

CITY OF KIRKWOOD

APPLICATION FOR PLANNING AND ZONING COMMISSION ACTION

CASE NUMBER: P2-16-20

DATE: 9-6-19

PROJECT ADDRESS: 608 East Monroe
ZONING DISTRICT: R3 LOT SIZE: _____
LOCATOR NUMBER: 24M63-0353
PROJECT NAME: CONLEY ESTATES

ACTION REQUESTED

- | | |
|---|---|
| <input type="checkbox"/> Zoning Change From _____ to _____ | <input type="checkbox"/> Site Plan Review |
| <input type="checkbox"/> Community Unit Plan, Type: _____ | <input type="checkbox"/> Right-of-Way/Easement Vacation |
| <input type="checkbox"/> Special Use Permit, Category: _____ | <input type="checkbox"/> Other: _____ |
| <input checked="" type="checkbox"/> Subdivision Development, Number of Lots: <u>3</u> | Comments: _____ |
| <input type="checkbox"/> B4 Development Plan | _____ |
| <input type="checkbox"/> B5 Development Plan | _____ |

PETITIONER INFORMATION

I (We) hereby certify that I (we) have legal interest in the hereinabove described property and that all information given herein is true and a statement of fact

Name (Print): Michael Conley Signature: M Conley Phone No.: 314 378 9100
 Mailing Address: 608 East Monroe City: Kirkwood State: Mo Zip: 63122
 E-mail Address: mike@conleyinsurance.com
 Petitioner's Status: Corporation Partnership Individual
 Relationship of Petitioner to Property: Owner Tenant Option Holder (Attach Copy of Contract) Other

AGENT INFORMATION

Agent's Name: _____ Signature: _____ Phone No.: _____
 Mailing Address: _____ City: _____ State: _____ Zip: _____
 E-mail Address: _____

(NOTE: The petitioner's agent, if listed, shall receive the official notice of public hearing)

PROPERTY OWNERS

Signature required or submit proof petitioner has legal interest in property.

Name: <u>Michael Conley</u>	Name: _____
Signature: <u>M Conley</u>	Signature: _____
Address: <u>608 East Monroe</u>	Address: _____
City/State/Zip: <u>Kirkwood Mo 63122</u>	City/State/Zip: _____
Phone: <u>314 378 9100</u>	Phone: _____

FOR CITY USE ONLY

Date Received: 10/17/19 Total Received: \$ _____ Agenda Date: _____

- B-4/B-5 Development Plan (Preliminary): \$1,000 + _____ Acres @ \$100/Acre or portion over one acre) = \$ _____
- CUP, Preliminary (Multi Family): \$1,000 + _____ Dwelling units @ \$20/Each = \$ _____ = \$ _____
- CUP, Preliminary (Detached Single Family): \$1,000 + _____ Lots @ \$500/Lot = \$ _____
- Letter of Credit Extension: \$100
- Rezoning: \$1,000
- Site Plan Review: \$1,000
- Site Plan Review Amendment \$800 or Extension: \$300
- Site Plan Review, Mixed Use in B2 Zoning District (Preliminary): \$1,000 (includes SPR fee) + \$25/acre or portion over one acre
- Special Use Permit and Special Use Permit Amendments: \$1,000
- Subdivision, Preliminary (Detached Single Family): 3 Lots @ \$500/Lot = \$ 1,500
- Vacation, Easement: \$75
- Vacation, Right-of-way: \$100
- Zoning Code Amendment: \$1,000

Final Subdivision Plat/Community Unit Plan/B-4 or B-5 Development Plan

Date Received: 10/17/19 Total Received: \$ _____ Agenda Date: _____

- B-4 and B-5 Development Plan (Final) or B4 Development Plan Amendment (when public hearing is not required): \$1,000
- B-5 Development Plan Amendment (when public hearing is not required): \$500
- CUP Amendment, Type A or Type C: Without public hearing \$500; With public hearing \$800
- CUP Type C (Final): \$500 + 1-1/4% of \$ _____ = \$ _____
- CUP Type A or C Time Extension on Final: \$300
- Sidewalk Waiver on _____ feet @ \$30/Foot = \$ _____ = \$ _____
- Site Plan Review, Mixed use in B2 Zoning District (Final): \$500
- Site Plan, Mixed use in B2 Zoning District Amendment: \$300
- Subdivision Plat or CUP Type A (Final): 3 Lots @ \$100/Lot = \$ 300 + 1-1/4% of \$ 32,216.15 = \$ 402.70
- Subdivision Plat Development Plan Amendment: \$200

amount still needed
ADP 10/25

To: Members of the Kirkwood Planning and Zoning Board

From: Mike Conley, homeowner, 608 East Monroe

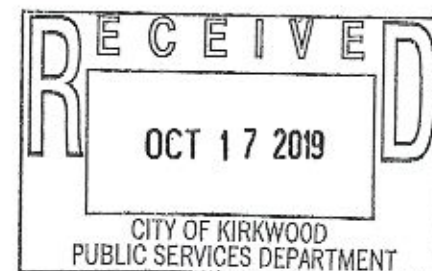
Attached please find the application to subdivide my current lot at 608 East Monroe into 3 lots. My plan is to subdivide the lot into 3 smaller lots, and move my existing home on to one of the lots. I will then sell the other 2 lots.

I have lived in Kirkwood since 1993, and at my current address since 2000. As you may recall, the house and lot needed a great deal of care (and money) and I believe that my efforts have led to a significant overall improvement to the neighborhood in which I live.

I have attempted to sell my house several times since 2010. I feel that the size of the lot, and the amount of money that I put into the restoration of the lot and house has made the current house too expensive to sell. I am hopeful that subdividing the lot into 3 more normal sized lots will increase the market to a larger number of potential buyers.

Thank you for your time.

Mike





WHERE COMMUNITY AND SPIRIT MEET®

October 31, 2019

Michael Conley
608 E. Monroe Avenue
Kirkwood, MO 63122

SENT VIA EMAIL: mike@conleyinsurance.com

SUBJECT: PZ-16-20; 608 E. Monroe Ave. – 3lot Subdivision
Preliminary & Final Plat

Mr. Conley:

The City of Kirkwood Public Services Department is in receipt of your application to subdivide the existing lot at 608 East Monroe Avenue into three lots. This item will be placed on the Planning and Zoning Commission agenda for its **7:00 p.m. meeting Wednesday, November 6, 2019** at Kirkwood City Hall, 139 South Kirkwood Road. City Staff will make an introduction presentation regarding the request at this meeting. You, or your representative, should attend this meeting to present any additional information on this item to the Commission and answer any questions the Commission members may have.

The Planning and Zoning Commission will review the application in accordance with the Subdivision Code. The Public Services Department has the following comments concerning the application:

Final Plat

1. Add the Section, Township, and Range to the title block.
2. The subject property's referenced subdivision of Lot 21 of Oak View Park does not match the City's records. Our records indicate this is Lot 21 of East Kirkwood (see attached plat). Revise all references regarding this.
3. The adjacent referenced subdivisions also do not match City records. See the attached plats and revise the final plat to accurately reflect the boundaries of East Kirkwood, Woodlawn Place, and Oak View Park.
4. Note, additional utility easements may be required after review from other City departments. If easements are required, the City's easement script shall be added to the plat along with delineated easements locations.

Preliminary Plat

5. Include the preliminary building footprints with proposed grading and proposed finished first floor heights for each building. Note, the minimum FFFH allowed is 2'. Additional height may be permitted based on the averaging data for adjacent houses that was provided with the application for architectural review and building permit review.

6. Change Ameren UE to Kirkwood Electric in the utility notes.
7. Revise the title block to reference Lots 21 of East Kirkwood as mentioned above.
8. Note, additional utility easements may be required after review from other City departments. If easements are required, the City's easement script shall be added to the plat along with delineated easements locations.
9. Show locations of the nearest water mains.
10. Show locations of the proposed sewer lateral connections.

Tree Study/Preservation/Landscape Plan

11. A refundable performance guarantee in form of check or letter of credit must be submitted to guarantee the preservation of trees designated to be saved (\$17,500) and for new landscaping (\$32,216) in a total amount of \$49, 716.
12. The hard-copy landscape plan provided does not include the proposed trees that were indicated on the digital version submitted to Staff on 9/30/19. Provide hard copies of the plan from 9/30/19.
13. Per section B-860(d)(1), the subdivision is required to have a minimum of 1 tree per 2,000 sf of site area which amounts to 33 trees. Proposed frontage trees (13 trees) cannot be counted to meet this requirements. Excepting the 13 frontage trees, there are 18 additional trees proposed and 8 on-site trees being preserved for a total of 26 non-frontage trees. This means 7 additional non-frontage trees are required to meet this specific requirement.
14. Existing trees on Lots 1 and 2 are indicated to be less than 5' from proposed driveways and house locations. These trees should not be assumed to be saved unless the home location and/or driveway locations are shifted to accommodate proper preservation methods.
15. Based on the plan submitted on 9/30/19, Staff has the following initial comments:
 - a. Driveways must be shifted to ensure protection of Trees #1 and #44. If tree #44 cannot be saved, an additional canopy tree on Monroe is required.
 - b. Revise the planting schedule to show the height of evergreen trees at planting. Note, the minimum height is 6'.
 - c. The following statistics must be listed on the landscape plan:
 - Canopy coverage for each proposed lot. Each lot is to have a minimum canopy coverage area of 35% assuming maturity of new proposed trees and existing canopy for existing trees. Trees in the public right-of-way may not be included in these calculations.
 - # of Significant trees (8"+) to be saved
 - # of other trees (2.5" – 8") to be saved
 - Total number of density trees (Minimum 1 per 2,000 sf of total site area excluding frontage trees)
 - Total number of frontage trees (1 per 50' of frontage)
 - Grand total of site trees

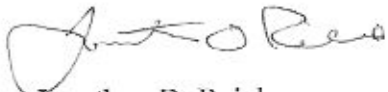
This is a preliminary review of the application. The Planning and Zoning Commission and Public Services Department will review the application in detail and provide further comments as necessary. This preliminary review is not an approval or acceptance of any part of the application submitted. If you choose, you can wait to submit revised plans until the

subcommittee meeting occurs and additional feedback is gathered to incorporate into one comprehensive revised plan submission.

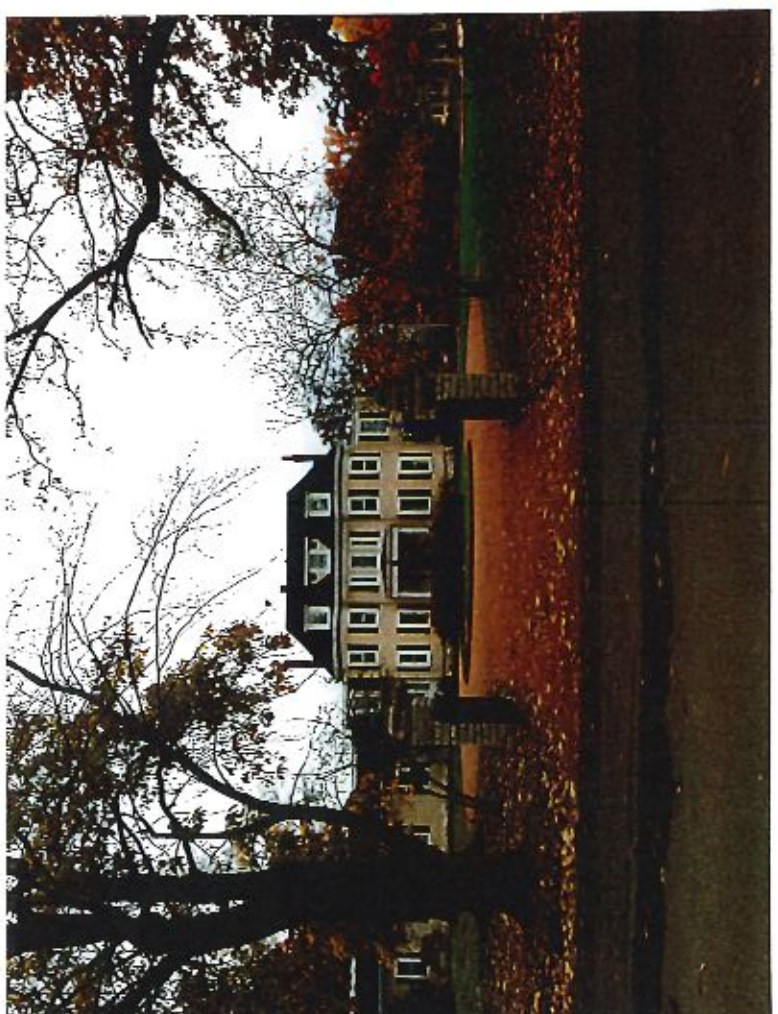
The applicant is further advised that it is the applicant's responsibility to follow their petition through the entire process and to satisfy all submittal requirements and deadlines. Also note, this application and review does not grant the applicant any special rights, privileges, or immunities, and that all provisions of the Kirkwood Code of Ordinances shall apply.

Sincerely,

CITY OF KIRKWOOD



Jonathan D. Raiche
City Planner
314-984-5926
raichejd@kirkwoodmo.org





Trees, Forests and Landscapes, Inc.
540 Clark Avenue
Kirkwood, Missouri 63122
(314) 821-9918
Fax (314) 821-6956
Website: treesforestsandlandscapes.com
Email: treesforests@sbcglobal.net

"Dedicated To Tree Preservation"

Mike Conley
608 East Monroe Avenue
Kirkwood, MO 63122

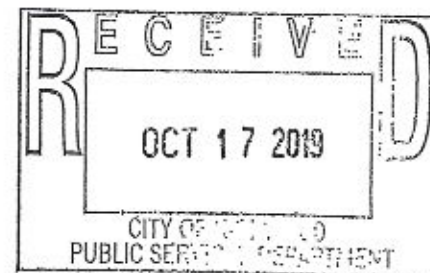
October 22, 2018

RE: Tree Study for 608 East Monroe Avenue, Kirkwood, MO 63122

Dear Mr. Conley:

In review of your development plans for your East Monroe Avenue project in accordance with the City of Kirkwood tree preservation guidelines we offer you the following summary of findings. This is based on a field site visit completed on October 16th using ground-level visual observations only and ANSI A300 Part 5 Best Management Practices. All valuations given are based on calculations from the Council of Landscape Appraisals, trunk formula method. In summary of these findings:

- Most of the trees found by this tree study are located on the eastern property boundary, the remainder of the property is fairly open with trees scattered around the perimeter and a few in the interior of the lot.
- At the moment there are no limits of disturbance proposed for development so no preservation recommendations can be made.
- In moving forward consider preserving existing trees on the property by limiting disturbance within the critical root zone (dimensions given in the tree summary table below). This is the root mass that provides water, nutrition, and structural integrity to the trees. Minimizing impacts to this zone will greatly increase the likelihood of survival post-construction.



Member of:
International Society of Arboriculture
Tree Care Industry Association
St. Louis Arborists Association
Landscape Nurserymen's Association of Greater St. Louis
Gateway Professional Horticultural Association
Missouri Botanical Gardens
Horticultural co-op



Trees, Forests and Landscapes, Inc.

540 Clark Avenue
Kirkwood, Missouri 63122
(314) 821-9918
Fax (314) 821-6956

Website: treesforestsandlandscapes.com
Email: treesforests@sbcglobal.net

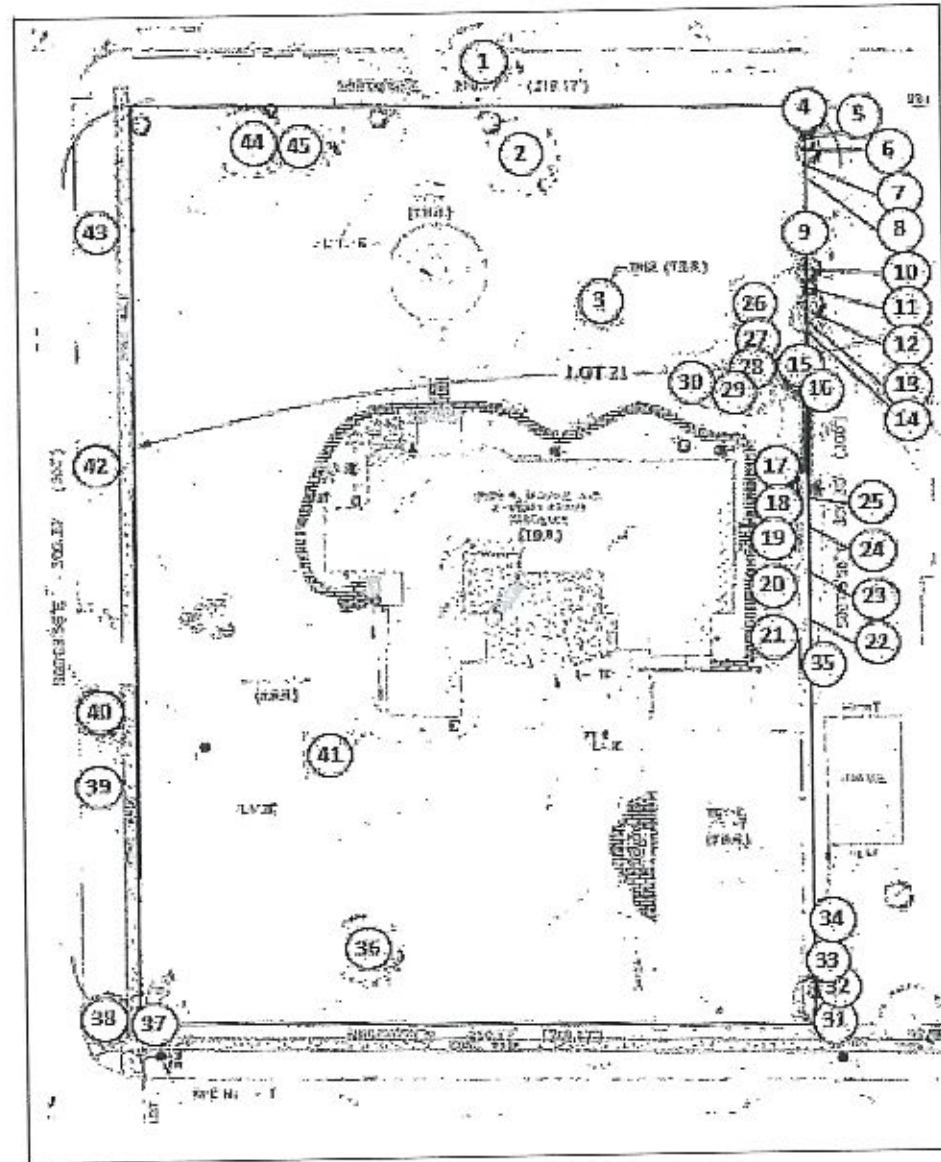
"Dedicated To Tree Preservation"

SPECIES INFO		MEASUREMENTS		APPRAISAL INFO				Notes	PRESERVATION INFO			
Species	Common	Size (DBH, inches)	Condition	Condition	Location	Species Factor	Species Appraisal		Critical Root Zone (radius, feet)	Structural Root Plate (radius, feet)	Preserve?	Remove?
<i>Acer rubrum</i>	red maple	27.9	fair	65	75	90	\$16,094.41	girdling roots, moderate decay in basal area	34.9			
<i>Catalpa speciosa</i>	northern catalpa	39.7	good	75	75	50	\$19,505.40	light decay in basal area	49.6			
<i>Celtis laevigata</i>	sugarberry	18.2	fair	70	75	70	\$5,625.79	included bark, armillaria fungi present	22.8			
<i>Catalpa speciosa</i>	northern catalpa	17.0	good	75	75	50	\$3,563.73	*on adjacent property along drive	21.3			
<i>Catalpa speciosa</i>	northern catalpa	11.8	good	75	75	50	\$1,708.82	*on adjacent property along drive	14.8			
<i>Catalpa speciosa</i>	northern catalpa	11.6	good	75	75	50	\$1,650.86	*on adjacent property along drive	14.5			
<i>Catalpa speciosa</i>	northern catalpa	6.4	good	75	75	50	\$491.55	*on adjacent property along drive	8.0			
<i>Catalpa speciosa</i>	northern catalpa	10.6	good	75	75	50	\$1,375.89	*on adjacent property along drive	13.3			
<i>Catalpa speciosa</i>	northern catalpa	11.0	good	75	75	50	\$1,482.91	*on adjacent property along drive	13.8			
<i>Catalpa speciosa</i>	northern catalpa	11.8	fair	65	75	50	\$1,480.98	*on adjacent property along drive, trunk defects	14.8			
<i>Ulmus americana</i>	American elm	9.0	fair	65	75	30	\$503.42	*on adjacent property along drive	11.3			
<i>Catalpa speciosa</i>	northern catalpa	7.1	good	75	75	50	\$608.59	*on adjacent property along drive	8.9			
<i>Catalpa speciosa</i>	northern catalpa	14.3	good	75	75	50	\$2,517.00	*on adjacent property along drive	17.9			
<i>Catalpa speciosa</i>	northern catalpa	17.3	good	75	75	50	\$3,691.18	*on adjacent property along drive	21.6			
<i>Ulmus americana</i>	American elm	9.1	good	75	75	30	\$594.05	*on adjacent property along drive	11.4			
<i>Carya spp.</i>	mucknut hickory	12.6	good	80	75	50	\$2,596.16	*on adjacent property along drive	15.8			
<i>Catalpa speciosa</i>	northern catalpa	17.8	good	75	75	50	\$3,908.55		22.3			
<i>Pyrus calleryana</i>	callery pear	20.9	fair	60	75	50	\$1,884.70		26.1			
<i>Pyrus calleryana</i>	callery pear	19.5	fair	55	75	50	\$1,503.29		24.4			
<i>Pyrus calleryana</i>	callery pear	11.3	declining	35	75	50	\$319.11	severe defects, lots of ivy on trunk	14.1			
<i>Catalpa speciosa</i>	northern catalpa	11.3	fair	70	75	50	\$1,461.38		14.1			
<i>Catalpa speciosa</i>	northern catalpa	10.0	fair	60	75	50	\$978.24	*along fence line/border	12.5			
<i>Catalpa speciosa</i>	northern catalpa	17.0	fair	55	75	50	\$1,296.37	*along fence line/border	15.0			
<i>Ulmus americana</i>	American elm	16.0	fair	60	75	30	\$1,484.70	*along fence line/border	20.0			
<i>Catalpa speciosa</i>	northern catalpa	14.0	fair	70	75	50	\$2,251.05	*along fence line/border	17.5			
<i>Tsuga canadensis</i>	eastern hemlock	6.0	good	75	75	70	\$697.69	18-20'	7.5			
<i>Tsuga canadensis</i>	eastern hemlock	6.0	good	75	75	70	\$697.69	18-20' multistemmed	7.5			
<i>Tsuga canadensis</i>	eastern hemlock	4.0	good	75	75	70	\$295.86	16-18' multistemmed	5.0			
<i>Tsuga canadensis</i>	eastern hemlock	4.0	good	75	75	70	\$295.86	16-18' multistemmed	5.0			
<i>Picea mariana</i>	Serbian spruce	6.0	good	75	75	70	\$751.35	16-18' multistemmed	7.5			
<i>Fraxinus americana</i>	white ash	19.0	fair	70	75	70	\$2,646.30	*along fence line/border	23.8			
<i>Liquidambar styraciflua</i>	sweetgum	13.0	fair	65	75	90	\$2,180.74	*along fence line/border	16.3			
<i>Catalpa speciosa</i>	northern catalpa	13.0	fair	70	75	50	\$1,938.93	*along fence line/border	16.3			
<i>Catalpa speciosa</i>	northern catalpa	22.0	good	75	75	50	\$5,978.96	*along fence line/border	27.5			
<i>Celtis laevigata</i>	sugarberry	11.0	good	75	75	70	\$2,187.09	*along fence line/border	13.8			
<i>Quercus stellata</i>	post oak	24.8	fair	70	75	70	\$6,994.02		31.0			
<i>Catalpa speciosa</i>	northern catalpa	26.5	good	75	75	50	\$8,682.17		33.1			
<i>Liquidambar styraciflua</i>	sweetgum	21.5	fair	60	75	90	\$5,532.48	double trunk, vines, girdling roots	26.9			
<i>Pyrus calleryana</i>	callery pear	16.3	fair	55	75	50	\$1,048.86	basal damage	20.4			
<i>Ulmus americana</i>	American elm	18.9	fair	65	75	30	\$2,247.50	included bark	23.6			
<i>Acer rubrum</i>	red maple	11.6	fair	70	75	90	\$2,972.68	girdling roots	14.5			
<i>Pyrus calleryana</i>	callery pear	14.3	declining	40	75	50	\$586.25	large basal damage	17.9			
<i>Liquidambar styraciflua</i>	sweetgum	24.0	fair	60	75	90	\$6,897.67	double trunk, girdling roots	30.0			
<i>Quercus stellata</i>	post oak	30.9	good	75	75	70	\$11,641.92		38.6			
<i>Quercus stellata</i>	post oak	34.3	fair	70	75	70	\$13,391.89		42.9			



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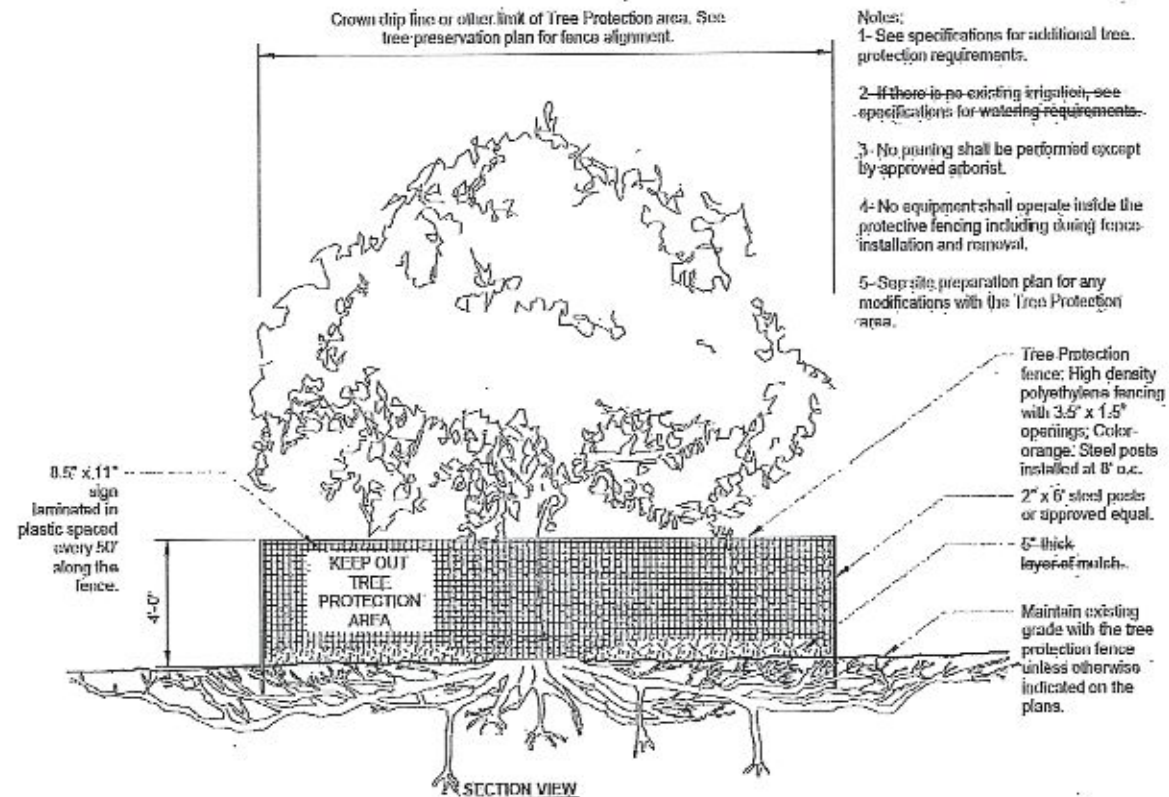




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"Dedicated To Tree Preservation"

Typical tree preservation zone detail:



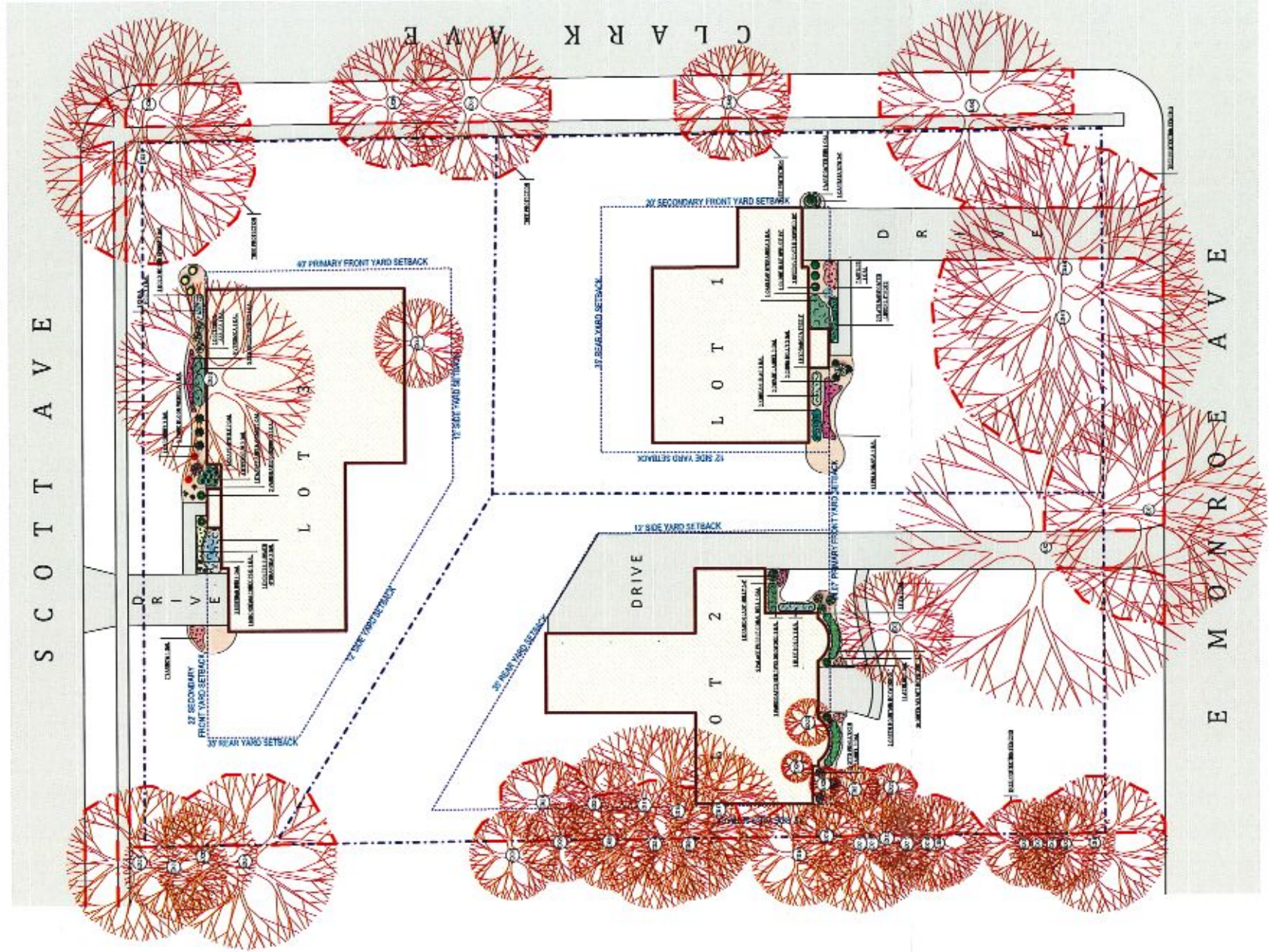
S-X TREE PROTECTION

URBAN TREE FOUNDATION © 2014
OPEN SOURCE FILE TO USE

Let us know if there are any additional questions regarding your trees or if other preservation services are needed.

Best regards,

Michael Garrett
Certified Arborist IL-4557A, Degreed Forester, M.L.A.
Trees, Forests, & Landscapes, Inc.



CONTRACTOR TO PROTECT TREES WITH:
 TREE PROTECTION FENCING
 NO PARKING OR STORAGE OF ANY KIND
 ROOT PRUNE ANY UTILITY THAT CROSSES
 CRITICAL ROOT ZONE

NOTE: EXISTING TREE SYMBOL
 SIZE REPRESENTS THE EXTENT OF
 CRITICAL ROOT ZONE

RECEIVED
 OCT 17 2019
 CITY OF KIRKWOOD
 PUBLIC SERVICES DEPARTMENT

SCALE: 1" = 20' 0"
 0 20 50 100



L1

LANDSCAPE DEVELOPMENT PLAN FOR
MIKE CONLEY
 608 East Monroe Avenue
 Saint Louis, MO 63122
 (314) 378-9100 mike@conleyinsurance.com

THE PROFESSIONALS
"Where Quality is a Requirement"
BAXTER GARDENS
Chesterfield
 17520 Waltham, Chesterfield, MO 63017
 314.633.9333 FAX: 314.633.1524
 www.baxtergardens.com

DESIGNED BY: **Bill Weishaar, Jr.**
 ORIGINAL DATE: May 21, 2019
 REVISION DATE:
 GRAPHIC ART: CST / JPS

This plan is the sole property of Baxter Gardens of Chesterfield. All rights reserved.

PRELIMINARY PLAT

CONLEY ESTATES

A PROPOSED SUBDIVISION OF A TRACT OF LAND BEING THE WESTERN PORTION OF LOT 21 OF "OAK VIEW PARK", A SUBDIVISION RECORDED IN P.B. 8, PG. 136 OF THE ST. LOUIS COUNTY RECORDS, CITY OF KIRKWOOD, ST. LOUIS COUNTY, MISSOURI



LEGEND

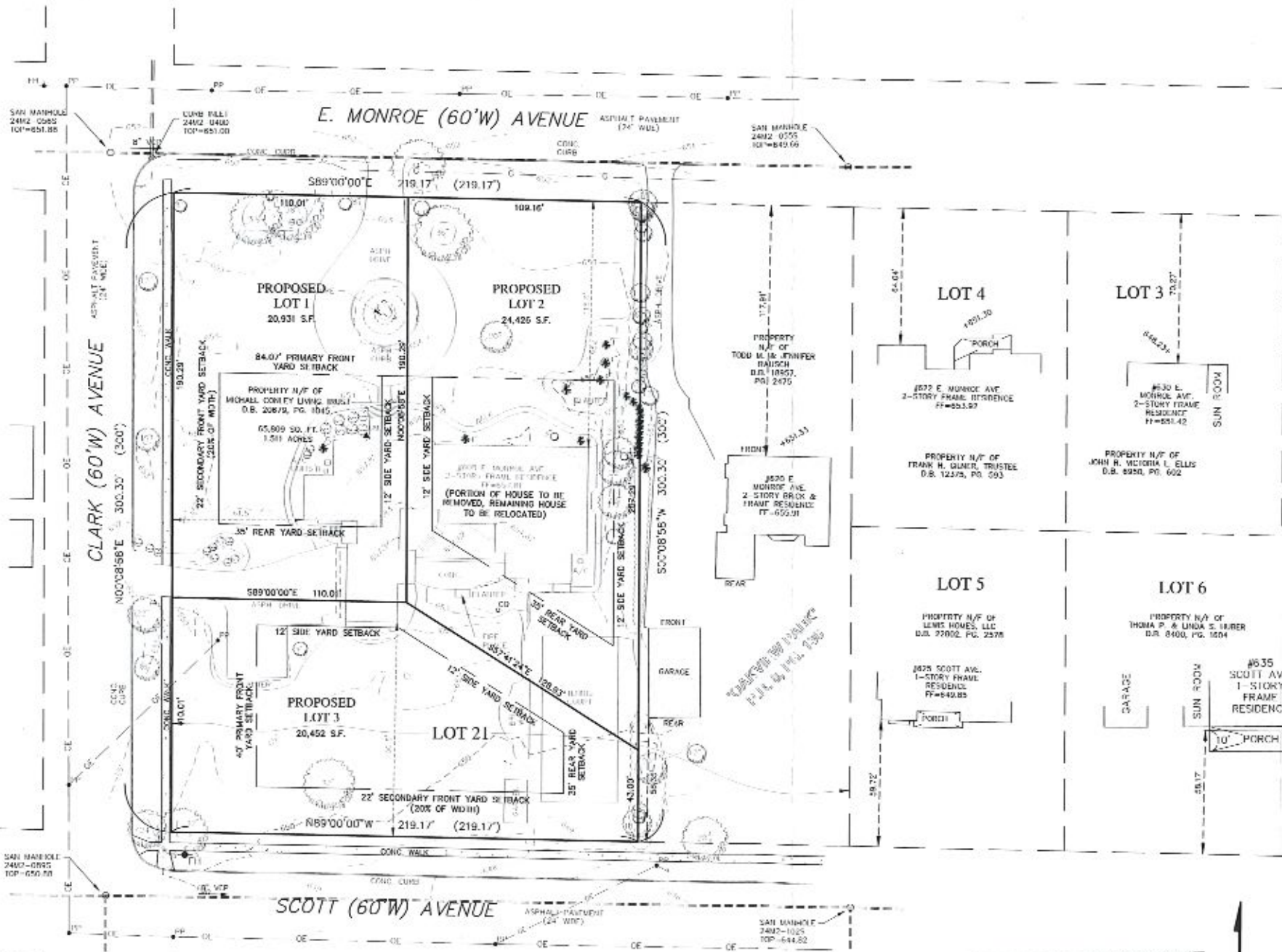
DESCRIPTION	SYMBOL
EXISTING MAJOR CONTOUR	500 ---
EXISTING MINOR CONTOUR	50 ---
PROPOSED MAJOR CONTOUR	504 ---
PROPOSED MINOR CONTOUR	502 ---
EXISTING SPOT ELEVATION	412.10
PROPOSED SPOT ELEVATION	402.00
PROPOSED/EXISTING ELEVATIONS	402.00
EXISTING SANITARY SEWER	—○—
PROPOSED SANITARY SEWER	—●—
PROPOSED STORM SEWER	—■—
EXISTING WATERLINE	—□—
EXISTING FIRE HYDRANT	⊙
EXISTING GAS LINE	—G—
EXISTING OVERHEAD UTILITY	—OU—
DOWNPOUT	—DS
USE IN PLACE	(M.I.P.)
ADJUST TO GRADE	(A.T.G.)
TO BE REMOVED	(T.B.R.)
TO BE REMOVED AND REPLACED	(T.B.R.R.)
TO BE REMOVED AND RELOCATED	(T.B.R.R.R.)

PROJECT DATA

LOCATOR NO. : 240630355
 ADDRESS : 808 E. MONROE AVENUE, KIRKWOOD, MO 63127
 OWNER : MRC CONLEY LIVING TRUST
 AREA OF TRACT : 65,802 S.F. (1.51 AC.)
 PRESENT ZONING : R-3
 PROPOSED USAGE : SINGLE FAMILY RESIDENCE
 SCHOOL DISTRICT : KIRKWOOD
 FIRE DISTRICT : KIRKWOOD
 WATERSHED(S) : RIVER DES PERES
 FIRM PANEL : 201800200K
 UTILITIES : KIRKWOOD WATER, METRO. ST. LOUIS SEWER DIST., SPIRE GAS COMPANY, AT&T TELEPHONE COMPANY, ANDECH UL

Owner: Mike Conley
 Subdivisor: 508 E. Monroe Avenue, Kirkwood, MO 63122
 Surveyor: Sabur, Inc., 1751 Ashby Road, St. Louis, MO 63114

Prepared By: Vance Engineering, Inc., 10537 Lockland Road, St. Louis, MO 63114, P: 314-427-1900



YARD SETBACK REQUIREMENTS

MINIMUM PFR ZONING:
 FRONT SETBACK (E. MONROE) = $(117.91 + 64.04 + 40.27) / 3 = 84.07'$
 FRONT SETBACK (SCOTT) = $(58.35 + 59.77 + 58.17) / 3 = 58.75'$
 SIDE SETBACK = 40'
 FRONT SETBACK ALONG EAST MONROE AND ALONG SCOTT DETERMINED BY AVERAGING THE FRONT SETBACK OF THE EXISTING HOUSES WITHIN 300 FEET OF SUBJECT PROPERTY.

LOT AREA

MINIMUM LOT SIZE PER ZONING: 15,000 S.F.
 PROPOSED LOT 1 = 20,931 S.F.
 LOT 2 = 24,426 S.F.
 LOT 3 = 20,452 S.F.
 AVERAGE LOT SIZE = 21,936 S.F.

GENERAL NOTES

- BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY SABUR SURVEYING.
- GRADING AND STORMWATER DRAINAGE TO CONFORM TO THE STANDARDS OF THE CITY OF KIRKWOOD, MO, AND M.S.D.
- SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL.
- SANITARY SEWERS TO MEET THE CITY OF KIRKWOOD AND M.S.D. STANDARDS ON SITE.
- ALL UTILITY SERVICES SHALL BE UNDERGROUND.
- UTILITY INFORMATION PER SURVEY PROVIDED AND AVAILABLE RECORDS.
- ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO THE CITY OF KIRKWOOD STANDARDS.
- THE FINISHED GRADE LEVEL AT THE BUILDING TO BE MINIMUM OF 6" BELOW TOP OF FOUNDATION FOR MASONRY AND 8" FOR FRAME AND BRICK VENEER.
- THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF NOT LESS THAN ONE UNIT VERTICAL IN 10 HORIZONTAL (1:10) FOR A MINIMUM DISTANCE OF 8 FEET MEASURED HORIZONTAL TO THE FACE OF THE WALL.
- ALL GRADING SHALL CONFORM TO THE APPROVED GRADING PLAN.
- FOUNDATION FOOTINGS SHALL BE CONSTRUCTED SO AS TO MAINTAIN A 2" DEPTH OF EARTH COVER OR AS REQUIRED BY THE LOCAL BUILDING CODES.
- THIS IS NOT A SURVEY AND DOES NOT MEET THE MISSOURI MINIMUM STANDARDS FOR BOUNDARY SURVEYS.
- ALL SEWER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, 2009.

PRELIMINARY PLAN DISCLAIMER

THIS PLAN WAS PREPARED USING RECORD/AVAILABLE SURVEYS, PROPERTY DESCRIPTIONS, TOPOGRAPHIC INFORMATION, UTILITY MAPS/MARKINGS, AERIAL PHOTOS, ETC. AS SUCH, THE DESIGN OF IMPROVEMENTS SHOWN HEREON IS TO BE CONSIDERED STRICTLY PRELIMINARY AND SUBJECT TO REVISION AS A RESULT OF ACTUAL BOUNDARY SURVEYS, FINAL ENGINEERING DESIGN AND AGENCY(S) REVIEW/APPROVAL.
 I HEREBY CERTIFY THAT I HAVE PREPARED OR DIRECTED THE PREPARATION OF THIS PLAN BASED ON THIS INFORMATION. IT IS TO BE CONSIDERED STRICTLY PRELIMINARY, AND IS NOT TO BE USED FOR CONSTRUCTION.

MICHAEL CLAY VANCE, PE
 E-25516
 VANCE ENGINEERING, INC. AUTHORITY NO. 2003022104

EXISTING UTILITIES NOTE

UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THEREFORE, THE LOCATIONS OF ANY UNDERGROUND FACILITIES SUCH AS SEWER WHICH BE CONSIDERED APPROXIMATE PRIOR TO BEGINNING WORK ON THE SITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF THESE FACILITIES, ALONG WITH ANY IN EXISTENCE THAT ARE NOT SHOWN IN THIS LOCATION BOTH HORIZONTALLY AND VERTICALLY (IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY/FACILITY OWNER), AND TO VERIFY THAT MINIMUM CLEARANCES AND COVER REQUIREMENTS BETWEEN THE EXISTING FACILITIES AND THE PROPOSED WORK WILL BE MET.



CONLEY ESTATES
 PRELIMINARY PLAT

MICHAEL CLAY VANCE, P.E.
 E-25516
 REVISED

18080
 10/10/19
 1/1
 CPM/MLT 2019

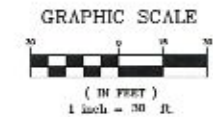
RECORD PLAT FOR

“CONLEY ESTATES”

A TRACT OF LAND BEING THE WESTERN PORTION LOT 21 OF "OAK VIEW PARK", A SUBDIVISION RECORDED IN P.B. 8, PG. 136 OF THE ST. LOUIS COUNTY RECORDS, CITY OF KIRKWOOD, ST. LOUIS COUNTY, MISSOURI
ZONED: R-3 SINGLE FAMILY RESIDENCE DISTRICT

LEGEND

- FOUND IRON PIPE/ROD
- ⊙ SET SURVEY MONUMENT AS NOTED
- ✦ FOUND/SET CROSS
- ⊞ FOUND CONC. MONUMENT/STONE



OWNER'S CERTIFICATE
The undersigned owner of the tract of land herein plotted and further described in the foregoing surveyor's certificate have caused the same to be surveyed and subdivided in the manner shown on this plat, which subdivision shall hereafter be known as "CONLEY ESTATES".
Building lines as shown on this plat are hereby established.
IN WITNESS WHEREOF, we have hereunto set our hand and the day of _____, 2019.

MICHAEL CONLEY, TRUSTEE

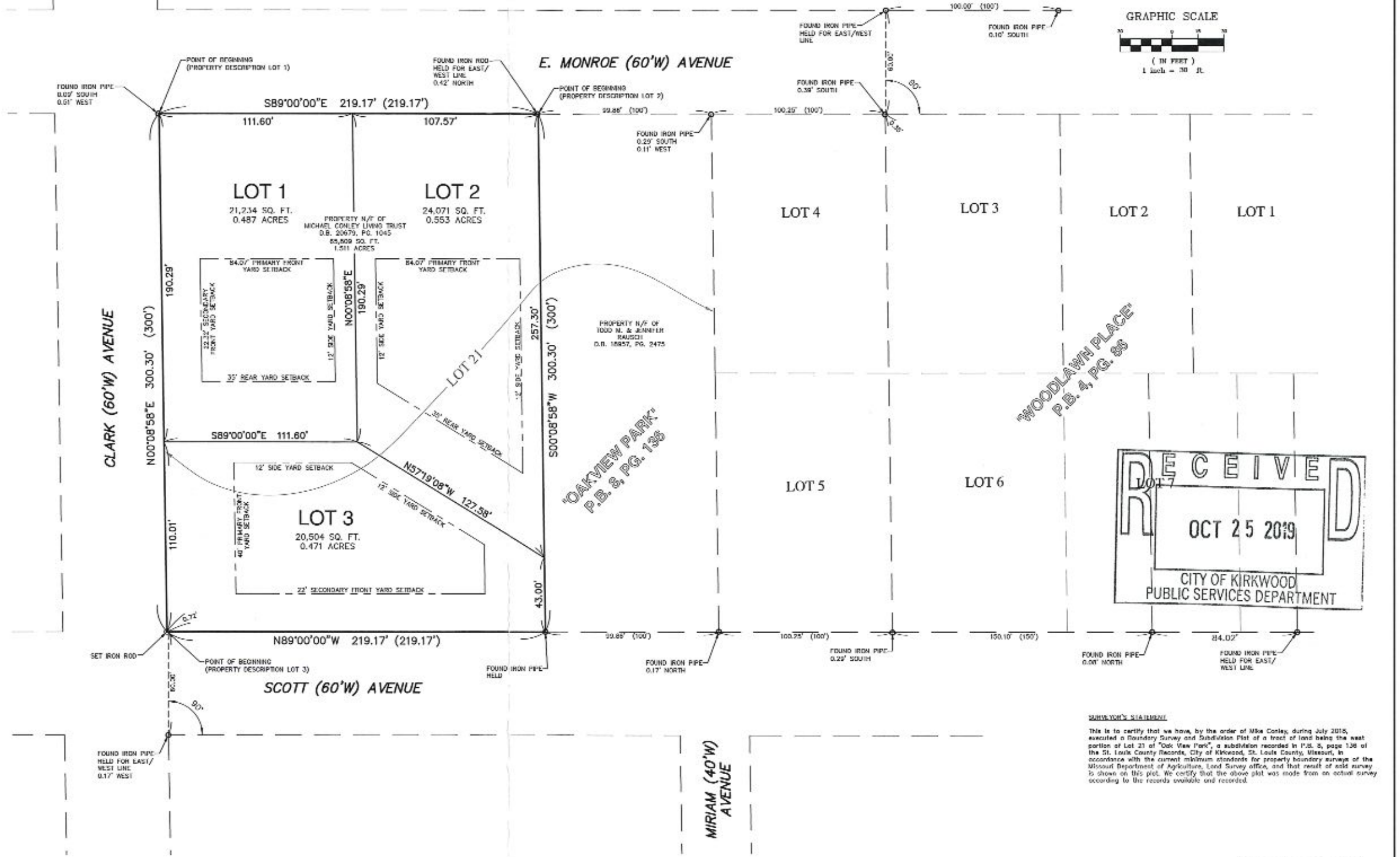
STATE OF MISSOURI }
COUNTY OF ST. LOUIS } ss.
On this _____ day of _____, 2019, before me personally appeared MICHAEL CONLEY, TRUSTEE to me known to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same as his free act and deed.
IN WITNESS WHEREOF, I have signed and sealed the foregoing this day and year first above written.
My Commission Expires: _____
Notary Public
Print Name: _____

LIENHOLDER'S SCRIPT
The undersigned being the holder and legal owner of Deed of Trust Record in book _____ page _____ of the St. Louis County Records, does hereby consent to, ratify and approve the foregoing plat.
IN WITNESS WHEREOF, We have hereunto set our hand and affixed our Corporate Seal this _____ day of _____, 2019.
Print Name of Corporation: _____
Attest: _____ by _____
Name Printed: _____
Position: _____

STATE OF MISSOURI }
COUNTY OF ST. LOUIS } ss.
On this _____ day of _____, 2019, before me personally appeared _____ who being by me duly sworn did say that he/she is the _____ of _____ a Corporation of the State of Missouri, and that the seal affixed to the foregoing instrument was signed and sealed on behalf of said corporation by authority of the Board of Directors and the said _____ acknowledged said instrument to be the free act and deed of said corporation.
IN WITNESS WHEREOF, I have signed and sealed the foregoing this day and year first above written.
My Commission Expires: _____
Notary Public
Print Name: _____

I, Laurie Asche, City Clerk for the City of Kirkwood, Missouri, do hereby certify that the above plat of "CONLEY ESTATES" was approved by the Planning and Zoning Commission on the _____ day of _____, 2019, and was approved by the City Council of the City of Kirkwood, Missouri by Ordinance No. _____ on the _____ day of _____, 2019.

Laurie Asche
City Clerk
City of Kirkwood, Missouri



LOT 1 PROPERTY DESCRIPTION
Beginning at a point being the southeast corner of the intersection of Clark (60'W) Avenue and E. Monroe (60'W) Avenue; thence along the south right-of-way line of E. Monroe (60'W) Avenue south 89 degrees, 00 minutes, 00 seconds east a distance 111.60 feet to a point; thence along said east right-of-way line south 00 degrees, 00 minutes, 58 seconds west a distance of 190.29 feet to a point; thence north 89 degrees, 00 minutes, 00 seconds west a distance of 111.60 feet to a point in the east right-of-way line of Clark (60'W) Avenue; thence along said east right-of-way line north 00 degrees, 08 minutes, 58 seconds east a distance of 190.29 feet to the point of beginning and containing 21,234 square feet, or 0.487 acres.

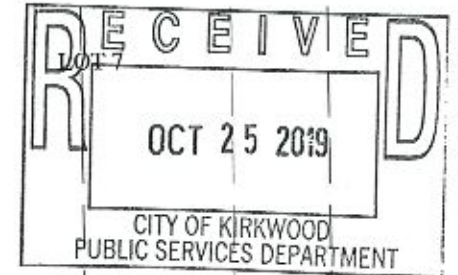
LOT 2 PROPERTY DESCRIPTION
Beginning at a point being in the south right-of-way line of E. Monroe (60'W) Avenue; said point being distant south 89 degrees, 00 minutes, 00 seconds east a distance 219.17 feet from the southeast corner of the intersection of Clark (60'W) Avenue and E. Monroe (60'W) Avenue; thence along the south right-of-way line of E. Monroe (60'W) Avenue south 00 degrees, 08 minutes, 58 seconds west a distance 257.30 feet to a point; thence north 00 degrees, 08 minutes, 00 seconds west a distance of 190.29 feet to a point; thence north 00 degrees, 08 minutes, 58 seconds east a distance of 190.29 feet to a point in the south right-of-way line of Clark (60'W) Avenue; thence along said south right-of-way line south 89 degrees, 00 minutes, 00 seconds east a distance of 107.57 feet to the point of beginning and containing 24,071 square feet, or 0.553 acres.

LOT 3 PROPERTY DESCRIPTION
Beginning at a point being the northeast corner of the intersection of Clark (60'W) Avenue and Scott (60'W) Avenue; thence along the east right-of-way line of Clark (60'W) Avenue north 00 degrees, 08 minutes, 58 seconds east a distance 110.01 feet to a point; thence along said east right-of-way line south 89 degrees, 00 minutes, 00 seconds east a distance of 190.29 feet to a point; thence south 57 degrees, 19 minutes, 00 seconds east a distance of 127.58 feet to a point; thence south 00 degrees, 08 minutes, 58 seconds west a distance of 43.00 feet to a point in the north right-of-way line of Scott (60'W) Avenue; thence along said north right-of-way line north 89 degrees, 00 minutes, 00 seconds west a distance of 219.17 feet to the point of beginning and containing 20,504 square feet, or 0.471 acres.

- NOTES:**
- The basis of the bearing system is the north line of Scott (60'W) Avenue per "545 Scott Avenue Boundary Adjustment Plat", a subdivision recorded in P.B. 362 page 266 of the St. Louis County Records. Said bearing is north 89 degrees, 00 minutes, 00 seconds west.
 - This is an urban survey.
 - () denotes record information.
 - The commission has not been provided to Sabur, Inc. No easement investigation has been performed by the surveyor.

WOODLAWN PLACE
P.B. 4, PG. 88

OAKVIEW PARK
P.B. 8, PG. 136



SURVEYOR'S STATEMENT
This is to certify that we have, by the order of Mike Conley, during July 2019, executed a Boundary Survey and Subdivision Plat of a tract of land being the west portion of Lot 21 of "Oak View Park", a subdivision recorded in P.B. 8, page 136 of the St. Louis County Records, City of Kirkwood, St. Louis County, Missouri, in accordance with the current minimum standards for property boundary surveys of the Missouri Department of Agriculture, Land Survey office, and that result of said survey is shown on this plat. We certify that the above plat was made from an actual survey according to the records available and recorded.

Michael A. Sailer
Missouri P.L.S. #2001001915



SABUR, INC.
1751 ASHBY RD. ST. LOUIS, MO 63114
PHONE: (314) 428-1434 FAX: (314) 428-6082
www.sabur-inc.com
Authority No. LS-213-13

DRAWN BY: J.F.B.	ORDER NO. 18-070	SHEET 1
CHECKED BY: M.A.S.	DATE 10/21/2019	1

THIS PLAT OF SURVEY CONTAINS 65,809 SQ. FT. OR 1.511 ACRES

CITY OF KIRKWOOD

APPLICATION FOR PLANNING AND ZONING COMMISSION ACTION

DATE: 9/27/2019

CASE NUMBER: PZ-15-20

PROJECT ADDRESS: 426 N. Kirkwood Rd
ZONING DISTRICT: B-2 LOT SIZE: 2.56 acres
LOCATOR NUMBER: 23M141591, 23M140291, 23M140354, 23M14038

ACTION REQUESTED KIRKWOOD FLATS

- Zoning Change From to
Community Unit Plan, Type:
Special Use Permit, Category:
Subdivision Development, Number of Lots:
B4 Development Plan
B5 Development Plan
Site Plan Review
Right-of-Way/Easement Vacation
Other: B2 MIXED USE, PRELIMINARY
Comments:

PETITIONER INFORMATION

I (We) hereby certify that I (we) have legal interest in the hereinabove described property and that all information given herein is true and a statement of fact
Name (Print): Josh Udelloten, Altus Signature: [Signature] Phone No.: (314) 974-5674
Mailing Address: 231 S. Beniston Ave City: St. Louis State: MO Zip: 63105
E-mail Address: judelloten@altusproperties.com
Petitioner's Status: [X] Corporation [] Partnership [] Individual
Relationship of Petitioner to Property: [] Owner [] Tenant [X] Option Holder (Attach Copy of Contract) [] Other

AGENT INFORMATION

Agent's Name: Signature: Phone No.:
Mailing Address: City: State: Zip:
E-mail Address:

(NOTE: The petitioner's agent, if listed, shall receive the official notice of public hearing)

PROPERTY OWNERS

Signature required or submit proof petitioner has legal interest in property. Letter from UMB Bank provided
Name: Name:
Signature: Signature:
Address: Address:
City/State/Zip: City/State/Zip:
Phone: Phone:

FOR CITY USE ONLY

- Date Received: 9-27-19 Total Received: \$1,075 Agenda Date: 10-16-19
B-4/B-5 Development Plan (Preliminary): \$1,000 + Acres @ \$100/Acre or portion over one acre = \$
CUP, Preliminary (Multi Family): \$1,000 + Dwelling units @ \$20/Each = \$ = \$
CUP, Preliminary (Detached Single Family): \$1,000 + Lots @ \$500/Lot = \$
Letter of Credit Extension: \$100
Rezoning: \$1,000
Site Plan Review: \$1,000
Site Plan Review Amendment \$800 or Extension: \$300
[X] Site Plan Review, Mixed Use in B2 Zoning District (Preliminary): \$1,000 (includes SPR fee) + \$25/acre or portion over one acre
Special Use Permit and Special Use Permit Amendments: \$1,000
Subdivision, Preliminary (Detached Single Family): Lots @ \$500/Lot = \$
Vacation, Easement: \$75
Vacation, Right-of-way: \$100
Zoning Code Amendment: \$1,000

Final Subdivision Plat/Community Unit Plan/B-4 or B-5 Development Plan

- Date Received: Total Received: \$ Agenda Date:
B-4 and B-5 Development Plan (Final) or B4 Development Plan Amendment (when public hearing is not required): \$1,000
B-5 Development Plan Amendment (when public hearing is not required): \$500
CUP Amendment, Type A or Type C: Without public hearing \$500; With public hearing \$800
CUP Type C (Final): \$500 + 1-1/4% of \$ = \$
CUP Type A or C Time Extension on Final: \$300
Sidewalk Waiver on feet @ \$30/Foot = \$ = \$
Site Plan Review, Mixed use in B2 Zoning District (Final): \$500
Site Plan, Mixed use in B2 Zoning District Amendment: \$300
Subdivision Plat or CUP Type A (Final): Lots @ \$100/Lot = \$ + 1-1/4% of \$ = \$
Subdivision Plat Development Plan Amendment: \$200



September 27, 2019

Mr. Jonathan D. Raiche, AICP
City Planner
City of Kirkwood
139 S. Kirkwood Road
Kirkwood, MO 63122

RE: Kirkwood Flats – Altus Development Proposal

Dear Jonathan,

It is with great excitement that Altus Properties (“Altus”) is submitting the enclosed Development Plan for 426 N. Kirkwood Road (“Property”) for Site Plan Review consideration by the City of Kirkwood. We believe that our “Kirkwood Flats” development is uniquely positioned to be a near term realization of the vision laid out by the Downtown Master Plan. As we have endeavored to demonstrate during our working sessions, Altus and our design partners at HOK, recognize the unique value that such a large site has within the context of Downtown Kirkwood, and the community at large. **To that end, we have worked diligently to assure that our proposed development plan delivers on the Vision provided in the Downtown Master Plan.**

Development Plan

Altus is proposing the development of a luxury, mixed-use, development under the existing B-2 Zoning classification of the Property. The development includes approximately 12,500 square feet of Class A retail space topped by approximately 178 luxury multifamily apartment homes along with supporting interior and exterior amenities (“Project”). The Project will contain approximately 297 parking stalls, 217 of which, will be located in the structured parking area that is located under the building footprint. By placing the parking under the building, we have been able to eliminate the need for a large, multi-story, parking garage along Washington Avenue. As a result of removing the larger, standalone garage, we can provide more substantial landscaping areas, and more importantly, provide adequate space for a Public Plaza at the Northwest corner of the Project along Kirkwood Road.

Public Plaza & “Kirk-Walk”

A signature element of Kirkwood Flats is the Public Plaza proposed at the Northwest Corner of the site. Altus envisions the plaza as a new “community room” for Kirkwood residents and visitors. While final programming of the plaza space is not yet complete, opportunities exist for public art, water features, shaded seating areas, as well as a landing area for a potential “Kirk-walk” as described in the Downtown Master Plan.

As described further under the “Modifications” section of this letter, Altus is willing to provide (1) a public access easement for the installation of a Kirk-walk along the northern boundary of our Project, and (2) provide for a “landing zone” for a new pedestrian only crossing on Kirkwood Road, which would further facilitate the community utilization of the contemplated Kirk-walk.

Community Benefits

As stated above, the Project provides the opportunity for a near term realization of the visions laid out in the Downtown Master Plan. These desired community benefits include:

- Increased activity and vibrancy as a result of a residential and retail mixed-use development.
- Enhancement of the urban street edge along Kirkwood Road, thus extending the downtown experience further to the North.
- Addition of modern retail that will enhance the street frontage experience and bring new lifestyle amenities to the residents of Kirkwood.
- Reduction in the amount of existing surface parking that deteriorates the urban context of the Northern end of the downtown district.
- Creation of a new anchor point with a Public Plaza available for civic activities.
- Improvement upon the pedestrian experience with safer sidewalks and the potential for a "Kirk-walk"
- Satisfaction of pent-up market demand for high-quality modern apartments with a full-spectrum of amenities.

Modification Request:

As outlined in the Appendix of the enclosed Development Plan, Altus is requesting three (3) Modifications from existing B-2 Zoning Requirements. The requests, and relevant information, for the Modification are as follows:

- **Building Height: ~76.5' vs. 60'**
 - Most of the parking for the Project is below the building vs. in an adjacent, above grade, parking garage. This is done to reduce the visual impact of parking for the overall development and provide covered parking for residents that will call this home. As a result of this configuration, the building height is taller than what is allowed in the zoning requirements.
 - *Of important note, the building is set back at the top on the west façade for the entire sixth floor to reduce the overall height from a pedestrian perspective.*
- **Density (Gross Lot Area per Dwelling Unit): ~627 per unit vs. 1,200 per unit**
 - To accommodate a mixed-use building of this type, there is an amount of density in apartment units needed to provide adequate revenue to offset the costs of the amenities and structured parking. As a result, there are more units per gross lot area than what the zoning requirements stipulate.
 - *Of important note, despite exceeding the Gross Lot Area per Dwelling Unit, the Project is under the FAR Maximum of 2.5, thus being compliant with a portion of applicable density requirements.*
- **Minimum Frontage (Washington Avenue Only): 0% within 50' Washington Avenue vs. 75%**
 - Due to the unique configuration of the site boundary that wraps Tom's Service Station, it proved undesirable to meet minimum frontage requirements along Washington Avenue.
 - *Of important note, the Project complies with Minimum Frontage Requirements along Kirkwood Road.*

As outlined in Section 220.2 of the Kirkwood Zoning Code, "Modifications from existing zoning requirements may be considered by the Planning and Zoning Commission and the City Council in relation to property line setback(s) (except for the setback line(s) directly adjacent to properties zoned residentially), lot size, height, density, landscape requirements, and parking requirements designated for conventional developments. If the developer can demonstrate that one or more of the numbered objectives listed below can be realized at a higher level with modification of certain zoning requirements than could be achieved if all zoning requirements can be upheld, the City may grant a modification to one or more of the zoning requirements listed above."

As described in detail below, we believe our Project can demonstrate greater fulfillment of several of the prescribed City Objectives with the Modifications requested above. We have listed the relevant City Objective, as well as our logic for fulfillment, below.

- **Provision of landscaping that is of an equal or higher quality than is possible under the regulations otherwise applicable to the property. Quality includes vegetation that is appropriate to the climate as well as the quantity.**
 - The Modification Requests provide the adequate space to create the Public Plaza. Further, the requested unit count will provide the necessary project value to construct the Public Plaza improvements.
- **Functional and beneficial uses of open spaces areas and preservation and protection of natural features of a development site, inclusive of preservation, planting, maintenance, restoration, protection and survival of desirable tree canopy areas within a development site.**
 - The Public Plaza will serve as a northern community "anchor point" similar to the Kirkwood Station Plaza that exists directly across from Kirkwood City Hall. This new public plaza will provide a community space that will help define the northern "front door" of downtown Kirkwood.
- **Consideration of the impact on neighboring residential properties resulting from non-residential uses within the development including but not limited to protecting the existing neighborhood assets and quality of life**
 - Altus envisions the installation of multiple new "lifestyle" retailers that will bring much needed amenities to the northern side of the downtown business district. Further, UMB Bank will remain on site after completion of the new development thus maintaining current neighborhood assets. These new community "amenities" will further the ability to enjoy the walkable lifestyle that many Kirkwood residents desire.
- **Rational and cost-effective development in relation to public services and the installation and maintenance of public and private infrastructure by reducing the distant utilities are extended and installed, and/or by reducing the width and length of streets**
 - Vertical mixed-use projects are, by definition, more cost-effective in relation to public services and infrastructure. Each additional unit in the building has a "dollar cost averaging" impact on the cost-effectiveness of the project and associated public infrastructure.
- **Design for efficient and effective traffic circulation, both within and adjacent to the development site, and the encouragement of pedestrian and non-motorized pathway utilizing site features compliant with the land use plan.**

- The Project reduces the number of curb cuts from four to two, creating a vastly improved interaction between on-site traffic and transient traffic on the adjacent public roadways.
- In addition to fewer opportunities for pedestrian/vehicular interactions, the Project will have new city standard sidewalks and landscape buffers that will provide safer walkways for residents and visitors.
- **Providing safe access to the development for all users including pedestrians, cyclists, and individuals with disabilities.**
 - As stated above, access for all users, including pedestrians, cyclists and individuals with disabilities will be substantially improved under the proposed plan.

UMB Bank – Temporary Branch Facility

Due to bank regulatory requirements, UMB Bank will require the ability to operate a temporary branch facility for the duration of Project construction. The temporary branch would be operated out of a modular building leased from UMB's banking equipment supplier, Bankers Security. Representative floorplans and elevations of the proposed temporary bank building facility are attached hereto as Exhibit A.

Altus is currently in negotiations with AT&T Corporation to secure a short-term lease for their .46 acre parking lot located at 136 West Washington Avenue. The proximity of this location will assure that Kirkwood residents will have no loss of UMB banking services during the Project construction period.

Based on our review of the submittal requirements outlined in the Kirkwood Zoning Code, we believe that we have submitted all the necessary information and documents for the Kirkwood Planning staff to complete a Site Plan Review of our proposed development. Should you feel we have a deficiency on any item(s), please contact me as soon as possible so we can provide the additional information your team requires.

We look forward to working with the City of Kirkwood on this exciting project and encourage you to reach out with any questions or concerns that you would like to discuss.

Best,



Joshua J. Udelhofen
Managing Director, Development

cc: Robb Johnson, Peter Gray, Alex Borchert – Altus Properties
Travis Lavender, Scott Matthews – UMB Bank
Jonathan Giokas – Husch Blackwell Sanders
Bill Remis – Realty Law Partners
Jonathan Wirth, Barbara Anderson – HOK



Exhibit A



3 3/4\"/>

2 Detail
1/8\"/>

5 THE CURING, PAINTING, FINISHING, AND PROTECTIVE COATINGS FOR THE PROJECT WILL BE PROVIDED BY OTHERS.

1-0\"/>

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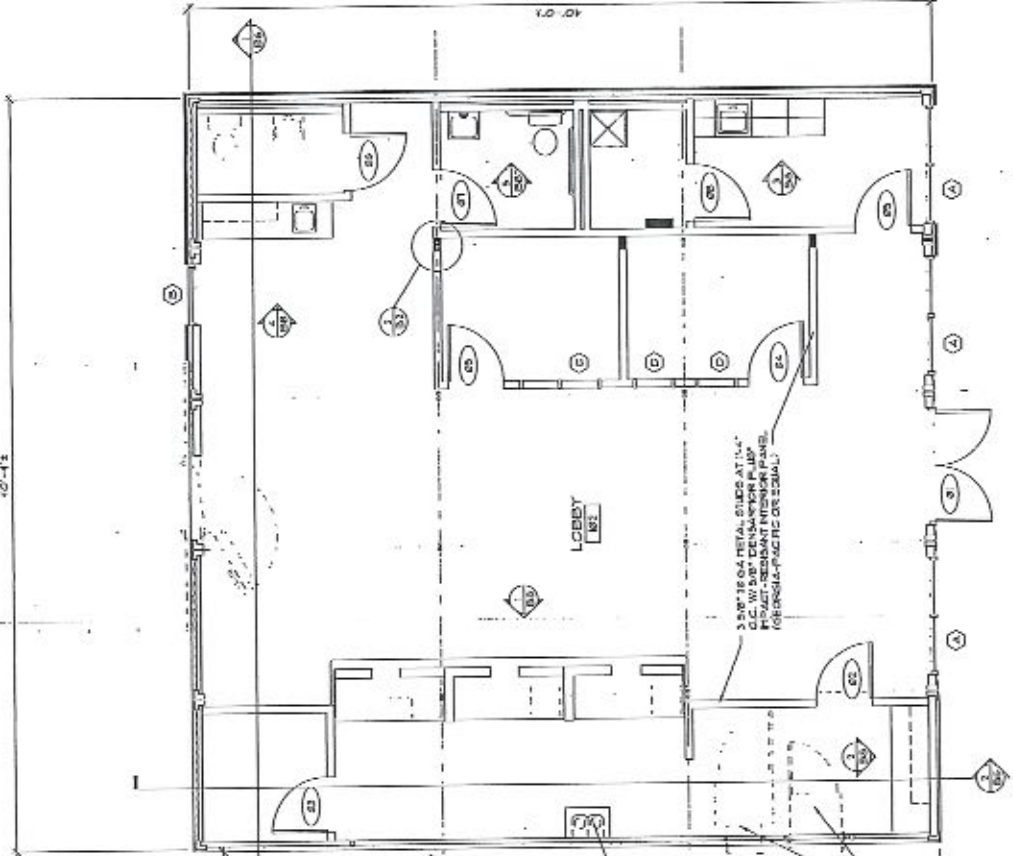
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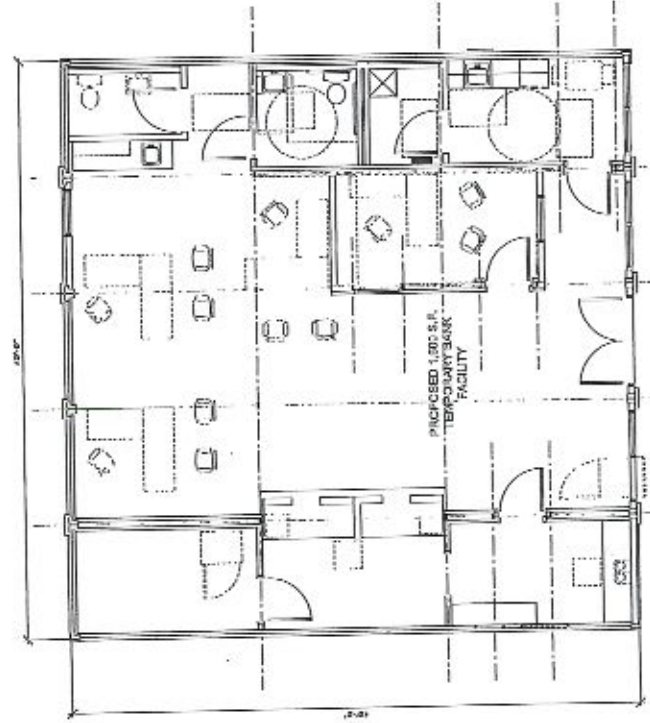
SEE SHEET CONCERNING WALL FINISHES. REFER TO VALLT 017 SHEETS FOR ADDITIONAL INFORMATION AND STRUCTURAL DRAWINGS FOR FINISHES, FINISHES, FINISHES.

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BANKING EQUIPMENT SHALL BE INSTALLED BY BANKERS BEFORE TO BE INSTALLED BY BANKERS REFER TO SHEETS FOR ADDITIONAL INFORMATION.

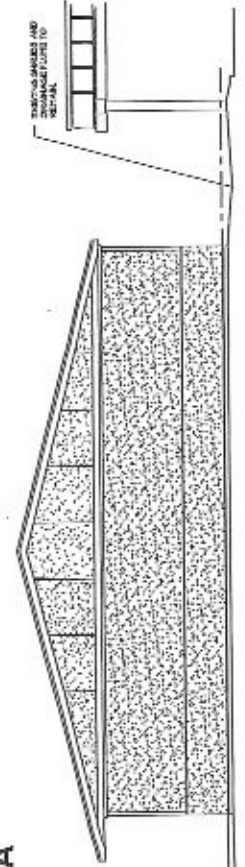
5 Unit
1 Floor Plan
1/8\"/>

Exhibit A

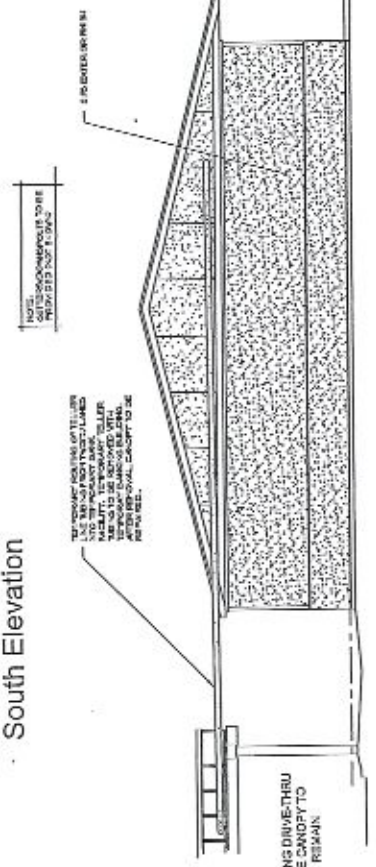


BANKERS SECURITY
 Systems Plus, Inc.
 1000 S. 10th St., Suite 100
 Lincoln, NE 68502
 (402) 441-1111
 www.bankerssecurity.com

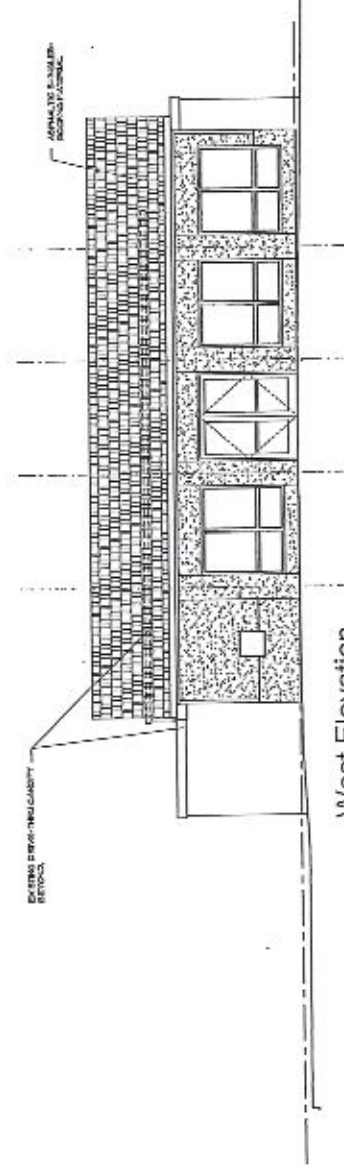
Proposed Floor Plan
 100-100-1111



South Elevation



North Elevation



West Elevation

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NOTE: THE EXISTING DRIVE THRU LAKE CANOPY TO REMAIN. THE DRIVE THRU LAKE CANOPY TO BE REMOVED. THE DRIVE THRU LAKE CANOPY TO BE REMOVED.

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EXISTING DRIVE THRU LAKE CANOPY TO REMAIN.



WITHIN COMMUNITY AND SPIRIT MEEY®

October 8, 2019

Josh Udelhofen
Altus Properties
231 Bemiston Ave., Suite 650
St. Louis, MO 63105

SENT VIA EMAIL: judelhofen@altusproperties.com

SUBJECT: PZ-15-20; 11204 -- 426 N. Kirkwood Road -- Kirkwood Flats
B-2 Mixed Use Preliminary Development Plan

Mr. Udelhofen:

The City of Kirkwood Public Services Department is in receipt of your application for a B-2 Mixed Use Preliminary Development Plan for the property known as 426 N. Kirkwood Road (including parcels addressed 105 E. Washington and 416 -432 N. Kirkwood Road). This item will be placed on the Planning and Zoning Commission agenda for its **7:00 p.m. meeting Wednesday, October 16, 2019** at Kirkwood City Hall, 139 South Kirkwood Road. City Staff will make an introduction presentation regarding the request at this meeting. You, or your representative, should attend this meeting to present this item to the Commission and answer any questions the Commission members may have.

The Planning and Zoning Commission will review the application in accordance with the Zoning Code. The Public Services Department has the following initial comments concerning the application:

Advisory Comments

1. Note, a consolidation plat will be required prior to issuance of building permits.
2. Note, restaurants will require a separate application and review by the Planning & Zoning Commission and City Council for a Special Use Permit.
3. Please be aware that the parking calculations do not currently account for any restaurant space. If a restaurant is anticipated, accommodation should be made to accommodate parking.
4. A scaled parking space delineation plan for the parking garage will be required with the Final Site Plan. Please be advised that all 90 degree spaces must be a minimum of 9'x19' with a 22' wide two-way drive aisle.
5. Note, a lighting plan will be required with the Final Site Plan.

General Comments

6. Note, a consolidation plat will be required prior to issuance of building permits.
7. Building height for the B-2 District is measured from the average elevations of the proposed finished grade around all sides of the building to the highest point of the flat

roof. The building elevations show 650' as the average proposed finished grade but the line does not appear to be the average of all facades. Provide confirmation of the average proposed grade calculation and revise the elevations as needed.

8. Currently only the generic term of retail & restaurant uses are listed in the building program provided. As previously mentioned, restaurants provide a separate approval of a Special Use Permit. In regards to the "retail uses", a detailed list of uses from Section 510.2 that you want to include must be provided.
9. Consideration should be given to the design of a mid-block pedestrian crossing for Kirkwood Road to include traffic calming measures (e.g. curb extensions, refuge islands, etc.) and the use of a Pedestrian Hybrid Beacon. This could enhance the project and provide additional justification for modifications.

Site Plan

10. The Street Frontage Occupation requirement along Kirkwood Road is 75% for this location. All building that is within 51' of the Kirkwood Road right-of-way are permitted to be included in this calculation. Currently, only 167 linear feet of the building is located within the maximum 51' setback from Kirkwood Road. This is only 53.8% of the 310' frontage. Revise the plans or add a modification for this requirement to the request letter.
11. The proposed 6' tall sight-proof fence is shown on the Landscape Plan, but should be indicated on the proposed Site Plan. This fence is the minimum to meet the B-2 buffer requirement.
12. ADA accessible parking shall be provided per Section 1000.5. The Site Layout exhibits indicate adequate ADA spaces. The Site Plan must be updated to include this information.
13. The Traffic Impact Study recommends that the Kirkwood Road access be limited to a right-in/right-out access point. This restriction should be incorporated into the Site Plan.

Landscape Plan/Tree Study

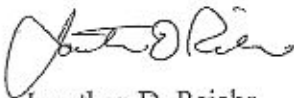
14. Off-site trees must be preserved. Tree "A" on the adjacent gas-station property is noted as having tree protection recommended, but it is also listed as not to be saved. Revise the preservation plan and notes to be consistent with preservation of this tree and all off-site trees.
15. The 24" tree on the adjacent property to the north (southwest corner of adjacent property) should be included in the Tree Study. Protection measures are indicated on the Landscape Plan, but need to be specified since there is proposed work within the indicated protection area. Provide consistency in this regard between the Tree Study and Landscape Plan.
16. The side yard landscape requirements in Section 1020.5 is not met. This is separate from the buffer/screening requirements of the B-2 District. Add this item to the list of modifications requested since there is no room to provide these trees with the current site design.
17. Nine canopy trees are required on Kirkwood Road (excepting the access point and 30' sight triangle on each side). Seven canopy and eight understory (plaza) trees are provided. Revise the plan or request a modification.
18. Five canopy trees are required on Washington Avenue (excepting the access point and 30' sight triangle on each side). Three canopy and four understory trees are provided. Revise the plan or request a modification.

This is a preliminary review of the application. The Planning and Zoning Commission and Public Services Department will review the application in detail and provide further comments as necessary. This preliminary review is not an approval or acceptance of any part of the application submitted. Revised plans addressing comments above can be submitted after the Planning & Zoning Commission meeting on October 16th so that any additional comments may be addressed at the same time. However, these items must be addressed prior to the P&Z Commission voting on the item. When revised plans are submitted, please submit 2 copies to scale and 16 at a reduced size of 11"x17".

The applicant is further advised that it is the applicant's responsibility to follow their petition through the entire process and to satisfy all submittal requirements and deadlines. Also note, this application and review does not grant the applicant any special rights, privileges, or immunities, and that all provisions of the Kirkwood Code of Ordinances shall apply.

Sincerely,

CITY OF KIRKWOOD



Jonathan D. Raiche

City Planner

314-984-5926

raichejd@kirkwoodmo.org



KIRKWOOD FLATS

DEVELOPMENT PLAN SUBMISSION

September 27, 2019

1. Existing Site Context
2. Site Layout / Design
3. Building massing in context
4. Building Elevations
5. Building Program and Stacking
6. Project Schedule

Appendix



1. Existing Site Context

Existing Site Aerial



Address:

426 N. Kirkwood Rd,
Kirkwood, MO 63122

Size:

2.56 acres



1. Existing Site Context

Existing Site Aerial



The 2.56 acre parcel currently contains one commercial business entity: the UMB Bank Kirkwood Branch. The 19,000sf building sits at the northwest portion of the site surrounded by 124 surface parking spaces and some landscaped islands.

Vehicular access to UMB Bank is provided by three curb cuts along Kirkwood Road and one on Washington Avenue. The UMB Bank facility has a drive through teller window with access from Kirkwood Road and East Washington Avenue.

This parcel is typical of suburban development patterns. Buildings are set back from the street and parking is visible and easily accessed. The site development varies from those further south in downtown Kirkwood where buildings engage the sidewalk.

EXISTING SITE IMAGERY



Looking SE from Kirkwood Road



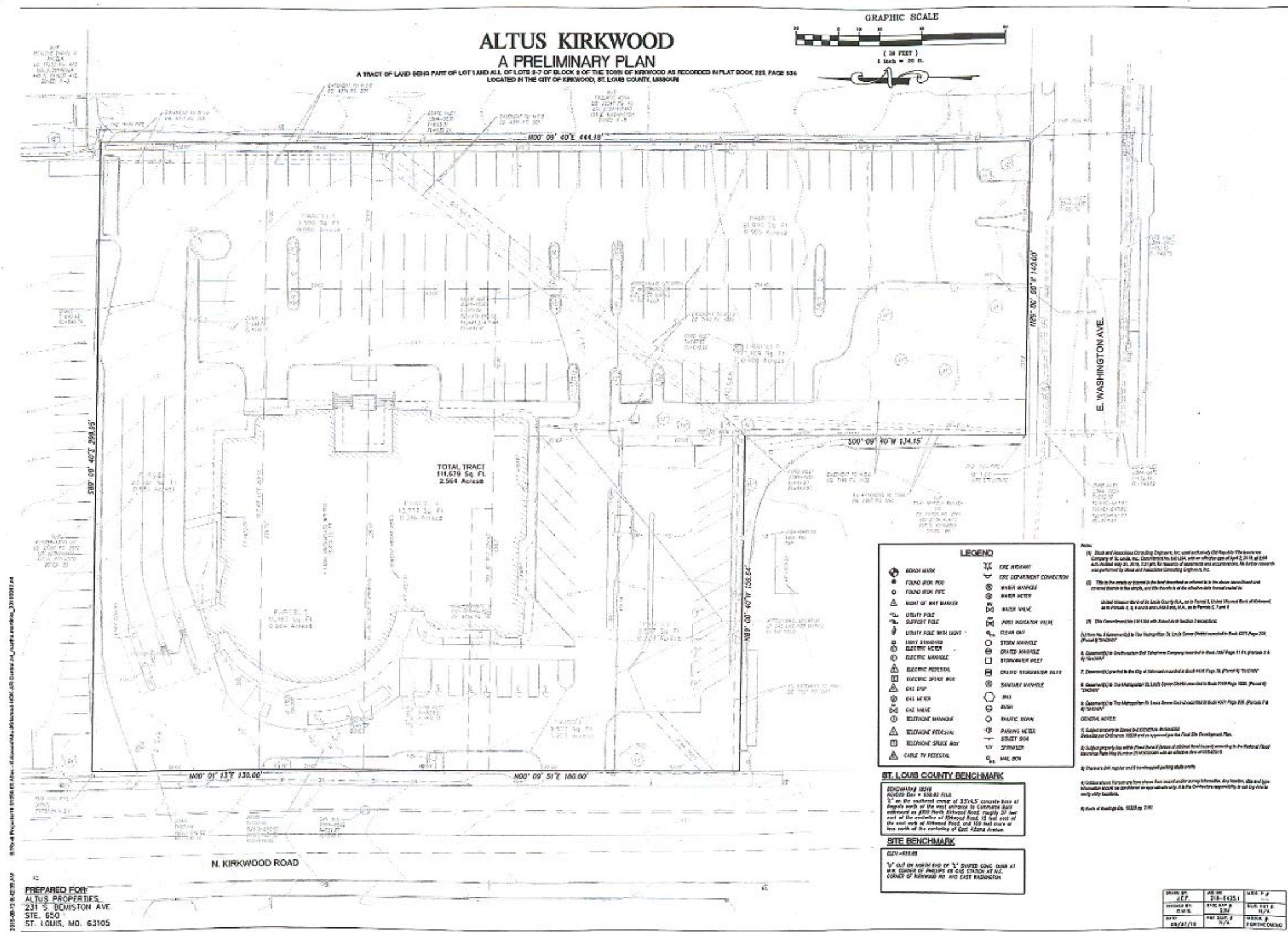
Looking NE from Kirkwood Road



Looking NW from Washington Avenue

1. Existing Site Context

Existing Survey Plan



Project
ALTUS KIRKWOOD
428 NORTH KIRKWOOD ROAD
KIRKWOOD, MO 63122
Prepared For
ALTUS PROPERTIES, LLC
231 Bowston Ave #650
St. Louis, MO 63105



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Missouri State Certificate of Authority - Landscape Architects: 00034
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Consulting Engineers Inc.
STOCK & ASSOCIATES CONSULTING ENGINEERS, INC.
219 Deshauld Drive
Columbia, MO 65204



No.	Description	Date
1	DEVELOPMENT PLAN	09/27/2019
2	EXISTING SURVEY PLAN	09/27/2019

Project No: 18-0108-00
Sheet Title: **EXISTING SURVEY PLAN**

Sheet Number: **C-0.1**

1. Existing Site Context

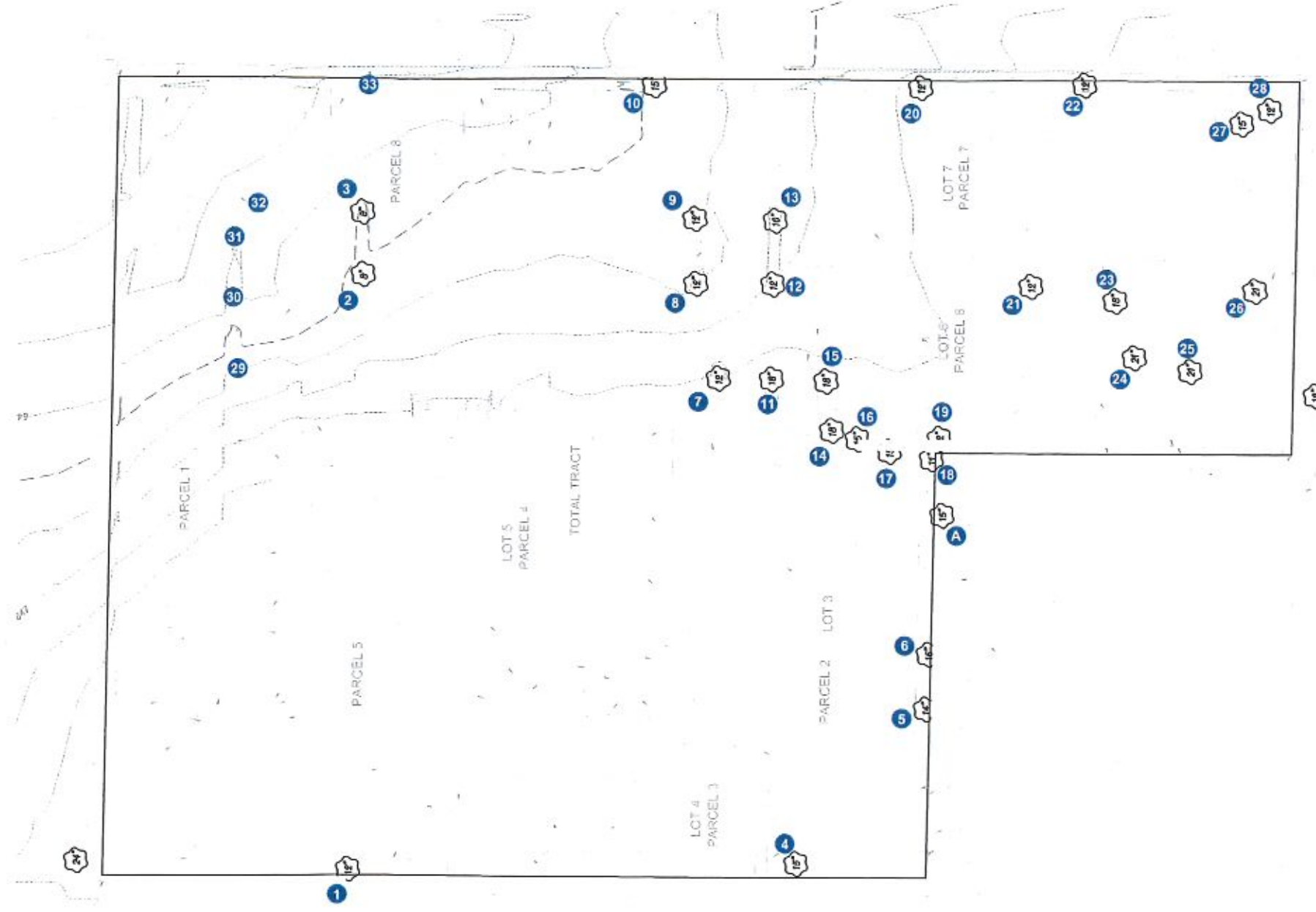
Existing Tree Report



Project
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 426 NORTH KIRKWOOD ROAD
 KIRKWOOD, MO 63122
 Prepared For
ALTUS PROPERTIES, LLC
 231 Benton Ave #650
 St. Louis, MO 63105



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 Halimath, Obata & Kassebaum, Inc.
 Missouri State Certificate of Authority - Architects: 266722334
 Missouri State Certificate of Authority - Structural Engineers: 001033
 Missouri State Certificate of Authority - Landscape Architects: 00019
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STOCK & ASSOCIATES
 207 Chestnut Business Hwy
 Chesterfield, MO 63010



Key Plan

NOT FOR CONSTRUCTION

Professional Seal



JAMES S. JONES ARCHITECT
 1421 FRANKLIN

No.	Description	Date
1	PRELIMINARY TREE INVENTORY	09/20/19

Project No. 18.01026.00

Overall Title
PRELIMINARY TREE INVENTORY

Sheet Number
L100

1 PRELIMINARY TREE INVENTORY
 1" = 30' 0"



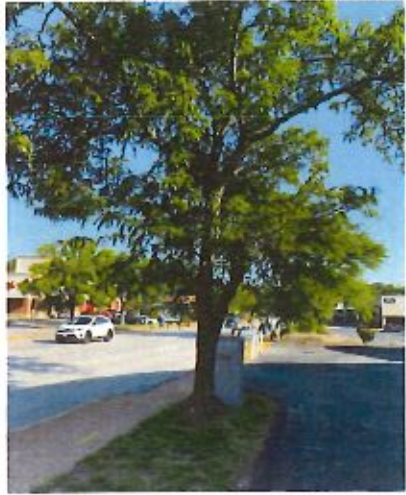
1. Existing Site Context

Existing Tree Report

Key	Tree Species		Diameter DBH	Save (Yes/No)	Protection Methods	Dollar Value	Condition	Notes
1	Honeylocust	Gleditsia triacanthos	12	No			Good	
2	Honeylocust	Gleditsia triacanthos	8	No			Poor	
3	Honeylocust	Gleditsia triacanthos	8	No			Fair	
4	Honeylocust	Gleditsia triacanthos	13	No			Good	
5	Honeylocust	Gleditsia triacanthos	14	No			Fair	
6	Honeylocust	Gleditsia triacanthos	16	No			Good	
7	Honeylocust	Gleditsia triacanthos	12	No			Fair	
8	Honeylocust	Gleditsia triacanthos	12	No			Poor	Damaged
9	Honeylocust	Gleditsia triacanthos	12	No			Poor	Loss of canopy
10	Honeylocust	Gleditsia triacanthos	15	No			Poor	Removal of crown due to overhead electrical lines
11	Honeylocust	Gleditsia triacanthos	18	No			Fair	
12	Honeylocust	Gleditsia triacanthos	12	No			Fair	
13	Honeylocust	Gleditsia triacanthos	10	No			Poor	
14	Austrian Pine	Pinus nigra	18	No			Poor	
15	Honeylocust	Gleditsia triacanthos	18	No			Good	
16	Austrian Pine	Pinus nigra	15	No			Poor	
17	Austrian Pine	Pinus nigra	16	No			Poor	
18	Austrian Pine	Pinus nigra	11	No			Poor	
19	Austrian Pine	Pinus nigra	12	No			Poor	
20	Elm	Ulmus americana	20	No			Poor	Removal of crown due to overhead electrical lines
21	Honeylocust	Gleditsia triacanthos	12	No			Poor	
22	Tree of Heaven	Ailanthus altissima	12	No			Poor	
23	Austrian Pine	Pinus nigra	18	No			Poor	
24	Red Oak	Quercus rubra	21	No			Poor	
25	Red Oak	Quercus rubra	21	No			Fair	
26	River Birch	Betula nigra	21	No			Poor	
27	Honeylocust	Gleditsia triacanthos	15	No			Good	
28	Honeylocust	Gleditsia triacanthos	12	No			Fair	
29	Honeylocust	Gleditsia triacanthos	14	No			Good	
30	Honeylocust	Gleditsia triacanthos	10	No			Fair	
31	Honeylocust	Gleditsia triacanthos	6	No			Poor	
32	Honeylocust	Gleditsia triacanthos	12	No			Fair	
33	Catalpa	Catalpa speciosa	5	No			Poor	
34	Ash	Fraxinus pennsylvanica	19	No		\$4,265		Tree within ROW and was included in 2014 City Tree Inventory; value increased 15%
A	Hackberry	Celtis occidentalis	15	No	Yes			On adjacent property; tree protection fence will be utilized per city standard

1. Existing Site Context

Existing Tree Report



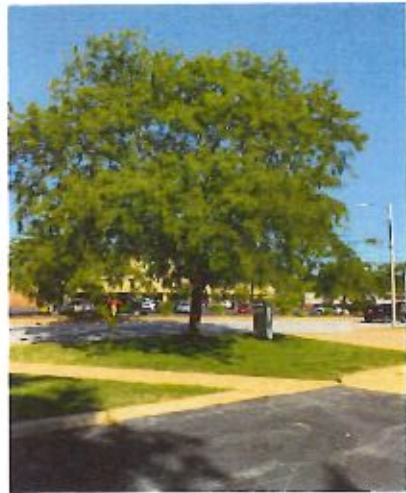
1 Honeylocust Gleditsia triacanthos Good



2 Honeylocust Gleditsia triacanthos Poor



3 Honeylocust Gleditsia triacanthos Fair



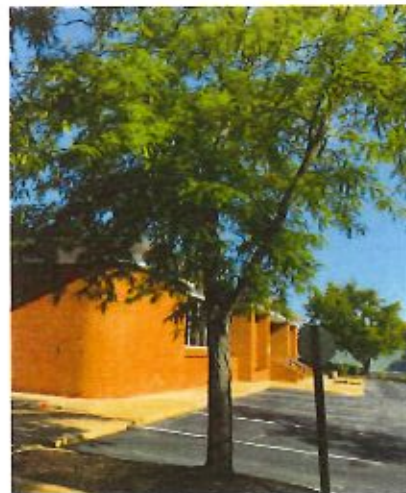
4 Honeylocust Gleditsia triacanthos Good



5 Honeylocust Gleditsia triacanthos Fair



6 Honeylocust Gleditsia triacanthos Good



7 Honeylocust Gleditsia triacanthos Fair



8 Honeylocust Gleditsia triacanthos Poor



9 Honeylocust Gleditsia triacanthos Poor

1. Existing Site Context

Existing Tree Report



10 Honeylocust Gleditsia triacanthos Poor



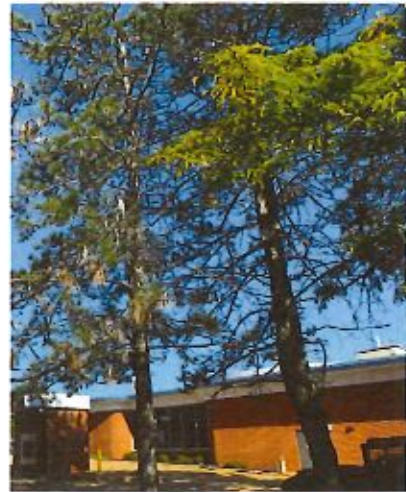
11 Honeylocust Gleditsia triacanthos Fair



12 Honeylocust Gleditsia triacanthos Fair



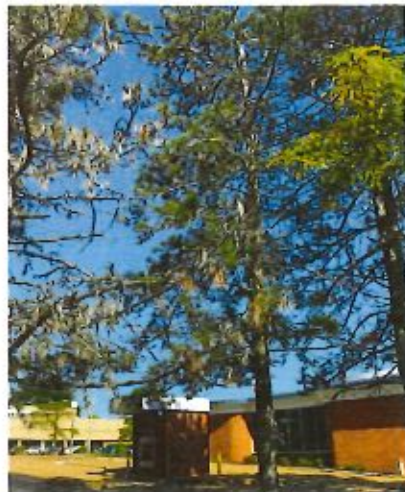
13 Honeylocust Gleditsia triacanthos Poor



14 Austrian Pine Pinus nigra Poor



15 Honeylocust Gleditsia triacanthos Good



16 Austrian Pine Pinus nigra Poor



17 Austrian Pine Pinus nigra Poor



18 Austrian Pine Pinus nigra Poor

1. Existing Site Context

Existing Tree Report



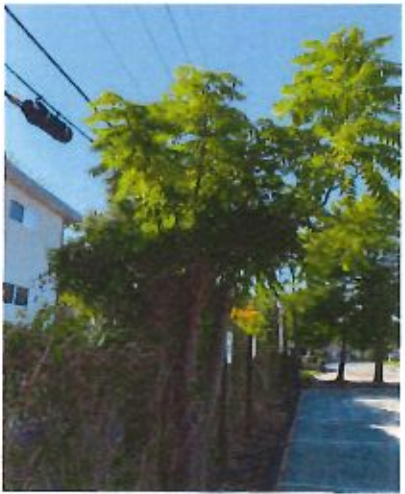
19 Austrian Pine Pinus nigra Poor



20 Elm Ulmus americana Poor



21 Honeylocust Gleditsia triacanthos Poor



22 Tree of Heaven Ailanthus altissima Poor



23 Austrian Pine Pinus nigra Poor



24 Red Oak Quercus rubra Poor



25 Red Oak Quercus rubra Fair



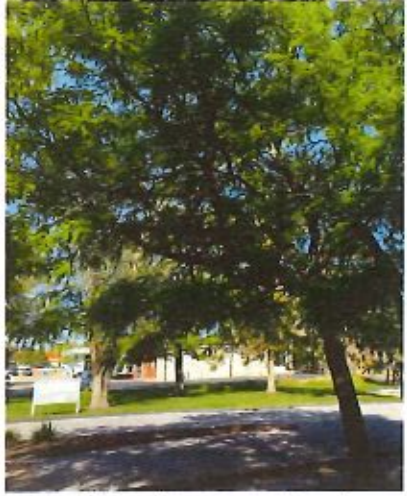
26 River Birch Betula nigra Poor



27 Honeylocust Gleditsia triacanthos Good

1. Existing Site Context

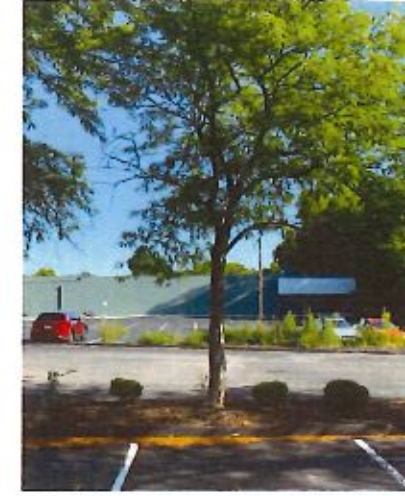
Existing Tree Report



28 Honeylocust *Gleditsia triacanthos* Fair



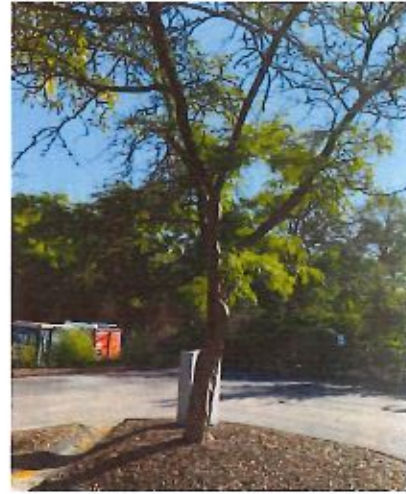
29 Honeylocust *Gleditsia triacanthos* Good



30 Honeylocust *Gleditsia triacanthos* Fair



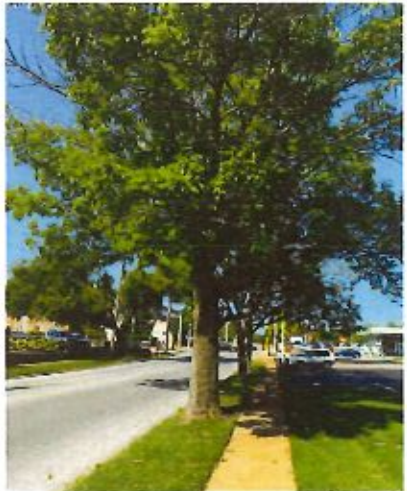
31 Honeylocust *Gleditsia triacanthos* Poor



32 Honeylocust *Gleditsia triacanthos* Fair



33 Catalpa *Catalpa speciosa* Poor



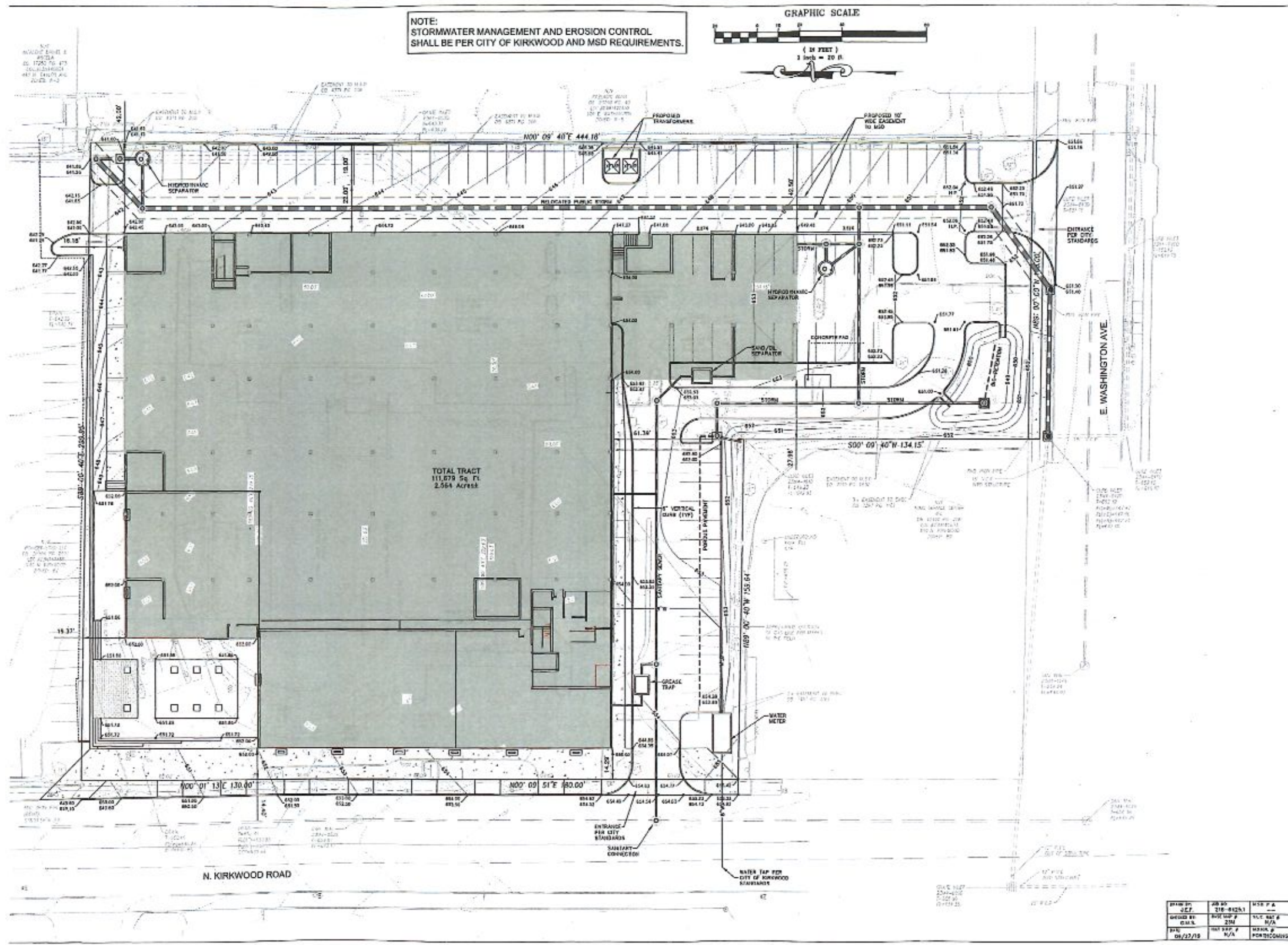
34 White Ash *Fraxinus pennsylvanica* Good



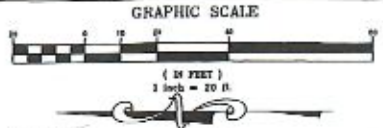
A Hackberry *Celtis occidentalis* Fair

2. Site Layout / Design

Preliminary Site Plan



NOTE:
STORMWATER MANAGEMENT AND EROSION CONTROL
SHALL BE PER CITY OF KIRKWOOD AND MSD REQUIREMENTS.



Project
ALTUS KIRKWOOD
426 NORTH KIRKWOOD ROAD
KIRKWOOD, MO 63122
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ALTUS PROPERTIES, LLC
231 Benton Ave #600
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Stock & Associates
Civil Engineering
STOCK & ASSOCIATES CONSULTING ENGINEERS, INC.
251 Drexel Blvd. Suite 100
Drexel, MO 63024

Key Plan



GEORGE M. STOCK # 25116 Date
CIVIL ENGINEERING
CERTIFICATE OF AUTHORITY NUMBER: 000000

No.	Description	Date
1	PRELIMINARY SITE PLAN SUBMISSION	09/27/2019

Project No: 18.01266.00
Sheet No: 218.025.1
Sheet Title
PRELIMINARY SITE PLAN

Sheet Number
C-0.2

DATE	BY	CHK'D BY	APP'D BY
09/27/19	J.M.	J.M.	J.M.



2. Site Layout / Design

Preliminary Site Plan



Legend

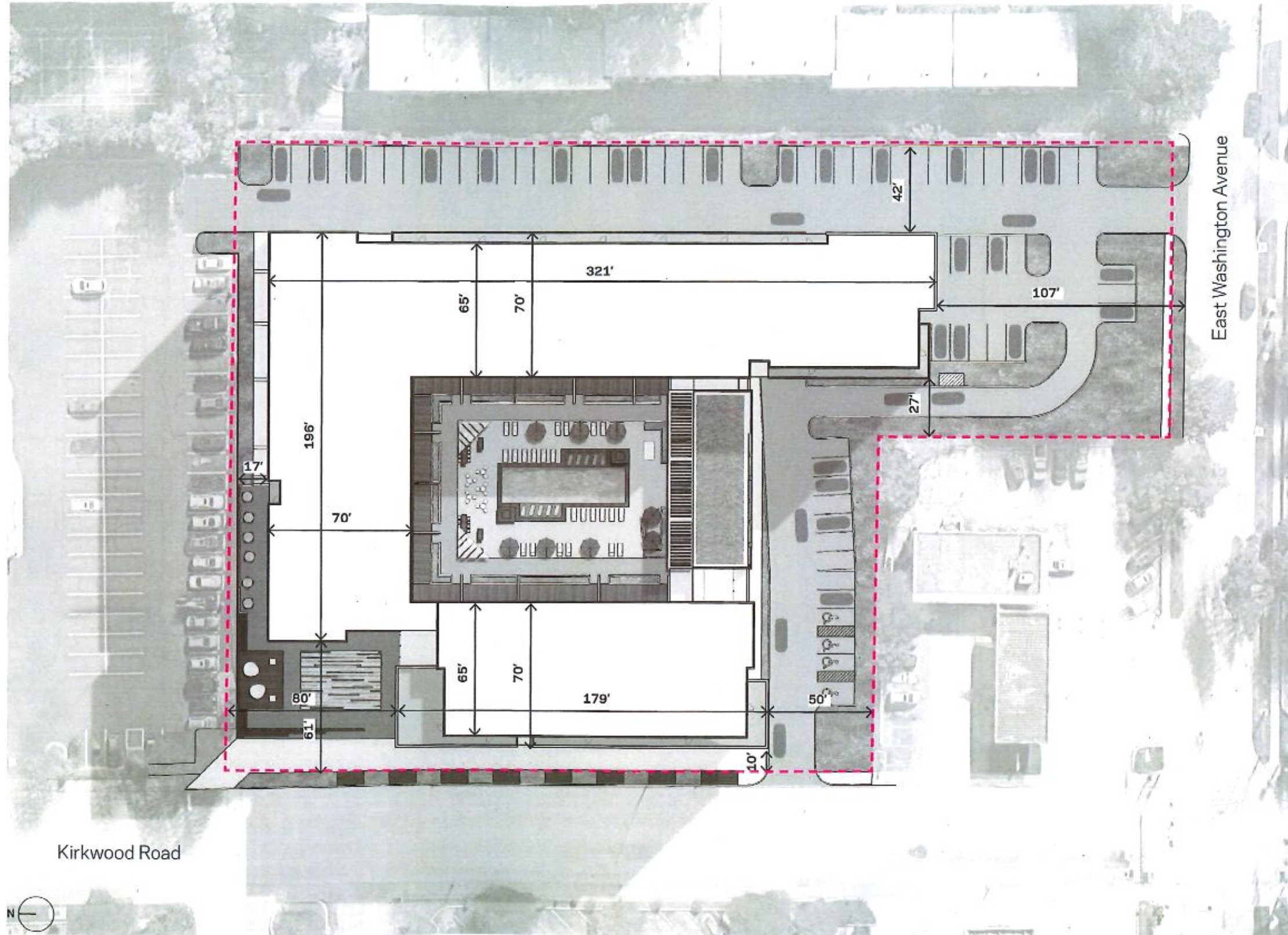
- 1 Public Plaza
- 2 Retail Tenant Terrace
- 3 Residential Amenity Deck
- 4 Retail Access to East Parking
- 5 Bank Drive Thru
- 6 Retail & Lobby w/ Residential Above
- 7 Retail w/ Residential Above
- 8 Garage w/ Residential Above
- 9 Site Entry
- 10 Alpine Shop Parking (Not part of project)
- 11 Tom's Service Station (Not part of project)
- 12 Potential "Kirkwalk" (image below)



from Downtown Masterplan Report Page 139, published on May 2019

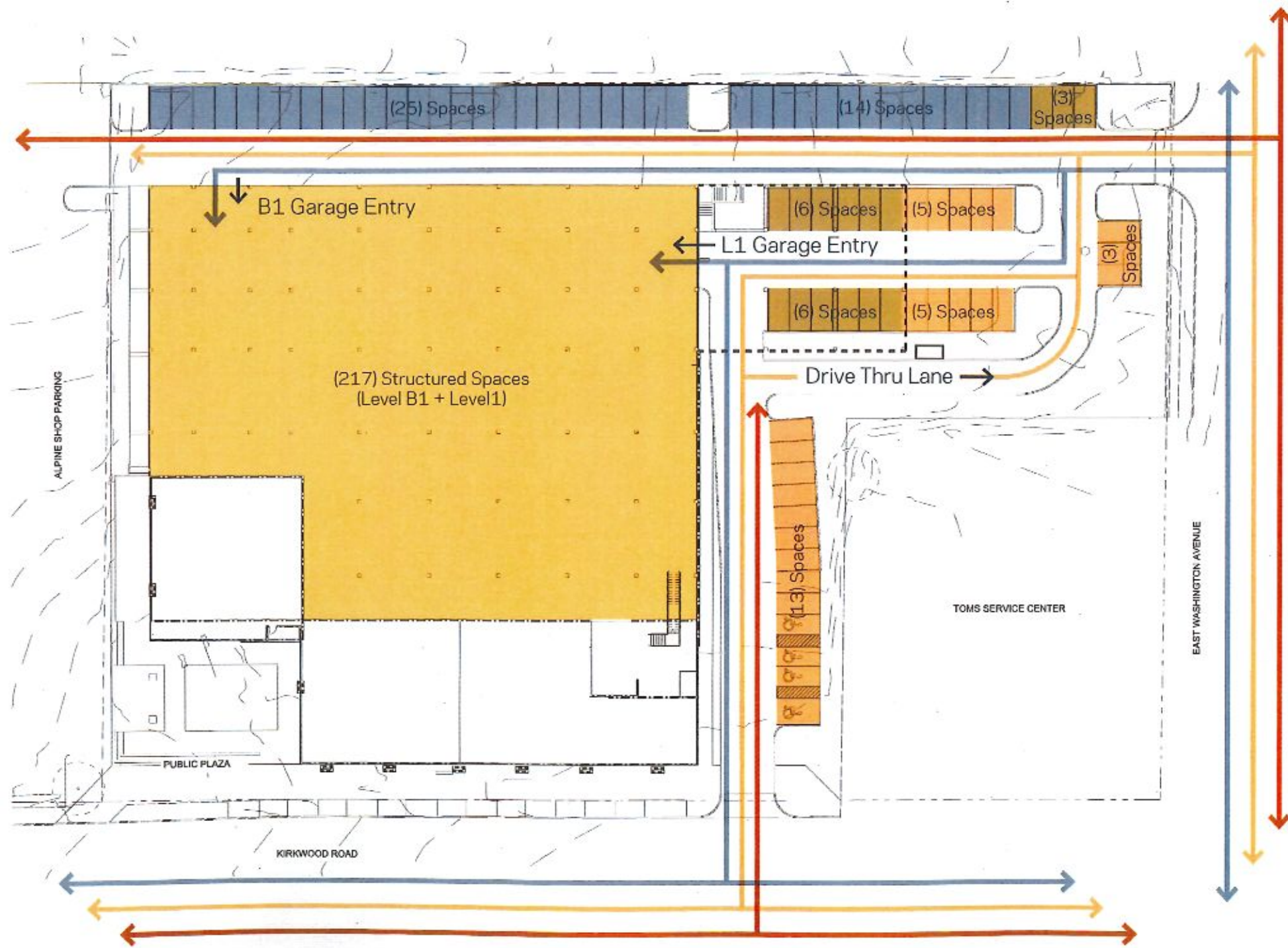
2. Site Layout / Design

Proposed Building Lines, Location and size



2. Site Layout / Design

Preliminary Parking & Circulation Plan



Parking Summary

Surface parking	80 (4 ADA)
Level B1	119
Level 1	98 (6 ADA)
Total	297 Parking

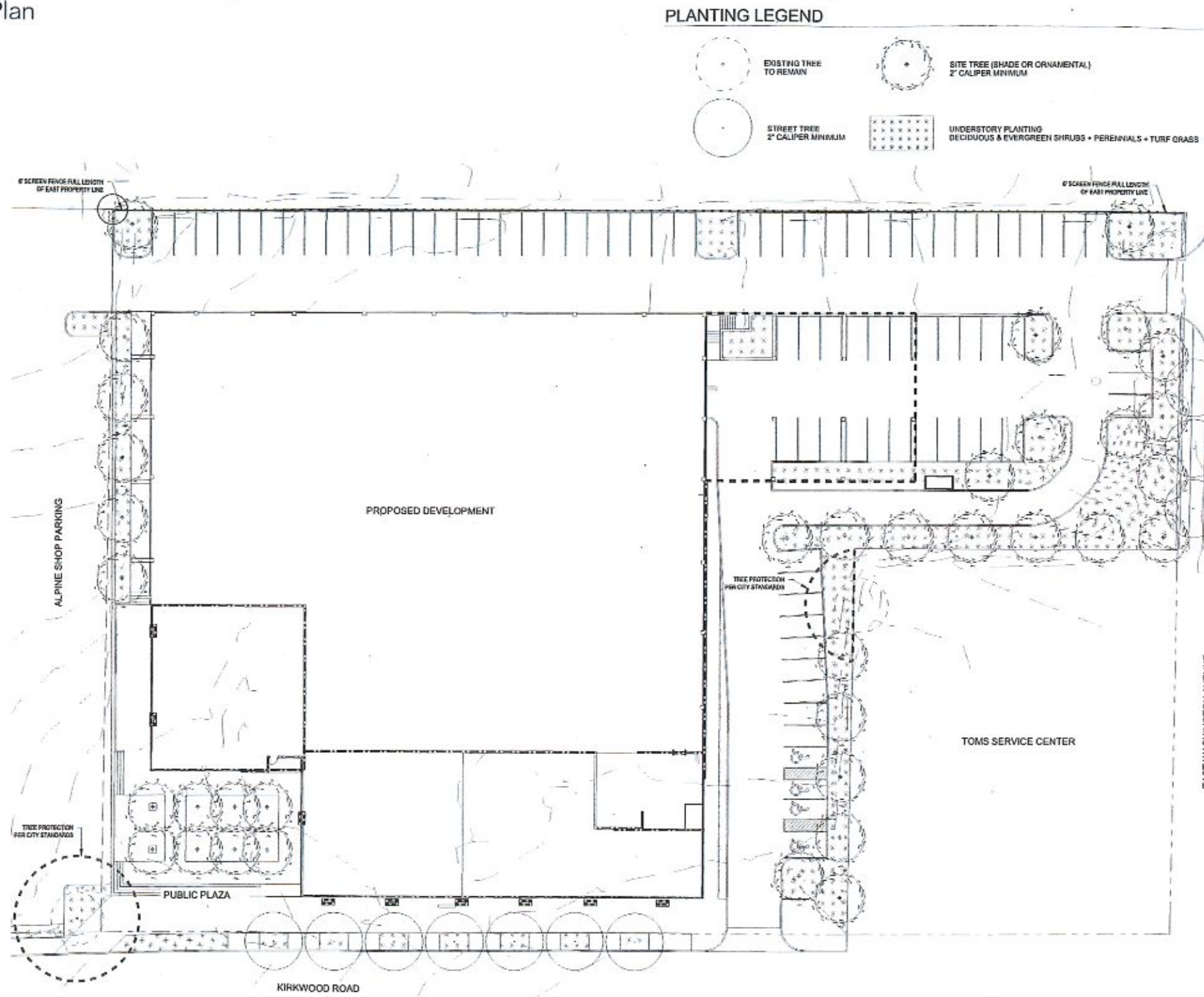
Legend

- Commercial Parking
- Shared Parking
- Residential Parking
- Structured Parking (Residential)
- Commercial Circulation
- Resident Circulation
- Fire Access



2. Site Layout / Design

Preliminary Landscape Plan



Project
ALTUS KIRKWOOD
 426 NORTH KIRKWOOD ROAD
 KIRKWOOD, MO 63122
 Prepared For
ALTUS PROPERTIES, LLC
 231 Barrinton Ave #650
 St. Louis, MO 63105



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 Helmuth, Obata + Kassabaum, Inc.
 Missouri State Certificate of Authority - Architect 0017281
 Missouri State Certificate of Authority - Structural Engineer 00393
 Missouri State Certificate of Authority - Landscape Architect 00033
 All representations & architectural drawings prepared © 2019
 In Association with:

STOCK & ASSOCIATES
 207 Chesapeake Plaza
 Chesterfield, MO 63015

Key Plan

NOT FOR CONSTRUCTION

Professional Seal



JENNIFER BAUE, LICENSED ARCHITECT
 2/16/2019

Rev.	Description	Date
1	DEVELOPMENT PLAN/ISSUE	09/27/19

Project No: 18-01104-00

Sheet Title

PRELIMINARY LANDSCAPE PLAN

Sheet Number

L200



3. Building Massing in Context



4. Building Elevations

Rendering - View from Southwest



4. Building Elevations

Rendering - View from Northwest



4. Building Elevations

Rendering - View from South



4. Building Elevations

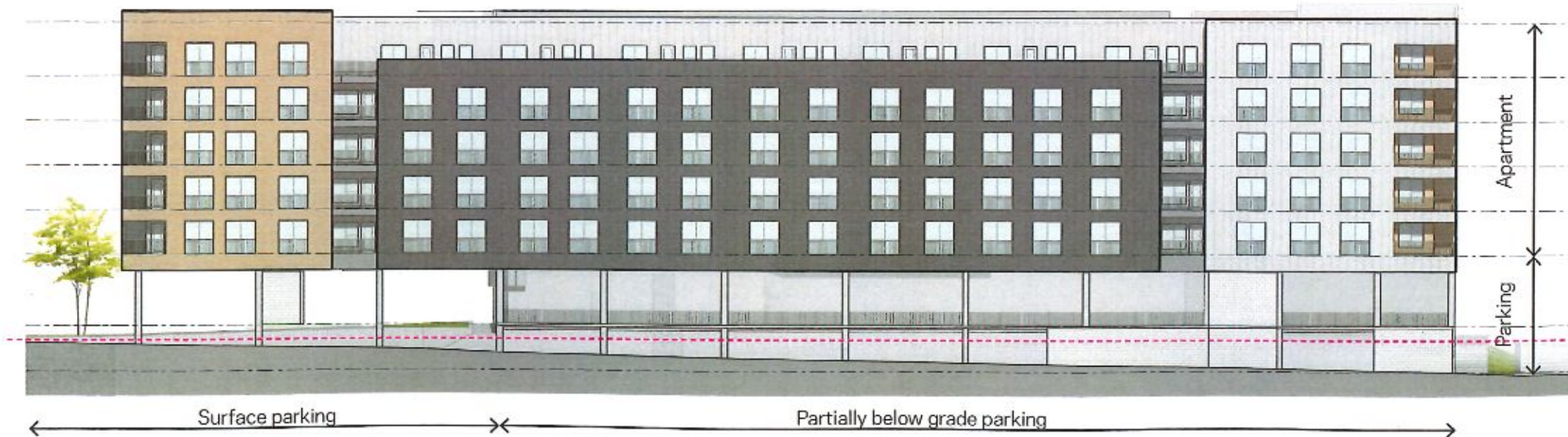
West Elevation 1/32" = 1' - 0"



Roof	726'-7"
Level 6	713'-8"
Level 5	703'-0"
Level 4	692'-4"
Level 3	681'-8"
Level 2	671'-0"
Level 1	654'-0"
Level B1	643'-0"

Average Grade 650'

East Elevation 1/32" = 1' - 0"



Roof	726'-7"
Level 6	713'-8"
Level 5	703'-0"
Level 4	692'-4"
Level 3	681'-8"
Level 2	671'-0"
Level 1	654'-0"
Level B1	643'-0"

Average Grade 650'

4. Building Elevations

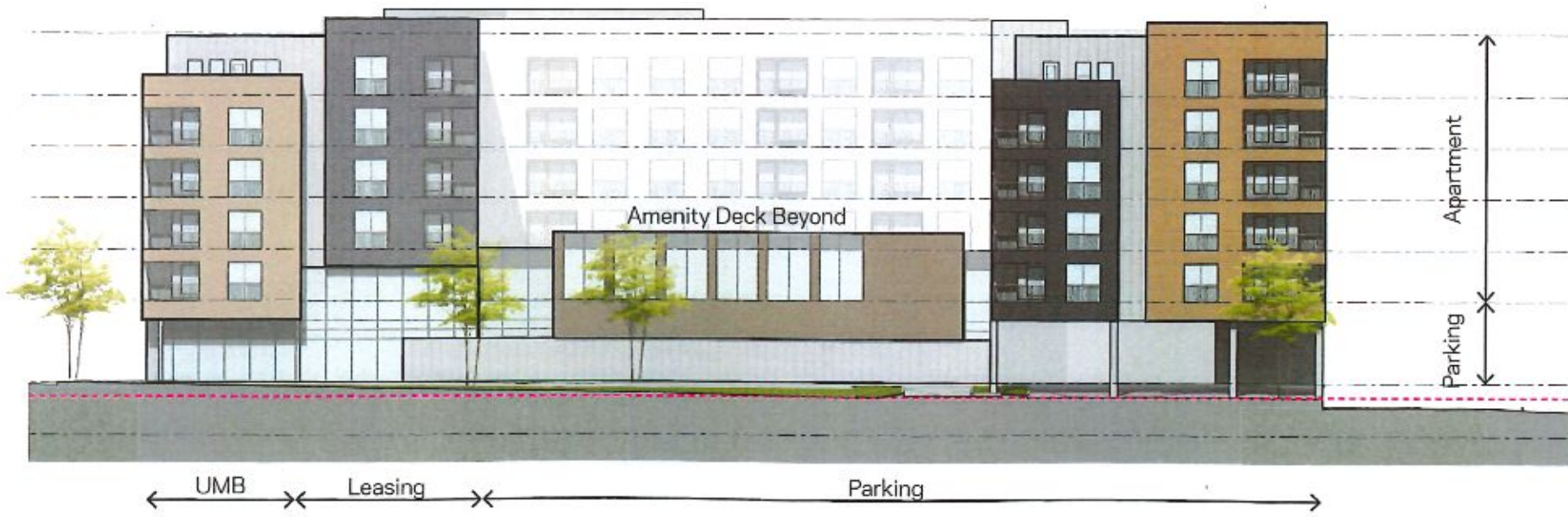
North Elevation 1/32" = 1' - 0"



Roof	726'-7"
Level 6	713'-8"
Level 5	703'-0"
Level 4	692'-4"
Level 3	681'-8"
Level 2	671'-0"
Level 1	654'-0"
Level B1	643'-0"

Average Grade 650'

South Elevation 1/32" = 1' - 0"



Roof	726'-7"
Level 6	713'-8"
Level 5	703'-0"
Level 4	692'-4"
Level 3	681'-8"
Level 2	671'-0"
Level 1	654'-0"
Level B1	643'-0"

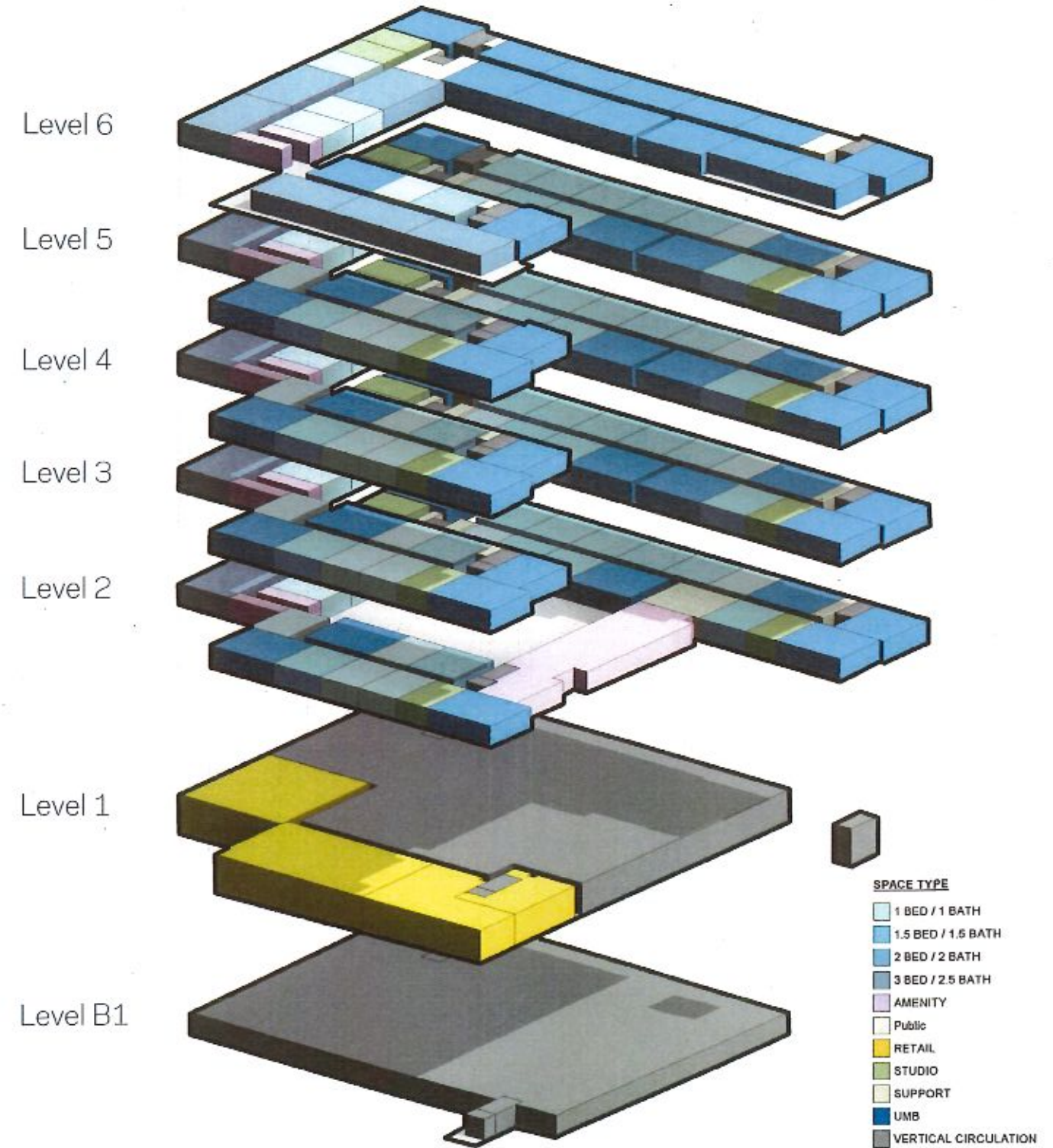
Average Grade 650'

5. Building Program and Stacking

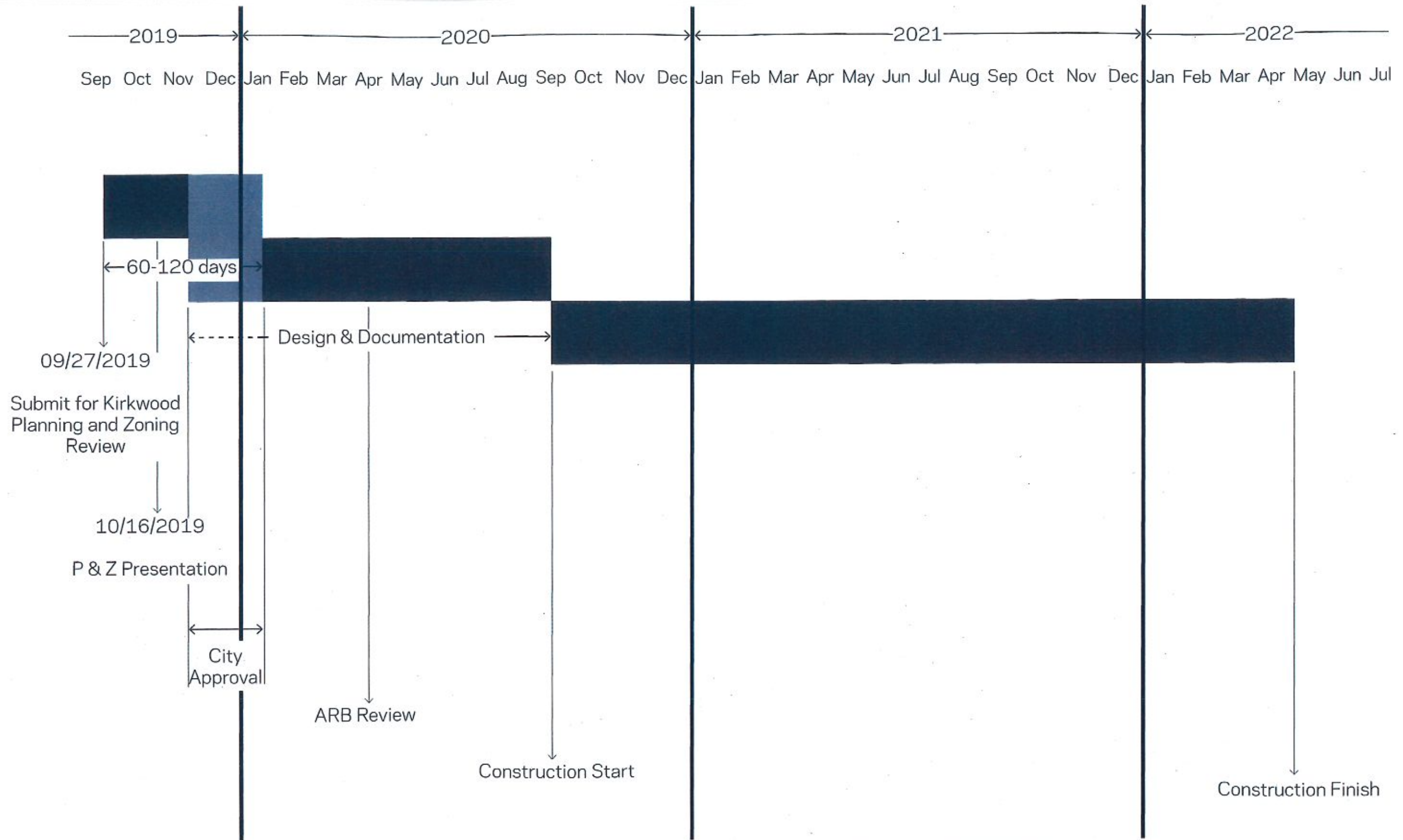
Building Program

	COUNT	SPACE TYPE	AVG SF	COMMENTS
COMMERCIAL AREAS				
		RETAIL + RESTAURANT	+/- 10,000	LOCATED ON LEVEL 01, COMPLETELY SEPARATE FROM TENANT SPACES
		UMB BANK	+/- 2,500	
TOTAL COMMERCIAL SF			+/- 12,500	
AMENITY AREAS				
	1	LOBBY/ RECEPTION	+/- 1,180	LOCATED ON LEVEL 01
	1	LEASING OFFICE		
	1	MAIL ROOM		
	1	PACKAGE ROOM		
	1	PET SPA		
	1	SOCIAL LOUNGE		
	1	FITNESS		
		GOLF SIMULATOR		
		STRETCHING/ YOGA ROOM		
TBD		MEETING ROOMS		
		AMENITY DECK	+/- 12,500	LOCATED ON LEVEL 02
		POOL		
		GRILLING AREA		
		YARD GAMES AREA		
TOTAL AMENITY SF			+/- 20,000	
UNITS				
	+/- 18	STUDIO	+/- 600	LEVELS 02 - 06; 50% +/- UNITS RECEIVE BALCONIES
	+/- 56	1 BED + 1 BATH	+/- 700	
	+/- 41	1.5 BED + 1.5 BATH	+/- 825	
	+/- 53	2 BED + 2 BATH	+/- 1,150	
	+/- 10	3 BED + 2.5 BATH	+/- 1,350	
UNIT TOTAL:	+/- 178			
TOTAL UNIT SF			+/- 152,500	
SUPPORT AREAS				
TBD		BIKE STORAGE		AREAS ON PARKING LEVELS B1 AND 01
1		TRASH ROOM		LOCATED ON LEVEL B1, TRASH CHUTE ON EACH FLOOR
1		ELECTRIC ROOM		LOCATED ON LEVEL B1
1		MECHANICAL ROOM		
		PUMP ROOM		LOCATED ON LEVEL B1
		POOL EQUIPMENT		LOCATED ON LEVEL 01
		HOUSEKEEPING		HOUSEKEEPING ROOM ON EACH FLOOR
		RESTROOMS		PUBLIC RESTROOMS IN COMMON AREAS (RECEPTION, SOCIAL LOUNGE, ETC.)
TBD		STORAGE		TENANT STORAGE ON EACH FLOOR
TOTAL SUPPORT SF			+/- 6,700	
PARKING				
	+/- 267	RESIDENTIAL		178 UNITS x 1.5 PARKING RATIO
	30	RETAIL		
	10	BANK (OFFICE)		
BASE TOTAL:	307			
SHARED	15			
REQUIRED	292			
PROVIDED	+/- 297			
FLOOR AREA RATIO 2.17				

Massing Stacking Diagram



6. Proposed project schedule



APPENDIX

Note: Additional content provided for reference

- a. Project vision
- b. Urban Analysis - Kirkwood Road
- c. City Zoning Modifications
- d. Additional Drawings
- e. Preliminary Traffic Study - for reference
- f. Preliminary MSD Conceptual Review Package - for reference

a. Project Vision

PROJECT SUPPORTS VISION OF DOWNTOWN KIRKWOOD MASTERPLAN

- Provides **vibrancy** as a mixed-use development
- Enhances the **urban street edge** along Kirkwood Road, **extending the downtown** further north
- Provides **more retail**, enhancing **street frontage experience** and usage
- **Expands housing types** in Kirkwood and amenities for residents
- **Reduces** the amount of **existing surface parking** on site
- Creates an **anchor point** with an **open plaza** available for **civic activities**
- Creates **walkable connections** and **potential for "Kirk-walk"**

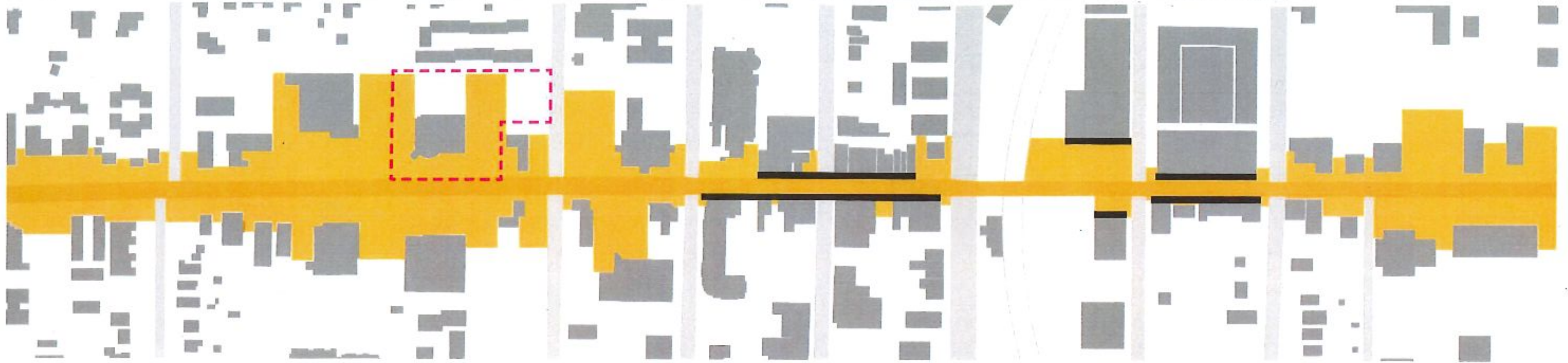


Plans and illustration from Downtown Masterplan Report Page 128, 139, published on May 2019

b. Urban Analysis - Kirkwood Road

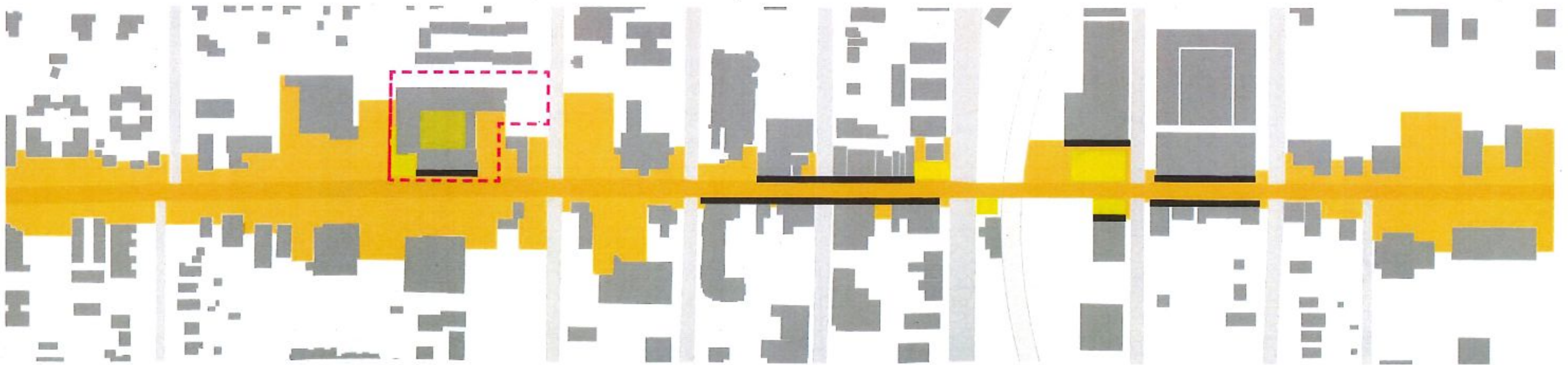
Existing Street Space

Along Kirkwood Road, there are moments where urban space is enhanced. However, at the existing site, space is not well-defined due to lack of building street edges.



Proposed Street Space

The new street space created responds to the urban fabric of Kirkwood and brings life into the spaces around the road while creating a more intimate niche hidden within the landscape of the buildings.



c. City Zoning Modifications

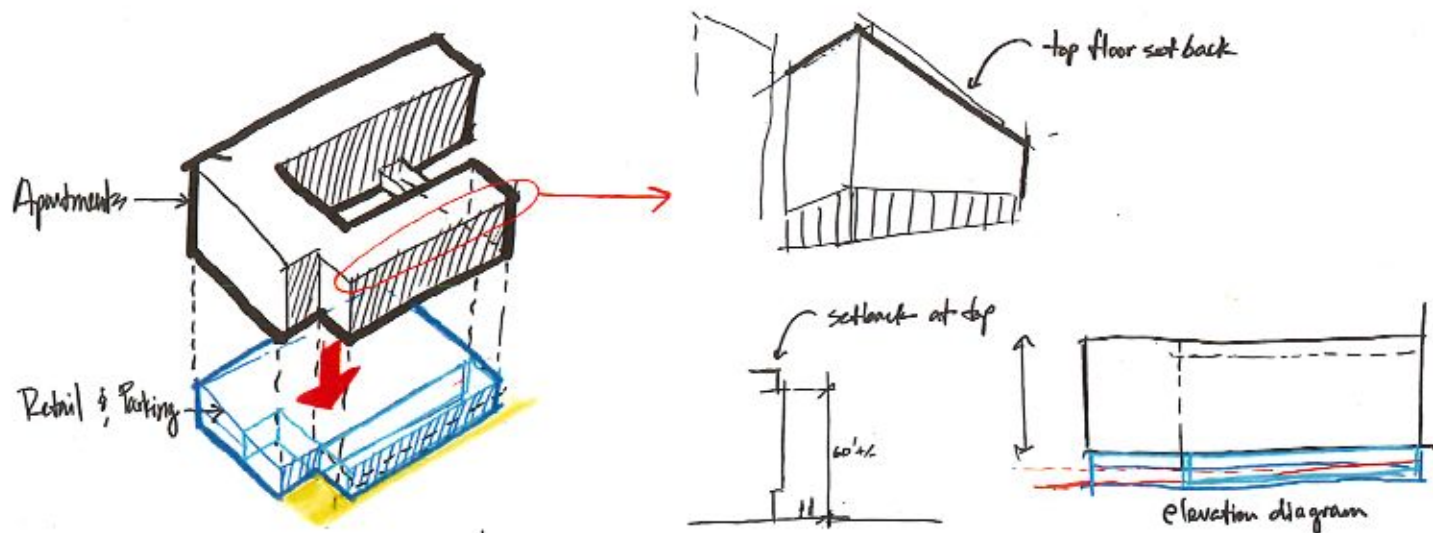
Item	City Requirement	Kirkwood Flats
1. Building Height	60ft or less	76.5 ft +/-
2. Density (Gross Lot area/dwelling unit)*	1,200	627+/-
3. Minimum frontage on Washington	75%	0%

*Current FAR is within Zoning requirement.

1. BUILDING HEIGHT:

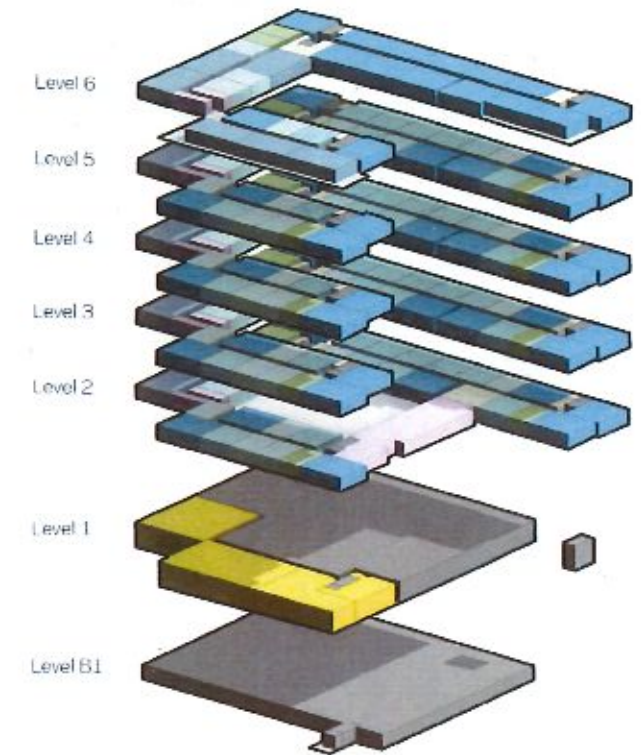
A majority of the parking for the project is below the building on two levels. This is done to reduce the visual impact of parking for the overall development and provide covered parking for residents who will call this home. As a result of this configuration, the building height is taller than what is allowed in the zoning requirements.

Of important note, the building is set back on the top floor on the west façade for the entire sixth floor to reduce the overall height from a pedestrian perspective.



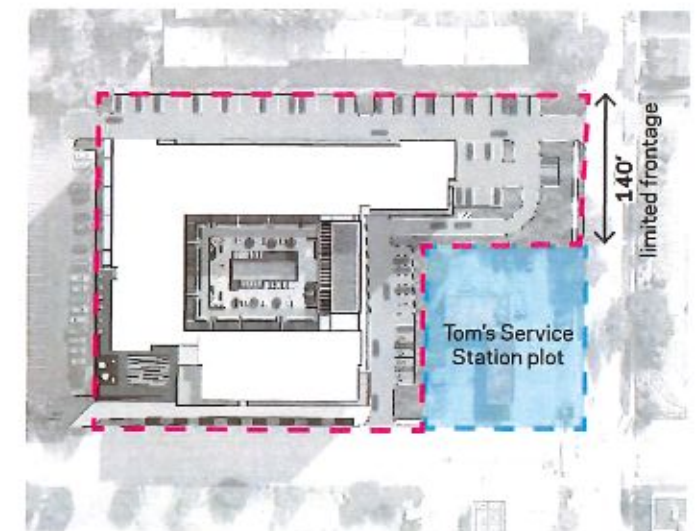
2. DENSITY:

To accommodate a mixed-use building of this type, there is an amount of density needed in apartment units to provide the revenue for the types of amenities the market needs, especially having majority of parking space as underground. As a result, there are more units per gross lot area than what the zoning requirements stipulate. It is worth noting, however that the unit mix covers a range of size, providing diversity needed.



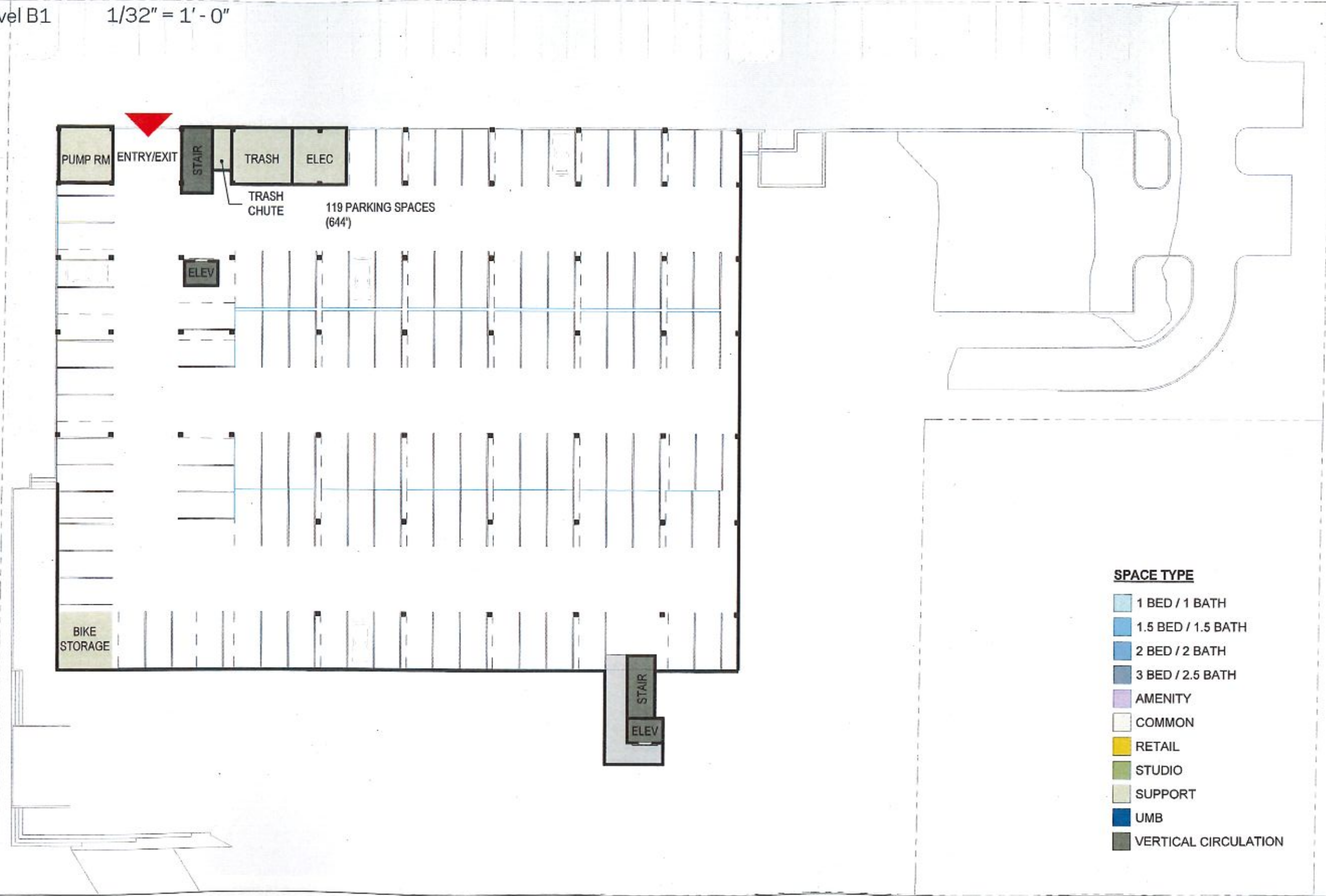
3. MINIMUM FRONTAGE:

Due to the site configuration wrapping Tom's Service Station, it proved challenging to meet minimum frontage requirements along Washington Ave. The width of the frontage and its distance from the remainder of the building were not optimal for meaningful and effective mixed-use functions to occur.



d. Additional Drawings

Plan - Level B1 1/32" = 1' - 0"



SPACE TYPE

[Light Blue Box]	1 BED / 1 BATH
[Medium Blue Box]	1.5 BED / 1.5 BATH
[Dark Blue Box]	2 BED / 2 BATH
[Darkest Blue Box]	3 BED / 2.5 BATH
[Purple Box]	AMENITY
[White Box]	COMMON
[Yellow Box]	RETAIL
[Green Box]	STUDIO
[Light Green Box]	SUPPORT
[Dark Blue Box]	UMB
[Grey Box]	VERTICAL CIRCULATION

d. Additional Drawings

Plan - Level 1

1/32" = 1' - 0"

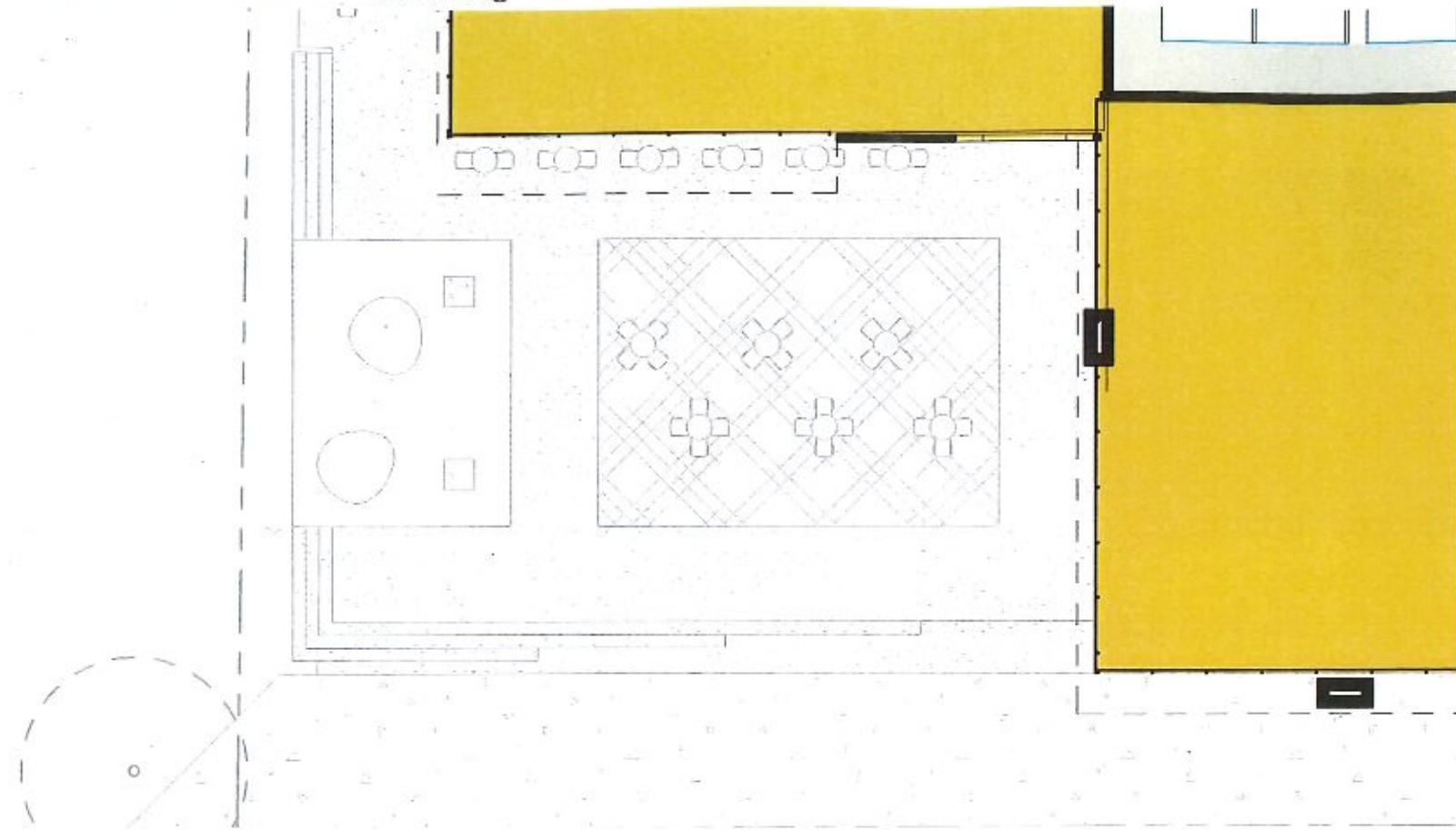


SPACE TYPE

Light Blue	1 BED / 1 BATH
Medium Blue	1.5 BED / 1.5 BATH
Dark Blue	2 BED / 2 BATH
Very Dark Blue	3 BED / 2.5 BATH
Purple	AMENITY
Light Grey	COMMON
Yellow	RETAIL
Light Green	STUDIO
Light Olive	SUPPORT
Dark Blue	UMB
Dark Grey	VERTICAL CIRCULATION

d. Additional Drawings

Enlarged Plaza Plan - Level 1 and rendering



d. Additional Drawings

Plan - Level 2

1/32" = 1' - 0"

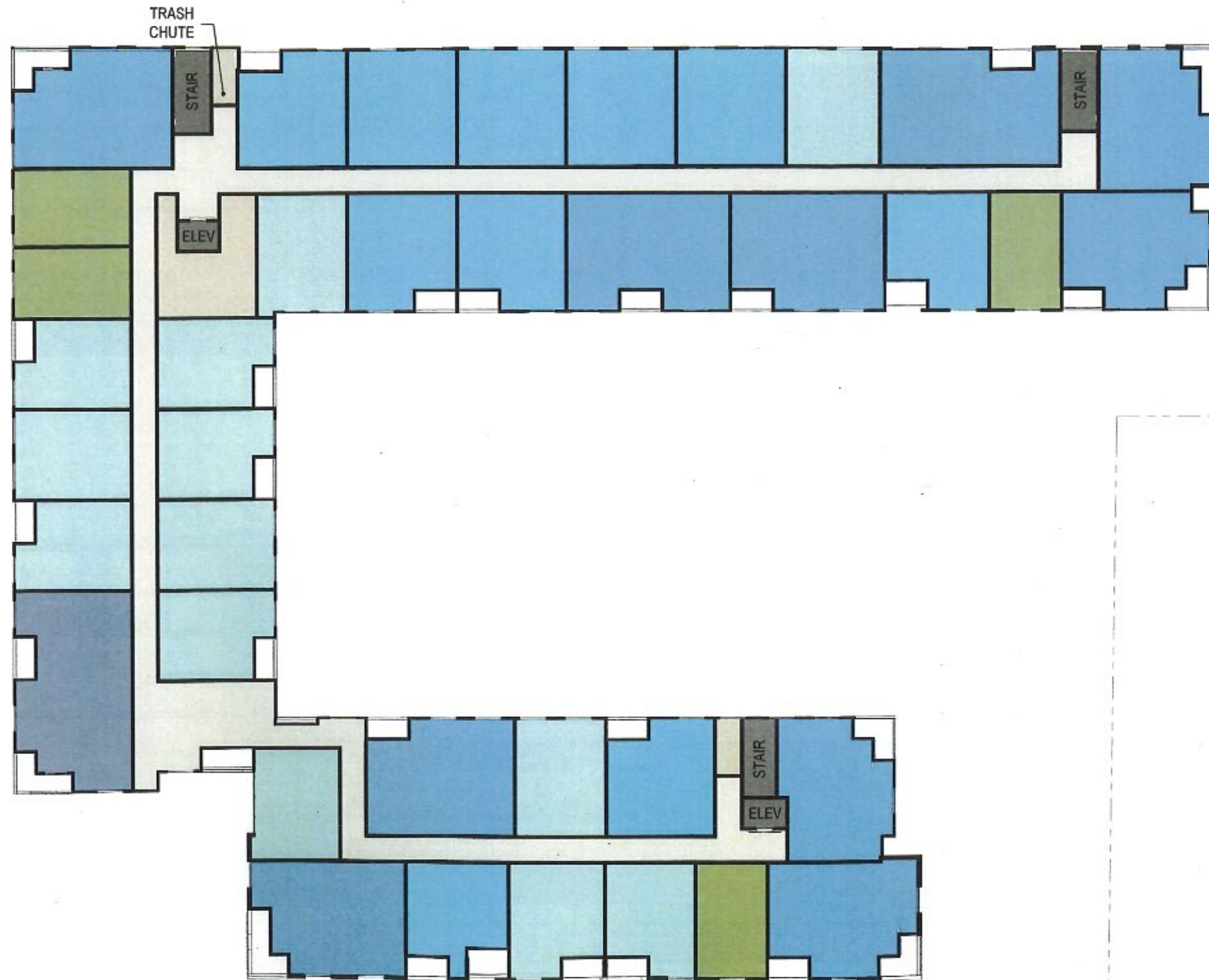


SPACE TYPE

- 1 BED / 1 BATH
- 1.5 BED / 1.5 BATH
- 2 BED / 2 BATH
- 3 BED / 2.5 BATH
- AMENITY
- COMMON
- RETAIL
- STUDIO
- SUPPORT
- UMB
- VERTICAL CIRCULATION

d. Additional Drawings

Plan - Levels 3-5 1/32" = 1' - 0"



SPACE TYPE

- 1 BED / 1 BATH
- 1.5 BED / 1.5 BATH
- 2 BED / 2 BATH
- 3 BED / 2.5 BATH
- AMENITY
- COMMON
- RETAIL
- STUDIO
- SUPPORT
- UMB
- VERTICAL CIRCULATION

d. Additional Drawings

Plan - Level 6

1/32" = 1' - 0"



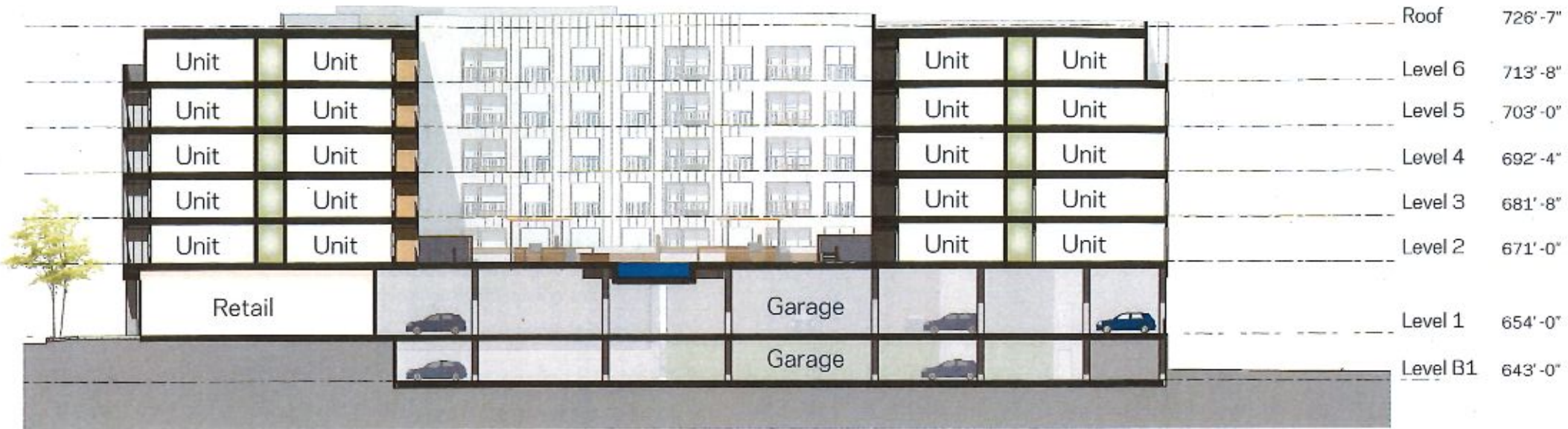
SPACE TYPE

- 1 BED / 1 BATH
- 1.5 BED / 1.5 BATH
- 2 BED / 2 BATH
- 3 BED / 2.5 BATH
- AMENITY
- COMMON
- RETAIL
- STUDIO
- SUPPORT
- UMB
- VERTICAL CIRCULATION

d. Additional Drawings

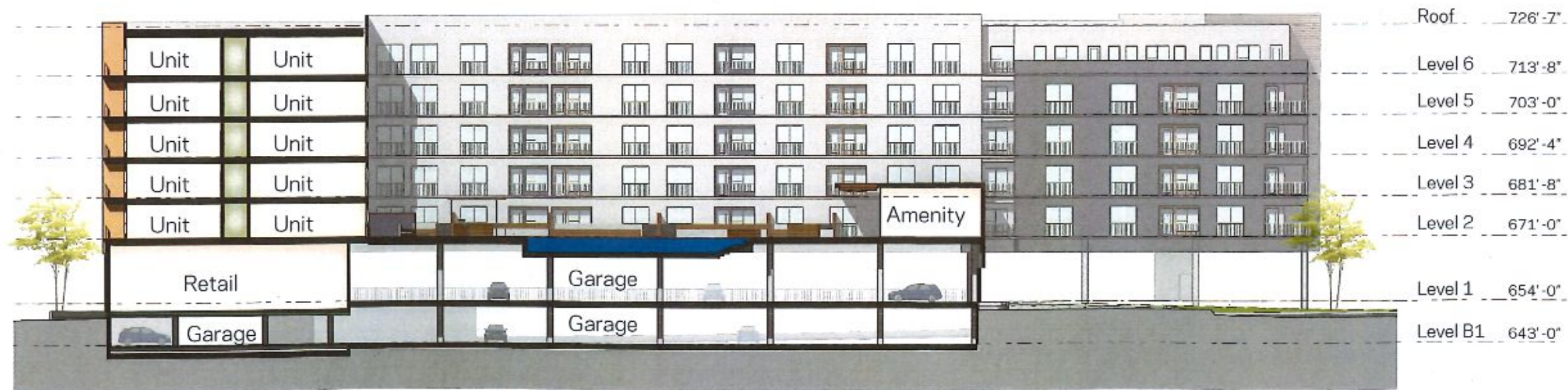
North - South Section

1/32" = 1' - 0"



East - West Section

1/32" = 1' - 0"



e. Preliminary Traffic Study - for reference



SINCE 1973

September 26, 2019

Ms. Barb Anderson-Kerlin, AIA, NCARB, LEED AP BD+C
Principal
HOK
10 South Broadway, Suite 200
St. Louis, Missouri 63102

RE: Traffic Impact Study
Mixed-Use Development
Kirkwood, Missouri
CBB Job No. 044-19

Dear Ms. Anderson-Kerlin:

As requested, CBB has completed a traffic impact study pertaining to the mixed-use development at the UMB Bank site at 426 North Kirkwood Road in Kirkwood, Missouri. The proposed site is generally located on the east side of Kirkwood Road north of the signalized intersection at East Washington Avenue. The location of the site relative to the surrounding area is depicted in Figure 1.



Figure 1: Project Location Map

Headquarters : 12400 Olive Blvd, Suite 430, Creve Coeur, MO 63141 T 314.878.6644 F 314.878.5876 cbbtraffic.com
310 Regency Centre Collinsville, IL 62234 326 South 21st Street, Suite 504 Saint Louis, MO 63103 119 South Main Street Saint Charles, MO 63301



Proposed Kirkwood Flats Traffic Impact Study
Kirkwood, Missouri
September 26, 2019
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Based on the concept plan provided by HOK LC, the proposed development will include a 2,500-square-foot (SF) UMB Bank (currently operating on the site), 10,000 SF of retail space and 178 apartment units. Access for the development is proposed via one relocated full access drive on Washington Avenue and one access drive on Kirkwood Road. A schematic of the site plan provided is shown in Figure 2.



Figure 2: Concept Site Plan (Provided by Others)

The purpose of this study was to determine the number of additional trips that would be generated by the proposed development, assign the trips to the adjoining roadways and evaluate the impact of the additional trips on the operating conditions for the adjacent roadways. If necessary, roadway improvements (lane additions and/or traffic control modifications) were recommended to mitigate the impact of the development and to accommodate the additional traffic. The focus of this study was the AM and PM peak hours of a typical weekday.

e. Preliminary Traffic Study - for reference



Proposed Kirkwood Flats Traffic Impact Study
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This traffic impact study evaluated the following analysis scenarios for the weekday AM and PM peak hours:

- 2019 Existing Conditions
- 2022 Build Conditions (2019 Traffic Volumes plus proposed development trips)

This study evaluated the following study intersections:

- Kirkwood Road at Washington Avenue;
- North Kirkwood Road at proposed site drive(s); and
- East Washington Avenue at proposed site drive(s).

The following report presents the methodology and findings relative to the Existing and Build conditions.

EXISTING CONDITIONS

Kirkwood Road is a four-lane north-south principal arterial, maintained by the City of Kirkwood, that runs through downtown Kirkwood. The posted speed limit is 30 miles per hour (mph). Sidewalks are provided along both sides of the roadway. North Kirkwood Road is approximately 45 feet wide with two travel lanes in each direction.

Washington Avenue is an east-west local road in the south side of the site. The posted speed limit is 25 mph. Washington Avenue is approximately 33 feet wide with a single lane traveling in each direction. Parking is permitted along the roadway on the south side of West Washington Avenue east of Kirkwood Road as well as along the north side of Washington Avenue, east of the UMB Bank Driveway. Sidewalks are provided along both sides of the roadway.

The intersection of Kirkwood Road and Washington Avenue is controlled by a traffic signal. Both north/south approaches along Kirkwood Road have a narrow left-turn lane, one through lane, and a shared through/right-turn lane. The approaches from Washington Avenue to this intersection consist of wide single shared lane. Marked crosswalks are provided for all legs of the intersection. **Figure 3** provides an aerial view of the Kirkwood Road and Washington Avenue intersection.

The existing UMB bank site has two existing entrances onto Kirkwood Road and one entrance on Washington Avenue. The proposed site plan keeps the existing southern entrance on Kirkwood Road as well as the existing entrance on Washington Avenue. The proposed site entrances are expected to remain in similar locations. **Figures 4 and 5** provides an aerial view of the Existing UMB entrances that would remain with the proposed development.



Proposed Kirkwood Flats Traffic Impact Study
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Figure 3: Kirkwood Road at Washington Avenue



Figure 4: North Kirkwood Road at UMB Bank Entrance

e. Preliminary Traffic Study - for reference



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 Kirkwood, Missouri
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Figure 5: East Washington Avenue at Existing UMB Bank Driveway

Existing Traffic Volumes: Video, turning movement traffic counts were conducted at the intersection of Kirkwood Road and Washington Avenue for a period of 12 hours between 6:00 a.m. and 6:00 p.m. on May 14, 2019. It is our understanding that schools were operating under typical schedule during the count. Based on the traffic data collected, the morning peak hour occurred between 7:15 and 8:15 a.m., and the afternoon peak hour occurred between 4:00 and 5:00 p.m. The UMB driveways were also counted during the peak hour.

The existing traffic volumes are summarized in **Exhibit 1**. Given the traffic characteristics in the area and the anticipated trip generation for the proposed development, the peak periods identified would represent a "worst-case scenario" with regards to the traffic impact. If traffic operations are acceptable during these weekday peak hours, it can be reasoned that conditions would be acceptable throughout the remainder of the day.

Kirkwood Flats - Traffic Impact Study
 Kirkwood, Missouri



Exhibit 1: Existing Traffic Volumes

Job# 044-19
 09/26/19



e. Preliminary Traffic Study - for reference



PROPOSED SITE

Proposed Land Use: Based on the concept plan provided by HOK LC, the proposed development will include a 2,500-square-foot (SF) UMB Bank (currently operating on the site), 10,000 SF of retail space and 178 apartment units.

Site Access: As shown on the concept plan, access for the development is proposed via one relocated full access drive on Washington Avenue and one access drive on Kirkwood Road.

Trip Generation: Forecasts were prepared to estimate the amount of traffic that the proposed multi-family residential development would generate during the weekday AM and PM peak periods. These forecasts were based upon information provided in the *Trip Generation Manual*, 10th 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 characteristics of various land uses.

The fitted equation was used to estimate apartment traffic using ITE Code: 220 Multi-Family Housing (Low-Rise). The peak hour of adjacent street traffic, one hour between 7:00 and 9:00 AM, was utilized for the AM peak hour, and peak hour of adjacent street traffic, one hour between 4:00 and 6:00 PM, was utilized for the PM peak hour.

It should be noted that the peak hour trip generation data for Shopping Centers with areas less than 40,000 SF in the 10th Edition do not appear reasonable. The 10th Edition trip estimate for the AM Peak hour of a 10,000 SF Shopping Center would result in a total of 157 trips using the fitted equation, while the PM trip generation would result in 100 trips using the fitted equation, which is not reasonable. There is two studies that includes centers under 10,000 SF and only two more total site studies cited in the ITE 10th Edition for shopping centers with 10,000 SF to 16,000 SF, three of which have total trip generation levels of less than 31 trips, while one 9,900-SF site had a total trip generation level of 235 trips. That one data point is inconsistent with the other data, which skews the AM peak hour fitted equation for small shopping centers. In addition, the R² value during the AM peak hour is below the ITE recommend level for utilizing the fitted equation.

Further, applying the 10th Edition AM peak hour average rate would result in a total of only 9 trips, which is significantly lower than the 31 total trips the relevant data points noted above would suggest for a 9,000 SF shopping center.

In order to provide more realistic trip generation numbers for the AM peak hour, the regression equation from the 9th Edition of Trip Generation was applied, which would result in approximately 40 total AM peak hour trips. This appears more reasonable, especially since many retail establishments do not open until 9 a.m. or later. As a result, the Trip Generation regression equation from the 9th Edition for Land Use 820 was utilized in the trip generation



estimate for this study. As a result, the regression equation from the Trip Generation 9th Edition was utilized for ITE Code 820: Shopping Center (for the retail space) during the AM and PM peak hours for the retail space.

It should also be noted that not all of these trips would represent *new* traffic on the adjacent roadways. Nationwide studies have found that a percentage of convenience-oriented trips, such as retail uses, would already be present on the adjacent roads and would be attracted to the development on their way to or from home, work or another destination (i.e., pass-by or diverted link trips).

Specifically, a portion of the traffic attracted to this site would already be traveling on Kirkwood Road as part of another trip (i.e., "pass-by" trip). The pass-by trips would not increase traffic on Kirkwood Road, but they would increase the turning movements at the entrance to the site. Therefore, statistical information provided in the *Trip Generation Handbook*, 3rd Edition, published by ITE, was utilized to estimate pass-by and diverted link percentages for the proposed uses. As a result, a pass-by percentage of 20% and 34% were applied to the retail trips during the AM and PM peak hours, respectively. This represents only 10 pass-by trips during the AM peak hour and approximately 40 pass-by trips during the PM peak hour.

As can be seen in Table 3, the proposed Kirkwood Flats development would generate 110 new vehicular trips with a majority outbound during the AM peak hour and 190 new vehicular trips with a majority inbound during the PM peak hour.

Table 1: Trip Generation Estimate - Proposed Kirkwood Flats Development

Land Use (ITE Code)	Units	Daily Traffic	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
UMB Bank	Existing Use On-Site	--	--	--	--	--	--	--
Shopping Center (ITE Code 820)	10,000 SF	1,520	25	15	40	60	70	130
Multifamily Housing (Low-Rise) (ITE Code 220)	178 Dwelling Units	1,305	20	60	80	65	35	100
Subtotal		2,825	45	75	120	125	105	230
Pass-By			5	5	10	20	20	40
New Trips			40	70	110	105	85	190

Trip Distribution: The site-generated trips for the proposed development were then assigned into and out of the site based upon an estimated directional distribution. Based upon the existing travel patterns, the surrounding area and roadway network, and the proximity to similar uses, it is anticipated that the distribution of new site-generated trips would be as follows:

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- 40% to/from the south on Kirkwood Road
- 35% to/from the north on Kirkwood Road
- 15% to/from the west on Washington Avenue
- 10% to/from the east on Washington Avenue

It should be noted that the pass-by trips were assigned according to the existing traffic volumes on Kirkwood Road.

Based on the PM queues from the signalized intersection (Kirkwood Road at Washington Avenue), no two-way left-turn lane on Kirkwood Road as well as the number of left-turns expected to enter and exit the site from Kirkwood Road, the access to Kirkwood Road should be restricted to right-in/right-out only access. The site-generated trips for the weekday AM and PM peak hours are shown in Exhibit 2.

Build Traffic Volumes (Existing plus Site): The assigned traffic volumes resulting from the trip distribution for the proposed Kirkwood Flats development (Exhibit 2) were added to the Existing traffic volumes (Exhibit 1) to determine the total volumes in the forecasted scenario. The forecasted, or Build, traffic volumes for the weekday AM and PM peak hours are shown in Exhibit 3.

Kirkwood Flats - Traffic Impact Study
Kirkwood, Missouri



Exhibit 2: Total Site-Generated Trips

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09/26/19



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Kirkwood Flatts - Traffic Impact Study
Kirkwood, Missouri



Exhibit 3: Build Traffic Volumes

Job# 044-19
09/26/19



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TRAFFIC ANALYSIS

Study Procedures: The Existing and Build operating conditions were analyzed using SYNCHRO 10, a macro-level analytical traffic flow model. SYNCHRO is based on study procedures outlined in the *Highway Capacity Manual*, published by the Transportation Research Board. This manual, which is used universally by traffic engineers to measure roadway capacity, establishes six levels of traffic service: Level A ("Free Flow"), to Level F ("Fully Saturated"). 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 often considered acceptable for peak period conditions in urban and suburban areas.

The thresholds that define level 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 then 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.

Level of service is directly related to control delay. At signalized intersections, the level of service criteria differ from that at unsignalized intersections primarily because varying transportation facilities create different driver expectations. The expectation is that a signalized intersection is designed to carry higher traffic volumes, and consequently may experience greater delay than an unsignalized intersection. **Table 2** summarizes the thresholds used in the analysis for signalized and unsignalized intersections.

Table 2: 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

e. Preliminary Traffic Study - for reference



Operating Conditions: The study intersections were evaluated using the methodologies described above. Table 3 summarizes the results of these analyses, which reflect the Existing and Build operating conditions and average delay for each of the study intersection during the weekday AM and PM peak hours.

It should be noted that the City is in the process of completing the Kirkwood Road Traffic Signal project, which includes the installation of more efficient and pedestrian friendly signal system from Big Bend to Manchester Road. The evaluations for the existing condition evaluations assumes a "pre-timed" traffic signal without vehicle detection, while the 2022 build evaluation assumes a coordinated traffic signal with vehicle detection since the signals are expected to be operational by the time this development is built and occupied. The benefit of a coordinated signal system is that it re-allocates any unused side-street time back to the mainline in an attempt to keep traffic flowing along Kirkwood Road, but it can slightly degrade the operations at the side-street (Washington Avenue) since there would be less time provided to the side-street.

Table 3: Capacity Analysis Summary

Intersection / Approach	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Existing	2022 Build ¹	Existing	2022 Build ¹
Kirkwood Road at Washington Avenue (Signalized Control)				
Eastbound Washington Avenue Approach	C (33.5)	D (39.2)	D (36.7)	D (43.6)
Westbound Washington Avenue Approach	C (21.6)	D (35.1)	B (19.0)	D (39.3)
Northbound Kirkwood Road Approach	A (5.2)	A (2.4)	A (5.4)	A (4.8)
Southbound Kirkwood Road Approach	B (10.8)	B (5.2)	B (15.6)	A (7.7)
Overall	A (9.6)	A (8.5)	B (14.2)	B (12.2)
Washington Avenue at UMB Bank/Commers Bank Driveway (Side-Street Stop Control)				
Eastbound Washington Avenue Approach	A (<1.0)	A (2.0)	A (<1.0)	A (2.8)
Westbound Washington Avenue Approach	A (<1.0)	A (<1.0)	A (<1.0)	A (<1.0)
Northbound Commerce Bank Driveway Approach	A (8.9)	A (9.1)	A (9.6)	B (10.9)
Southbound UMB Bank Driveway Approach	A (9.1)	A (9.1)	B (10.2)	B (10.4)
Kirkwood Road at UMB Bank Exit/Proposed Site Access (Existing Side-Street Stop Control/ Build Right-On/Right Out)				
Westbound UMB Bank Driveway Approach	B (13.6)	A (9.9) RT only	B (14.2)	A (9.3) RT only
Northbound Kirkwood Road Approach	Free Flow	Free Flow	Free Flow	Free Flow
Southbound Kirkwood Road Approach	A (<1.0)	Free Flow	A (<1.0)	Free Flow

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

¹Includes traffic signal coordination along Kirkwood Road based on the City's current signal and pedestrian upgrade project



As shown in the table, the study intersections currently operate at desirable levels of service overall during both peak periods with all approaches also operating at desirable levels of service. The intersections are forecasted to continue to operate at overall desirable levels of service during both peak hours with nominal differences in delay as compared to the existing operations. The proposed site drives on Washington Avenue and Kirkwood Road are forecasted to operate at highly desirable levels of service.

SUMMARY

CBB completed the preceding study to address the traffic impacts associated with the proposed Kirkwood Flats development in Kirkwood, Missouri. The additional trips associated with the proposed 178 apartment units, 10,000 SF of retail space and the existing UMB Bank would have minimal impact on the operating conditions at the adjacent intersections and would not warrant any roadway improvements to accommodate the proposed development.

Based on the PM queues from the signalized intersection (Kirkwood Road at Washington Avenue), absence of a two-way left-turn lane on Kirkwood Road as well as the number of left-turns expected to enter and exit the site from Kirkwood Road, it is recommended that the proposed access to Kirkwood Road be restricted to right-in/right-out only.

We trust that this traffic impact study adequately describes the forecasted traffic conditions that should be expected as a result of the proposed Kirkwood Flats development. If additional information is desired, please feel free to contact me at 314-449-9569 or brensing@cbbtraffic.com.

Sincerely,

Brian Rensing, P.E., PTOE, RSP
Associate - Senior Transportation Engineer

f. Preliminary MSD Conceptual Review Package - for reference



KIRKWOOD FLAT –MSD CONCEPTUAL REVIEW NARRATIVE
City of Kirkwood, MO

Stock Project No. 218-6425.1

The proposed Kirkwood Flats redevelopment is located on approximately 2.56 Acres of land comprising of 416, 428, and 432 Kirkwood Road and 105 East Washington Avenue (according to the St. Louis County GIS) and is currently developed and utilized as a UMB Bank and its associated parking.

The proposed redevelopment will demolish the existing bank and parking to construct a new Mixed -Use Development including residential, retail, restaurant space with an associated parking garage and surface parking.

The existing site generally drains from the southwest to the northeast, tributary to an existing public storm sewer system that continues north thru the adjacent property located at 440 Kirkwood Road.

The proposed redevelopment will continue to drain from the southwest to the northeast, while proposing to relocate the existing public storm sewer along the eastern portion of the site.

15-vr, 20-min Differential Stormwater Runoff Calculations:

Existing Conditions (Existing Runoff Map – EX):

Grass = 0.43 Ac. x 1.70 c.f.s./Ac. = 0.73 c.f.s.
Pavement = 1.74 Ac. x 3.54 c.f.s./Ac. = 6.16 c.f.s.
Roof = 0.39 Ac. x 4.20 c.f.s./Ac. = 1.64 c.f.s.

Total Existing Runoff = 8.53 c.f.s.

Proposed Conditions (Proposed Runoff Map – PR):

Grass = 0.21 Ac. x 1.70 c.f.s./Ac. = 0.36 c.f.s.
Pavement = 1.00 Ac. x 3.54 c.f.s./Ac. = 3.54 c.f.s.
Roof = 1.35 Ac. x 4.20 c.f.s./Ac. = 5.67 c.f.s.

Total Proposed Runoff = 9.57 c.f.s.

Project Differential Runoff = 9.57 c.f.s. – 8.53 c.f.s. = 1.04 c.f.s. (Increase)

2777 Chesterfield Business Parkway, St. Louis, MO 63005
636.530.9100 – Main | 636.530.9130 – Fax
www.stockassoc.com | general@stockassoc.com

September 23, 2019
Page 2

Sanitary Flow Differential Calculations:

Internal Garage Drainage will pass thru Sand/Oil Separator and Restaurant Spaces will pass thru a Grease Trap, as required by MSD's rules and regulations.

EXISTING SANITARY FLOW CALCULATIONS (BASED ON WATER BILL FROM KIRKWOOD WATER FOR MONTH OF AUGUST):	
EXISTING UMB BANK:	
1. AUGUST 2019 USAGE	= 36,000 GALLONS
2. AVERAGE DAILY FLOW	ADF = 1,167 GPD (36,000 GALLONS/31 DAYS)
	= 0.81 GPM [1,167 GPD / (24 HRS/DAY x 60 MIN/HR)]
	= 0.0018 CFS [0.81 GPM / (60 SEC/MIN x 7.48 GAL/CF)]
PROPOSED SANITARY FLOW CALCULATIONS:	
RESIDENTIAL:	
APARTMENT/CONDOMINIUM (STUDIO, 1.5, 1, 2, & 3 BEDROOMS) – RESIDENTIAL DEVELOPMENT	
178 UNITS:	
18–STUDIO	
58–1 BEDROOM	
41–1.5 BEDROOM	
53–2 BEDROOM	
10–3 BEDROOM	
1. POPULATION EQUIVALENT	N _b = 271.5 (NUMBER OF BEDROOMS)
	N _p = 1.5 (NUMBER OF PERSONS PER BEDROOM)
	P _e = 407.25 (POPULATION EQUIVALENT = N _b x N _p)
2. AVERAGE DAILY FLOW	ADF = 40,725 GPD (POPULATION EQUIVALENT FLOW = P _e x 100 GPD)
	= 28.28 GPM [40,725 GPD / (24 HRS/DAY x 60 MIN/HR)]
	= 0.063 CFS [28.28 GPM / (60 SEC/MIN x 7.48 GAL/CF)]
3. PEAK DAILY FLOW	PDF = 0.25 CFS [0.063 CFS x 4]
BANK (3,000 S.F.):	
1. AVERAGE DAILY FLOW	ADF = 1,500 GPD [(3,000 SF) x (500 GPD/1000 SF)]
	= 1.04 GPM [1,500 GPD / (24 HRS/DAY x 60 MIN/HR)]
	= 0.0023 CFS [1.04 GPM / (60 SEC/MIN x 7.48 GAL/CF)]
2. PEAK DAILY FLOW	PDF = 0.009 CFS [0.0023 CFS x 4]
RETAIL/RESTAURANT (9,393 S.F.):	
1. AVERAGE DAILY FLOW	ADF = 4,697 GPD [(9,393 SF) x (500 GPD/1000 SF)]
	= 3.26 GPM [4,697 GPD / (24 HRS/DAY x 60 MIN/HR)]
	= 0.0073 CFS [3.26 GPM / (60 SEC/MIN x 7.48 GAL/CF)]
2. PEAK DAILY FLOW	PDF = 0.029 CFS [0.0073 CFS x 4]
TOTAL PEAK DAILY FLOW = 0.288 CFS	
DIFFERENTIAL SANITARY FLOW = 0.288 CFS (PDF) – 0.0018 CFS = 0.286 CFS	
NOTE	
1) BACKWASH PROCESS POOL DISCHARGE INTO THE SANITARY SEWER SHALL NOT EXCEED 50 GPM.	
2) POOL OVERFLOW AND NORMAL DRAIN DOWN TO BE CONVEYED TO THE STORM SEWER.	

f. Preliminary MSD Conceptual Review Package - for reference

September 23, 2019
Page 3

Conceptual Stormwater Quality & Runoff Reduction:

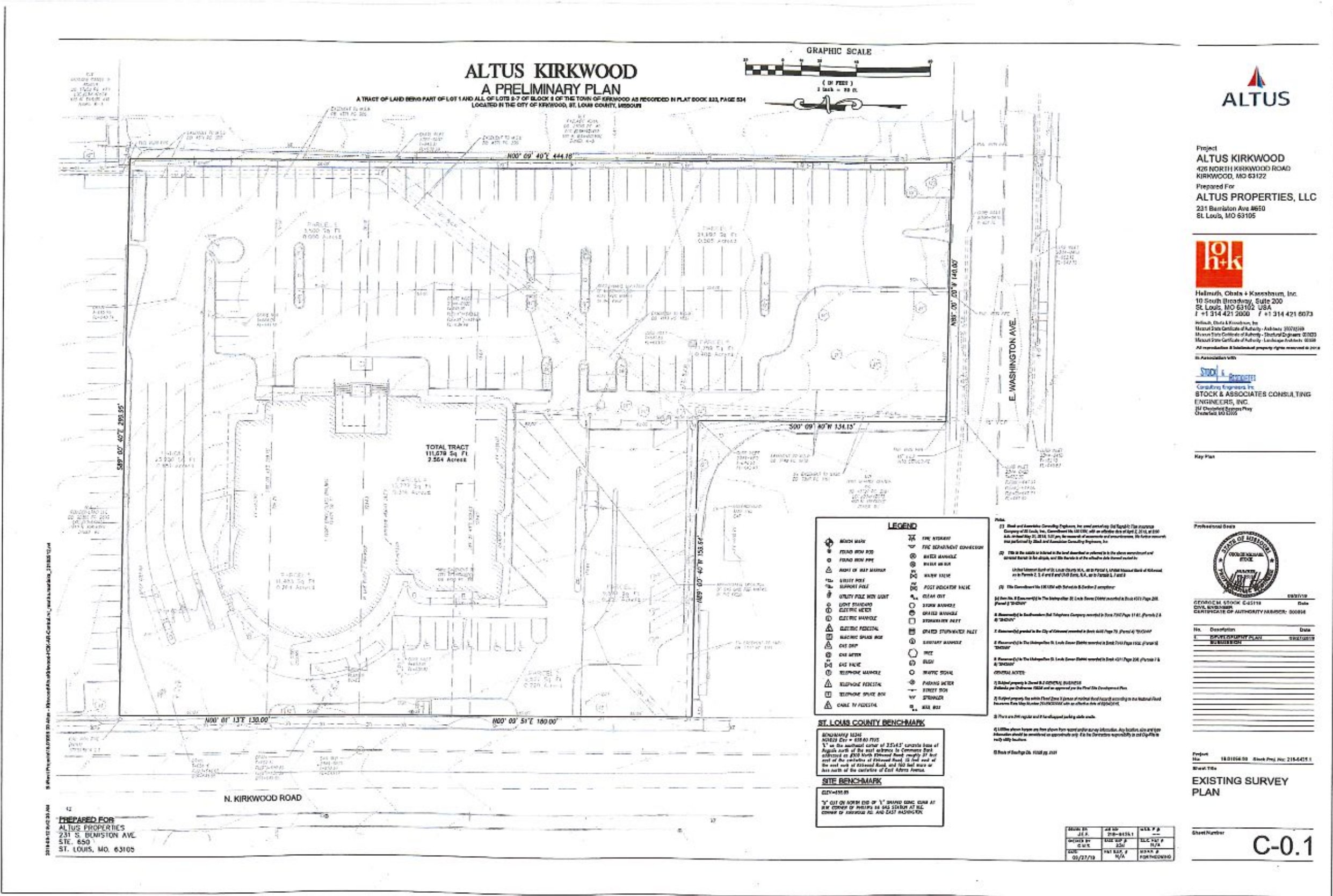
The proposed site is will utilize a combination of bio-retention, porous pavement, and hydrodynamic separators to achieve the required Water Quality for the disturbed area. Included in this submittal is a Proposed Water Quality Map (WQ) showing the areas proposed to utilize the BMP's noted above.

By utilizing a combination of bio-retention and porous pavement the site is shown to reduce the annual average runoff as compared to the existing conditions. A copy of the MSD MEP Spreadsheet has been included with this submittal.

Appendix:

- C0.1 – EXISTING SURVEY PLAN
- C0.2 – PRELIMINARY SITE PLAN
- EX – EXISTING RUNOFF MAP
- PR – PROPOSED RUNOFF MAP
- WQ – PROPOSED WATER QUALITY PLAN
- MSD MEP SPREADSHEET (4 pgs)
- CONCEPTUAL ARCHITECTURAL PLANS (6 pgs)

f. Preliminary MSD Conceptual Review Package - for reference



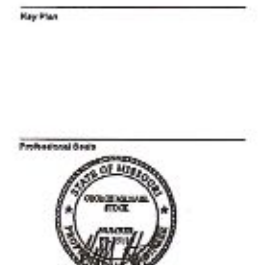
Project
ALTUS KIRKWOOD
 428 NORTH KIRKWOOD ROAD
 KIRKWOOD, MO 63122
 Prepared For
ALTUS PROPERTIES, LLC
 231 Barrington Ave #650
 St. Louis, MO 63105



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 Missouri State Certificate of Authority - Architects 00020408
 Missouri State Certificate of Authority - Structural Engineers 00020
 Missouri State Certificate of Authority - Landscape Architects 0008
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 811 Chestnut Street, Suite 300
 Chesterfield, MO 63010



No.	Description	Date
1	PRELIMINARY PLAN	09/27/19
2	REVISION	

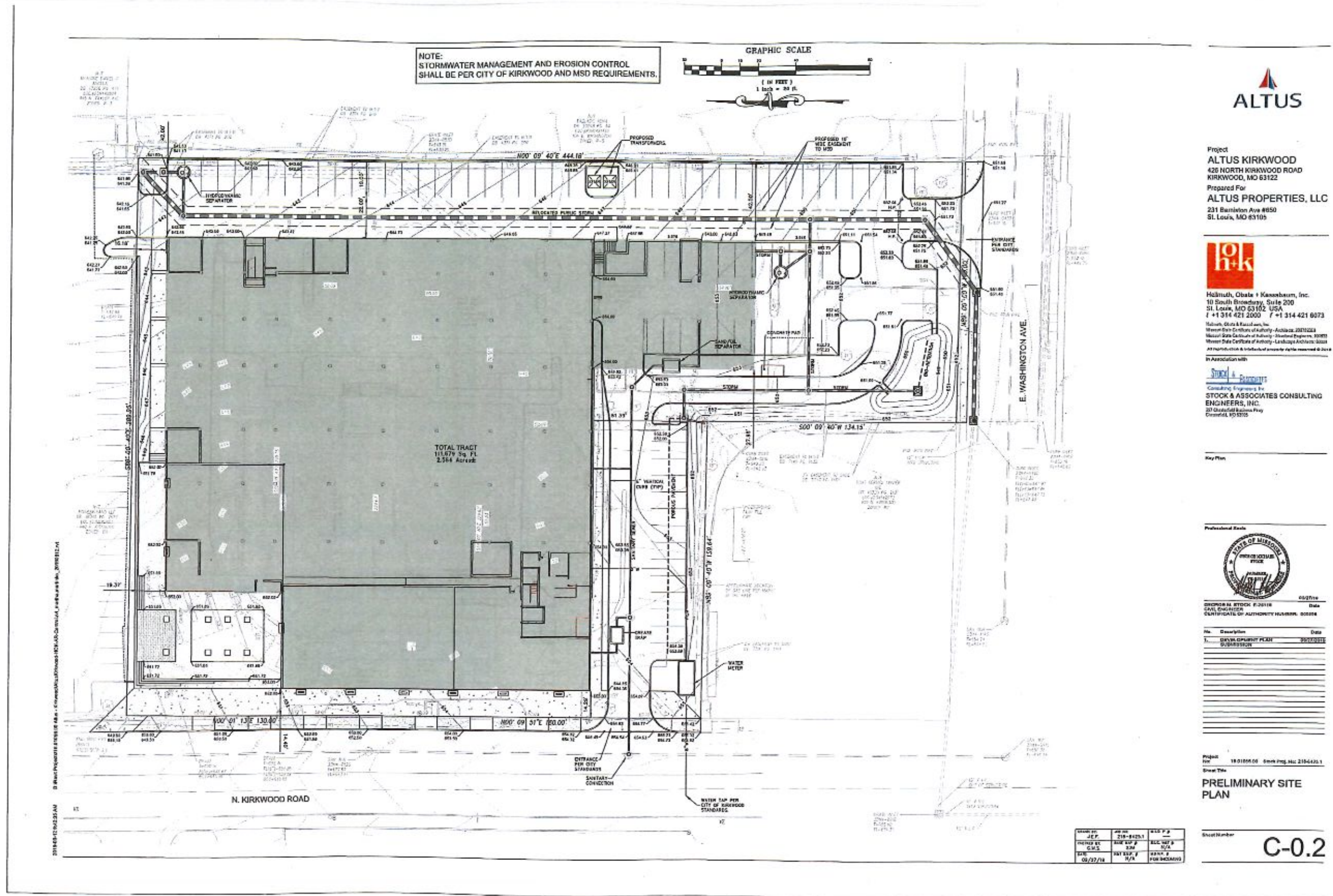
Project No. 18105600 - Stock Proj. No. 21544715
 Sheet No.
EXISTING SURVEY PLAN

Sheet Number
C-0.1

DATE	BY	APP'D BY	SCALE	DATE	BY	APP'D BY
09/27/19	G.M.B.		N/A			



f. Preliminary MSD Conceptual Review Package - for reference



Project
ALTUS KIRKWOOD
426 NORTH KIRKWOOD ROAD
KIRKWOOD, MO 63122
Prepared For
ALTUS PROPERTIES, LLC
231 Barnston Ave #850
St. Louis, MO 63105

LOH-K
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Missouri State Certified of Authority - Professional Engineer, 19081
Missouri State Certified of Authority - Landscape Architect, 10044
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Consulting Engineers for
STOCK & ASSOCIATES CONSULTING ENGINEERS, INC.
201 Grandview Plaza
Crestwood, MO 63114

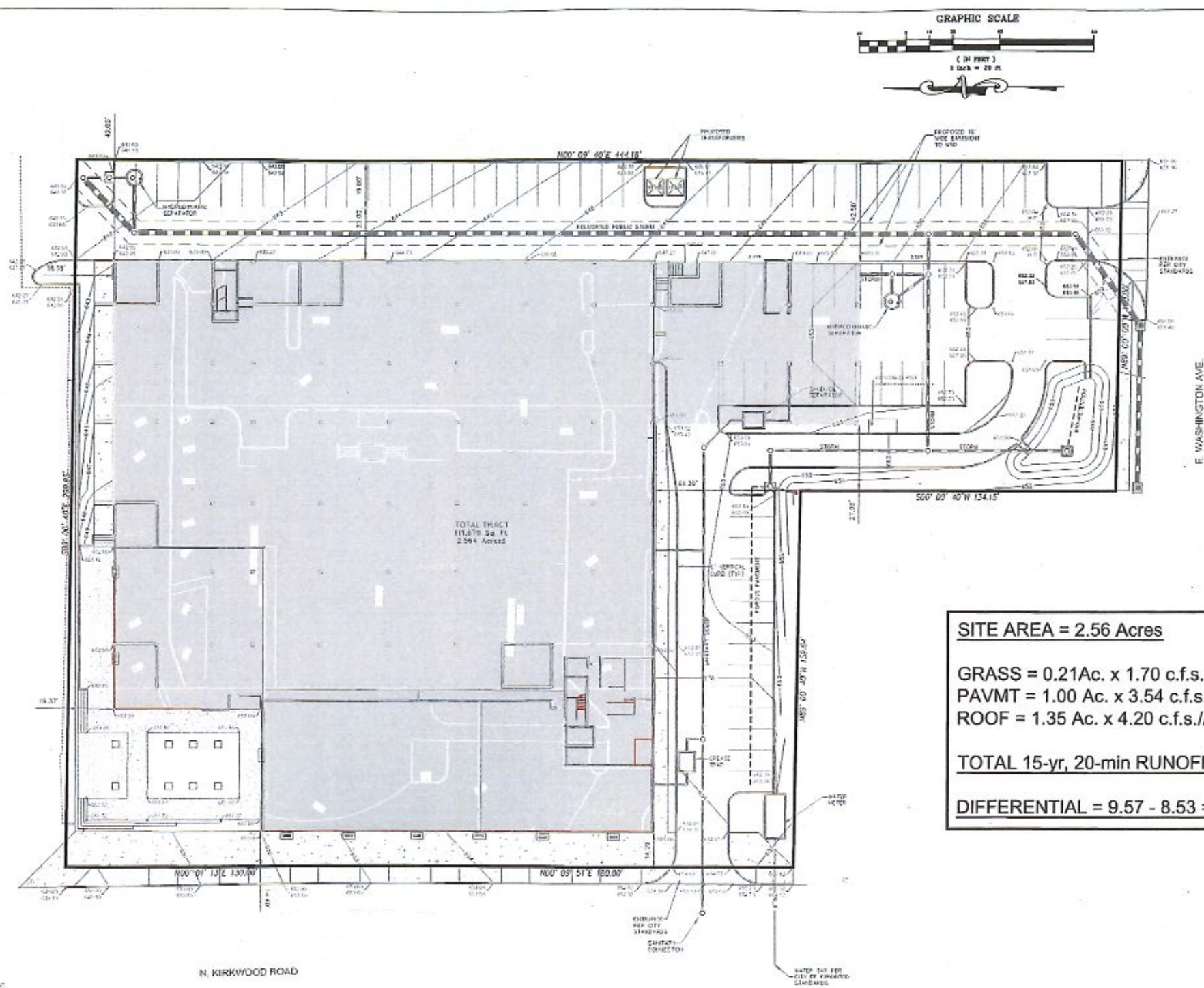


f. Preliminary MSD Conceptual Review Package - for reference



Project
ALTUS KIRKWOOD
 425 NORTH KIRKWOOD ROAD
 KIRKWOOD, MO 63122
 Prepared For
ALTUS PROPERTIES, LLC
 231 S. BEMISTON AVE #550
 ST. LOUIS, MO 63105

OK
 Holsell, Oblea + Kasabow, Inc.
 10 South Broadway, Suite 200
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 Holsell, Oblea + Kasabow, Inc.
 Missouri State Certificate of Authority - Architects 2001293
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STOCK & ASSOCIATES CONSULTING ENGINEERS, INC.
 301 Chestnut Business Plaza
 Des Moines, IA 50319



SITE AREA = 2.56 Acres
 GRASS = 0.21Ac. x 1.70 c.f.s./Ac. = 0.36 c.f.s.
 PAVMT = 1.00 Ac. x 3.54 c.f.s./Ac. = 3.54 c.f.s.
 ROOF = 1.35 Ac. x 4.20 c.f.s./Ac. = 5.67 c.f.s.
TOTAL 15-yr, 20-min RUNOFF = 9.57 c.f.s.
DIFFERENTIAL = 9.57 - 8.53 = 1.04 c.f.s.

Professional Seal

090719

GEORGE W. STOCK # 26118 Date
 CIVIL ENGINEER
 CERTIFICATE OF AUTHORITY NUMBER 00099

No. Description Date
 5 DEVELOPMENT PLAN 09/27/19
 SUBMISSION

Project No. 19.01058.00 Draw No. 214425.1
 Sheet Title
PROPOSED RUNOFF MAP

Sheet Number
PR

DATE	BY	CHK BY	APP. BY
09/27/19	W.S.	W.S.	W.S.
	DESIGN	CHK	APP

09/27/19 10:42:22 AM
 Prepared For
 ALTUS PROPERTIES
 231 S. BEMISTON AVE.
 STE. 550
 ST. LOUIS, MO. 63105



f. Preliminary MSD Conceptual Review Package - for reference

Project Name:	Kirkwood Flats			
MSD P#:	Conceptual Review Submittal			
Computed By:	JEB	Date:	9/23/2019	
Checked By:	GMS	Date:	9/23/2019	
Is complete elimination of runoff required? (If so, answer "yes" and skip this sheet.)		no		
Is the site located in the Missouri, Mississippi, or Meramec River floodplain? (If so, answer "yes". This answer determines the pre-development runoff factor.)		no		
Pre-Construction Development Input				
Total Drainage Area (A) =	2.56	Ac.		
Impervious Area =	2.17	Ac.		
Vegetated Area =	0.39	Ac.		
P =	39.4	(Annual Average Rainfall at Site. Use P = 39.4")		
THIS IS A REDEVELOPMENT SITE. USE WATER QUALITY STRATEGIES TO MAXIMUM EXTENT PRACTICABLE.				
Compute % Impervious (I)=				
I=Impervious Ac./Total Ac.*100				
I=	2.17 Ac./	2.56	Ac.	*100
I=	85	%		
Compute Pre-Construction Annual Runoff Volume (V_{A,Pre})=				
$V_{A,Pre} = P \cdot R_{v-impervious} \cdot A_{impervious} / 12 + P \cdot R_{v-pervious} \cdot A_{pervious} / 12 = \text{Ac. Ft.}$				
R _v = 0.95 for impervious area				
R _v = 0.42 for pervious areas over limestone bedrock (e.g., most upland areas in St. Louis County and City)				
R _v = 0.05 for pervious areas over river alluvium (e.g., most river floodplain, including most levee protected areas)				
$P \cdot R_{v-impervious} \cdot A_{impervious} / 12 =$		6.77	Ac. Ft.	
$P \cdot R_{v-pervious} \cdot A_{pervious} / 12 =$		0.54	Ac. Ft.	
V _{A,Pre} =	7.31	Ac-ft		
V _{A,Pre} =	318,424	CF	Oct 19, 2016 version	

f. Preliminary MSD Conceptual Review Package - for reference

Project Name:	Kirkwood Flats	Computed By:	JEB	Date:	9/23/2019
MSD P#:	Conceptual Review Submittal	Checked By:	GMS	Date:	9/23/2019
Post-Construction Dev. Input					
Total Drainage Area (A) =	2.56	Ac.			
Impervious Area =	2.35	Ac.			
Vegetated Area =	0.21	Ac.			
P =	39.4	(Annual Average Rainfall at Site. Use P = 39.4")			
Compute Post-Construction Annual Runoff Volume ($V_{A,Post}$)=					
$V_{A,Post} = P \cdot R_{v-impervious} \cdot A_{impervious} / 12 + P \cdot R_{v-pervious} \cdot A_{pervious} / 12 = \text{Ac. Ft.}$					
Rv = 0.95 for impervious area					
Rv = 0.42 for pervious areas over limestone bedrock (e.g., most upland areas in St. Louis County and City)					
Rv = 0.05 for pervious areas over river alluvium (e.g., most river floodplain, including most levee protected areas)					
$P \cdot R_{v-impervious} \cdot A_{impervious} / 12 =$		7.33	Ac. Ft.		
$P \cdot R_{v-pervious} \cdot A_{pervious} / 12 =$		0.29	Ac. Ft.		
$V_{A,Post} =$		7.62	Ac-ft		
$V_{A,Post} =$		331,927	CF		

f. Preliminary MSD Conceptual Review Package - for reference

Project Name:		Kirkwood Flats			Computed By: JEB		Date: 9/23/19	
MSD P#:		Conceptual Review Submittal			Checked By: GMS		Date: 9/23/19	
Pre-Construction Development Input								
Total Drainage Area (A) =				2.56	Ac.			
Impervious Area =				2.17	Ac.			
Vegetated Area =				0.39	Ac.			
THIS IS A REDEVELOPMENT SITE. USE WATER QUALITY STRATEGIES TO MAXIMUM EXTENT PRACTICABLE.								
$V_{A,Pre} =$				318,424 CF				
Post-Construction Dev. Input								
Total Drainage Area (A) =				2.56	Ac.			
Impervious Area =				2.35	Ac.			
Vegetated Area =				0.21	Ac.			
$V_{A,Post} =$				331,927 CF				
Runoff Reduction								
BMP Group	Volume (RR_v, cf)	Depth (RR_d, in.) *						
Volume Reduction, BMP 1	34172	0.1						
Volume Reduction, BMP 2	0	0						
Volume Reduction, BMP 3	0	0						
RR=Total BMP Volume Reduction Provided=				34172	CF			
				0.1	in*			
$V_{A,Post} - V_{A,Pre} - RR =$				-20,668	CF			
Total Additional Volume Reduction Needed=				0	CF			
* For use in curve number modification spreadsheets, for sizing downstream detention basins.								