standard for Roadway Lighting Equipment - Luminaire Vibration 1.5G requirements.

LIGHT OUTPUT - XLCS				
		Lumens (Nominal)		Watts (Nominal)
		Type FT	Type 5	
Cool White	SS	11400	11400	97
	HO	15500	15700	140
Neutral White	SS	9200	9300	97
	HO	12100	12200	140

LED AREA LIGHTS - LSI SLICE SMALL (XLCS)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XLCS 5 LED SS CW UE BLK PCI120**

Prefix	Distribution	Light Source	Drive Current	Color Temperature	Input Voltage	Finish	Options
XLCS	5 - Type V FT - Forward Throw	LED	SS - Super Saver HO -High Output	CW - Cool White NW - Neutral White	UE - Universal Voltage (120-277V) 347-480 Universal Voltage (347-480V)	BLK - Black BRZ - Bronze WHT - White	Button Type Photocells PCI120 - 120V PCI208-277V - 208-277V PCI347 - 347V

LUMINAIRE EPA CHART - XLCS

	Single	0.4
	D180°	0.8
	D90°	0.6
	T90°	1.4
	TN120°	1.4
	Q90°	1.6

Note: House Side Shield adds to fixture EPA. Consult Factory.

ACCESSORY ORDERING INFORMATION

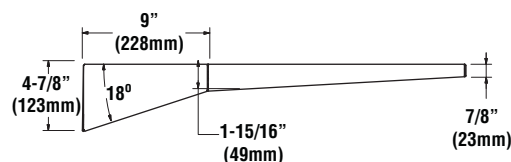
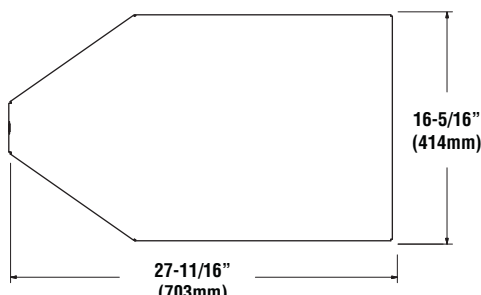
(Accessories are field installed)

Description	Order Number	Description	Order Number
BKS-XBO-WM-* -CLR Wall Mount Bracket	382132CLR	DFK208, 240 Double Fusing (208V, 240V)	DFK208, 240 ²
XLCS-FT-HSS House Side Shield (Black only)	C/F ¹	DFK480 Double Fusing (480V)	DFK480 ²
X4RPP Round Pole Plate for 4" Poles	379967CLR	FK347 Single Fusing (347V)	FK347 ²
X5RPP Round Pole Plate for 5" Poles	379968CLR		
FK120 Single Fusing (120V)	FK120 ²		
FK277 Single Fusing (277V)	FK277 ²		

FOOTNOTES:

- 1 - House Side Shields add to fixture EPA. Consult factory.
2 - Fusing must be located in the hand hole of pole.

DIMENSIONS



LED PATRIOT® WALL SCNCE (XPWS3)



DOE LIGHTING FACTS

Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog strings.

LIGHT OUTPUT - XPWS3						
Distribution/Lumens (Nominal)						
Milliamps	# of LEDs	Type FT	Type WT	Type WW	Watts	
Cool White	350 mA	28	3100	3000	3200	34
		48	5100	5100	5200	55
	450 mA	28	3700	3600	3800	44
		48	6200	6100	6300	72
Neutral White	350 mA	28	2900	2900	3100	34
		48	4900	4800	4900	55
	450 mA	28	3500	3500	3700	44
		48	5800	5700	5800	72

LED Chips are frequently updated therefore values may increase.

Also available in traditional light sources

US patent 7828456, 8002428 and CAN 2736757 & 2736757 and MX patent 29631 and ISRL 49679 and AUS 2008312668 and US & Int'l. patents pending

SMARTTEC™ -LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature

ENERGY SAVING CONTROL OPTIONS - DIM- 0-10 volt dimming enabled with controls by others.

OPTIONAL INTEGRAL MOTION SENSOR - Passive infrared motion sensor activates switching of luminaire light levels. High level light is activated when passersby enter target zone and increased to full bright in 1-2 seconds. Low light level (30% of maximum drive current) is activated when target zone is absent of motion activity for 5 minutes and is gradually ramped down (10 seconds) to low level. Sensor detection range 110° horizontal x 93° vertical x 10 meters maximum distance.

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Available with 28 or 48 select high-brightness LEDs in Cool White (5000K nominal) or Neutral White (4000K nominal) color temperature, 70 CRI (nominal).

OPTICS/DISTRIBUTIONS - Ultra-high efficiency reflectors provide three distributions. Choose from Wide Throw (WT), Forward Throw (FT) or Wall Wash (WW).

HOUSING - One-piece die-cast aluminum housing is smoothly contoured rectangular shape. Mounting hardware is stainless steel or electro-zinc plated steel. Housing and optical unit are sealed with extruded silicone gasket; supply conductors with molded EPDM bushing.

OPTICAL UNIT - Clear tempered optical-grade flat glass lens sealed to the aluminum optic housing creates an IP65 rated unit. Pressure stabilizing breather allows super-tight protection while preventing cycling from building up internal pressures and vacuums that can stress optical unit seals.

WALL MOUNTING - Galvanized-steel universal wall mounting plate easily mounts directly to 4" octagonal or square junction box. EPDM gasket is supplied to be installed between mounting plate and junction box, sealing junction box from entrance of water. Universal plate permits fixture to be mounted in uplighting (indoor only) or downlighting position.

POLE MOUNTING - XPMA (for square) or XPMAR (for round) allows mounting to poles in single and D180 configurations. Use with 3" reduced drilling pattern.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (50/60Hz input) or 347-480VAC.

DRIVER - Available in 350mA and 450mA drive currents (Drive currents are factory programmed). Components are fully encased in potting material for IP65 moisture resistance. Driver complies with IEC and FCC standards. Driver can be easily accessed.

EMERGENCY OPTIONS - Optional integral emergency battery-back-up options are available. BB option operates in 0°C to 60°C ambient temperature and CWBB operates in -20°C to 60°C ambient temperature. When primary AC power failure occurs, both options operate 10 LEDs for minimum of 90 minutes.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F)

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lsi-industries.com for detailed photometric data.

SHIPPING WEIGHT (in carton) - 30 lbs./13.6Kg

LISTING - ETL listed to ANSI/UL1598, UL8750 and other U.S. and international safety standards. Suitable for wet locations in downlight position. Optional Class 1 Division 2 (groups A, B, C & D) hazardous location rating is available (Select HL option). For a list of the specific products in this series that are DLC listed, please consult the LED Lighting section of our website or the Design Lights website at www.designlights.org.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



IP65



LED PATRIOT® WALL SCNCE (XPWS3)

LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **XPWS3 FT LED 48 450 CW UE WHT BB**

Prefix	Distribution	Light Source	# of LEDs	Drive Current	Color Temperature	Input Voltage	Finish	Options
XPWS3 - LED Patriot Wall Sconce	WT - Wide Throw FT - Forward Throw WW - Wall Wash	LED	28 48	350 - 350mA 450 - 450mA	CW - Cool White NW - Neutral White	UE - Universal Voltage (120-277) 347-480	BLK - Black BRZ - Bronze GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White	BB - Battery Back-up ¹ CWBB - Cold Weather Battery Back-up ¹ DIM - 0 - 10V dimming (from external signal) ² IMS - Integral Motion Sensor ² EMR2 - Two Emergency 12V Circuit Provisions with (2) 35 Watt Halogen Lamps ³ PCI 120 - Button Type Photocell PCI 208 - Button Type Photocell PCI 240 - Button Type Photocell PCI 277 - Button Type Photocell PCI 347 - Button Type Photocell HL - Class1, Division2, Hazardous Location Rating. ETL listed to UL844 ⁴ XPMA - Pole Mounting Adaptor w/fixture backplate for use with square poles ⁵ XPMAR4 - Pole Mounting Adaptor w/fixture backplate for use with 4" O.D. round poles ⁵ XPMAR5 - Pole Mounting Adaptor w/fixture backplate for use with 5" O.D. round poles ⁵

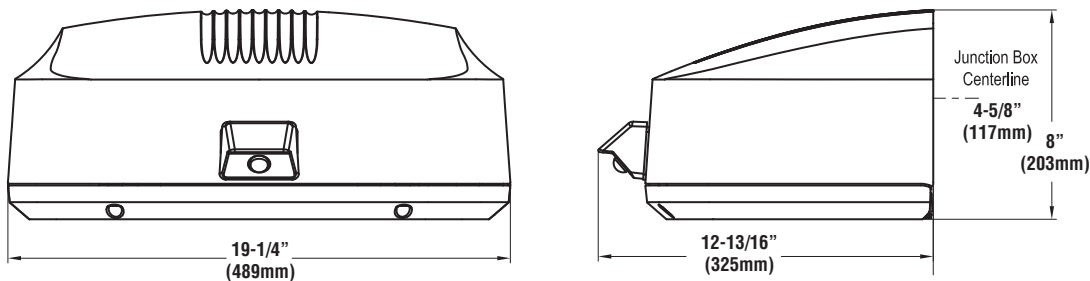
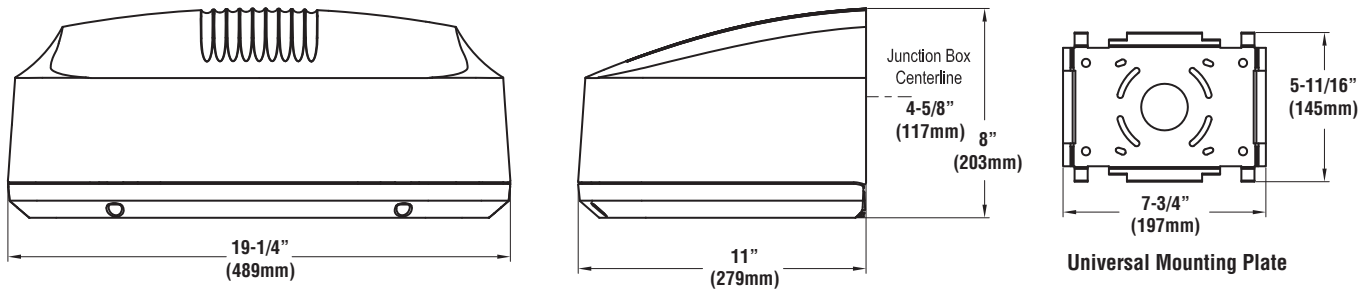
ACCESSORY ORDERING INFORMATION (Accessories are field installed)

Description	Order Number	Description	Order Number
XPWS3 Polycarbonate Shield	244657	DFK208, 240 - Double Fusing	DFK208,240 ⁶
XPWS3 SW BLK - Surface Wiring Box (Available in black only)	356915BLK	DFK480 - Double Fusing	DFK480 ⁶
FK120 - Single Fusing	FK120 ⁶	FK347 - Single Fusing	FK347 ⁶
FK277 - Single Fusing	FK277 ⁶		

FOOTNOTES:

- 1 - Available with UE voltage only. Not available with EMR2 or HL options.
- 2 - DIM and IMS cannot be ordered together.
- 3 - Utilizes GZ4 sockets. 12 volt separate circuits required. Not available with battery back-up, photocell option, HL, XPMA or XPMAR options.
- 4 - Not available with battery backup, photocell or EMR2 option.
- 5 - Not available with EMR2 option. Designed with 3" reduced drilling pattern. For S or D180 mounting configuration only.
- 6 - Fusing to be installed in a compatible junction box supplied by contractor.

DIMENSIONS



Shown with IMS Option

LED SOFFIT LIGHT (XSL2)



US patents D574994 & D595896 & 7828456 and US & Int'l. patents pending

EXPECTED LIFE - Minimum 60,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LEDS - Select high-brightness LEDs. Cool White 5000K color temperature, 69 CRI (nominal).

DRIVER CURRENT - Super saver (SS) - most economical and highest lumens per watt or High Output (HO) - highest output per initial dollar.

DISTRIBUTION/PERFORMANCE - Type S (Symmetric) or 5A (Type 5). Excellent uniformity with Bug rating of BU-UO-G1. Optional diffused lens available to reduce visibility of diodes

HOUSING/OPTICAL UNIT - Housing is die-formed aluminum with a gasketed clear tempered glass lens providing a water-resistant seal. Weather-tight aluminum enclosure contains factory prewired driver to ensure no water entry. Sealed optical unit containing LEDs rated IP67.

MOUNTING - Direct mounts with screws through the trim frame (standard). Optional channel bar kit available to suspend assembly from ceiling joists. 12" clearance required for ease of installation.

ELECTRICAL - Universal frequency power supply (50/60 Hz). Supply voltage must be specified for pre-wired thermal protectors.

DRIVER - State-of-the-art driver technology designed specifically for LSI LED light sources provides unsurpassed system efficiency. Driver will operate with input of 120/208/240/277V (50/60 Hz). Components are fully encased in potting material for moisture resistance. Driver complies with IEC and FCC standards.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Each fixture is finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling, and is guaranteed for five full years. Standard color is white.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Application layouts are available upon request. Contact LSI Applications Group at lighting.apps@lsi-industries.com

LISTING - Listed to U.S. and Canadian safety standards. Suitable for damp locations.

Crossover® LED Lighting

lighting facts^{CM}

A Program of the U.S. DOE

Light Output (Lumens)	4957
Watts	62.2
Lumens per Watt (Efficacy)	79

Color Accuracy Color Rendering Index (CRI)	69
--	-----------

Light Color
Correlated Color Temperature (CCT)

5100 (Daylight)

Warm White Bright White Daylight

2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results. Products qualified under the DOE ENERGY STAR® program have the ENERGY STAR mark on this label.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: KGGN-EDE2GE
 Model Number: XSL2-S-LED-50-CW-UE
 Type: Surface and pendant-mounted downlights

This "Lighting Facts Label" represents LSI's commitment, through participation in the Department of Energy's SSL Quality Advocates program, to accurately report performance criteria of our LED fixtures. **This label represents a single test of a single fixture. Input power below represents rated values for the family.** Color temperature and lumen output for each variation of this Crossover® fixture can be found in the ordering information below as well as at www.lightingfacts.com.

LIGHT OUTPUT - XSL2				
	Clear Lens	Lumens	Watts	LPW
Type S	SS - Super Saver	6,193	60	103
	HO - High Output	8,348	86	97
Type 5A	SS - Super Saver	5,158	60	86
	HO - High Output	6,959	86	81
	Diffused Lens			
Type S	SS - Super Saver	5,752	60	96
	HO - High Output	6,751	87	78
Type 5A	SS - Super Saver	4,393	60	73
	HO - High Output	5,842	87	67

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.



IP67



Suitable for damp locations



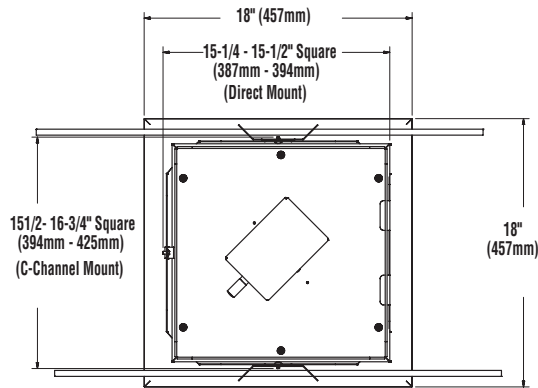
LED SOFFIT LIGHT (XSL2)

PRODUCT ORDERING INFORMATION

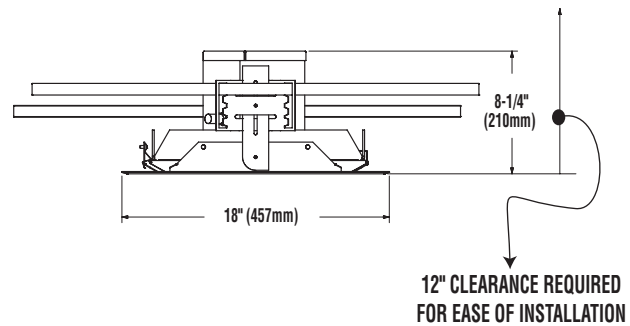
 TYPICAL ORDER EXAMPLE: **XSL2 S LED 50 SS CW 120 WHT CMT**

Prefix	Distribution	Light Source	# of LEDs	Drive Current	Color Temperature	Input Voltage	Finish	Options
XSL2 - Soffit Light	S - Symmetric 5A - Type 5	LED	50	HO - High Output SS - Super Saver	CW - Cool White (5000° K nom.)	120 208 240 277 347	WHT - White	CMT - Channel Bar Mounting Kit DM - Direct Mount DFL - Diffused Lens

DIMENSIONS

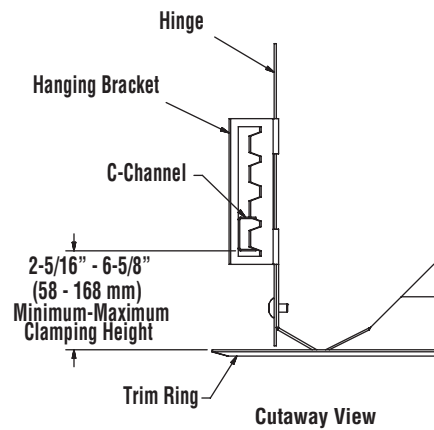


TOP VIEW



SIDE VIEW
(Channel Mount Shown)

SHIPPING WEIGHT - 14 lbs. (6.4kg)



Cutaway View



creating remarkable solutions
for a higher quality of life

9801 Renner Boulevard
Lenexa, Kansas
66219-9745

913.492.0400
913.577.8200 fax

Office Locations
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Kansas City, MO
O'Fallon, MO
Chesterfield, MO
Omaha, NE
Rock Island, IL
Broomfield, CO
Dallas/Ft. Worth, TX

www.gbateam.com

MEMORANDUM

To: Jason W. Jaggi, AICP (City of Creve Coeur)
From: Amanda J. Anderson P.E., PTOE
David J. Mennenga, P.E., PTOE
Date: November 21, 2016
Subject: Proposed Mobil Rebuild – Traffic Impact Study Review

As requested, GBA staff has completed a review of the traffic impact study report and site plans submitted in association with the proposed redevelopment of the Mobil gas and convenience store with car wash, located in the northwest quadrant of the intersection of Olive Boulevard with Schulte Road in Creve Coeur, Missouri. The traffic impact study report prepared by CBB Transportation was determined to be a very thorough evaluation of the existing traffic conditions, as well as for the expected future traffic operations with the redevelopment of this proposed Mobil gas station / car wash site.

As part of this study, CBB developed trip generation estimates based on a Mobil station with similar improvements to the east on Olive Boulevard in Olivette, Missouri. It should be noted that the trip generation estimates for the proposed Mobil station redevelopment site are lower than the trip generation rates as described in the Institute of Transportation Engineers' (ITE) "Trip Generation Manual" for Land Use 946 – Service Station with Convenience Market and Car Wash by nearly 20% in both the morning and evening peak hour. The mid-day peak hour estimate is higher than the ITE trip generation rate. Due to the proximity of the existing Mobil gas station used for estimating trips for the study, the CBB developed trip generation rates seem reasonable for this location.

Using information provided in the ITE "Trip Generation Manual" for similar land uses, the assumed "average" pass-by trip reduction of 62 percent during the morning peak hour and 56 percent during both the mid-day and evening peak hours are appropriate.

Based upon the trip generation rates for the similar Mobil station near the study site and the reduction of pass-by trips and existing trips generated by the site, the proposed Mobil station would only be expected to create 50 “new” trips (i.e., 20 inbound trips, 30 outbound trips) during the morning peak traffic hour. The site would generate 80 “new” trips (i.e., 35 inbound trips, 45 outbound trips) during the mid-day peak hour, and 60 “new” trips (i.e., 30 inbound trips, 30 outbound trips) during the evening peak hour.

The traffic impact study stated the site-generated traffic was assigned to the adjoining roadway system based on existing traffic patterns. This assignment is reasonable for the proposed redevelopment of the Mobil gas station / car wash site, with the majority of the site-generated traffic expected to access the site via Olive Boulevard. The assumed annual background traffic growth rate of 0.5% per year for the future 20-year design horizon is also reasonable for this location, due to the limited potential for other new developments in the surrounding area.

Related to the traffic impact study report itself, we do have the following comments regarding several erroneous statements or factual discrepancies contained therein:

- The report states that Version 8 of the Synchro analysis software was utilized for this traffic study. Although we would not expect significantly different analysis results, the consultant should consider using the most current version (Ver. 9) of Synchro for future studies submitted to the City.
- It is standard practice to report the 95th-percentile queue length for each movement at a signalized intersection. Queue lengths have been only reported for the critical left-turns on the southbound approach and the eastbound approach at the intersection of Olive Boulevard with Schulte Road. The City may consider requesting additional queue length information within the study area.
- On page 8 of the Base Operating Conditions analyses, it was stated that, “...no two-stage left-turn were assumed in the analyses...” because the spacing to the signal does not typically allow for the these turns. On page 20, the study report indicates two-stage left-turn were included as part of the analyses for the 2016 Build Operating Conditions. The City may consider requesting clarification for the discrepancies between the two scenarios since the 2016 Build results may be optimistically reported for southbound movements with this assumption.
- On Schulte Road, left-turns are prohibited into the site. This will be difficult to enforce without constructing a non-traversable median on Schulte Road. However, such a median cannot be

constructed without impacting the southbound left-turn operations into the Shell Station or onto Schulte Road.

- The proposed full access driveway appears to be approximately 320 feet from Schulte Road. Using MoDOT's Access Management Guidelines, the suggested corner clearance for a Major – Non Freeway type facility is 440 to 660 feet. As noted in the study report, the project consolidates several access points onto Olive Boulevard, and MoDOT staff has preliminarily approved the proposed access locations.
- The proposed right-out on Olive Boulevard, at the west edge of the site, is approximately 50 feet from the existing driveway for the adjacent property. If the drive were constructed more perpendicular to Olive Boulevard, the separation distance could be increased. Additionally, the distance between the right-out driveway and the full access driveway on Olive Boulevard appears to be approximately 350 feet, also short of the recommended 440 feet of separation distance. Final MoDOT traffic and permits staff approval may be required for these proposed access locations.

The on-site parking lot layout provides for a very straight-forward internal circulation pattern, including the one-way ingress point into the car wash lanes, one-way egress routes exiting the carwash, and two-way circulation lanes elsewhere.

The submitted site plan includes a total of 29 parking spaces adjacent to the convenience store. Based upon a review of ITE's "Parking Generation" criterion for this type of gasoline/service station with convenience market land use, the average peak period parking demand rate of 0.75 vehicles per fueling position would indicate that about 15 parking spaces should be required. In order to fully cover the upper end of ITE's 85th-percentile confidence interval range (i.e., a rate of 1.03 vehicles per fueling position), a total of 21 parking spaces would instead need to be provided for this site. Based on the City's Zoning Ordinance 405.820, four parking spaces are required per 1,000 square feet of gross floor area. Therefore, more than adequate parking has been provided for this proposed site redevelopment project.

cc: MCE, file

Steven V. Stenger
County Executive

Saint Louis
COUNTY

TRANSPORTATION

PUBLIC WORKS

Nichalos D. Gardner, Ph.D., P.E.
Director

Stephanie Leon Streeter, P.E.
Deputy Director

November 21, 2016

Mr. Brian Rensing, P.E., P.T.O.E.
Associate – Transportation Engineer
Crawford, Bunte, Brammeier
12400 Oliver Boulevard, Suite 430
St. Louis, Missouri 63141

RE: Traffic Impact Study
Mobil Rebuild with Car Wash

Dear Mr. Rensing:

I have completed my review of the November 4, 2016 traffic impact study that you prepared for the proposed development in the northwest quadrant of the intersection of Olive Boulevard (Missouri Route 340) and Schulte Road in Creve Coeur, Missouri.

Based on the assumption of:

- A 20-pump service station with convenience market and car wash

I am satisfied that your study conclusions are a reasonably accurate assessment of traffic conditions that might be anticipated upon completion of this project. I am generally satisfied that the methodology of this study is valid. I agree with the following required roadway improvements:

- Relocation and reconfiguration of Schulte Road access to be opposite the service station access to the east while restricting left turns into the subject site
- Appropriate signal improvements as directed by the Missouri Department of Transportation
- Reservation of ground for potential future alignment of Schulte Road

Please submit site plans for concept approval showing roadway improvements, however note that any change to the approved site plan or traffic impact study may require review, and approval from this Department and may result in changes in requirements. No further submittals of the traffic impact study to St. Louis County Department of Transportation will be required unless changes to the site study are made. Any submittals required by other reviewing agencies will need to be reviewed by this Department. While no resubmittal of this study is being required at this time, should it become necessary in the future, please address the following comment:

- Traffic exiting the site should be more balanced amongst access points when level of service is particularly deficient at one while considerable excess capacity exists at others. In this case, is it reasonable to assume the large number of left turns at the unsignalized Olive Boulevard access when access to the signal is provided at Schulte Road?

Thank you for the opportunity to review your traffic impact study for this development. Please feel free to contact me at (314) 615-8594, if you require any further information or assistance.

Sincerely,



Adam J. Spector, P.E.
Transportation Planning Project Manager

AJS:mtb

cc: Kevin Kamp, Civil & Environmental Consultants
✓ Whitney Kelly, City Planner, City of Creve Coeur
Karen Yeomans, Southwest Area Engineer, MoDOT



Whitney Kelly <wkelly@crevecoeurmo.gov>

#16-031 For The Rezoning Of 11109-11141 Olive Blvd for Mobil On The Run, meeting Dec.5, 2016

Bill Halliburton <billhfs@sbcglobal.net>

Mon, Nov 28, 2016 at 1:22 PM

To: wkelly@crevecoeurmo.gov, Jason Jaggi <jjaggi@crevecoeurmo.gov>, jfaron@crevecoeurmo.gov, atravers@crevecoeurmo.gov, bglantz@ci.creve-coeur.mo.us

Dear Concerned City Officials:

I received the Notice Of Public Hearing, Application to Planning and Zoning Commission for the rezoning and conditional use permit for 11109-11141 Olive Blvd. and 11100-11114 Oak Lake Ct., currently Zoned GC General Commercial and C Single Family Residential to be held December 5th, 2016.

Reading the Key Issues, the request does not integrate with the existing surrounding uses. Were this to be approved, i would become the next door neighbor to the project, and be the only remaining residence in the block at 11147 Olive Blvd. I would have a residence next door to a very large and bright service station-car wash-and possible Quick Mart.

It this seems to advance I will study Section 405.210; Regulation of Uses, Table A.,
Section 405.360 GC-General Core Business District,
Section 405.470 Conditional Uses,
Section 405-1060 Zoning Changes and Text Amendments.

Obviously, this does not give me a sense of well being. I would be the 'proverbial lonely petunia in an onion patch', and all I'd do is cry all day.

Thank you for sending the information.

Sincerely,

Bill Halliburton

11147 Olive Blvd.

Creve Coeur, Mo. 63141-7650

November 30, 2016

PLANNING DEPT.
DEC 1 2016
RECEIVED

To the members of the Creve Coeur Planning and Zoning Commission:

My name is Joan Althaus. I reside at 11107 Oak Lake Court in the residence into which my husband and I and three young children moved fifty five years ago. We looked at numerous properties before selecting this house. It was well constructed by a local builder but the main reason we chose to live here was the quiet location and the safety that living on a cul de sac provided.

When the rest of the houses on the cul de sac were completed, the 11 houses were occupied by professional people with children similar in age, There would be 13 children who would line up at Oak Lake Court and Schulte Road to await the school bus which would take them to Weber School (now Creve Coeur City Hall). The children played together and enjoyed the safety of very little traffic on our little street. The families knew one another and enjoyed neighborhood picnics in our backyards. Of course the scene has changed over the years as the children grew up and the ownership of the properties changed. We now have families with pre school children who enjoy the safety that the cul de sac provides as they walk with their children and pets in the street. There are no sidewalks. It is presently a safe, quiet environment for those families and their children.

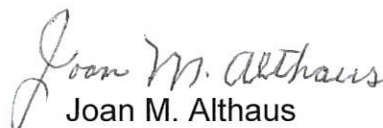
If the Mobil on the Run is approved, this will no longer be the safe, quiet street now being enjoyed by those families who chose to live here.

I have several concerns, my main one being the traffic that such an expanded operation would generate and its effect on Oak Lake Court. Even now there are times when the traffic on Schulte Road is so heavy it is difficult to exit Oak Lake Court. There are accesses to the present Mobil Station and the Shell station opposite each other on Schulte Road which also presents a traffic problem and will only intensify. Even now, I often have cars turning around in my drive.

I have some other concerns and I hope that it will remain a requirement that there will be no access to the expanded facility from Oak Lake Court.

If the expansion is approved, there would be a need for a place for the workmen to park. I request that it be a contingent that a place be provided and that they be prevented from parking on Oak Lake Court.

Although my property is located in the unincorporated county, I have always aligned myself with Creve Coeur and put much effort into working for the betterment of the community.


Joan M. Althaus
Creve Coeur Squire

314 872 7922

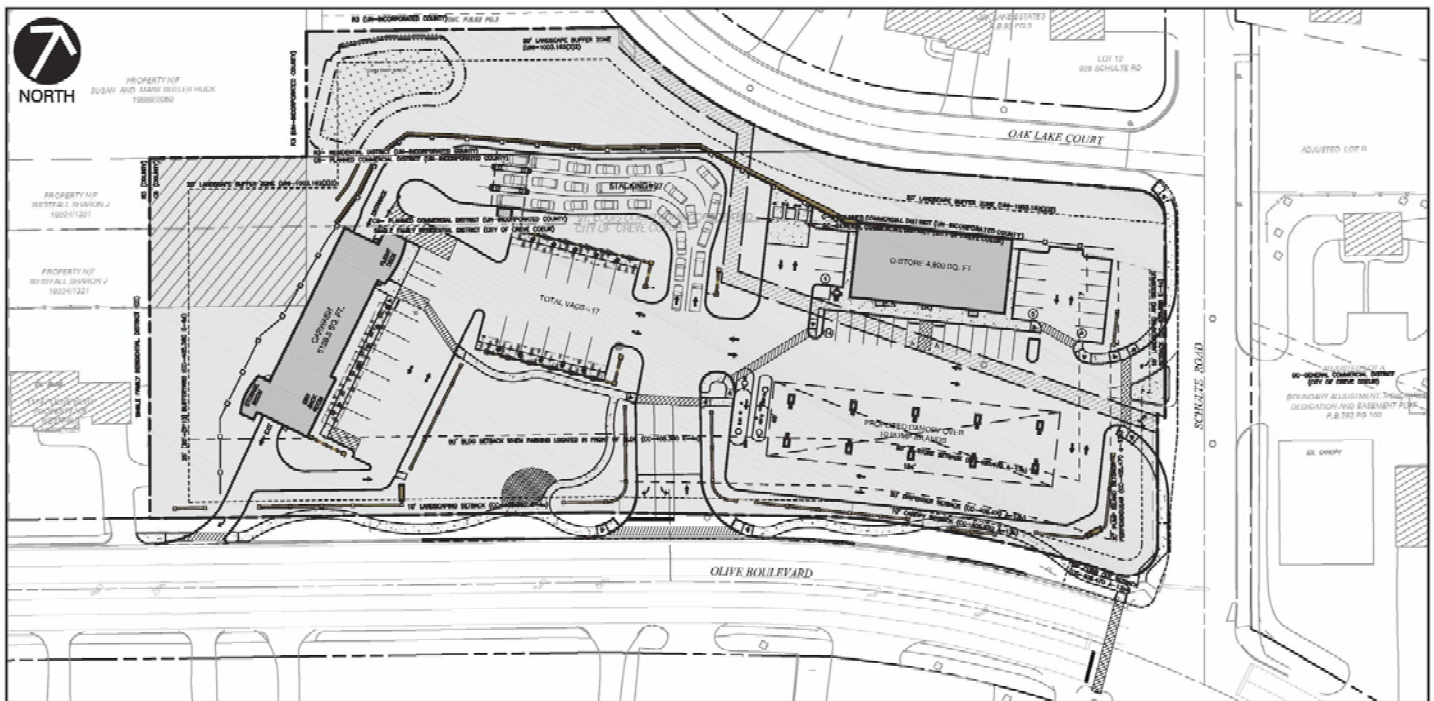
Traffic Impact Study

for

Proposed Mobil Rebuild with Car Wash

Creve Coeur, Missouri

11.04.2016



OVERALL SITE MAP

SCALE: 1" = 50'

prepared by:



prepared for:

Civil & Environmental Consultants, Inc.
4848 Park 370 Boulevard, Suite F
Hazelwood, Missouri 63042

Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

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***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri***

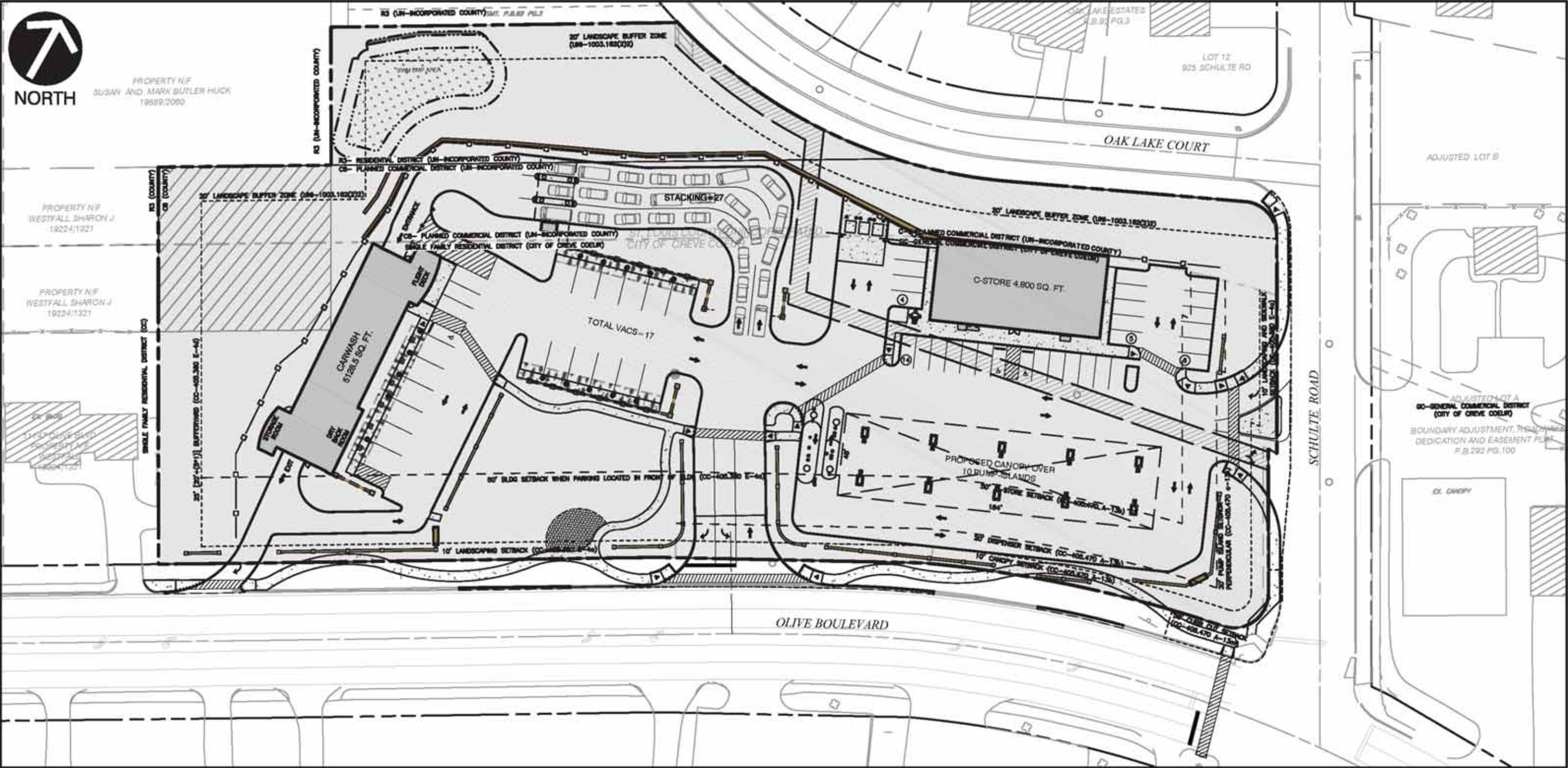
Introduction

CBB has completed a traffic impact study for the Mobil Gas and Convenience Store with Car Wash redevelopment in Creve Coeur, Missouri. The redevelopment site is located on the northwest quadrant of Olive Boulevard at Schulte Road. The site location and the adjacent roadways are depicted in **Figure 1**.



Figure 1: Site Location Map

The existing Mobil gas station with eight vehicle fueling positions, small convenience kiosk, and car wash as well as three single-family homes along Olive Boulevard (currently used as commercial businesses) and three single-family homes along Oak Lake Court occupy the site today. It is our understanding that the existing Mobil gas station would be re-built with twenty vehicle fueling positions and an expanded convenience store, as well as an improved car wash. Access to the site would be provided via one right-out only driveway along Olive Boulevard near the west property line and one full access driveway on Olive Boulevard. Additionally, one three-quarter access driveway (no left-turn in) is proposed on Schulte Road. No access is proposed to Oak Lake Court. **Exhibit 1** illustrates the preliminary site plan provided by your civil engineer.



OVERALL SITE MAP

SCALE: 1" = 50'

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri***

It should be noted that five curb cuts along Olive Boulevard (two to the existing Mobil site and three that serve residential structures operating as business) would be consolidated into the two access points noted above. The existing access to Schulte Road would be moved further to the north (away from the signal) to align with the existing Shell gas station on the east side of the road and would be limited to three-quarter access.

A scoping meeting was held with representatives from the Missouri Department of Transportation (MoDOT), the City of Creve Coeur and the development team. St. Louis County Department of Transportation (SLCDOT) was not able to attend the initial meeting but provided their comments and input separately. The purpose of this traffic study was to determine the number of trips that would be generated by the proposed re-development; evaluate the impact of those trips on operating conditions along the adjacent roadways; determine the ability of motorists to safely enter and exit the site and recommend appropriate access locations and configurations. Where necessary, roadway improvements and/or traffic control modifications have been recommended to mitigate the impact of the re-development. The focus of our analysis was the a.m., midday, and p.m. peak hours of a typical weekday. This scope does not include an analysis of internal circulation on the site itself or parking sufficiency.

The following report presents CBB's analysis comparing traffic conditions with and without the proposed redevelopment. The methodology employed to complete this study, along with the findings and conclusions, are discussed in greater detail in the subsequent sections. CBB followed current industry standard methods and processes in the completion of our work.

Base Traffic Conditions

In order to identify the traffic impacts associated with the proposed development, it is essential to understand the pre-development traffic conditions in the area. To that end, it was necessary to perform an operational analysis of the base traffic volumes on the surrounding road system. Therefore, any deficiencies in the current road system will be identified before the traffic generated by the proposed redevelopment is added to the system.

Existing Road System

Olive Boulevard (Missouri Route 340) is owned and maintained by MoDOT. Olive Boulevard is a major east-west arterial with a five-lane cross-section: two through lanes in each direction and a center left-turn lane. However, the left-turn lanes at Schulte Road/Mary Meadows Lane are substandard in width – 9 feet on the east and west leg. There is also a sweeping horizontal curve at this intersection that restricts sight distance along the roadway, particularly visibility on the south side. The approaches of Schulte Road and Mary Meadows Lane are offset (Mary Meadows Lane intersects Olive Boulevard further to the west) and skewed relative to the Olive Boulevard centerline, which is undesirable from an operational and safety perspective.

Schulte Road is a two-lane urban collector owned and maintained by SLCDOT. Schulte Road serves a large residential area to the north. A dedicated southbound left-turn lane and a shared through/right-lane are provided at the signalized intersection with Olive Boulevard. A separate northbound left-turn lane, albeit very short, is marked on Schulte Road at Oak Lake Court.

Oak Lake Court is a cul-de-sac residential street that currently serves 10 single-family homes. Oak Lake Court has access to Schulte Road a few hundred feet north of Olive Boulevard. Oak Lake Court is owned and maintained by SLCDOT.

Mary Meadows Lane is a private 24-foot wide, residential street that serves eighteen homes with one commercial driveway connection for the building in the southeast quadrant of Olive Boulevard and Mary Meadows. A channelized lane for eastbound-to-southbound right-turns is provided (this lane is separated by a raised median). The alignment and configuration of this lane is awkward and appears to be a remnant of a previous alignment modification. It was also noted that the vertical profile and horizontal alignment of Mary Meadows Lane restricts the sight distance across Olive Boulevard between northbound and southbound motorists approaching the intersection.

This study intersection is part of a coordinated system along Olive Boulevard with cycle lengths that are set at 140 seconds during the AM and PM peak hours and 120 seconds during the weekday and Saturday midday peak hours. At the signalized intersection of Olive Boulevard with Schulte Road/Mary Meadows Lane, the northbound and southbound approaches operate on a common phase while the eastbound and westbound left-turns operate with protected-plus-permitted Flashing Yellow Arrow (FYA) phasing.

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri***

Dautel Lane is a local roadway that serves a residential area north of Olive Boulevard with two commercial driveways that serve a pharmacy and jewelry store/thrift shop. A dedicated southbound left-turn lane and a shared through/right-lane are provided at the signalized intersection with Olive Boulevard.

Graeser Road is a two-lane urban collector owned and maintained by SLCDOT. Graeser Road serves a large residential area to the south with driveway access to commercial uses that front Olive Boulevard. A dedicated northbound left-turn lane and a shared through/right-lane are provided at the signalized intersection with Olive Boulevard.

At the signalized intersection of Olive Boulevard with Dautel Lane/Graeser Road, the northbound and southbound approaches operate on a common phase with Flashing Yellow Arrow phasing while the eastbound and westbound left-turns operate with protected-plus-permitted Flashing Yellow Arrow phasing.

Woodshire Lane is a cul-de-sac local residential street that serves eighteen single-family homes to the north of Olive Boulevard. Woodshire Lane is located nearly opposite Renee Lane, offset slightly to the east.

Renee Lane is a local residential street that provides access to two cul-de-sac residential streets and serves approximately forty single-family homes to the south of Olive Boulevard.

Mosley Road is a local urban collector road that serves a large residential area to the south with access driveways to commercial/office uses that front Olive Boulevard. Separate northbound left-turn and right-turn lanes are provided at the signalized intersection with Olive Boulevard.

The signalized intersection of Olive Boulevard with Mosley Road is a “T” intersection with the westbound left-turns operating with protected-plus-permitted Flashing Yellow Arrow phasing.

Base Traffic Volumes

The following intersections were included in the traffic impact study analyses:

- Olive Boulevard at Mosley Road (Signalized);
- Olive Boulevard at Schulte Road/Mary Meadows Lane (Signalized);
- Olive Boulevard at Dautel Lane/Graeser Road (Signalized);
- Olive Boulevard at Woodshire Lane/Renee Lane (Side-Street Stop); and
- Oak Lake Court at Schulte Road (Side-Street Stop).

Turning movement traffic counts were collected by CBB in 2013 as part of the Olive Boulevard (Route 340) signal retiming project. The traffic counts collected at the signalized intersections of Olive Boulevard with Mosley Road, Schulte Road/Mary Meadows Lane, and Dautel Lane/Graeser Road were used for this traffic study. Based on this count data, the peak hours of the intersection identified for analysis were the morning (7:45 to 8:45 a.m.), midday (12:00 p.m. to 1:00 p.m.), and afternoon (4:30 to 5:30 p.m.) peak hours of a typical weekday.

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri***

These counts were supplemented with new traffic counts and delay observations conducted by CBB during the weekday morning (7:00 - 9:00 a.m.), midday (11:00 a.m. to 1:00 p.m.) and weekday afternoon (4:00 - 6:00 p.m.) peak periods at the intersection of Olive Boulevard with Woodshire Lane/Renee Lane. Spot counts were also performed at the existing Mobil driveways to determine peak hour trips. Queue observations were also made for westbound Olive Boulevard at Schulte Road and southbound Schulte Road at Olive Boulevard. Trip estimates were utilized to address traffic for the 10 homes on Oak Lake Court. The Base Traffic Volumes are summarized in **Exhibit 2**.

As can be seen, the traffic volumes are relatively consistent during the three peak hours. The east-west volumes on Olive Boulevard are heavy during each peak hour. Traffic volumes to and from Mary Meadows Lane are relatively light since the street only serves eighteen homes. Traffic to and from Schulte Road is moderate with the heaviest volumes occurring in the p.m. peak hour.

Base Operating Conditions

The base operating conditions for the study area intersections were evaluated using SYNCHRO 8, which is based on procedures outlined in the *Highway Capacity Manual* to determine estimates of capacity and operational performance of signalized and unsignalized intersections. Our traffic operations analysis includes measures of effectiveness generated by the SYNCHRO software.

The operating conditions were graded in accordance with six levels of traffic service (Level A "Free Flow" to Level F "Fully Saturated") established by the *Highway Capacity Manual*. Levels of service (LOS) are measures of traffic flow which consider such factors as speed, delay, traffic interruptions, safety, driver comfort, and convenience. Level C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is generally considered acceptable for peak period conditions.

It must also be acknowledged that the perception of acceptable traffic service varies widely by area. Specifically, more delay is usually tolerated in urban areas compared to rural areas. Based on the character of this area, we believe that LOS D would be a desirable target for overall peak period traffic operations but may not be achievable for the unsignalized movements due to the heavy peak hour volumes along Olive Boulevard.

The thresholds that define levels of service at an intersection are based upon the type of control used (i.e., whether it is signalized or unsignalized) and the calculated delay. For signalized and all-way stop intersections, the average control delay per vehicle is estimated for each movement and aggregated for each approach and the intersection as a whole. At intersections with partial (side-street) stop control, delay is calculated for the minor movements only since motorists on the main road are not required to stop. Furthermore, criteria differ for the two, since control types create different driver expectations. **Table 1** summarizes the level of service thresholds used in this analysis.

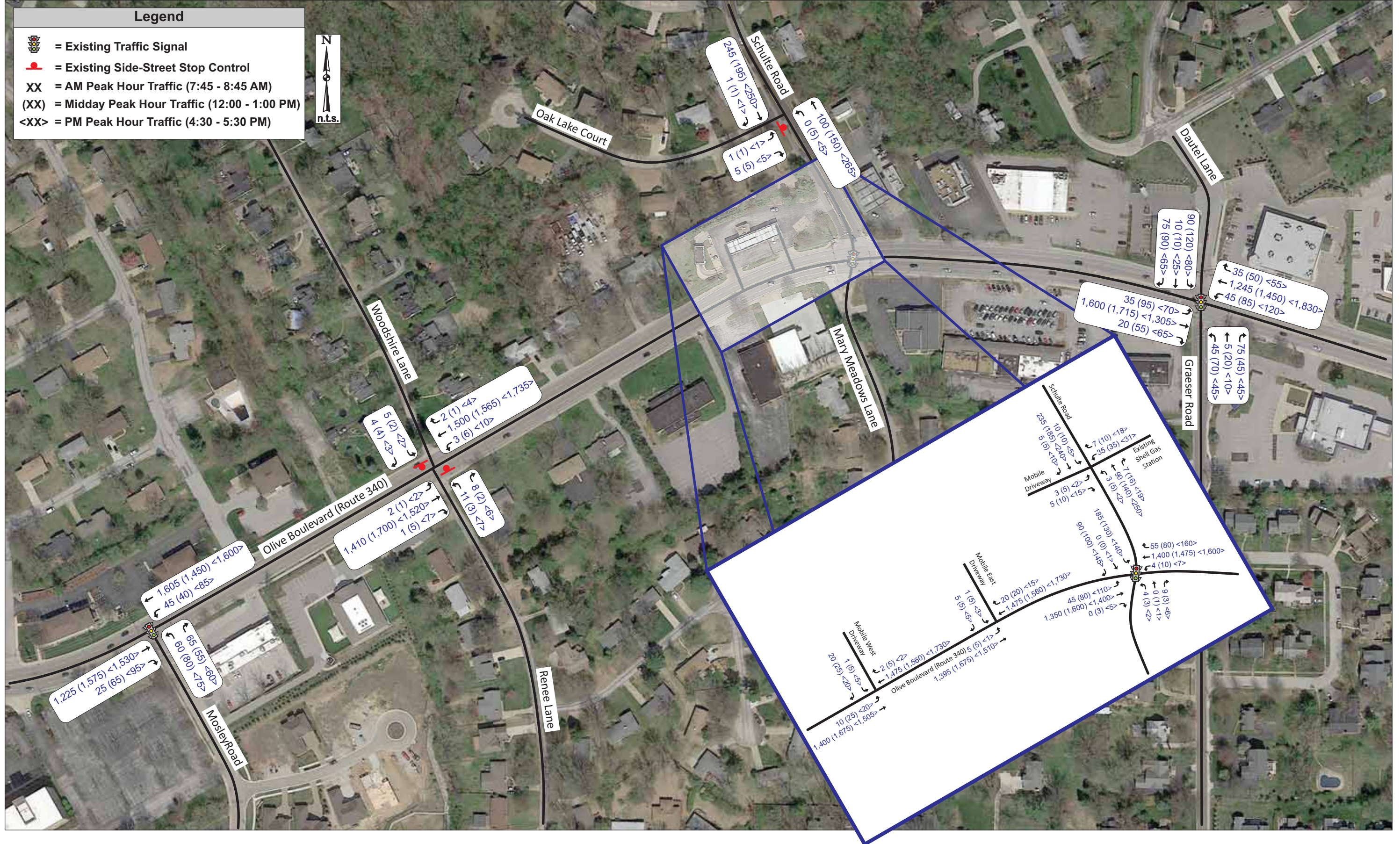


Exhibit 2: Base Traffic Volumes (2013 Counts)

Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

Table 1: Level of Service Thresholds

Level of Service (LOS)	Control Delay per Vehicle (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

It should be noted that the unsignalized intersections within the study area were evaluated using the HCM 2010 module in the Synchro software. Each of the study intersections was evaluated using the methodologies described above. The results of the SYNCHRO evaluations are summarized in **Table 2**. Levels of service and average delay for each intersection approach are reported for the weekday AM, Midday, and PM peak hours.

Operating conditions at the study intersections are generally favorable (LOS C or better overall and LOS D or better by approach) with the exception of northbound Renee Lane during the midday and PM peak hours, the southbound approach of Woodshire Lane during the PM peak hour, the southbound approach of Schulte Road at Olive Boulevard during the AM peak hour, the southbound approach of the Mobil West Driveway during the midday and PM peak hours, and the southbound approach of the Mobil East Driveway during the AM, midday and PM peak hours.

The lengthy delays for southbound Schulte Road are primarily due to a relatively long cycle (140 second AM/PM and 120 second midday) with a relatively small amount of green time allocated to Schulte Road/Mary Meadows Lane. It should be noted that the calculated volume to capacity ratios (v/c) do not exceed 1.0 during the peak hours but did reach 0.92 during the AM peak hour, 0.78 during the Midday peak hour and 0.82 during the PM peak hour. In this case, the cycle length dictates the poor level of service during the AM peak hour and drives the longer delays in the Midday and PM peak hours. The northbound and southbound approaches have minimal green times to maximize progression bands for the heavy eastbound and westbound through movements.

The southbound approaches exiting the current Mobil East and West Driveways operate poorly due to the heavy traffic volumes along Olive Boulevard and the close spacing of the Mobil Driveways from the Schulte Road signal, which typically does not allow for two-stage left-turns; therefore, no two-stage left-turns were assumed in the analyses for the Mobil driveways. If two-stage left-turns were completed by motorists, then the calculated southbound delays may improve.

The analyses software results indicate that the existing movements from Renee Lane and Woodshire Lane operate at less than desirable levels during the PM peak and southbound

Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

approach during the midday peak, primarily due to the heavy east-west traffic along Olive Boulevard. It should be noted that current delay observations were made at Renee Lane/Woodshire Lane, which is discussed further below.

Table 2: Traffic Operating Conditions – Base Traffic Volumes

Intersection/Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
<i>Olive Boulevard and Mosley Road – Signalized</i>			
Eastbound Olive Boulevard	A (2.4)	A (5.3)	A (5.9)
Westbound Olive Boulevard	B (12.1)	A (9.6)	B (10.9)
Northbound Mosley Road	D (43.9)	D (43.3)	D (48.5)
Overall Intersection	A (9.4)	A (8.9)	B (10.0)
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.2)	B (14.8)	C (16.6)
Westbound Left-Turn Olive Boulevard	B (13.4)	C (16.4)	B (14.6)
Northbound Renee Lane	D (32.6)	E (43.5)	E (35.5)
Southbound Woodshire Lane	D (33.3)	D (28.2)	E (36.7)
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>			
Eastbound Olive Boulevard	B (17.0) 20' LT	B (10.4) 30' LT	B (16.8) 105' LT
Westbound Olive Boulevard	B (11.0)	A (4.8)	A (8.3)
Northbound Mary Meadows Lane	D (51.2)	D (44.3)	D (51.3)
Southbound Schulte Road	E (71.8) 335' LT	D (46.3) 190' LT	D (53.8) 225' LT
Overall Intersection	B (19.2)	B (10.3)	B (15.6)
<i>Olive Boulevard and Dautel Lane/Graeser Road – Signalized</i>			
Eastbound Olive Boulevard	A (6.2)	B (15.3)	B (11.4)
Westbound Olive Boulevard	B (15.0)	B (15.9)	C (29.1)
Northbound Dautel Lane	C (32.3)	D (36.6)	D (41.6)
Southbound Graeser Road	D (49.9)	D (42.6)	D (50.4)
Overall Intersection	B (13.1)	B (17.9)	C (23.6)
<i>Oak Lake Court and Schulte Road – Side-Street Stop</i>			
Eastbound Oak Lake Court	A (9.9)	A (9.6)	B (10.2)
Northbound Left-Turn Schulte Road	A (7.7)	A (7.7)	A (7.8)
<i>Schulte Road at Mobil/Shell Driveway – Side-Street Stop</i>			
Eastbound Mobil Driveway	B (10.4)	B (10.2)	B (10.3)
Westbound Shell Driveway	B (11.5)	B (11.6)	B (13.0)
Northbound Schulte Road	A (7.7)	A (7.7)	A (7.8)
Southbound Schulte Road	A (7.4)	A (7.6)	A (7.8)
<i>Olive Boulevard at Mobil West Driveway – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.2)	B (13.3)	C (17.3)
Southbound Mobil Driveway	C (23.9)	F (77.7)	F (104.8)
<i>Olive Boulevard at Mobil East Driveway – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.2)	C (15.5)	C (16.7)
Southbound Mobil Driveway	E (36.7)	F (78.0)	F (115.0)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

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Queue Observations

The eastbound queues along Olive Boulevard from the traffic signal at Schulte Road and southbound queues along Schulte Road from the Olive Boulevard signal were observed during the AM, Midday and PM peak hours. Queue observations were made to verify the Synchro estimated queues and determine potential blockages of the proposed access points.

The location of the existing Mobil East driveway allows approximately two vehicles to stack on Olive Boulevard eastbound (approximately 65 feet) before it is blocked, while the Mobile West Driveway allows approximately 5 or 6 vehicles to stack (approximately 185 feet) before it is blocked. The proposed full access further to the west on Olive Boulevard will allow 10 or 11 vehicles to stack (approximately 265 feet) before it will be blocked.

Based on the field observations during the AM, Midday and PM peak hours, there is a heavy, steady flow of traffic on Olive Boulevard during the AM and PM peak hours, with moderate to heavy traffic during the Midday peak hour. The eastbound queues on Olive Boulevard at Schulte Road/Mary Meadows Lane are routinely long during the AM, Midday and PM peak hours.

AM peak observations indicate that the eastbound left-turn queue along Olive Boulevard from Schulte Road had a maximum length of 3, 6, and 5 vehicles during the AM, Midday, and PM peak hours, respectively. Observations indicate that the eastbound left-turn queues all cleared each time the cycle changed to green during the AM, Midday and PM peak hours. Observations also indicated that the eastbound left-turn queues blocked the existing driveways several times during the peak hours. However, since the proposed relocated access will allow for more storage in the eastbound left-turn lane, the proposed driveway location should not be blocked during any of the peak hours.

The existing Mobil gas station driveway on Schulte Road allows approximately 3 vehicles to stack (approximately 75 feet) before it is blocked. The proposed three-quarter access (no left-turn in) on Schulte Road would allow approximately 4 vehicles to stack (approximately 100 feet) before will be blocked.

Observations indicate that the southbound left-turn queue along Schulte Road from Olive Boulevard had a maximum queue of 11, 7 and 10 vehicles during the AM, Midday, and PM peak hours, respectively, while average queues were 8, 6 and 7 vehicles, respectively. Observations further indicate that the southbound left-turn queues cleared a vast majority of the time each cycle during the AM, Midday and PM peak hours. Peak hour observations indicate that the southbound left-turn queues blocked the existing Mobil and Shell driveways several times during the peak hours and local drivers tend to spill back into the northbound left-turn lane marked for Oak Lake Court in order to leave the right-turn lane clear.

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Delay Observations at Olive Boulevard and Woodshire Lane/Renee Lane

CBB also recorded the actual delays experienced by vehicles attempting to turn from Woodshire Lane and Renee Lane onto Olive Boulevard during the AM, Midday and PM peak hours to verify the accuracy of the average delays reported in the analyses. Based on the total volume on the side streets and the total measured delay for each vehicle, the average delays observed for the southbound approach of Woodshire Lane and northbound Renee Lane are summarized in **Table 3**. These average delays included both left and right-turning vehicles which share each exit lane.

Table 3: Observed Delays – Existing Conditions

Intersection/Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>			
Northbound Renee Lane	21.6 sec	25.2 sec	36.2 sec
Southbound Woodshire Lane	28.3 sec	40.7 sec	24.6 sec

Average Vehicular delay in seconds per vehicle

It should be noted that some vehicles experienced more delay than the average listed in Table 3, and some vehicles experienced less. The maximum delays for southbound Woodshire Lane were observed to be 80 seconds, 110 seconds and 65 seconds during the AM, Midday and PM peak hour, respectively, while the minimum delays observed were approximately 5 seconds during each peak hour. The maximum delays for northbound Renee Lane were observed to be 67 seconds, 67 seconds and 174 seconds during the AM, Midday and PM peak hour, respectively, while the minimum delays observed were approximately 4 seconds during the AM and PM peak hours, and 2 seconds during the Midday peak hour.

Overall, the delays estimated by the computer analysis software were reasonably accurate (some lower and some higher) when compared to actual delays observed in the field. It should also be noted that the southbound volume on Woodshire Lane was very low (less than 10 vph), and the northbound volume on Renee Lane was also low (5 vph to 19 vph) which is a small sample size and may create quite a lot of volatility on those delays experienced by each approach from day to day.

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Proposed Redevelopment

The proposed redevelopment would rebuild the existing Mobil gas station to provide twenty vehicle fueling positions, an expanded convenience store, and a new car wash. It is our understanding that three-single family home structures along Olive Boulevard and three single-family residences along Oak Lake Court would be razed to make way for the new gas station.

Proposed Access

Access to the site is proposed via one full access curb cut on Olive Boulevard approximately 345 feet west of Schulte Road and one right-out-only curb cut approximately 290 feet to the west of the proposed full access driveway. This access arrangement remains similar to the previous redevelopment proposed on the site. It is our understanding that MoDOT traffic and permits staff was agreeable to these access locations for the previous project. It is acknowledged that the proposed full access driveway is slightly closer to Schulte than MoDOT's desired corner clearance distance per their Access Management Guidelines, but the proposed development significantly improves access management along Olive by reducing the five existing full-access curb cuts to two curb cuts: one full access and one right-out-only.

Access is also proposed on Schulte Road in the form of a three-quarter access driveway (no left-turn in) that would be located opposite the existing Shell gas station driveway. It is our understanding that the SLCDOT has insisted on the no left-turn-in restriction due to the southbound queues from the signal at Olive Boulevard even though a similar, yet worse access management is currently in place for the existing Mobil Station.

Driveway Sight Distance

Adequate sight distance is necessary at intersections to allow drivers to perceive potentially conflicting vehicles or other road users and allow those motorists sufficient time to adjust their speed to avoid a collision or make a choice of when to cross or enter the mainline traffic flow. All drivers approaching or stopped at an intersection should have an unobstructed view of the entire intersection so that potential collisions can be avoided.

MoDOT's Engineering Policy Guide (EPG) Section 233.2.1 Intersection sight distance, was referenced to determine the minimum sight distance needs at the site driveway. The MoDOT method incorporates the method from A Policy on Geometric Design of Highways and Streets published by the American Association of State Highway and Transportation Officials (AASHTO), commonly referred to as the "Green Book", which uses the design speed of the major road and the required gap time from a minor road to enter or cross the major road to define the minimum safe distance for entrance visibility. The minimum intersection sight distance according to the MoDOT EPG on a 35 mph roadway is **390 feet**. The minimum stopping sight distance along a 35 mph roadway is **200 feet**.

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The sight distance available at the proposed full access driveway was not measured, but field observations verified ample visibility in excess of the minimums. The site engineer should verify the sight distance all proposed driveways on the site plan with respect to all site improvements. Careful consideration should always be given to sight distance obstructions when planning any aesthetics enhancements, such as berms, fencing, signs and landscaping, to ensure that these improvements do not obstruct the view of entering and exiting traffic at the site intersections with the public roads. It is generally recommended that all improvements higher than 3.0 feet above the elevation of the nearest pavement edge be held back at least 20 feet from the traveled roadway.

Trip Generation

In order to estimate the trip generation of the improved gas station, convenience store and car wash, several methods were considered. The first method compared several gas station land use codes as identified by ITE. The second comparison considered the local data from the existing location at Schulte and transactional data from another facility within the area, which is similar to the proposed.

Trip Generation – ITE Data

Traffic forecasts were estimated by using information provided in the “Trip Generation Manual”, Ninth Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the traffic characteristics of various land uses.

Based on the preliminary site plan provided, the proposed development consists of twenty vehicle fueling positions, a convenience store, and a car wash. Trip generation was reviewed for land uses similar to those shown on the site plan to provide an average number of trips during each peak hour.

Based upon the recommended procedure for estimating trip generation outlined in the “Trip Generation Handbook, A Recommended Practice”, published by ITE (March 2001), the average trip rate was utilized for:

- Land Use 944 – Gasoline/Service Station
- Land Use 945 – Gasoline/Service Station with Convenience Market
- Land Use 946 – Gasoline/Service Station with Convenience Market and Car Wash

As shown in **Table 4**, the forecasted average number of trips for a 20 vehicle fueling position gas station is expected to be 230 total trips during the AM peak hour, 310 total trips during the Midday peak hour, and 280 total trips during the PM peak hour.

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Table 4: ITE Trip Generation Estimate – Mobil Gas Station Rebuild

Land Use	Vehicle Fueling Positions	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Gasoline/Service Station (Land Use 944)	20	125	120	245	185	185	370	140	140	280
Gasoline/Service Station with Convenience Market (Land Use 945)	20	105	105	210	135	135	270	135	135	270
Gasoline/Service Station with Convenience Market and Car Wash (Land Use 946)	20	120	120	240	145	145	290	140	140	280
Average Number of Trips		115	115	230	155	155	310	140	140	280

Trip Generation – Local Data

Based on CBB's driveway counts, the current gas station generates 80 total trips during the AM peak hour, 120 total trips during the Midday peak hour and 100 trips during the PM peak hour with 8 vehicle fueling positions. As noted above, the proposed Mobil gas station will provide twenty vehicle fueling positions. In order to estimate the forecasted trips for the new store, the trips to the current store were increased based on the percentage increase in the number of vehicle fueling positions. **Table 5** summarizes the trips counted at the existing Mobil and the projected trips based on the increase in the number of pumps.

Table 5: Local Trip Generation Estimate – Based on Current Trips and Fueling Positions

Land Use	No. of Vehicle Fueling Positions	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Existing Mobil Station	8	45	35	80	65	55	120	50	50	100
Proposed Mobil Station Estimate	20	115	85	200	165	135	300	125	125	250

CBB was provided customer transaction counts (gross receipts) for a similar Mobil gas station further east on Olive Boulevard in Olivette, Missouri. This location was also recently rebuilt to provide the improved convenience store, car wash and sixteen vehicle fueling positions. Based on the transaction counts, a trip generation estimate was made based on the higher number of vehicle fueling positions at the proposed Schulte Store. **Table 6** summarizes the trip estimated based on the similar facility records.

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Table 6: Estimated Trips for Proposed Mobil Gas Station Rebuild based on Transaction Data

Land Use	No. of Vehicle Fueling Positions	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Similar Mobil Station (Transaction Data)	16	80	80	160	125	125	250	95	95	190
Proposed Mobil Station Estimate	20	100	100	200	155	155	310	120	120	240

When comparing all the different methods above, trips are expected to be in the same order of magnitude. However, the trip estimate for the Mobil gas station based on transaction data is expected to be the most accurate trip forecast since it is based on local data for this exact use. Therefore, the trips estimated by the transactional data (Table 6) were used in this study.

It should be reiterated that the existing Mobil station already generates trips on the roadway system. Therefore, the existing trips were negated from the trip estimate resulting in a net increase in trips, as shown in **Table 7**.

Furthermore, not all of the added site trips would represent *new* traffic on the adjacent roadways. A significant portion of the traffic attracted to this site would already be traveling on Olive Boulevard or Shulte Road as part of another trip (i.e., “pass-by” trips). These trips would represent patrons attracted to the gas station on their way to or from home, work, or another destination as a “convenience stop”. Based upon statistical information provided in the *Trip Generation Handbook, A Recommended Practice* it was assumed that 62% of the development’s traffic would be pass-by in nature during the AM peak hour, and 56% of the development’s traffic would be pass-by during the PM peak hour. ITE does not provide a pass-by percentage for the Midday peak hour so the pass-by percentage from the PM peak hour was also used during the Midday peak hour. As seen in Table 7, the proposed gas station would generate 50 *new* trips during the AM peak hour, 80 *new* trips during the Midday peak hour, 60 *new* trips during the PM peak hour.

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Table 7: Increase in Trips for Proposed Mobil Gas Station Rebuild

	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Estimated Trips to Improved Mobil Site	100	100	200	155	155	310	120	120	240
Trips to Existing Mobil Site	(45)	(35)	(80)	(65)	(55)	(120)	(50)	(50)	(100)
Net Increase in Trips	55	65	120	90	100	190	70	70	140
Pass-By Trips	35	35	70	55	55	110	40	40	80
New Trips	20	30	50	35	45	80	30	30	60

Trip Distribution

The traffic generated by the redevelopment was assigned to the adjoining roadway system based on existing traffic patterns. The directional distribution of the existing trips was assumed to remain constant for the increase in trips during the AM, Midday and PM peak hours. The pass-by trips were assigned to Olive Boulevard based on the existing traffic patterns.

Exhibit 3 illustrates the net increase of trips for the proposed Mobil station rebuild at the study intersections. As would be expected, the biggest impact of the development is at the proposed driveways. Added turns at the main Olive Boulevard driveway are expected range from 96 to 160 trips. These trips equate to approximately one and a half vehicle per minute to about 3 trips per minute on average during the peak hours.

The impacts of the proposed Mobil redevelopment are expected to be diminished outside of the direct vicinity of the site due to the high number of pass-by trips associated with the use. As seen in Exhibit 3, the added trips outside of the vicinity of the Mobil driveways are expected to be less than 30 vph during the AM and PM peak hours and 40 vph or less during the Midday peak hour.

The added trips at the intersection of Olive Boulevard and Schulte Road is expected to be 18 vph, 33 vph, and 26 vph during the AM, Midday, and PM peak hours, respectively. These trips equate to approximately one vehicle per two minutes on average during the Midday and PM peak hours or one vehicle every three minutes on average during the AM peak hour.

As can be seen, the increase in the southbound left-turn from Schulte Road to Olive Boulevard is expected to be less than 10 vph during the AM, Midday and PM peak hours. The site trips represent less than one additional vehicle each six minutes on average.

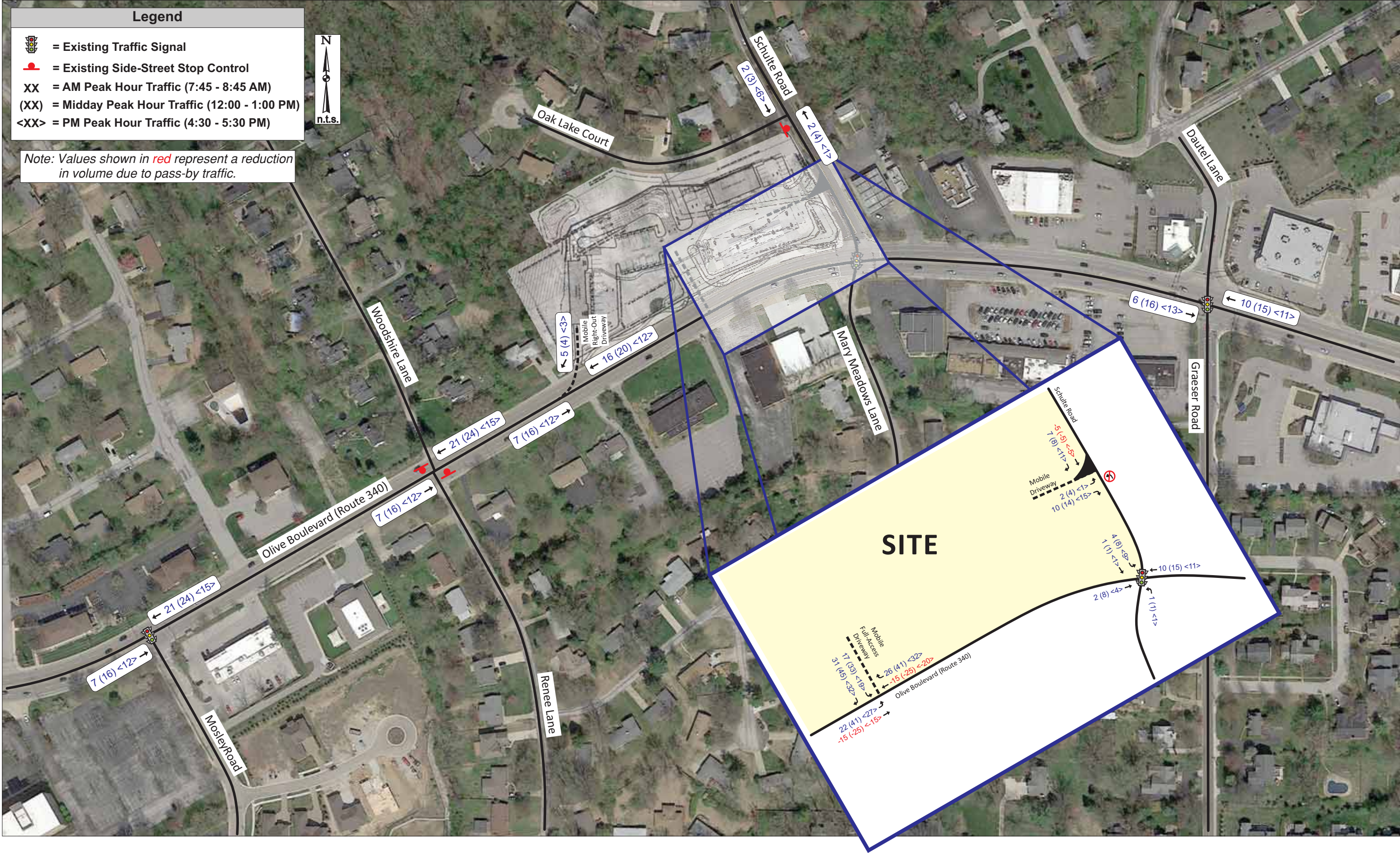


Exhibit 3: Net Increase of Site-Generated Traffic Volumes

2016 Build Conditions

2016 Build Traffic Volumes

The traffic generated by the proposed Mobil gas station rebuild (Exhibit 3) was aggregated with the Base Traffic Volumes (Exhibit 2) to reflect the Forecasted Traffic Volumes. **Exhibit 4** reflects the 2016 Build Traffic Volumes.

Right-Turn Lane Warrants

The MoDOT figure, *Right Turn Lane Warrant for a Four-Lane Roadway*, was utilized to address traffic volumes at the intersection of Olive Boulevard with the proposed full access driveway for the proposed Mobil redevelopment. **Figure 2** illustrates the 2016 Build Traffic Volumes plotted on the MoDOT figure for evaluation of a westbound right-turn lane. Based on the minimal number of right-turns needed to satisfy the criteria in conjunction with the heavy traffic volumes along Olive Boulevard, a separate westbound right-turn lane is warranted. Based on the posted speed limit of 35 mph, a 90-foot storage length with taper is required to meet MoDOT's deceleration minimum.

However, it should be noted that the addition of a separate westbound right-turn lane on Olive Boulevard at the proposed main access would have minimal impacts to operating conditions. It should also be noted that a Metro Bus stop is located near Schulte Road and overhead utilities are located in this area. Furthermore, the Olive Boulevard corridor does not have separate right-turn lanes at unsignalized intersections that do not feed into additional through lanes to right-turn lanes at signals; Therefore, a separate westbound right-turn lane is not recommended at this location.

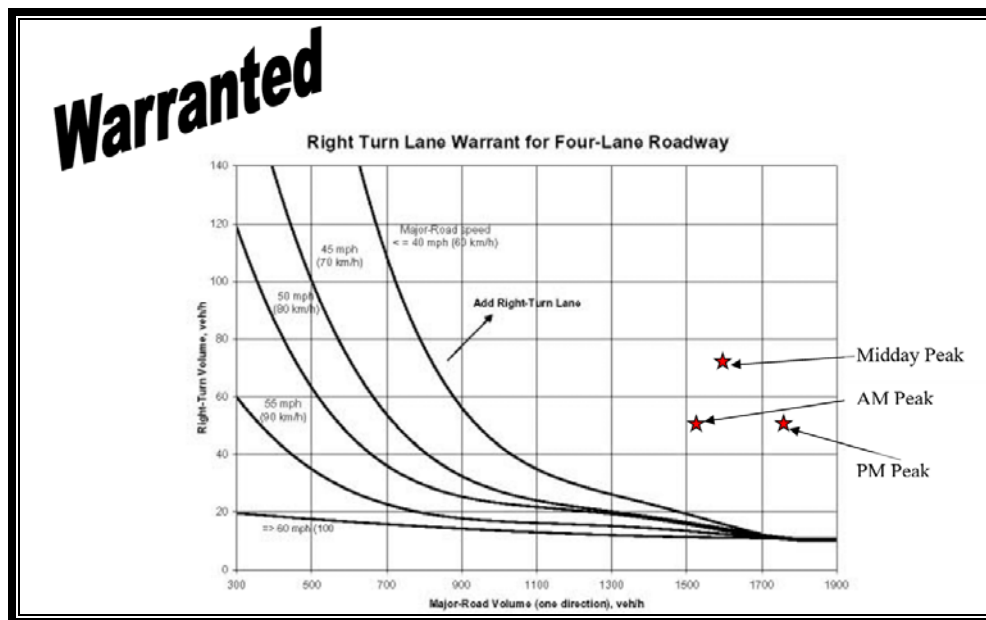


Figure 2: Right-Turn Lane Warrants (MoDOT)

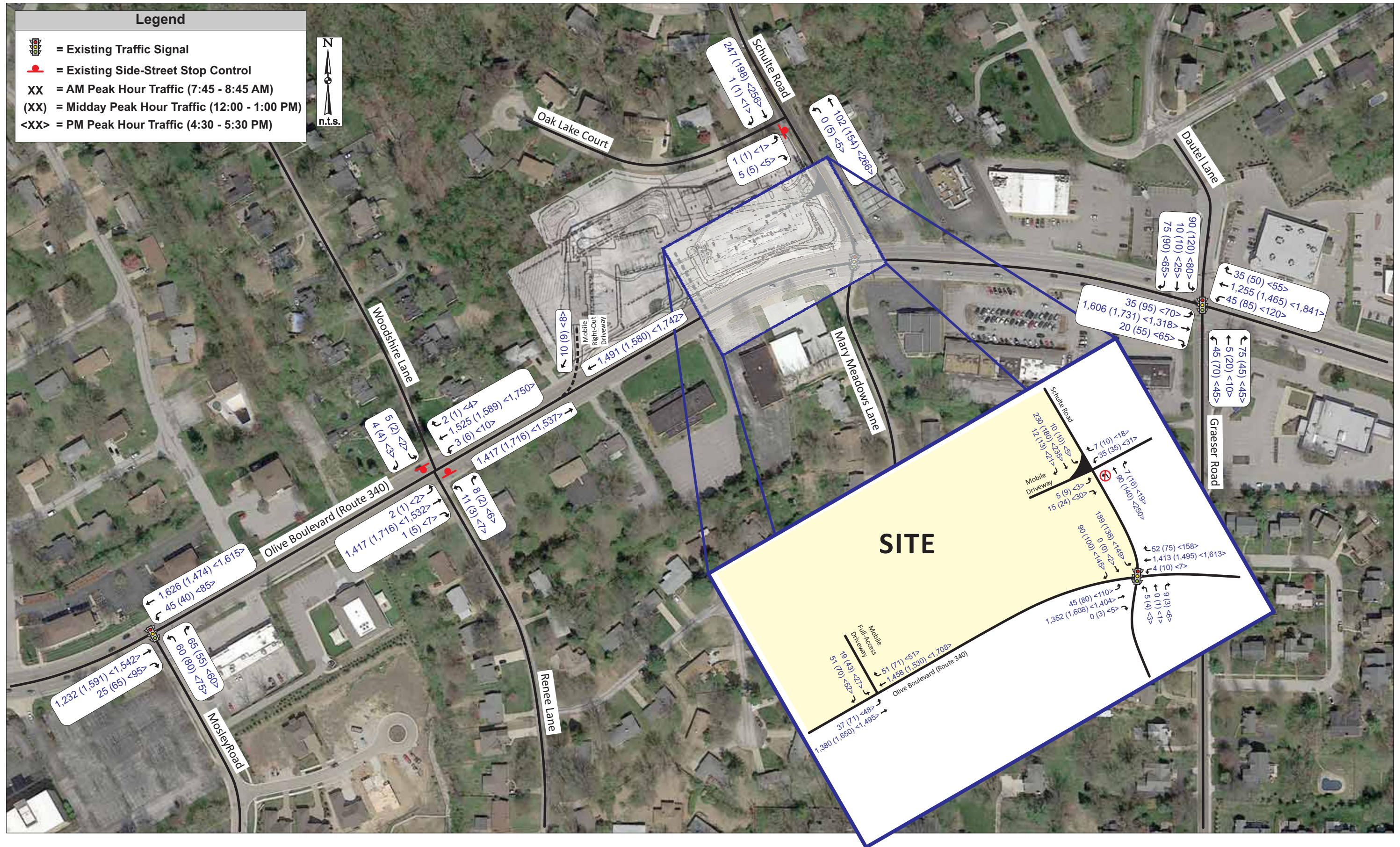


Exhibit 4: 2016 Build Traffic Volumes

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2016 Build Operating Conditions

The 2016 Build Traffic Volumes were reanalyzed using the same methodology applied to the baseline conditions in an effort to identify any impacts of the proposed development. **Table 8** summarizes the levels of service and average delays at the study intersections during both peak hours with the 2016 Build Traffic Volumes.

As can be seen in **Table 8**, the overall intersection operations are expected to remain at similar levels as the base conditions during the weekday AM, Midday and PM peak hours. This analysis assumes no changes in the signal timing at Olive Boulevard and Schulte Road which gives preference to the east-west movements on Olive Boulevard. In fact, the overall change in delay is less than one second during all three peak hours at the Schulte signal. The southbound approach is expected to have minimal increases with 5.2 seconds during the AM peak hour, 4.9 seconds during the Midday peak hour and 1.9 seconds during the PM peak hour. The southbound levels of service would remain poor, again primarily due to the long cycle lengths.

The forecasted build v/c ratios for the southbound approach of Schulte Road remain less than 1.0 during the peak hours. The southbound v/c ratio is forecasted to be 0.95 during the AM peak hour, 0.80 during the Midday peak hour and 0.84 during the PM peak hour. In this case, the cycle length dictates the poor level of service during the AM peak hour and drives the poor movement levels in the PM peak hour. The northbound and southbound approaches have minimal green times to maximize green available to the heavy eastbound and westbound through movements on Olive Boulevard.

As previously noted, the increase in the southbound left-turns from Schulte Road to Olive Boulevard is expected to be less than 10 vph during all peaks, which represents less than one additional vehicle every six minutes on average.

The right-out-only Mobil driveway on Olive Boulevard and the three-quarter access drive on Schulte Road are expected to operate at acceptable levels of service during all three peak hours. It should be noted that the evaluations cannot effectively address the impact of the southbound queue along Schulte Road that would block the three-quarter access drive at times during the peak hours. Any queueing created by blockages would occur on the site. It was noted that the southbound left-turn delays at the unsignalized intersection are generally less than those forecasted for the southbound left-turn from Schulte Road at Olive Boulevard.

The main full access driveway on Olive Boulevard is expected to operate at acceptable levels, except for the southbound left-turn exiting movement during the peak hours. It is acknowledged that the through volumes on Olive Boulevard are heavy during the peak hours, which limits the availability of gaps at the proposed Olive Boulevard access drive during the peak hours. However, the presence of a center-left-turn lane along Olive Boulevard does allow for a motorist to complete their turn in two stages as opposed to waiting for a simultaneous gap in both directions of traffic flow, which is a common practice along the Olive Boulevard

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Corridor and throughout the greater St. Louis Metropolitan area and therefore was assumed in these analyses.

Table 8: Traffic Operating Conditions – Build Traffic Volumes

Intersection/Approach	AM Peak Hour	Midday Peak Hour	PM Peak Hour
<i>Olive Boulevard and Mosley Road – Signalized</i>			
Eastbound Olive Boulevard	A (2.4)	A (5.3)	A (5.9)
Westbound Olive Boulevard	B (11.7)	A (9.5)	B (10.8)
Northbound Mosley Road	D (43.9)	D (43.3)	D (48.5)
Overall Intersection	A (9.2)	A (8.8)	A (10.0)
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	B (14.4)	C (15.0)	C (16.8)
Westbound Left-Turn Olive Boulevard	B (13.5)	C (16.6)	B (14.8)
Northbound Renee Lane	D (33.0)	E (43.9)	E (36.3)
Southbound Woodshire Lane	D (34.2)	D (28.9)	D (37.3)
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>			
Eastbound Olive Boulevard	B (17.0) 20' LT	B (10.8) 30' LT	B (17.2) 110' LT
Westbound Olive Boulevard	B (11.2)	A (5.1)	A (8.8)
Northbound Mary Meadows Lane	D (51.3)	D (44.3)	D (51.2)
Southbound Schulte Road	E (77.0) 345' LT	D (51.2) 210' LT	E (55.7) 250' LT
Overall Intersection	B (19.7)	B (11.1)	B (16.3)
<i>Olive Boulevard and Dautel Lane/Graeser Road – Signalized</i>			
Eastbound Olive Boulevard	A (6.4)	B (15.7)	B (11.4)
Westbound Olive Boulevard	B (15.1)	B (16.0)	C (29.4)
Northbound Dautel Lane	C (32.3)	D (36.6)	D (41.6)
Southbound Graeser Road	D (49.9)	D (42.6)	D (50.4)
Overall Intersection	B (13.2)	B (18.1)	C (23.7)
<i>Oak Lake Court and Schulte Road – Side-Street Stop</i>			
Eastbound Oak Lake Court	A (9.9)	A (9.7)	B (10.3)
Northbound Left-Turn Schulte Road	A (7.7)	A (7.7)	A (7.8)
<i>Schulte Road at Mobil/Shell Driveway – Side-Street Stop</i>			
Eastbound Mobil Driveway	B (10.2)	B (10.1)	B (10.3)
Westbound Shell Driveway	B (11.5)	B (11.6)	B (13.2)
Southbound Schulte Road	A (7.4)	A (7.6)	A (7.8)
<i>Olive Boulevard at Mobil Right-Out Only Driveway – Side-Street Stop</i>			
Southbound Mobil Driveway	C (16.5)	C (17.4)	C (19.2)
<i>Olive Boulevard at Mobil Full Access Driveway – Side-Street Stop</i>			
Eastbound Left-Turn Olive Boulevard	C (15.3)	C (17.8)	C (19.2)
Southbound Mobil Left-Turn	E (48.0)	F (93.8)	F (81.0)
Southbound Mobil Right-Turn	C (18.7)	C (21.4)	C (22.8)
Southbound Mobil Driveway Approach	D (26.7)	E (49.0)	E (42.7)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

The impacts of the new Mobil are also diminished outside of the direct access points to Olive Boulevard. As can be seen, minimal increases are expected at the signalized intersections with Olive Boulevard with Schulte Road, Mosely Road and Greaser/Dautel Lane. The analysis software estimates an increase of less than one second of delay for the northbound approach

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of Renee Lane and less than one second of delay increase for the southbound approach of Woodshire Lane during each of the peak hours.

Alternatives Analysis

Several alternatives were evaluated to identify the impacts of each potential improvement. **Tables 9-11** summarize the build conditions with various alternative modifications.

Signal Timing Adjustments

The green time was increased for Schulte Road/Mary Meadows Lane to obtain similar levels of service as the existing conditions. An additional two seconds of green time during the AM peak, four seconds during the Midday peak and 2 seconds during the PM peak could be reallocated from the mainline to the north-south approaches to reach comparable levels to the existing conditions. As can be seen, the minimal change in signal timing would not result in major impacts to the mainline Olive Boulevard traffic conditions. **Table 12** illustrates the impacts to progression along the Olive Boulevard corridor. As can be seen in Table 12, the impacts to east-west progression are also minimal.

Add Flashing Yellow Arrow

During the traffic scoping meeting, Flashing Yellow Arrows (FYA) for the northbound and southbound approaches were discussed to improve safety at the intersection. Therefore, an analysis scenario was generated to show the operational impacts of switching to northbound and southbound FYA.

Based on the analysis, the FYA would provide negligible changes in operating conditions for the southbound approach, but the safety at the intersection may be improved substantially. The www.CMFClearinghouse.org was consulted in order to attempt to quantify the safety implications of installing a FYA. Based on countermeasure “Changing from permissive only to FYA- Permissive only (CMF ID: 7698)” in the CFM Clearinghouse, various Crash Reduction Factors (CRF) could be applied to various crash types as summarized below.

- CRF of 10.8% (decrease) to all crash types and all severities;
- CRF of 31.1% (decrease) to all crash types; Fatal, serious injury and minor injuries;
- CRF of 50.2% (decrease) to Left-turn crash types; all severities; and
- CRF of 65.1% (decrease) to Left-turn crash types and Fatal, serious injury and minor injury severities.

Although a crash analysis was not identified as a specific part of this study scope, the CMF’s listed above would appear to have the potential to significantly improve safety (decrease the number of crashes) for the southbound left-turns.

Provide a Southbound Right-Turn Lane

During the traffic scoping meeting, it was specifically requested that one analysis scenario consider a separate southbound left-turn lane, through lane and right-turn lane. Therefore, an analysis scenario was generated to show the operational impacts of providing a separated southbound right-turn lane.

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Based on the analysis, the addition of a southbound right-turn lane on Schulte Road would provide no improvement in operations when compared to the current condition. The minimal southbound through volumes (3 to 5 vph) have a low potential to block the southbound right-turns; therefore, the through/right-turn lane acts as a *defacto* right-turn lane in the existing condition. In addition, the westbound through volumes along Olive Boulevard are very heavy during the peak hours making it more difficult to find an adequate gap in westbound traffic to complete the right turn movement versus reaching the southbound stop bar due to other conflicting southbound through vehicles. Since there appears to be no benefit to provide a separate right-turn lane, it is not recommended.

Provide Dual Southbound Left-Turn Lanes and Split-Phase North-South

Previous studies of this intersection recommended split phasing and/or a horizontal and vertical realignment of Schulte Road and/or Mary Meadow Lane to decrease the offset and skew of the north-south approaches as well as the northbound sight distance obstruction created by the cresting of the profile grades. In order to realign the intersection, multiple property owners would be impacted. Previous plans, by others, to redevelopment the southwest quadrant of the intersection did not materialize. Consequently, the subject development has reserved ground in the northeast quadrant of the intersection so that realignment can occur in the future.

CBB also considered an alternative analysis where the intersection is re-aligned with dual southbound left-turn lanes (one southbound left-turn and one southbound shared left-turn/through lane) and a separate southbound right-turn lane. This would also require split-phasing the north-south approaches.

In order to maximize the amount of green time provided to the mainline, the northbound approach (Mary Meadows Lane) was given the minimum amount of split time (13.1 seconds), while the southbound approach was only provided enough split time to obtain similar levels of service as the existing conditions. The southbound green time was assumed to 17.9, 16.9, 17.9 seconds during the AM, Midday and PM peak hours, for a total north-south green time of 31, 30, and 31 seconds. The overall north-south green time would be slightly more with the split-phase when comparable to the 2016 Build conditions with modified signal timings.

Table 12 illustrates the impacts to progression along the Olive Boulevard corridor. As can be seen, the split-phase condition would have a negative impact on progression when compared to the existing conditions, except for the eastbound link between Mosley Road and Schulte Road during the Midday as well as the westbound link between Schulte Road and Mosley Road during the Midday peak hour. However, the link changes would have no effect on the corridor green bands, shown in Table 12.

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The biggest benefit of the dual left-turn alternative is the reduction in length of the southbound queues by approximately 40% during the AM peak hour, approximately 36% during the Midday peak hour and approximately 38% during the PM peak hour when compared to the single left-turn lane with modified signal timing. Even with the dual southbound left-turn scenario, the 95th percentile queues would still block the proposed relocated access to Schulte Road during all three peak hours.

It should also be noted that the while a split-phase scenario for the northbound and southbound approaches improves the southbound queueing, the 13.1 to 17.9 seconds assumed for those approaches would not provide adequate pedestrian accommodations (during every signal cycle) across Olive Boulevard. As a result, when the push button is activated it would give ample crossing time to accommodate pedestrians but the signal would become out-of-step for several cycles.

Pedestrian Issues

MoDOT requested that pedestrian accommodations (pedestrian push buttons and indications with marked crosswalks) be installed across Olive Boulevard. CBB recommends that the pedestrian accommodations be located on the west side of the intersection only. CBB believes that it is better and safer to have the pedestrians crossing the west leg, since it is closer to the MetroBus stop and the pedestrian phase would run with the heavier traffic flow so it would cause less disruptions. If the crosswalks were provided on the east side of the intersection the pedestrians would be crossing paths with the heavy southbound left-turn vehicles and would potential be less safe than crossing on the west side because there is lower northbound left-turn volume verses the southbound left-turn.

Table 9: Build Operating Conditions with Alternative Improvement Scenarios – AM Peak Hour

Intersection/Approach	<i>Original Timing [28 sec n-s]</i>	<i>with Timing Adjustments [30 Sec n-s]</i>	<i>Add Flashing Yellow Arrow NB & SB [28 Sec n-s]</i>	<i>Separate SB Right-Turn Lane [28 Sec n-s]</i>	<i>With Dual Left and Split- Phase ¹ [31 Sec n-s]</i>
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>					
Eastbound Olive Boulevard	B (17.0) 20' LT	B (18.0) 20' LT	B (17.0) 20' LT	B (17.0) 20' LT	B (13.7) 20' LT
Westbound Olive Boulevard	B (11.2)	B (11.1)	B (11.2)	B (11.2)	A (7.4)
Northbound Mary Meadows Ln.	D (51.3)	D (49.5)	D (51.2)	D (51.2)	E (69.0)
Southbound Schulte Road	E (77.0) 345' LT	E (69.4) 325' LT	E (77.3) 345' LT	E (77.0) 345' LT	E (69.0) 190' LT
Overall Intersection	B (19.7)	B (19.5)	B (19.8)	B (19.7)	B (15.9)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +17.9 sec)

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Table 10: Build Operating Conditions with Alternative Improvement Scenarios – Midday Peak Hour

Intersection/Approach	Original Timing [24 sec n-s]	Timing Adjustments [26 Sec n-s]	Add Flashing Yellow Arrow NB & SB [24 Sec n-s]	Separate SB Right-Turn Lane [24 Sec n-s]	With Dual Left and Split-Phase ¹ [30 Sec n-s]
Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized					
Eastbound Olive Boulevard	B (10.8) 30' LT	B (10.1) 40' LT	B (10.8) 30' LT	B (10.8) 30' LT	A (7.7) 40' LT
Westbound Olive Boulevard	A (5.1)	A (6.6)	A (5.1)	A (5.1)	A (6.6)
Northbound Mary Meadows Ln.	D (44.3)	D (41.9)	D (44.3)	D (44.3)	E (55.4)
Southbound Schulte Road	D (51.2) 210' LT	D (46.3) 180' LT	D (51.2) 210' LT	D (51.2) 210' LT	D (44.9) 115' LT
Overall Intersection	B (11.1)	B (11.0)	B (11.1)	B (11.1)	A (9.8)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +16.9 sec)

Table 11: Build Operating Conditions with Alternative Improvement Scenarios – PM Peak Hour

Intersection/Approach	Original Timing [28 sec n-s]	Timing Adjustments [30 Sec n-s]	Add Flashing Yellow Arrow NB & SB [28 Sec n-s]	Separate SB Right-Turn Lane [28 Sec n-s]	With Dual Left and Split-Phase ¹ [31 Sec n-s]
Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized					
Eastbound Olive Boulevard	B (17.2) 110' LT	B (16.3) 110' LT	B (17.3) 110' LT	B (17.2) 110' LT	B (13.4) 110' LT
Westbound Olive Boulevard	A (8.8)	B (10.5)	A (8.8)	A (8.8)	A (9.5)
Northbound Mary Meadows Ln.	D (51.2)	D (49.8)	D (51.2)	D (51.1)	E (67.3)
Southbound Schulte Road	E (55.7) 250' LT	D (53.3) 225' LT	E (55.7) 250' LT	E (55.7) 250' LT	D (53.2) 140' LT
Overall Intersection	B (16.3)	B (16.6)	B (16.4)	B (16.3)	B (14.9)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +17.9 sec)

Table 12: Progression Analysis – 70th Percentile Link Bands

<i>70th Percentile Link Green Bands</i>	<i>Weekday AM Peak Hour</i>			<i>Weekday Midday Peak Hour</i>			<i>Weekday PM Peak Hour</i>		
	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split-Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split-Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split-Phase</i>
Eastbound									
Mosley Road to Schulte Road link	81 sec	79 sec	78 sec	77 sec	78 sec	89 sec	83 sec	83 sec	83 sec
Schulte to Dautel Lane Link	97 sec	97 sec	97 sec	78 sec	78 sec	78 sec	101 sec	99 sec	98 sec
Eastbound Arterial Green Band (Craig Road to Spoede Road)	70 sec	70 sec	70 sec	47 sec	47 sec	47 sec	71 sec	71 sec	71 sec
Westbound									
Dautel Lane to Schulte Road Link	98 sec	97 sec	96 sec	73 sec	70 sec	68 sec	88 sec	86 sec	85 sec
Schulte Road to Mosley Road Link	82 sec	80 sec	79 sec	63 sec	59 sec	68 sec	73 sec	71 sec	70 sec
Westbound Arterial Green Band (Spoede Road to Craig Road)	60 sec	60 sec	60 sec	50 sec	50 sec	50 sec	55 sec	55 sec	55 sec

20-Year Conditions

Forecasted 20-Year No-Build Conditions (2036)

In order to assess the long-term traffic impacts, 20-year traffic projections were also analyzed. Specifically, traffic growth was assumed at a rate of 0.5% annually for 20 years (or 10.5% overall) along each of the roadways within the study area. The 20-year background growth was applied to the base traffic volumes to compare future traffic conditions assuming that the site remains as it currently stands. Forecasted 20-Year No-Build Volumes (only background growth added) are shown in **Exhibit 5**.

As can be seen, the 20-Year No-Build traffic forecast represents an increase over the base traffic forecast due to the background growth. East-west through traffic volumes along Olive Boulevard are expected to increase by as much as 180 vph during the peak periods due to incremental background growth.

Forecasted 20-Year Build Conditions (2036)

The 20-year No-Build Traffic Volumes (Exhibit 5) were aggregated with the site-generated trips for the new Mobil redevelopment trips (Exhibit 3) to create the 20-Year Build Traffic Volumes shown in **Exhibit 6**. It should be noted that traffic oriented to/from the proposed development was not increased since full build-out of the site was assumed to take place during the opening year. In other words, site-generated traffic volumes would reach their peak during the opening year and therefore would not experience any appreciable growth, which is consistent with standard industry practice. The anticipated operating conditions at the study intersections for the 20-Year No-Build and 20-year Build Traffic conditions are summarized in **Table 13**.

As shown in the LOS Table, all of the study intersections would degrade more in the 2036 No-Build Condition due to the increase in background traffic. As can be seen, the southbound approach of Schulte Road would operate at LOS F during the AM peak hour and LOS E during the PM peak hour. The v/c ratio for the southbound approach will reach 1.02 during the AM peak hour but remain less than 0.85 during the Midday and PM peak hours.

The east-west through lanes reach a volume-to-capacity ratio of 1.00 during the PM peak hour which indicates the east-west lanes would be approaching their capacity, and ultimately, a third lane would be necessary along Olive Boulevard to obtain acceptable levels for the long-term growth conditions. It should be reiterated that the 20-Year design scenarios are included to provide a general idea of future conditions as a planning tool and should not be used to dictate physical improvements required for construction under permit where background traffic growth is the critical element. Due to capacity constraints upstream or downstream, resulting congestion and the build-out of the surrounding area, the future traffic projections may not be realized/feasible unless major capacity improvements are built.

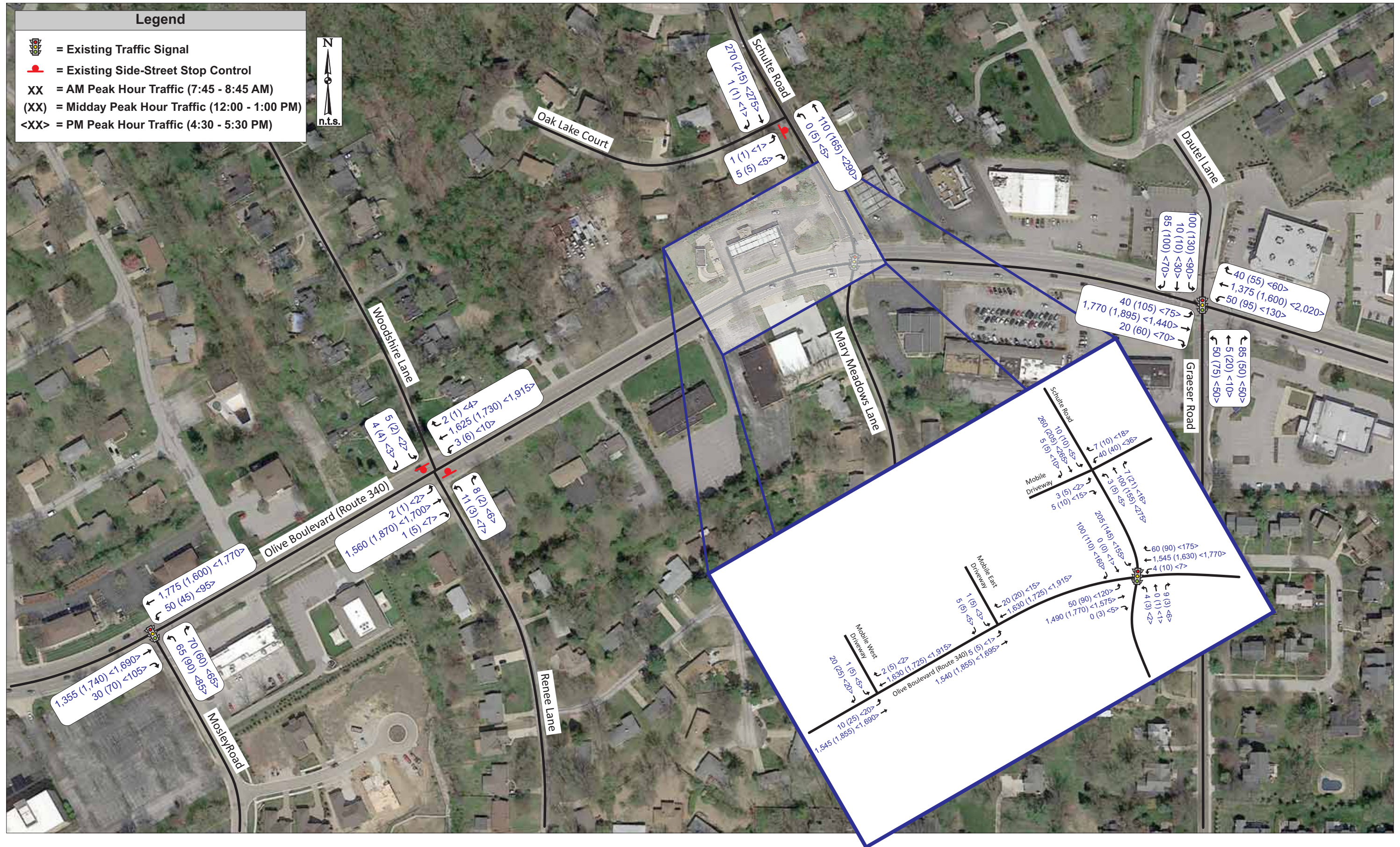


Exhibit 5: 20-Year No-Build Traffic Volumes

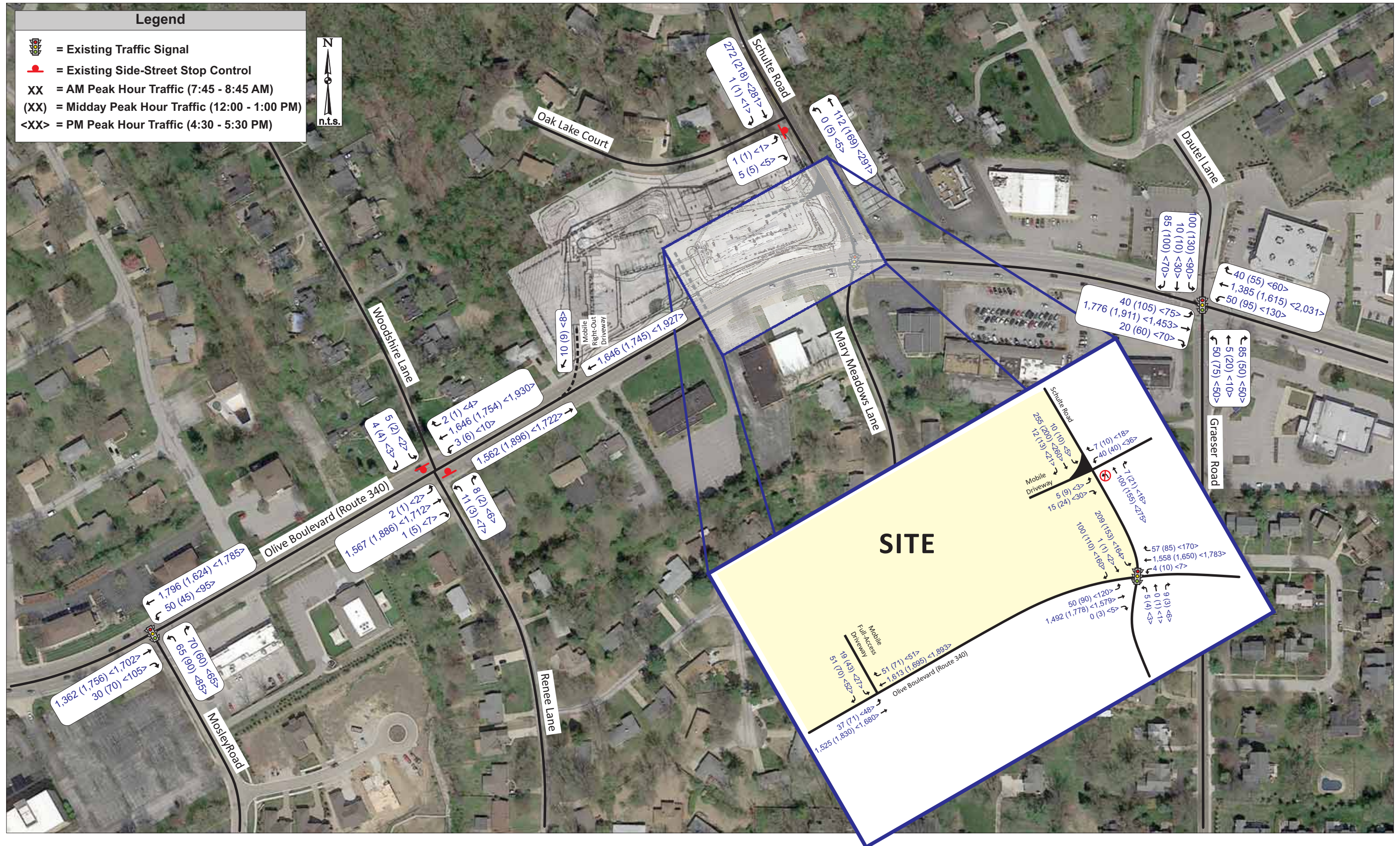


Exhibit 6: 20-Year Build Traffic Volumes

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Table 13: 20-Year Operating Conditions

Intersection/Approach	AM Peak Hour		Midday Peak Hour		PM Peak Hour	
	20-Year No Build	20-Year Build <i>Original Timing</i> (28 sec n-s)	20-Year No Build	20-Year Build <i>Original Timing</i> (24 sec n-s)	20-Year No Build	20-Year Build <i>Original Timing</i> (28 sec n-s)
<i>Olive Boulevard and Mosley Road – Signalized</i>						
Eastbound Olive Boulevard	A (2.5)	A (2.5)	A (6.6)	A (6.6)	A (7.2)	A (7.4)
Westbound Olive Boulevard	B (13.1)	B (12.8)	B (10.7)	B (10.8)	B (13.3)	B (13.6)
Northbound Mosley Road	D (44.1)	D (44.1)	D (44.4)	D (44.4)	D (49.2)	D (49.2)
Overall Intersection	A (10.0)	A (9.8)	B (10.0)	B (10.1)	B (11.9)	B (12.0)
<i>Olive Boulevard and Woodshire Lane/Renee Lane – Side-Street Stop</i>						
Eastbound Left-Turn Olive Blvd	C (15.4)	C (15.6)	C (16.5)	C (16.8)	C (18.9)	C (19.0)
Westbound Left-Turn Olive Blvd	B (14.8)	B (14.8)	C (18.5)	C (18.7)	C (16.6)	C (16.7)
Northbound Renee Lane	E (40.8)	E (40.8)	F (55.3)	F (55.3)	E (45.4)	E (46.4)
Southbound Woodshire Lane	E (39.2)	E (39.9)	D (33.9)	D (35.1)	E (46.6)	E (48.1)
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (18.0) 20' LT	B (17.9) 20' LT	B (13.9) 50' LT	B (14.6) 50' LT	B (17.9) 105' LT	B (18.2) 105' LT
Westbound Olive Boulevard	B (12.5)	B (12.6)	A (8.4)	A (9.0)	C (21.6)	C (24.2)
Northbound Mary Meadows Lane	D (51.2)	D (51.2)	D (44.2)	D (44.3)	D (51.0)	D (51.1)
Southbound Schulte Road	F (83.9) 385' LT	F (90.2) 395' LT	D (50.6) 225' LT	D (54.6) 240' LT	E (58.4) 260' LT	E (61.0) 285' LT
Overall Intersection	C (21.4)	C (22.0)	B (13.9)	B (14.9)	C (23.0)	C (24.7)
<i>Olive Boulevard and Dautel Lane/Graeser Road – Signalized</i>						
Eastbound Olive Boulevard	A (8.1)	A (8.3)	C (25.8)	C (27.4)	B (13.5)	B (13.7)
Westbound Olive Boulevard	B (17.0)	B (17.1)	B (18.7)	B (19.0)	D (40.0)	D (42.1)
Northbound Dautel Lane	C (31.8)	C (31.8)	D (36.2)	D (36.2)	D (41.3)	D (41.3)
Southbound Graeser Road	D (51.6)	D (51.6)	D (42.0)	D (42.0)	D (52.9)	D (52.9)
Overall Intersection	B (15.0)	B (15.1)	C (24.1)	C (25.0)	C (30.4)	C (31.6)
<i>Oak Lake Court and Schulte Road – Side-Street Stop</i>						
Eastbound Oak Lake Court	B (10.1)	B (10.1)	A (9.8)	A (9.8)	B (10.4)	B (10.5)
Northbound Left-Turn Schulte Rd	A (7.7)	A (7.7)	A (7.7)	A (7.7)	A (7.9)	A (7.9)
<i>Schulte Road at Mobil/Shell Driveway – Side-Street Stop</i>						
Eastbound Mobil Driveway	B (10.6)	B (10.4)	B (10.4)	B (10.4)	B (10.5)	B (10.5)
Westbound Shell Driveway	B (12.0)	B (12.1)	B (12.2)	B (12.2)	B (14.1)	B (14.2)
Northbound Schulte Road	A (7.8)	--	A (7.7)	--	A (7.9)	--
Southbound Schulte Road	A (7.5)	A (7.5)	A (7.6)	A (7.6)	A (7.9)	A (7.9)
<i>Olive Boulevard at Mobil West Driveway – Side-Street Stop</i>						
Eastbound Left-Turn Olive Blvd	C (15.7)	--	C (17.7)	--	C (19.9)	--
Southbound Mobil Driveway	C (29.8)	C (18.2)	F (150.1)	C (19.3)	F (>200)	C (21.6)
<i>Olive Boulevard at Mobil East Driveway – Side-Street Stop</i>						
Eastbound Left-Turn Olive Blvd	C (15.7)	C (17.2)	C (16.8)	C (20.8)	C (18.9)	C (22.7)
Southbound Mobil Left-Turn	--	F (61.3)	--	F (141.2)	--	F (118.7)
Southbound Mobil Right-Turn	--	C (21.0)	--	C (24.8)	--	D (26.8)
Southbound Mobil Driveway	F (50.8)	D (31.9)	F (>200)	F (69.1)	F (>200)	F (58.2)

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Under the 2036 Build condition, the overall intersection operations are expected to remain at similar overall levels as the 2036 No-Build with minimal changes in delay during the weekday AM, Midday and PM peak hours. Without signal timing adjustments, the overall delay is expected to increase less than 2 seconds during the AM, Midday or PM peak hour at Schulte Road and Olive Boulevard. The southbound approach is expected to have minimal increases with 6.3 seconds during the AM peak hour, 4 seconds during the Midday peak hour and 2.6 seconds during the PM peak hour. Without signal timing adjustments, the 2036 forecasted build v/c ratios for the southbound approach would remain more than 1.0 during the AM peak hour. The southbound v/c ratio is forecasted to be 0.88 or better during the Midday or PM peak hour. Again, the cycle length dictates and high v/c ratios drive the poor level of service during the AM and PM peak hours. The northbound and southbound approaches have minimal green times to maximize green times to the heavy eastbound and westbound through movements on Olive Boulevard.

As previously noted, the increase in the southbound left-turns from Schulte Road to Olive Boulevard is expected to be less than 10 vph during all peaks. The increase in site trips represent less than one additional vehicle every six minutes on average.

Again, the three Mobil driveways (main access to Olive Boulevard, right-out only to Olive Boulevard and the three-quarter access driveway on Schulte Road) are expected to operate at acceptable levels of service during the peak hours with the exception of the southbound left-turn out of the site during the peak hours. It should also be noted that the southbound left-turn delay exiting the Mobil Driveway was generally less than the southbound left-turn delay on Schulte Road at Olive Boulevard since Schulte vehicles turns must wait for green.

Again, the impacts of the new Mobil are diminished outside of the direct access points to Olive Boulevard. As can be seen, minimal increases are expected at the signalized intersections including Olive Boulevard at Schulte Road. The impacts of the new Mobil are also expected to be minimal at the signalized intersections adjacent to Schulte (Mosely Road and Greaser/Dautel Lane). Furthermore, the analysis software estimates an increase in delay of one second or less for the northbound approach of Renee Lane and less than two seconds of delay for the southbound approach of Woodshire Lane during each of the peak hours as compared to the 2036 No-Build.

Similar to the 2016 build conditions, various alternatives were re-evaluated to summarize the impacts of the potential improvements. Again, the modified signal timing would improve the southbound approach and have minimal impacts to the mainline; the separate right-turn lane would have no worthwhile impacts; the Flashing Yellow Arrow provided minimal operation changes but potentially a safety improvement; and the dual left-turn would provide improved operations but would have the most negative impact to adjacent link progression.

Table 14: 20-Year Operating Conditions with Alternative Improvement Scenarios – AM Peak Hour

Intersection/Approach	20-Year No Build	20-Year Build Original Timing [28 sec n-s]	20-Year Build Timing Adjustments [29 Sec n-s]	20-Year Build Add Flashing Yellow Arrow NB& SB [28 Sec n-s]	20-Year Build Separate SB Right-Turn Lane [28 Sec n-s]	20-Year Build with Dual Left and Split-Phase ¹ [30 Sec n-s]
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (18.0) 20' LT	B (17.9) 20' LT	B (18.7) 20' LT	B (17.9) 20' LT	B (17.9) 20' LT	B (13.8) 20' LT
Westbound Olive Boulevard	B (12.5)	B (12.6)	B (12.8)	B (12.6)	B (12.6)	A (8.5)
Northbound Mary Meadows Lane	D (51.2)	D (51.2)	D (50.3)	D (51.2)	D (51.2)	E (69.0)
Southbound Schulte Road	F (83.9) 385' LT	F (90.2) 395' LT	F (82.1) 385' LT	F (91.1) 395' LT	F (90.3) 395' LT	F (82.7) 230' LT
Overall Intersection	C (21.4)	C (22.0)	C (21.7)	C (22.1)	C (22.0)	B (17.7)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

¹ Dual Southbound Lefts and Split Phase (13.1 sec +16.9 sec)

Table 15: 20-Year Operating Conditions with Alternative Improvement Scenarios – Midday Peak Hour

Intersection/Approach	20-Year No Build	20-Year Build Original Timing [24 sec n-s]	20-Year Build Timing Adjustments [27 Sec n-s]	20-Year Build Add Flashing Yellow Arrow NB& SB [24 Sec n-s]	20-Year Build Separate SB Right-Turn Lane [24 Sec n-s]	20-Year Build with Dual Left and Split-Phase ¹ [30 Sec n-s]
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (13.9) 50' LT	B (14.6) 50' LT	B (15.4) 50' LT	B (14.6) 50' LT	B (14.6) 50' LT	B (10.4) 55' LT
Westbound Olive Boulevard	A (8.4)	A (9.0)	B (10.2)	A (9.0)	A (9.0)	A (8.4)
Northbound Mary Meadows Lane	D (44.2)	D (44.3)	D (41.9)	D (44.3)	D (44.1)	E (55.4)
Southbound Schulte Road	D (50.6) 225' LT	D (54.6) 240' LT	D (48.7) 210' LT	D (54.6) 240' LT	D (54.6) 240' LT	D (50.6) 135' LT
Overall Intersection	B (13.9)	B (14.9)	B (15.4)	B (14.9)	B (14.9)	B (12.3)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

Dual Southbound Lefts and Split Phase (13.1 sec +15.9 sec)

Table 16: 20-Year Operating Conditions with Alternative Improvement Scenarios – PM Peak Hour

Intersection/Approach	20-Year No Build	20-Year Build Original Timing [28 sec n-s]	20-Year Build Timing Adjustments [30 Sec n-s]	20-Year Build Add Flashing Yellow Arrow NB& SB [28 Sec n-s]	20-Year Build Separate SB Right-Turn Lane [28 Sec n-s]	20-Year Build with Dual Left and Split-Phase ¹ [30 Sec n-s]
<i>Olive Boulevard and Schulte Road/Mary Meadows Lane – Signalized</i>						
Eastbound Olive Boulevard	B (17.9) 105' LT	B (18.2) 105' LT	B (17.5) 105' LT	B (18.3) 105' LT	B (18.2) 105' LT	B (13.9) 105' LT
Westbound Olive Boulevard	C (21.6)	C (24.2)	C (28.2)	C (24.5)	C (24.2)	B (15.6)
Northbound Mary Meadows Lane	D (51.0)	D (51.1)	D (49.5)	D (51.0)	D (51.0)	E (67.3)
Southbound Schulte Road	E (58.4) 260' LT	E (61.0) 285' LT	E (57.2) 265' LT	E (61.1) 285' LT	E (61.0) 285' LT	E (57.8) 175' LT
Overall Intersection	C (23.0)	C (24.7)	C (26.0)	C (24.9)	C (24.7)	B (18.4)

(xx.x) - Level of Service (Vehicular delay in seconds per vehicle)

Dual Southbound Lefts and Split Phase (13.1 sec + 16.9 sec)

Table 17: 20-Year Progression Analysis – 70th Percentile Link Bands

<i>70th Percentile Link Green Bands</i>	<i>Weekday AM Peak Hour</i>			<i>Weekday Midday Peak Hour</i>			<i>Weekday PM Peak Hour</i>		
	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split- Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split- Phase</i>	<i>Existing</i>	<i>Timing Adjustment</i>	<i>Dual LT/Split- Phase</i>
Eastbound									
Mosley Road to Schulte Road Link	80 sec	79 sec	78 sec	77 sec	77 sec	88 sec	83 sec	83 sec	83 sec
Schulte to Dautel Lane Link	97 sec	97 sec	97 sec	76 sec	76 sec	76 sec	96 sec	94 sec	94 sec
Eastbound Arterial Green Band (Craig Road to Spoeede Road)	70 sec	70 sec	70 sec	46 sec	46 sec	46 sec	67 sec	67 sec	67 sec
Westbound									
Dautel Lane to Schulte Road Link	98 sec	98 sec	97 sec	72 sec	70 sec	68 sec	86 sec	84 sec	84 sec
Schulte Road to Mosley Road Link	82 sec	81 sec	80 sec	63 sec	60 sec	68 sec	72 sec	70 sec	70 sec
Westbound Arterial Green Band (Spoeede Road to Craig Road)	60 sec	60 sec	60 sec	50 sec	50 sec	50 sec	52 sec	52 sec	52 sec

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
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Conclusions

CBB completed a traffic impact study for the proposed Creve Coeur Mobil with Car Wash redevelopment in Creve Coeur, Missouri. The site located on the northwest quadrant of Olive Boulevard at Schulte Road. The site is currently occupied by a Mobil gas station with a small convenience store and a car wash as well as a several homes.

- Access to the redeveloped site is proposed via one full access driveway on Olive Boulevard, one right-turn exit-only driveway on Olive Boulevard at the west end of the property, and one three-quarter driveway (no left-turn in) on Schulte Road generally opposite the existing Shell station driveway.
- Base traffic conditions were observed and evaluated to reveal constraints that currently exist at the signalized intersection of Olive Boulevard with Schulte Road/Mary Meadows Lane. The north-south approaches currently operate at less than desirable levels of service during the AM and PM peak hours primarily as a result of long signal cycle lengths dictated by other critical intersections on the Olive Boulevard corridor. The horizontal and vertical physical configuration of the existing intersection is also less than desirable.
- The new Mobil gas station would be expected to generate approximately 120, 190, and 140 additional trips during the AM, Midday and PM peak hours of a typical weekday, respectively.
- Based on MoDOT's Access Management Guidelines, a separate westbound right-turn lane would be warranted on Olive Boulevard at the proposed full-access driveway. However, that lane would have minimal impact on operating conditions, have impacts to utilities and separate right-turn lanes are not currently provided at unsignalized intersections along the Olive Boulevard corridor, CBB does not recommend the installation of the right-turn lane on Olive Boulevard at the proposed full access driveway.
- The proposed access drives would operate at acceptable levels of service, except for the southbound left-turns out of the main entrance, which is primarily due to the heavy east-west volumes on Olive Boulevard. The left-turning motorists should be able to make two-stage turns onto eastbound Olive Boulevard via the center left-turn lane or go to the signal via Schulte Road.
 - A two-lane exit is recommended and proposed on the conceptual site plan to separate exiting left and right-turns. It should also be noted that this driveway has the ability to storage approximately 4 or 5 vehicles that would be queued in the southbound direction before impacting internal circulation.

***Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri***

- The impacts of the proposed Mobil can be mitigated at the intersection of Olive Boulevard with Schulte Road by providing two seconds of additional north-south green time during the AM and PM peak hour and four seconds of additional north-south green time in the Midday peak hour. On-site observations found that the southbound approach currently clears during a vast majority of the cycles, even during the peak hours, so timing adjustments may not be necessary to allow acceptable operations in the field.
- Minimal operational impacts would be gained by providing a separate southbound right-turn lane since the southbound through volumes are so low, the lane currently operates as a defacto right-turn lane. CBB does not recommend this improvement.
- Minimal operational impacts are expected with the installation of Flashing yellow arrows for the northbound and southbound approaches, but could provide significant improvements in safety, especially related to left-turn crashes. CBB recommends this change.
- If dual southbound left-turns (one left-turn and one share left-turn/through lane) are constructed, a slightly larger north-south split is needed to accommodate the forecasted traffic since split phasing should be required which would negatively impact progression along Olive Boulevard. The primary benefits of the dual left-turn lanes would be accommodation of a safer north-south phasing (split phased) and cutting the southbound queue length nearly in half.
 - It should be noted that the proposed rebuilding of the Mobil gas station has very little impact at the signalized intersection and the existing safety concerns with the horizontal and vertical alignment of the north and south legs are present with or without the proposed development.
 - This improvement would help to address the long-term needs of the intersection. It is not feasible to construct the full intersection improvements without the coordination and concurrence with the private ownership of Mary Meadows on the south side of the road.
 - As a result, the subject development has reserved ground in the northeast quadrant of the intersection so that a better horizontal alignment can occur in the future when all parties can come to an agreement.
- A marked pedestrian crossing is recommended across the west side of the intersection to accommodate pedestrians crossing Olive Boulevard.
- Since traffic to and from the development is not expected to create a noticeable change in traffic along Olive Boulevard to the west (limited to less than 25 vph in either direction), there will be limited impact to ingress/egress for the adjacent neighboring streets (Renee Lane and Woodshire Lane). The delay increases are estimated to be less than one additional second for the northbound approach and one additional second for the southbound approach.

Traffic Impact Study – Proposed Mobil Rebuild with Car Wash
Creve Coeur, Missouri

- The results for the Year 2036 No-Build Scenario and 2036 Build Scenario are very similar, where only slight increases in north-south green times are needed to effectively accommodate the traffic from the proposed new Mobil gas station.

We trust that you will find that the information in this report useful in evaluating the traffic impacts of the subject site. Please contact Brian Rensing in our St. Louis office (314) 449-9569 or via email at Brensing@cbbtraffic.com should there be any questions or need for additional information.

CBB Job No. 2016-91

prepared by:



CBB
12400 Olive Boulevard
Suite 430
St. Louis, MO 63141
(314) 878-6644



**ENVIRONMENTAL
NOISE STUDY OF PROPOSED
NEW COMMERCIAL DEVELOPMENT
ON THE NORTH WEST CORNER OF OLIVE AND SCHULTE,
LOCATED IN CREVE COUER MISSOURI**

PREPARED FOR:

Arch Energy (Wallis Companies)
106 E. Washington
Cuba, Missouri 65453

PREPARED BY:

KEVIN TANKERSLEY
President / Senior Engineer
DESIGNED ACOUSTICS, LLC
PROJECT #
11824

DATE
NOVEMBER 10th, 2016

Environmental Noise Study
November 10th, 2016

Environmental Noise Study Report

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Environmental Noise Study November 10th, 2016

INTRODUCTION

Designed Acoustics was retained by Wallis Companies to perform an Environmental Noise Study and to provide an evaluation of existing and potential noise levels that could be generated by a proposed new commercial development. The property is at northwest corner of Olive & Schulte located in Creve Coeur Missouri. This report summarizes Designed Acoustics' noise investigation and the potential audible effects at the property lines of the proposed site. Environmental noise studies, being investigative by nature, are often forced to make assumptions concerning the properties of the noise source(s) under such study. Designed Acoustics recognizes the proposed uses and have elected to base the study upon a conservative "worst case situation" in order to ensure the validity of calculated results.

The following report explains the methodology used to gather data as well as Designed Acoustics' findings and compliance with the City of Creve Coeur criteria which is:

An acoustical study shall be submitted demonstrating that the order facility and service windows will not produce sounds exceeding sixty (60) dB as measured at any property line abutting a residential use, up to a height of eight (8) feet above ground at the property line and demonstrating that the order facility and service windows will not increase ambient sound levels at other property lines above the average Monday to Friday midday level.

For the development proposed at this location, no service order window is proposed however, some of the mechanical components of the car wash have higher decibel levels and will be evaluated. It should also be noted that the hours of operation proposed for the carwash portion of the facility are from approximately 7 am until 8 pm.

NOISE MEASUREMENTS

Long-term 24-hour noise measurements were completed at the subject site. While on-site short term measurements were also taken at the same time that the long term monitoring was beginning, approximately 4pm on Thursday, November 3rd, 2016. Additionally, short term background noise measurements were again taken at the time that the long term monitors were retrieved, approximately 10am on Wednesday, November 9th, 2016.

Environmental Noise Study
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INSTRUMENTATION

A Larson-Davis Laboratories Model Sound Expert LxT precision sound level meter was used for all octave band measurements reported here. This meter conforms to the ANSI Standard Specifications for Sound Level Meters S1.4-1983, Type 1 (Precision), and the IEC Standard 651-1979, Sound-Level Meters, Type 1 Peak. The instrument was calibrated and is traceable to The National Institute of Standards. Evidence of traceability is on file at the Larson Davis Corporate Headquarters. The meter calibration was field verified before and after the measurement session.

Larson-Davis Laboratories Model Sound Expert LxT sound meters were used for A-weighted long-term sound level measurements. This meter conforms to ANSI Standard Specifications for Sound Level Meters S1.4-1983, Type 2, and the IEC 651-1979, Sound Level Meters Type 2. The instruments were calibrated and are traceable to the National Institute of Standards. Evidence of traceability is on file at the Larson Davis Corporate Headquarters. The meters were field verified before and after the measurement session.

MEASUREMENTS

Long Term monitor results

Date	Ldn (dBA)	Lday (dBA)	Lnight (dBA)
Friday, November 4 th , 2016	65.8	64.9	57.0
Saturday, November 5 th , 2016	65.7	66.4	54.3
Sunday, November 6 th , 2016	65.1	63.2	57.1
Monday, November 7 th , 2016	65.3	65.2	55.4
Tuesday, November 8 th , 2016	65.8	64.7	57.1
Wednesday, November 9 th , 2016	64.9*	64.9*	54.3*

***Not a complete 24 hour cycle of data.**

Environmental Noise Study
November 10th, 2016

FINDINGS

The estimated impact of speaker noise at the nearest property line was calculated using provided manufactures data. The total attenuation at the nearest property line (and beyond) was calculated based on land topography supplied to Designed Acoustics by the site civil engineer, barrier height and location(s) (insertion loss¹), and distance from source. The calculations show no increase of noise impact at the property line. It is important to note that as a conservative approach Designed Acoustics did NOT take into consideration the large amounts of trees and shrubs at the property lines and beyond. Due to seasonal changes in the geometry, shape, and consistency of such barriers, sound attenuation is difficult to predict when these are figured into the calculations. Designed Acoustics acknowledges that trees and foliage, in bloom, will add a slight degree of extra attenuation beyond those factors accounted for in this study. Therefore, the addition of trees and / or foliage near the property lines will have a positive impact on the noise environment beyond the property line.

The estimated SPLs assume a 6' barrier (that Designed Acoustics supports installing) placed between the given property lines and proposed carwash. Additionally, estimated SPLs at the northwest property line took into consideration the elevation difference between the carwash and the nearby property. This topography increases the barrier effectiveness at the northwest property line. Designed Acoustics estimated these SPLs at an 8' height per the aforementioned city code.

The site plan, provided by CEC and included in the appendix, indicates the approximate distance from the closest point on the North West property line to the entrance to the car wash. Designed Acoustics estimates a sound level of 70dBA at this area. Distance attenuation along with barrier attenuation was used to calculate the estimated property line dBA at 8'. The worst case is calculated to be 49 dBA at the property line. It's important to note that these estimated SPLs are lower than the onsite background measurements that have been taken. We recognize that the driers exiting the car wash are in fact the loudest noise generator on site, approximately 95dBA to 100dBA during its cycle, the direction of those driers will face the highway. It's our conclusion that the highway noise and the distance would dampen those levels significantly. While we did check all property line dBA levels during our study, Designed Acoustics has chosen the car wash entrance area to focus on because we are confident it would be the worst case scenario for noise on the proposed new development and any residential property line.

It is Designed Acoustics professional opinion that the operation of the proposed new development will have no negative environmental noise impact on adjacent properties and that the proposed noise levels that will be present upon development as proposed will meet the regulations presented.

Environmental Noise Study
November 10th, 2016

CONCLUDING REMARKS

As stated earlier environmental noise impact studies, being investigative by nature, are often forced to make assumptions concerning the properties of the noise source under such study. Designed Acoustics recognizes the usage of this proposed development. We have elected to base our study upon this worst case situation in order to ensure the validity of calculated results.

As a first step, Designed Acoustics placed a long term noise monitor at the proposed location in order to quantify the day, night, Leq background noise levels as a base starting point for our acoustical analysis

Designed Acoustics was supplied with manufacturer's noise measurements of the proposed equipment for our review and to establish if the equipment proposed would have the potential for negative effects on the surrounding areas.

As an additional step we were given access to an existing location with similar equipment. (475 N. Lindberg, Florissant. Missouri)

Designed Acoustics visited that location on November 9th, 2016 at approximately 11:30am. While on site sound level readings of the car wash were taken. It's important to note that the sound level readings taken matched the manufacturer's data that was given to us for review. While still on site, sound levels were taken at the wall (barrier) located behind the carwash that separates the carwash from a residential neighborhood. (53dBA to 56dBA) Additional sound level readings were taken behind the wall. The sound level readings behind the wall were significantly lower. (42dBA – 45dBA)

Based on our acoustical analysis and the factors mentioned in this report the new development shall meet the aforementioned city code requirements.

ACOUSTIC NOMENCLATURE AND TERMINOLOGY

ANSI: American National Standards Institute

A-Weighing: Prescribed frequency response defined by ANSI Standard S-1971. Used to obtain a single number representing the sound pressure level of a noise in a manner approximating the response of the ear, by de-emphasizing the effects of the low and high frequencies.

Background Sound: Sound that remains when sound of interest is removed is background sound relative to the sound of interest.

Daytime: The hours 0700 (7:00 am) to 2200 (10:00 pm).

Day-night average sound level (L_{dn}): A measure of the noise environment over a 24-hour A-weighted sound level with a 10 dB weighing applied to the nighttime levels. When equivalent level (L_{eq}) information is available, the L_{dn} is calculated as follows:

Where $L_{eq}(d) = L_{eq}$ for the hours 0700-2200.

$L_{eq}(n) = L_{eq}$ for the hours 2200-0700.

Annualized L_{dn} is effective L_{dn} determined over a full year accounting for daily and seasonal variations.

dBA: Overall A-weighted sound pressure level expressed in decibels referenced to 20 micro-pascals.

Decibel (dB): Ten times the logarithm of the ratio of a quantity (X) to a reference quantity (X_r).

Equivalent Sound Level (L_{eq}): The level of a constant sound which, in a given situation and time period, has the same sound energy as a time varying sound level.

f_i = percent of time period in which a particular L_i occurs.

L_i = sound level in dB.

Exceedance Level - L_n: The sound pressure level exceeded n percent of the time. Example: L₁₀ is the sound pressure level exceeded 10% of the time during a measurement period. L₅₀ corresponds to the median level.

Frequency: Number of complete oscillation cycles per unit of time. The frequency is the reciprocal of the period. The unit of frequency often used is the Hertz.

Hertz (Hz): Unit of frequency equal to one cycle per second.

L_{dn}: See day-night average sound level.

L_{eq}(n): Equivalent sound level for a period n in length.

L_{max}: The maximum sound level detected during the period of measurement.

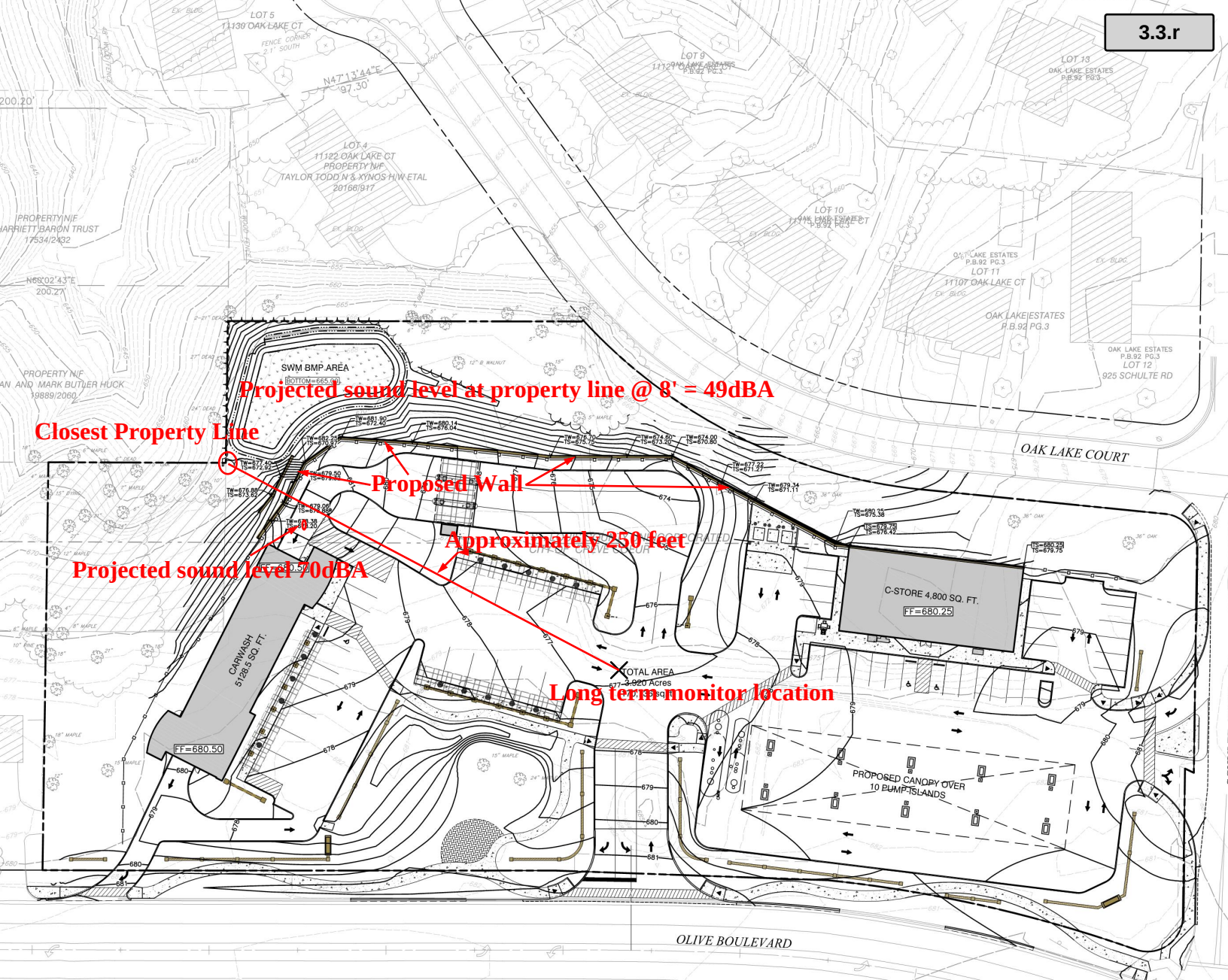
L_{min}: The minimum sound level detected during the period of measurement.

L_n: See Exceedance Level, the sound level exceeded n percent of the time.

Nighttime: The hours 2200 (10:00 pm) to 0700 (7:00 am).

Sound Pressure Level (SPL): In decibels, 20 times the logarithm to the base 10 of the ratio of a sound pressure to the reference sound pressure of 20 micro-pascals. Where p = sound pressure to be quantified p_{ref} = 20 micro-Pascals (metric). 2.9×10^{-9} psi (English)

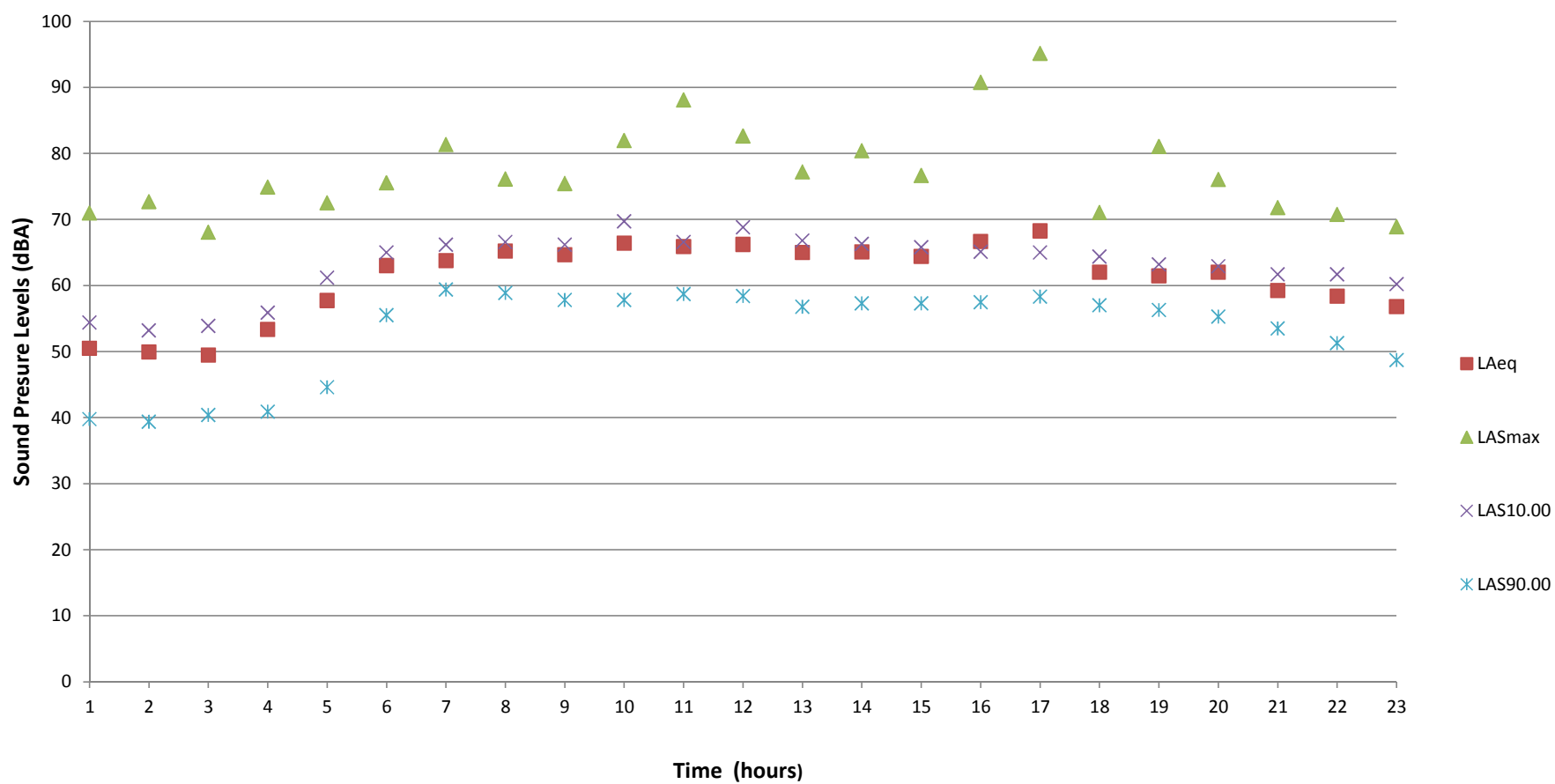
Figures 1 & Graphs 1 – 6





Olive & Schulte
 Enviromental Noise Study
 November 4th, 2016

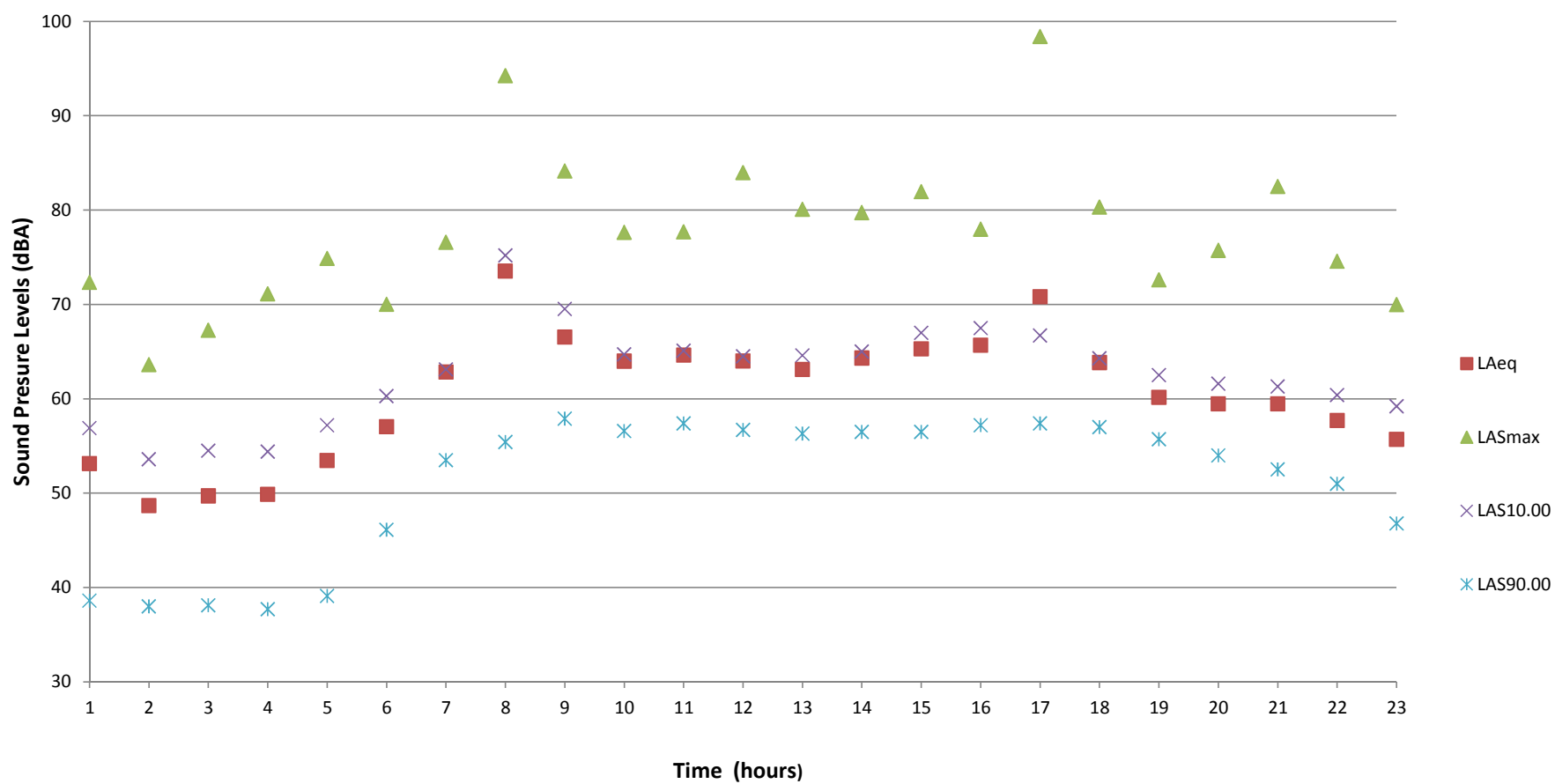
Ldn 24 = 65.8
 Leq (Day) = 64.9
 Leq (Night) = 57.0





Olive & Schulte
 Enviromental Noise Study
 November 5th, 2016

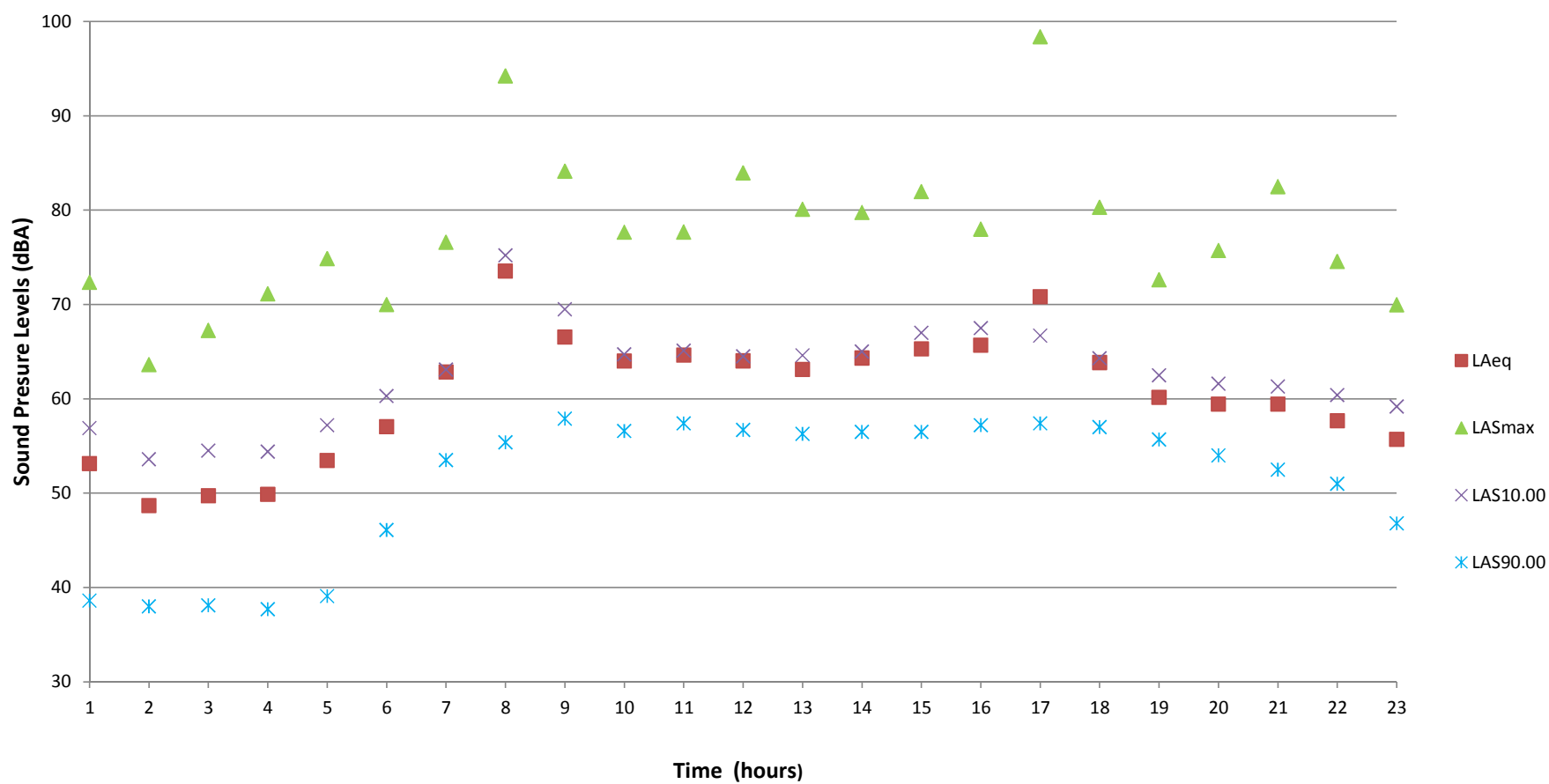
Ldn 24 = 65.7
 Leq (Day) = 66.4
 Leq (Night) = 54.3





Olive & Schulte
 Enviromental Noise Study
 November 6th, 2016

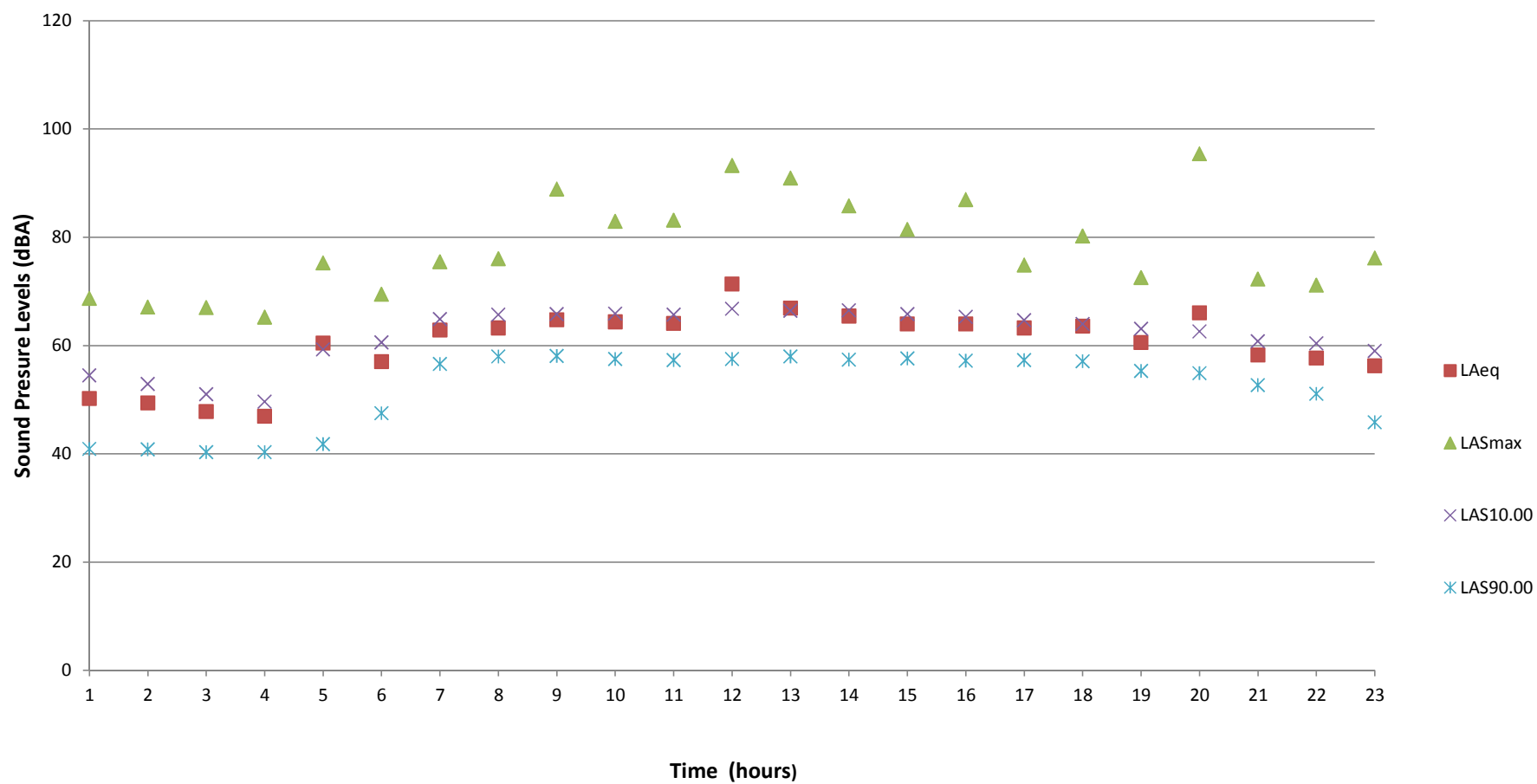
Ldn 24 = 65.1
 Leq (Day) = 63.2
 Leq (Night) = 57.1





Olive & Schulte
 Enviromental Noise Study
 November 7th, 2016

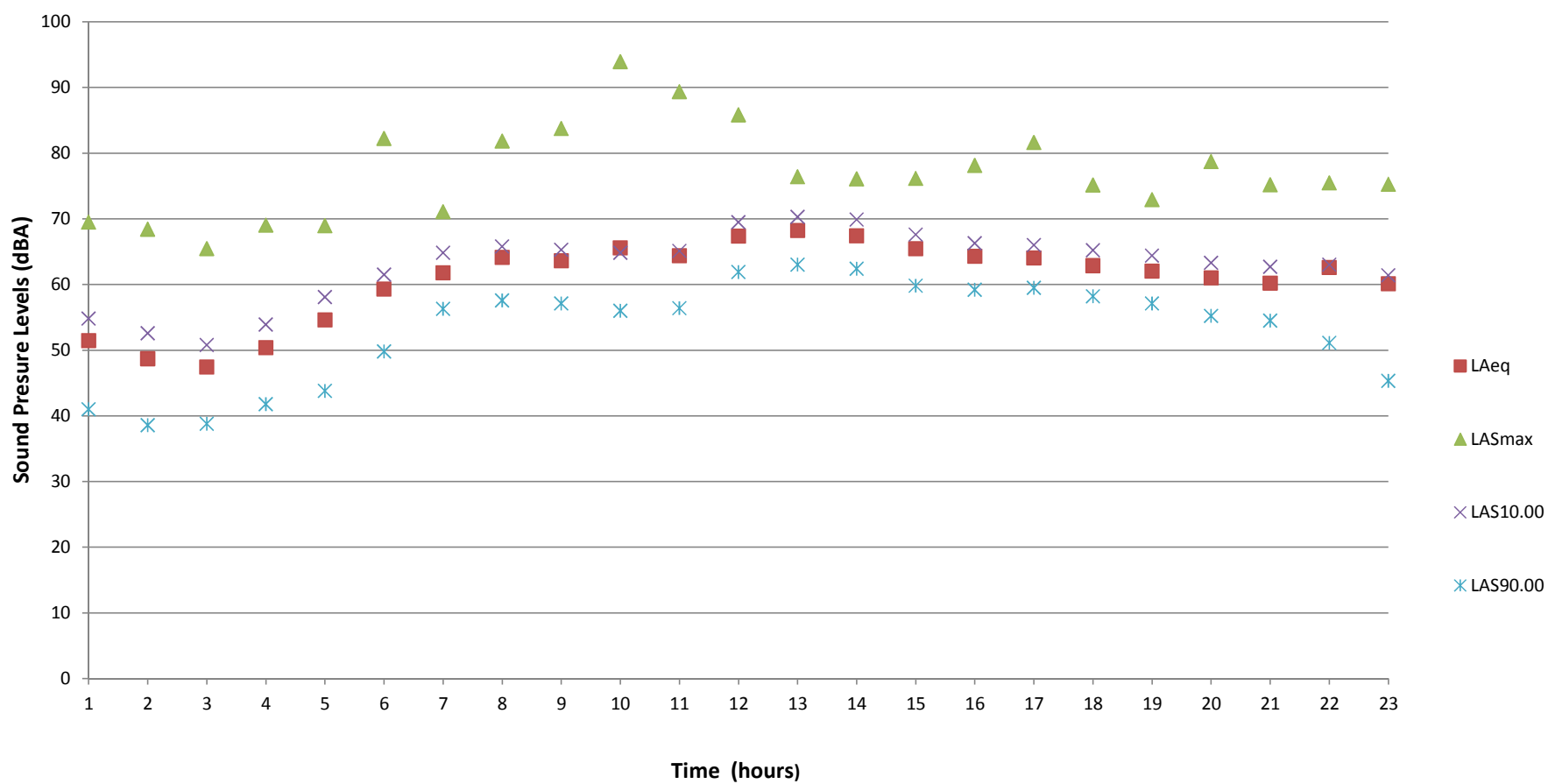
Ldn 24 = 65.3
 Leq (Day) = 65.2
 Leq (Night) = 55.4





Olive & Schulte
 Enviromental Noise Study
 November 8th, 2016

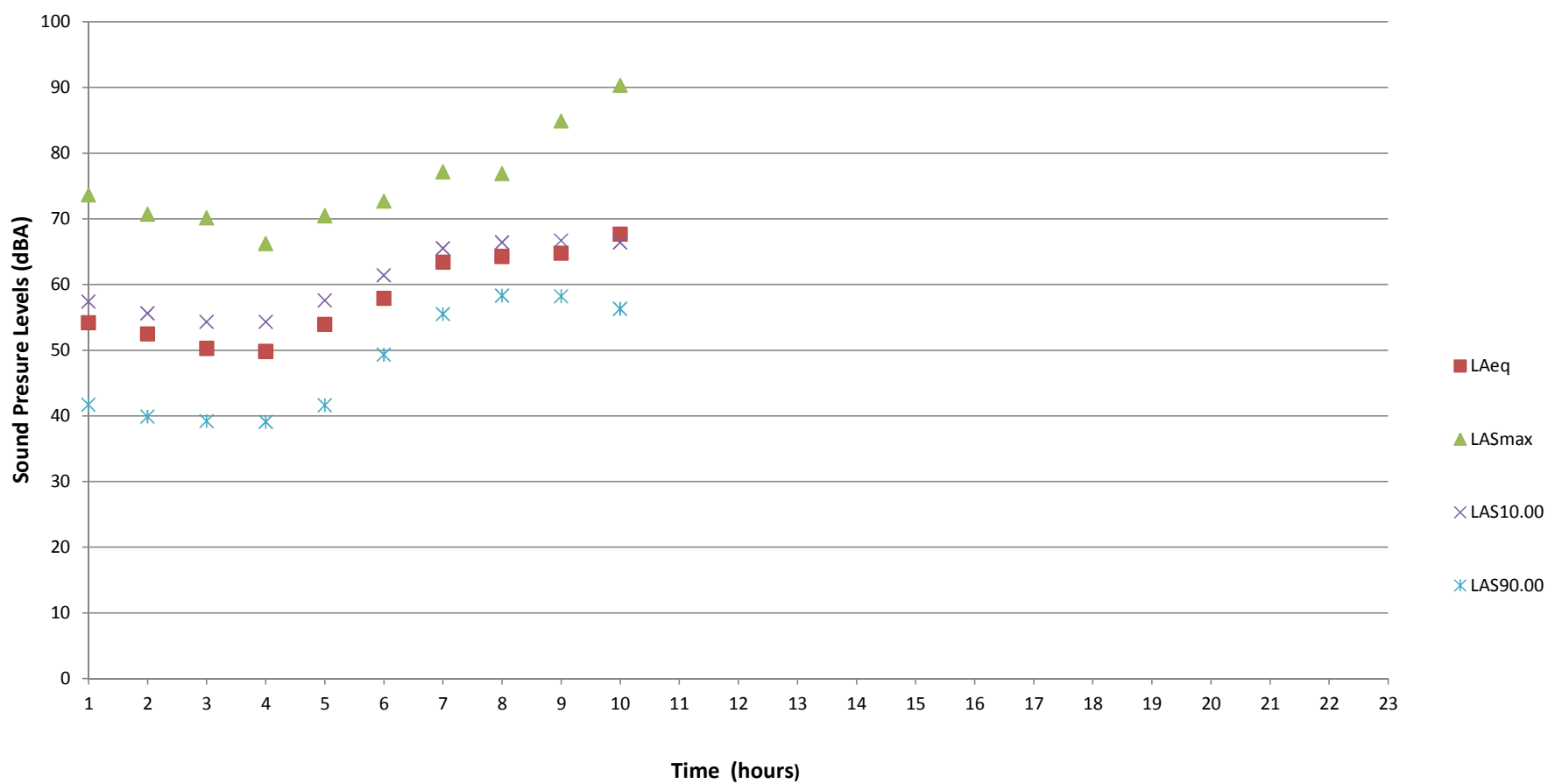
Ldn 24 = 65.8
 Leq (Day) = 64.7
 Leq (Night) = 57.1





Olive & Schulte
 Enviromental Noise Study
 November 9th, 2016
 (Only partial day of recordings)

Ldn 24 = 64.9
 Leq (Day) = 64.9
 Leq (Night) = 54.3



PLANNING AND ZONING COMMISSION PUBLIC HEARING

CITY OF CREVE COEUR, MISSOURI

300 NORTH NEW BALLAS ROAD

MONDAY, DECEMBER 5, 2016

6:30 P.M.

PUBLIC HEARING

APPLICATION NO. 16-031

THOSE IN ATTENDANCE:

Ms. Beth Kistner, Chair
Mr. Tim Carney
Ms. Muriel Hall
Mr. Don Magruder
Mr. Gene Rovak
Ms. Heather Silverman
Mr. Matthew Schuh
Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, Director of Community Development
Ms. Whitney Kelly, City Planner
Ms. Jessica Stutte, Planning Assistant/Recording Secretary

McLaughlin Court Reporting Services, Inc.

Deborah K. McLaughlin, RPR, MO-CCR #314, IL-CSR, KS-CCR
4772 Gatesbury Drive
St. Louis, MO 63128
(314)974-1199

1 CHAIRMAN KISTNER: All right. We're going to
2 open up our Planning and Zoning Commission meeting for
3 Monday, December 5th, 2016.

4 Let's start with our call to order.

5 Mr. Carney?

6 MR. CARNEY: Present.

7 CHAIRMAN KISTNER: Ms. Hall? She's absent.

8 Mr. Magruder?

9 MR. MAGRUDER: Present.

10 CHAIRMAN KISTNER: Mr. Rovak?

11 MR. ROVAK: Present.

12 CHAIRMAN KISTNER: Ms. Silverman?

13 MS. SILVERMAN: Present.

14 CHAIRMAN KISTNER: Mr. Schuh is absent at this
15 time.

16 City Attorney, Carl Lumley?

17 MR. LUMLEY: Present.

18 CHAIRMAN KISTNER: Director of Community
19 Development, Jason Jaggi?

20 MR. JAGGI: Present.

21 CHAIRMAN KISTNER: City Planner, Whitney Kelly?

22 MS. KELLY: Present.

23 CHAIRMAN KISTNER: And Planning
24 Assistant/Recording Secretary, Jessica Stutte?

25 MS. STUTTE: Present.

1 CHAIRMAN KISTNER: And please note that
2 Ms. Hall --

3 MS. HALL: Present.

4 CHAIRMAN KISTNER: -- is with us. Is present.
5 All right.

6 We're going to start with the acceptance of the
7 agenda. We have a motion?

8 MS. SILVERMAN: I so move.

9 MR. ROVAK: Second.

10 CHAIRMAN KISTNER: Second Mr. Rovak. All in
11 favor?

12 (All responded aye.)

13 (Mr. Schuh is now present.)

14 CHAIRMAN KISTNER: Now we'll move to New
15 Business.

16 We have a public hearing, Application
17 No. 16-031: A rezoning, conditional use permit and site
18 development plan and boundary adjustment approval for the
19 Mobile On the Run Convenience Store with gas pumps and
20 Briteworx Car Wash facility located at 11109 to 11141
21 Olive Boulevard and 11100 to 11114 Oak Lake Court,
22 currently zoned GC, General Commercial, and C Single
23 Family Residential.

24 Any people who think they want to speak to this
25 matter tonight, if you could come forward and be sworn in,

1 that'll just make it a little faster when we get to the
2 various points of comment during the evening.

3 (The speakers were sworn in by the court
4 reporter.)

5 CHAIRMAN KISTNER: All right. Thank you.

6 Good evening. Assume you're the applicant. If
7 you can start with your name and dress.

8 MR. KAMP: Certainly will.

9 My name is Kevin Kamp. I'm with Civil &
10 Environmental Consultants located in Hazelwood, Missouri.

11 Here tonight representing Wallis Companies.

12 Also with me are some -- several folks from
13 Wallis and several members of the design team.

14 And tonight we're happy to and excited to
15 present to you the plan for the redevelopment of the
16 existing Mobil Gas Station Convenience Store and Car Wash
17 at Olive and Schulte.

18 The current station was constructed in the
19 mid-'80s. And then Wallis acquired the sites in the early
20 '90s when Mobile sold their retail locations in this area
21 to the Wallis family.

22 So the goals of this development are to
23 modernize the service offering. The convenience store
24 there today is not only to provide the items or the
25 offerings now expected by the consumer, and the proposed

1 plan will provide for a new On the Run concept convenience
2 offering.

3 The pump area will be enhanced with improved
4 circulation and traffic flow around the pump islands, and
5 the current automatic car wash on the facility will be
6 replaced with a state of the art Briteworx Tunnel Wash
7 facility.

8 The owner is -- is further committing to the
9 neighborhood by providing the high-quality accessible
10 redevelopment that is feasibly consistent with the Design
11 Guidelines and the Comprehensive Plan while preserving and
12 enhancing the buffer between the adjacent residents and
13 the major state arterial highway of Olive Boulevard.

14 The proposed site will reduce the current five
15 full access curb cuts onto Olive with one full access
16 location with ride-out egress on the western portion of
17 the site.

18 The Schulte access will be slightly realigned,
19 and also will be constructed in order to prevent left turn
20 movements into the facility.

21 The streetscape will provide for an enhanced
22 pedestrian path that provides pedestrian openings along
23 the way and access to the site, and large areas of open
24 space adjacent to that frontage will also provide esthetic
25 views from the passing traffic.

1 It will also feature a small knee wall that is
2 constructed along the right-of-way with other street trees
3 and other such elements along that streetscape.

4 So this is a generated video from our computer
5 model of the developed -- developed, basically, for the
6 design of the site. And the site provides for some safe
7 and clearly defined vehicular pathways and ample room for
8 backing and ample room for circulation between the pumps.

9 And the layout and the openness, while not
10 typically found with this type of use, separates the
11 particular components, but keeps them connected enough to
12 appropriately share access and circulation.

13 See, there's also circulation that is clear and
14 separate entrance and exits for the wash.

15 I'm talking faster than the video is moving.
16 Sorry.

17 And I should note that careful design
18 consideration was given to the locating the site elements
19 and how they are positioned to create visual interest and
20 provide for the expansive green spaces on the development.

21 And this open space and area recognizes and
22 bridges the needs of revitalizing the current uses with
23 the guidelines for design and the concepts in the
24 Comprehensive Plan.

25 This figure here shows the intensity as a

1 percentage building coverage per the site area. And as
2 can be seen, the existing Mobile site, which is in the
3 lower left corner there, that represents about
4 12.3 percent of that site area of the existing site.

5 It's made up and comprised of those buildings.
6 And what we did was, okay, you have the canopy, you have
7 the -- the C-Store and you have the car wash.

8 If we look at the overall area that's to be
9 redeveloped and included in the redevelopment effort, that
10 overall intensity or, you know, building area versus site
11 area is around 13.1 percent.

12 And then that compared to the proposed
13 development, we're looking at about 11 percent of building
14 coverage versus site area.

15 Should be noted that the development overall has
16 about 50 percent green space, actually, about 54 percent
17 green space.

18 So building architecture. So high quality, low
19 to no maintenance materials are being used to maintain the
20 quality of the development for the city and the
21 neighborhood.

22 These natural materials, which are, I have a
23 small sample board up here, and we can pass that around,
24 consist of integral colors, split face bands. And these
25 materials are used in concert with the massing to reduce

1 the visual scale of the building and to make it more of a
2 human scale.

3 The materials are residential in scale, not
4 commercial. Material changes also emphasize the
5 horizontal lines, further reducing the visual scale of the
6 building.

7 Massing changes are not only to add the visual
8 interest, but they help define the ins and the entrance of
9 the building.

10 These massing changes are done both horizontally
11 and vertically to be more human scale.

12 On the car wash side, it does utilize the same
13 materials and the massing elements as far as the store to
14 maintain some consistency individual connection between
15 the two facilities as required by the Design Guidelines.

16 And we also have provided several connecting
17 elements on the site, which also some of them act as a
18 vacuum canopy -- or vacuum stations, and they -- these
19 visually connect the two principal buildings on the site.

20 And the -- the building placement and the
21 connecting elements on the site gives the development a
22 sense of welcoming and community.

23 The -- so commercial buildings and residential
24 buildings have different architectural styles and
25 characteristics and functional requirements. Creating a

1 commercial neighborhood store, which looks commercial, but
2 feels residential in scale is what has been achieved
3 through the material scale and material selection and
4 colors. But, most importantly, by building placement in
5 landscaped areas similar to a park-like setting.

6 The design planning process all -- also
7 considered several other important elements. And we can
8 go through in detail any of these elements and answer all
9 these questions, but I think, kind of playing off of what
10 Jason had asked in your packets, that, you know, that
11 there's a lot of, lot of elements that we have spent a
12 long time kind of developing, and so just trying to give a
13 broad brush overview first, so.

14 The landscaping made extensive use of the
15 existing vegetation, especially in the buffer areas.

16 And the buffer areas are also enhanced with new
17 plant materials, a retaining wall, as well as a sound wall
18 or masonry fence.

19 Lighting has also been designed and pole heights
20 and light levels have been adjusted to customize -- and
21 customized for the security and safety needs for each
22 component of the overall use, while maintaining and being
23 very cognizant of the adjacent neighbors.

24 A noise study was also conducted, with -- which
25 concluded that the operation of the proposed redevelopment

1 with the proposed elements of the fence and topography
2 will have no negative noise impact on the adjacent
3 properties.

4 Oops. There we go. We can go on.

5 Traffic study was also completed for this
6 project by CBB, and Lee Cannon with CBB is here tonight,
7 if we want to get into further details about those
8 particular components.

9 But the commercial corridor of Olive Boulevard,
10 Missouri State Route 340, is a five-lane state-maintained
11 arterial highway with high existing volumes, especially
12 during the peak hours.

13 And the study found the proposed site access,
14 we'll kind of go point by point of their study, on
15 Olive -- Olive Boulevard will consolidate those five
16 existing curb cuts into two. The new full access driveway
17 will be further away from the signal at Schulte, and will
18 have separate exit lanes for both left and right turn
19 movements. And the throat of the stacking lanes will be
20 about four to five cars.

21 The second curb cut on Olive will be a ride-out
22 only. It's an egress for the -- mainly for the exiting
23 car wash.

24 The current access on Schulte, as I mentioned
25 earlier, will be reduced to limit the north turns in --

1 northbound turns in from Schulte, and there is no access
2 proposed from Oak Lake Court.

3 The new Mobile is expected to have an increase
4 of on-site traffic, however, there is available capacity
5 on Olive, and based on the convenience-oriented use of
6 the -- and high traffic levels, much of this added traffic
7 will be captured trips from the existing flows and the
8 traffic already exist on Olive.

9 Those captured trips will add to the turns and
10 the site driveways, but will not increase the traffic
11 flows away from the site. Less out of the site directly
12 onto Olive will have, during those highest delay periods,
13 have the option to make a right onto Schulte and then
14 utilize the light onto Olive.

15 Some of the -- there are some signal timing
16 changes that can be made to accommodate the additional
17 traffic efficiency. And CBB has recommended potentially
18 even changing the left turn signal heads to have some
19 flashing yellow indicators, which will allow for larger
20 green turn -- green times on that Schulte left turn.

21 CBB also did recommend that we mark a pedestrian
22 crossing on the west leg of Olive Boulevard. And although
23 findings of impact did not require any modifications to
24 the existing intersection, the redevelopment, just by
25 planning prospectus, does propose an open space in the

1 area nearest Schulte and Olive, that could, in the
2 potential of a future right-of-way in the event it would
3 be needed for a future improvement of Schulte or Mary
4 Meadows intersection.

5 So the study itself has been reviewed by
6 St. Louis County and the City's third party consultant,
7 both of whom have concurred with findings. MoDOT has yet
8 to officially respond.

9 So the -- this redevelopment site area has been
10 in the works for, I think nearly ten years, honestly, with
11 various uses, all of which contemplated far more intense
12 multi-tenant type of developments.

13 We are thankful for the opportunity to seek your
14 favorable recommendation for the development. And we also
15 very much appreciate the City staff, current and former,
16 for meeting with this current design team and this current
17 proposal for well over a year now.

18 And it has really afforded us the opportunity
19 to -- to really listen, adjust, make some other, you know,
20 modifications to the proposal as we've gone along.

21 So with that, I'd be happy to answer any
22 questions. I understand the public hearing nature,
23 there's going to be some back and forth, but thank you for
24 your time.

25 CHAIRMAN KISTNER: Thank you.

1 Anybody have any questions right now for the
2 applicant before we hear from Jason?

3 Actually, you know what, I do have a -- sorry,
4 Jason.

5 Can I ask one question?

6 MR. JAGGI: I'll set up while you're asking the
7 question.

8 CHAIRMAN KISTNER: All right.

9 Could you give a little information about how
10 the -- the size of this location would compare to the one
11 in Olivette, for which I think a lot of people here are
12 familiar, including, you know, number of pumps, amount of
13 area, egress, that sort of thing?

14 MR. KAMP: Okay. The site itself is
15 considerably less.

16 I mean this is a -- from a site area and amount
17 of green space, this is -- this is larger in acreage,
18 total acreage of the tract that would normally house the
19 C-Store.

20 And as far as how it compares to the Olivette
21 store, it's the same footprint except the difference is,
22 at Olivette, instead of having the car wash stand alone,
23 all that internal circulation and everything, that car
24 wash is bolted to the back of the building.

25 So, but the equipment interior in that car wash

1 is very similar. The -- the offerings inside of the store
2 are very similar. The pump and the spacing is something
3 that we would continue, and that's something that's done
4 with a lot of new On the Run facilities, but it's similar
5 to Olivette.

6 CHAIRMAN KISTNER: So the -- the number of pumps
7 is the same?

8 MR. KAMP: Number of pumps at Olivette, we
9 have -- we have eight fueling islands. Here we have ten.

10 CHAIRMAN KISTNER: So it's, what, 20, 25 percent
11 bigger?

12 MR. KAMP: Yeah, 25 percent.

13 CHAIRMAN KISTNER: And square footage of the
14 convenience store?

15 MR. KAMP: C-store is the same, I believe.
16 Little bit smaller than Olivette.

17 CHAIRMAN KISTNER: Okay. Thank you.

18 MR. KAMP: Uh-huh.

19 MR. JAGGI: Good evening, Chair Kistner, Members
20 of Planning & Zoning Commission. Jason Jaggi, Director of
21 the Department of Community Development, on behalf of the
22 City of Creve Coeur.

23 I think Mr. Kamp provided you a good overview of
24 the project in terms of the specific aspects of the
25 development proposal, and how that project may -- may meet

1 with the City's Comprehensive Plan and City's Design
2 Guidelines.

3 I thought it might be beneficial for you to kind
4 of understand a little bit maybe of the context in terms
5 of what's being requested this evening on -- for you to
6 look at.

7 This is a rather complex proposal, and that
8 involves property that encompassed both City of Creve
9 Coeur, within our city limits, as well as the
10 unincorporated sections of Creve Coeur. And also these
11 properties have a mixture of zoning designations, both
12 inside the city limits, as well as within unincorporated
13 St. Louis County.

14 So I thought it might be beneficial to kind of
15 break down these various elements for you in a larger
16 scale.

17 And then I'm certainly available to answer any
18 questions you may have as we proceed through my
19 presentation or afterwards.

20 So what we -- what staff's approach to this
21 proposal, given the complexity, is we thought it would be
22 important for the Commission to look at this project
23 initially from a big picture standpoint. Namely, in terms
24 of, one, the rezoning, and, two, the -- the compliance
25 with the proposal as it relates to the Comprehensive

1 Plan's larger objectives for this area of the city.

2 So, as Mr. Kamp mentioned, this proposal does
3 include seven parcels. You can see here on the map,
4 although I don't think I have a pointer, unfortunately,
5 the red box does highlight seven. The project area, which
6 does contain seven parcels.

7 Thank you.

8 You can see here this is the -- the -- the
9 proposed development area. These are the residential uses
10 that are partially located in the city, and then partially
11 located in unincorporated county. The same holds true for
12 these properties that have a large degree of their
13 frontages within the City of Creve Coeur. But, again,
14 they're split with St. Louis County. So this boundary
15 here is the city/county limits, all this is county, all
16 this is city.

17 The applicant is proposing to rezone a portion
18 of this, and upon conclusion of the project, it would be
19 located on one consolidated lot. So all this would be
20 proposed to be consolidated into one lot that is also a
21 request that's in front of you this evening.

22 So in terms of the zoning overview, again, this
23 is the -- the applicant submitted this. I kind of touched
24 it up a little bit just to further educate you on some of
25 the -- the context in terms of the rezoning question

1 that's before you this evening.

2 You can see here these are the properties. This
3 is where the existing gas station sits on the existing
4 parcel.

5 And then you have the Creve Coeur portion to the
6 north is also zoned GC. These areas are right now
7 currently zoned GC as we stand today. The areas -- the
8 three parcels, as we move further west on Olive, are zoned
9 residential, although I believe there is some commercial
10 use in at least some of them, but they are zoned
11 residential right now.

12 As we move on the south side of Olive, this map
13 is a little out of date because it was pulled from our
14 website, which is not exactly current, but this is the
15 most current version, we actually have this area zoned GC
16 as well. This is the Masonic Temple that was subject to a
17 proposed use in association with the Goddard School. That
18 project actually never resulted, however, the zoning,
19 which was rezoning in conjunction with that development
20 application, remains. So this is zoned GC. This property
21 here. And then as we move further west, the actual
22 Goddard School location is also zoned GC.

23 So that gives you a little bit of the context in
24 terms of the zoning along this portion of Creve Coeur is
25 all GC, and this is all Single Family Residential through

1 here.

2 Based on that, you know, if you look at the GC
3 District in terms of the rezoning request, the purpose of
4 the GC District is to accommodate convenience retail
5 shopping and services and offices, which are freestanding
6 or part of a small scale planned commercial development,
7 which are compatible in scale and intensity of use with
8 adjacent residential uses. That is the purpose of the GC
9 District.

10 And as I just described, there has been some
11 history of rezoning some of these areas to the GC
12 District, based on development proposals that have come
13 forward, but -- to the City.

14 So, in regards to the rezoning, I would say
15 staff's, you know, and we touched on this in the staff
16 report, but we definitely understand the pattern of
17 rezoning some of these single families with frontages
18 along Olive. But we do have some concerns with, primarily
19 two things, with a rezoning request standing on its own.

20 One is we would -- with this proposal, we would
21 have this property here, which is 111 -- I'm sorry --
22 11147 Olive Boulevard. Right here. That would not be
23 subject to any rezoning. That would remain residential.

24 And then, obviously, we have the -- the
25 Woodshire properties, which are zoned residentials now,

1 but those are a little more consistent with -- with
2 Woodshire.

3 But this is one thing that we did notice if this
4 rezoning were to move forward, we would have kind of a
5 remnant parcel that would still have residential zoning,
6 which means what's the future of that property. It's a --
7 it's a bit of an unknown at this point.

8 But what we also -- when looking at rezoning, we
9 think it's important for the Commission to consider, you
10 know, when we rezone properties, what are we -- we -- what
11 are we rezoning it to, and what is the intent of the
12 district into which it would be rezoned.

13 And that's where I think we have some concerns
14 with this development proposal and the scale that it is
15 being presented this evening.

16 So to -- that -- that kind of touches base on
17 the rezoning aspect of it.

18 Specific to the development proposal, you have a
19 conditional use and a site development plan application
20 request, as well as a boundary or a subdivision plat that
21 would consolidate all the parcels.

22 Our 2002 Comprehensive Plan, which is our
23 existing Comprehensive Plan, this area falls within the
24 East Olive Corridor. This is an area that calls for small
25 businesses with residential character and substantial

1 green space and landscaping.

2 It also is part of the key area, a specific area
3 of the 2002 Plan called Area No. 2 in East Olive, which
4 also suggests that as this area redevelops, it shall
5 remain commercial with neighborhood-oriented commercial,
6 and it's also to maintain that compatibility with the
7 adjacent residential areas.

8 So in the staff report, which you have, and the
9 applicant has as well, we've identified nine segments of
10 the Comprehensive Plan, nine policies, and we evaluated
11 this project based on those nine policies.

12 I won't go into each one of those, but I'll just
13 try to summarize that for you this evening, and if you
14 have specific questions, we're available to respond to
15 those.

16 I also want to touch on, and the staff report
17 touches on the 2030 Comprehensive Plan, which is,
18 obviously, under development. It's been part of your
19 review for the last several months.

20 And in a nutshell, that plan, basically,
21 emphasizes the existing policies of the 2002 Plan, but
22 further those to -- to accentuate or to recommend
23 additional walkability within the district, but to,
24 essentially, remain neighborhood-oriented and service-type
25 businesses with the introduction of also multi-family as a

1 possibility.

2 Envision that the East Corridor could be part of
3 a larger rezoning in the future as well, based on a
4 implementation strategy of the plan, where, you know, this
5 area, if it were to proceed as -- as we're discussing is
6 on review, this area could be subject to a new zoning
7 potentially as an implementation measure.

8 So as we -- as I've described both of the -- the
9 Comprehensive Plans, the one official plan and then the
10 plan that we are under review, how does this application
11 comport to those ideals. How does it match up with that.

12 And this is where we have little bit of a
13 concern. One is, on a pro side, the -- the plan calls for
14 pedestrian amenities, landscape buffers adjacent to
15 residential areas. By and large, this application seems
16 to meet with that on -- on a bigger scale.

17 Also the plan calls for saving some mature trees
18 and incorporating that into a site plan. We think the
19 applicant has also done a good job with that as well.

20 But those are, you know, relatively minor
21 issues. Our larger issues, basically, boil down to the
22 scale and intensity of the proposal.

23 If you look at the Comprehensive Plan, it
24 clearly states that it's supposed to be compatible with
25 residential character of Olive Boulevard, calls for

1 smaller retail and service businesses that cater to
2 surrounding residences.

3 It also encourages residential design elements
4 to be incorporated as much as possible with proposals that
5 are in the commercial portion of the East Olive Corridor,
6 and it could be questioned as to whether this proposal
7 meets with the scale and intensity of uses of the
8 Comprehensive Plan, and one that respects the adjacent
9 residential areas.

10 In terms of Design Guidelines, we did not
11 prepare a detailed Design Guideline review for you at this
12 time based upon discussion of some of the larger issues,
13 but we did have a few concerns, and I'll just touch on
14 those just in general.

15 You know, the use of EIFS, the -- the kind of
16 corporate architecture look of the proposed submittal, as
17 well as it doesn't seem to incorporate some bit of a
18 residential design element that the Comp Plan seems to
19 call for.

20 Mr. Kamp addressed the traffic impact study. I
21 don't think staff has any other comments at this point.
22 You do have the CBB report. You also have the report from
23 GBA, which is the City's traffic consultant.

24 By and large there's some recommendations, but
25 those can be met, it appears, with the proposed project.

1 The staff -- the sound study as well, we did
2 receive that, and we haven't really analyzed that to a
3 great degree at this time, but we can certainly answer any
4 questions you may have regarding those two documents at
5 this time.

6 So in -- in regard to the -- to the motions you
7 do have, this -- this will be discussed, obviously, and
8 then you do have some motions that will need to be voted
9 upon separately, and we can assist in that as you move
10 further in the proceedings this evening.

11 I think I'll stop there, and if there's any
12 questions, I'd be happy to answer those at this time.

13 CHAIRMAN KISTNER: Anybody ready to -- have any
14 questions for Jason?

15 Yeah, I think if not, I'd like to hear from,
16 there's, obviously, a substantial amount of interest from,
17 I presume, the residents in the areas around. So I think
18 this would be a good time.

19 I don't have any speaker cards, so I think,
20 first of all, there were a few people who -- who did --
21 who were sworn in. I don't have a way of knowing who you
22 are who were sworn in, but if you could figure -- okay.
23 You raised your hand, you're up first.

24 MS. CHERYL RICHARDS: So do I need to talk --

25 CHAIRMAN KISTNER: No, you need to come forward.

1 MS. CHERYL RICHARDS: Okay.

2 CHAIRMAN KISTNER: If you've already been sworn
3 in.

4 MS. CHERYL RICHARDS: I was sworn.

5 CHAIRMAN KISTNER: Okay. Then if you could just
6 start with your name and address.

7 MS. CHERYL RICHARDS: I'm Cheryl Richards, and
8 my --

9 CHAIRMAN KISTNER: And just one second too.

10 Because we have -- especially because we have a
11 lot of people, we have a tradition of three minutes, so
12 I'm not -- I don't have a clock on me, but if everybody
13 could just be sort of cognizant of that as they're
14 talking.

15 MS. CHERYL RICHARDS: Okay. My name is Cheryl
16 Richards. I live at 842 Mary Meadows Lane.

17 And the issues that I just wanted to make sure
18 were addressed had to do with the traffic.

19 The first one is the whole issue of going
20 straight through that intersection with Mary Meadows,
21 because it's hard to do at this point. It said on page 23
22 in one of these things that it said de-facto right turn
23 lane to go onto Olive, and that is true.

24 If you're in the -- the lane, and you want to go
25 straight into Mary Meadows, cars honk at you because they

1 can't believe that anybody would actually want to go
2 straight. And I do not even try to go straight from Mary
3 Meadows through because of all the left turn -- turning
4 cars that it seems like it's too dangerous. So that's one
5 issue in terms of what -- how to address some of that.

6 The second issue is how to make sure that the
7 traffic is not going to go into the gas station from the
8 Schulte side.

9 We have a exit only sign on Mary Meadows for the
10 commercial strip that goes off of Mary Meadows, and people
11 are not following that at all. They go in when it's
12 convenient for them. And so I'm not quite sure how it is
13 that this is going to get enforced.

14 And the third thing that I was wondering about,
15 because we had gone through the issues with Walgreens and
16 Fifth Third Bank at the top of Mary Meadows and Olive, was
17 whether MoDOT is really going to agree to doing something
18 in terms of changing how much time is allocated in the
19 traffic lights for Olive.

20 I thought, historically, they were really not in
21 favor of reducing the time.

22 And right now with the cars that are turning
23 left from Schulte onto Olive, it's really dangerous if
24 you're making a right turn from Mary Meadows. There's now
25 a no right turn, so you're kind of turning right at the

1 same time as they're turning left, and it's really
2 complicated.

3 We are still training our young drivers on our
4 street to be very, very careful whenever they go out into
5 the Olive intersection.

6 I'm just kind of concerned about having more
7 traffic at that intersection.

8 That three minutes?

9 CHAIRMAN KISTNER: Thank you very much.

10 Yeah --

11 MS. CHERYL RICHARDS: Thank you.

12 CHAIRMAN KISTNER: -- that's wonderful. Thank
13 you.

14 We have a next speaker?

15 And have you been -- and start with your name
16 and address, please.

17 MR. MARK HUCK: My name is Mark Huck. I live at
18 906 Woodshire.

19 And, let's see, hold on. My property's right
20 here (witness indicating).

21 I guess just the first --

22 CHAIRMAN KISTNER: Just for the record, since --
23 your property that adjoins this property?

24 MR. MARK HUCK: Yes, it does.

25 CHAIRMAN KISTNER: Okay.

1 MR. MARK HUCK: My house sits right about here
2 (witness indicating).

3 Woodshire Lane is not shown here. It's just to
4 the west of the property.

5 A few points. I think it's -- was very well
6 noted that -- I really don't know how this development
7 fits within the spirit of the Comprehensive Plan as far as
8 small businesses with residential character. I mean it's
9 just a massive plot.

10 Secondly, of course, I think all of us on
11 Woodshire Lane are concerned about the additional traffic.
12 And especially for those who live towards the south end of
13 Woodshire Lane, there's, my guess is there's going to be
14 additional lights because of the gas pumps, the parking
15 lot, the area where the -- the vacuums are.

16 Additionally, there are three lanes wide of cars
17 that line up for the car wash, and, you know, as they're
18 turning and coming in, they're going to be shooting right
19 onto our property.

20 There was an elevation study, I guess, I don't
21 know if I would call it a study, when we met a couple of
22 months ago, the people from Mobile were -- had some
23 elevations done, but we really didn't get time to get into
24 what effect it would have on everybody, so that's just
25 another concern.

1 I guess, lastly, when you're trying to turn into
2 Woodshire Lane coming from the west, we have to rely on
3 the light at Schulte, and when the traffic is stopped by a
4 red light, then, typically, there's a number of cars
5 coming off of Schulte that are heading west. And a few
6 cars come out of the Mobile On the Run, so it can be quite
7 a bear sometimes trying to get into Woodshire Lane.

8 And I really -- I would guess they're doing this
9 because they anticipate having more cars coming in and
10 out, and I don't know how that's going to -- to help our
11 situation.

12 Additionally, where the existing entrances and
13 exits are to the Mobile, there -- the first one is set up,
14 and these are rough numbers based off of Google, 735 feet
15 before you can turn into the first entrance, and then
16 about 850 feet before you can turn into the second
17 entrance. So that means cars that are traveling eastbound
18 are starting to pull over into the center lane, which
19 means, of course, if you're trying to get out of
20 Woodshire, you can't because you have cars that are in the
21 left-hand lane heading east, and, of course, you can't
22 pull into the center lane, that's against the law to pull
23 into the center lane and then try to merge on to the
24 eastbound lanes.

25 So with the new proposal, when the traffic stops

1 here, of course, you're going to have people coming off of
2 Schulte, then you're going to have an exit that is going
3 to be 660 feet from Woodshire, then another one that's
4 going to be 340 feet. And I can just, you know, the
5 concern is there's going to be, as soon as traffic is
6 stopped here, there's going to be a constant flow of
7 people coming out of the Mobile Station and on Schulte
8 Road, and you're never going to be able to cross it, so.

9 I don't know how these studies are done, but,
10 you know, from a practical standpoint, those would be my
11 concerns as far as additional traffic.

12 CHAIRMAN KISTNER: Thank you very much.

13 MR. MARK HUCK: Thank you.

14 CHAIRMAN KISTNER: Do we have other residents?
15 People in the audience who wish to speak?

16 Come forth. And were you sworn in?

17 MR. ANDY VOSS: I was.

18 CHAIRMAN KISTNER: Okay. If you could start
19 with your name and address.

20 MR. ANDY VOSS: My name's Andy Voss. I live
21 down from Mark Huck on 910 Woodshire, which would be just
22 north of his property. I also have a parcel of land that
23 backs up close to this adjacent property.

24 You know, I think one thing I just want to
25 expand upon what Mark says, is if you look at what the

1 existing businesses are there today, we're taking a vast
2 jump from what that is. We're talking about businesses
3 that operate during normal business hours, where we would
4 have residents, the way they are now, with businesses
5 shutting down during the normal business hours. Here we
6 will have a gas station, as Mark stated, with lights,
7 traffic and sound beyond those normal business hours.

8 And I think that's something that definitely
9 needs to be taken into account when looking at this, as
10 you compare it to the surrounding residential areas.

11 The other part, I'd be interested to see where
12 some of the comparative numbers were drawn from, as far as
13 visits in the Mobile numbers to see if it's a similar
14 situated Mobile Station.

15 I think one of the reasons that they're looking
16 to expand upon this Mobile Station is to capture some of
17 the CityPlace traffic in the CityPlace, so my guess is
18 what you would see here is a significant jump in the
19 visitation.

20 Also, the comparisons on the number of things
21 that weren't discussed, things surrounding the -- the car
22 wash, the -- the number of vacuums and all of those type
23 of situations that actually increase the size of this plot
24 drastically.

25 And so in looking at all of that, I think the

1 number one thing -- and the other part I didn't see, I saw
2 a mention of a light study. I don't know that -- has that
3 been published or something that we could see as to the
4 results of that? And so I saw the traffic, and I saw the
5 sound, but how that light study, what the results of that
6 light study were, I -- I'd like to see those, if at all
7 possible.

8 MS. KELLY: They were on the City's website.

9 MR. ANDY VOSS: They were. Okay. Thank you.

10 CHAIRMAN KISTNER: Thank you very much.

11 Do we have other people?

12 We have a lot of interest -- we have a lot of
13 interest, but not necessarily speakers. Okay.

14 With that, I think it's -- are there any
15 questions that anyone here has for -- yes.

16 MR. ROVAK: I have one small one.

17 On the photo -- photometric study, which -- and
18 I did not look at that itself yet, usually what I see in
19 those are the levels of intensity as you go both
20 directions along the site.

21 Is there also, in terms of the selection of
22 light standards and fixtures, cut-off angles that are
23 going to preclude spillage of light, so that if you're
24 standing off from the site, you're not looking into bright
25 lights?

1 We've seen sites that have had good control of
2 the general lighting intensity, but bad control, and
3 they're not all -- not necessarily in Creve Coeur, but
4 others along Olive that I've seen that as you drive by,
5 you're looking into some very, very intense lighting.

6 MR. KAMP: Yeah.

7 MR. ROVAK: So that's one of the things I'd like
8 to ask.

9 MR. KAMP: Yeah, so you're right, on the
10 photometrics themselves, yeah, we -- we do comply with the
11 code that the -- the foot candles --

12 MR. ROVAK: Right.

13 MR. KAMP: -- as predicted and measured and all
14 that, so what -- the other thing we did, that Mr. Huck
15 actually talked about, we, and I showed you a video from
16 this -- this plan we did --

17 MR. ROVAK: Uh-huh.

18 MR. KAMP: -- we did some -- some looking at,
19 both along Oak Lake and Woodshire, and then we're
20 proposing this masonry wall -- or let's call it -- let's
21 call it the masonry fence, just to keep the terminology
22 correct.

23 MR. ROVAK: Uh-huh.

24 MR. KAMP: And that sits atop, actually, a
25 retaining wall as well.

1 So what we did is we -- we -- we modeled the top
2 of this wall to be such that along Oak Lake, as you do get
3 a small look into the site from back there, that you would
4 not be able to see the underside of the canopy.

5 MR. ROVAK: That's what I'm asking.

6 MR. KAMP: Right.

7 MR. ROVAK: So you got cut off -- these are cut
8 off --

9 MR. KAMP: Correct.

10 And then, additionally, we spent a good deal of
11 time in this car wash, which is not open 24 hours. It's
12 7 a.m. to 8 p.m. operation. We -- we really customized
13 the lighting to be only effective enough for security
14 concerns and -- and those types of things on those off
15 hours.

16 Additionally, the site configuration, the -- the
17 building itself is going to block this canopy from -- from
18 traversing west into the -- the Woodshire thing, and then
19 a fence continues all the way around to meet that building
20 as well.

21 MR. ROVAK: Okay. Thank you.

22 MR. KAMP: Uh-huh.

23 Oh, and, yeah, I'm sorry. And the headlight
24 part as well, as you're -- you're coming into the, you
25 know, pay station area, that -- that's there, is just

1 going to block, and -- and there's also a good amount of
2 grade difference --

3 MR. ROVAK: Uh-huh.

4 MR. KAMP: -- between the two, yeah.

5 MR. ROVAK: Okay. Thank you.

6 MS. SILVERMAN: How tall was that fence?

7 MR. KAMP: It's 6 to 8 feet. And as we further
8 refine that this particular masonry sound wall fence, it's
9 very -- it's like a stone facade-looking thing. We've
10 used it -- it's the same fence that's at the Olivette
11 facility. It can go up to 10 foot in height, so as we
12 start finalizing grades and getting into construction
13 documents, we're not limited at that 8 foot, we can -- if
14 there are areas that, you know, to prevent things like
15 seeing the underside of the canopy and those kind of
16 things, we can add to.

17 MR. SCHUH: But general and specific question,
18 and it may be better answered by staff, but if you have an
19 answer, I'm open to hearing it.

20 Any idea where the nearest gas stations are in
21 relation to the proposed site?

22 And then my question for staff is going to be
23 about the -- whether there's any averages per capita or
24 per square mileage about whether there's an average number
25 of gas stations per those -- per those measures?

1 MR. KAMP: Well, typically the, you know, I'll
2 take a stab, and, Jason, definitely, you know, if there's
3 particular statistics for Creve Coeur, but right now the
4 closest gas station is right here on the corner where
5 we're currently located.

6 There's one that -- that's Circle K, that's the
7 Shell. Going west, there's a facility right at Olive and
8 Ballas, and I'm sure you guys are familiar with how
9 challenging that can be to get in and out of, cause that
10 is a small parcel of property, so.

11 You know, and as far as locations of convenience
12 stores along, you know, a heavily traveled, probably one
13 of the larger arteries of the state route through the
14 community on Olive is logical place that, you know,
15 generally that's where they will locate.

16 And did that answer your question?

17 MR. SCHUH: How about per car washes?

18 MR. KAMP: Carwashes, in this particular --
19 well, in Olivette, it's -- you know, I don't know what --
20 they're a neighborhood use, so this is not -- this is not
21 a destination type of thing where you're going to get
22 people from all over the county going to this particular
23 car wash.

24 I mean this is a -- a neighborhood use. And
25 that's why, you know, we feel like this is still a strong

1 place to be. It serves the -- the significantly large
2 residential community immediately adjacent and behind,
3 across and up and down Olive. And so this is not like a
4 type of destination.

5 So as far as where they're located, and
6 especially the style, type, price points, all those
7 things, are really the demands of serving the demands of
8 the, you know, the community that's there, and that's how
9 it's kind of put together.

10 MR. MAGRUDER: I have a question.

11 MR. KAMP: Yes, sir.

12 MR. MAGRUDER: Has a study been done trying to
13 determine how -- what the traffic will be in and out of
14 the -- this particular site after it's built?

15 It's going to bring a lot more traffic than we
16 now see, I would imagine. Has a study been done?

17 MR. KAMP: Yes. And, actually, I'll let Lee
18 kind of address that.

19 MR. MAGRUDER: Okay.

20 MR. KAMP: If we want to talk about traffic for
21 a little bit, I can kind of get it pulled up here. Is
22 that --

23 CHAIRMAN KISTNER: So do we want to get into the
24 detail of traffic, or I think -- I think the first thing
25 for us to decide is there's sort of the -- the larger

1 issue of is -- is the -- the plan itself consistent --

2 MR. MAGRUDER: Oh, okay.

3 CHAIRMAN KISTNER: -- enough with our
4 Comprehensive Plan.

5 Is this -- do we want to get into the detail of
6 the building materials and the traffic and all that?

7 MR. MAGRUDER: I'll withdraw my question for
8 now.

9 CHAIRMAN KISTNER: Well, and I'm not suggesting
10 you need to.

11 MR. MAGRUDER: That's okay.

12 CHAIRMAN KISTNER: But my thought was that we
13 should address the -- the sort of that threshold question
14 of is this something that we want to work with, and kind
15 of, you know, get into that detail? Does it -- does it
16 meet the threshold criteria for something that -- that
17 fits, and that we want to, you know, consider and move
18 forward on?

19 MR. MAGRUDER: Okay. I have something on that
20 too.

21 2030 Comprehensive Plan we've been working on
22 for a year reads, "The vision of East Olive is to create a
23 walkable corridor of destination retail boutiques,
24 neighborhood services and small-scale restaurants and
25 attached townhomes and a low-density multi-family homes".

1 I don't see this -- this is the same thing at
2 all. So it doesn't feel like, to me, this fits where
3 we're trying to go in that area in the upcoming
4 Comprehensive Plan.

5 I sort of hate to think we spent all that time
6 on the Comprehensive Plan and ignore it.

7 MR. KAMP: I guess, you know, cause we -- in --
8 in looking through and going through the design challenges
9 of -- of the site, those are things that we considered as
10 well as that the -- the forward thinking Comprehensive
11 Plan, and that is why the expansive green space.

12 This is -- this is a neighborhood service that's
13 here now, and looking to modernize those service
14 offerings.

15 You know, going from a smaller site to allow for
16 that, the expansion to -- of those -- those services, and
17 increasing the ability for, you know, more modern
18 conveniences that you would find at that newer stations,
19 we feel like by providing like those pocket parcels,
20 expansive green spaces along that streetscape breaks up
21 some of that intensity and actually lets us have less
22 coverage, site coverage from a building perspective on the
23 overall site than exists now.

24 You know -- you know, architecturally, while,
25 you know, we do have residential elements within it like

1 the trellis over the connecting elements and things like
2 that, that start to tie in some of the residential, you
3 know, there -- there exist in the corridor like Scotsman's
4 and things like where they are commercial structures,
5 that's a community service and a community business that's
6 oriented to the committee -- or the community, so.

7 CHAIRMAN KISTNER: Anything else?

8 MR. ROVAK: What's -- quick question.

9 I looked for it, and maybe I overlooked it, but
10 didn't see it.

11 In the various site plans --

12 MR. KAMP: Uh-huh.

13 MR. ROVAK: -- say beginning with demo plan,
14 maybe you could expand on that. Is there one where the
15 proposed plan is superimposed on the existing site?

16 I was looking for it, and like I say, I may have
17 overlooked it, but that's -- sometime answers a lot of
18 these kinds of questions --

19 MR. KAMP: If I don't have it in this package, I
20 can -- I do not think that's included in your packet --

21 MR. ROVAK: Okay.

22 MR. KAMP: -- but I think I have something.

23 VOICE: Had it side by side --

24 MR. KAMP: I --

25 MR. ROVAK: Okay. That would be good.

1 VOICE: -- on the coverage slide.

2 MR. KAMP: Yeah. Well, I do also have this that
3 I can probably toggle back and forth on here.

4 So this is the -- the existing site. So you can
5 see this is kind of where the landscape business operates
6 now.

7 MR. ROVAK: Uh-huh.

8 MR. KAMP: This is a moving company type of
9 thing. The business operates here. There's a little
10 hatched area that's a deed restricted area, that's going
11 to remain as is and vegetated as is.

12 MR. ROVAK: Okay.

13 MR. KAMP: And then this is -- these are the
14 three houses, which are part in the county, part in the
15 city. And then this, of course, is the existing Mobile
16 station.

17 MR. ROVAK: That's the station and the car
18 wash --

19 MR. KAMP: Right.

20 MR. ROVAK: -- to the immediate west?

21 MR. KAMP: Right.

22 And this is then the proposed site.

23 So the -- the -- this building here is no closer
24 than -- than the residents are now.

25 And, actually, even from a grade perspective,

1 everything along here stays intact all the way up to the
2 edges of the fence, so that way we're preserving trees,
3 and then we're protecting with some -- a little bit of
4 topography changes, as well as the -- the additional wall
5 to -- to help further keep even Olive Boulevard noise
6 from -- from bleeding back through.

7 MR. ROVAK: All right. Thank you.

8 MR. KAMP: Uh-huh. Did that help?

9 MR. ROVAK: Yes, it does.

10 MR. KAMP: Okay.

11 MR. ROVAK: I think that's -- I think a lot of
12 these, particularly when we want to look at what the
13 impact is, I like to compare it with to what do we have
14 now and what direction does this take us.

15 MR. KAMP: Okay. Would it help if we -- we
16 provided a plan that kind of related it too for you?

17 CHAIRMAN KISTNER: I -- I mean not -- let's see
18 where we get to tonight.

19 MR. ROVAK: Okay.

20 CHAIRMAN KISTNER: So just for a comment from
21 myself, there was a paragraph in the staff report that
22 really struck me, and I want to -- I want to read it.

23 "Is staff's opinion that the proposal does not
24 meet with the significant elements of the Comprehensive
25 Plan, and does not create a compelling argument for action

1 inconsistent with the Comprehensive Plan, nor are there
2 public benefits unique to this project that substantially
3 justify the approval of the proposal as presented.

4 Further, the scale of the proposal is
5 inconsistent with the stated purposes of the GC District
6 that calls for small-scale neighborhood commercial
7 developments that is compatible in scale with the adjacent
8 residences and would leave a remnant parcel, which would
9 effectively prohibit any future redevelopment potential of
10 the property -- that property that fronts directly onto
11 Olive Boulevard located just west of the development."

12 For me, that -- that's a -- a pretty compelling
13 statement in the staff's findings. I think, for me,
14 personally, I -- I reached the same conclusion.

15 I would like -- that is that is so overarching,
16 I'd like to get some comment from -- from others on the
17 Commission whether or not you concur with that or not,
18 because if not, then there's a lot of other things to
19 discuss and continue on with.

20 But -- but to me, that's a pretty threshold
21 evaluation, and I'd like to see what other people think
22 about it.

23 MR. CARNEY: Yeah, I -- I agree with you there,
24 and I also agree with Mr. Magruder. We've been looking at
25 this East Olive Corridor for a year, and I think we're

1 actually maybe liberalizing things a little bit on that
2 corridor, but I don't think we're -- I think this is a
3 step too far.

4 I don't think we're talking about allowing
5 General Commercial development like you would have in the
6 GC District in this corridor.

7 So I don't think it -- it meets the old
8 guidelines, and I don't think it meets the new guidelines.

9 MR. MAGRUDER: Obviously, I feel the same way.

10 I want to say this though. I think Mobile did a
11 dynamite job in trying to put together something that was
12 well done, as beautiful as it is.

13 I just don't think it fits here is -- is my
14 issue because we're not -- the Comprehensive Plan isn't
15 looking at a gigantic thing like this, is the way I read
16 it, and so but I want to tell you, I thought that it
17 was -- it was very attractive. I just don't think it
18 fits.

19 MR. KAMP: And I appreciate. I mean I'm -- you
20 know, when I think intensity, I think of, you know, some
21 of those other uses, like multi-family, those kind of
22 things that are going to really have a significant amount
23 of site coverage or proposals that have made previously,
24 which are several multi-tenant buildings all stacked up
25 together with -- with parking and things like that.

1 And while, architecturally, maybe they'll have a
2 pitched roof or something like that, but the true
3 intensity in the site coverage, I feel, is not as
4 compatible with potentially what we're proposing and as
5 far as the open space and that feel, that it's more of a
6 park-like setting, and we have these uses that are needed
7 in a neighborhood and in a Commercial District that's
8 adjacent to neighborhoods.

9 You know, and from -- even from a building
10 scale, there's the front door of this particular corridor
11 opens up with the, you know, the Scotsman -- the Scotsman
12 Jewelry facility, which is a nice looking building, but it
13 definitely has commercial elements, and that's the front
14 door of this thing.

15 So I'm trying to help understand, you know, what
16 direction could -- could we head. I mean we -- we -- we
17 definitely envisioned adding this, not having another
18 user, not trying to do this plus a fast food or this plus
19 another sit-down restaurant or whatever, you know, part on
20 this development, but rather use that space to create some
21 of that open area in the -- the total effort of making it
22 a more neighborhood facility.

23 CHAIRMAN KISTNER: To me, any time you get to
24 that kind of scale and scope, you're talking about ten
25 times four -- is it forty pumps? Twenty --

1 MS. SILVERMAN: Ten pumps.

2 CHAIRMAN KISTNER: Or ten -- ten -- ten --

3 MR. KAMP: That would be --

4 MS. SILVERMAN: Twenty.

5 CHAIRMAN KISTNER: -- bays, twenty pumps.

6 MR. KAMP: That would be twenty fueling
7 locations.

8 CHAIRMAN KISTNER: Fueling locations.

9 MS. SILVERMAN: Uh-huh.

10 CHAIRMAN KISTNER: And that is way beyond local
11 residential. That is all about capturing traffic off of
12 Olive.

13 It's -- it's not -- it's not a residential
14 small-scale neighborhood commercial development when you
15 get to that kind of scale of -- of development.

16 So I don't think there's any way when you
17 combine seven pieces of property for a gas station,
18 convenience store and car wash, by definition, you have
19 gone outside of that kind of small-scale commercial
20 development that is envisioned in the -- and is defined in
21 the Commercial -- in the GC District, and is described in
22 both the current and the -- the Draft 2030 Comprehensive
23 Plan.

24 MR. KAMP: So when I'm hearing you speak of
25 scale, it's number of pumps.

1 Are there other elements besides the number of
2 pumps that -- that you could point to?

3 MS. HALL: Yes.

4 CHAIRMAN KISTNER: Uh-huh.

5 MS. HALL: Okay. So a couple things that I
6 noticed is like for the car wash, you're going to have
7 seventeen vacuum stations.

8 MR. KAMP: Yeah.

9 MS. HALL: I mean that's a lot.

10 MR. KAMP: So these are --

11 CHAIRMAN KISTNER: For the neighborhood.

12 MS. HALL: Right. And then --

13 MR. KAMP: Well, these are -- it's a free vacuum
14 service that's provided on the exit side.

15 MS. HALL: But it's seventeen. I mean I haven't
16 seen too many car wash gas stations that have seventeen.

17 And then twenty-seven canopy stacking lanes. I
18 guess for them to dry the cars, or whatever they're going
19 to do.

20 MR. KAMP: No, that's the entrance to the wash.
21 That's the queue for the --

22 CHAIRMAN KISTNER: Waiting.

23 MS. HALL: Oh, okay.

24 So just to support what we're thinking is a
25 large scale.

1 MR. KAMP: Okay.

2 MR. MAGRUDER: Larger scale meaning the number
3 of linear feet along Olive is probably tripled what we
4 have -- what we now see with the Mobile Station that's
5 there.

6 MS. SILVERMAN: I think it's not just the amount
7 of space that it's taking up, but also the amount -- I
8 mean I think we're also talking about in terms of, you
9 know, twenty-seven cars just being there to -- to -- to
10 wash, plus the seventeen that could be vacuuming, plus
11 there's, you know, twenty spots for gas, I mean that's
12 certainly more cars than are in the neighborhood -- or
13 maybe not in the neighborhood, but more cars that are
14 going to be utilizing that service in the neighborhood at
15 that time.

16 MS. HALL: So I just had one other question.

17 Does -- I notice this company, this energy
18 company that's -- that has this gas station, is there any
19 other gas station that they built like this that we can
20 reference this to --

21 MR. KAMP: So --

22 MS. HALL: -- to --

23 MR. KAMP: -- Arch Energy, is that what you're
24 speaking of?

25 MS. HALL: Yes.

1 MR. KAMP: Okay.

2 MS. HALL: Uh-huh.

3 MR. KAMP: That was one of the Wallis companies.

4 Wallis is a --

5 MS. HALL: Right. Okay.

6 MR. KAMP: -- family-owned business. They're
7 based in Cuba, Missouri.

8 MS. HALL: Okay.

9 MR. KAMP: And they -- they -- they are the
10 distributor, the wholesaler, for Mobile and BP Products
11 here in Eastern Missouri.

12 MS. HALL: Okay.

13 MR. KAMP: And they have about thirty-two
14 company-owned Mobile On the Run stores here.

15 MS. HALL: Okay.

16 MR. KAMP: Kind of the more recent ones are
17 Olivette, the one near the airport, which is a BP On the
18 Run.

19 And, yeah, so they've operated and developed
20 several.

21 MS. HALL: So, but do they have one that's this
22 size?

23 MR. KAMP: So this is -- as far as the store
24 itself, it's the same, it's about maybe a little bit
25 smaller than the Olivette store. That's -- that's kind of

1 mid block between -- same situation, only except mid block
2 between Lindbergh and I70 instead of Lindbergh and -- and
3 270.

4 MS. HALL: Okay. So this is the last question.

5 MR. KAMP: Uh-huh.

6 MS. HALL: Maybe this will kind of clear it up.

7 Okay. So at Olivette, how many vacuum stalls do
8 they have there?

9 MR. KAMP: So Olivette is a little bit offering
10 on the car wash side. It's bolted to the back and behind
11 they have carpet cleaners and -- and kind of vacuum
12 stations on the back side of it.

13 MS. HALL: Yes.

14 MR. KAMP: The offering itself for Briteworx is
15 similar to a standalone car wash facility that they have
16 on -- in Florissant off of North Lindbergh.

17 MS. HALL: Okay.

18 MR. KAMP: And they also have a -- an operating
19 Briteworx location in Columbia, Illinois.

20 MS. HALL: Okay. Okay.

21 MR. KAMP: And so --

22 MS. HALL: So this is kind of like the first
23 test run of a station of this capacity --

24 MR. KAMP: No --

25 MS. HALL: -- or do they have one?

1 MR. KAMP: -- I wouldn't -- I wouldn't say that
2 at all. It's, basically, two -- two successful business
3 units that -- that are under the Wallis umbrella, one
4 being Briteworx Car Wash and the other being the Mobile On
5 the Run facilities.

6 And rather than having a wash attached to the
7 building with the depth and trying to preserve some of
8 that -- that -- that -- that buffer yard behind, there's
9 just simply not enough depth to get that to work. So just
10 moving the wash over also provides for a much -- much
11 higher end offering from the car wash perspective than
12 that's -- than that's other places.

13 MS. HALL: Okay. Thank you.

14 CHAIRMAN KISTNER: So the -- there's 25 percent
15 more pumps.

16 I think you didn't answer about the -- the
17 vacuum station, so there are either none or a lot fewer
18 than the seventeen proposed here --

19 MR. KAMP: Yeah, it's a different thing, cause
20 they're a pay for use at the Olivette location, but at the
21 Florissant location, I think there are -- there are twelve
22 at the Florissant location currently, and there's fourteen
23 at the Columbia, Illinois location.

24 And those -- this is a free service, a part of
25 your -- your wash, so the use rate goes up a little higher

1 as -- as you offer it.

2 CHAIRMAN KISTNER: I'm sure it does.

3 MR. KAMP: The difference here compared to
4 Florissant Briteworx and the Columbia Briteworx is that
5 those vacuums are not individual vacuums themselves. This
6 is a centralized type of system. So the only thing that's
7 actually in the stalls where the vacuums are is just a
8 hose that -- that is then concealed within the
9 architecture, so it's not, you know, the big machine
10 that's sitting out at each of those stalls.

11 MR. SCHUH: Beth, I think I saw a couple of
12 audience members with their hands raised, if we're still
13 open for public comment.

14 CHAIRMAN KISTNER: We are. If people want to
15 come and be sworn in.

16 If you have something to say, you really have to
17 come up. We're in a public hearing, so it has to be
18 recorded. So if anybody wants to come up and speak, just
19 please do so. Just a quick swearing in, and give us your
20 comments.

21 MR. KAMP: This is Mary --

22 (The speaker was sworn in by the court
23 reporter.)

24 MR. KAMP: So Mary's our landscape --

25 CHAIRMAN KISTNER: Start with -- let her give

1 her name and address.

2 MS. MARY DEWEESE: My name is Mary Deweese, and
3 I am the landscape architect on this project.

4 And I just wanted to clarify. There's been a
5 few questions about the scale of the site, and I think
6 that's different from the conversation you're having about
7 maybe the scale of -- the number of vacuums.

8 The scale of the site consolidating all of those
9 parcels is actually a huge benefit to the residential
10 scale of the project because the buildings themselves are
11 still regular gas station size, but they're put on a huge
12 parcel, so that there's so much protected. There's --
13 there's a third of an acre of woods that aren't even
14 touched behind this. There's the park area in front.

15 So you can't have a business with a lot of green
16 space and existing trees and those beautiful trees without
17 expanding the actual parcel to make room for all the
18 landscape.

19 That's all.

20 CHAIRMAN KISTNER: Thank you.

21 I'll -- I'll -- I know you've already been up
22 here to speak, but I'll bring you back one more time.

23 MR. ANDY VOSS: Again, my name is Andy Voss at
24 910 Woodshire.

25 You know, just listening to some of the -- the

1 rebuttals or back and forth and the discussion points, I
2 mean I've heard a lot about green space on this site plan.

3 I mean to me, all I keep hearing is you can
4 dress this up any way you want, but it doesn't change the
5 purpose of this site and this plan.

6 The fact that a gas station has green space on
7 it does not change the functional use as in comparison to
8 what you've described to us here tonight as what the plan
9 is going forward.

10 I've also taken a look in a short time at some
11 of the comparison gas stations that they've eluded to.

12 One of them is on Highway 67 in Florissant.
13 We're talking about things that are not sitting and
14 surrounded by residential plans.

15 So I don't think that those reference points are
16 accurate as things to use when we're discussing this.

17 Thank you.

18 CHAIRMAN KISTNER: Thank you.

19 MR. MAGRUDER: Thank you.

20 MR. KAMP: Just one quick point of
21 clarification.

22 Highway 67 is North Lindbergh, just like this is
23 Highway 340 and it's Olive Boulevard.

24 And actually the one in Florissant is -- does
25 have residents immediately behind it. And we worked with

1 them in the same capacity.

2 I just want to make sure that we're on the same
3 page.

4 CHAIRMAN KISTNER: Thank you.

5 MR. KAMP: And -- and I think Mr. Voss' point is
6 correct, I mean we are providing this green space, and I
7 think it's in lieu of these uses crammed in a smaller site
8 with additional uses there, or replacing the car wash with
9 a multi-tenant building.

10 I mean the, you know, I think it's a blessing
11 for the community to have such high property values, but I
12 think the reality is is for -- for this project to be
13 revitalized in this area of Olive to be revitalized at
14 some point, it's going to take some wherewithal for that
15 person who would redevelop it to invest in something that
16 makes sense for the return, makes sense for the community
17 and still meets all the other merits of the Design
18 Guidelines and Comprehensive Plan.

19 But finding that use, you know, has left this
20 project and this site area, whether it be the Mobile or --
21 or previous, you know, developments, it's left this with
22 just the, you know, obsolete structures that are there
23 today.

24 So I mean I would encourage that -- I would love
25 the opportunity to continue to hear the dialogue about

1 what is -- what is making the intensity and hearing that,
2 so we can have the opportunity to kind of absorb that and
3 see if there are still additional tweaks we can make to
4 that plan to lower that -- this perceived intensity and
5 things like that.

6 CHAIRMAN KISTNER: Thank you.

7 I think at this point we -- if there is no new
8 information to take in or questions to be asked, that we
9 will close the public hearing and continue our discussion
10 and debate.

11 Mr. Lumley.

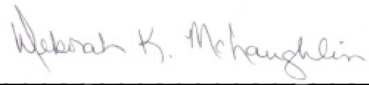
12 MR. LUMLEY: I offer the following exhibits into
13 the record of this public hearing: Documentation in
14 possession of the city clerk reflecting public notice, the
15 staff's report, the application and materials presented
16 this evening by the applicant, the City's Code of
17 Ordinances and Charter, City Comprehensive Plan and the
18 public file regarding the application.

19 CHAIRMAN KISTNER: The hearing is closed.

20 (The public hearing was closed at 7:39 p.m.)
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23
24
25

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

I, Deborah K. McLaughlin, Registered Professional Reporter, Missouri Certified Court Reporter, Illinois Certified Shorthand Reporter and Kansas Certified Court Reporter, do hereby certify that I reported the Planning and Zoning public hearing stenographically and later reduced to typewriting; and that this is a true and accurate transcript of the public hearing.



_____, RPR, MO-CCR, IL-CSR, KS-CCR
Deborah K. McLaughlin, RPR, MO-CCR, IL-CSR, KS-CCR

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Whitney Kelly <wkelly@crevecoeurmo.gov>

Creve Coeur Mobile on the Run Traffic Review

JOHN "JAY JAY" BRADEN <John.Braden@modot.mo.gov>

Tue, Dec 6, 2016 at 9:34 AM

To: "lcannon.CBBTRAFFIC.COM" <lcannon@cbbtraffic.com>, Whitney Kelly <wkelly@crevecoeurmo.gov>, "Bresing.cbbtraffic.com" <Bresing@cbbtraffic.com>, "Kamp, Kevin" <kkamp@cecinc.com>, KAREN D YEOMANS <Karen.Yeomans@modot.mo.gov>, Federico Lagos <Federico.Lagos@modot.mo.gov>
Cc: Jason Jaggi <jjaggi@crevecoeurmo.gov>

Lee,

Phil Pierson has finished his assessment of the TIS and below are his comments;

- A westbound right-turn lane at the proposed full access driveway on Olive Boulevard is warranted based on volumes and should therefore be constructed by the development.
- A flashing yellow arrow (FYA) signal can only be installed for the southbound Schulte Road approach to the signal at Olive Boulevard. The northbound Mary Meadows Lane approach cannot have an FYA because it does not have a designated left-turn lane.
- Based on the information given, MoDOT agrees that a separate right-turn lane should not be built on the southbound Schulte Road approach to the signalized intersection with Olive Boulevard.
- It is MoDOT's opinion that the creation of dual southbound left-turn lanes on Schulte Road at the signalized intersection with Olive Boulevard is the best alternative that is being proposed. Therefore, it should be the responsibility of the development to construct this improvement.
- Under the option for adding dual left-turn lanes to the southbound Schulte Road approach on page 35, the report says that the development has reserved ground in the northeast quadrant of the intersection for this improvement. However, the development is located in the northwest quadrant of the intersection. In which quadrant is the ground reserved?
- MoDOT agrees that the development should construct a signalized crosswalk on the west leg of the signalized intersection of Olive Boulevard and Schulte Road/Mary Meadows Lane.

If you have any questions feel free to contact me.

Jay-Jay Braden

Missouri Department of Transportation

Sr. Traffic Specialist - SW St. Louis County

601 Salt Mill Road, Chesterfield, MO 63017

Fax: 573.522.6491 **Mobile:** 314.380.0074

www.modot.mo.gov/stlouis/news_and_information/Permits.htm

From: lcannon.CBBTRAFFIC.COM

Sent: Wednesday, November 30, 2016 5:23 PM

To: Whitney Kelly; Brensing.cbbtraffic.com; Kamp, Kevin; JOHN "JAY JAY" BRADEN; KAREN D YEOMANS; Federico Lagos

Cc: Jason Jaggi

Subject: RE: Creve Coeur Mobile on the Run Traffic Review

[Quoted text hidden]

Planning and Zoning Commission Public Hearing December 5, 2016

Application# 16-031.

**Rezoning, Conditional Use Permit, Site Development Plan,
Boundary Adjustment**

**Mobil on the Run Convenience Store with Gas Pumps, Briteworx
Car Wash**

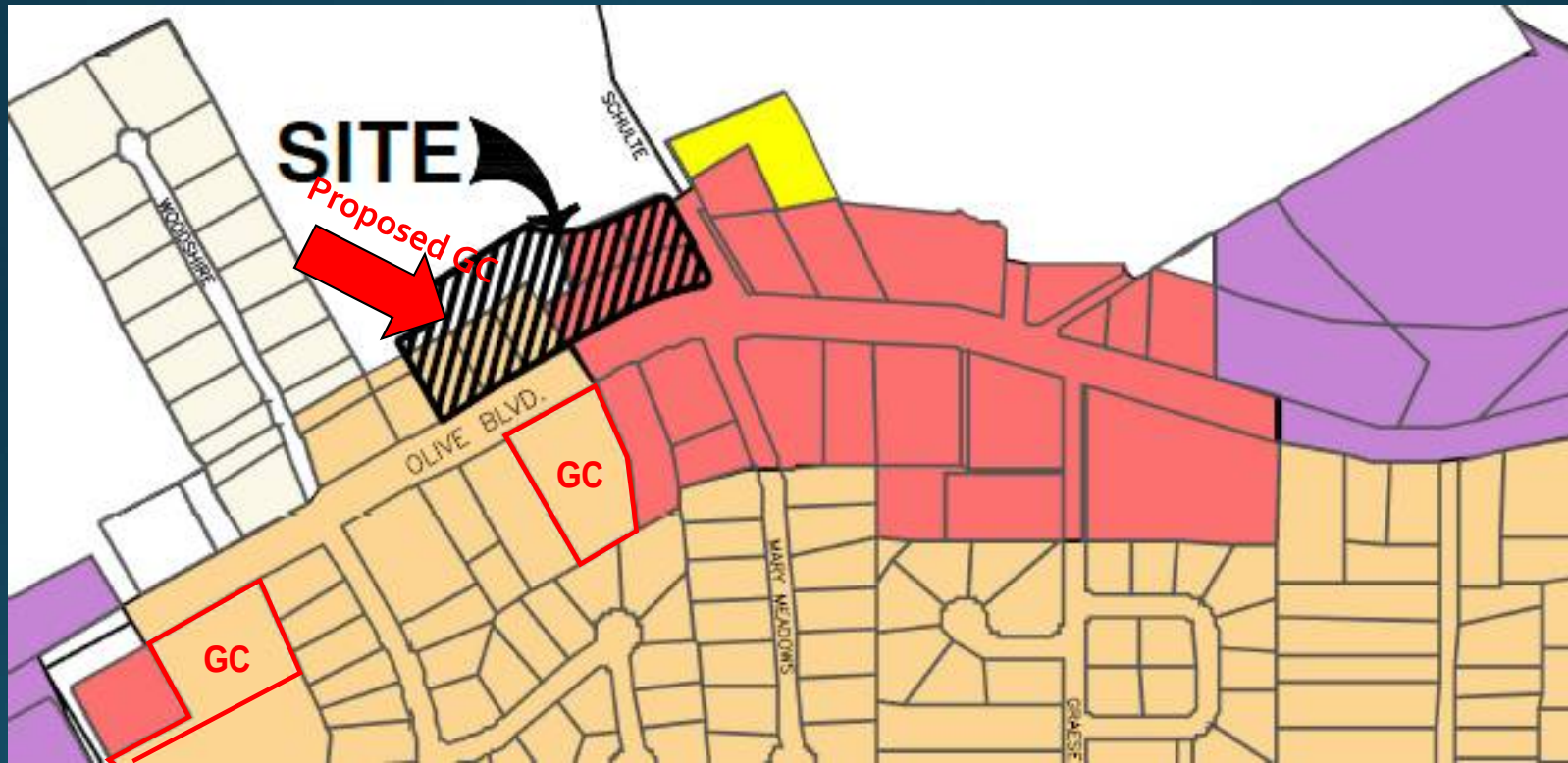
11109-11141 Olive Boulevard & 11100-11114 Oak Lake Court

Aerial Image—Existing Conditions



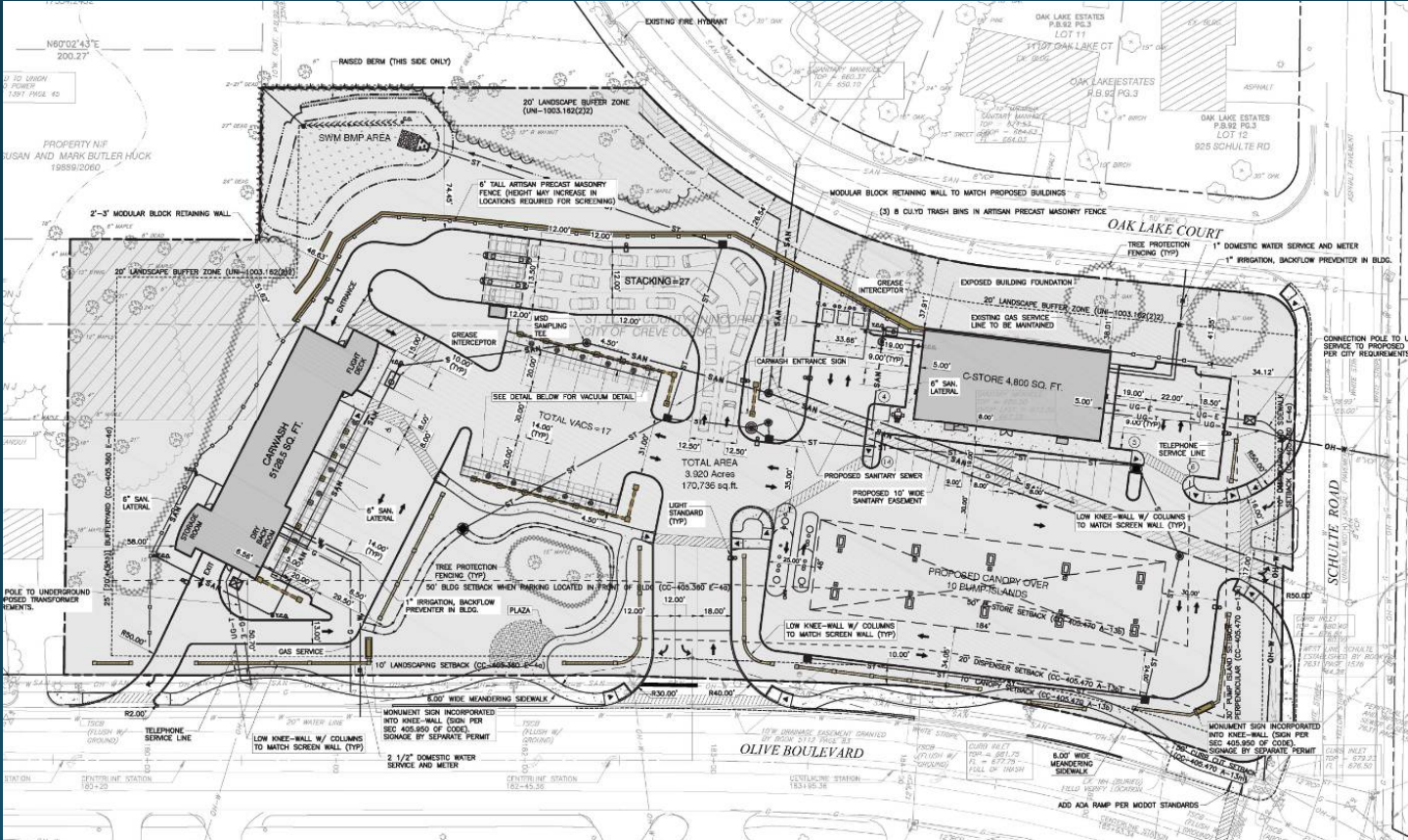
Mobil on the Run, Brite Worx Car Wash

Zoning



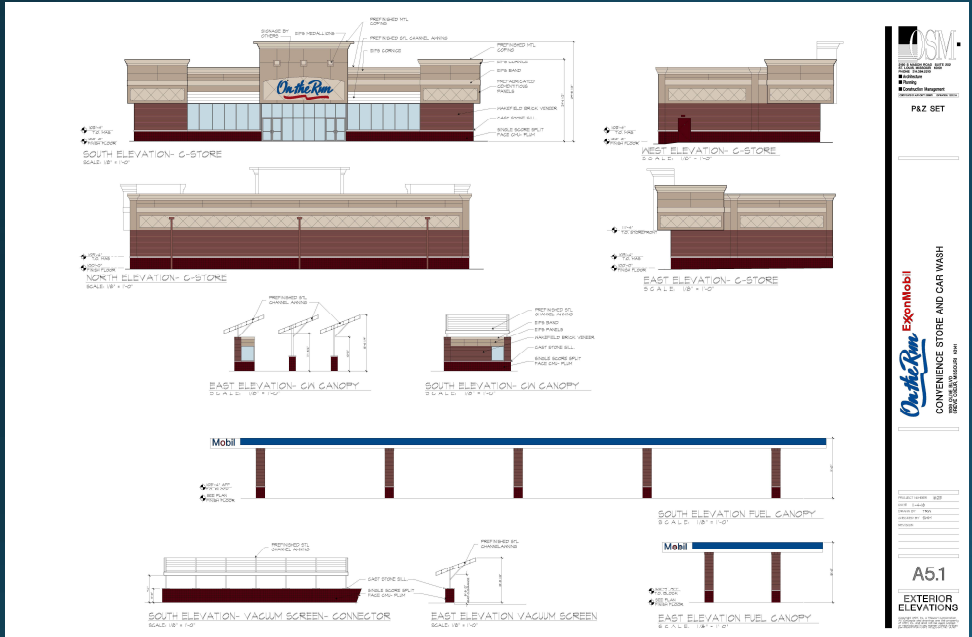
Mobil on the Run, Brite Worx Car Wash

Proposed Site Development Plan



Mobil on the Run, Brite Worx Car Wash

Proposed Elevations



Mobil on the Run, Brite Worx Car Wash



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Meeting: 04/24/17 07:30 PM
Department: Legislative /City Clerk
Category: Resolution
Prepared By: Debbie Ryan
Department Head: Debbie Ryan

SCHEDULED

RESOLUTION

Resolution No. 1285 - a Resolution Approving Attorney Retainer Agreement Regarding Disputes Concerning Telecommunications License Taxes.

Telecommunications license tax collections have dropped significantly without adequate explanation by the companies. The Resolution will authorize legal counsel to investigate further and pursue remedies, without cost to City absent recovery of unpaid taxes.

Resolution

Meeting of April 24, 2017

RESOLUTION NO. 1285

A RESOLUTION APPROVING ATTORNEY RETAINER AGREEMENT REGARDING DISPUTES CONCERNING TELECOMMUNICATIONS LICENSE TAXES.

WHEREAS, the City depends upon utilities complying with city license taxes, and

WHEREAS, there have been numerous class action suits and settlements aimed at enforcing such compliance, and

WHEREAS, it appears further efforts in this regard will be necessary,

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CREVE COEUR THAT:

Section 1: The Retainer Agreement attached hereto between the City and Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. for legal services regarding enforcement of city telecommunications license taxes is hereby approved. The document as executed shall include such changes therein as shall be approved by the officers of the City executing same, consistent with the provisions and intent of this Resolution and necessary, desirable, convenient, or proper in order to carry out the matters herein authorized. The City Administrator and his designated representatives are hereby authorized and directed to take any and all actions necessary, desirable, convenient or proper in order to carry out the intent of this Resolution, the matters herein authorized, and the rights and duties of the City under the agreement.

Section 2: This Resolution shall be effective upon approval.

Adopted this 24th Day of April, 2017

Barry Glantz
Mayor

Attest:

Deborah Ryan
City Clerk

RETAINER AGREEMENT

The City of CREVE COEUR, Missouri (hereinafter “The City”) was previously a party to a December 7, 2007 settlement with AT&T Mobility and associated entities involving a dispute over alleged violations of municipal business license and occupational tax ordinances. The City hereby retains Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O’Keefe P.C. as Special Counsel to represent it in a matter to enforce that settlement agreement, and any “tax protest” suits or compulsory counterclaims relating thereto. In the event further investigation reveals potential breaches of similar settlements involving the City by telecommunications providers other than AT&T Mobility, Special Counsel shall have the exclusive right to, but are not obligated to, pursue enforcement of those additional settlements at their sole discretion. The City understands that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O’Keefe P.C. will provide representation pursuant to a Joint Prosecution Agreement, a copy of which is attached hereto.

Aside from the foregoing, The City understands that no other claims, lawsuits or matters involving The City are covered by this Retainer Agreement. Further, The City understands that it shall be responsible for immediately notifying Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O’Keefe P.C. if it becomes aware of additional claims and causes of action against any settling telecommunications providers, and that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O’Keefe P.C. shall have the authority to, but are not obligated to, pursue such additional claims identified by the City or by them at their sole discretion.

Notwithstanding the hiring of Special Counsel, the City expressly retains ultimate decision-making authority and responsibility for any claim(s), investigation(s), case(s) and matter(s) covered by this Agreement.

ATTORNEYS’ FEES/COSTS

Except as set forth below (under TERMINATION), The City understands that it will not be required to pay any attorneys’ fees to Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O’Keefe P.C. other than through a deduction for the payment of fees from any recoveries obtained on behalf of The City.

The City agrees that, irrespective of any prior agreement, payment, settlement or order, it will pay attorneys’ fees to Special Counsel on a contingency basis through a deduction from any recoveries obtained on behalf of the City in enforcing the settlements against AT&T Mobility or other telecommunications providers involving the payment of municipal business license and occupational taxes. The City agrees that Counsel shall be entitled to 25% of any such recovery as and for their attorneys’ fees. Special Counsel shall be entitled to such attorneys’ fees regardless of whether the recovery is a result of an accounting, settlement, litigation, legislation, voluntary payment, credit, refund, adjustment, offset, reduction in future charges, “tax protest” suit, or some other method or source. Special Counsel shall be entitled to such attorneys’ fees regardless of whether The City recovers individually, collectively, or as part of a class.

The City further agrees that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. may divide any attorneys' fees and expenses obtained as part of any recoveries pursuant to the provisions of the Joint Prosecution Agreement.

The City understands that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. may have to pay certain costs in order to properly represent The City in these matters. These costs may include, but not be limited to, filing fees, fees for service of process and subpoenas, expert witness fees, consultant fees, accountant and auditor fees, data processing fees, stenographer fees, computer research fees, computer programming fees, travel and lodging expenses, copying charges, settlement administration fees, notice costs, and all other charges associated with an investigation, claim, case, litigation and/or settlement. Whenever possible, counsel will try to get the telecommunications providers to pay for these costs. If Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. cannot obtain payment of costs from the companies and The City obtains a recovery, The City agrees to repay Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C., jointly and severally with any other participating political subdivisions, for all litigation expenses incurred from the money it receives. The City further understands that it may not impose a requirement to incur costs that the attorneys believe is unreasonable unless it is willing to advance and pay those costs itself. The City also understands that it alone is responsible for paying any fines, penalties, judgments, awards or damages assessed against it.

CLIENT RESPONSIBILITIES

The City agrees to make full and honest disclosures to Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. of all facts relevant to these matters, including any new facts that may arise during the course of the matters covered by this Agreement. The City further agrees to notify Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. within ten (10) days if it retains or employs additional counsel to monitor, participate in, negotiate, or provide legal services in connection with the City's claim(s), or otherwise engages counsel to act upon any of the matters covered by this Agreement.

As a client of Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C., The City understands that it has the responsibility to keep Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. informed of any significant changes in its circumstances. The City will promptly inform Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. if it should receive any settlement offers, documents or other communications directly from the telecommunications providers, their attorneys, or any third-parties in regard to these matters. The City understands that, as its counsel, Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. are to participate in all such communications with regard to these matters, and that they are the only counsel authorized to negotiate or act on its behalf with regard to these matters. The City understands that as a result

of the contingency fee arrangement described herein, Special Counsel has a lien upon any and all amounts owed by the telecommunications providers to The City.

The City also understands that its employees and representatives may have to appear in court, to attend depositions, to produce documents and/or to provide information, and it will assist and cooperate with Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. to the fullest extent possible in their representation of The City's interests in these matters.

The City also understands that its claim(s) have been and may again may be certified as a class action and that in making any decisions concerning the claim(s), Special Counsel and The City must consider, in addition to The City's own interests, the interests of the class(es) if The City is named as a representative. In the event The City enters into a settlement of a class action with the telecommunications providers, or any of them, that is not recommended by Special Counsel, or withholds support from or otherwise objects to a class action settlement that is recommended by Special Counsel, The City recognizes that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C. reserve the right to withdraw as counsel if they believe the terms of the proposed settlement do not adequately address the interests and claims of any putative or certified class(es), or the actions of the City undermine, interfere with or otherwise prevent a class action settlement believed to be fair and reasonable by Special Counsel. Special Counsel is hereby authorized and may seek to remove or to prevent The City from serving as a representative of the putative or certified class(es) in such circumstances.

COUNSEL RESPONSIBILITIES

Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. agree to handle The City's claim(s), investigation(s), case(s) and matter(s) covered by this Agreement, including any "tax protest" suits or compulsory counterclaims relating thereto, competently and diligently, to exercise professional judgment, and to respond promptly to reasonable requests for information about the matters covered by this Agreement.

TERMINATION

The City understands that it is free at any time to discharge Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C. from representing it by a signed, written letter executed by a duly authorized City representative. However, if The City chooses to discharge Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C., any remaining counsel are under no obligation to find a replacement or to continue representation of The City. In addition, if after discharging Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C., The City thereafter obtains relief, The City agrees to pay Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. a reasonable fee based upon such recovery and the extent and value of counsels' services up to a maximum of 25% of any recovery as aforesaid for the services actually provided to The City and for all costs and expenses and fees expended and incurred by Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. on The City's behalf.

The City agrees that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C. may, upon giving advance written notice, seek to terminate their involvement in these matters for any reason, including if (a) they become frivolous, unreasonable, or groundless in their view, or (b) the facts are found to be materially and significantly different than Special Counsel understands them, or (c) The City refuses a settlement offer that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or and Curtis, Heinz, Garrett & O'Keefe P.C. consider reasonable under the circumstances and/or given the objectives of the case(s), or (d) the representation of The City requires taking a position contrary to the rules of professional conduct, or (e) The City employs counsel who interferes in, disagrees with, does not defer to, or obstructs the handling of these matters by Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C., or (f) The City otherwise fails to cooperate with Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or and Curtis, Heinz, Garrett & O'Keefe P.C. in any manner whatsoever. If Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or and Curtis, Heinz, Garrett & O'Keefe P.C. terminate their involvement under any of these circumstances, The City agrees that they retain the right to recover their expenses and a reasonable fee for their services from The City.

PUBLICITY

These cases are of public interest. The City understands that Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and/or Curtis, Heinz, Garrett & O'Keefe P.C. may make recommendations to it concerning such publicity. Based on the public need to know the law and the facts of these matters, The City agrees to reasonably cooperate with such efforts.

MISCELLANEOUS

The City recognizes that no result has been guaranteed by Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, or Curtis, Heinz, Garrett & O'Keefe P.C. and that this Retainer Agreement is not based upon any such promise or anticipated result. The City further acknowledges that it is exclusively responsible for all personal liability, or potential liability, awarded against it by a court as part of a claim, counterclaim or "tax protest" suit and that, by undertaking to represent The City pursuant to this Retainer Agreement, Korein Tillery, LLC, John F. Mulligan, Jr., Howard Paperner, and Curtis, Heinz, Garrett & O'Keefe P.C. assume none of The City's joint and/or individual liability.

This Agreement constitutes the entire agreement between the parties with regard to the subject matters contained herein, and all prior and contemporaneous negotiations and understandings between the parties shall be deemed merged into the Agreement. No waiver, modification or amendment of the terms of this Agreement shall be valid or binding unless in writing, signed by all parties, and then only to the extent set forth in such written waiver, modification or amendment, and subject to any required Court approval.

The parties may execute this Agreement in counterparts and execution in one or more counterparts shall have the same force and effect as if all parties had signed the same instrument.

If any provision of this Agreement is held by a court of competent jurisdiction to be void, voidable, unlawful or unenforceable, the remaining portions of this Agreement will remain in full force and effect.

This Agreement shall be governed by and construed according to the laws of the State of Missouri, regardless of any contrary choice-of-law provisions.

THE CITY OF CREVE COEUR ,
MISSOURI, By And Through Its
Authorized Representative

STEVE TILLERY, By And On
Behalf Of Korein Tillery, LLC

JOHN F. MULLIGAN, JR.

HOWARD PAPERNER

CURTIS, HEINZ, GARRETT & O'KEEFE
P.C.

JOINT PROSECUTION AGREEMENT

This Agreement is entered into by and between Korein Tillery, LLC ("KT"); John F. Mulligan, Jr.; Howard Paperner; and Curtis, Heinz, Garrett & O'Keefe P.C. ("CHGO") (collectively "Co-Counsel").

1. **Purpose.** Co-Counsel have agreed to jointly represent Missouri municipalities in a matter to enforce a December 7, 2007 settlement with AT&T Mobility and associated entities involving a dispute over alleged violations of municipal business license and occupational tax ordinances. Further investigation may reveal potential breaches of similar settlements between Missouri municipalities and other wireless telecommunications providers involving violations of municipal business license and occupational tax ordinances. If so, then Co-Counsel have also agreed to jointly represent Missouri municipalities in enforcement matters related to these other settlements between wireless telecommunications providers and Missouri municipalities.

Aside from the foregoing, no other legal claims, lawsuits or matters are covered by this Agreement. In the event any members of Co-Counsel become aware of other potential claims and causes of action involving the potential failure to pay municipal business license and occupational taxes to Missouri municipalities, then Co-Counsel shall have the right to, but are not obligated to, pursue those additional claims at their discretion. If Co-Counsel jointly agree to pursue such additional claims, they agree to do so on the same terms as set forth in this Agreement.

In the event that a separate legal action or defense of a counterclaim becomes necessary as part of the prosecution of these matters (other than representation in connection with a "tax protest" suit or a compulsory counterclaim arising out of the same underlying facts and circumstances), Co-Counsel will have the right to determine whether to provide legal representation in any such ancillary case or cases.

2. **Division of Labor.** Co-Counsel will share responsibility for the preparation and presentation of these matters, although KT is expected to carry on the day-to-day activities of the litigation. Because of their direct, existing relationships with the Missouri municipalities retained as clients in these matters, John F. Mulligan, Jr., Howard Paperner, and CHGO will serve as Lead Special Counsel. As Lead Special Counsel, John F. Mulligan, Jr., Howard Paperner, and CHGO agree that they will be primarily responsible for obtaining retention agreements from municipalities who were parties or class members to the settlement(s) to be enforced. KT will serve as Associate Special Counsel.

KT will keep John F. Mulligan, Jr., Howard Paperner, and CHGO advised at all times as to the status of the work performed by, or on behalf of, it (and vice versa). Lead Special Counsel will be primarily responsible for advising municipalities retained as clients on the

progress of their case(s), and KT will communicate with such municipalities only as requested by Lead Special Counsel, in response to direct inquiries received from the municipalities, or as may be necessary to prosecute this litigation.

3. **Strategic Decision-Making Authority.** Co-Counsel will use their best efforts to collaborate on and cooperate in all aspects of the litigation. In the event of a disagreement over a strategic aspect of the prosecution, KT, as the firm expected to carry on the day-to-day activities of the litigation and firm bearing the costs, shall have the right to make the final strategic decision, including over briefing and other documents filed with the court, discovery matters, expert witness matters, and hearing and trial matters.
4. **Costs.** KT will be responsible for costs and expenses as they are incurred, and it shall have the right to full reimbursement of its costs and expenses out of any recoveries obtained in these matters. In the event attorneys' fees are awarded (as a percentage of recovery or otherwise), KT's costs and expenses shall first be reimbursed before any attorneys' fees are split between Co-Counsel.
5. **Attorneys' Fees.** Co-Counsel reserve the right to have their attorneys' fees and litigation expenses paid out of any recoveries obtained in prosecuting these matters. In recognition of the division of responsibility and labor, Co-Counsel have agreed that, unless otherwise ordered by a court, attorneys' fees will be divided as following: KT will receive 55% of attorneys' fees awarded; John F. Mulligan, Jr. will receive 28% of attorneys' fees awarded; Howard Paperner will receive 7% of attorneys' fees awarded; and CHGO will receive 10% of attorneys' fees awarded. As noted above, KT's costs and expenses shall first be reimbursed before the distribution of attorneys' fees.

In the event that the amount of the attorneys' fees and expenses are disputed by a defendant or any third-parties, each member of Co-Counsel will submit their respective fee applications to the court. Co-Counsel will at all times endeavor to ensure that there is no unreasonable duplication of work performed. Co-Counsel will review each other's fee applications before filing with the court and attempt to eliminate any duplicative entries.

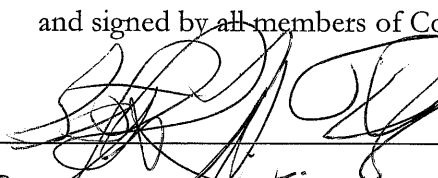
6. **Withdrawal or Addition of Counsel.** Co-Counsel each reserve the right to seek withdrawal of representation in these matters for any just reason as permitted or required by the Missouri Rules of Professional Conduct or as permitted by rules of court. In the event that such withdrawal is required, advance notice must be provided to other members of Co-Counsel. In the event that attorneys' fees are awarded after a member of co-counsel withdraws, the withdrawing member shall be entitled to attorneys' fees based on a lodestar

calculation, with the number of hours worked before the withdrawal being multiplied by the withdrawing member's customary hourly rate at the time the work was performed. In the event that a member of Co-Counsel withdraws, this Agreement will be revised to reflect any new arrangements that are negotiated between the remaining members of Co-Counsel following the withdrawal.

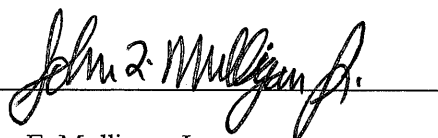
If it is decided by Co-Counsel that additional counsel should be brought into the prosecution of these matters, this Agreement will be revised to reflect any new arrangements that are negotiated.

7. **Dispute Resolution.** In the event of any dispute between any members of Co-Counsel regarding this Agreement or the distribution of any recovery under this Agreement, Co-Counsel shall attempt in good faith to resolve the matter. If unsuccessful, Co-Counsel shall agree upon a neutral third party to assist them in attempting to resolve the matter informally through mediation. If these measures are unsuccessful, the dispute shall be referred for binding arbitration before an individual mutually agreed upon by Co-Counsel. If Co-Counsel are unable to agree upon an arbitrator, Co-Counsel shall submit the matter to JAMS in an office mutually convenient to Co-Counsel. Each member of Co-Counsel shall bear its own fees and costs, and shall share any mutual costs (e.g., arbitrator's fee) regardless of the outcome of the dispute.

8. **Modification of the Agreement.** Any modification to this Agreement must be in writing and signed by all members of Co-Counsel.


Stephen M. Tillery
 On Behalf of Korein Tillery, LLC

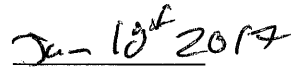
1/26/2017
 Date


John F. Mulligan, Jr.

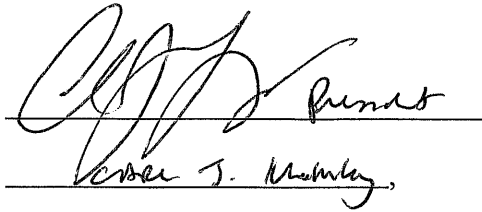
1-18-2017
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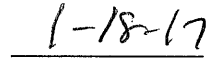
Howard Paperner



Date


Robert J. Mumby

On behalf of CHGO



Date



City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

Meeting: 04/24/17 07:30 PM
Department: Legislative /City Clerk
Category: Appointment
Prepared By: Debbie Ryan
Initiator: Debbie Ryan
Sponsors:
DOC ID: 2418

APPOINTMENT (ID # 2418)

Council President

Annual appointment of Council President by Council.